Appendix B DATA FORMS

B.1 WETLAND DETERMINATION FORMS

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	NCL -alternate 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:	PFO1C
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.221205	Longitude: -83.103259
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP01
Community ID:	Upland
Section:	N/A
Township:	N/A
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: NWI point, not a wetlands

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, 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	7	--	10YR	3/3	94	5YR	3/4	6	C	M	silty clay loam
7	10	--	10YR	4/3	95	7.5YR	4/4	5	C	M	silty clay
10	17	--	10YR	4/3	91	7.5YR	4/6	6	C	M	silty clay
--	--	--	--	--	--	7.5YR	6/8	3	C	M	silty clay
17	20	--	10YR	4/4	55	7.5YR	5/8	15	C	M	silty clay
--	--	--	10YR	4/2	30	--	--	--	--	--	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: NCL - alternate route | Wetland ID: N/A | 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.	*Quercus palustris*	75	Y	FACW
2.	*Carya laciniosa*	5	N	FACW
3.	*Fagus grandifolia*	2	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	82		

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

1.	*Fagus grandifolia*	5	Y	FACU
2.	*Quercus palustris*	2	N	FACW
3.	*Fraxinus americana*	5	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

Herb Stratum (Plot size: 5 ft radius)

1.	*Rosa multiflora*	30	Y	FACU
2.	*Fagus grandifolia*	2	N	FACU
3.	*Fraxinus americana*	25	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	57		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 43% 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: 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.	77	x 2 =	154
FAC spp.	0	x 3 =	0
FACU spp.	74	x 4 =	296
UPL spp.	0	x 5 =	0
Total	151 (A)		450 (B)

Prevalence Index = B/A = ***2.980***

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:	NCL - alternate 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:	None
Slope (%):	0	Latitude: 40.2213	Longitude: -83.10507
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP02
Community ID:	Uplands
Section:	N/A
Township:	N/A
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: Tilled an tield ag land. NWI point, not a wetland

HYDROLOGY

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

Primary:
- [x] 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?	[x] Yes	No	Depth:	0.5	(in.)
Water Table Present?	Yes	No	Depth:	--	(in.)
Saturation Present?	Yes	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: Surface water could be from recent snow melt

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	14	--	10YR	4/3	100	--	--	--	--	--	clay loam
14	16	--	10YR	4/3	97	7.5YR	5/8	3	C	M	clay loam
16	20	--	10YR	5/2	58	7.5YR	5/8	15	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
- [ ] 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: NCL - alternate route | Wetland ID: N/A | 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.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Echinochloa crus-galli*	20	Y	FACW
2.	*Setaria faberi*	35	Y	FACU
3.	*Setaria glauca*	45	Y	UPL
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: 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.	20	x 2 =	40
FAC spp.	0	x 3 =	0
FACU spp.	35	x 4 =	140
UPL spp.	45	x 5 =	225
Total	100 (A)		405 (B)

Prevalence Index = B/A = ***4.050***

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:	NCL - alternate 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:	PFO1C
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.22117	Longitude: -83.105855 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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 1
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 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: 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	12	--	10YR	3/2	100	--	--	--	--	--	silty clay
12	20	--	10YR	4/2	84	5YR	3/4	2	C	M	silty clay
--	--	--	--	--	--	10YR	5/4	10	C	M	silty clay
--	--	--	--	--	--	10YR	5/8	4	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: NCL - alternate route | Wetland ID: Wetland 1 | 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.	*Acer rubrum*	40	Y	FAC
2.	*Quercus palustris*	50	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

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

1.	*Lindera benzoin*	70	Y	FACW
2.	*Fagus grandifolia*	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	72		

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:

No herb layer

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	NCL - alternate 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:	PFO1C
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.2212	Longitude: -83.106451
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 1
Sample Point:	SP04
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 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: 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: 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	2	--	10YR	3/2	100	--	--	--	--	--	silty clay loam
2	9	--	10YR	3/1	97	7.5YR	5/6	3	C	M	silty clay loam
9	20	--	10YR	3/1	90	7.5YR	6/8	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: NCL - alternate route | Wetland ID: Wetland 1 | 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.	*Quercus palustris*	15	Y	FACW
2.	*Carya laciniosa*	10	Y	FACW
3.	*Acer rubrum*	15	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

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

1.	*Lindera benzoin*	25	Y	FACW
2.	*Acer negundo*	3	N	FAC
3.	*Carya laciniosa*	3	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	31		

Herb Stratum (Plot size: 5 ft radius)

1.	*Carex grayi*	20	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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:

sparse herb stratum

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	PWA -Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	PFO1C
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.22137	Longitude: -83.107322
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	N/A
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: Drain present in concave, NWI Point

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: Drain present within concave

SOILS

Map Unit Name: PWA -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	18	--	10YR	2/2	100	--	--	--	--	--	silty clay loam
18	20	--	10YR	2/2	15	10YR	6/6	5	C	M	silty clay loam
--	--	--	10YR	3/2	75	10YR	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: Shards of clay throughout

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: N/A | 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.	*Ulmus americana*	20	Y	FACW
2.	*Carya ovata*	15	Y	FACU
3.	*Acer rubrum*	10	Y	FAC
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

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

1.	*Lindera benzoin*	50	Y	FACW
2.	*Ulmus americana*	10	N	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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: 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 = ***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:

No herb stratum

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	NCL - alternate 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:	PFO1C
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.22169	Longitude: -83.111582
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP06
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: NWI point, no wetland

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	3	--	10YR	4/3	98	7.5YR	5/6	2	C	M	clay loam
3	8	--	10YR	4/3	60	7.5YR	5/6	5	C	M	clay loam
--	--	--	10YR	5/1	35	--	--	--	--	--	clay loam
8	12	--	10YR	5/1	60	7.5YR	5/6	7	C	M	clay loam
--	--	--	10YR	4/3	3	--	--	--	--	--	clay loam
12	20	--	10YR	5/1	85	7.5YR	5/6	15	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: N/A | 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.	*Quercus palustris*	30	Y	FACW
2.	*Ulmus rubra*	5	N	FAC
3.	*Carya laciniosa*	35	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

