Appendix B DATA FORMS

B.1 WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Pewamo silt clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.232698	Longitude: -83.113125 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	02/25/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 1
Sample Point:	SP01
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wet point for Wetland 1

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	8	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silt clay loam, 0-1% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR 5/2	80	5YR 5/6	10	C	PL	silt loam
0	8	--	--	--	5YR 5/6	10	C	M	silt loam
8	16	--	10YR 5/2	85	5YR 5/6	5	C	PL	silty clay loam
8	16	--	--	--	5YR 5/6	10	C	M	silty clay loam
16	20	--	10YR 5/2	90	5YR 5/6	5	C	PL	silty clay loam
16	20	--	--	--	5YR 5/6	5	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 1 | Sample Point: SP01

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Cornus florida*	10	Y	FACU
2.	*Fraxinus pennsylvanica*	1	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	11		

Herb Stratum (Plot size: 5 ft radius)

1.	*Leersia oryzoides*	90	Y	OBL
2.	*Scirpus cyperinus*	10	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	100	x 1 =	100
FACW spp.	1	x 2 =	2
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	111 (A)		142 (B)

Prevalence Index = B/A = ***1.279***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No — Dominance Test is > 50%
- ☑ Yes ▫ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Loop	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Pewamo silty clay loam, 0-1 % slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.232752	Longitude: -83.113102
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	02/25/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 1
Sample Point:	SP02
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Farm field, upland point for Wetland 1

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	-	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	-	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	-	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0-1 % slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	--	10YR	5/3	97	7.5YR	5/6	3	C	M	clay loam
10	20	--	10YR	5/3	93	7.5YR	5/6	7	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Loop | Wetland ID: Wetland 1 | Sample Point: SP02

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Cornus florida*	3	N	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	3		

Herb Stratum (Plot size: 5 ft radius)

1.	*Triticum aestivum*	30	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 70% bare ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *0%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	3	x 4 =	12
UPL spp.	30	x 5 =	150
Total	33 (A)		162 (B)

Prevalence Index = B/A = *4.909*

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Lodbell silt loam, channery substratum, 0-2% slopes	NWI/WWI Classification:	PFO1Ah
Landform:	Floodplain	Local Relief:	Concave
Slope (%):	2	Latitude: 40.243479 Longitude: -83.147214	Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/03/20
County:	Union
State:	OH
Wetland ID:	Upland
Sample Point:	SP03
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland point in NWI

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	0	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	0	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	0	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Lodbell silt loam, channery substratum, 0-2% slopes,

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	20	--	10YR	3/3	100	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Upland | Sample Point: SP03

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Gleditsia triacanthos*	10	N	FACU
2.	*Acer negundo*	30	Y	FAC
3.	*Celtis occidentalis*	5	N	FAC
4.	*Ulmus americana*	5	N	FACW
5.	*Populus deltoides*	10	N	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Cornus alba*	10	Y	FACW
2.	*Fraxinus pennsylvanica*	3	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	13		

Herb Stratum (Plot size: 5 ft radius)

1.	*Elymus virginicus*	30	Y	FACW
2.	*Packera glabella*	5	N	FACW
3.	*Lysimachia nummularia*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Rubus idaeus*	15	Y	FACU
2.	*Rosa multiflora*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	30		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***67%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	

Total _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

▫ Yes	☑ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Lobdell silt loam, channery substratum, 0-2% slopes	NWI/WWI Classification:	PFO1Ah
Landform:	Depression	Local Relief:	Convex
Slope (%):	3	Latitude: 40.242833	Longitude: -83.148068
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/03/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 2
Sample Point:	SP04
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland point for Wetland 2

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	0	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	0	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	0	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Lobdell silt loam, channery substratum, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	20	--	10YR	3/4	100	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 2 | Sample Point: SP04

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Gleditsia triacanthos*	25	Y	FACU
2.	*Quercus macrocarpa*	20	Y	FAC
3.	*Ulmus americana*	15	N	FACW
4.	*Aesculus flava*	15	N	FACU
5.	*Carya cordiformis*	5	N	FACU
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Aesculus flava*	15	Y	FACU
2.	*Lonicera morrowii*	25	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 5 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Toxicodendron radicans*	5	Y	FAC
2.	*Rubus idaeus*	15	Y	FACU
3.	*Rosa multiflora*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	25		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***29%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	25	x 3 =	75
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0
Total	145 (A)		525 (B)

Prevalence Index = B/A = ***3.621***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	lobdell silt loam, channery substratum, 0-2% slopes	NWI/WWI Classification:	PEM1Ch
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.242778	Longitude: -83.148242
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/03/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 2
Sample Point:	SP05
Community ID:	PFO
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	2-3	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: lobdell silt loam, channery substratum, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	18	--	10YR	3/2	95	5YR	4/6	5	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☑ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 2 | Sample Point: SP05

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer negundo*	25	Y	FAC
2.	*Ulmus americana*	40	Y	FACW
3.	*Populus deltoides*	20	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	85		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Carex lurida*	90	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 10% open water

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	
Total	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

▫	Yes	☑	No	Rapid Test for Hydrophytic Vegetation
☑	Yes	▫	No	Dominance Test is > 50%
▫	Yes	▫	No	Prevalence Index is ≤ 3.0 *
▫	Yes	▫	No	Morphological Adaptations (Explain) *
▫	Yes	▫	No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Lobdell silt loam, channery substratum, 0-2% slopes	NWI/WWI Classification:	PEM1Fh
Landform:	Riverine	Local Relief:	Concave
Slope (%):	0	Latitude: 40.243111	Longitude: -83.148895
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/17/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 2
Sample Point:	SP06
Community ID:	PFO
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Forested Wetland with large open water component. North of US 42 Wet point for Wetland 2

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☐ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☑ B7 - Inundation Visible on Aerial Imagery
- ☑ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth: --	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 3	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 1	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Large open water area, but sample point taken outside surface water area

SOILS

Map Unit Name: Lobdell silt loam, channery substratum, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	5	--	10YR	3/3	100	--	--	--	--	--	silty clay loam
5	9	--	10YR	3/3	98	5YR	4/6	2	C	M	silty clay loam
9	12	--	10YR	3/2	87	10YR	5/6	8	C	M	--
9	12	--	--	--	--	10YR	6/6	5	C	M	--
12	20	--	10YR	3/2	20	10YR	5/8	5	C	M	--
12	20	--	10YR	4/2	40	10YR	5/4	35	C	M	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☑ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 2 | Sample Point: SP06

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Platanus occidentalis*	5	N	FACW
2.	*Populus deltoides*	60	Y	FAC
3.	*Ulmus americana*	10	N	FACW
4.	*Acer negundo*	3	N	FAC
5.	*Aesculus glabra*	25	Y	FAC
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	103		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Lonicera morrowii*	3	N	FACW
2.	*Fraxinus pennsylvanica*	7	Y	FACW
3.	*Ulmus americana*	2	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 5 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

▫ Yes	☑ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

Large open water area, but sample point taken outside surface water area

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Lobdell silt loam, channery substratum, 0-2% slopes	NWI/WWI Classification:	PEM1Fh
Landform:	Hillslope	Local Relief:	None
Slope (%):	2	Latitude: 40.243239	Longitude: -83.149435 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/17/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 2
Sample Point:	SP07
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: North of US 42 Upland point for Wetland 2

