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January 15, 2015

Via Electronic Filing

Ms. Barcy McNeal
Administration/Docketing
Public Utilities Commission of Ohio
180 East Broad Street, 11th Floor
Columbus, OH 43215-3793

**Re: NRG Ohio Pipeline Company LLC,
OPSB Case No. 14-1717-GA-BLN**

Dear Ms. McNeal:

Please find attached NRG Ohio Pipeline Company's 401 water quality certification application submitted to the Ohio Environmental Protection Agency (Attachment J) on December 24, 2014. This Attachment was not required by the OPSB rules, but was intended for the Staff's information. The reference to the 401 water quality certification application was referenced on page 28 under 4906-11-01(E)(2) of the Letter of Notification ("LON"). At the time the LON was filed on December 19, 2014, Attachment J was not available.

Please do not hesitate to contact me if you have any questions.

Sincerely,

Sally W. Bloomfield

Attachment

Cc: Parties of Record (w/Attachment)
Jim O'Dell (w/Attachment)

**CASE No. 14-1717-GA-BLN
LON
AVON LAKE GAS ADDITION PROJECT
PROPOSED NATURAL GAS PIPELINE**

ATTACHMENT J

SECTION 401 WATER QUALITY CERTIFICATION APPLICATION

**Environmental
Resources
Management**

December 23, 2014

Ohio Environmental Protection Agency
Todd Surrena
2110 E Aurora Road
Twinsburg, OH 44087

**1701 Golf Road
Suite 1-700
Rolling Meadows, IL
60008-4242**

**+1 847 258 8900
+1 847 258 8901 (fax)**

RE: Avon Lake Gas Addition Project
Lorain County, Ohio



Dear Mr. Surrena:

The Avon Lake Power Plant is a 734 MW coal-fired generating facility located in Avon Lake, Ohio ("Power Plant"). The Power Plant is owned by NRG Power Midwest LP, which is an indirect subsidiary of NRG Energy, Inc. The Power Plant was slated for retirement by the facility's prior owner as a result of significant expenditures required to meet increasingly stringent environmental requirements. NRG Power Midwest LP has decided to move ahead with a gas addition project ("Avon Lake Gas Addition Project" or "Project"), which will keep the facility in operation on natural gas beyond its planned deactivation date. To add natural gas as a fuel supply for the Power Plant, a new natural gas pipeline must be designed, permitted and constructed. The Avon Lake Gas Addition Project will bring environmental, economic, employment and electric supply reliability benefits to the state of Ohio. The pipeline is anticipated to be in service by April 2016. The proposed pipeline will require siting approval from the Ohio Power Siting Board ("OPSB"), as well as permits and approvals from other local, State, and federal agencies.

NRG Ohio Pipeline Company LLC ("NRG Ohio Pipeline") will construct, own and operate the pipeline. Environmental Resources Management ("ERM"), on behalf of NRG Ohio Pipeline, delineated wetlands and other waters along the proposed natural gas pipeline within a survey corridor generally 200-feet in width and approximately 20-miles in length in May and September 2014. The results of our field survey were provided to the U.S Army Corps of Engineers ("USACE"). The USACE has performed a Preliminary Jurisdictional Determination ("PJD") and determined all delineated wetlands and waters were considered jurisdictional to the USACE. A copy of the delineation report is contained within the attached document. A copy of the formal PJD will be provided to the OEPA upon its receipt from the USACE.

ERM understands that a 401 water quality certification from the Ohio Environmental Protection Agency applies to this project. ERM, on behalf of NRG Ohio Pipeline, respectfully requests your review of the enclosed report and application materials.

Ohio Environmental Protection Agency

December 23, 2014

Page 2 of 2

If you have any questions or require additional information about the Project, please don't hesitate to contact me at (847) 258-8912, or via email at doni.murphy@erm.com. You may also contact Nate Rozic at (724) 597-8630, or via email at nathan.rozic@nrg.com. Thank you in advance for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Donell (Doni) Murphy". The signature is cursive and somewhat stylized.

Donell (Doni) Murphy

Partner

Cc: Nate Rozic, NRG
Jeff Williams, ERM
Matt Teichert, ERM



Application for Section 401 Water Quality Certification

Division of Surface Water 401 Water Quality Certification and Isolated Wetland Permitting Unit

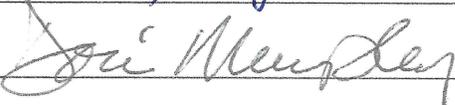
Section 1: Applicant and Agent Information		
	Applicant:	Agent:
Company/ Agency Name:	NRG Ohio Pipeline Company LLC	Environmental Resources Management
Name of Contact:	Alan Sawyer	Doni Murphy
Title:	Vice President	Partner
Technical Point of Contact:	Nate Rozic	Click here to enter text.
Address:	211 Carnegie Center	1701 Golf Road, Suite 1-700
City, State, Zip:	Princeton, NJ 08540	Rolling Meadows, IL 60008
Phone Number(s):	724-597-8630	847-258-8912
Email Address:	nathan.rozic@nrg.com	doni.murphy@erm.com

Section 2: Project Information		
A. Project Name: Avon Lake Gas Addition Project		
B Has Pre-App. Coordination occurred? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Indicate the 401 reviewer: Surrena DATE: 5/20/2014		
C. Brief Project Description/Purpose: Proposed natural gas pipeline to supply a fuel source to the Avon Lake Power Plant		
D. Construction Timeframe (Provide ~start and end dates): March 2015 April 2016		
E. Is any portion of the activity complete now? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Is this an "After-The-Fact" permit application? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If YES to either, describe the extent of completed portion of the activity below and the unauthorized impacts on waters of the state: Click here to enter text.		
F. Coordinates (degree, minutes, seconds): 41°16' 2.3" N - 82° 5' 44.3" W		
G. Project Address: Street: See Attached Maps City or Town: Click here to enter text. Zip Code: Click here to enter text. Township: Click here to enter text. County: Lorain		
H. 12 Digit HUC No.: 041100010403, 041100010404, 041100010506, 041100010601, 041100010602, 041100010603	I. Watershed Name: Willow Creek, Jackson Ditch-East Branch Black River, Lower West Branch Black River, French Creek, Black River, Heider Ditch-Frontal Lake Erie	J. Corps District: Buffalo
K. Proposed impacts to "waters of the state":		L. Other water related permits issued or required include:
<input type="checkbox"/> Beach Nourish <input type="checkbox"/> Levees/Berms <input type="checkbox"/> Blasting <input type="checkbox"/> Mine Through <input type="checkbox"/> Breakwater <input type="checkbox"/> Revetment <input type="checkbox"/> Bulkhead <input type="checkbox"/> Bank Stabilization <input type="checkbox"/> Bridge/Culvert <input type="checkbox"/> Stream Channeliz. <input type="checkbox"/> Dam <input type="checkbox"/> Stream Relocation <input type="checkbox"/> Dredge <input checked="" type="checkbox"/> Water Body Cross <input type="checkbox"/> Fill <input type="checkbox"/> Weirs <input type="checkbox"/> Groin/Jetty <input type="checkbox"/> Other		<input type="checkbox"/> Individual 404 Permit – Public Notice # Click here to enter text. <input checked="" type="checkbox"/> Nationwide Permit # 12 - Utility Line Activities Date Submitted:12/19/2014 <input type="checkbox"/> Section 10 Permit - Choose an item. Click here to enter a date. <input type="checkbox"/> Section 9 Permit - Click here to enter text. <input type="checkbox"/> Iso. Wetland Permit Choose an item. Click here to enter a date. Choose an item. <input checked="" type="checkbox"/> NPDES Permit – General Date Submitted: Click here to enter a date. <input type="checkbox"/> Permit to Install – Choose an item. : Click here to enter a date. <input type="checkbox"/> ODNR Choose an item. Permit - Choose an item. Click here to enter a date. <input type="checkbox"/> ODNR Coastal Permit - Choose an item. Click here to enter a date. <input type="checkbox"/> Regional Permit - Choose an item. Click here to enter a date.

Section 3: Fees			
Are you exempt from fees? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If YES, leave fee section blank)			
Application Fee =			\$ 200.00
Review Fee			
Wetland	Acres Impacted	59.40	x \$500 = \$ 29,700.00
Ephemeral Stream	Linear Feet Impacted	0.00	x \$5.00 = \$ 0.00 (\$200.00 minimum)
Intermittent Stream	Linear Feet Impacted	1169.00	x \$10.00 = \$ 11,690.00 (\$200.00 minimum)
Perennial Stream	Linear Feet Impacted	79.00	x \$15.00 = \$ 1,185.00 (\$200.00 minimum)
Lake	Cubic Yards	0.00	x \$3.00 = \$ 0.00
Total Review Fees =			\$ 42,575.00
Total Fees (\$200 Application Fee + Total Review Fees) = \$ 42,775.00			
Standard Applicant - Is the fee cap (\$25,000) exceeded? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
If YES, \$12,500 (\$12,700) is due with application and \$12,500 (\$12,300) is due at time of 401 WQC issuance			
County, Township or Municipal Corp. - Is the fee cap (\$5,000) exceeded? <input type="checkbox"/> YES <input type="checkbox"/> NO			
If YES, \$2,500 (\$2,700) is due with application and \$2,500 (\$2,300) is due at time of 401 WQC issuance			
If fee cap is not exceeded:			
DUE AT TIME OF 401 WQC APP. SUBMITTAL - APPLICATION FEE AND 1/2 OF REVIEW FEE =			\$ 21,487.50
DUE AT TIME OF 401 WQC ISSUANCE - 1/2 OF REVIEW FEE (Invoice will be sent) =			\$ 21,287.50
PLEASE MAKE FEE CHECK PAYABLE TO: "TREASURER, STATE OF OHIO"			

Section 4: Submitted Documentation		
Check all documents/items that have been submitted:		
<input type="checkbox"/> U.S. ACOE JD letter	<input checked="" type="checkbox"/> A specific & detailed mitigation plan	<input checked="" type="checkbox"/> US FWS & ODNR T&E Coordination
<input checked="" type="checkbox"/> 10 page ORAM forms - impacted wetlands	<input checked="" type="checkbox"/> Applicable fees	<input checked="" type="checkbox"/> Investigation report of "waters of the US"
<input checked="" type="checkbox"/> A DoEU for each undesignated stream *	<input checked="" type="checkbox"/> Site photographs	<input type="checkbox"/> US ACOE 404 Permit Public Notice
<input checked="" type="checkbox"/> Descriptions, schematics & appropriate economic information for <u>all three alternatives</u> (Preferred, Minimal Degradation and Non Degradation)		

*DoEU - Determination of Existing Use (See pages 6 and 11 in the Instructions)

Section 5: Applicant and Agent Signature			
I hereby designate and authorize the agent/consultant identified in Section 1 to act on my behalf in the processing of this permit application, and to furnish, upon request, supplemental information in support of the application:			
Applicant Name	NRG Ohio Pipeline Company LLC by: Alan Sawyer, Vice President	Applicant Signature	
Application is hereby made for a Section 401 Water Quality Certification. I certify that the information provided on this form and all attachments related to this project are true and accurate to the best of my knowledge:			
Applicant Name	NRG Ohio Pipeline Company LLC by: Alan Sawyer, Vice President	Applicant Signature	
Agent Name	Environmental Resources Management: Doni Murphy	Agent Signature	