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

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

Herb Stratum (Plot size: 5 ft radius)

1.	*Toxicodendron radicans*	2	N	FAC
2.	*Carex grayi*	15	Y	FACW
3.	*Phalaris arundinacea*	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	27		

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: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80%*** (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:	NCL - alternate 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:	None
Slope (%):	0	Latitude: 40.2217	Longitude: -83.114533
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 2
Sample Point:	SP07
Community ID:	Uplands
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: Used to be agriculture filed, now old field. 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: 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	20	--	10YR 4/4	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	--	--	--	--
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.	*Symphyotrichum ericoides*	25	Y	FACU
2.	*Solidago canadensis*	35	Y	FACU
3.	*Setaria glauca*	40	Y	UPL
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: 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.	0	x 3 =	0
FACU spp.	60	x 4 =	240
UPL spp.	40	x 5 =	200
Total	100 (A)		440 (B)

Prevalence Index = B/A = ***4.400***

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:	NCL - alternate 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 (%):	0	Latitude: 40.22172	Longitude: -83.114641
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:	02/20/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 2
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: Large hole dug or collapsed on south side of wetland, water flowing. Wetland 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:	0.5	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	4	(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: Ice. Large hole dug on south side of wetland, water flowing into it

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	15	--	10YR 4/2	94	5YR 4/4	6	C	M	silty clay loam
15	20	--	10YR 3/3	100	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

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: NCL - alternate route | Wetland ID: Wetland 2 | 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.	*Typha angustifolia*	30	Y	OBL
2.	*Echinochloa crus-galli*	65	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: 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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Bloundt silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0-1	Latitude: 40.22164	Longitude: -83.116589
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:	02/18/20
County:	Delaware
State:	Ohio
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: 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: Bloundt 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	3	--	10YR	5/3	100	--	--	--	--	--	silty clay
3	20	--	10YR	5/3	96	5YR	4/6	4	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: NCL - alternate 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.	*Setaria glauca*	25	Y	UPL
2.	*Setaria viridis*	70	Y	UPL
3.	*Symphyotrichum ericoides*	4	N	FACU
4.	*Xanthium strumarium*	1	N	FAC
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: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (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.	1	x 3 =	3
FACU spp.	4	x 4 =	16
UPL spp.	95	x 5 =	475
Total	100 (A)		494 (B)

Prevalence Index = B/A = ***4.940***

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:	NCL - alternate 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 (%):	0-1	Latitude: 40.22145	Longitude: -83.116653
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 3
Sample Point:	SP10
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: Residential house development construction/grading. Wetland 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:	1	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	12	(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	6	--	10YR 4/2	90	5YR 4/6	8	C	PL	silty clay loam
--	--	--	--	--	5Y 4/6	2	C	M	silty clay loam
6	10	--	10YR 5/2	94	7.5YR 5/8	4	C	PL	silty clay
--	--	--	--	--	7.5YR 5/8	2	C	M	silty clay
10	16	--	10YR 5/2	95	7.5YR 5/8	5	C	M	silty clay
16	20	--	10YR 6/1	85	7.5YR 5/8	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 3 | 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.	--	--	--	--
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.	*Epilobium coloratum*	10	N	OBL
2.	*Juncus tenuis*	35	Y	FAC
3.	*Carex vulpinoidea*	60	Y	FACW
4.	*Typha angustifolia*	15	N	OBL
5.	*Agrimonia parviflora*	5	N	FACW
6	*Phalaris arundinacea*	10	N	FACW
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	135		

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:	NCL - alternate 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:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.22146	Longitude: -83.119804
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP11
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: Recent snow melt. 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, 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	4/3	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	*Symphyotrichum pilosum*	60	Y	FACU
2.	*Juncus tenuis*	15	N	FAC
3.	*Daucus carota*	10	N	UPL
4.	*Solidago canadensis*	15	N	FACU
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: 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.	15	x 3 =	45
FACU spp.	75	x 4 =	300
UPL spp.	10	x 5 =	50
Total	100 (A)		395 (B)

Prevalence Index = B/A = ***3.950***

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:	NCL - alternate 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:	Terrace	Local Relief:	Concave
Slope (%):	1	Latitude: 40.22152	Longitude: -83.119801
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP12
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: PEM sample point of 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:	Surface	(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, 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	3	--	10YR 5/2	96	7.5YR 4/6	4	C	PL	silty clay loam
3	7	--	10YR 4/2	96	7.5YR 4/6	2	C	PL	silty clay loam
--	--	--	--	--	7.5YR 6/4	2	C	M	silty clay loam
7	20	--	10YR 4/3	47	5YR 3/4	2	C	M	silty clay loam
--	--	--	10YR 4/2	50	10YR 6/6	1	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: NCL - alternate 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.	*Poa pratensis*	55	Y	FAC
2.	*Symphyotrichum ericoides*	5	N	FACU
3.	*Scirpus atrovirens*	35	Y	OBL
4.	--	--	--	--
5.	--	--	--	--
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:

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:	NCL - alternate 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:	PFO1A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.22157	Longitude: -83.120259
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 4
Sample Point:	SP13
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: Wetland point PFO community 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:	0.5	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	10	(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, 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	6	--	10YR	4/2	100	--	--	--	--	--	silty clay loam
6	10	--	10YR	4/2	95	7.5YR	4/6	5	C	M	silty clay loam
10	20	--	10YR	4/1	94	10YR	6/4	2	C	M	silty clay loam
--	--	--	--	--	--	5YR	4/4	4	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: NCL - alternate 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.	*Quercus palustris*	40	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