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Lobdell silt loam, channery substratum, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	--	7.5YR	5/3	100	--	--	--	--	--	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Roots Depth: 14"

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 2 | Sample Point: SP07

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Celtis occidentalis*	45	Y	FAC
2.	*Prunus serotina*	5	N	FAC
3.	*Aesculus glabra*	25	Y	FAC
4.	*Acer saccharum*	5	N	FACU
5.	*Quercus alba*	7	N	FACU
6.	*Ulmus americana*	5	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	92		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Lonicera morrowii*	70	Y	FACU
2.	*Aesculus glabra*	5	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

Herb Stratum (Plot size: 5 ft radius)

1.	*Lonicera morrowii*	5	Y	FACU
2.	*Smilax sp.*	1	N	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	6		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	80	x 3 =	240
FACU spp.	87	x 4 =	348
UPL spp.	0	x 5 =	0
Total	172 (A)		598 (B)

Prevalence Index = B/A = ***3.477***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.226445	Longitude: -83.165893
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	02/25/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 3
Sample Point:	SP08
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland partially in hayfield. Wet point for Wetland 3

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	2	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	3	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0-1% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	9	--	10YR	4/2	90	10YR	5/8	10	C	M	silty clay loam
9	18	--	10YR	4/2	92	7.5YR	5/8	8	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: clay Depth: 18"

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 3 | Sample Point: SP08

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Echinochloa crus-galli*	50	Y	FACW
2.	*Carex frankii*	15	N	OBL
3.	*Symphyotrichum lateriflorum*	20	Y	FACW
4.	*Eleocharis obtusa*	15	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	
Total	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.226398	Longitude: -83.165815
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	02/25/20
County:	Delaware
State:	OH
Wetland ID:	Wetland 3
Sample Point:	SP09
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Hay field, disturbed vegetation. Upland point for Wetland 3

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	-	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	-	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	-	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0-1% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	7	--	10YR 6/2	100	--	--	--	--	loamy sand
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock 7" N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 3 | Sample Point: SP09

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Plantago lanceolata*	15	N	FACU
2.	*Trifolium repens*	10	N	FACU
3.	*Echinochloa crus-galli*	60	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	85		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 15% moss.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	

Total _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No — Dominance Test is > 50%
- ▫ Yes ▫ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Pk - Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0%	Latitude: 40.212592	Longitude: -83.17759 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3a
Sample Point:	SP9a
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks: Upland point for Wetland 3a

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth:	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth:	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth:	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pk - Pewamo silty clay loam, 0-1% slopes Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	--	10YR	4/3	100	--	--	--	--	--	clay loam
--	--	--	10YR	2/2	97	10YR	5/6	3	C	M	clay loam
--	--	--	10YR	2/2	90	10YR	5/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3a | Sample Point: SP9a

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*GLYCINE MAX*	10	N	UPL
2.	*POA PRATENSIS*	80	Y	FAC
3.	*HORDEUM JUBATUM*	5	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	95		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 5% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *100%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = *N/A*

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No Rapid Test for Hydrophytic Vegetation
- [x] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Pk - Pewamo silty clay loam	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.212554	Longitude: -83.177758 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3a
Sample Point:	SP9b
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks: Swale on edge of agriculture field. Wet point for Wetland 3a

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [X] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[X] Yes	[ ] No	Depth: 2	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pk - Pewamo silty clay loam Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR	4/1	97	10YR	5/6	3	C	PL	clay loam
4	12	--	10YR	4/1	97	10YR	5/6	3	C	M	clay loam
12	20	--	10YR	4/1	90	10YR	5/6	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3a | Sample Point: SP9b

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*TYPHA ANGUSTIFOLIA*	70	Y	OBL
2.	*PHALARIS ARUNDINACEA*	20	Y	FACW
3.	*HORDEUM JUBATUM*	2	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	92		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 8% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *100%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = *N/A*

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No Rapid Test for Hydrophytic Vegetation
- [x] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Blg1A1 - Blount silt loam, ground moraine, 0-2% Slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	1%	Latitude: 40.204435	Longitude: -83.189014 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3b
Sample Point:	SP9c
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	**Is This Sampling Point Within A Wetland?**	**[X] Yes [ ] No**

Remarks: Wet point for Wetland 3b

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [X] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blg1A1 - Blount silt loam, ground moraine, 0-2% slopes Series Drainage Class: Somewhat Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	--	10YR	3/2	97	10YR	5/6	3	C	PL	clay
10	20	--	Gley 1	5/10Y	100	--	--	--	--	--	clay
	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [X] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3b | Sample Point: SP9c

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*TYPHA ANGUSTIFOLIA*	90	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 10% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Blg1A1 - Blount silt loam, ground moaine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.204378	Longitude: -83.188973 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3b
Sample Point:	SP9d
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks: Upland point for Wetland 3b

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blg1A1 - Blount silt loam, ground moraine, 0-2% slopes Series Drainage Class: Somewhat Poorly Drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR	4/3	100	--	--	--	--	--	clay loam
8	20	--	10YR	4/3	97	10YR	5/6	3	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3b | Sample Point: SP9d

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*ZEA MAYS*	20	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 80% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *0%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	20	x 5 =	100
Total	20 (A)		100 (B)

Prevalence Index = B/A = *5.000*

Hydrophytic Vegetation Indicators:

- [ ] Yes [X] No Rapid Test for Hydrophytic Vegetation
- [ ] Yes [X] No Dominance Test is > 50%
- [ ] Yes [X] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [ ] Yes [X] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Pk - Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	10	Latitude: 40.202934	Longitude: -83.19009
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3c
Sample Point:	SP9e
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks: Stream travels through center of wetland. Wet point for Wetland 3c

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [X] A1 - Surface Water
- [X] A2 - High Water Table
- [X] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[X] Yes	[ ] No	Depth: 0.5	(in.)
Water Table Present?	[X] Yes	[ ] No	Depth: surface	(in.)
Saturation Present?	[X] Yes	[ ] No	Depth: 0	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pk - Pewamo silty clay loam, 0-1% slopes Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	2	--	2.5Y	3/1	100	--	--	--	--	--	organic
2	20	--	10YR	5/1	70	10YR	5/6	30	C	M	clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3c | Sample Point: SP9e

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Charlie Allen	Investigator #2:	Julie Slater
Soil Unit:	Pk - Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	none
Slope (%):	0	Latitude: 40.202992	Longitude: -83.190043 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	06/17/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3c
Sample Point:	SP9f
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] **Yes** [X] **No**

Remarks: Tilled and planted Ag field. Upland point for Wetland 3c

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pk - Pewamo silty clay loam, 0-1% slopes Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR 4/3	100	--	--	--	--	clay loam
8	20	--	10YR 5/1	100	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3c | Sample Point: SP9f

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*ZEA MAYS*	30	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	30		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 70% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *0%* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	30	x 5 =	150
Total	30 (A)		150 (B)

Prevalence Index = B/A = *5.000*

Hydrophytic Vegetation Indicators:

- ☐ Yes ☒ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☒ No Dominance Test is > 50%
- ☐ Yes ☒ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blg1A1 - Blount silt loam, ground moraine, 0-2%	NWI/WWI Classification:	N/A
Landform:	Floodplain	Local Relief:	Concave
Slope (%):	0	Latitude: 40.213169	Longitude: -83.174215 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3d
Sample Point:	SP9g
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks: Ditch Wetland created by farmer.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [X] A1 - Surface Water
- [X] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[X] Yes	[ ] No	Depth: 2	(in.)
Water Table Present?	[X] Yes	[ ] No	Depth: 0	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth:	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blg1A1 - Blount silt loam, ground moraine, 0-2% slopes Series Drainage Class: Somewhat poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR	4/3	87	10YR	4/4	8	C	M	silty clay
	--	--	--	--	--	10YR	4/6	5	C	M	silty clay
4	15	--	10YR	4/2	85	10YR	5/8	15	C	M	silty clay
15	20	--	10YR	4/2	80	10YR	5/8	20	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3d | Sample Point: SP9g

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Typha latifolia*	100	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	PK - Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.213202	Longitude: -83.174439 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 3d
Sample Point:	SP9h
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: PK - Pewamo silty clay loam, 0-1% slopes Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	18	--	10YR	3/2	100	--	--	--	--	--	silty clay
	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 3d | Sample Point: SP9h

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*LONICERA MORROWII*	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 2 meter radius)

1.	*GLYCINE MAX*	15	Y	UPL
2.	*Toxicodendron radicans*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	*Vitis riparia*	15	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	15		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	5	x 3 =	15
FACU spp.	20	x 4 =	80
UPL spp.	15	x 5 =	75
Total	55 (A)		200 (B)

Prevalence Index = B/A = ***3.636***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☒ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☒ No Dominance Test is > 50%
- ☐ Yes ☒ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Gwg1B1 - Glynwood silt loam, ground moraine 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Floodplain	Local Relief:	Concave
Slope (%):	0	Latitude: 40.202753	Longitude: -83.173014 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP9i
Community ID:	PFO
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [X] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Gwg1B1 - Glynwood silt loam, ground moraine 2-6% Series Drainage Class: Moderately well drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	--	10YR 3/2	100	--	--	--	--	silty clay loam
3	12	--	10YR 3/2	95	5YR 4/6	2	C	PL	silty clay loam
	--	--	-- --	--	5YR 4/6	3	C	M	silty clay loam
12	20	--	10YR 3/2	100	--	--	--	--	silty clay loam
--	--	--	-- --	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--
--	--	--	-- --	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP9i

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus americana*	30	Y	FACW
2.	*Acer negundo*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*LONICERA MORROWII*	15	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***75%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [ ] Yes [X] No — Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No — Dominance Test is > 50%
- [ ] Yes [ ] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Gwg1B1 - Glynwood silt loam, ground moraine 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Backslope	Local Relief:	Linear
Slope (%):	3	Latitude: 40.202878	Longitude: -8.173193
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP9j
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Gwg1B1 - Glynwood silt loam, ground moraine 2-6% Series Drainage Class: Moderately well drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	--	10YR 4/2	100	--	--	--	--	silt loam
14	20	--	10YR 4/3	100	--	--	--	--	silt loam
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP9j

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus americana*	15	Y	FACW
2.	*Acer negundo*	10	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*LONICERA MORROWII*	15	Y	FACU
2.	*Acer negundo*	40	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*LONICERA MORROWII*	5	Y	FACU
2.	*Parthenocissus quinquefolia*	5	Y	FACU
3.	*Cyperus esculentus*	5	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	15		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***57%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [ ] Yes [X] No — Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No — Dominance Test is > 50%
- [ ] Yes [ ] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Gwg1B1 - Glynwood silt loam, ground moraine 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Floodplain	Local Relief:	Linear
Slope (%):	0	Latitude: 40.202603	Longitude: -83.173088 Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP9k
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] Yes [ ] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [X] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [X] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[X] Yes	[ ] No	Depth: 11	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Gwg1B1 - Glynwood silt loam, ground moraine 2-6% Series Drainage Class: Moderately well drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	--	10YR	4/2	98	7.5YR	4/6	2	C	PL	silty clay loam
3	8	--	10YR	4/2	95	7.5YR	4/6	5	C	M	silty clay loam
8	14	--	10YR	4/2	93	7.5YR	4/4	7	C	M	silty clay loam
14	20	--	10YR	4/2	97	7.5YR	4/4	3	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP9k

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer negundo*	15	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	90	Y	FACW
2.	*Impatiens capensis*	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No Rapid Test for Hydrophytic Vegetation
- [x] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Gwg1B1 - Glynwood silt loam, ground moraine 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Shoulder	Local Relief:	Linear
Slope (%):	3	Latitude: 40.20255	Longitude: -83.173133
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP9I
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Gwg1B1 - Glynwood silt loam, ground moraine 2-6% Series Drainage Class: Moderately well drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR 7/3	100	--	--	--	--	silty clay
8	16	--	10YR 5/3	100	--	--	--	--	silty clay
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Roots Depth: 16"

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP9l

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer saccharum*	20	Y	FACU
2.	*Juglans nigra*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*LONICERA MORROWII*	60	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 2 meter radius)

1.	*Toxicodendron radicans*	15	Y	FAC
2.	*RUBUS IDAEUS*	15	Y	FACU
3.	*LONICERA MORROWII*	10	Y	FACU
4.	*Juncus tenuis*	5	N	FAC
5.	*Cyperus esculentus*	5	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	*Vitis riparia*	20	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	20		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***29%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	20	x 3 =	60
FACU spp.	110	x 4 =	440
UPL spp.	0	x 5 =	0
Total	155 (A)		550 (B)

Prevalence Index = B/A = ***3.548***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☒ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☒ No Dominance Test is > 50%
- ☐ Yes ☒ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blg1A1 - Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.201948	Longitude: -83.172865
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4a
Sample Point:	SP9M
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks: Beside dirt road with small embankment

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [X] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [X] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [X] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blg1A1 - Blount silt loam, ground moraine, 0-2% slo Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Type	Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR 4/2	95	7.5YR 4/6	5	C	M	silty clay loam
8	20	--	10YR 5/2	68	7.5YR 5/8	30	C	M	silty clay loam
	--	--	-- --	--	7.5YR 3/4	2	C	M	silty clay loam
	--	--	-- --	--	-- --	--	--	--	
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4a | Sample Point: SP9M

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*TYPHA ANGUSTIFOLIA*	20	Y	OBL
2.	*Eleocharis obtusa*	45	Y	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 35% Bare ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blg1A1 - Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.201862	Longitude: -83.173059
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4a
Sample Point:	SP9n
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] **Yes** [X] **No**

Remarks: Beside dirt road with small embankment

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blg1A1 - Blount silt loam, ground moraine, 0-2% slo Series Drainage Class: Very Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	--	10YR	4/3	98	7.5YR	3/4	2	C	M	silty clay
10	18	--	10YR	4/1	75	7.5YR	5/8	20	C	M	silty clay
	--	--	--	--	--	7.5YR	4/4	5	C	M	silty clay
	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 4a | Sample Point: SP9n

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Carya ovalis*	5	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 2 meter radius)

1.	*Juncus tenuis*	20	Y	FAC
2.	*PLANTAGO MAJOR*	15	Y	FAC
3.	*Carex frankii*	5	N	OBL
4.	*TARAXACUM OFFICINALE*	5	N	FACU
5.	*PHALARIS ARUNDINACEA*	5	N	FACW
6	*Hypericum mutilum*	10	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***67%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	5	x 1 =	5
FACW spp.	15	x 2 =	30
FAC spp.	35	x 3 =	105
FACU spp.	10	x 4 =	40
UPL spp.	0	x 5 =	0
Total	65 (A)		180 (B)

Prevalence Index = B/A = ***2.769***

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No — Rapid Test for Hydrophytic Vegetation
- [ ] Yes [x] No — Dominance Test is > 50%
- [x] Yes [ ] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	PEM1C
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.204316	Longitude: -83.173597
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ▫ Yes ☑ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	01/31/20
County:	Union
State:	Ohio
Wetland ID:	Upland
Sample Point:	SP10
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ▫ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ▫ No
Hydric Soils Present? ☑ Yes ▫ No
Is This Sampling Point Within A Wetland? ▫ Yes ☑ No

Remarks: Ag field disturbed vegetation. Planted winter wheat. Ag field signs of drainage tile changing hydrology. NWI pt, took data.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ▫):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ☑ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▫ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	0	(in.)
Water Table Present?	☑ Yes ▫ No	Depth:	12	(in.)
Saturation Present?	☑ Yes ▫ No	Depth:	1	(in.)