For Internal Ohio EPA Use	
Reviewer:	
Project ID #	
Date Received:	
CR Due:	



Avon Lake Gas Addition Project
Lorain County, Ohio

Section 401 Water Quality Certification Application

Prepared by
Environmental Resources Management

Prepared for
NRG Ohio Pipeline Company LLC

December 23, 2014

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Appendix C	Wetlands and Water Resources Report
Appendix D	Phase I Archaeological Survey Report, Addendum and Correspondence
Appendix E	Erosion and Sediment Control Plan
Appendix F	Wetland and Stream Impacts Table
Appendix G	Wetlands and Waters Mitigation Plan

1.0 PROJECT OVERVIEW

1.1 Introduction

The Avon Lake Power Plant is a 734 MW coal-fired generating facility located in Avon Lake, Ohio (“Power Plant”).¹ The Power Plant is owned by NRG Power Midwest LP (“NRG Power Midwest”), which is an indirect subsidiary of NRG Energy, Inc. The Power Plant was slated for retirement by the facility’s prior owner as a result of significant expenditures required to meet increasingly stringent environmental requirements. NRG Power Midwest has decided to move ahead with a gas addition project, which will keep the facility in operation on natural gas beyond its planned deactivation date (the “Avon Lake Gas Addition Project” or “Project”). To add natural gas as a fuel supply for the Power Plant, the proposed natural gas pipeline must be designed, permitted and constructed. The Avon Lake Gas Addition Project will bring environmental, economic, employment and electric supply reliability benefits to the region as well as the State.

NRG Ohio Pipeline Company LLC (“NRG Ohio Pipeline”) will construct, own and operate the pipeline. The proposed 24-inch diameter high-grade steel natural gas pipeline will extend south approximately 20-miles (approximately 103,000 feet) from the existing Avon Lake Power Plant, which is located along the Lake Erie shoreline in the City of Avon Lake, to a proposed supply tap location southwest of the Village of Grafton. The proposed pipeline will require siting approval from the Ohio Power Siting Board (“OPSB”), as well as permits and approvals from other local, State and federal authorities.

Approximately 4,000 feet of the proposed pipeline will be aboveground. The pipeline will require a permanent right-of-way (“ROW”) typically 50-feet in width for operation and maintenance and a temporary ROW of 100-feet for construction. Both the permanent and temporary ROWs have been narrowed in some areas to reduce the potential for environmental impacts and at the request of landowners where feasible. Additional temporary workspace areas outside of the temporary construction ROW will be needed for short durations during construction. Existing public and private roads will be utilized for access to most of the construction ROW; however, approximately 2.2-miles (or 11,806-feet) of new 25-foot-wide temporary access roads are anticipated. Finally, the required regulating station will occupy up to approximately one acre. The pipeline will be cathodically protected and coated.

The construction of the proposed pipeline is anticipated to begin as early as summer 2015. If NRG Ohio Pipeline receives the necessary permits and approvals to begin tree cutting in March 2015, NRG Ohio Pipeline will do so. The anticipated in-service date for the pipeline is April 2016.

¹ The Power Plant also has one oil-fueled unit.

1.2 Route Selection

The evaluation or consideration of route alternatives was generally aimed at reducing proximity to existing buildings and other above and below-ground infrastructure or features, while also balancing trade-offs associated with other routing considerations (socioeconomic, ecological, engineering, construction and cost related). Various routing objectives served as the underlying basis of the identification and consideration of alternatives, namely including the following as it pertains to wetlands and water resources:

- Reducing the potential for impact to wetlands, waterways and other surface and ground waters—including minimizing the number of waterway crossings to the extent feasible;
- Reducing the extent of tree removal required;
- Reducing the extent of construction in areas of steep slopes; and
- Locating and designing the pipeline such that the use of existing access can be maximized and construction eased, to the extent feasible, with steadfast attention to public safety.

A comprehensive routing study was conducted to identify a preferred alternative. Multiple potential route corridors or alternatives, or iterations thereof, were identified and comparatively evaluated. Route alternatives were removed from consideration where they would result in a greater potential for adverse impacts.

Route adjustments requested by landowners have been incorporated to the extent feasible, reasonable or appropriate. For example, over 200 route adjustments requested by landowners have been incorporated when those requested adjustments would not otherwise significantly and adversely compromise or conflict with any routing objectives, or to the extent that any adjacent landowners were not involuntarily and adversely impacted. The proposed location of the Project, as depicted on Figure 1 below and the maps provided in Appendix A, reflects the results of NRG Ohio Pipeline’s robust and comprehensive consideration of alternatives aimed at avoiding or minimizing the potential for impacts, as well as its willingness to work cooperatively with affected landowners.

1.3 General Description of Construction Activities

Construction activities will occur within a newly acquired right-of-way though the area to be disturbed predominantly hosts existing vegetation. Project construction activities (e.g. clearing/grubbing, grading, trench excavation, spoil storage, backfilling and restoration) will disturb soils within a permanent right-of-way (“ROW”) typically 50-feet in width for operation and maintenance and a temporary ROW of 100-feet for construction. Both the permanent and temporary ROWs have been reduced in some areas to reduce the potential for impacts to jurisdictional wetlands and waters. All work will be performed within the limit of disturbance described herein, and as depicted on the maps provided in Appendix A. Sediment controls must be installed within seven days of first clearing/grubbing or prior to any ground disturbing activity, whichever is first. Strict adherence to the Erosion and Sedimentation Control Plan (ESCP) will minimize the potential for soil erosion and sedimentation during construction and site restoration.

Typically, the trench will be excavated to allow three to five feet of cover over the new pipeline after installation and backfilling. The backfill material that will be returned to the trench will consist of the same material removed from the trench, to the extent practicable. Excess soil will be spread onsite, except in wetlands and waterways. Following the installation of the pipeline, all disturbed areas will be returned to their pre-construction slope and contour, to the extent feasible, stabilized and seeded. All vegetated areas outside of wetlands and waters that undergo Project-related soil disturbance will be seeded and revegetated to provide a permanent herbaceous cover to stabilize soils and prevent erosion. Other temporary erosion and sediment controls will be maintained until disturbed areas are stabilized.

Segmented construction is expected to ensure the Project is completed on schedule. Soil disturbing activities are anticipated to begin as early as June 2015 and be completed by April 2016. Some of the work will be performed during periods of frozen ground, to the extent feasible, to minimize impact to wetlands and other sensitive areas. If NRG Ohio Pipeline receives the necessary permits and approvals to begin tree cutting in March of 2015, NRG Ohio Pipeline will do so. Soil disturbance is not expected to fell trees if non-mechanized means are employed.

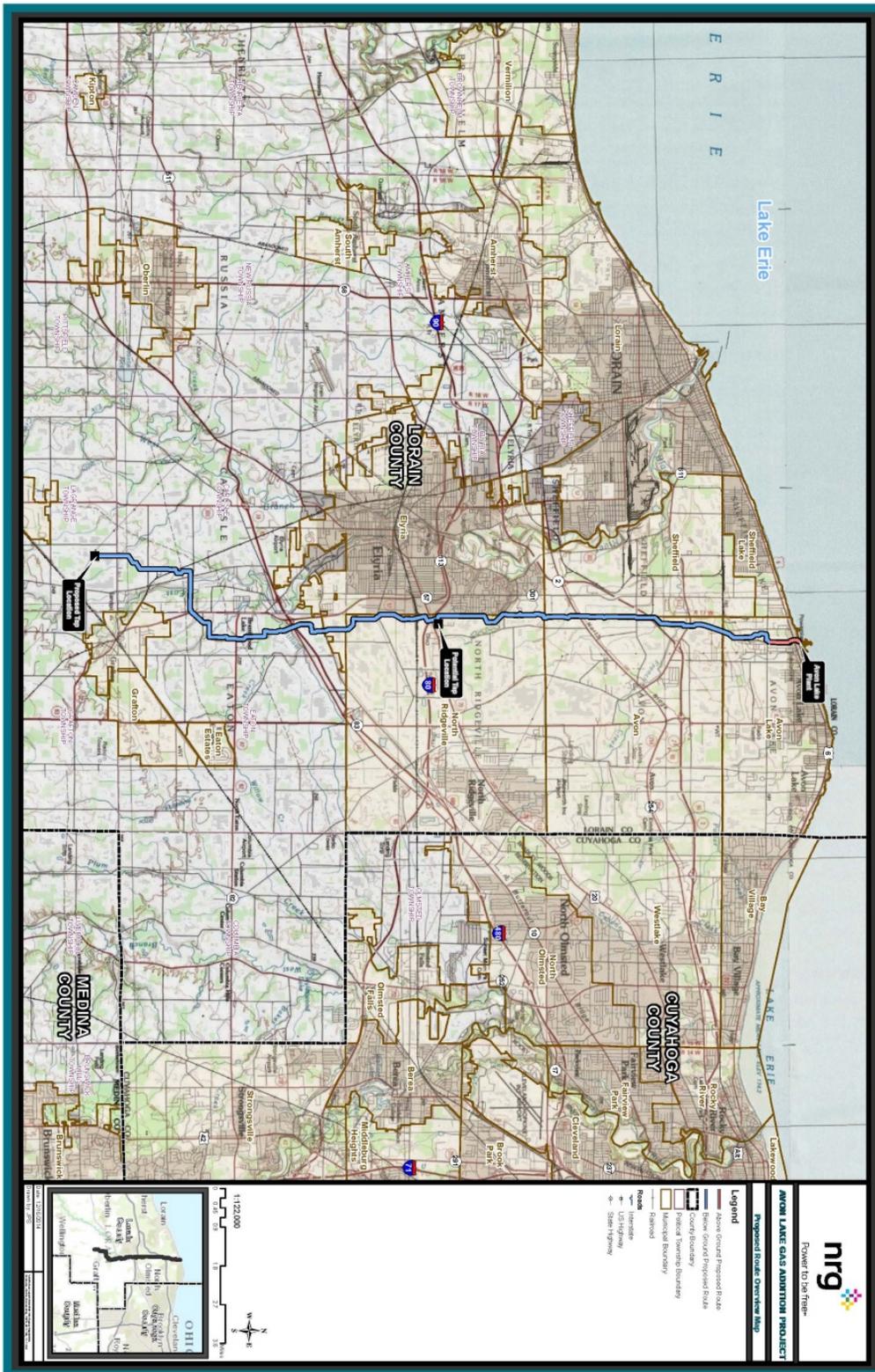


Figure 1. Project Overview Map

2.0 EXISTING CONDITIONS

2.1 Hydrology, Soils and Vegetation

The Project area mostly encompasses the transitional areas between local, more densely developed population centers and exterior undeveloped areas. The Project area lies within the Black-Rocky watershed and part of the Southern Lake Erie subregion, which contains approximately 1,240 miles of waterways that drain into the Central Basin of Lake Erie. This watershed is characterized by flat, gently rolling terrain formed by glaciers. The highest point in the basin is located to the south of the Project area at 1,138 feet above mean sea level. From this elevation, the gradient slopes downward 500-feet in elevation to the north, towards the mouth of the watershed near the City of Lorain, which is located at 572-feet above mean sea level. There are a number of steep valleys located along old bridges, stream banks and old beach ridges. However, the general topography of the area is flat, which limits the transport of water overland and encourages the formation of wetlands and flood zones in lowland areas. Soils within the Project area include both poorly drained and well drained soils. Hydric and partially hydric soils comprise more than 90 percent of the soils that will be affected by the Project. Primary surface waters along the Project include the East Branch of the Black River, French Creek, Willow Creek and their associated tributaries, as well as wetlands.