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.	--	--	--	--
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: No shrubs/saplings, herb are rooted in not blooming yet

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:	NCL - alternate 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:	PFO1A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.22167	Longitude: -83.12029
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:	02/18/20
County:	Delaware
State:	Ohio
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: Upland point for Wetland 4 PFO community

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, 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	11	--	10YR	4/2	100	--	--	--	--	--	loam
11	14	--	10YR	5/1	97	10YR	5/6	3	C	M	silty clay loam
14	20	--	10YR	6/1	90	10YR	5/8	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: NCL - alternate 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.	*Ulmus rubra*	15	N	FAC
2.	*Quercus palustris*	40	Y	FACW
3.	*Celtis occidentalis*	7	N	FAC
4.	*Acer rubrum*	18	Y	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	80		

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

1.	*Lonicera morrowii*	10	Y	FACU
2.	*Ulmus rubra*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 5 ft radius)

1.	*Rosa multiflora*	2	N	FACU
2.	*Toxicodendron radicans*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	7		

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: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80%*** (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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Charlie Allen
Soil Unit:	Glynwood sit loam, ground moraine, 2-6% slopes	NWI/WWI Classification:	PFO1A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.22192	Longitude: -83.120762
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP15
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: Stream flows through, NWI area

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, 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	3	--	10YR 3/2	97	7.5YR	4/6	3	C	PL	silty clay loam
3	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: N/A | 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.	*Ulmus rubra*	20	Y	FAC
2.	*Quercus palustris*	10	Y	FACW
3.	*Aesculus flava*	5	N	FACU
4.	*Acer rubrum*	5	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

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

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks:

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 = ***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:	NCL - alternate 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:	PFO1A
Landform:	Terrace	Local Relief:	Convex
Slope (%):	0	Latitude: 40.22239	Longitude: -83.121831
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:	02/18/20
County:	Delaware
State:	Ohio
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: 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: 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	3	--	10YR	3/3	100	--	--	--	--	--	silt loam
3	5	--	10YR	5/3	100	--	--	--	--	--	silt loam
5	10	--	10YR	5/4	100	--	--	--	--	--	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: Roots Depth: 10"

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	*Acer rubrum*	40	Y	FAC
2.	*Ulmus americana*	5	N	FACW
3.	*Quercus palustris*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

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.	*Toxicodendron radicans*	10	Y	FAC
2.	*Rosa multiflora*	2	N	FACU
3.	*Fagus grandifolia*	5	Y	FACU
4.	*Acer rubrum*	2	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	19		

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: 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.	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:	NCL - alternate 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:	PFO1A
Landform:	Terrace	Local Relief:	Concave
Slope (%):	0	Latitude: 40.22253	Longitude: -83.121987
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 5
Sample Point:	SP17
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 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: 0.5	(in.)
Water Table Present?	▪ Yes	▫ No	Depth: surface	(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	5	--	10YR	4/3	100	--	--	--	--	--	loam
5	18	--	10YR	6/2	60	10YR	5/6	40	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: Roots/Clay Depth: 18"

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 5 | 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.	*Acer rubrum*	40	Y	FAC
2.	*Ulmus americana*	5	N	FACW
3.	*Quercus palustris*	15	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

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.	*Lonicera morrowii*	2	Y	FACU
2.	*Toxicodendron radicans*	2	Y	FAC
3.	*Carex frankii*	2	Y	OBL
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: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***80%*** (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:	NCL - Alternate Route Columbia	Stantec Project #:	193707055
Applicant:	Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. ground moraine 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.223632	Longitude: -83.126386
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 6
Sample Point:	SP18
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 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:	1	(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: 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	7	--	10YR	4/2	95	10YR	5/8	5	C	M	clay loam
7	20	--	2.5Y	4/1	95	7.5YR	5/8	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: --

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate 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.	*Phalaris arundinacea*	60	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	60		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 40% open ground/water

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:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. ground moraine 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	Concave
Slope (%):	2	Latitude: 40.223815	Longitude: -83.126398
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 6
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: Mown powerline ROW. 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: 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 Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	--	10YR 4/4	100	--	--	--	--	--	clay loam
6	14	--	10YR 4/4	95	7.5YR	4/6	5	C	M	clay loam
14	20	--	10YR 4/4	93	10YR	5/8	7	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: --

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 6 | 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.	--	--	--	--
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.	*Solidago canadensis*	50	Y	FACU
2.	*Taraxacum officinale*	5	N	FACU
3.	*Dipsacus fullonum*	5	N	FACU
4.	*Viola sororia*	15	N	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	75		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	*Rubus idaeus*	10	Y	FACU
2.	*Lonicera japonica*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	20		

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.	15	x 3 =	45
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0
Total	95 (A)		365 (B)

Prevalence Index = B/A = ***3.842***

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:	NCL - alternate 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:	None
Slope (%):	0	Latitude: 40.22391	Longitude: -83.127899
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:	02/11/20
County:	Delaware
State:	Ohio
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: --	(in.)
Water Table Present?	▪ Yes	▫ No	Depth: 2	(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	9	--	10YR 4/2	95	7.5YR 6/8	5	C	M	clay loam
9	20	--	10YR 4/2	85	7.5YR 6/8	15	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	*Ulmus rubra*	30	Y	FAC
2.	*Quercus palustris*	40	Y	FACW
3.	*Aesculus flava*	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

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

1.	*Ulmus rubra*	15	Y	FAC
2.	*Vitis labrusca*	5	N	FACU
3.	*Lonicera morrowii*	20	Y	FACU
4.	*Aesculus flava*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 5 ft radius)

1.	*Lonicera morrowii*	20	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	20		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 80% open ground for herb layer

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.	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:	NCL - alternate 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:	None
Slope (%):	0	Latitude: 40.22401	Longitude: -83.128332
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:	02/18/20
County:	Delaware
State:	Ohio
Wetland ID:	Wetland 7
Sample Point:	SP21
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: 7	(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	12	--	10YR 4/2	100	--	--	--	--	loam
12	20	--	10YR 5/3	33	10YR 5/6	40	C	M	silty clay
--	--	--	10YR 6/2	25	7.5YR 4/6	2	C	PL	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: NCL - alternate route | Wetland ID: Wetland 7 | 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.	*Ulmus rubra*	10	Y	FAC
2.	*Quercus palustris*	35	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

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

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

Herb Stratum (Plot size: 5 ft radius)

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

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.	35	x 2 =	70
FAC spp.	10	x 3 =	30
FACU spp.	5	x 4 =	20
UPL spp.	60	x 5 =	300
Total	110 (A)		420 (B)

Prevalence Index = B/A = ***3.818***

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:	NCL - alternate 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:	Floodplain	Local Relief:	Concave
Slope (%):	0	Latitude: 40.20237	Longitude: -83.189061
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 8
Sample Point:	SP22
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: Channelized stream through farm fields. 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:	4	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	Surface	(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: 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	4/2	90	7.5YR	4/6	10	C	PL	loam
6	8	--	5Y	4/1	93	7.5YR	4/6	7	C	PL	loam
8	15	--	5Y	5/2	100	--	--	--	--	--	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: NCL - alternate 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.	*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.	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:	NCL - alternate 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:	Talf	Local Relief:	None
Slope (%):	0	Latitude: 40.202341	Longitude: -83.189069
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 8
Sample Point:	SP23
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: 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	20	--	10YR 3/2	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: N/A Depth: N/A

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 8 | 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.	*Setaria viridis*	25	Y	UPL
2.	*Phalaris arundinacea*	45	Y	FACW
3.	*Solidago canadensis*	20	Y	FACU
4.	*Glechoma hederacea*	10	N	FACU
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: 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.	45	x 2 =	90
FAC spp.	0	x 3 =	0
FACU spp.	30	x 4 =	120
UPL spp.	25	x 5 =	125
Total	100 (A)		335 (B)

Prevalence Index = B/A = ***3.350***

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:	NCL - alternate 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 9
Landform:	Terrace	Local Relief:	Convex	Sample Point:	SP24
Slope (%):	1	Latitude: 40.196159	Longitude: -83.196192	Community ID:	Upland
			Datum: WGS 1984	Section:	N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			▪ Yes ▫ No	Township:	N/A
Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?		Are normal circumstances present?		Range:	N/A Dir: N/A
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?		▪ Yes ▫ No			

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: Mowed vegetation. 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: 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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	*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:	NCL - alternate 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:	Floodplain/ditch	Local Relief:	Concave
Slope (%):	0	Latitude: 40.196123	Longitude: -83.196216
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 9
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: 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:	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 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: NCL - alternate route | Wetland ID: Wetland 9 | 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.	*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.	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:	NCL - alternate route	Stantec Project #:	193707055	Date:	01/30/20
Applicant:	Columbia Gas of Ohio			County:	Union
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater	State:	Ohio
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A	Wetland ID:	Wetland 10
Landform:	Terrace	Local Relief:	None	Sample Point:	SP26
Slope (%):	0	Latitude: 40.169957	Longitude: -83.222857	Datum:	WGS 1984
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			▪ Yes ▫ No	Community ID:	Upland
Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?		Are normal circumstances present?		Section:	N/A
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?		▪ Yes ▫ No		Township:	N/A
				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: Mowed Vegetation, 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: 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	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate 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.	*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: Mowed vegetation

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	N/A (A)		N/A (B)

Prevalence Index = B/A = ***N/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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1699	Longitude: -83.222897
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:	01/30/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 10
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: Old agriculture ditch, narrow between row crop fields. Wet 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:	1	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	7	(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: 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 Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	--	10YR 4/3	100	--	--	--	--	--	sandy loam
3	21	--	5Y 3/1	90	7.5YR	5/8	7	C	PL	sandy loam
--	--	--	--	--	7.5YR	5/8	3	C	M	sandy 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: NCL - alternate route | Wetland ID: Wetland 10 | 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.	*Phalaris arundinacea*	95	Y	FACW
2.	*Typha latifolia*	5	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.	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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.1663	Longitude: -83.226676
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:	01/30/20
County:	Union
State:	Ohio
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: N/A

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	16	--	10YR	3/2	100	--	--	--	--	--	silty clay
16	20	--	10YR	3/2	96	10YR	5/6	3	C	M	silty clay
16	20	--	--	--	--	7.5YR	4/6	1	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: NCL - alternate 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.	*Phalaris arundinacea*	75	Y	FACW
2.	*Dipsacus fullonum*	5	N	FACU
3.	*Asclepias syriaca*	2	N	FACU
4.	*Solidago canadensis*	20	Y	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: 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.	75	x 2 =	150
FAC spp.	0	x 3 =	0
FACU spp.	27	x 4 =	108
UPL spp.	0	x 5 =	0
Total	102 (A)		258 (B)

Prevalence Index = B/A = ***2.529***

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:	NCL - alternate route	Stantec Project #:	193707055	Date:	01/30/20
Applicant:	Columbia Gas of Ohio			County:	Union
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater	State:	Ohio
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A	Wetland ID:	Wetland 11
Landform:	Terrace	Local Relief:	Concave	Sample Point:	SP29
Slope (%):	0	Latitude: 40.1661	Longitude: -83.226637	Community ID:	PEM
			Datum: WGS 1984	Section:	N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			▪ Yes ▫ No	Township:	N/A
Are Vegetation▫ , Soil▫ , or Hydrology▫ significantly disturbed?		Are normal circumstances present?		Range:	N/A Dir: N/A
Are Vegetation▫ , Soil▫ , or Hydrology▫ naturally problematic?		▪ Yes ▫ No			

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: 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: 1.5	(in.)	**Wetland Hydrology Present?** ▪ Yes ▫ No
Water Table Present?	▫ Yes ▪ No	Depth: --	(in.)	
Saturation Present?	▫ Yes ▪ No	Depth: --	(in.)	

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	4	--	10YR	4/2	95	5YR	5/8	5	C	M	clay loam
4	21	--	10YR	4/1	95	5YR	5/8	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 11 | 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.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	0		

Herb Stratum (Plot size: 5 ft radius)

1.	*Phalaris arundinacea*	80	Y	FACW
2.	*Typha angustifolia*	15	N	OBL
3.	*Xanthium strumarium*	5	N	FAC
4.	*Leersia oryzoides*	10	N	OBL
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	110		

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	None
Slope (%):	0	Latitude: 40.1662	Longitude: -83.226803
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:	01/30/20
County:	Union
State:	Ohio
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: --	(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	11	--	10YR	4/3	100	--	--	--	--	--	clay loam
11	20	--	10YR	4/4	85	10YR	5/6	15	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
- ▫ 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: NCL - alternate 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.	*Cornus amomum*	60	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	60		

Herb Stratum (Plot size: 5 ft radius)

1.	*Dipsacus fullonum*	15	N	FACU
2.	*Solidago canadensis*	30	Y	FACU
3.	*Phalaris arundinacea*	55	Y	FACW
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: 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.		x 1 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbis Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Floodplain	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1659	Longitude: -83.226793
Datum:	WGS1984		

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:	01/30/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 12
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 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:	1	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	12	(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: 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 4/2	94	5YR 5/8	6	C	PL	silt loam
6	10	--	10YR 4/1	90	5YR 4/6	7	C	PL	silt loam
--	--	--	--	--	5YR 4/6	3	C	M	silt loam
10	16	--	5Y 4/1	85	5YR 4/6	10	C	PL	silty clay loam
--	--	--	--	--	5YR 4/6	5	C	M	silty clay loam
16	20	--	5Y 4/1	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 12 | 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.	*Phalaris arundinacea*	50	Y	FACW
2.	*Leersia oryzoides*	30	Y	OBL
3.	*Solidago gigantea*	30	Y	FACW
4.	*Asclepias syriaca*	5	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	115		

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:

Stantec

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Ditch	Local Relief:	Concave
Slope (%):	0	Latitude: 40.163687	Longitude: -83.228768
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:	04/27/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 13
Sample Point:	SP32
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: Road side ditch, wet 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:	2	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	0	(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: N/A

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	10	--	10YR	3/3	95	10YR	3/4	5	C	PL	silt loam
10	20	--	10YR	4/1	80	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
- ▪ 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: NCL - Alternate 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.	*Phalaris arundinacea*	40	Y	FACW
2.	*Typha latifolia*	60	Y	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: 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 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	None
Slope (%):	2	Latitude: 40.163744	Longitude: -83.228722
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:	04/27/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 13
Sample Point:	SP33
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: N/A

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	6	--	10YR	2/2	100	--	--	--	--	--	silty clay
6	10	--	10YR	3/2	80	--	--	--	--	--	silty clay
6	10	--	7.5YR	4/2	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: Gravel/Rock Depth: 10"

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 13 | Sample Point: SP33

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.	*Poa pratensis*	75	Y	FAC
2.	*Daucus carota*	8	N	UPL
3.	*Phalaris arundinacea*	15	N	FACW
4.	*Taraxacum officinale*	2	N	FACU
5.	*Dipsacus fullonum*	2	N	FACU
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.		x 1 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbis Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	PFO1C
Landform:	Talf	Local Relief:	None
Slope (%):	2	Latitude: 40.1568	Longitude: -83.222658
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:	01/14/20
County:	Union
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP34
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: NWI Point confirmed to be Upland

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, 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	8	--	10YR	4/4	100	--	--	--	--	--	loam
8	14	--	10YR	5/4	93	10YR	5/8	4	C	M	silty clay
8	14	--	--	--	--	10YR	6/2	3	C	M	silty clay
14	21	--	10YR	3/3	30	10YR	5/8	2	C	M	silty clay
14	21	--	10YR	6/4	68	--	--	--	--	--	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: NCL - alternate route | Wetland ID: N/A | Sample Point: SP34

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

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Fraxinus americana*	8	N	FACU
2.	*Acer saccharum*	15	Y	FACU
3.	*Ulmus rubra*	20	Y	FAC
4.	*Celtis occidentalis*	10	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	53		

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

1.	*Lonicera morrowii*	20	Y	FACU
2.	*Rubus allegheniensis*	12	Y	FACU
3.	*Carya ovata*	5	N	FACU
4.	*Rubus occidentalis*	3	N	UPL
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 5 ft radius)

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

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: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40%*** (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.	60	x 4 =	240
UPL spp.	3	x 5 =	15
Total	98 (A)		360 (B)

Prevalence Index = B/A = ***3.673***

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1566	Longitude: -83.222392
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:	01/14/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 14
Sample Point:	SP35
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 14

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: Buttressed trees

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	3	--	10YR	3/2	85	7.5YR	5/8	15	C	M	silty clay
3	17	--	10YR	5/1	55	10YR	5/8	45	C	M	clay
17	21	--	10YR	5/1	30	10YR	5/8	70	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
- ▪ 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: NCL - alternate route | Wetland ID: Wetland 14 | Sample Point: SP35

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*	45	Y	FACW
2.	*Carya ovata*	10	N	FACW
3.	*Ulmus americana*	20	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

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.	--	--	--	--
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: 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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, end moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Talf	Local Relief:	None
Slope (%):	0	Latitude: 40.1566	Longitude: -83.222241
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:	01/14/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 14
Sample Point:	SP36
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 to Wetland 14

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, 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	5	--	10YR	4/3	70	--	--	--	--	--	clay loam
0	5	--	10YR	5/2	30	--	--	--	--	--	silty clay
5	18	--	2.5Y	6/2	50	10YR	6/6	50	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: Roots, not able to sample below 18-inches

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 14 | Sample Point: SP36

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 rubra*	35	Y	FACU
2.	*Liriodendron tulipifera*	5	N	FACW
3.	*Acer saccharum*	5	N	FACU
4.	*Carya ovata*	20	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

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

1.	*Carya ovata*	5	Y	FACU
2.	*Celtis occidentalis*	5	Y	FAC
3.	*Acer saccharum*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 5 ft radius)

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

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: 6 (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.	10	x 3 =	30
FACU spp.	140	x 4 =	560
UPL spp.	0	x 5 =	0
Total	150 (A)		590 (B)

Prevalence Index = B/A = ***3.933***

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Wetzel silty clay loam	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1508	Longitude: -83.217491
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 15
Sample Point:	SP37
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: Stream S12 turns into Wetland 15, then drains to broken tile and goes below surface

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:	Surface	(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: Wetzel silty clay loam

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	100	--	--	--	--	clay loam
5	20	--	10YR 4/2	68	7.5YR 4/6	30	C	M	silty clay
5	20	--	--	--	7.5YR 5/8	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: NCL - alternate route | Wetland ID: Wetland 15 | Sample Point: SP37

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 angustifolia*	20	Y	OBL
2.	*Phalaris arundinacea*	80	Y	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: 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:	NCL - alternate route	Stantec Project #:	193707055	Date:	01/15/20
Applicant:	Columbia Gas of Ohio			County:	Union
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater	State:	Ohio
Soil Unit:	Wetzel silty clay loam	NWI/WWI Classification:	N/A	Wetland ID:	Wetland 15
Landform:	Talf	Local Relief:	None	Sample Point:	SP38
Slope (%):	0	Latitude: 40.1507	Longitude: -83.217525	Community ID:	Upland
			Datum: --	Section:	N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)			▪ Yes ▫ No	Township:	N/A
Are Vegetation ▫, Soil ▫, or Hydrology ▫ significantly disturbed?		Are normal circumstances present?		Range:	N/A Dir: N/A
Are Vegetation ▫, Soil ▫, or Hydrology ▫ naturally problematic?		▪ Yes ▫ No			

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: Upland point for wetland 15

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: Wetzel silty clay loam

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	13	--	10YR	4/3	100	--	--	--	--	--	silty clay
13	16	--	10YR	4/2	40	7.5YR	4/6	20	C	M	silty clay
13	16	--	--	3/N	40	--	--	--	--	--	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: Clay Depth: 16"

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 15 | Sample Point: SP38

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*	70	Y	FACU
2.	*Phalaris arundinacea*	20	N	FACW
3.	*Solidago canadensis*	15	N	FACU
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: 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.	20	x 2 =	40
FAC spp.	0	x 3 =	0
FACU spp.	85	x 4 =	340
UPL spp.	0	x 5 =	0
Total	105 (A)		380 (B)

Prevalence Index = B/A = ***3.619***

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:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. end moraine 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 40.149407	Longitude: -83.216214
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 16
Sample Point:	SP39
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 16

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:	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. 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	7	--	10YR 4/2	95	5YR 4/6	5	C	PL	clay loam
7	10	--	5Y 5/1	95	10YR 5/8	5	C	M	--
10	20	--	10YR 4/2	93	10YR 5/8	7	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: --

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 16 | Sample Point: SP39

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 angustifolia*	95	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
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: 5% open water

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:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. end moraine 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0	Latitude: 40.149381	Longitude: -83.21624
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 16
Sample Point:	SP40
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 16

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. 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	3/3	100	--	--	--	--	--	clay loam
8	18	--	10YR	3/2	95	7.5YR	5/8	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: Clay Depth: 18"

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 16 | Sample Point: SP40

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.	*Poa pratensis*	90	Y	FAC
2.	*Daucus carota*	5	N	UPL
3.	*Plantago major*	3	N	FAC
4.	*Taraxacum officinale*	2	N	FACU
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:	NCL - Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. end moraine 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	1	Latitude: 40.146787	Longitude: -83.212871
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 17
Sample Point:	SP41
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 17

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:	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. 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	7	--	10YR 4/2	90	10YR 5/8	7	C	M	clay loam
--	--	--	--	--	5YR 4/6	3	C	PL	clay loam
7	15	--	10YR 5/2	95	10YR 5/6	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: Roots Depth: 15"

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 17 | Sample Point: SP41

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 angustifolia*	95	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
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: 5% open water/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 = ***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:	NCL- Alternate Route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Michelle Kearns	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam. end moraine 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	Convex
Slope (%):	0	Latitude: 40.146766	Longitude: -83.212865
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:	04/21/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 17
Sample Point:	SP42
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 17

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. 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	4/2	97	10YR	5/8	3	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: --

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - Alternate Route | Wetland ID: Wetland 17 | Sample Point: SP42

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.	*Poa pratensis*	90	Y	FAC
2.	*Plantago major*	2	N	FAC
3.	*Plantago lanceolata*	3	N	FACU
4.	--	--	--	--
5.	--	--	--	--
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: 5% 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: 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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1444	Longitude: -83.209736
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 18
Sample Point:	SP43
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: Ditch alongside US-33, Mowed vegetation. Wetland Point for wetland 18

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:	7	(in.)
Saturation Present?	▪ Yes ▫ No	Depth:	Surface	(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	4/3	86	5YR	4/6	10	C	M	silt loam
0	4	--	--	--	--	5YR	4/6	4	C	PL	silt loam
4	6	--	10YR	4/3	60	--	--	--	--	--	40% gravel
6	14	--	5YR	5/1	60	10YR	5/6	40	C	M	silty clay
14	18	--	5Y	5/1	30	10YR	5/6	20	C	M	silty clay
14	18	--	--	5/N	40	10YR	5/6	10	C	PL	silty clay
18	21	--	5Y	5/1	30	10YR	5/6	30	C	M	silty clay
18	21	--	--	5/N	40	--	--	--	--	--	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: NCL - alternate route | Wetland ID: Wetland 18 | Sample Point: SP43

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

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus deltoides*	20	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

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 angustifolia*	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: 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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	None
Slope (%):	3	Latitude: 40.1443	Longitude: -83.209745
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 18
Sample Point:	SP44
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: Vegetation mowed. upland point for wetland 18

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	4	--	10YR	4/3	100	--	--	--	--	--	loam
4	7	--	10YR	4/3	55	10YR	5/6	45	C	M	silty clay
7	21	--	10YR	3/2	20	10YR	5/8	55	C	M	silty clay
7	21	--	10YR	4/2	25	--	--	--	--	--	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: NCL - alternate route | Wetland ID: Wetland 18 | Sample Point: SP44

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*	30	Y	FACU
2.	*Plantago lanceolata*	15	N	FACU
3.	*Poa pratensis*	50	Y	FAC
4.	*Daucus carota*	5	N	UPL
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.	50	x 3 =	150
FACU spp.	45	x 4 =	180
UPL spp.	5	x 5 =	25
Total	100 (A)		355 (B)

Prevalence Index = B/A = ***3.550***

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1401	Longitude: -83.205287
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 19
Sample Point:	SP45
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: Vegetation mowed. Wetland point for wetland 19

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:	--	(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	4	--	10YR	3/1	96	7.5YR	5/8	2	C	M	silt loam
0	4	--	--	--	--	5YR	5/8	2	C	PL	silt loam
4	18	--	10YR	5/1	40	10YR	5/6	60	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: Clay Depth: 18

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 19 | Sample Point: SP45

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 angustifolia*	50	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	50		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 50% open water/ dead detritus

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	None
Slope (%):	3	Latitude: 40.1401	Longitude: -83.205303
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 19
Sample Point:	SP46
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: Vegetation mowed. upland point for wetland 19

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	3	--	10YR	2/2	100	--	--	--	--	--	silt loam
3	6	--	10YR	3/2	100	--	--	--	--	--	silty clay loam
6	12	--	10YR	4/2	69	10YR	4/6	30	C	M	silty clay
6	12	--	--	--	--	7.5YR	4/6	1	C	M	silty clay
12	18	--	10YR	4/2	47	10YR	4/6	3	C	M	silty clay
12	18	--	--	--	--	10YR	5/8	50	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: Clay Depth: 18

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 19 | Sample Point: SP46

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*	5	Y	FAC
2.	*Pinus nigra*	5	Y	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

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

1.	*Acer ginnala*	10	Y	UPL
2.	*Lonicera morrowii*	10	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

Herb Stratum (Plot size: 5 ft radius)

1.	*Poa pratensis*	90	Y	FAC
2.	*Cyperus strigosus*	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: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	10	x 2 =	20
FAC spp.	95	x 3 =	285
FACU spp.	10	x 4 =	40
UPL spp.	15	x 5 =	75
Total	130 (A)		420 (B)

Prevalence Index = B/A = ***3.231***

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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1403	Longitude: -83.204423
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 20
Sample Point:	SP47
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 20

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:	3	(in.)
Water Table Present?	▪ Yes ▫ No	Depth:	2	(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 4/3	90	7.5YR 4/6	10	C	M	silt loam
7	21	--	10YR 4/2	75	7.5YR 4/6	25	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: NCL - alternate route | Wetland ID: Wetland 20 | Sample Point: SP47

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 angustifolia*	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: 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:	NCL - alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Pewamo silty clay loam, 0-1% slopes	NWI/WWI Classification:	N/A
Landform:	Hillslope	Local Relief:	None
Slope (%):	4	Latitude: 40.1403	Longitude: -83.204382
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:	01/15/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 20
Sample Point:	SP48
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 20

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	3/3	100	--	--	--	--	--	silty clay loam
10	17	--	10YR	3/4	100	--	--	--	--	--	silty clay loam
17	21	--	10YR	4/4	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:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL - alternate route | Wetland ID: Wetland 20 | Sample Point: SP48

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*	15	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

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

1.	*Malus coronaria*	20	Y	UPL
2.	*Lonicera morrowii*	20	Y	FACU
3.	*Acer ginnala*	10	Y	UPL
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 5 ft radius)

1.	*Allium canadense*	1	N	FACU
2.	*Cyperus strigosus*	3	N	FACW
3.	*Solidago canadensis*	10	Y	FACU
4.	*Poa pratensis*	30	Y	FAC
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	44		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 56% 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: 6 (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.	3	x 2 =	6
FAC spp.	45	x 3 =	135
FACU spp.	31	x 4 =	124
UPL spp.	30	x 5 =	150
Total	109 (A)		415 (B)

Prevalence Index = B/A = ***3.807***

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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	1	Latitude: 40.1397	Longitude: -83.20018
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 21
Sample Point:	SP49
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 21

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:	surface	(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	17	1	10YR	4/2	92	5YR	5/8	8	C	PL	silty clay loam
17	20	2	10YR	4/2	87	5YR	5/8	8	C	PL	silty clay
17	20	2	--	--	--	5YR	5/8	5	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: NCL-alternate route | Wetland ID: Wetland 21 | Sample Point: SP49

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 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Talf	Local Relief:	Linear
Slope (%):	1	Latitude: 40.1396	Longitude: -83.20007
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 21
Sample Point:	SP50
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 21

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, 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	10	1	10YR	5/3	93	7.5YR	4/6	2	C	M	clay
0	10	1	--	--	--	10YR	5/8	5	C	M	clay
10	14	2	10YR	4/4	15	7.5YR	5/6	25	C	M	clay
10	14	2	10YR	4/2	60	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

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: 14"

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL-alternate route | Wetland ID: Wetland 21 | Sample Point: SP50

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 rubra*	40	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

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

1.	*Elaeagnus umbellata*	30	Y	UPL
2.	*Pyrus calleryana*	10	Y	UPL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	40		

Herb Stratum (Plot size: 5 ft radius)

1.	*Poa pratensis*	25	Y	FAC
2.	*Phalaris arundinacea*	20	Y	FACW
3.	*Pyrus calleryana*	10	N	UPL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	55		

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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ***40%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	25	x 3 =	75
FACU spp.	40	x 4 =	160
UPL spp.	50	x 5 =	250
Total	135 (A)		525 (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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Footslope	Local Relief:	Linear
Slope (%):	1	Latitude: 40.1394	Longitude: -83.198822
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 22
Sample Point:	SP51
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: Vegetation mowed, upland point for Wetland 22

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, 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	5	1	10YR	4/3	97	10YR	4/6	2	C	M	silty clay loam
0	5	1	--	--	--	5YR	4/6	1	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: Rock Depth: 5"

Hydric Soil Present? ▫ Yes ▪ No

Remarks:

WETLAND DETERMINATION DATA FORM

Midwest Region

Project/Site: NCL-alternate route | Wetland ID: Wetland 22 | Sample Point: SP51

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.	*Poa pratensis*	100	Y	FAC
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: 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.	100	x 3 =	300
FACU spp.	0	x 4 =	0
UPL spp.	5	x 5 =	25
Total	105 (A)		325 (B)

Prevalence Index = B/A = ***3.095***

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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1393	Longitude: -83.198673
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 22
Sample Point:	SP52
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 22

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:	surface	(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	7	1	10YR	4/2	99	5YR	5/8	1	C	M	silty clay loam
7	20	2	10YR	4/2	94	5YR	5/8	6	C	PL	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: NCL-alternate route | Wetland ID: Wetland 22 | Sample Point: SP52

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 angustifolia*	15	N	OBL
2.	*Scirpus atrovirens*	90	Y	OBL
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: 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 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1392	Longitude: -83.197933
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 23
Sample Point:	SP53
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 23

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: 2	(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	6	1	10YR 4/2	95	7.5YR 4/6	5	C	PL	silt loam
6	20	2	10YR 4/2	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: N/A Depth: N/A

Hydric Soil Present? ▪ Yes ▫ No

Remarks:

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL-alternate route | Wetland ID: Wetland 23 | Sample Point: SP53

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 angustifolia*	30	Y	OBL
2.	*Phalaris arundinacea*	50	Y	FACW
3.	*Scirpus cyperinus*	15	N	OBL
4.	*Symphyotrichum lateriflorum*	5	N	FACW
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 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 0-2% slopes	NWI/WWI Classification:	N/A
Landform:	Terrace	Local Relief:	Convex
Slope (%):	1	Latitude: 40.1392	Longitude: -83.197934
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	Wetland 23
Sample Point:	SP54
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: Vegetation is mowed, upland point for Wetland 23

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	7	1	10YR 4/3	99	10YR 5/8	1	C	M	silty clay
7	12	2	10YR 5/3	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: Clay Depth: 12

Hydric Soil Present? ▫ Yes ▪ No

Remarks: Soil is mostly fill material

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL-alternate route | Wetland ID: Wetland 23 | Sample Point: SP54

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*	12	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	12		

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

1.	*Robinia pseudoacacia*	10	Y	FACU
2.	*Acer saccharum*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	25		

Herb Stratum (Plot size: 5 ft radius)

1.	*Poa pratensis*	100	Y	FAC
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: 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.	0	x 2 =	0
FAC spp.	112	x 3 =	336
FACU spp.	25	x 4 =	100
UPL spp.	0	x 5 =	0
Total	137 (A)		436 (B)

Prevalence Index = B/A = ***3.182***

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:	NCL-alternate route	Stantec Project #:	193707055
Applicant:	Columbia Gas of Ohio		
Investigator #1:	Angela Sjollema	Investigator #2:	Julie Slater
Soil Unit:	Blount silt loam, ground moraine, 2-4% slopes	NWI/WWI Classification:	PUBGx
Landform:	Depression	Local Relief:	Concave
Slope (%):	0	Latitude: 40.1403	Longitude: -83.192782
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:	01/16/20
County:	Union
State:	Ohio
Wetland ID:	N/A
Sample Point:	SP55
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: Water treated with herbicide, soil is fill material, site is a manmade pond that has been drained to build a deck. Under normal circumstances, this would be a pond with no vegetation

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: water was intentionally dropped to install a deck

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	8	1	2.5Y	5/1	60	--	--	--	--	--	silty clay
0	8	1	5Y	5/2	40	--	--	--	--	--	silty clay
8	18	2	10YR	4/4	70	--	--	--	--	--	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: Horizon 2 was 30% channery/gravel

WETLAND DETERMINATION DATA FORM
Midwest Region

Project/Site: NCL-alternate route | Wetland ID: N/A | Sample Point: SP55

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.	*Populus deltoides*	5	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 5 ft radius)

1.	*Typha angustifolia*	40	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	40		

Woody Vine Stratum (Plot size: 30 ft radius)

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

Remarks: 60% 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.		x 1 =	0
FACW spp.		x 2 =	0
FAC spp.		x 3 =	0
FACU spp.		x 4 =	0
UPL spp.		x 5 =	0
Total	(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:

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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:

Summary: Application Appendix D.2, Part 4 of 7 electronically filed by Ms. Melissa L. Thompson on behalf of Columbia Gas of Ohio, Inc.