Wetland Hydrology Present? ☑ Yes ▫ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, ground moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	2	--	2.5Y 5/2	100	--	--	--	--	silty clay loam
2	14	--	2.5Y 5/2	83	7.5YR 4/6	15	C	M	silty clay loam
2	14	--	--	--	7.5YR 6/8	2	C	M	silty clay loam
14	20	--	2.5Y 5/2	79	7.5YR 6/8	20	C	M	silty clay loam
14	20	--	--	--	7.5YR 4/6	1	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ▫):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Upland | Sample Point: SP10

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Quercus palustris*	3	Y	FACW
2.	*Malus sylvestris*	3	Y	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	6		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Lonicera morrowii*	5	Y	FACU
2.	*Robinia pseudoacacia*	5	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 5 ft radius)

1.	*Triticum aestivum*	70	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 20% bare ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***20%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	3	x 2 =	6
FAC spp.	0	x 3 =	0
FACU spp.	10	x 4 =	40
UPL spp.	73	x 5 =	365
Total	86 (A)		411 (B)

Prevalence Index = B/A = ***4.779***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No — Dominance Test is > 50%
- ▫ Yes ☑ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Glynwood silt loam, ground moraine, 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.203898	Longitude: -83.175973
Datum:	WGS 1984		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	01/31/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP11
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wet point for Wetland 4

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes	☐ No	Depth: 1	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 6	(in.)
Saturation Present?	☐ Yes	☑ No	Depth: --	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Glynwood silt loam, ground moraine, 2-6% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	--	10YR	4/2	100	--	--	--	--	--	silty clay loam
3	15	--	10YR	4/2	90	5YR	4/6	10	C	PL	silty clay loam
15	20	--	10YR	4/2	95	5YR	4/6	5	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP11

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	
Total	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Glynwood silt loam, ground moraine, 2-6% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.203891	Longitude: -83.176057
Datum:	WGS 1984		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	01/31/20
County:	Union
State:	OH
Wetland ID:	Wetland 4
Sample Point:	SP12
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Took sample point in tilled corn field, no other upland areas. Upland sample point for Wetland 4.

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Glynwood silt loam, ground moraine, 2-6% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	--	10YR 4/2	100	--	--	--	--	silty clay loam
14	20	--	10YR 4/2	95	5YR 4/6	3	C	PL	silty clay loam
14	20	--	--	--	5YR 4/6	2	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP12

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Triticum aestivum*	70	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 30% bare ground.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	70	x 5 =	350
Total	70 (A)		350 (B)

Prevalence Index = B/A = ***5.000***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No — Dominance Test is > 50%
- ▫ Yes ☑ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Floodplain	Local Relief:	Concave
Slope (%):	0	Latitude: 40.203348	Longitude: -83.180459
Datum:	WGS 1984		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	01/31/20
County:	Union
State:	OH
Wetland ID:	Wetland 4
Sample Point:	SP13
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: 2nd wetland point for Wetland 4, tile surrounding

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	0	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	5	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blount silt loam, ground moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR 4/2	100	--	--	--	--	silty clay loam
4	15	--	10YR 4/2	97	5YR 5/4	3	C	M	silty clay loam
15	20	--	10YR 4/2	92	5YR 5/6	8	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP13

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	
Total	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	1	Latitude: 40.203395	Longitude: -83.180466
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☑ or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	01/31/20
County:	Union
State:	OH
Wetland ID:	Wetland 4
Sample Point:	SP14
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Row crop, tiled, tilled. 2nd upland point for Wetland 4

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	-	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	-	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	-	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blount silt loam, ground moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	20	--	10YR	4/3	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 4 | Sample Point: SP14

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Triticum aestivum*	75	Y	UPL
2.	*Lamium amplexicaule*	5	N	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	80		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 20% bare ground.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	80	x 5 =	400
Total	80 (A)		400 (B)

Prevalence Index = B/A = ***5.000***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.202395	Longitude: -83.184055
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	01/31/20
County:	Union
State:	OH
Wetland ID:	Wetland 5
Sample Point:	SP15
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland sample point for Wetland 5

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☑ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth: 0	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 4	(in.)
Saturation Present?	☐ Yes	☑ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blount silt loam, ground moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR	3/2	100	--	--	--	--	--	silty clay loam
4	15	--	10YR	4/1	90	5YR	4/6	10	C	PL	silty clay loam
15	21	--	10YR	5/1	87	5YR	4/6	3	C	PL	silty clay loam
15	21	--	--	--	--	10YR	6/6	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 5 | Sample Point: SP15

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	90	Y	FACW
2.	*Typha angustifolia*	10	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	
Total	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0.5	Latitude: 40.202418 Longitude: -83.184095	Datum: WGS 1984

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ▫ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	01/31/20
County:	Union
State:	OH
Wetland ID:	Wetland 5
Sample Point:	SP16
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ▫ No
Wetland Hydrology Present? ▫ Yes ☑ No
Hydric Soils Present? ▫ Yes ☑ No
Is This Sampling Point Within A Wetland? ▫ Yes ☑ No

Remarks: Upland point for Wetland 5

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ▫ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▫ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	-	(in.)
Water Table Present?	▫ Yes ☑ No	Depth:	-	(in.)
Saturation Present?	▫ Yes ☑ No	Depth:	-	(in.)