Existing vegetation in the form of agricultural crops, wooded areas, wet herbaceous meadows and other mostly scrub-shrub vegetative forms occur where the land has not otherwise been developed or previously disturbed. Vegetation along intermittent and perennial streams in the Project area typically includes a mixture of forested, scrub-shrub and emergent vegetation. Typical substrate types include leaf pack/woody debris, clay or hardpan, muck, gravel, silt and sand.

2.2 Land Use

Current land use along the Project generally consists of industrial, mixed developed, undeveloped and varying densities of residential uses. Where the Project generally extends through the City of Avon Lake, the predominant land use crossed by the Project is industrial use. Where the Project generally extends through the City of Avon, the predominant land use is undeveloped with adjacent industrial, recreational, and residential uses from north to south through the City. Where the Project generally extends through the City of Elyria, the predominant land use is institutional (Lorain County Community College). Where the Project generally extends through the City of North Ridgeville, the predominant land use is undeveloped/wooded with adjacent residential and commercial uses. Proposed residential uses are known to occur in some areas along the Project. Some agricultural uses do occur along the Project, near its southern end, in the undeveloped portions of Eaton, Carlisle and LaGrange Townships. Because this Project mostly crosses lands already developed and parallels existing previously disturbed rights-of-way, there has already been prior ground disturbance and maintenance in the area of the Project.

Some agricultural uses do occur within the Project area and along the representative Project route, mostly at the southern end of the route in the undeveloped portions of Eaton, Carlisle and LaGrange Townships. However, a tree nursery does occur along the route in the City of Avon.

There are no federal or state lands (excluding any state-owned road rights-of-way) within the Project area. There are two parks (Miller Road Park and Elyria North Park) and one golf course (Brentwood Golf Club) adjacent to the Project. One golf course, Carlisle Golf Club, is crossed by the Project. All Pro Freight Stadium, a baseball park, occurs adjacent to the Project in the City of Avon.

3.0 REGULATORY REQUIREMENTS

3.1 Other Major Permits, Approvals and Compliance Requirements

The table below provides a list of other major environmental permits, approvals and compliance requirements, and their status as of the date of this application.

Table 1. Other Major Permits, Approvals and Compliance Requirements

Permit, Approval, Compliance Requirement	Administering Agency	Status
Erosion and Sediment Control Plan	Lorain County	Approved December 23, 2014
	Local Municipal Jurisdictions	Submitted December 19, 2014
Hydrostatic Test Water Discharge Permit	Ohio Environmental Protection Agency	Will be submitted in advance of testing
National Pollutant Discharge Elimination System Compliance/Storm Water Pollution Prevention Plan		Will be submitted in advance of construction
Protected Species Studies/Consultation	Ohio Department of Natural Resources	Pending
	U.S. Fish and Wildlife Service	Pending
Historic Resources Studies/Consultation	Ohio Historic Preservation Office	Pending
Letter of Notification	Ohio Power Siting Board	Submitted December 19, 2014
Wetlands Permit	U.S. Army Corps of Engineers	Submitted December 19, 2014

3.2 Field Studies, Agency Coordination and Consultation

Threatened and Endangered Species

Environmental Resources Management (“ERM”), on behalf of NRG Ohio Pipeline, has consulted with the U.S. Fish and Wildlife Service (“USFWS”) and the Ohio Department of Natural Resources (“ODNR”) as it pertains to federal and state designated species. The Indiana bat (*Myotis sodalis*), which is federally and state endangered in Ohio, has the potential to occur within the Project area. Additionally, the Northern long-eared bat (*Myotis septentrionalis*), which is currently proposed to be federally endangered and state designated as a species of concern, has been observed to occur within one-mile of the Project.

Based on consultation with the USFWS, the Northern long-eared bat is likely to be formally listed as federally endangered in early 2015. In the absence of survey data, the USFWS assumes that the Indiana bat is present if forested habitat is present. Assuming the Northern long-eared bat will soon be listed, this assumption would apply to this species as well. The USFWS has identified that for linear projects of this type and size, seasonal clearing is not likely to result in any adverse effects to the Indiana bat. As such, no surveys are required but the clearing of trees should adhere to the seasonal tree removal restriction for these species (trees can only be cleared between October 1 and March 31) and not until

all necessary federal permits have been obtained (e.g., wetland permit from the U.S. Army Corps of Engineers). The USFWS also identified that the Kirtland's warbler is known to use areas near the lakeshore for migratory stopover habitat in the spring and fall. Therefore, clearing within three miles of the shoreline of Lake Erie should not occur from April 22 to June 1 or from August 15 to October 15.

The ODNR identified the same species described above in their review of the Project. They concur with the USFWS guidance as it relates to these species. The ODNR also identified that the Project must not have any impact on any freshwater native mussels. The Ohio Mussel Survey Protocol defines how surveys should be conducted for these species should any potential for impact to these species be anticipated, and which waters of the State are subject to the Protocol. Within the Project area, only the East Branch of the Black River is subject to the Protocol. However, NRG Ohio Pipeline has determined that it will install the proposed pipeline beneath this waterway via horizontal directional drilling so any potential for impacts to mussels will be entirely avoided. When NRG Ohio Pipeline met with representatives of the ODNR on April 28, 2014, they identified that they concurred with this determination.

Based on the above information, ERM does not anticipate that the Project would adversely affect any federal or state designated species. ERM, on behalf of NRG Ohio Pipeline, will continue consulting with the USFWS and ODNR, to the extent necessary or appropriate. Correspondence associated with the USFWS and ODNR is provided in Appendix B.

Wetlands and Waters

Representatives from ERM and NRG Ohio Pipeline met with representatives of the U.S. Army Corps of Engineers ("USACE") on May 8, 2014 to discuss the Project and the anticipated wetland permit. Subsequent to this meeting, ERM, on behalf of NRG Ohio Pipeline, conducted a field delineation of wetland and water resources along the Project corridor in May 2014.

There are three predominant types of wetlands that occur along the Project; palustrine forested ("PFO"), palustrine scrub-shrub ("PSS") and palustrine emergent ("PEM"). A number of the delineated wetlands are located either wholly or partially in areas that are actively farmed for crops, while others are located adjacent to various types of developed land uses or existing infrastructure. Construction of the Project will require the removal of trees in approximately 41.7 acres of PFO wetlands, which will result in the permanent conversion of these wetlands from forested wetlands to non-forested wetlands. The Project will temporarily impact approximately 18 acres of PSS and PEM wetlands.

Seven perennial streams and 17 intermittent streams/drainages will be crossed by the Project. None of these linear waterways have been identified by the USACE as navigable waters. Of the total 24 identified streams, only ten meet the definition of primary headwater habitat ("PHWH") streams in Ohio and none of these are high quality (Class III) streams. The Project will only cross Class I and Class II PHWH streams. The results of the wetlands and waters field investigation are more thoroughly documented in the attached Wetland and Water Resources Report (see Appendix C).

A wetland permit in accordance with Section 404 of the Clean Water Act is required for the Project. NRG Ohio Pipeline has requested a Preliminary Jurisdictional Determination from the USACE, which would result in all delineated wetland and water resources being jurisdictional to the USACE and therefore subject to USACE permit authority. None of the wetlands and waters delineated are anticipated to be isolated waters of the State. As such, no separate isolated wetlands permit from the Ohio Environmental Protection Agency (“OEPA”) is anticipated.

In September 2014, an additional field delineation of wetlands was completed where the route had been adjusted outside of the corridor previously surveyed in response to landowner requests. The results of this additional field investigation have been incorporated into an addendum to the initial wetland delineation study (see Appendix C).

NRG Ohio Pipeline has submitted its wetland permit application and associated wetland mitigation plan and other attachments, including the addendum to the initial wetland delineation report, to the USACE for its review.

Historic Resources

In May 2014, ERM conducted a Phase I Archaeological Survey for the Project on behalf of NRG Ohio Pipeline. During the Phase I archaeological survey, ERM identified five newly recorded archaeological sites. All five sites are recommended not eligible for listing in the National Register of Historic Places (“NRHP”) based on the results of the investigation. Two additional find spots were identified during the Phase I archaeological survey; however, they were not recorded as official archaeological sites due to the apparent recent nature of the deposits.

ERM also revisited an archaeological site recorded during at least one past survey performed by others for other projects along the proposed pipeline. It appears that the features at this site were not actually inspected by the archaeologists who recorded the site. Prior to the May 2014 investigation, the site had not been evaluated for inclusion in the NRHP. The May 2014 Phase I archaeological investigation completed by ERM identified only two artifacts within the portion of the site intersected by the Project. The portion of the site intersected by the Project is recommended not eligible for listing in the NRHP.

The site was previously recorded as an artifact scatter consisting of archaeological resources reminiscent of the Archaic and Woodland periods. Intensive pedestrian surface reconnaissance and subsurface testing were conducted within the portion of the site intersected by the Project; however, only one piece of shatter and one complete flake were identified during ERM’s investigation. The portion of the site intersected by the Project likely represents a brief tool production or maintenance event during the prehistoric-period. The potential for the portion of the site intersected by the Project to yield further information important in history has been exhausted. As such, the Ohio Historic Preservation Office (“OHPO”) has agreed with ERM’s conclusion that the portion of the site intersected by the Project is not

eligible for listing in the NRHP as this portion of the site is unlikely to provide additional information important to history and therefore cannot satisfy NRHP eligibility criteria.

In September 2014, additional archaeological field investigations were completed where the route had been adjusted outside of the corridor previously surveyed in response to landowner requests. Based on the results of the collective Phase I archaeological surveys, no impacts to historic resources are anticipated and no further archaeological work is recommended for the Project prior to construction. If the Project uncovers resources that might be of archeological interest during construction, the OHPO will be contacted immediately. If human remains should be encountered during construction activities, all ground disturbing activity will cease and local law enforcement and the OHPO will be notified. Additionally, should the Project be further adjusted beyond the area that has been surveyed, additional Phase I archaeological survey and consultation with the OHPO may be completed in advance of construction, to the extent necessary or appropriate. The complete Phase I archaeological survey report and addendum already submitted to the OHPO, as well as associated letters of correspondence, are included in Appendix D.

