290 W. Nationwide Blvd.
Columbus, Ohio 43215

Direct: 614.460.6988
Fax: 614.460.8403
JosephClark@nisource.com

December 20, 2019

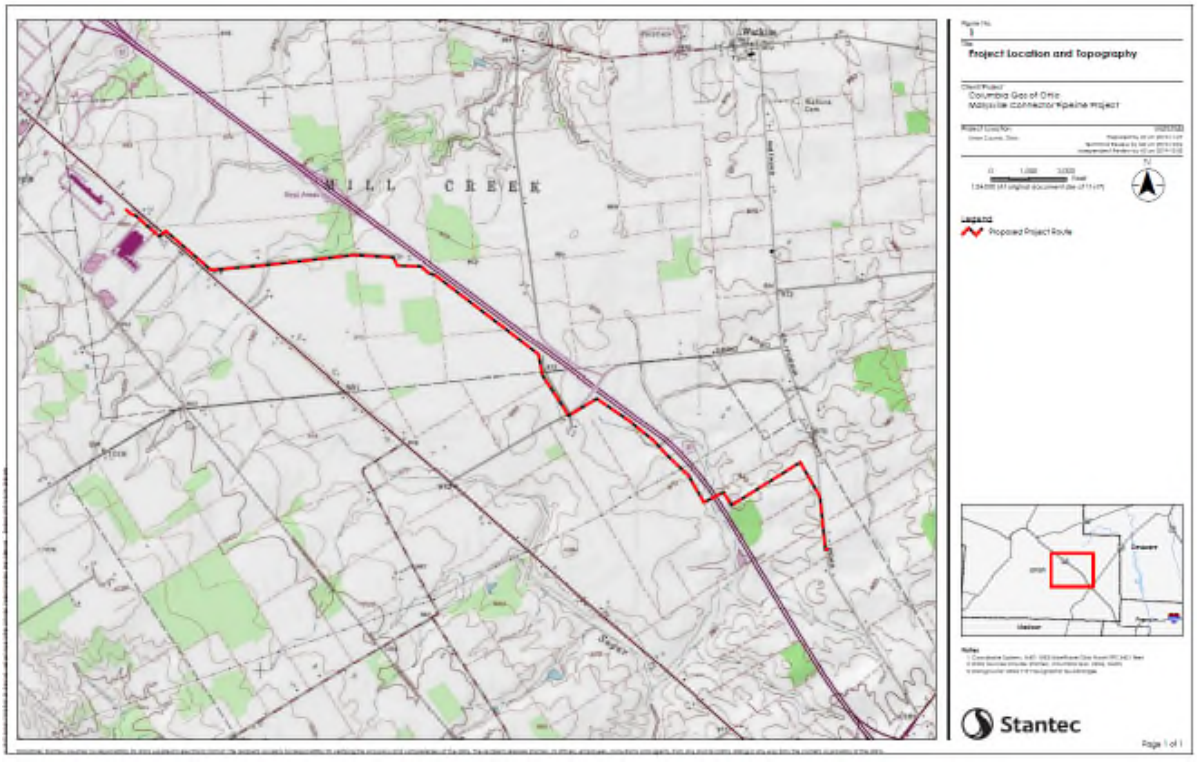
Ms. Tanowa Troupe
Secretary, Office of Administration
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

RE: Columbia Gas of Ohio, Inc.
Letter of Notification: Marysville Connector Pipeline Project
OPSB Case No. 19-2148-GA-BLN

Dear Ms. Troupe:

Columbia Gas of Ohio, Inc. ("Columbia") submits this Letter of Notification, pursuant to R.C. 4906.03(F)(3) and Ohio Admin. Code Chapter 4906-6, concerning a proposed pipeline project known as the Marysville Connector Pipeline Project (the "Project").

Appendix A, Figure 1:



As required by Ohio Admin. Code 4906-6-05, please be advised of the following:

(B) General Information

(1) The name of the project and applicant's reference number, names and reference number(s) of resulting circuits and a brief description of the project, and why the project meets the requirements for a letter of notification.

Columbia is proposing to construct a natural gas pipeline identified as the Marysville Connector Pipeline Project (the "Project") near Marysville, Union County, Ohio. The proposed Project will be approximately 25,238 feet (4.78 miles) in length and consist of construction of a 12-inch diameter, distribution class coated steel gas main and district regulator station. The Project will provide natural gas service to new industries and residential development along the route.

The majority of the 12-inch natural gas main will be constructed within permanent private pipeline easements, with the exception of the crossing of the public rights-of-way of Watkins-California Road, U.S. Route 33, Beecher Gamble Road, Adelsberger Road, and Industrial Parkway. Directional drilling of approximately 581 feet is planned at the crossing of U.S. Route 33, as depicted in the construction plans in Appendix B. An Inadvertent Release Plan is included in Appendix F. Open cut installation methods will be utilized on the remaining public rights-of-way crossings and within the permanent private pipeline easements.

This Project meets the requirements of the Letter of Notification as it falls under R.C. 4906.03(F)(3), which states that the Ohio Power Siting Board shall review, an application for "new construction of a gas pipeline that is greater than one mile in length but not greater than five miles in length." The natural gas pipeline is being built for economic development near Marysville, Union County, Ohio.

(2) If the proposed letter of notification project is a gas or natural gas transmission line, a statement explaining the need for the proposed facility.

The purpose and need of the Project is to increase economic development and service reliability near Marysville in Union County. The Project will provide natural gas service to new industry and residential development near the Project alignment and provide existing customers with an increased capacity for reliable natural gas service.

(3) The location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.

The map shown in Figure 2 illustrates the location of the Project in relation to existing infrastructure including Columbia's natural gas pipeline facilities in the area within an approximate 10-mile radius of the Project. The Project is shown as a red and black hashed line, with existing gas facilities shown in orange and yellow, hydroelectric power plants shown in green, and electrical substations shown in black.

(4) The alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction or engineering aspects of the project.

During the initial planning stages of the Project, an area consisting of approximately 15,335 acres was reviewed to determine potential route alternatives. After this extensive review, Columbia determined that the following route should be the preferred route.

The preferred route, which is proposed herein, was developed taking into consideration where new development is likely to occur, landowner property lines, and environmental features. Therefore, the preferred route was purposely located to the back of properties along Industrial Parkway to allow for future development along Industrial Parkway. The preferred route parallels property lines and existing utility easements as much as practicable to minimize land use impacts on landowners. This preferred route avoids large forested areas and crosses four streams, four wetlands, and six known cultural resource sites. Due to minimization and avoidance measures taken by Columbia while designing the preferred route, only minimal tree clearing will be required along fence rows, three wetlands, one stream crossing, and three known cultural sites will be avoided by the Project. The route also avoids a cemetery and a residential pond on the south side of U.S. Route 33. The preferred route impacts 15 property owners and 19 parcels, and crosses four roadways. The preferred route has 106 structures within 1,000 feet of the centerline, none of which are schools or churches. The preferred route's benefits described above support utilizing this preferred route to install the pipeline.

(5) Describe the public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

Columbia began reaching out to landowners in late 2019 regarding this Project to obtain survey notice access. Columbia will be conducting extensive conversations with many of the affected landowners on this project as Columbia negotiates easements. Columbia also plans to further communicate to customers through a letter, a postcard, a website, and social media channels. The first letter will be the affected property communication required by Ohio Admin. Code 4906-6-08(B). Columbia will also host a website to provide comprehensive and up-to-date information about the project, update social media channels during construction, and send postcards to the affected residents informing them of these communication channels.

(6) The anticipated construction schedule and proposed in-service date of project.

Tree and vegetation clearing will begin in the winter of 2021. Columbia has reviewed and designed the entire pipeline right-of-way to reduce and minimize environmental impacts to potential Indiana bat (*Myotis sodalis*, federally endangered) and northern long-eared bat (*Myotis septentrionalis*, federally threatened) roosting habitat and other ecological impacts to wetlands. Columbia will adhere to the seasonal tree clearing restrictions recommended by federal and state agencies (October 1 to March 31). Columbia will not grind any tree stumps prior to obtaining the necessary stormwater permits for the Project. Installation of the proposed pipeline is scheduled to begin on or about February 21, 2022, and the in-service date (completion date) of this Project is expected to be on or about December 26, 2022.

(7) An area map of not less than 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

The topographic map shown in Appendix A, Figure 1 is at 1:24,000 scale, United States Geological Survey ("USGS") 7.5-minute topographic map of Shawnee Hills and Marysville, Ohio quadrangles. Aerial images of the Project depicting streets, roads, and highways can be found in Appendix B.

(8) A list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

As of the date of filing, Columbia has not obtained any easements along the right-of-way. Columbia is working to obtain easements from the individuals and entities listed in Appendix D and will not begin construction until all easements are secured.

(9) Technical features of the project.

(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The proposed pipeline will be tested such that it will have a Maximum Allowable Operating Pressure ("MAOP") of 190 pounds per square inch gauge ("psig"). Columbia will be installing 12-inch, coated steel pipe with a wall thickness of 0.375 inches.

Columbia has begun contacting property owners along the preferred pipeline route to secure permanent and/or temporary easements. In addition to the 4.78-mile length of the pipeline right-of-way, Columbia will be obtaining land rights for staging areas that will be situated along the pipeline right-of-way and other areas needed during construction. The location of the staging areas and right-of-way are shown in the drawings attached in Appendix B.

(b) For electric power transmission lines that are within 100 feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line. The discussion shall include:

(i) Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way for: (a) Normal maximum loading, (b) Emergency line loading, (c) Winter normal conductor rating.

(ii) A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

Not applicable to this Project.

(c) The estimated cost of the project.

The estimated total cost of the proposed Project is $28.0 million.

(10) Social and Ecological Impacts of the Project.

(a) A brief, general description of the land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The preferred route is located within Millcreek and Jerome Townships, Union County, Ohio. The current land use along the preferred route is primarily comprised of agricultural and residential/industrial properties. There are also transportation-related land use areas including four road crossings.

Currently, there are approximately 106 structures within 1,000 feet of the centerline of the Project. No churches or schools were identified based on desktop analysis.

According to the U.S. Census, the average household size in Union County is 2.70 and is 2.56 in the City of Marysville. The population of Union County in 2018 was 57,835, and was 24,267 for the City of Marysville. No planned residential developments within the study corridor were discovered as part of the survey. The Project is not expected to significantly impact existing or planned land use within the vicinity of the Project. There are no federal or state lands that would be crossed by the Project with the exception of state-owned road rights-of-way. Impacts associated with the construction of the Project will be temporary in nature due to Columbia's plan to restore the pipeline right-of-way back to pre-construction contours when the Project is complete.

(b) The acreage and general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

Parcels that are registered as Agricultural District Land were obtained from the Union County Auditor's office on November 21, 2019. Three Agricultural District Land parcels are crossed by the Project. The agricultural land impacted by the Project totals approximately 85 acres and the Agricultural District Land

impacted by the Project totals approximately 30 acres. The list of parcels with Agricultural District Land is attached as Appendix D.

(c) A description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

On behalf of Columbia, Weller & Associates, Inc. conducted a Literature Review and a Phase I Cultural Resources and Architectural Investigation for the Project. During the Phase I field survey investigations on November 4 - 5, 2019, one newly-recorded historic period scatter and single prehistoric period artifact (33UN0571) and five newly-recorded prehistoric isolated finds (33UN0567 – 33UN0570, 33UN0572) were documented. These sites are not recommended as eligible for inclusion in the National Register of Historical Places ("NRHP") and it is recommended that no further work at the sites is deemed necessary for the proposed Project. The architectural survey identified a total of nine individual resources fifty years of age or older within the study area. Only sites S-1/UNI0052313 and S-6/UBI0052213 demonstrated potential eligibility for inclusion in the NRHP. Further study found the two resources to be eligible for inclusion in the NRHP under Criterion A and Criterion C, respectively. However, given the location of the proposed Project occurring adjacent to industrial buildings and the underground nature of the Project, the proposed Project was not found to adversely impact the characteristics of the two confirmed NRHP resources. Copies of the reports will be submitted to the State Historic Preservation Office ("SHPO") and will be provided to the Ohio Power Siting Board.

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to take into account the effects of federally assisted undertakings on historic properties. The proposed Project will require a federal permit with federal review and authorization. Therefore, Section 106 of the National Historic Preservation Act does apply to the proposed Project. Coordination will be completed with SHPO for Section 106 of the NHPA and Columbia will receive authorization for the Project from the SHPO prior to beginning construction on the Project.

(d) A listing of the local, state, and federal government agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A copy of the letter of notification has been sent to the following public officials concurrently with its submittal to the Ohio Power Siting Board.

City of Marysville:

Mayor J.R. Rausch
City of Marysville
209 S. Main Street
Marysville, Oh 43040

Mr. Henk Berbee
Marysville City Council
Council Vice President
209 S. Main Street
Marysville, Oh 43040

Ms. Ashley Gaver
City of Marysville Planning & Zoning Commission
209 S. Main Street
Marysville, Oh 43040

Mr. Alan Seymour
City Council, Ward Two
209 S. Main Street
Marysville, Oh 43040

Ms. Rebecca Dible
Clerk of Council
209 S. Main Street
Marysville, Oh 43040

Mr. Jeremy Hoyt
Marysville City Engineer/Deputy Public Service Director
209 S. Main Street
Marysville, Oh 43040

Mr. Chad Wolniewicz
Marysville Planning Commission
209 S. Main Street
Marysville, Oh 43040

Ms. Emily Latham
Marysville Planning Commission
209 S. Main Street
Marysville, Oh 43040

Mr. Brett Garrett
Marysville Planning Commission
209 S. Main Street
Marysville, Oh 43040

Ms. Dana Gehman
Marysville Planning Commission
209 S. Main Street
Marysville, Oh 43040

Mr. John Kleinman
Marysville Planning Commission
209 S. Main Street
Marysville, Oh 43040

Plain City:

Mr. Darrin Lane
Mayor, Plain City
213 South Chillicothe Street
Plain City, Ohio 43064

Mr. Nathan Cahall
Village Administrator, Plain City
213 South Chillicothe Street
Plain City, Ohio 43064

Ms. Jody Carney
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Ms. Kerri Ferguson
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Ms. Sherry Heineman
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Mr. Darren Lee
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Ms. Shannon Pine
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Mr. John Rucker
Village Council Member
213 South Chillicothe Street
Plain City, Ohio 43064

Mr. Matt Lewis
Plain City Planning and Zoning
213 South Chillicothe Street
Plain City, Ohio 43064

Union County:

Mr. Jeff Stauch
Union County Engineer
233 W. Sixth Street
Marysville, Oh 43040

Mr. Ron Nieman
District Conservationist
Union County SWCD
18000 State Rt. 4, Suite B
Marysville, Oh 43040

Mr. Charles Hall
Ms. Christiane Schmenk
Mr. Steve Stolte
Union County Commissioners
233 W. Sixth Street
Marysville, Oh 43040

Mr. Tim Hansley
Union County Administrator
233 W. Sixth Street
Marysville, Oh 43040

Mr. Rick Weigand
Union County Soil and Water
Conservation District
18000 State Route 4, Suite B
Marysville, Oh 43040

Millcreek Township:

Mr. Bill Lynch
Millcreek Township Trustee
10420 Watkins Road
Marysville Oh 43040

Mr. Keith Conroy
Millcreek Township Trustee
10420 Watkins Road
Marysville Oh 43040

Mr. Bill Jordan
Millcreek Township Trustee
10420 Watkins Road
Marysville Oh 43040

Jerome Township:

Mr. Ron Rhodes
Jerome Township Trustee
9777 Industrial Parkway
Plain City, Oh 43064

Mr. Joe Craft
Jerome Township Trustee
9777 Industrial Parkway
Plain City, Oh 43064

Mr. C.J. Lovejoy
Jerome Township Trustee
9777 Industrial Parkway
Plain City, Oh 43064

In addition to submitting this Letter of Notification to the Ohio Power Siting Board, the Project is subject to the following federal, state, and local agency reviews and authorizations to be received prior to construction beginning:

- U.S. Army Corps of Engineers ("USACE") Clean Water Act Section 404 Nationwide Permit #12;
- Section 106 of the NHPA compliance through the SHPO;
- Section 7 of the Endangered Species Act ("ESA") compliance through the U.S. Fish and Wildlife Service ("USFWS");
- Ohio Department of Natural Resources ("ODNR") compliance through the Division of Wildlife and Scenic Rivers Program;
- Ohio Environmental Protection Agency ("OEPA") General Construction Stormwater Permit and Stormwater Pollution Prevention Plan ("SWPPP") requirements;
- City of Marysville SWPPP requirements; and
- Ohio Department of Transportation ("ODOT") and Union County road crossing permits.

(e) A description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the area likely to be disturbed by the project, a statement of findings of the investigation, and a copy of any document produced as a result of the investigation.

The USFWS federally listed species by county list for Ohio that was published on January 29, 2018 was reviewed to determine the threatened and endangered species listed for Union County. USFWS's publication listed the Indiana bat (endangered); the northern long-eared bat (threatened); the Scioto madtom (*Noturus trautmani,* endangered); clubshell (*Pleurobema clava,* endangered); northern riffleshell (*Epioblasma torulosa rangiana,* endangered); rayed bean (*Villosa fabalis,* endangered); snuffbox (*Epioblasma triquetra,* endangered); rabbitsfoot (*Quadrula cylindrica cylindrica,* threatened), and the bald eagle (*Haliaeetus leucocephalus,* species of concern).

The ODNR – Division of Wildlife state listed species by county list for Ohio that was updated in June 2016 was reviewed to determine the threatened and endangered species listed for Union County. ODNR – Division of Wildlife publication listed the Indiana bat (endangered); northern harrier (*Circus*

cyaneus, endangered); loggerhead shrike (*Lanius ludovicianus*, endangered); Scioto madtom (endangered); northern riffleshell (endangered) rayed bean (endangered); snuffbox (endangered); rabbitsfoot (endangered); clubshell (endangered); and pondhorn (*Uniomerus tetralasmus*, threatened).

A coordination letter was submitted to the USFWS and ODNR Office of Real Estate on October 31, 2019, seeking review of the proposed Project for the potential impacts on federal and state listed species and their habitats within the Project area (Appendix E).

Correspondence from USFWS was received on November 19, 2019. The response stated that the proposed Project is in the vicinity of one or more confirmed records for the Indiana bat and within the range of the northern long-eared bat. Therefore, the USFWS recommended that trees greater than 3 inches diameter breast height ("dbh") be saved whenever possible. If tree removal is necessary, the USFWS recommends tree removal occur from October 1 through March 31. Please note that, because Indiana bat presence has already been confirmed in the Project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species. Due to the Project type, size, and location, USFWS does not anticipate adverse effects upon any other federally endangered, threatened, proposed, or candidate species.

Correspondence from ODNR Office of Real Estate was received on December 4, 2019. The ODNR response also states the Project is within the vicinity of existing records for the Indiana bat, a state and federally endangered species. The response letter also recommends if suitable habitat occurs within the Project area, trees be conserved. If suitable habitat must be cut, tree removal should occur from October 1 through March 31.

The proposed Project contains forested habitat in the form of ornamental trees on private residential or commercial lots, fence rows, and single trees between agricultural fields. Tree species observed within the Project area include American elm (*Ulmus americana*), shagbark hickory (*Carya ovata)*, common hackberry (*Celtis occidentalis)*, and white oak (*Quercus alba)* with a dbh ranging from 5 to 30 inches. Impacts to forested habitats will be avoided and minimized to the maximum extent practicable during construction. Please see the construction plans in Appendix B for impacted locations of forested habitat for the proposed pipeline. In addition, Columbia will adhere to seasonal tree clearing timeframes recommended by both agencies. The Project will result in a small amount of tree clearing relative to the available habitat in the immediate surrounding area; therefore, habitat removal is unlikely to result in significant impacts to bat species. Based on this information and the minimization and

avoidance measures taken by Columbia, it is not likely that direct impacts to the Indiana bat or northern long-eared bat will occur.

The ODNR response stated that the Project is within the range of the Scioto madtom (*Noturus trautmani*) a state endangered fish species and the Tippecanoe darter (*Etheostoma Tippecanoe*) a state threatened fish species. The ODNR recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to aquatic species and their habitat. In addition, ODNR stated that the Project is within the range of seven freshwater mussel species. However, ODNR stated due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this Project is not likely to impact these species.

There are four streams located within the proposed pipeline route and three streams (Streams 2, 3, and 4) are proposed to be impacted by open cut installation methods. However, these streams have a watershed of less than 10 square miles and have ephemeral or intermittent flow regime. Stream 1 is an agricultural ditch with a perennial flow regime consisting of silt and hardpan substrates which is also a watershed less than 10 square miles in size. Due to minimization and avoidance measures taken by Columbia while designing the preferred route, Stream 1 will be avoided. Streams 2-4 do not provide sufficient habitat for mussel and fish species. Therefore, impacts to federal or state threatened and/or endangered mussel and fish species are not anticipated for the proposed Project.

The ODNR response states the Project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. ODNR recommends construction be avoided in this habitat during nesting period, May 1 to August 1. Marsh vegetation found within the project area is very minimal and does not contain quality surrounding habitat for the king rail species. Therefore, impacts to the state endangered species is not anticipated for the proposed Project.

The Project is also with the range of the loggerhead shrike (*Lanius ludovicianus*), a state endangered bird. ODNR states if thickets or other types of dense shrubbery habitat will be impacted, construction should be avoided in this habitat during the species' nesting period, April 1 to August 1. If this habitat will not be impacted the Project is not likely to impact this species. The shrubbery habitat occurring within the project area is limited to narrow fence rows. Due to no dense thickets or shrubbery occurring within the Project area,

impacts to the state endangered species is not anticipated for the proposed Project.

The Project is also within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This bird is a common migrant and winter species and occasionally breed in large marshes and grasslands and often hunt over grasslands. ODNR recommends if this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period, May 15 to August 1. Large marshes or grasslands do not occur within the Project area. Therefore, impacts to the northern harrier are not anticipated for the proposed Project.

The ODNR response indicates a record of a great blue heron (*Ardea herodias*) rookery occurs within a one-mile radius of the Project. However, the record does not occur with the Project area. Therefore, impacts to the great blue heron are not anticipated for the proposed Project.

A copy of the correspondence from the USFWS and ODNR Office of Real Estate is included in Appendix E.

Section 7(a)(2) of the ESA directs all Federal agencies to ensure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat (collectively, referred to as protected resources). If there is a federal nexus for this Project, no tree clearing should occur on any portion of the Project area until consultation under Section 7 of the ESA is completed. The proposed Project does require a federal permit, federal review and/or authorization, or the use of federal funding to complete the Project. Therefore, Section 7 consultation is required for the proposed Project and Section 7 ESA consultation with the USFWS has been initiated.

(f) A description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state parks, floodplains, wetlands, designated or proposed wildlife areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that that may be located within the area likely to be disturbed by the project, a statement of findings of the investigation, and a copy of any document produced as a result of the investigation.

Stantec conducted an environmental review of the area on behalf of Columbia. According to the USFWS, there are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the Project area.

The Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Maps ("FIRM") were reviewed to identify any flood hazard areas that have been mapped for the proposed pipeline route. Specifically, map numbers 39159C0358D, 39159C0359D, 39159C0367D, and 39159C0390D mapped the area of the proposed Project. The proposed pipeline route does not impact any mapped floodplain areas. A copy of the FEMA map with coverage of the Project area is included in Appendix A.

A review of the National Wetlands Inventory ("NWI") database indicates no NWI-mapped wetlands identified within the proposed pipeline route. A copy of the NWI maps for the Project is included in Wetlands and Waterbodies Delineation Report located in Appendix C.

A wetland and waterbody field survey was conducted in a study corridor that varied in width (100 – 300-foot) on November 20, 2019. During the field survey, four streams and four wetlands were identified. Despite the size of the study corridor surveyed, the proposed pipeline route will only include a 75-foot wide (50-foot permeant easement and 25-foot temporary easement) construction footprint. Due to minimization and avoidance of delineated features during the finalization of the proposed route, three wetlands and one stream were able to be avoided. Three stream channels and one wetland are proposed to be open cut. Due to the flow regimes of these channels, it is anticipated that these streams can be crossed by open cut construction methods during low flow conditions to minimize impacts to the channels. A copy of the Wetland and Waterbodies Delineation Report is included in Appendix C.

Impacts to vegetation along the proposed pipeline route will be minimal. Forested habitat impacts will be limited to three fence rows between agricultural fields and a few isolated residential trees. Tree species observed within the Project area include American elm, shagbark hickory, common hackberry, and white oak with dbh ranging from 5 to 30 inches. Old field habitat that will be impacted by the proposed Project includes Canadian goldenrod (*Solidago canadensis*), tall ironweed (*Vernonia gigantea*), Queen Ann's lace (*Daucus carota*) and Indian grass (*Sorghastrum nutans*). The dominant species identified within maintained lawn and maintained right-of-way during the field surveys consisted of Kentucky bluegrass (*Poa pratensis*), English plantain (*Plantago*

lanceolata), common dandelion (*Taraxacum officinale*), and Canada thistle (*Cirsium arvense*). Please see the construction plans in Appendix B for locations of forested habitat that will be impacted.

(g) Any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of Columbia's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Should staff of the Ohio Power Siting Board desire further information or discussion of this application, please do not hesitate to reach out to me at the information listed above.

Respectfully submitted,

/s/ Joseph M. Clark

Appendix A Project Maps

Figure No.
1

Title
Project Location and Topography

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

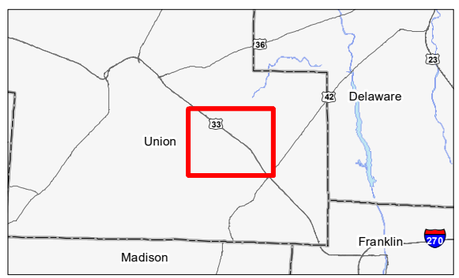
Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-11-27
Technical Review by MK on 2019-12-04
Independent Review by AS on 2019-12-05

0 1,000 2,000 Feet
1:24,000 (At original document size of 11x17)

N

Legend
Proposed Project Route



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, USGS, NADS
3. Background: USGS 7.5' Topographic Quadrangles

Stantec

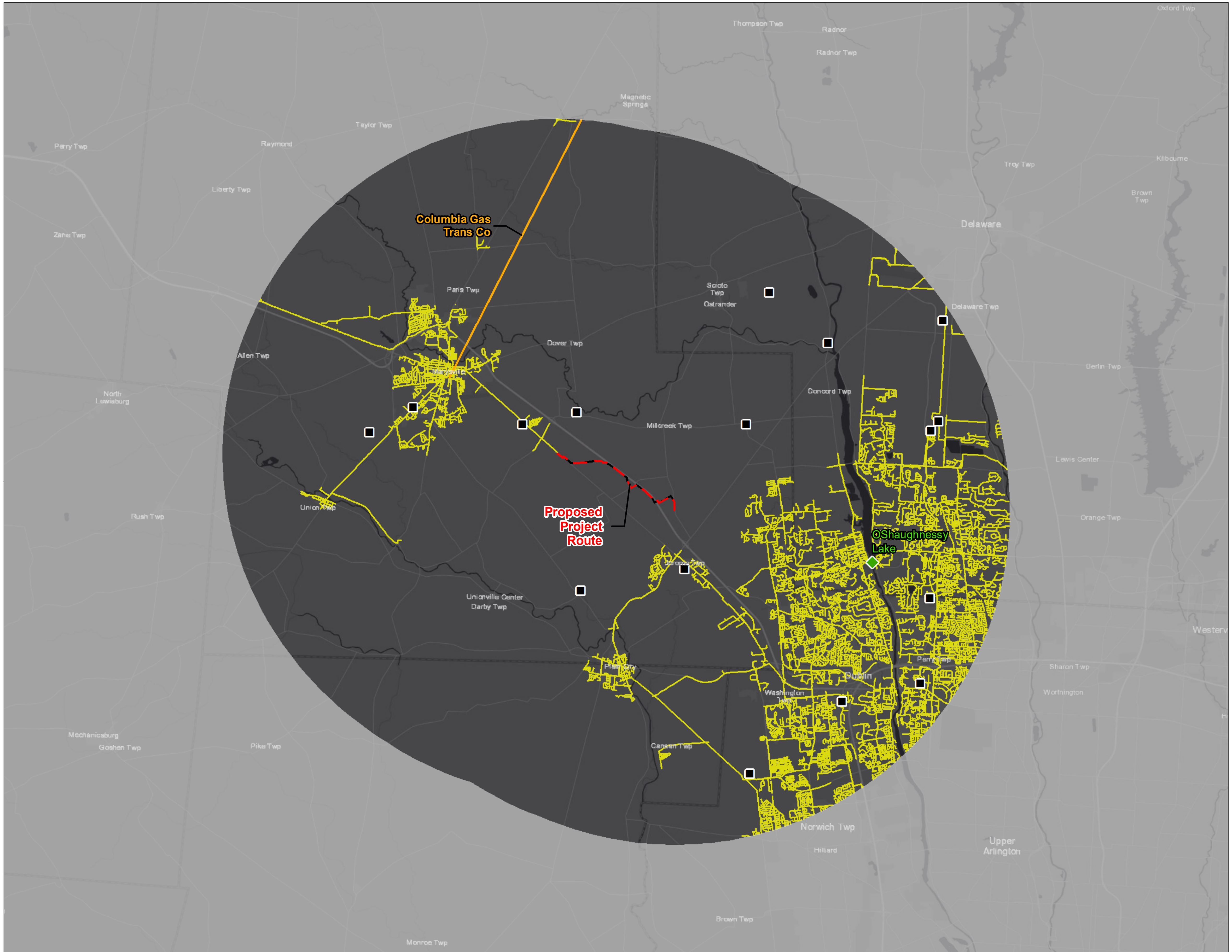


Figure No.
2

Title
Infrastructure within 10 Miles of Project Route

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-11-27
Technical Review by MK on 2019-12-04
Independent Review by AS on 2019-12-05

0 1.5 3 Miles
1:190,080 (At original document size of 11x17)

N

Legend

- PennWell Power Plant
- PennWell Electrical Substation
- Proposed Project Route
- USEIA Natural Gas Pipeline
- COH Gas Pipeline

Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, USEIA, PennWell
3. Background: Esri

Stantec

Figure No.
3

Title
FEMA National Flood Hazard Areas

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-11-27
Technical Review by MK on 2019-12-04
Independent Review by AS on 2019-12-05

0 1,000 2,000 Feet
1:24,000 (At original document size of 11x17)

N

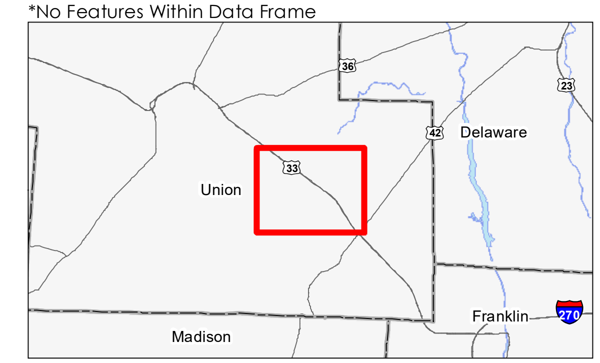
Legend

Proposed Project Route

FEMA Flood Hazard Area

- 100-year Flood Zone
- 100-year Floodway*
- 500-year Flood Zone*

*No Features Within Data Frame



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, USGS, NADS, FEMA
3. Background: OGRIP 2018

Stantec

Appendix B Construction Plans

Figure No.
1

Title
Construction Plans
Project Area Updated: 12/11/2019

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

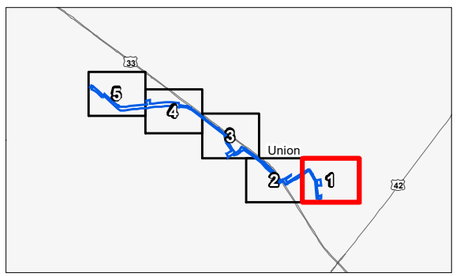
Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-12-10
Technical Review by KC on 2019-12-10
Independent Review by MT on 2019-12-10

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

Legend
- Approximate Proposed Pipeline
- Temporary Construction Access
- Regulator Station
- Laydown Yard
- Additional Temporary Workspace
- Temporary Easement
- Permanent Easement
- Field Delineated Waterway
- Field Delineated Emergent Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, OGRIP LBRS
3. Orthophotography: 2018 OGRIP

Stantec

Figure No.
1

Title
Construction Plans
Project Area Updated: 12/11/2019

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

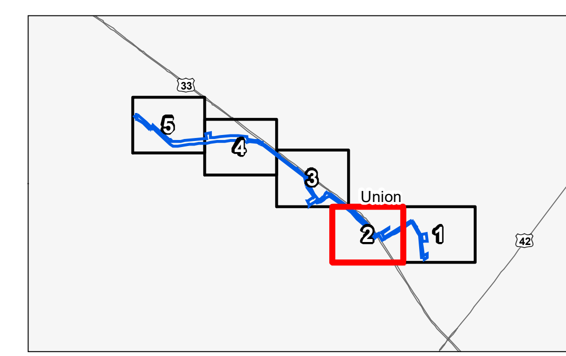
Project Location 193707055
Union County, Ohio

Prepared by JD on 2019-12-10
Technical Review by KC on 2019-12-10
Independent Review by MT on 2019-12-10

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

Legend
- Approximate Proposed Pipeline
- Temporary Construction Access
- Regulator Station
- Laydown Yard
- Additional Temporary Workspace
- Temporary Easement
- Permanent Easement
- Field Delineated Waterway
- Field Delineated Emergent Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, OGRIP LBRS
3. Orthophotography: 2018 OGRIP

Stantec

Figure No.
1

Title
Construction Plans
Project Area Updated: 12/11/2019

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

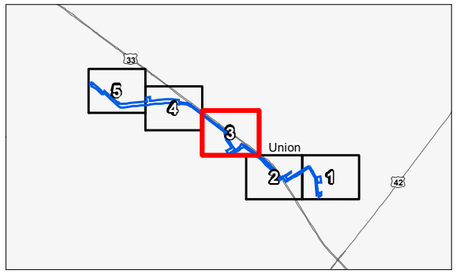
Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-12-10
Technical Review by KC on 2019-12-10
Independent Review by MT on 2019-12-10

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

Legend
- Approximate Proposed Pipeline
- Temporary Construction Access
- Regulator Station
- Laydown Yard
- Additional Temporary Workspace
- Temporary Easement
- Permanent Easement
- Field Delineated Waterway
- Field Delineated Emergent Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, OGRIP LBRS
3. Orthophotography: 2018 OGRIP

Stantec

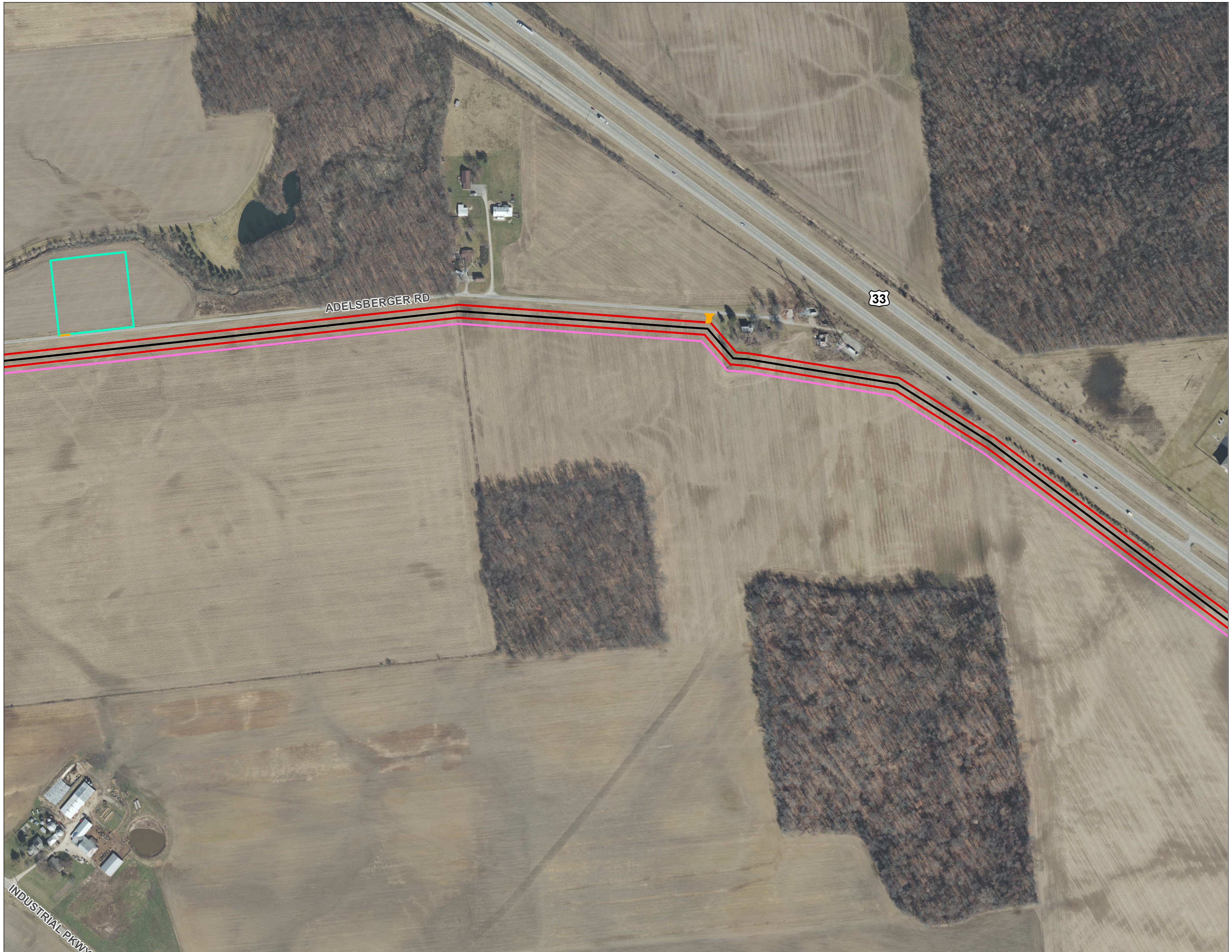


Figure No.
1

Title
Construction Plans
Project Area Updated: 12/11/2019

Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

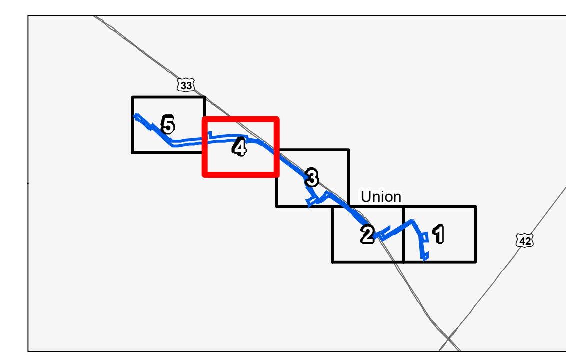
Project Location 193707055
Union County, Ohio

Prepared by JD on 2019-12-10
Technical Review by KC on 2019-12-10
Independent Review by MT on 2019-12-10

0 200 400 Feet
1:4,800 (At original document size of 11x17)

N

Legend
- Approximate Proposed Pipeline
- Temporary Construction Access
- Regulator Station
- Laydown Yard
- Additional Temporary Workspace
- Temporary Easement
- Permanent Easement
- Field Delineated Waterway
- Field Delineated Emergent Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, OGRIP LBRS
3. Orthophotography: 2018 OGRIP

Stantec

V:\1937\Active\193707055\03_data\gis_cad\gis\mxds\OPSB_LON\fig1_ConstructionPlans_Marysville.mxd Revised: 2019-12-11 By: jdelprete

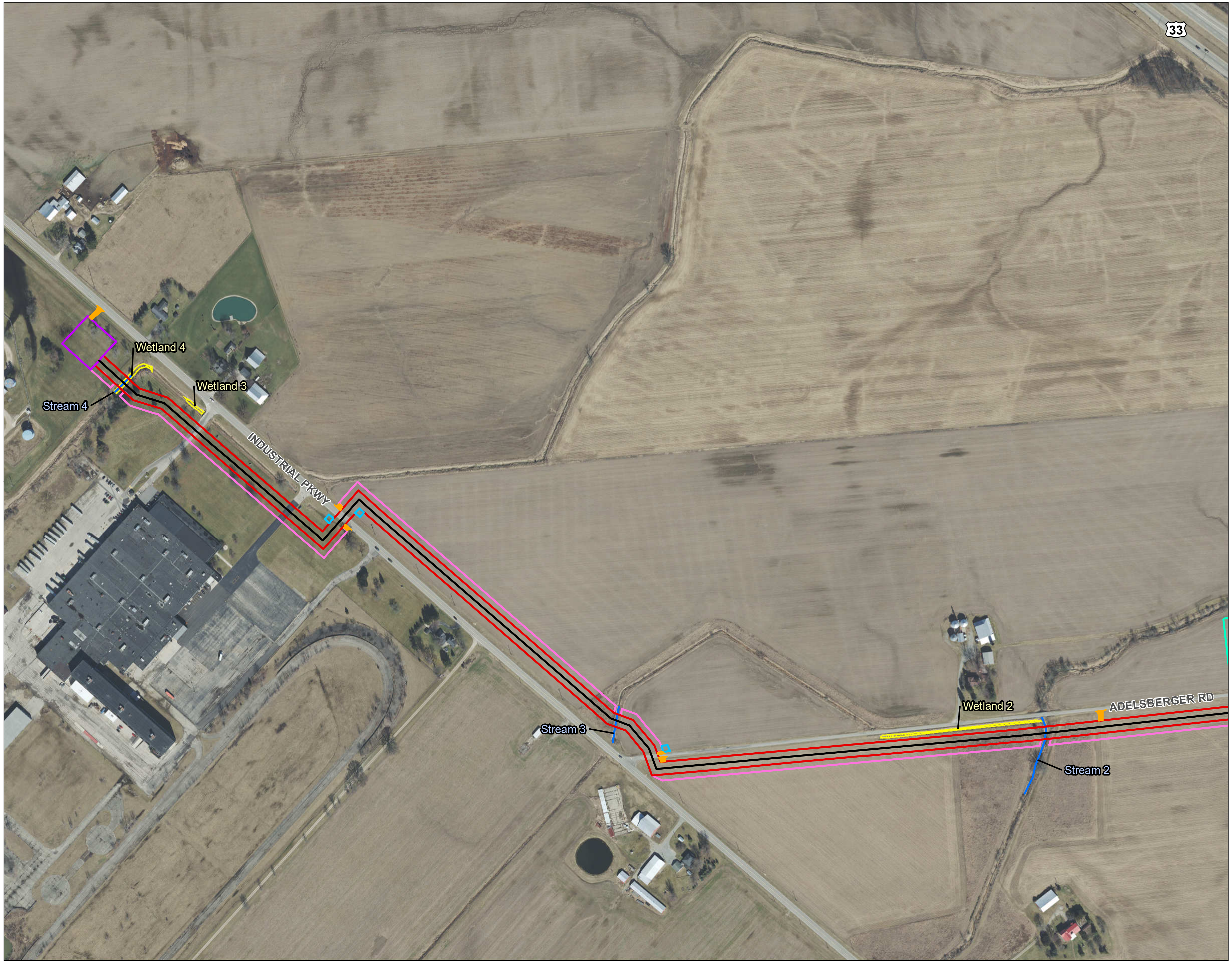


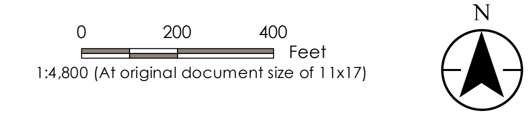
Figure No.
1

Title
Construction Plans
Project Area Updated: 12/11/2019

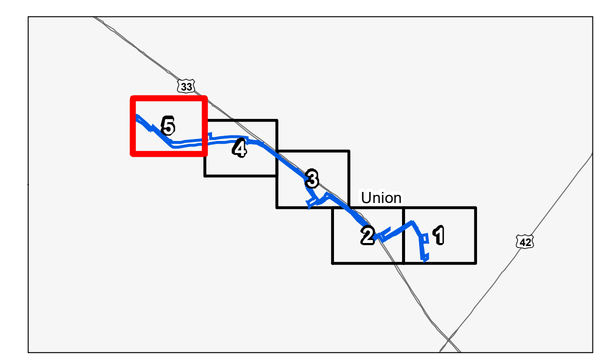
Client/Project
Columbia Gas of Ohio
Marysville Connector Pipeline Project

Project Location
Union County, Ohio

193707055
Prepared by JD on 2019-12-10
Technical Review by KC on 2019-12-10
Independent Review by MT on 2019-12-10



Legend
- Approximate Proposed Pipeline
- Temporary Construction Access
- Regulator Station
- Laydown Yard
- Additional Temporary Workspace
- Temporary Easement
- Permanent Easement
- Field Delineated Waterway
- Field Delineated Emergent Wetland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, Columbia Gas, OGRIP LBRS
3. Orthophotography: 2018 OGRIP

Stantec

Appendix D List of Easements

Columbia Gas of Ohio - Marysville Connector Pipeline Project
List of Easements

Easement No.	Title Owner	Parcel No.	Physical Address	Mailing Address	Legal Description (R-S-T-ML)	Ag. Land District Expiration Date
1	Daniel A. Gamble, Cheryl Burn and Diane Meadows	14-0006012.0000	Watkins California Rd. Marysville, OH 43040	149 Squires Ct. Powell, OH 43065	VMS 3475	No
2	Kauffman Family Farm, LLC	14-0006010.0000	11484 Watkins-California Rd. Marysville, OH 43040	11484 Watkins-California Rd. Marysville, OH 43040	VMS 3475	No
3	Schrader 10944, LLC, an Ohio limited liability company	14-0006008.0000	Watkins California Rd. Marysville, OH 43040	10944 Watkins-California Rd. Marysville, OH 43040	VMS 3475	No
4	Robert Elwood Williams	14-0006006.0000	Watkins California Rd. Marysville, OH 43040	7280 Butler Ave. Plain City, OH 43064	VMS 3475	No
5	Daniel A. Gamble; Cheryl Burns; & Diane Meadows	14-0006004.0020	11981 Watkins California Rd. Marysville, OH 43040	149 Squires Court Powell, OH 43065	VMS 3475	No
6	Walbonns, LLC	14-0005019.0000	Industrial Parkway, Plain City, OH 43064	435 Metro Place N. Suite 460 Dublin, OH 43017	VMS 5166 SPLIT AC TO #26	No, 2014-April 2019
7	Paul L. Jacquemin & Mary M. Jacquemin, for their joint lives with remainder to the survivor of them	14-0005021.0000	11430 Industrial Parkway, Marysville, OH 43040	10030 New California Rd. Plain City, OH 43064	VMS 5166	No
8	Phelps Preferred Investments, LLC	14-0002006.0000	Beecher Gamble Rd Plain City, OH 43064	PO Box 448 Milford Center, OH 43045	VMS 5274	No
9	Denise L. Phillips	14-0002007.0000	12406 Beecher Gamble Rd Marysville, OH 43040	12406 Beecher Gamble Rd. Marysville, OH 43040	VMS 5274	No

Columbia Gas of Ohio - Marysville Connector Pipeline Project
List of Easements

10	N/A - Part of Rt. 536 - Beecher Gamble Rd. ROW	N/A - Part of Rt. 536 - Beecher Gamble Rd. ROW	N/A no Parcel #	N/A - Part of Rt. 536 - Beecher Gamble Rd. ROW	VMS 5274	N/A, no parcel #
11	Phelps Preferred Investments, LLC	14-0002002.0000	Beecher Gamble Rd. Plain City, OH 43064	PO Box 448 Milford Center, OH 43045	VMS 5417	No
12	Phelps Preferred Investments, LLC	25-0009012.0000	Beecher Gamble Rd. Plain City, OH 43064	PO Box 448 Milford Center, OH 43045	VMS 1394	No
13	Daniel L. Adelsberger & Judy A. Adelsberger, husband and wife, for their joint lives, the remainder to the survivor of them	25-0009008.0000	12754 Adelsberger Rd. Marysville, OH 43040	12754 Adelsberger Rd. Marysville, OH 43040	VMS 1394	No
14	Parkway Farms Inc., an Ohio Corp.	25-0009010.0000	Industrial Parkway, Marysville, OH 43040	12678 Industrial Parkway Marysville, OH 43040	VMS 1394	Yes, 2019-2024
15	Patrick Bailey and Whitney Bailey	25-0008014.0000	12860 Industiral Parkway, Marysville, OH 43040	12860 Industrial Parkway, Marysville, OH 43040	VMS 3349	Yes, 2018-2023
16	Charles Peter Renner	25-0008013.0000	13260 Adelsberger Rd. Marysville, OH 43040	10956 Rausch Rd. Marysville, OH 43040	VMS 3349	No
17	Keith Rausch, who receives an undivided one-half interest in the following real estate and Kevin Rausch and Cheryl S. Raush, who receives an undivided one-half interest in the following real estate, as joint tenants with right of survivorship	25-0008009.0000	13482 Industrial Parkway, Marysville, OH 43040	13757 Fladt Rd. Marysville, OH 43040	VMS 3349	Yes, 2019-2024
18	Marysville Commerce One LLC	27-0001028.0000	13311 Industrial Parkway, Marysville, OH 43040	13311 Industrial Parkway Marysville, OH 43040	VMS 3349	No
19	Vayance Technologies, Inc.	27-0001029.0000	13601 Industrial Parkway, Marysville, OH 43040	c/o Continental Inc. 13601 Industrial Parkway Marysville, OH 43040	VMS 3349	No

Appendix E Agency Correspondence

Ohio Department of Natural Resources
MIKE DEWINE, GOVERNOR MARY MERTZ, DIRECTOR

Office of Real Estate
John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

December 4, 2019

Charlie Allen
Stantec
1500 Lake Shore Drive Suite 100
Columbus OH 43204-3800

Re: 19-942; Marysville Connector Project

Project: The proposed project involves the construction of a new 12-inch distribution class steel natural gas pipeline, and one district regulator station.

Location: The proposed project is located in Mill Creek Township, Union 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 record at or within a one-mile radius of the project area:

Great blue heron rookery

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.

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

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

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

The project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. 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 no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of for the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the Northern rifffleshell (*Epioblasma torulosa rangiana*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the rabbitsfoot (*Quadrula cylindrica cylindrica*), a state endangered and federal candidate mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, and the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the Scioto madtom (*Noturus trautmani*), a state endangered and federally endangered fish, and the Tippecanoe darter (*Etheostoma Tippecanoe*), a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, the project is not likely to impact these species.

The project is within the range of the king rail (*Rallus elegans*), a state endangered bird. Nests for this species are deep bowls constructed out of grass and usually hidden very well in marsh vegetation. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to August 1. If no wetland habitat will be impacted, the 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.

The project is within the range of the loggerhead shrike (*Lanius ludovicianus*), a state endangered bird. The loggerhead shrike nests in hedgerows, thickets and fencerows. They hunt over hayfields, pastures, and other grasslands. If thickets or other types of dense shrubbery habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator (Acting)

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3
To: Allen, Charlie; nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us
Subject: Columbia Gas, Marysville Connector, Union County (Stantec File: 193707055)
Date: Tuesday, November 19, 2019 1:45:27 PM

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#03E15000-2020-TA-0229

Dear Mr. Allen,

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 =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.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees =3 inches dbh be saved wherever possible. Because the

project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees =3 inches dbh during the summer roosting season may result in direct take of individuals. 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 tree removal is unavoidable, we recommend that removal of any trees =3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. **Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.**

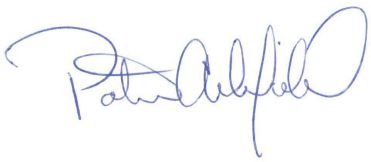
If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend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

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

Sincerely,



Patrice M. Ashfield
Field Office Supervisor

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

Appendix F Inadvertent Release Plan

Columbia Gas

Marysville Connector Pipeline Project

SPCC Plan for Drill Fluids & Cuttings

1 Introduction

Horizontal directional drilling is recognized as the least environmentally disturbing construction technique available for installing pipelines under rivers and other obstacles. The primary alternative to HDD would be open trenching.

The measures presented in this plan will become integral components in the construction procedure.

The equipment to be used in an HDD operation includes: HDD rig, power unit/control cab, mud pump, mud mixing/cleaning plant, backhoe, crane, and other miscellaneous support supplies and equipment.

2 Purpose of the plan

The purpose of this plan is to establish monitoring and response criteria that will minimize the environmental effects of the HDD operation. In particular this plan addresses the containment and control of drilling fluids. The HDD operation uses drilling fluid to facilitate the drilling of a borehole and installation of the product pipe. The fluid also serves to stabilize the surrounding formations and provide a seal that reduces the risk of the fluid migrating into the formation. The fluid is composed of naturally occurring clay and water. The clay is insoluble and made up of small particles that function as both a lubricant for the drill head and pipe and a sealant that fills the pore spaces surrounding the drill hole. Various benign, non-toxic additives may be added to the drilling fluid to optimize its properties.

3 Loss or release of Drilling fluid

With HDD, it is possible that some of the drilling fluids will be lost in fractures within the formation. In cases where the fracture is horizontal these lost fluids will not surface. While it is not anticipated, in other cases, drilling fluids may reach the surface (e.g., the fracture comes close enough to the surface that the pressure causes the release of drilling fluid above ground). Such a release is termed an inadvertent return.

A key to containing and controlling an inadvertent return is early detection and quick response by the HDD crew. This plan will identify the activities to be monitored and appropriate response actions to be taken to ensure that any release of drilling fluid is minimized. The plan outlines a process of monitoring the drilling fluid in order to identify a loss-of-returns situation and to determine if there is a release to the surface. Specific

measures to be taken to reduce the amount and likelihood of surfacing drilling fluid, and other actions to be taken, are included.

As stated above, the drilling fluid mixture typically consists of water and bentonite clay. Inert, non-toxic polymers may be added to the mixture to improve its properties. In the event of an inadvertent return Lost Circulation Materials (LCM) may also be added to the fluid. LCM's typically include cotton dust, cottonseed hulls, wood fiber, and mica and cedar fiber.

4 HDD installation process

A typical HDD installation starts with drilling a small diameter pilot hole. The pilot hole is then enlarged in successive increments until its diameter is large enough to accommodate the product pipe. This enlarging process is termed "reaming". Finally the previously assembled string of product pipe is pulled into the bore.

4.1 Pilot hole drilling

The drilling of the pilot hole includes the use of drilling fluid to run the drill motor or jet bit to cut through the earth material, to seal off fractures in the formation, to lubricate the drill pipe during installation, and to remove the drilled soil or cuttings from the bore. The drilling fluid is pumped down the inside of the drill pipe and exits through the drill bit. The fluid then can return to the surface at the rig site through the annular space between the outside of the drill pipe and the borehole. The fluid returning to the drill site is called "returns". At the beginning of the pilot hole, a large percentage of the drilling fluid returns to the rig site. As the drill progresses, more of the returns are absorbed by the earth or rock formation and are not returned to the rig site. At some point, gravity and friction overtake the ability of the fluid to return to the drill site. It is not uncommon to not have any of the fluid return to the drill site during the majority of the bore, without any release of the fluid to the surface. The drilling fluid is usually absorbed by the formation or is drawn down into fractures. It is important to understand that a loss of returns, even a complete loss of returns, is a fairly normal occurrence during HDD that does not necessarily mean the drilling fluid is coming to the surface or impacting the river bottom environment.

When the pilot hole is completed and the drill bit "punches out", a relatively small quantity of drilling fluid will be released at this surface point; however, it will be quickly contained and controlled.

4.2 Reaming and pipe pulling

Reaming will be carried out in either the same or the opposite direction from pilot hole drilling whereas pipe will be pulled in from the opposite direction. The reamer will progress from one end to the other of the drilled hole. During reaming and pipe pulling a considerable percentage of the drilling fluid used will exit the borehole at either the "entry point" or the "exit point". The returns emitted at both sites will be collected and cleaned for recycling. Normally the primary "cleaning plant" will be located at the "entry point" next

to the rig, therefore returns from the "exit point" must be cleaned with a second "pipeside" plant, or pumped back to the rig side via a "return line", or collected and trucked back via vac trucks.

During reaming and pipe pulling, drilling fluid may be lost into the surrounding formation in much the same manner as during the drilling of the pilot hole. The only significant difference is that the volumes of fluid that are used are larger.

During drilling of the pilot hole, reaming or pipe pulling, a complete and sudden loss of returns could be an indication that a significant ground fracture has been encountered. In most cases, the drilling fluids are drawn down by gravity or seal off the fracture. A complete and sudden loss of returns is a signal to the HDD crew to watch closely for a possible surface release. This plan uses this, as well as visual indications, as triggers for response and mitigation actions.

5 Typical Control Measures used

Typical measures that are put in place to ensure that a release of drill fluid will be effectively dealt with include the following:

5.1 Training

Supervisory and other key personnel that will be on site will have received training with respect to the control and containment of drilling fluid. The training includes:

- the details of this plan,
- the need for environmental protection,
- environmental resources located at or near the site,
- specific permitting conditions and requirements,
- the need to monitor the HDD operation,
- lines of communication,
- lines of authority and responsibility,
- the information the HDD contractor will need to provide to the Owner and other site representatives,
- contact names and phone numbers of the appropriate individuals and agencies, and
- Events that need to be reported and to whom.

5.2 HDD Monitoring

The site superintendent has the overall responsibility for monitoring the HDD operations for inadvertent returns. He may delegate this responsibility as he sees fit. The drill rig operator or driller is the individual who is responsible for monitoring drilling fluid pressures and fluid returns. In the event of a significant drop in down hole fluid pressure or fluid

returns the driller will notify the site superintendent. The superintendent, with the assistance of the more senior crewmembers is also responsible for visually monitoring the length of the bore for inadvertent returns.

During the clean up of spilled drilling fluid, the characteristics of the fluid released, quantities of fluid being cleaned up, the extent of the release and any apparent effects, and general progress of work will be documented in the daily reports submitted to the Owner and in the driller's log.

5.3 Response & Notification

The HDD contractor shall immediately notify Owner's representative of any sudden losses in returns or any inadvertent returns. If an inadvertent return to the ground surface or into the river bottom is observed, the HDD contractor will take certain reasonable actions to eliminate, reduce, or control the release. The actions to be taken will depend on the location and time of release, the geologic conditions there and the volume of the release. This section outlines the response measures that will be implemented for inadvertent returns to the ground surface or into a river bottom.

5.4 Inadvertent return to the Ground Surface

If a release occurs in an upland area, the HDD contractor will take appropriate reasonable actions to reduce, eliminate or control the release. The actions to be taken will depend on the location of the release point and the amount of fluid being released. The actions may include:

- Constructing a small pit or sand bag coffer around the release point, installing a section of geotextile filter fabric ("silt fence") and or hay bales to trap as much sediment as possible, and placing a pump hose in the pit to pump the drilling fluid back to the bore site.
- Using a Vac Truck to clean up and return the drilling fluids to the bore site to be recycled or if drill fluids are deemed unrecyclable take them to the pre approved disposal site.
- Reducing drilling fluid pressures,
- Thickening drilling fluid mixture, and
- Adding pre-approved loss circulation materials (LCM's) to the fluid mixture
- Ceasing pumping operations

Which of these actions will be implemented will depend on the specific boring conditions at the time of the release and the volume of the release. The HDD contractor, in consultation with the Owner, will determine which methods are the most appropriate to eliminate, reduce or control the release. Drilling fluid that is recovered will be recycled and reused to the extent that is practical. The HDD contractor will document the nature of the release including physical characteristics of the fluid, the location and extent (area, estimated volume and duration), the modified procedures used to reduce the rate of

leakage, and the extent to which these measures are successful in controlling or eliminating the release.

5.5 Inadvertent return into a River Bottom

If an underwater release occurs, the HDD contractor will take appropriate reasonable actions to reduce, eliminate or control the release. The actions to be taken will depend on the location of the release point and the amount of fluid being released. The actions may include:

- reducing drilling fluid pressures,
- thickening drilling fluid mixture,
- adding pre-approved loss circulation materials (LCM's) to the fluid mixture, or
- ceasing pumping operations

The measures listed above can be used to limit or possibly stop the release of drilling fluid onto the river bottom. Which of these measures will be used will depend on the specific boring conditions at the time of the release and the volume of the release. The HDD contractor, in consultation with the Owner, will determine which methods are the most appropriate to eliminate, reduce or control the release. The HDD contractor will document the nature of the release including physical characteristics of the fluid, the location and extent (area, estimated volume and duration), the modified procedures used to reduce the rate of leakage, and the extent to which these measures are successful in controlling or eliminating the release.

5.6 Returns to entry and exit points

Measures will be implemented to contain and control the drilling fluid at the HDD crossing entry point and exit point. These measures typically consist of the excavation of a small containment pit around the points. Pumps will be used to remove any fluid that collects in the pit and pump it to either a fluid cleaning system or to a steel storage tank. All drilling fluid that is recovered will be recycled and reused. It is normal that drilling fluid is spilled on the drill rig when threaded connections in the drill string are broken. This fluid will be contained and directed by means of a shallow trench to the entry pit where it will be collected and recycled.

5.7 Documentation

The daily reports that will be submitted to the Owner and the drillers log will contain all relevant information pertaining to any inadvertent returns and the measures implemented to contain and control them.

5.8 Cleanup

Immediately following the successful completion of the pipeline pullback, the HDD contractor will clean all affected areas of trash and debris. All excess drilling fluids remaining in pits and tanks will be collected and disposed of by:

- farming into the permanent ROW if permitted, or
- hauling to pre-approved disposal areas
- Final cleanup must be acceptable to the landowner, the project Owner, and controlling local, state and federal agencies.

5.9 Hole Abandonment Procedure

Abandoned drill holes penetrating unconsolidated materials or fractured bedrock should be sealed by grouting the entire length of the hole.

Drilled holes that have been contaminated or may cause an environmental hazard should be sealed by the pressure grout method. This is done with a conductor pipe, called a tremie pipe, starting at the end of the drill hole and slowly pulling the conductor pipe toward the entry point at a rate no faster than the grout material fills and displaces water from the hole and until the hole is completely filled. The grout mixture used should be a Portland cement mixed with 2 to 10 percent high solids bentonite clay mixed according to the correct water-to-cement ratio. Commercially available premixed bentonite grout designed for sealing wells may also be used. Drill pipe may be used as conductor pipe.

Abandonment must be acceptable to the landowner, the project Owner, and controlling local, state and federal agencies.

5.10 Post Project follow-up

Post project follow-up will only be necessary if a major or sustained release of drilling fluid occurs. The post project follow-up will include:

- video taping the locations where the release occurred
- determining if environmental impact has occurred, and
- developing remediation actions in conjunction with the appropriate agencies

Summary: Letter of Notification : Marysville Connector Pipeline Project and Appendices A,B,D, E, and F electronically filed by Cheryl A MacDonald on behalf of Columbia Gas of Ohio, Inc.