Wetland Hydrology Present? ▫ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Blount silt loam, ground moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	--	10YR	3/2	100	--	--	--	--	--	clay loam
6	12	--	10YR	4/3	100	--	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ▫ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Rock Depth: 12"

Hydric Soil Present? ▫ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 5 | Sample Point: SP16

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Morus alba*	25	Y	FAC
2.	*Salix discolor*	10	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	35		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Pyrus calleryana*	10	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	80	Y	FACW
2.	*Solidago canadensis*	25	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***60%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.		x 1 =	
FACW spp.		x 2 =	
FAC spp.		x 3 =	
FACU spp.		x 4 =	
UPL spp.		x 5 =	

Total _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

▫ Yes	☑ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred route	Stantec Project #:	193707055	Date:	01/31/20
Applicant:	Columbia Gas of Ohio			County:	Union
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen	State:	Ohio
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A	Wetland ID:	Wetland 6
Landform:	Floodplain/ditch	Local Relief:	Concave	Sample Point:	SP17
Slope (%):	0	Latitude: 40.196123	Longitude: -83.169216	Datum: WGS 1984	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			☑ Yes ☐ No		Section: N/A
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?		Are normal circumstances present?			Township: N/A
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?		☐ ☑ Yes No			Range: N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ **Yes** ☐ **No**

Remarks: Wet point for wetland 6

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	Surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	6	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0-1% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	--	10YR	3/2	100	--	--	--	--	--	silty clay loam
6	14	--	10YR	4/1	85	10YR	5/8	2	C	M	silty clay loam
--	--	--	--	--	--	5YR	4/6	10	C	PL	silty clay loam
--	--	--	--	--	--	5YR	4/6	3	C	M	silty clay loam
14	20	--	10YR	4/1	87	10YR	5/8	3	C	M	silty clay loam
--	--	--	--	--	--	5YR	4/6	5	C	PL	silty clay loam
--	--	--	--	--	--	10YR	4/6	5	C	PL	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 6 | Sample Point: SP17

VEGETATION (Species identified in all uppercase are non native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

☑ Yes	▫ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Convex
Slope (%):	1	Latitude: 40.196159	Longitude: -83.196192
Datum:	WGS 1984		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑ Soil ☐ , or Hydrology ☐ significantly disturbed?
Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	01/31/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 6
Sample Point:	SP18
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Mowed vegetation. Upland point for Wetland 6

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Pewamo silty clay loam, 0-1% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	--	10YR	4/3	100	--	--	--	--	--	silty clay loam
16	20	--	10YR	4/3	98	10YR	5/6	2	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 6 | Sample Point: SP18

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Setaria viridis*	25	Y	UPL
2.	*Setaria faberi*	25	Y	FACU
3.	*Poa pratensis*	35	Y	FAC
4.	*Trifolium repens*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: 10% open ground

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	35	x 3 =	105
FACU spp.	30	x 4 =	120
UPL spp.	25	x 5 =	125
Total	90 (A)		350 (B)

Prevalence Index = B/A = ***3.889***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	None	Local Relief:	Concave
Slope (%):	3	Latitude: 40.164293	Longitude: -83.215685
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ▫ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 7
Sample Point:	SP19
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ▫ No
Wetland Hydrology Present? ▫ Yes ☑ No
Hydric Soils Present? ▫ Yes ☑ No
Is This Sampling Point Within A Wetland? ▫ Yes ☑ No

Remarks: Upland point for Wetland 7

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ▫ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▫ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	▫ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	▫ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ▫ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Glynwood clay loam, 6-12% slopes, eroded

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	7	--	10YR 4/4	100	--	--	--	--	clay loam
7	15	--	10YR 6/3	100	--	--	--	--	clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ▫ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ▫ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 7 | Sample Point: SP19

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Carya ovata*	100	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Carya ovata*	15	Y	FACU
2.	*Fraxinus americana*	2	N	FACU
3.	*Poa pratensis*	3	N	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Rosa multiflora*	30	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	30		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***0%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	3	x 3 =	9
FACU spp.	147	x 4 =	588
UPL spp.	0	x 5 =	0
Total	150 (A)		597 (B)

Prevalence Index = B/A = ***3.980***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No — Dominance Test is > 50%
- ▫ Yes ☑ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.164409	Longitude: -83.21581
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 7
Sample Point:	SP20
Community ID:	PFO
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wet point for Wetland 7

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☑ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☑ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Glynwood clay loam, 6-12% slopes, eroded

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	7	--	10YR 4/2	93	7.5YR 5/8	7	C	PL	clay loam
7	18	--	10YR 3/2	90	7.5YR 5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 7 | Sample Point: SP20

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Carya laciniosa*	35	Y	FACW
2.	*Ulmus americana*	20	Y	FACW
3.	*Quercus palustris*	45	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	100		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Ulmus americana*	20	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 5 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	0		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: Lack of Herb layer

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055	Date:	07/09/20
Applicant:	Columbia Gas of Ohio			County:	Union
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater	State:	Ohio
Soil Unit:	We - Wetzel silty clay loam	NWI/WWI Classification:	N/A	Wetland ID:	Wetland 8a
Landform:	Terrace	Local Relief:	Linear	Sample Point:	SP20a
Slope (%):	0	Latitude: 40.160296	Longitude: -83.19876	Datum: N/A	Community ID: PEM
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)				[X] Yes [ ] No	Section: N/A
Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?					Township: N/A
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?				Are normal circumstances present? [X] Yes [ ] No	Range: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] Yes [ ] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: We - Wetzel silty clay loam — Series Drainage Class: Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR	4/2	93	7.5YR	4/4	4	C	M	silty clay
	--	--	--	--	--	7.5YR	4/4	3	C	PL	silty clay
4	18	--	10YR	4/2	92	7.5YR	4/4	8	C	M	silty clay
	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Clay Depth: 18"

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8a | Sample Point: SP20a

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	We - Wetzel silty clay loam	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Linear
Slope (%):	0	Latitude: 40.160255	Longitude: -83.198751
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 8a
Sample Point:	SP20b
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: We - Wetzel silty clay loam — Series Drainage Class: Poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	--	10YR 3/2	100	--	--	--	--	silty clay loam
6	14	--	10YR 4/2	100	--	--	--	--	silty clay loam
14	20	--	10YR 4/3	100	--	--	--	--	silty clay loam
	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8a | Sample Point: SP20b

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Solidago canadensis*	30	Y	FACU
2.	*CIRSIUM ARVENSE*	2	N	FACU
3.	*Agrimonia parviflora*	2	N	FACW
4.	*POA PRATENSIS*	66	Y	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	2	x 2 =	4
FAC spp.	66	x 3 =	198
FACU spp.	32	x 4 =	128
UPL spp.	0	x 5 =	0
Total	100 (A)		330 (B)

Prevalence Index = B/A = ***3.300***

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No — Rapid Test for Hydrophytic Vegetation
- [ ] Yes [x] No — Dominance Test is > 50%
- [ ] Yes [x] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [ ] Yes [x] No

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Ble1B1 - Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.160361	Longitude: -83.194017
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 8b
Sample Point:	SP20c
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [X] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Ble1B1 - Blount silt loam, end moraine, 2-4% slopes Series Drainage Class: Somewhat poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR	3/2	95	7.5YR	4/6	3	C	M	silty clay loam
	--	--	--	--	--	7.5YR	4/6	2	C	PL	silty clay loam
8	18	--	10YR	3/2	97	7.5YR	4/6	3	C	M	silty clay loam
	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [X] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8b | Sample Point: SP20c

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Juncus effusus*	95	Y	OBL
2.	*Carex stipata*	5	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [X] Yes [ ] No Rapid Test for Hydrophytic Vegetation
- [X] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Ble1B1 - Blount silt loam, end moraine, 2-4% sl	NWI/WWI Classification:	N/A
Landform:	Backslope	Local Relief:	Linear
Slope (%):	2	Latitude: 40.160406	Longitude: -83.1938
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 8b
Sample Point:	SP20d
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[ ] Yes [X] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Ble1B1 - Blount silt loam, end moraine, 2-4% slopes Series Drainage Class: Somewhat poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	5	--	10YR	4/2	90	7.5YR	4/6	10	C	M	silty clay
5	14	--	10YR	4/3	90	7.5YR	4/6	10	C	PL	silty clay
14	18	--	10YR	5/3	65	7.5YR	5/8	20	C	M	silty clay
	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Clay Depth: 18"