4.0 CONSTRUCTION ACTIVITIES

Various best management practices (“BMPs”) will be implemented throughout construction to minimize soil erosion and the transport of sediments from the construction area, and to protect surface waters and wetlands located in and adjacent to the Project area.

4.1 Sequence of Construction Activities

The following discussion provides an overview of the typical activities performed during pipeline construction. Wherever practical and/or appropriate, construction activities will occur simultaneously, though some steps may not occur in the exact order in which they are listed below.

- Survey and stake proposed pipeline and limits of disturbance.
- Install rock entrances at ingress/egress points to the ROW.
- Flag/field mark wetland areas.
- Install perimeter and other sediment barriers, as required by the ESCP.
- Begin clearing of the ROW.
- Grade the workspace if necessary.
- Install geotextile fabric, matting or plating, as required by this Plan.
- Install erosion control blankets on steep slopes.
- Implement BMPs for trench dewatering.
- Install temporary stream crossings (install sedimentation controls as necessary for retaining temporary spoil piles) and restore/stabilize stream banks.
- Excavate the pipeline trench.
- String new pipe along the ROW.
- Weld new pipe sections together.
- Lower pipeline into trench.
- Install clay trench plugs or anti-seep collars.
- Backfill trench.
- Restore grade to preconstruction contours.
- Apply lime and fertilizer as needed. Seed and mulch to all disturbed upland areas, and only the specified wetland seed mix, if required, in wetlands.
- Monitor adequacy of erosion control practices.
- After permanent stabilization is achieved, remove temporary erosion and sediment controls.

Construction activities will occur within a newly acquired ROW though the area to be disturbed predominantly hosts existing vegetation. Project construction activities (e.g. clearing/grubbing, grading, trench excavation, spoil storage, backfilling and restoration) will disturb soils within a permanent ROW typically 50-feet in width for operation and maintenance and a temporary ROW of 100-feet for construction. Both the permanent and temporary ROWs have been reduced in some areas to reduce

the potential for impacts to jurisdictional wetlands and waters. All work will be performed within the limit of disturbance described herein, and as depicted on the maps provided in Appendix A. Sediment controls must be installed within seven days of first clearing/grubbing or prior to any ground disturbing activity, whichever is first. Strict adherence to the ESCP will minimize the potential for soil erosion and sedimentation during construction and site restoration.

Right-of-Way Clearing

Initial clearing operations will include the removal of vegetation, only as needed, within the construction area. Clearing will be accomplished by mechanized forest clearing equipment or by hand cutting. The limits of clearing will be identified and flagged in the field prior to any clearing operations. In wetlands, trees and brush will either be cut using rubber-tired and/or tracked equipment, or hand-cut. Unless grading is required for safety reasons, wetland vegetation will be cut off at ground level, leaving existing root systems intact, and the aboveground vegetation removed from the wetlands for chipping or disposal.

In uplands, tree stumps and rootstock will be left in the temporary workspace wherever possible to encourage natural re-vegetation. Stumps will be removed from the ROW to approved disposal locations or made available to landowners upon request. Timber will be removed from the ROW to approved locations and sold for lumber or chipped. Chipped material may be thinly dispersed within the construction area. Brush and tree limbs will be either chipped or removed from the ROW for beneficial reuse or approved disposal. Wood chips will be sold as fuel or other marketable products, spread in approved locations on the ROW and used as mulch, or transported off site for proper disposal.

The cleared width within the ROW and temporary construction workspace will be kept to the minimum that will allow for spoil storage, staging and assembly of materials, and all other activities required to safely construct the pipeline. Closely following clearing and before grading activities, erosion controls will be installed at the required locations as outlined in the ESCP (see Appendix E).

Right-of-Way Preparation

The construction ROW will be graded only as necessary to allow for safe passage of equipment and to prepare a work surface for pipeline installation activities. However, as previously identified, tree stumps and rootstock in upland areas will be left in temporary workspace areas wherever possible to encourage natural re-vegetation. Temporary erosion and sedimentation controls will be implemented, in accordance with the ESCP, and maintained until final stabilization has occurred.

Trench Excavation

A trench will be excavated to the proper depth to allow for the installation of the pipe. In general, the trench will be deep enough to provide a minimum of three feet of cover over the pipe. During trench excavation, the top six to 12-inches of topsoil (with the vegetative root mass) will be carefully removed from over the trench and stockpiled separately from the trench subsoil (unless standing water or saturated soils make this impracticable to effectively segregate).

Should it become necessary to remove water from the trench, dewatering will be conducted in accordance with the ESCP and any applicable permits. The trench will be dug by a backhoe or ditching machine. The trench will be backfilled with subsoil first and topsoil on top, and preconstruction contours will be restored to the extent feasible.

Stringing and Welding

Once the trench is excavated, the pipe (in nominal 40-foot sections) will be laid along the trench. The pipe joints will be lined up end-to-end to allow for welding into continuous lengths known as strings. The individual joints of pipe are welded together in two steps. The beveled ends of the pipe will be cleaned and aligned. The joints will then be welded together.

Pipe Installation

After a pipe string has been welded, coated and inspected, the trench is prepared for the installation of the pipeline. The trench will be cleared of loose rock and debris. If water exists in the trench, dewatering of the trench will be conducted in accordance with the ESCP and any applicable permits. In sandy soils, the trench will be shaped to support the pipe. In areas where the trench contains bedrock, an approved foam or sand bedding will be placed on the bottom of the trench, and/or pads made of sandbags will be placed at regular intervals along the trench bottom to support the pipe. The pipe will then be lowered into the trench. Once the sections of pipe are lowered-in, final welds will be completed in the trench.

Trench Backfilling

All suitable material removed during trench excavation will be replaced in the trench. In areas where excavated material is unsuitable for backfilling, additional select fill may be required. All backfill operations will be conducted in a manner to avoid damage to the protective coating on the pipeline. When backfilling is completed, the top of the trench may be slightly crowned to compensate for settling.

Hydrostatic Testing

The pipeline will be pressure tested in accordance with U.S. Department of Transportation safety standards (49 CFR Part 192). Testing will generally be completed by filling the pipe with water and pressurizing this water to levels beyond the maximum operating pressure of the pipeline. The water will be maintained at that pressure for a minimum of eight hours.

Restoration and Revegetation

Restoration and revegetation will be completed in accordance with the ESCP. Permanent or temporary soil stabilization shall be applied to disturbed areas within two (2) days after final grade has been reached at any location along the Project. Seeding will take place once construction has been completed and the soil has been returned to its pre-construction grade. Any removed topsoil in wetlands will be returned to where it was removed, in the same profile as it was excavated, and the natural seed allowed to re-establish. If landowner specific requests for seed mixes or restoration are received, they will be evaluated on a case by case basis and only utilized if such mix or measure adheres

to all applicable regulatory requirements. When seasonal conditions prohibit the application of temporary or permanent seeding, dormant seeding (applying seed at 1.5 times the permanent seeding rate) or non-vegetative soil stabilization practices such as mulching or matting will be used.

All disturbed areas will be seeded with plant species that have a high germination capacity. Seeding will be performed with broadcast seeding equipment followed by mulch covering in accordance with the ESCP. Similarly, lime and fertilizer may be applied in accordance with the ESCP. Final stabilization must be achieved where grass growth has achieved, at a minimum, an 85% even coverage in all disturbed areas. At the end of construction/restoration activities, final site inspection to identify any remaining items to be completed to ensure long-term soil stability will be completed.

4.2 Wetland and Waterway Crossings

Hazardous materials, chemicals, fuels, and lubricating oils will not be stored, and concrete coating activities will not be conducted, within 100-feet of any waterway or wetland. Refueling of construction equipment will be conducted at least 100-feet away from these sensitive features.

Additional erosion and sediment control will be implemented near wetlands and waterways in the form of erosion control matting. Matting will be placed along the edges of wetlands and waterways within the construction ROW. Where construction equipment and vehicular traffic must cross wetlands, temporary matting or other suitable methods will be utilized to prevent sedimentation into wetlands.

Wetland Crossings

Prior to construction, wetlands will be identified and flagged within the ROW. Extra work and staging areas will be located at least 50-feet from the edge of the wetland, where possible. The width of the disturbance will be limited to the minimum necessary for the actual crossing. Movement of vehicles and equipment across the wetland will be minimized. Where equipment and vehicles must traverse saturated wetlands, the use of pads, mats or other suitable methods will be used to minimize disturbance.

During trench excavation, the top six to 12 inches of topsoil (with the vegetative root mass) will be carefully removed from over the trench and stockpiled separately from the trench subsoil (unless standing water or saturated soils make this impracticable to effectively segregate). Topsoil piles should be differentiated from subsoil piles with flagging, ribbons or other effective devices. The pipeline will be installed and trench plugs will be placed in accordance with the ESCP, to prevent the trench from draining the wetland or changing its hydrology. Clay trench plugs or anti-seep collars are required for trenching in wetlands, regardless of trench slope. These requirements supplement the general construction practice of placement of plugs in trenches on steep slopes. Trench plugs will also be installed if it is determined that flooding at the low point elevation of a pipeline will adversely affect an adjacent property.

The trench will be backfilled with subsoil first and topsoil on top, and pre-construction contours will be restored to the extent feasible. Excess material, if any, will be removed from the wetland upon completion. Unless required by local agencies, seeding, mulching and fertilization will not be done in wetlands. Restoration of the previously salvaged topsoil will allow the wetland vegetation indigenous to the wetland to revegetate naturally. Disturbed slopes adjacent to wetlands will be stabilized immediately upon pipeline installation.

Waterway Crossings

To minimize potential impacts, waterbodies, streams and rivers will be crossed as quickly and as safely as possible. Adherence to the ESCP will ensure stream flow will be maintained throughout construction. Proposed stream crossing techniques have been selected in accordance with applicable permit requirements, the technical feasibility of the method at each site, and the ability of the technique to minimize the potential for sediment release to downstream habitats. Contingency methods will be used if the preferred technique is determined to be impractical or too high a risk at the time of construction, as influenced by stream flows and other on-site conditions. Typically, minor streams, ≤ 10 -feet wide at normal flow depth, will be crossed using the “open cut” method. Intermediate streams, > 10 -feet and ≤ 100 -feet wide, and major streams, > 100 -feet in width, will be crossed using the “wet trench” method or by horizontal directional drilling. Temporary bridges spanning waterways may be utilized, in accordance with the ESCP, for moving construction equipment across waterways.

Open Cut Method

Open cutting is the standard method for pipe installation in dry watercourses well removed from fish bearing reaches. The pipeline trench is excavated in the bed and banks of the flowing or dry watercourse channel and is backfilled after the pipe is lowered in. The bed and banks of the channel are re-contoured to their pre-construction condition and stabilized with seed and mulch. Erosion control matting may also be used to further stabilize the watercourse.