Hydric Soil Present? [X] Yes [ ] No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8b | Sample Point: SP20d

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*POA PRATENSIS*	65	Y	FAC
2.	*DIPSACUS FULLONUM*	10	N	FACU
3.	*Carex frankii*	3	N	OBL
4.	*LONICERA MORROWII*	2	N	FACU
5.	*Solidago canadensis*	20	Y	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	3	x 1 =	3
FACW spp.	0	x 2 =	0
FAC spp.	65	x 3 =	195
FACU spp.	32	x 4 =	128
UPL spp.	0	x 5 =	0
Total	100 (A)		326 (B)

Prevalence Index = B/A = ***3.260***

Hydrophytic Vegetation Indicators:

- [ ] Yes [X] No — Rapid Test for Hydrophytic Vegetation
- [ ] Yes [X] No — Dominance Test is > 50%
- [ ] Yes [X] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [X] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Ble1B1 - Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.160208	Longitude: -83.190927
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 8c
Sample Point:	SP20e
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[X] Yes [ ] No
Wetland Hydrology Present?	[X] Yes [ ] No	Is This Sampling Point Within A Wetland?	[X] **Yes** [ ] **No**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [ ]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [X] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [X] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [X] Yes [ ] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Ble1B1 - Blount silt loam, end moraine, 2-4% slopes Series Drainage Class: Somewhat poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	--	10YR 4/2	95	7.5YR 4/6	3	C	PL	silty clay
	--	--	-- --	--	7.5YR 4/6	2	C	M	silty clay
6	12	--	10YR 4/2	78	7.5YR 4/3	20	C	M	silty clay
	--	--	-- --	--	7.5YR 4/2	2	C	M	silty clay
12	18	--	10YR 4/6	77	10YR 4/3	20	C	M	silty clay
--	--	--	-- --	--	5YR 4/6	3	C	M	silty clay
--	--	--	-- --	--	-- --	--	--	--	--
--	--	--	-- --	--	-- --	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [ ]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [X] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Clay Depth: 18"

Hydric Soil Present? [X] Yes [ ] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8c | Sample Point: SP20e

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 2 meter radius)

1.	*Eleocharis obtusa*	70	Y	OBL
2.	*Juncus tenuis*	10	N	FAC
3.	*TYPHA ANGUSTIFOLIA*	10	N	OBL
4.	*Apocynum cannabinum*	5	N	FAC
5.	*Carex vulpinoidea*	5	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No Rapid Test for Hydrophytic Vegetation
- [x] Yes [ ] No Dominance Test is > 50%
- [ ] Yes [ ] No Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No Morphological Adaptations (Explain) *
- [ ] Yes [ ] No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Additional Remarks:

Stantec

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Ble1B1 - Blount silt loam, end moraine, 2-4% sl	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.160089	Longitude: -83.19077
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) [X] Yes [ ] No

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed?
Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic?

Are normal circumstances present? [X] Yes [ ] No

Date:	07/09/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 8c
Sample Point:	SP20f
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	[X] Yes [ ] No	Hydric Soils Present?	[ ] Yes [X] No
Wetland Hydrology Present?	[ ] Yes [X] No	Is This Sampling Point Within A Wetland?	[ ] Yes [X] No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present [X]):

Primary:
- [ ] A1 - Surface Water
- [ ] A2 - High Water Table
- [ ] A3 - Saturation
- [ ] B1 - Water Marks
- [ ] B2 - Sediment Deposits
- [ ] B3 - Drift Deposits
- [ ] B4 - Algal Mat or Crust
- [ ] B5 - Iron Deposits
- [ ] B7 - Inundation Visible on Aerial Imagery
- [ ] B8 - Sparsely Vegetated Concave Surface
- [ ] B9 - Water-Stained Leaves
- [ ] B13 - Aquatic Fauna
- [ ] B14 - True Aquatic Plants
- [ ] C1 - Hydrogen Sulfide Odor
- [ ] C3 - Oxidized Rhizospheres on Living Roots
- [ ] C4 - Presence of Reduced Iron
- [ ] C6 - Recent Iron Reduction in Tilled Soils
- [ ] C7 - Thin Muck Surface
- [ ] D9 - Guage or Well Data
- [ ] Other (Explain in Remarks)

Secondary:
- [ ] B6 - Surface Soil Cracks
- [ ] B10 - Drainage Patterns
- [ ] B16 - Moss Trim Lines
- [ ] C2 - Dry-Season Water Table
- [ ] C8 - Crayfish Burrows
- [ ] C9 - Saturation Visible on Aerial Imagery
- [ ] D1 - Stunted or Stressed Plants
- [ ] D2 - Geomorphic Position
- [ ] D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	[ ] Yes	[X] No	Depth: --	(in.)
Water Table Present?	[ ] Yes	[X] No	Depth: --	(in.)
Saturation Present?	[ ] Yes	[X] No	Depth: --	(in.)

Wetland Hydrology Present? [ ] Yes [X] No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A

Remarks:

SOILS

Map Unit Name: Ble1B1 - Blount silt loam, end moraine, 2-4% slopes Series Drainage Class: Somewhat poorly drained

Taxonomy (Subgroup):

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	--	10YR 5/2	100	--	--	--	--	silty clay
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present [X]):
- [ ] A1- Histosol
- [ ] A2 - Histic Epipedon
- [ ] A3 - Black Histic
- [ ] A4 - Hydrogen Sulfide
- [ ] A5 - Stratified Layers
- [ ] A10 - 2 cm Muck
- [ ] A11 - Depleted Below Dark Surface
- [ ] A12 - Thick Dark Surface
- [ ] S1 - Sandy Muck Mineral
- [ ] S3 - 5 cm Mucky Peat or Peat
- [ ] S4 - Sandy Gleyed Matrix
- [ ] S5 - Sandy Redox
- [ ] S6 - Stripped Matrix
- [ ] F1 - Loamy Muck Mineral
- [ ] F2 - Loamy Gleyed Matrix
- [ ] F3 - Depleted Matrix
- [ ] F6 - Redox Dark Surface
- [ ] F7 - Depleted Dark Surface
- [ ] F8 - Redox Depressions

Indicators for Problematic Soils [1]
- [ ] A16 - Coast Prairie Redox
- [ ] S7 - Dark Surface
- [ ] F12 - Iron-Manganese Masses
- [ ] TF12 - Very Shallow Dark Surface
- [ ] Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Clay Depth: 18"

Hydric Soil Present? [ ] Yes [X] No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8c | Sample Point: SP20f

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	*Fraxinus pennsylvanica*	5	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 2 meter radius)

1.	*CIRSIUM ARVENSE*	5	N	FACU
2.	*POA PRATENSIS*	80	Y	FAC
3.	*Symphyotrichum novae-angliae*	12	N	FACW
4.	*Solidago canadensis*	3	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***N/A***

Hydrophytic Vegetation Indicators:

- [ ] Yes [x] No — Rapid Test for Hydrophytic Vegetation
- [x] Yes [ ] No — Dominance Test is > 50%
- [ ] Yes [ ] No — Prevalence Index is ≤ 3.0 *
- [ ] Yes [ ] No — Morphological Adaptations (Explain) *
- [ ] Yes [ ] No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present [x] Yes [ ] No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.159796	Longitude: -83.20144
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 8
Sample Point:	SP21
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wet point for Wetland 8

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	2	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	1	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	20	--	10YR	4/2	85	10YR	3/6	15	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8 | Sample Point: SP21

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Juncus effusus*	60	Y	OBL
2.	*Scirpus atrovirens*	25	Y	OBL
3.	*Trifolium repens*	15	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.159762	Longitude: -83.201436
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 8
Sample Point:	SP22
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland point for Wetland 8

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR	4/3	100	--	--	--	--	--	silty clay
8	20	--	10YR	4/3	79	10YR	5/8	1	C	M	silty clay
--	--	--	10YR	5/1	20	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 8 | Sample Point: SP22

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Trifolium repens*	70	Y	FACU
2.	*Poa pratensis*	30	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***50%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	30	x 3 =	90
FACU spp.	70	x 4 =	280
UPL spp.	0	x 5 =	0
Total	100 (A)		370 (B)

Prevalence Index = B/A = ***3.700***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.159511	Longitude: -83.198185
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 9
Sample Point:	SP23
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wet point for Wetland 9

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	2	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	4	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	5	--	10YR 4/2	100	--	--	--	--	--	silt loam
5	15	--	10YR 4/2	90	7.5YR	4/4	10	C	M	silty clay loam
15	20	--	10YR 4/2	88	7.5YR	4/4	10	C	M	silty clay loam
--	--	--	--	--	7.5YR	5/6	2	C	M	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 9 | Sample Point: SP23

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Carex normalis*	90	Y	FACW
2.	*Rubus allegheniensis*	2	N	FACU
3.	*Solidago altissima*	5	N	FACU
4.	*Elymus hystrix*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	102		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	1	Latitude: 40.159502	Longitude: -83.198131
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ▫ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 9
Sample Point:	SP24
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ▫ No
Wetland Hydrology Present? ▫ Yes ☑ No
Hydric Soils Present? ▫ Yes ☑ No
Is This Sampling Point Within A Wetland? ▫ Yes ☑ **No**

Remarks: Upland point for Wetland 9

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ▫ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▫ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	▫ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	▫ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ▫ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	12	--	10YR	3/2	100	--	--	--	--	--	silty clay
12	20	--	10YR	3/2	97	10YR	6/6	3	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ▫ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ▫ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 9 | Sample Point: SP24

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Daucus carota*	5	N	UPL
2.	*Apocynum cannabinum*	5	N	FAC
3.	*Dipsacus fullonum*	2	N	FACU
4.	*Rubus allegheniensis*	3	N	FACU
5.	*Poa pratensis*	85	Y	FAC
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No — Dominance Test is > 50%
- ▫ Yes ▫ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.158472	Longitude: -83.195452
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 10
Sample Point:	SP25
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland point for Wetland 10

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	5	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	--	10YR	4/2	96	7.5YR	4/6	4	C	M	silty clay
16	20	--	10YR	4/2	90	7.5YR	5/8	10	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 10 | Sample Point: SP25

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Juncus effusus*	40	Y	OBL
2.	*Dipsacus fullonum*	5	N	FACU
3.	*Juncus tenuis*	20	Y	FAC
4.	*Apocynum cannabinum*	2	N	FAC
5.	*Cyperus esculentus*	3	N	FACW
6	*Poa pratensis*	20	Y	FAC
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	90		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No — Dominance Test is > 50%
- ▫ Yes ▫ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	1	Latitude: 40.158616	Longitude: -83.195613 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ▫ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 10
Sample Point:	SP26
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ▫ No
Wetland Hydrology Present? ▫ Yes ☑ No
Hydric Soils Present? ▫ Yes ☑ No
Is This Sampling Point Within A Wetland? ▫ **Yes** ☑ **No**

Remarks: Upland point for Wetland 10

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ▫ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▪ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	▫ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	▫ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ▫ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	--	10YR	5/4	90	10YR	5/8	10	C	M	silty clay
14	20	--	10YR	5/4	20	--	--	--	--	--	silty clay
--	--	--	10YR	5/6	80	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ▫ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ▫ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 10 | Sample Point: SP26

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Apocynum cannabinum*	5	N	FAC
2.	*Symphyotrichum ericoides*	5	N	FACU
3.	*Poa pratensis*	90	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No — Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No — Dominance Test is > 50%
- ▫ Yes ▫ No — Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No — Morphological Adaptations (Explain) *
- ▫ Yes ▫ No — Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.157741	Longitude: -83.194282
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 11
Sample Point:	SP27
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland point for Wetland 11

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	1	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	surface	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	10	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	20	--	10YR	5/2	88	10YR	5/6	10	C	M	silty clay
--	--	--	--	--	--	7.5YR	4/6	2	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 11 | Sample Point: SP27

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Juncus effusus*	65	Y	OBL
2.	*Apocynum cannabinum*	5	N	FAC
3.	*Juncus tenuis*	20	Y	FAC
4.	*Euthamia graminifolia*	5	N	FACW
5.	*Dipsacus fullonum*	5	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

▫ Yes	☑ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	1	Latitude: 40.157705	Longitude: -83.194171
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 11
Sample Point:	SP28
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ **Yes** ☑ **No**

Remarks: Upland point for Wetland 11

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 0-2% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	--	10YR	5/3	97	10YR	6/8	3	C	M	silty clay
14	20	--	10YR	5/3	85	10YR	6/8	10	C	M	silty clay
--	--	--	10YR	6/2	5	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 11 | Sample Point: SP28

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Apocynum cannabinum*	5	N	FAC
2.	*Solidago canadensis*	5	N	FACU
3.	*Rubus allegheniensis*	2	N	FACU
4.	*Poa pratensis*	85	Y	FAC
5.	*Andropogon virginicus*	3	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

▫ Yes	☑ No	Rapid Test for Hydrophytic Vegetation
☑ Yes	▫ No	Dominance Test is > 50%
▫ Yes	▫ No	Prevalence Index is ≤ 3.0 *
▫ Yes	▫ No	Morphological Adaptations (Explain) *
▫ Yes	▫ No	Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.155304	Longitude: -83.190041
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 12
Sample Point:	SP29
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland point to Wetland 12

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	4	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	2	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR 4/2	96	7.5YR 5/8	2	C	PL	silty clay loam
--	--	--	--	--	7.5YR 5/8	2	C	M	silty clay loam
4	8	--	10YR 4/2	97	7.5YR 5/8	3	C	M	silty clay loam
8	20	--	10YR 5/2	75	10YR 5/8	25	C	M	silty clay
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: Northern Columbus Loop - Preferred Route | Wetland ID: Wetland 12 | Sample Point: SP29

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Salix nigra*	10	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

Herb Stratum (Plot size: 5 ft radius)

1.	*Typha angustifolia*	25	Y	OBL
2.	*Phalaris arundinacea*	70	Y	FACW
3.	*Juncus effusus*	5	N	OBL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	North Columbus Loop - Preferred Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.155316	Longitude: -83.190077
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 12
Sample Point:	SP30
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Upland point for Wetland 12

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☐ No	Depth: --	(in.)
Water Table Present?	☐ Yes	☐ No	Depth: --	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 1	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Recent heavy rain