After installation of the perimeter sediment control barrier, excavation activities may commence. The trench will be excavated to the minimum width necessary to accommodate installation of the pipe. The trench will be monitored to ensure proper depth and width. In most instances, streambed substrate should be separated from the subsoil and backfilled last to minimize impact. Excavated material that will be subsequently used as backfill shall be immediately removed from the stream crossing and placed behind the sediment barriers on the stream bank. The pipeline will then be lowered into the trench and the trench backfilled. Trench plugs will be installed at the top of the stream bank. The stream bank will then be stabilized with seed and mulch. Erosion control matting may also be used to further stabilize stream banks.

Isolation Method

The isolation method is one in which a trench is excavated in the bed and banks of a water body while the surface water in the water body flows uninterrupted and isolated from the excavation area. Isolation techniques include, but are not limited to, fluming, pumped by-pass, and in-channel diversion.

After placement of the perimeter sediment control barrier, installation of the flume or pumped by-pass will commence. The structures for stream isolation methods will be installed and functioning prior to any trench excavation within the stream channel. Sand-filled bags may be stacked at least 12 inches above the level of the stream to create a dam. The trench will be excavated to the minimum width necessary to accommodate installation of the pipe. The trench will be monitored to ensure proper depth and width. Excavated material that will be subsequently used as backfill will be immediately removed from the stream crossing and placed behind the sediment barriers on the stream bank. The pipeline will then be lowered into the ditch and backfilled. Trench plugs will be installed at the top of the stream bank as identified in Appendix E. The stream banks will be restored to pre-construction contour and stabilized with erosion control matting. Any sand bag diversions will be removed following complete restoration of the stream channel and banks.

Horizontal Directional Drill Method

Horizontal directional drilling has been identified as the preferred crossing method for some waterways, particularly larger waterways that will be crossed by the Project. After placement of the perimeter sediment control barrier, the launching and receiving holes on both sides of the waterway will be excavated. These excavations will be at least 50-feet or more from the stream bank, unless site conditions prohibit otherwise and at least a 10-foot setback will be achieved.

5.0 AFFECTED JURISDICTIONAL WETLANDS AND WATERS

Wetlands and waters were field delineated and classified in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* and OEPA procedures, as further described in the attached wetland and water resources reports. A cumulative total of approximately 1,248 linear feet of Class II stream will be temporarily impacted by the Project. Approximately 18 acres of non-forested wetlands will be temporarily impacted, while approximately 41.7 acres of forested wetlands will be permanently impacted due to their conversion from forested to non-forested wetlands. The table below summarizes the anticipated extent of impacts to jurisdictional wetlands and waters as a result of the construction of the Project. Additionally, Appendix F includes a wetland and stream impacts table, which includes additional detail supplemental to Table 2 below.

Table 2. Affected Jurisdictional Wetlands and Waters

Project Component	Affected Water	Class/Category	Type of Impact	Total Affected Stream Length (feet)	Total Affected Wetland Length (feet)	Total Affected Wetland Area (acres)	Total Forested Wetland Area (acres)
Pipeline	Stream	Class II	Temporary	1,248	-	-	-
Permanent ROW	PEM Wetland	Category 1	Temporary	-	1,714	1.9	-
		Category 2	Temporary	-	3,206	3.4	-
	PSS Wetland	Category 1	Temporary	-	121	0.1	-
		Category 2	Temporary	-	3,310	3.7	-
	PFO Wetland	Category 1	Permanent	-	818	0.9	0.9
		Category 2	Permanent	-	19,915	18.9	18.9
Temporary ROW and Workspace (including access)	PEM Wetland	Category 1	Temporary	-	0	1.5	-
		Category 2	Temporary	-	0	3.8	-
	PSS Wetland	Category 1	Temporary	-	0	0	-
		Category 2	Temporary	-	57	3.3	-
	PFO Wetland	Category 1	Permanent	-	0	0.6	0.6
		Category 2	Permanent	-	206	21.3	21.2

5.1 Wetlands and Waters Avoidance, Minimization and Mitigation

Impacts to wetlands and waters have been avoided or minimized to the extent feasible through the comprehensive route selection process and narrowing of the permanent and temporary ROWs in some areas. Further, permanent wetland impacts are limited only to the unavoidable conversion of forested wetlands to non-forested wetlands. All other wetland impacts will be temporary as fill, sedimentation or discharge into wetlands will be avoided; wetlands will be restored to their pre-construction condition; and there will be no loss of jurisdictional waters. In accordance with the ESCP and as described in

previous sections, various wetland and stream crossing methods have been identified. The most appropriate method that will facilitate avoidance or minimization of impact, given site conditions and/or time of year, will be employed.

Offsite Mitigation

In addition to the implementation of onsite mitigation measures during construction and the restoration of affected waters to their pre-construction condition or function (recognizing that forested wetlands will be converted to non-forested wetlands), Impacts to jurisdictional wetlands and waters will also require offsite compensatory mitigation. Tables 3 and 4 below summarize anticipated offsite mitigation required to offset impacts.

Table 3. Proposed Offsite Wetland Mitigation

Wetland Category	Wetland Type	Acres of Impact	OEPA Mitigation Ratio	Onsite Restoration Credit Ratio	Offsite Mitigation Ratio	Acres of Mitigation
Category 1	Forested	1.5	1.5:1	0:0	1.5:1	2.3
	Non Forested	3.6	1.5:1	1:1	0.5:1	1.8
Category 2	Forested	27.2	2.5:1	0:0	2.5:1	68.0
	Forested (Permittee-Responsible)	13	2.5:1	1:1	1.5:1	19.5
	Non Forested	14.1	2:1	1:1	1:1	14.1
		59.4				105.7

Table 4. Proposed Offsite Stream Mitigation

Stream	Linear Feet of Impact	OEPA Mitigation Ratio	Onsite Restoration Credit Ratio	Offsite Mitigation Ratio	Feet of Mitigation
Class II	1,248	1.5:1	1:1	0.5:1	624
	1,248				624

Offsite compensatory mitigation will be achieved as outline within the attached Wetlands and Waters Mitigation Plan (see Appendix G).

5.2 Other Mitigation Measures

NRG Ohio Pipeline will inspect erosion and sediment control and storm water pollution prevention measures on a weekly basis and after each rainfall event greater than 0.5-inches. All necessary repairs must be made immediately to ensure effective and efficient operation.

Maintenance

All protective measures identified in the ESCP must be maintained in effective operating condition. If, through inspection or other means, it is determined that BMPs are not operating effectively, then

maintenance shall be performed as necessary within three days to maintain the continued effectiveness of storm water controls. Erosion and sediment controls that have been intentionally disabled, run-over, removed or otherwise rendered ineffective must be replaced or corrected immediately upon discovery. If periodic inspections or other information indicate a control has been used incorrectly, is performing inadequately or is damaged, then it must be replaced or modified within ten days following the discovery.

Inspection

The disturbed area will be regularly inspected during construction, as will areas of temporary and permanent stabilization. Personnel conducting these inspections must be familiar with the construction area and knowledgeable of the ESCP. Sediment and erosion control measures identified in this ESCP will be inspected to ensure that they are operating correctly. Inspection of the entire area of disturbance must be conducted at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5-inches. Following an inspection which occurs within 24 hours after a rainfall event greater than 0.5-inches, the next inspection must be conducted within seven (7) days.

The ESCP will be modified based on the results of the inspections, as necessary, to ensure adequate erosion and sediment control. Any revisions to the Plan will be completed within seven (7) days following each inspection, and provided to the OEPA and other appropriate entities as required or appropriate. If existing BMPs are modified or if additional BMPs are necessary, an implementation schedule will be provided at the time that the Plan is revised.

Training

Since the training of staff and subcontractors can act as an effective BMP, a construction personnel training program will be required to educate personnel responsible for implementing or inspecting any component of the ESCP, or personnel otherwise responsible for storm water pollution prevention in accordance with the ESCP.

6.0 ANTIDegradation Rule

In accordance with the State antidegradation rule, ERM, on behalf of NRG Ohio Pipeline, has evaluated avoidance, minimization and mitigation techniques for three Project alternatives (preferred, minimal degradation and non-degradation). However, the Preferred Alternative (described below) is the same as the Minimal Degradation Alternative (described below) for this Project as NRG Ohio Pipeline is committed to preserving the function and quality of affected jurisdictional wetlands and waters and has, therefore, already planned for various forms of installation and reduced workspace areas.

The three alternatives to the Project are identified below:

- Preferred Alternative – The preferred alternative includes the construction of 20-miles of new 24-inch diameter pipeline most typically utilizing basic trenching, but with boring or horizontal directional drilling (“HDD”) in some locations. The HDD crossing method involves establishing staging areas along both sides of the proposed crossing. The process commences with the excavation of a pilot hole at one side of the intended boring area and boring to the opposite side, enlarging the entrance and boring as needed with one or more passes of a reamer until the necessary diameter to facilitate safe and effective pipeline installation is achieved. The hole must be drilled such that the pipe bend is not forced, but rather “free-stressed” as it needs to accommodate the curvature as defined by pipe wall thickness and pipe diameter. This curvature is factored into HDD design to establish entry and exit points, allowing enough length to reach the depth required to pass under the lowest point of a wetland or water and then back to the surface. NRG Ohio Pipeline will otherwise implement wetland and waterway impact avoidance, minimization and mitigation procedures as described in detail in Section 5.0 and the ESCP.
- Minimal Degradation Alternative – As described above, the minimal degradation alternative is the same as the Preferred Alternative.
- Non-Degradation Alternative – The non-degradation alternative would include the construction of 20-miles of new 24-inch diameter pipeline via HDD for the entire length.

6.1 Preferred and Minimal Degradation Alternative

As described above, the preferred and minimal degradation alternatives are the same for the Project. The preferred and minimal degradation alternative will utilize specialized construction techniques for wetland and waterway crossings and an array of specific BMPs to minimize the potential for impacts to water quality. Wetland crossing methods to be utilized for this alternative are described above in Section 4.0.

NRG Ohio Pipeline will implement the various erosion and sediment control and storm water pollution prevention measures described herein, and specified in the ESCP. The ESCP provides specifications for

the installation and implementation of soil erosion and sediment control and storm water pollution prevention measures while allowing adequate flexibility to utilize the most appropriate measures based on site-specific conditions at the time of construction to preserve the integrity of environmentally sensitive areas and maintain existing water quality. Implementation measures have been identified in accordance with the following objectives:

- Minimize the extent and duration of disturbance;
- Protect exposed soil by diverting runoff to stabilized areas;
- Install temporary and permanent erosion control measures; and
- Establish an effective inspection and maintenance program.

NRG Ohio Pipeline's construction methodology, aligned with its commitment to preserve the function and quality of affected jurisdictional wetlands and waters, includes the following:

- Minimization of riparian clearing to the extent practicable while ensuring safe construction conditions;
- Expedited construction in and around wetlands;
- Confinement of stump removal to the trench-line to minimize soil disturbance (unless safety or access considerations require stump removal elsewhere);
- Return of wetland bottoms and drainage patterns to their original configurations and contours to the extent practicable;
- Permanent stabilization of upland areas near wetlands as soon as practicable after trench backfilling to reduce run off;
- Segregation of topsoil in unsaturated wetlands to preserve the native seed source (which will facilitate re-growth of herbaceous vegetation once pipeline installation is complete);
- Utilization of recommended seed mixes in accordance with the ESCP; and
- Inspection of the construction area during and after construction.

6.2 Non-Degradation Alternative

The non-degradation alternative would require the use of an installation method that would significantly reduce the potential for impacts to jurisdictional wetlands and waters. In this case, this alternative assumes avoidance would be achieved through HDD installation of the pipeline beneath all wetlands and waters.

However, the purpose of and need for the Project is to add natural gas as a fuel supply for the Power Plant, which will keep the facility in operation beyond its planned deactivation date, as described in Section 1.0. Any viable Project alternative would need to technically and economically satisfy this purpose and need, safely and effectively and in accordance with the desired construction schedule, while avoiding impact.

ERM has qualitatively assessed this alternative. For discussion purposes, without consideration of the topography encountered along the proposed route, safe and effective HDD installation would typically require boring well beyond the limits of any wetlands and waters. Approximately 5.6 miles, cumulatively, of the proposed pipeline crosses jurisdictional wetlands and waters. Each HDD crossing requires a significant amount of temporary workspace that would require clearing and grading in order to provide adequate room for the HDD pullbacks and HDD entry and exit sites. Suitable locations for every temporary workspace needed at HDD entry and exit points would not be available. Also, locating every temporary workspace to avoid all wetland or waterway resources along the proposed route would not be possible.

6.3 Comparison of Alternatives

The following discussion is structured to address specific requirements or sections of the State antidegradation rule.

Section 10a) Provide detailed description of any construction work, fill, or other structures to occur or to be placed in or near the surface water. Identify all substances to be discharged, including the cubic yardage of dredged or fill material to be discharged to the surface water.

The Project requires installation of 20-miles of 24-inch diameter natural gas pipeline with a minimum of three feet of cover from the top of the pipeline to the ground surface. Approximately 18 acres of non-forested wetlands will be temporarily impacted, while approximately 41.7 acres of forested wetlands will be permanently impacted due to their conversion from forested to non-forested wetlands. A cumulative total of approximately 1,248 linear feet of stream will be temporarily impacted by the Project. Four perennial streams will be crossed by the pipeline itself. The pipeline will be installed via HDD beneath three.

10b) Describe the magnitude of the proposed lowering of water quality. Include the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species (include written comments from Ohio Department of Natural Resources and U.S. Fish and Wildlife Service), important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function. Include a Corps of Engineers approved wetland delineation.

As stated in Section 3.0, NRG Ohio Pipeline has submitted a Wetland Delineation and Water Resources Report to the USACE Buffalo District for review regarding the wetlands and waterbodies delineated along the proposed route, as part of its wetland permit application. None of the waterways crossed by the Project are navigable, or wild or scenic. Appendix B provides the designations for each waterway crossed by the Project. In addition, there are no known commercial fisheries along the Project. Further, only one waterway that will be crossed by the Project, the East Branch of the Black River, is listed in the

Ohio Mussel Survey Protocol. However, the pipeline will be installed via HDD beneath this waterway so no direct impacts to this waterway are anticipated.

Preferred and Minimal Degradation Alternative

The preferred and minimal degradation alternative will reduce wetland and waterway impacts potentially affecting water quality, and also reduce biological and physical impacts. This alternative will achieve lesser wetland and waterway impacts by reducing the construction workspace in wetlands, prioritizing wetland and waterway construction activities, and utilizing various installation methods, including HDD.

The preferred and minimal degradation alternative will be constructed within a 50 to 85-foot-wide area of disturbance in wetlands, thereby reducing the extent of impacts. Temporary workspace necessary to install the pipeline across wetlands and waterways will be located in upland areas however some HDD entry/exit temporary workspace will be located in wetlands. The work area will be limited to the minimum size necessary to safely construct the wetland or waterway crossing. Restricting the work area in this manner will minimize impacts to flora associated with pipeline construction and the potential for disturbance to wetland-dependent fauna.

Tree removal will be conducted in the winter season, which will avoid impacts to birds and bats. Prior to initiating clearing activities, all wetland boundaries and streams will be clearly marked in the field. Vegetation will be cut just above ground level, and stumps will be ground and not removed (except over the trenchline or where determined to be a potential safety hazard). Treating stumps and root systems in this manner will help stabilize the soil and promote re-sprouting by some species. Cleared debris (brush, slash, wood chips) will be thinly deposited in wetlands, dispersed in upland areas or hauled offsite.

After clearing is completed and prior to grading, erosion and sediment controls will be installed along the ROW. These erosion and sediment control measures will be installed in accordance with the ESCP and maintained throughout construction and until restoration is determined to be successful. A Spill, Prevention Control and Countermeasure Plan ("SPCC" Plan) will be developed and implemented during all phases of construction and restoration.

The construction methods that will be used for wetland crossings will minimize the extent and time that construction equipment operates in these areas. The top 12-inches of wetland soil over the trenchline will be segregated and stockpiled separate from subsoil. Trench spoils will be temporarily piled in a ridge along the pipeline trench. Gaps in the spoil pile(s) will be left at appropriate intervals to provide for natural circulation or drainage of water. The construction equipment required in wetlands will be limited as much as practicable to install the pipeline and transported over matting or plating, which will result in less soil compaction and rutting. The reduction of construction timing and workspace areas will increase revegetation potential of adjacent naturally occurring wetland plants, in-turn increasing restoration of wetland function and ecological functions.

Temporary trench plugs will be installed in the trench at the edges of wetlands if the possibility exists for sediment-laden water to flow into wetlands and to maintain post-construction wetland hydrology. Siltsoxx will be installed where the potential exists for spoil to flow into undisturbed areas of wetlands. Original topographic conditions and contours will be restored as close to pre-construction as possible after completion of construction.

NRG Ohio Pipeline will utilize specialized waterway crossing techniques to minimize potential impacts to water quality. The open-cut crossing method (or wet-ditch method) proposed for the minimal degradation alternative will require that specific procedures be followed that will reduce potential impacts to water quality.

If trench dewatering is necessary in or near a waterway, the removed trench water will be discharged into a sediment filtration device, such as a filter bag, located away from the water's edge to prevent heavily silt-laden water from flowing into the waterway, in accordance with the ESCP and all applicable permits.

Following construction, stabilization, and establishment of vegetative cover, temporarily disturbed areas will be left to revegetate via natural succession. NRG Ohio Pipeline will monitor the ROW to ensure revegetation is successful and address any areas where it is found to be unsuccessful. Tree regrowth in the permanent ROW will be maintained in an early successional stage by mowing and periodic tree removal. Temporary workspaces will be allowed to naturally revegetate via natural succession. This natural revegetation process will gradually develop a stratified vegetative cover between the ROW and adjacent habitats. Construction and operation of the pipeline is not expected to adversely affect the distribution or regional abundance of wildlife species given the amount and distribution of similar habitat types available in the immediate Project area.

To offset impacts to wetland and waterway resources, the preferred and minimal degradation alternative includes a Wetlands and Waters Mitigation Plan. The mitigation plan provides for onsite and offsite mitigation.

Non-Degradation Alternative

To significantly reduce the potential for any direct impacts to wetlands or waterways along the Project, each resource would have to be crossed using the HDD method. Although a successful HDD crossing may avoid direct impacts to wetlands and waterbodies, there are potential indirect impacts to wetlands and waterbodies in the form of clearing and grading required to establish the HDD workspace in adjacent uplands.

In most areas, HDD installation places the pipeline to a depth below natural root systems and access to the pipe for operation and maintenance would be problematic, if feasible at all. Given the extent of HDD that would be required for this alternative, this accessibility consideration is significant.

10c) Include a discussion of the technical feasibility, cost effectiveness, and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.)

Preferred and Minimal Degradation Alternative

The preferred and minimal degradation alternative will utilize specialized construction procedures for wetlands and waterbodies crossed by the pipeline, as identified in the ESCP. The pipeline will be installed across waterways using open cut, dry crossing, wet crossing and boring methods. The selected method will be dependent on site conditions at the time of construction.

Outside of higher installation costs associated with crossing methods other than open cut, particularly higher costs associated with HDD, there are no additional significant operational difficulties with respect to this alternative. The pipeline will typically be installed at the minimum depth allowing for at least three feet of cover. At this depth, the pipeline will be easily accessible for any future operation and maintenance needs. As part of the routine vegetation maintenance along the permanent ROW, trees will not be allowed to establish within the permanent ROW.

Non-Degradation Alternative

The HDD crossing of all wetland and streams that would be proposed for the non-degradation alternative is not technically feasible. Given the extent of HDD required for this alternative, the HDD process would be cost prohibitive, significantly more time consuming, and result in accessibility limitations. Further, this alternative would not entirely avoid the potential for impacts to jurisdictional wetlands and waters.

10d) For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents.

The Project does not include any regional sewage collection or treatment facility.

10e) To the extent that information is available, list and describe any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource.

NRG Ohio Pipeline is not aware of any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities as it relates to any of the affected water resource areas crossed by the Project.

10f) Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project.

Preferred and Minimal Degradation Alternative

The estimated costs associated with the major items associated with erosion and sediment control and storm water pollution prevention, as well as inspection and monitoring, are as follows:

- NRG Ohio Pipeline estimates that the cost of implementation of onsite mitigation measures and inspection and monitoring is at least \$150,000/mile, for a cumulative total of at least \$3,000,000.
- The flagging of wetland areas is estimated to cost an additional \$60,000.
- Offsite mitigation is projected to cost over \$3,000,000.

The total estimated cost for impact avoidance, minimization and mitigation is over \$6,000,000.

Non-Degradation Alternative

The non-degradation alternative would require significantly more HDD at a cost of at least \$2,000,000 per mile, which is approximately twice the cost per mile as traditional open cut trench installation and therefore cost prohibitive to the Project. This does not include the additional cost of preparation, excavation, mitigation and restoration associated with entry and exit points, costs associated with drill failures, etc.

10g) Describe any impacts on human health and the overall quality and value of the water resource.

Short-term and highly localized impacts to groundwater could potentially occur during various construction stages, particularly during clearing and grading, trench excavation, and any required blasting. Soil compaction during clearing and grading could temporarily result in localized decreases in groundwater recharge rates, as well as changes to overland water flow. During construction, local water table elevations could be affected by trenching and backfilling, thereby temporarily impacting springs and wells in close proximity to the Project. In locations where groundwater is near the surface, trench excavation may intersect the water table. Each of these potential impacts would be short-term and temporary. No long-term or permanent impacts to groundwater resources are anticipated.

Dewatering of the pipeline trench may be required in areas with a high water table or after a heavy rain. Removal of the water from the trench may result in a temporary fluctuation in local groundwater levels. Trench dewatering activities are usually completed in a few days within a particular location; therefore, impacts are expected to be short-term and temporary. All trench water will be discharged into well-vegetated upland areas to allow the water to infiltrate back into the ground, thereby minimizing any long-term or permanent impacts to the water table.

Preferred and Minimal Degradation Alternative

Comparatively, the preferred and minimal degradation alternative would reduce any potential for human health impacts. Potential impacts to the overall quality and value of affected water resources, none of which will be significant, would be as generally described above.

Non-Degradation Alternative

Similar to the preferred and minimal degradation alternative, no human health impacts or significant adverse impacts to overall quality and value of affected water resources is anticipated.

10h) Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and tax revenues generated and a brief discussion on the condition of the local economy.

Absent the proposed pipeline, the Avon Lake Gas Addition Project cannot go forward. As previously noted, the Avon Lake Power Plant was slated for deactivation due to costly environmental upgrades. The Avon Lake Gas Addition Project and implementation of the pipeline will allow the Power Plant to remain operational, will maintain jobs at the Plant and require temporary jobs during construction. Separate from tax revenues associated with the continued operation of the Power Plant, tax revenues associated with construction personnel lodging, public services and other expenditures will be realized. It is anticipated that the preferred, minimal degradation and non-degradation alternatives would be relatively similar in terms of socioeconomic benefits.

As previously identified, the Project crosses the City of Avon Lake, City of Avon, City of Elyria, City of North Ridgeville, Eaton Township, Carlisle Township and LaGrange Township in Lorain County. Table 5 below provides socioeconomic data for each of these jurisdictions.

Table 5. Socioeconomic Data

County, Township	2010 Population ¹	2010 Population Density (people/square mile) ¹	2010 Per Capita Income (dollars) ¹	2010 Poverty Rate (percent) ²	July, 2013 Unemployment Rate (percent) ³	2011 Civilian Labor Force ⁴	2011 Top Three Occupations ⁴
Lorain	305,356	613.6	\$26,030	14.6%	8.7%	63.7%	1,2,3
City of Avon	21,193	1,018.5	\$41,876	4.5%	8.2%	67.2%	1,2,3
City of Avon Lake	22,581	2,029	\$40,049	4.6%	8.2%	65.6%	1,2,3
City of Elyria	54,533	2,651	\$21,276	18.8%	8.4%	65.5%	1,2,3
City of North Ridgeville	29,465	1,257.1	\$30,468	6.6%	6.2%	67.9%	1,2,3
Carlisle	7500	315.3	-	-	-	-	-

County, Township	2010 Population ¹	2010 Population Density (people/square mile) ¹	2010 Per Capita Income (dollars) ¹	2010 Poverty Rate (percent) ²	July, 2013 Unemployment Rate (percent) ³	2011 Civilian Labor Force ⁴	2011 Top Three Occupations ⁴
Eaton	5750	250.9	-	-	-	-	-
LaGrange	6164	239.1	-	-	-	-	-

¹U.S. Census Bureau, 2010b

²U.S. Census Bureau, 2006-2010

³U.S. Department of Labor, Bureau of Labor Statistics. 2013

⁴U.S. Census Bureau, 2007-2011

⁴Key to Occupations: 1=Management business, science and arts; 2=Sales and office and 3=Service

NRG Ohio Pipeline anticipates hiring local construction workers with the requisite experience for the installation of the proposed pipeline where possible. The local supply of construction workers needed for the Project is expected to be derived from workers employed in the construction industry in Ohio, including those employed in Lorain County.

As identified above, most socioeconomic impacts will be short-term and localized, due primarily to the relatively short construction period and the limited geographic scope of the Project. Other potential adverse impacts associated with construction may include minor, short-term traffic disruption in the general vicinity of the Project. Pipeline construction may also result in minor short-term disturbance of agricultural activities. The Project will not involve the displacement of any residences or businesses, and any disruptions of local residential use will be of short duration and fully mitigated.

Revenues from construction employment, as well as local expenditures by both the construction companies (for construction materials) and non-local construction workers (for temporary housing, food and entertainment) will benefit the local economy.

10i) Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans

Preferred and Minimal Degradation Alternative

The preferred and minimal degradation alternative would not result in any significant loss of social or economic benefits.

Non-Degradation Alternative

The non-degradation alternative would not result in any significant loss of social or economic benefits.

10j) Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened or endangered species.

Please refer to the sections above.

ERM, on behalf of NRG Ohio Pipeline, is consulting with the USFWS and the ODNR regarding threatened and endangered species and anticipates a second concurrence from both agencies, each reconfirming no adverse effects to any protected species.

10k) Describe mitigation techniques proposed:

- ***Describe proposed Wetland Mitigation***
- ***Describe proposed Stream, Lake, Pond Mitigation***

Preferred and Minimal Degradation Alternative

The preferred and minimal degradation alternative will be constructed in accordance with all approved plans, permits and compliance requirements. Please also see the Wetlands and Waters Mitigation Plan for onsite and offsite mitigation expectations.

Non-Degradation Alternative

Similar to the preferred and minimal degradation alternative, the non-degradation alternative will be constructed in accordance with all approved plans, permits and compliance requirements. Please also see the Wetlands and Waters Mitigation Plan for offsite mitigation expectations.

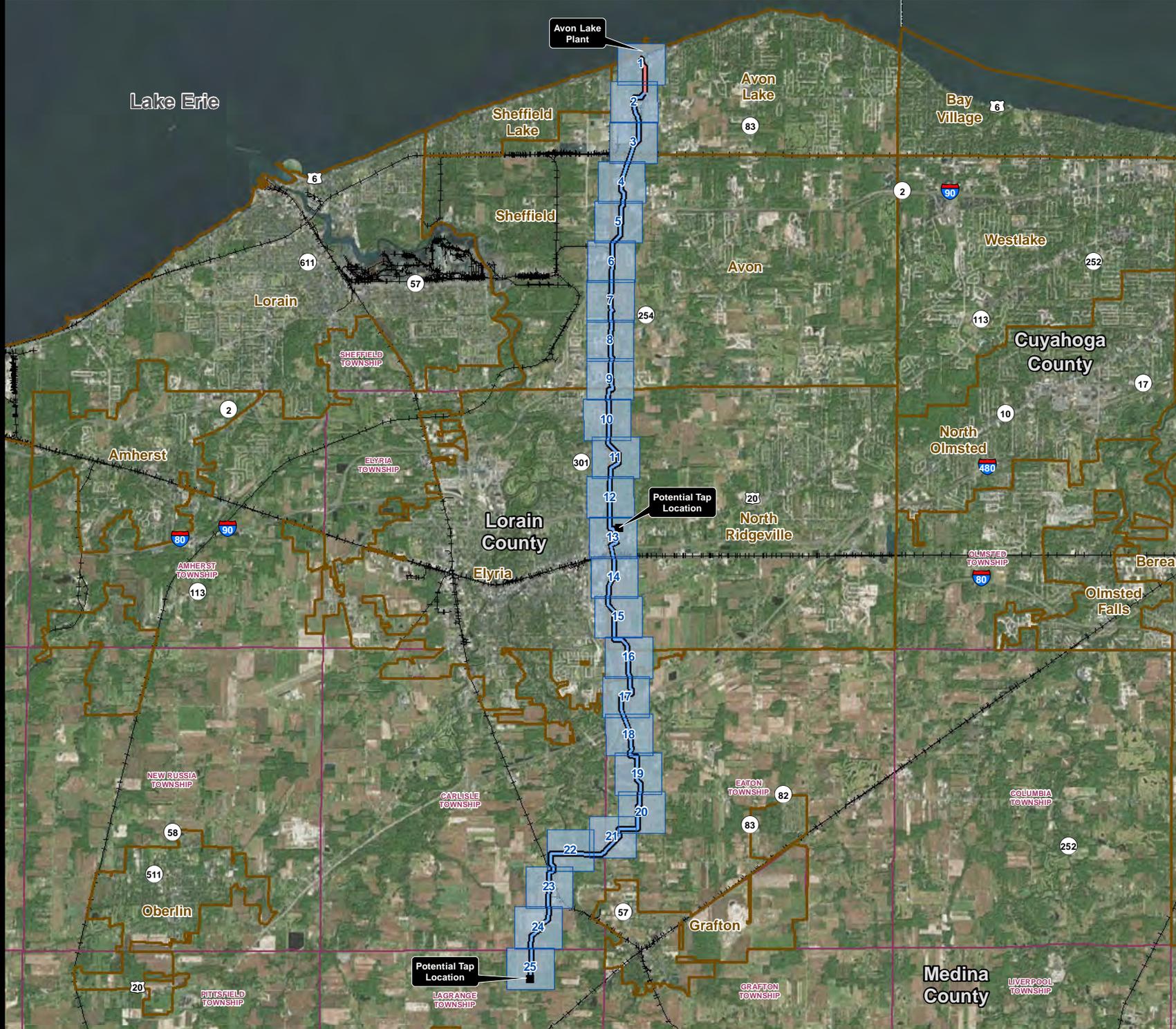
Appendix A
Project Maps

AVON LAKE GAS ADDITION PROJECT

Wetland and Water Resource Delineation Overview Map

Legend

- Above Ground Proposed Route
 - Below Ground Proposed Route
 - Map Extent Boundary
 - County Boundary
 - Political Township Boundary
 - Municipal Boundary
 - Railroad
- Roads
- Interstate
 - US Highway
 - State Highway



Avon Lake Plant

Potential Tap Location

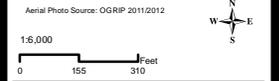
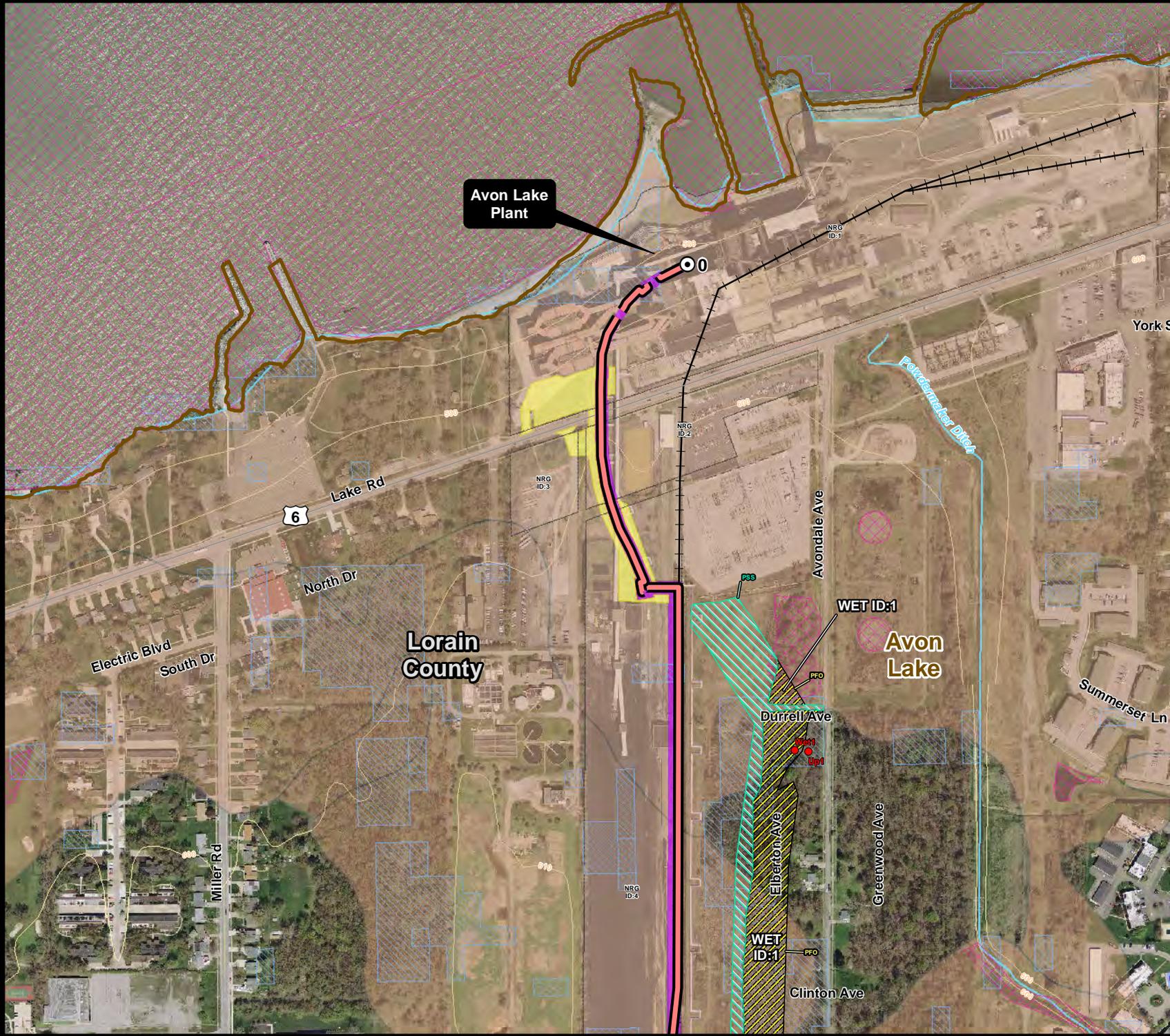
Potential Tap Location

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GEBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoMapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



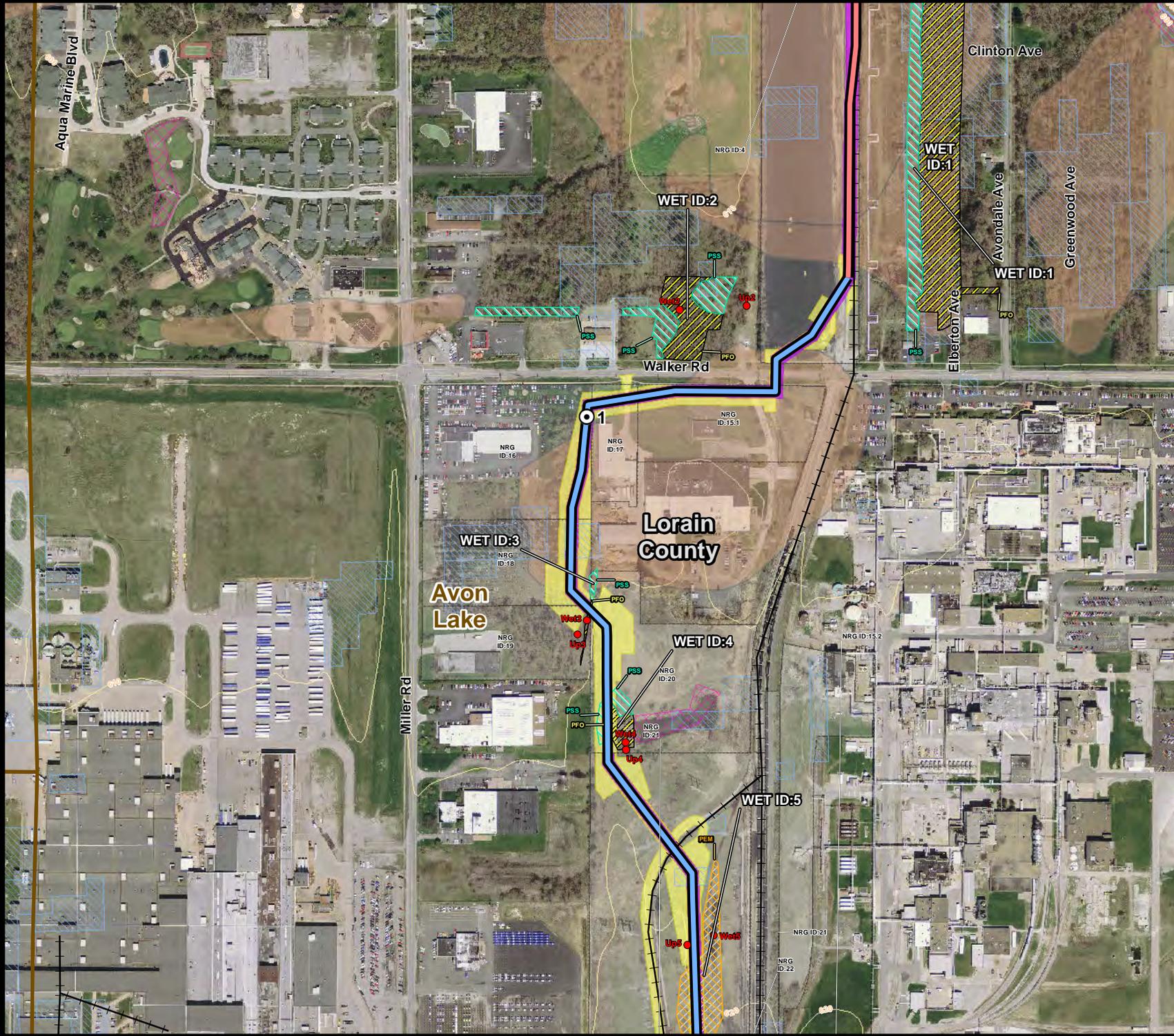
Legend

-  Above Ground Proposed Route
 -  Below Ground Proposed Route
 -  Permanent Right-of-Way
 -  Temporary Workspace
 -  Mile Post
 -  Wetland/Upland Field Collected Point
- Wetland Type**
-  PEM - Palustrine Emergent
 -  PFO - Palustrine Forested
 -  PSS - Palustrine Scrub-Shrub
 -  Field Delineated Stream
 -  NWI Wetland
 -  Ohio Wetland Inventory
 -  Contour Line - 10 Ft
 -  Affected Parcels
 -  Hydric Soils
 -  River/Stream
 -  Lake
 -  County Boundary
 -  Political Township Boundary
 -  Municipal Boundary
 -  Railroad
- Roads**
-  Interstate
 -  US Highway
 -  State Highway



Legend

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- Roads**
- Interstate
- US Highway
- State Highway

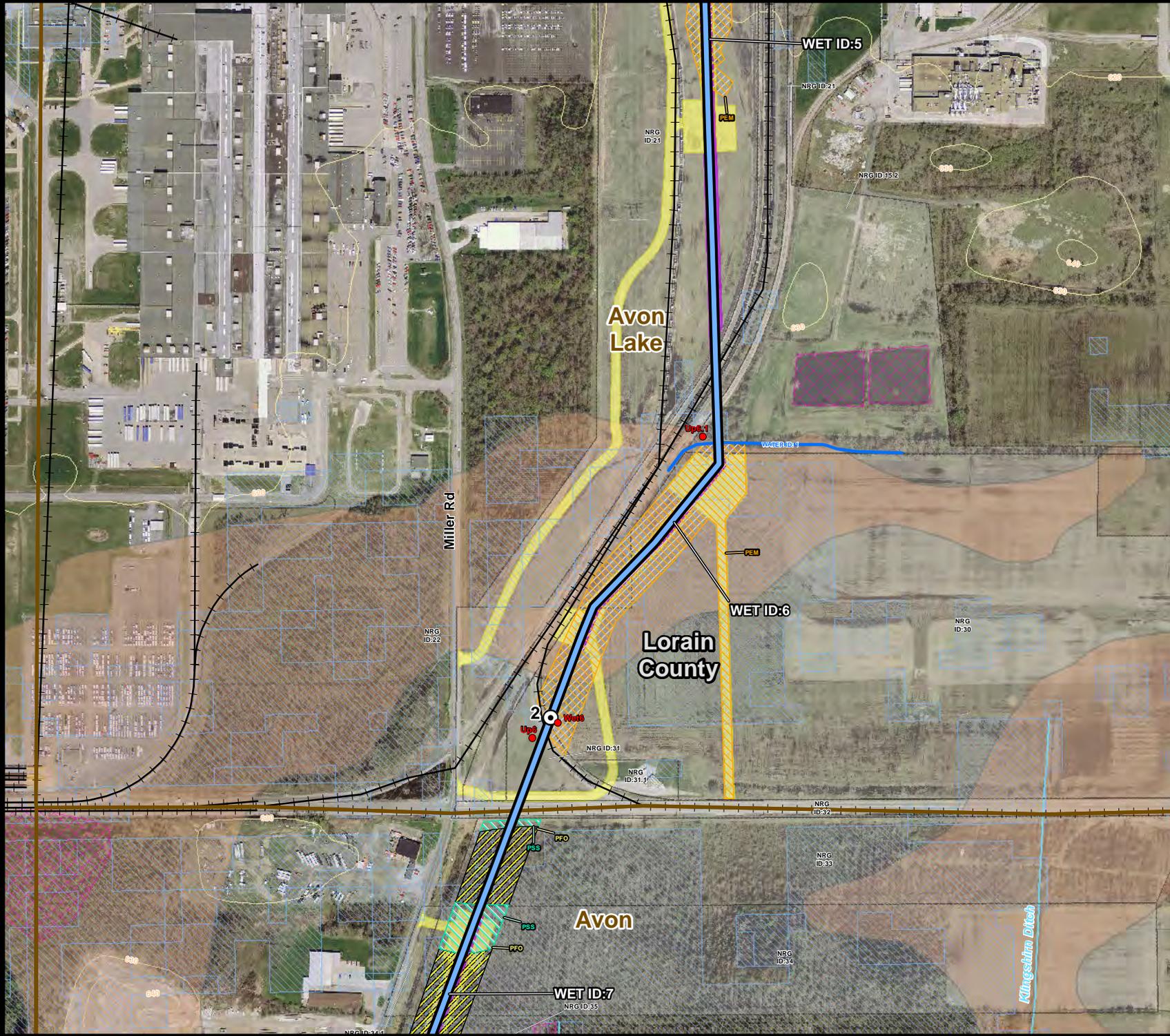


Aerial Photo Source: OGRIP 2011/2012



Legend

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Aerial Photo Source: OGRIP 2011/2012



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Case No(s). 14-1717-GA-BLN

Summary: Correspondence of NRG Ohio Pipeline Company LLC Submitting Attachment J - Part 1 electronically filed by Teresa Orahod on behalf of Sally Bloomfield