SOILS

Map Unit Name: Blount silt loam, end moraine, 2-4% slopes

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR	5/2	94	10YR	5/8	1	C	PL	silty clay loam
--	--	--	--	--	--	10YR	5/8	5	C	M	silty clay loam
4	14	--	10YR	5/2	93	10YR	5/8	7	C	M	silty clay loam
14	20	--	10YR	5/2	90	10YR	5/8	10	C	M	silty clay
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 12 | Sample Point: SP30

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	*Pyrus calleryana*	5	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 5 ft radius)

1.	*Apocynum cannabinum*	20	Y	FAC
2.	*Solidago canadensis*	55	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: Moss 15%

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	20	x 3 =	60
FACU spp.	55	x 4 =	220
UPL spp.	5	x 5 =	25
Total	80 (A)		305 (B)

Prevalence Index = B/A = ***3.813***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred	Stantec Project #:	193707055
Applicant:	Route Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Glynwood clay loam, 6-12% slopes, eroded	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	2	Latitude: 40.152707	Longitude: -83.186139
Datum:	--		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ ☑ Yes ☐ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 13
Sample Point:	SP31
Community ID:	PEM
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ **Yes** ☐ **No**

Remarks: Wetland point to Wetland 13

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☑ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ D9 - Gauge or Well Data
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☑ Yes ☐ No	Depth:	0.5	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	1	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	1	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Glynwood clay loam, 6-12% slopes, eroded

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	5	--	10YR 4/3	95	5YR 4/6	2	C	PL	silt loam
--	--	--	--	--	5YR 4/6	3	C	M	silt loam
5	14	--	10YR 4/2	87	5YR 4/6	8	C	PL	silt loam
--	--	--	--	--	5YR 4/6	5	C	M	silt loam
14	20	--	2.5Y 4/2	96	5YR 4/6	4	C	M	silt loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S3 - 5 cm Mucky Peat or Peat
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ F1 - Loamy Muck Mineral
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ☐ A16 - Coast Prairie Redox
- ☐ S7 - Dark Surface
- ☐ F12 - Iron-Manganese Masses
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 13 | Sample Point: SP31

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Typha latifolia*	90	Y	OBL
2.	*Phalaris arundinacea*	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	100		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***100%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	0 (A)		0 (B)

Prevalence Index = B/A = ***NA***

Hydrophytic Vegetation Indicators:

- ☑ Yes ▫ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ▫ No Dominance Test is > 50%
- ▫ Yes ▫ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☑ Yes ▫ No

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	Northern Columbus Loop - Preferred	Stantec Project #:	193707055
Applicant:	Route Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Glynwood clay loam, 6-12% slopes, eroded	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	None
Slope (%):	2	Latitude: 40.152746	Longitude: -83.186398 Datum: --

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ▫ No

Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?

Are normal circumstances present? ▫ ☑ Yes ▫ No

Date:	03/30/20
County:	Union
State:	OH
Wetland ID:	Wetland 13
Sample Point:	SP32
Community ID:	Upland
Section:	N/A
Township:	N/A
Range:	N/A Dir: N/A

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ▫ Yes ☑ No
Wetland Hydrology Present? ▫ Yes ☑ No
Hydric Soils Present? ▫ Yes ☑ No
Is This Sampling Point Within A Wetland? ▫ **Yes** ☑ **No**

Remarks: Upland point for Wetland 13

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☑):

Primary:
- ▫ A1 - Surface Water
- ▫ A2 - High Water Table
- ▫ A3 - Saturation
- ▫ B1 - Water Marks
- ▫ B2 - Sediment Deposits
- ▫ B3 - Drift Deposits
- ▫ B4 - Algal Mat or Crust
- ▫ B5 - Iron Deposits
- ▫ B7 - Inundation Visible on Aerial Imagery
- ▫ B8 - Sparsely Vegetated Concave Surface
- ▫ B9 - Water-Stained Leaves
- ▫ B13 - Aquatic Fauna
- ▫ B14 - True Aquatic Plants
- ▫ C1 - Hydrogen Sulfide Odor
- ▫ C3 - Oxidized Rhizospheres on Living Roots
- ▫ C4 - Presence of Reduced Iron
- ▫ C6 - Recent Iron Reduction in Tilled Soils
- ▫ C7 - Thin Muck Surface
- ▫ D9 - Gauge or Well Data
- ▫ Other (Explain in Remarks)

Secondary:
- ▫ B6 - Surface Soil Cracks
- ▫ B10 - Drainage Patterns
- ▫ C2 - Dry-Season Water Table
- ▫ C8 - Crayfish Burrows
- ▫ C9 - Saturation Visible on Aerial Imagery
- ▫ D1 - Stunted or Stressed Plants
- ▫ D2 - Geomorphic Position
- ▫ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	▫ Yes ☑ No	Depth:	--	(in.)
Water Table Present?	▫ Yes ☑ No	Depth:	--	(in.)
Saturation Present?	▫ Yes ☑ No	Depth:	--	(in.)

Wetland Hydrology Present? ▫ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SOILS

Map Unit Name: Glynwood clay loam, 6-12% slopes, eroded

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)

Top Depth	Bottom Depth	Horizon	Matrix Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	2	--	10YR	5/3	97	7.5YR	4/6	3	C	PL	silt loam
2	20	--	10YR	5/3	96	10YR	5/8	4	C	M	silt loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☑):
- ▫ A1- Histosol
- ▫ A2 - Histic Epipedon
- ▫ A3 - Black Histic
- ▫ A4 - Hydrogen Sulfide
- ▫ A5 - Stratified Layers
- ▫ A10 - 2 cm Muck
- ▫ A11 - Depleted Below Dark Surface
- ▫ A12 - Thick Dark Surface
- ▫ S1 - Sandy Muck Mineral
- ▫ S3 - 5 cm Mucky Peat or Peat
- ▫ S4 - Sandy Gleyed Matrix
- ▫ S5 - Sandy Redox
- ▫ S6 - Stripped Matrix
- ▫ F1 - Loamy Muck Mineral
- ▫ F2 - Loamy Gleyed Matrix
- ▫ F3 - Depleted Matrix
- ▫ F6 - Redox Dark Surface
- ▫ F7 - Depleted Dark Surface
- ▫ F8 - Redox Depressions

Indicators for Problematic Soils [1]
- ▫ A16 - Coast Prairie Redox
- ▫ S7 - Dark Surface
- ▫ F12 - Iron-Manganese Masses
- ▫ TF12 - Very Shallow Dark Surface
- ▫ Other (Explain in Remarks)

[1] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ▫ Yes ☑ No

Remarks:

Stantec

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: North Columbus Loop - Preferred Route | Wetland ID: Wetland 13 | Sample Point: SP32

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Dipsacus fullonum*	20	Y	FACU
2.	*Festuca arundinacea*	25	Y	UPL
3.	*Poa pratensis*	30	Y	FAC
4.	*Phalaris arundinacea*	15	N	FACW
5.	*Solidago canadensis*	5	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	95		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Remarks: Moss 5%

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***33%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	15	x 2 =	30
FAC spp.	30	x 3 =	90
FACU spp.	25	x 4 =	100
UPL spp.	25	x 5 =	125
Total	95 (A)		345 (B)

Prevalence Index = B/A = ***3.632***

Hydrophytic Vegetation Indicators:

- ▫ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ▫ Yes ☑ No Dominance Test is > 50%
- ▫ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ▫ Yes ▫ No Morphological Adaptations (Explain) *
- ▫ Yes ▫ No Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ▫ Yes ☑ No

Additional Remarks: