Wetland Delineation and Watercourse Identification Report

WEST FIELD

BLACK LICK AND CENTER TOWNSHIPS
INDIANA COUNTY, PENNSYLVANIA

WETLAND DELINEATION AND WATERCOURSE IDENTIFICATION REPORT

Prepared for:

Homer City Generation LP
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202265

December 2024

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INTRODUCTION

Homer City Generation LP is proposing to develop the existing West Field in Center and Black Lick Townships, Indiana County, Pennsylvania (**Figure 1**). Surrounding land use consists of agricultural field, successional woodland, and previously developed commercial property. Vegetation consists of agricultural crops, maintained and unmaintained roadside vegetation, forest, floodplain, palustrine scrub-shrub wetland vegetation, and palustrine emergent wetland vegetation.

A delineation for jurisdictional wetlands and waterways was conducted on June 24-25, 2024 by biologists from Michael Baker International (MBI) to assess the study area for potentially jurisdictional wetlands and watercourses.

METHODOLOGY

Wetland Methodology

Prior to fieldwork, biologists from MBI conducted a desktop assessment of the study area. A typical desktop assessment includes evaluating aerial imagery and site topography; a review of the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) for documented wetlands (**Figure 2**); streams identified within the National Hydrography Dataset (NHD), hydric soils, potential habitats for rare, threatened, or endangered species, and a review of the Pennsylvania Department of Environmental Protection (PADEP) eMapPA system for known watercourses within the project area. Data from soil surveys were also reviewed to identify areas of major and minor hydric components within the study area (**Figure 3**).

Wetlands are delineated using the methods and criteria described in the United States Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0* (USACE, 2012) and the USACE *Wetlands Delineation Manual* (Environmental Laboratory, 1987). An area must meet USACE criteria for hydrology, plant communities, and soils to be considered a wetland. If adequate evidence has been observed to determine a wetland area, it is classified according to the USFWS *Classification of Wetlands and Deepwater Habitats for the United States* (Cowardin et al., 1979).

Once a potential wetland has been identified, it is examined for sources of hydrology, hydrophytic plant communities, and evidence of redoximorphic (redox) features and anaerobic conditions in the soil horizons. Areas are then evaluated for evidence of wetland hydrology, such as ponding or flowing surface waters, saturated soils, dead or stressed vegetation, oxidized rhizospheres on living roots, and position in the landscape.

Plants are identified to the taxonomic level of species, and each indicator status is recorded using the *National Wetland Plant List* website (USACE, 2024). If a delineation is conducted outside of the growing season, plant identification is performed using live plants, basal rosettes, persistent seed pods, tree and shrub buds, persistent leaves, bark, bud scars, and distinctive sprouts, such as skunk cabbage (*Symplocarpus foetidus*) and moneywort (*Lysimachia nummalaria*).

Soil test pits are dug using a 16-inch spade, while general soil test areas are sampled with a Dutch auger. Representative photographs are taken at each soil test pit (**Figure 4** and **Appendix A**). Soil horizons are examined for redox features and classified by texture (i.e., the composition of silt, sand, and clay) and color according to criteria outlined in the 1987 *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the *Munsell® Soil Color Chart* (Munsell Color, 2010).

All soil test pits, wetlands, and other notable features are mapped on a handheld tablet equipped with Uinta software and a Trimble DA-2 Catalyst Global Navigation Satellite System (GNSS) receiver, or equivalent, with sub-meter accuracy. Wetlands are flagged where appropriate, and USACE data forms are completed for each wetland and upland sample point (**Appendix B**). Additional upland data points may be taken in ambiguous locations (i.e., heavily disturbed areas receiving hydrology from seeps or springs or areas exhibiting other wetland-like qualities) but do not meet all criteria. Qualified biologists (**Appendix C**) may also classify wetlands as open-ended or closed. An open-ended wetland extends beyond the defined study area. If a wetland is described as closed, the entire perimeter is within the study area and has been mapped.

Watercourse Methodology

Watercourses include traditionally navigable surface waters, such as rivers, large streams, and lakes, and those not deemed traditionally navigable, such as small streams or ponds. Any waterway may be jurisdictional and should be evaluated by qualified biologists. While rivers, lakes, and ponds can be more generally classified and are often historically identified features within the landscape, smaller streams are often unrecorded.

Prior to fieldwork, biologists from MBI conducted a desktop assessment of the study area. A typical desktop assessment includes evaluating aerial imagery and site topography, the NWI mapping, and NHD for previously documented watercourses.

Following the desktop assessment, qualified biologists from MBI perform an on-site investigation to evaluate a defined study area for watercourses. They gather critical watercourse characteristics such as a defined bed and bank, substrate composition, flow regime, hydrology source, ordinary high-water mark (OHWM), and general geomorphology. Streams must exhibit a defined bed and bank and contain flowing or standing water for at least a portion of the year. In addition, streams may meet the criteria for one or more of the following flow regime definitions outlined by the USACE (i.e., perennial, intermittent, or ephemeral):

- Perennial: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

- Intermittent: An intermittent stream has flowing water during certain times of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

- Ephemeral: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Watercourses are mapped on a handheld tablet equipped with Uinta software and a Trimble DA-2 Catalyst Global Navigation Satellite System (GNSS) receiver, or equivalent, with sub-meter accuracy and flagged where appropriate.

FIELD INVESTIGATORS

Crystal Roemer, PWS – Michael Baker International, Inc.

Trevor Surgener – Michael Baker International, Inc.

SITE CONDITIONS

Delineation Date: June 24-25, 2024

Temperature: 73°F; 70°F

Weather Conditions: Sunny/Partly Cloudy; Overcast

Precipitation in Past 24 Hours: 0.42”; 0.00 (CoCoRahs Station PA-IN-4: Indiana 2.8 E)

Total Precipitation in Past 7 Days: 0.51”; 0.51” (CoCoRahs Station PA-IN-4: Indiana 2.8 E)

RESULTS

Wetlands

During the desktop review, three NWI wetlands (**Figure 2**), one soil with major hydric inclusions, and five soils with minor hydric inclusions (**Table 1** and **Figure 3**) were identified within the study area.

Table 1 – Hydric Soils and Soils with Hydric Inclusions

Map Unit Code	Soil Name	Hydric Rating*
Cab	Cavode silt loam, 3 to 8 percent slopes	5
ErA	Ernest silt loam, 0 to 3 percent slopes	5
ErB	Ernest silt loam, 3 to 8 percent slopes	5
GcA	Gilpin channery silt loam, 0 to 3 percent slopes	0
GcB	Gilpin channery silt loam, 3 to 8 percent slopes	0
GcC	Gilpin channery silt loam, 8 to 15 percent slopes	0
GcD	Gilpin channery silt loam, 15 to 25 percent slopes	0
HoA	Holly silt loam, 0 to 2 percent slopes, frequently flooded	75
RnC	Rayne-Gilpin channery silt loams, 8 to 15 percent slopes	0
WhA	Wharton silt loam, 0 to 3 percent slopes	5
WhB	Wharton silt loam, 3 to 8 percent slopes	5
WhC	Wharton silt loam, 8 to 15 percent slopes	0

**Hydric Rating based on the National Resource Conservation Service’s Web Soil Survey Hydric Soil Rating scale, which provides a percentage of each map unit classified as hydric (USDA, 2024).*

During the on-site delineation, one wetland was identified within the study area (**Figure 4**). Riverine wetland habitat identified during the desktop review coincided with watercourses observed in the field, though no wetlands were found abutting or adjacent. The palustrine unconsolidated bottom (PUB) wetland previously identified during the desktop review was not observed in the field. A description of each wetland is provided below and in **Table 2**. Photographs and data forms for each wetland are in **Appendix A** and **Appendix B**, respectively.

Table 2 – Delineated Wetlands

Wetland ID	Cowardin Classification	Abutting or Adjacent to Waterway (Yes/No)	Open or Closed Delineation[1]	Total Wetland within Study Area (acres)
W-01	PEM	No	Closed	0.780
Total				**0.780**

[1]*Wetlands identified as "Closed" are those in which the entire boundary of the wetland is located within the study area. Wetlands identified as "Open-Ended" continue beyond the limits of the study area and were not delineated in their entirety.*

Wetland W-01 is a 0.780-acre PEM wetland located in the northeastern extent of the study area in a depression adjacent and downslope to a previously developed commercial area. Hydrology and soil are disturbed from previous land development, causing water to drain and collect adjacent to a gravel roadway. Hydrological indicators included an algal crust, surface soil cracks, oxidized rhizospheres on living roots, and geomorphic position. Within the wetland depression, vegetation consisted almost entirely of facultative wet and obligate indicator species. Dominant wetland vegetation consisted of *Scirpus cyperinus* (wool grass). Other predominate wetland plant species included *Carex vulpinoidea* (fox sedge), *Agrostis stolonifera* (creeping bent grass), and *Juncus acuminatus* (sharp-fruited rush). Soils were significantly disturbed; texture consists of silty clay loam (SiCL) and exhibited several redox concentrations.

Watercourses

Two perennial (PER) NHD watercourse were identified during the desktop review; Tributary (Trib) 44070 of Blacklick Creek and Tributary (Trib) 44072 of Blacklick Creek.

During the on-site survey five perennial (PER) stream reaches were identified within the study area, including two NHD watercourses were confirmed and three unnamed tributaries (UNTs) to Trib 44072 of Blacklick Creek. (**Figure 4** and **Appendix A**).

The study area is within the Blacklick Creek-Conemaugh River watershed (Hydrologic Unit Code [HUC] 12: 050100070904). All watercourses ultimately convey hydrology to the greater Conemaugh River watershed (HUC8: 05010007).

Per Pennsylvania Code, Chapter 93 Water Quality Standards, Trib 44070 and Trib 44072 of Blacklick Creek and all associated UNTs have a designated use of cold water fishes (CWF). The Pennsylvania Fish and Boat Commission (PFBC) does not designate these streams as approved trout waters. Therefore, they are not subject to in-stream construction time-and-date restrictions. A summary of streams within the study area is provided below and in **Table 3**.

Table 3 - Watercourses

Reach ID	Gradient	Flow Regime	Average Water Depth (inches)	Average Bank Depth (inches)	Average Channel Width (inches)	Average Ordinary High-water Mark (inches)	Average Top of Bank Width (inches)
S-01 (Trib 44072 of Blacklick Creek)	High	PER	3.0”	39.0”	42.0”	70.0”	144.0”
S-01a	High	PER	0.5”	41.0”	18.0”	36.0”	60.0”
S-01b	High	PER	1.0”	108”.0	38.0”	40.0”	168.0”
S-01c	High	PER	0.75”	20.0”	30.0”	38.0”	48.0”
S-02 (Trib 44070 of Blacklick Creek	High	PER	3.0”	16.0”	50.0”	70.0”	84.0”

S-01 (Trib 44072 of Blacklick Creek) is a high-gradient PER stream located in the northwestern study area. It originates north of the study area, is impounded into a treatment pond, which then outlets and continues a normal flow regime. S-01 generally flows southwest until it exits the western boundary of the study area along Coal Road. Stream S-01 receives hydrology from surface runoff, groundwater, stream S-01a, stream S-01b, and stream S-01c. Flow is ultimately conveyed to Blacklick Creek. Stream S-01 has a designated use of CWF.

S-01a is a high-gradient PER stream originating in the central study area. Stream S-01a receives hydrology from surface runoff and groundwater, and generally flows west until its confluence with S-01. Stream S-01a has a designated use of CWF.

S-01b is a high-gradient PER stream originating in the central study area. Stream S-01b receives hydrology from surface runoff and groundwater, and generally flows west inside the study area until its confluence with S-01b. Stream S-01b has a designated use of CWF.

S-01c is a high-gradient PER stream originating in the central-western portion of the of the study area. Stream S-01c receives hydrology from surface runoff and groundwater, and generally flows northwest inside the study area until its confluence with S-01. Stream S-01c has a designated use of CWF.

S-02 (Trib 44070 to Blacklick Creek) is a high-gradient PER stream located in the southwestern portion of the study area. S-02 originates in the southern central portion of the study area, generally flowing southwest until it exits the study area on its southern boundary. Hydrology is received from surface runoff and groundwater. Stream S-02 has a designated use of CWF.

CONCLUSION

Five PER stream reaches, totaling 4,152 linear feet, were identified within the study area. All watercourses are designated as CWF according to the Pennsylvania Code, Chapter 93 Water Quality Standards. One PEM wetland, covering 0.780 acres, was delineated within the study area. All features are assumed to be jurisdictional for this report; however, wetland W-01 may not be considered jurisdictional by the USACE under the current definition of Waters of the United States (WOTUS).

While the USACE might not classify this wetland as jurisdictional, all wetlands are considered Waters of the Commonwealth in Pennsylvania. To formally determine if this resource is also a WOTUS, a Jurisdictional Determination from the USACE would be required. Only the USACE can formally decide if a wetland or waterway is a WOTUS. If there are changes to current regulations and definitions, these conclusions should be reevaluated for compliance. Additionally, further field studies may be necessary if project design changes extend beyond the defined study area.

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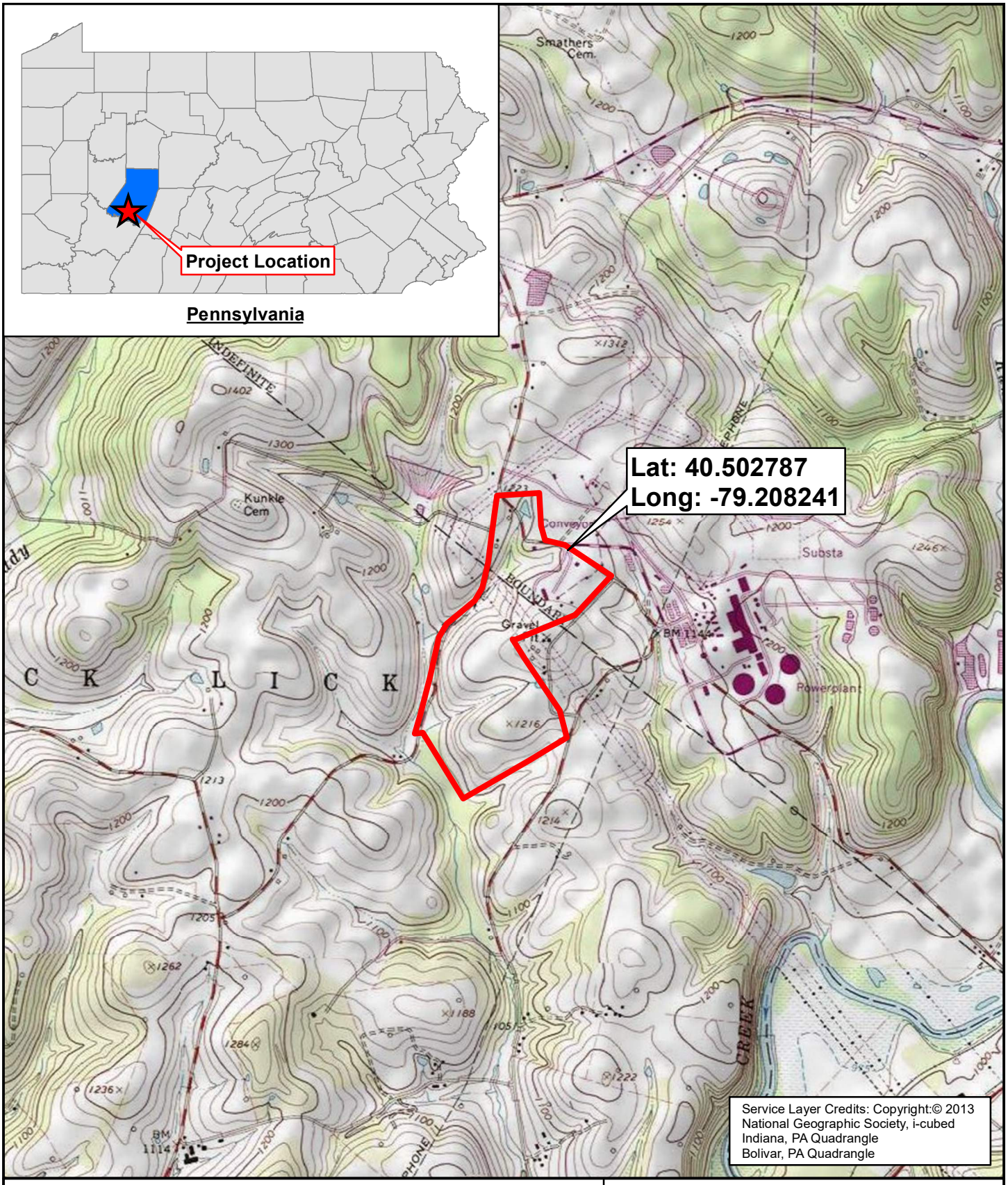
FIGURES



Legend

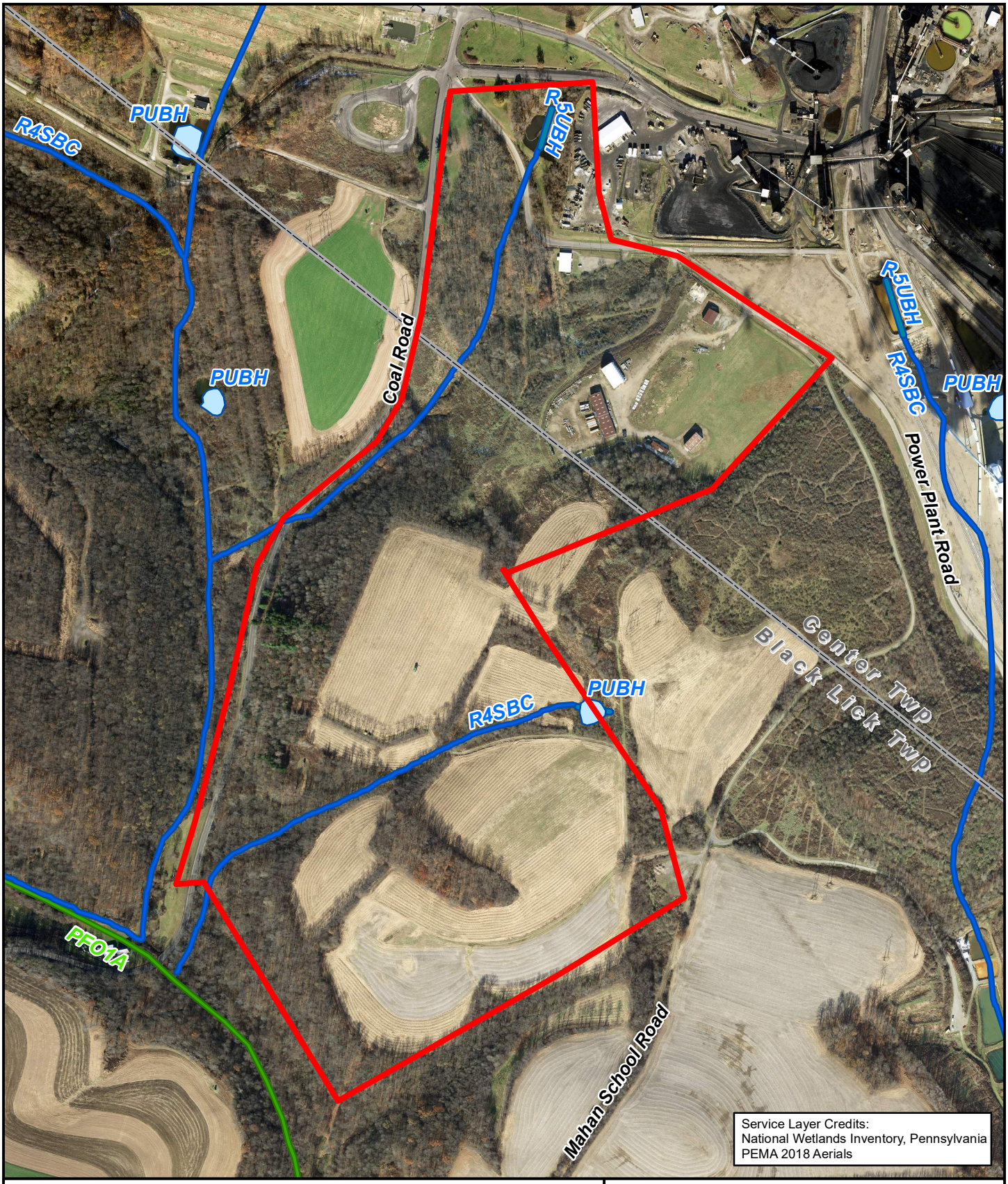
Study Area

N

0 2,000 Feet

Figure 1
Project Location Map
West Field
Homer City Redevelopment, LLC

Center and Black Lick Township,
Indiana County, Pennsylvania



Legend

Study Area

NWI Wetlands

- PFO1A
- PUBH
- R4SBC
- R5UBH

N

0 600 Feet

Figure 2
NWI Wetlands

West Field
Homer City Generation LP

Center and Black Lick Township,
Indiana County, Pennsylvania

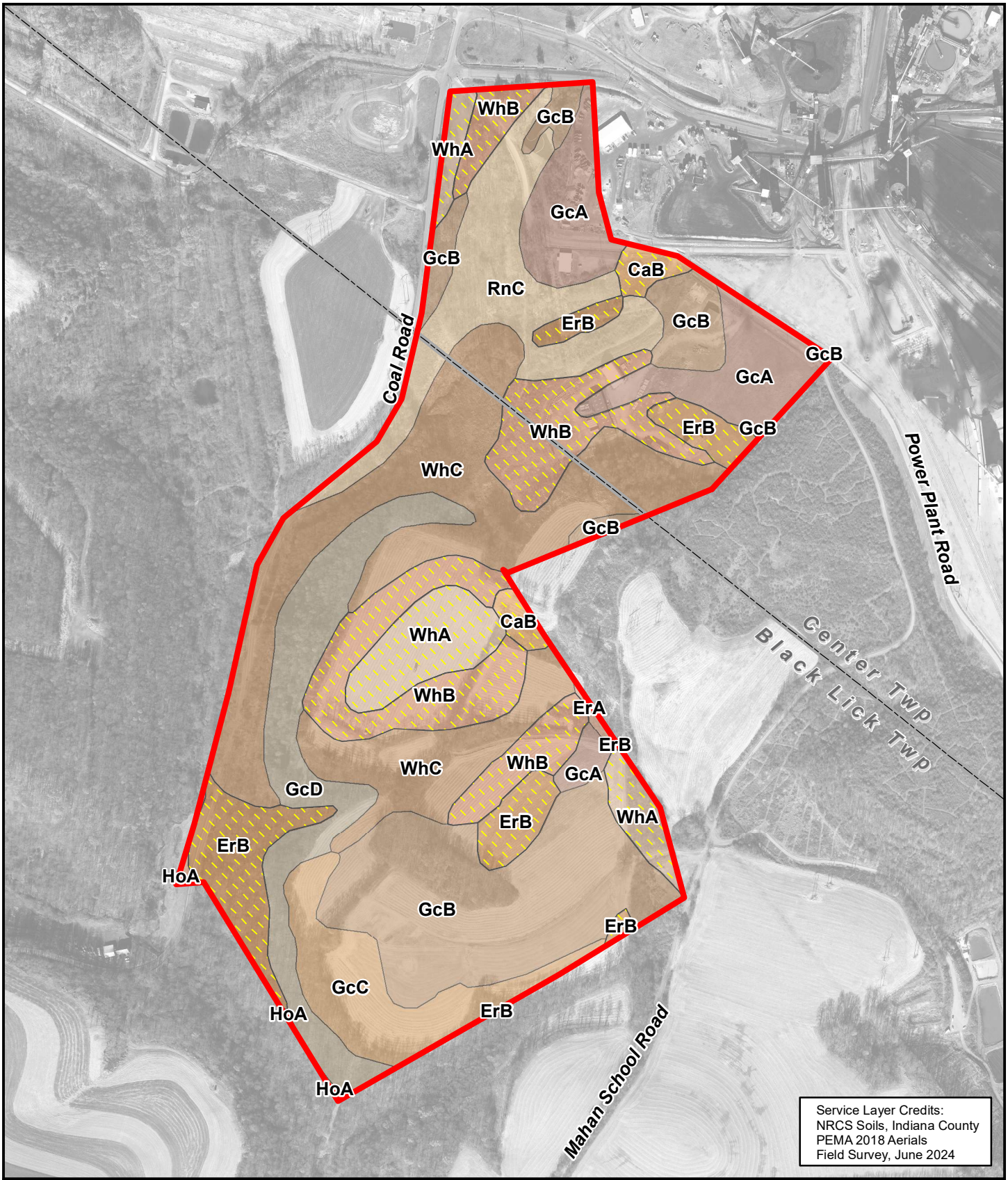
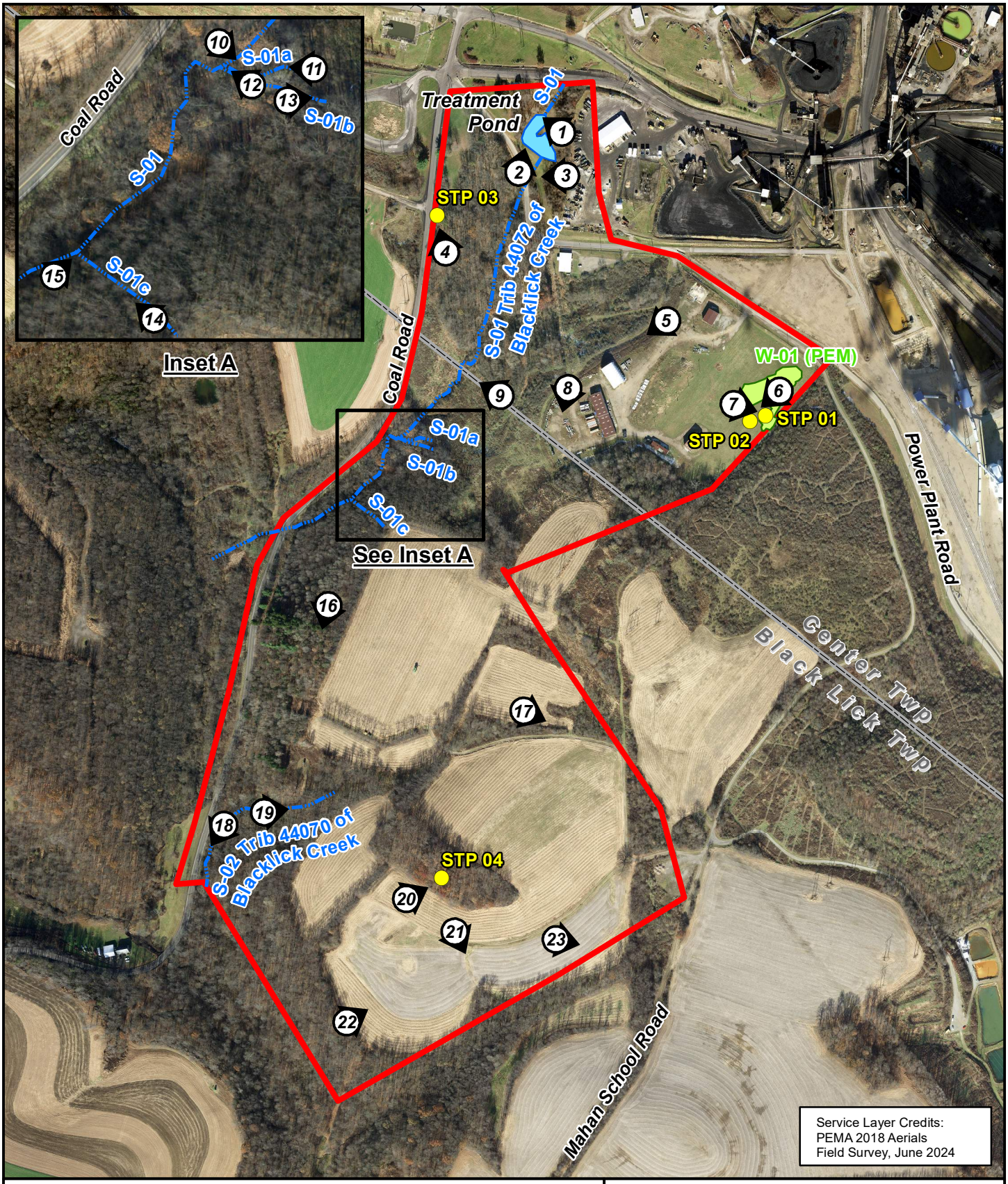


Figure 3
Site Soils

West Field
Homer City Generation LP

Center and Black Lick Township,
Indiana County, Pennsylvania



Legend

- Study Area
- STP

Surveyed Watercourse

- Perennial
- Treatment Pond

Surveyed Wetland

- PEM

Photo Number and Direction

N

0 600 Feet

Figure 4
Aquatic Resources
West Field
Homer City Generation LP

Center and Black Lick Township,
Indiana County, Pennsylvania

APPENDIX A
SITE PHOTOGRAPHS

Photograph 1 – Overview of treatment pond inlet in the northern study extent. The treatment pond conveys stream S-01 (facing northwest).

Photograph 2 – Overview of treatment pond in northern study area. The treatment pond conveys stream S-01 (facing north).

Photograph 3 – Overview of treatment pond outlet, conveying flow downstream to stream S-01. (facing west and downstream).

Photograph 4 – Overview of upland sample point STP-03 adjacent to Coal Rd. (facing northwest).

Photograph 5 – Overview of upland area adjacent to previously existing commercial infrastructure in the northern central study area (facing southwest).

Photograph 6 – Overview of upland sample point STP-02 and surrounding vegetation (facing southwest).

Photograph 7 – Overview of PEM wetland W-01 and wetland sample point STP-01 in the northeastern study area (facing southeast).

Photograph 8 –View of area west of existing commercial infrastructure in the central study area (facing southwest).

Photograph 9 – Overview of central study area above stream S-01 looking towards Coal Road (facing northwest).

Photograph 10 –View of stream S-01a as it approaches the confluence of S-01 (facing upstream).

Photograph 11 – Overview of stream S-01a
(facing downstream).

Photograph 12 – Overview of stream S-01b in the central western study area
(facing downstream).

Photograph 13 – Overview of stream S-01b
(facing upstream).

Photograph 14 – Overview of stream S-01c
(facing downstream).

Photograph 15 – Overview of the confluence of stream S-01c and S-01 (facing upstream).

Photograph 16 – Overview of wooded area adjacent to agricultural fields and Coal Rd. in the central western study area (facing south).

Photograph 17 – Overview of upland area on the wooded fringe of agricultural field in the southern central study area (facing southeast).

Photograph 18 – Overview of stream S-02 in the southwestern study area extent (facing downstream).

Photograph 19 – Overview of stream S-02 in the southwestern study area extent (facing upstream).

Photograph 20 – Overview of upland sample point STP 04 in the south central study area (facing northeast).

Photograph 21 – Overview of erosional feature in agricultural field (facing southeast).

Photograph 22 – View of southern study area extent in agricultural field (facing northeast).

Photograph 23 – Overview of upland wooded fringe in the southeastern study area extent (facing southeast).

APPENDIX B
DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: West Field | City/County: Indiana | Sampling Date: 06/24/2024

Applicant/Owner: Homer City Generation LP | State: PA | Sampling Point: STP-01

Investigator(s): Crystal Roemer, Trevor Surgener | Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): concave | Slope (%): 2-4

Subregion (LRR or MLRA): LRR N | Lat: 40.51523333 | Long: -79.20295667 | Datum: WGS-84

Soil Map Unit Name: GcB- Gilpin channery silt loam, 3 to 8 percent slopes | NWI classification: N/A

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

Are Vegetation [ ], Soil [☑], or Hydrology [☑] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Hydric Soil Present?	Yes (●)	No ( )	
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:
Weather: ~72F, Clear-Partly Cloudy
Precipitation in Last 24 Hours: 0.42", Precipitation in Last 7 days: 0.51" (CoCoRahs Station PA-IN-19: Indiana 4.6 NE)
STP-01 is located in PEM wetland W-01, which is adjacent to a gravel roadway in the eastern project extent.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

- [☑] Surface Soil Cracks (B6)
- [ ] Sparsely Vegetated Concave Surface (B8)
- [ ] Drainage Patterns (B10)
- [ ] Moss Trim Lines (B16)
- [ ] Dry-Season Water Table (C2)
- [ ] Crayfish Burrows (C8)
- [ ] Saturation Visible on Aerial Imagery (C9)
- [ ] Stunted or Stressed Plants (D1)
- [☑] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [☑] FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ( )	No (●)	Depth (inches):
Water Table Present?	Yes ( )	No (●)	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ( )	No (●)	Depth (inches):

Wetland Hydrology Present? Yes (●) No ( )

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

Remarks:
Hydrological indicators observed.
Hydrology and soil disturbed from previous grading/road building causing water to drain and collect adjacent to gravel roadway.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: STP-01

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Sapling/Shrub Stratum (Plot size: 15ft.)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Herb Stratum (Plot size: 5ft.)			
1. Scirpus cyperinus	25	☑	FACW
2. Carex vulpinoidea	20	☐	OBL
3. Agrostis stolonifera	15	☐	FACW
4. Juncus acuminatus	15	☐	OBL
5. Solidago gigantea	10	☐	FACW
6. Juncus tenuis	10	☐	FAC
7. Agrimonia parviflora	5	☐	FACW
8. Cirsium muticum	5	☐	OBL
9.		☐	
10.		☐	
11.		☐	
	105 = Total Cover		

50% of total cover: 52.5 20% of total cover: 21.0

Woody Vine Stratum (Plot size: 30ft)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		180 (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:

☑ 1 - Rapid Test for Hydrophytic Vegetation

☑ 2 - Dominance Test is >50%

☑ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)

Wetland plant community observed.

SOIL

Sampling Point: STP-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 4/2	25	2.5Y 3/2	20	D	M	SiCL	
			7.5YR 6/8	20	C	M		
			2.5Y 2.5/1	15	D	M		
			7.5YR 3/4	10	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Rock/Fill Material

Depth (inches): 12"+

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: West Field City/County: Indiana Sampling Date: 06/24/2024

Applicant/Owner: Homer City Generation LP State: PA Sampling Point: STP-02

Investigator(s): Crystal Roemer, Trevor Surgener Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2-4

Subregion (LRR or MLRA): LRR N Lat: 40.51516333 Long: -79.20320833 Datum: WGS-84

Soil Map Unit Name: GcB- Gilpin channery silt loam, 3 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:

Weather: ~72F, Clear-Partly Cloudy
Precipitation in Last 24 Hours: 0.42"; Precipitation in Last 7 days: 0.51" (CoCoRahs Station PA-IN-19: Indiana 4.6 NE)
STP-02 is located in an upland area adjacent (southwest) to STP-01 and PEM Wetland W-01.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Two secondary hydrological indicators observed.
Hydrology criteria technically met.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: STP-02

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Sapling/Shrub Stratum (Plot size: 15ft.)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Herb Stratum (Plot size: 5ft.)			
1. Poa pratensis	35	☑	FACU
2. Lotus corniculatus	25	☑	FACU
3. Achillea millefolium	15	☐	FACU
4. Phleum pratense	15	☐	FACU
5. Juncus tenuis	15	☐	FAC
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
	105 = Total Cover		

50% of total cover: 52.5 20% of total cover: 21.0

Woody Vine Stratum (Plot size: 30ft)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

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: 0.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	105 (A)		405 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

Upland plant community observed. FACU species dominant around sample point.

SOIL

Sampling Point: STP-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100					L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Packed gravel and cobbles

Depth (inches): 6"+

Hydric Soil Present? Yes ○ No ◉

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: West Field City/County: Indiana Sampling Date: 06/24/2024

Applicant/Owner: Homer City Generation LP State: PA Sampling Point: STP-03

Investigator(s): Crystal Roemer, Trevor Surgener Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR or MLRA): LRR N Lat: 40.51764333 Long: -79.20832333 Datum: WGS-84

Soil Map Unit Name: GcB- Gilpin channery silt loam, 3 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ○ No ◉

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

Weather: ~72F, Clear-Partly Cloudy
Precipitation in Last 24 Hours: 0.42"; Precipitation in Last 7 days: 0.51" (CoCoRahs Station PA-IN-19: Indiana 4.6 NE)
STP-03 is located in an upland area adjacent (east) of Coal Road, in the northwestern project area extent.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

No hydrological indicators observed.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: STP-03

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya cordiformis	40	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

50% of total cover: 20.0 20% of total cover: 8.0

Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Eleagnus umbellata	5	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	5 = Total Cover		

50% of total cover: 2.5 20% of total cover: 1.0

Herb Stratum (Plot size: 5ft.)			
1. Schedonorus arundinaceus	35	✓	FACU
2. Microstegium vimineum	20	✓	FAC
3. Galium asprellum	15		OBL
4. Dichanthelium clandestinum	10		FAC
5. Impatiens capensis	10		FACW
6. Geum urbanum	5		UPL
7. Vicia sativa	5		FACU
8.			
9.			
10.			
11.			
	100 = Total Cover		

50% of total cover: 50.0 20% of total cover: 20.0

Woody Vine Stratum (Plot size: 30ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cover: 0.0 20% of total cover: 0.0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	10	x 2 =	20
FAC species	30	x 3 =	90
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column Totals:	145 (A)		495 (B)

Prevalence Index = B/A = 3.41

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

Upland plant community observed. FACU species dominant around sample point.

SOIL

Sampling Point: STP-03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5Y 2.5/1	100					SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Large rock/boulder

Depth (inches): 6"+

Hydric Soil Present? Yes ○ No ◉

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: West Field City/County: Indiana Sampling Date: 06/25/2024

Applicant/Owner: Homer City Generation LP State: PA Sampling Point: STP-04

Investigator(s): Crystal Roemer, Trevor Surgener Section, Township, Range:

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2-4

Subregion (LRR or MLRA): LRR N Lat: 40.50947000 Long: -79.20807167 Datum: WGS-84

Soil Map Unit Name: GcB- Gilpin channery silt loam, 3 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☑, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:

Weather: ~70F, Overcast
Precipitation in Last 24 Hours: 0.00"; Precipitation in Last 7 days: 0.51" (CoCoRahs Station PA-IN-19: Indiana 4.6 NE)
STP-04 is located in a wooded upland area, in the southern central study area between agricultural fields.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:

One secondary hydrological indicator, not enough to qualify wetland hydrology.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: STP-04

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	20	✓	FACU
2. Quercus rubra	20	✓	FACU
3. Quercus palustris	10	✓	FACW
4.			
5.			
6.			
7.			
	50	= Total Cover	

50% of total cover: 25.0 20% of total cover: 10.0

Sapling/Shrub Stratum (Plot size: 15ft.)			
1. Lonicera morrowii	15	✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	15	= Total Cover	

50% of total cover: 7.5 20% of total cover: 3.0

Herb Stratum (Plot size: 5ft.)			
1. Microstegium vimineum	60	✓	FAC
2. Ageratina altissima	10		FACU
3. Persicaria virginiana	10		FAC
4. Dichanthelium clandestinum	10		FAC
5. Solidago altissima	15		FACU
6. Rosa multiflora	5		FACU
7. Rubus allgheniensis	5		FACU
8. Laportea canadensis	5		FACU
9. Oxalis stricta	5		FACU
10. Parthenocissus quinquefolia	5		FACU
11.			
	130	= Total Cover	

50% of total cover: 65.0 20% of total cover: 26.0

Woody Vine Stratum (Plot size: 30ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0.0 20% of total cover: 0.0

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: 40.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	195 (A)		680 (B)

Prevalence Index = B/A = 3.49

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)

Upland plant community observed. Known invasive (Microstegium vimineum) dominant in herbacious layer.

SOIL

Sampling Point: STP-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					L	
4-14	10YR 4/6	95	10YR 3/6	5	C	M	SiL	Lithochromic mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Root restriction

Depth (inches): 14"+

Hydric Soil Present? Yes ○ No ◉

Remarks:

No hydric soil indicators observed.

APPENDIX C
PROFESSIONAL QUALIFICATIONS

Crystal Roemer, PWS – Crystal serves as an Environmental Scientist in the Airside office (Moon Township, PA) of Michael Baker International and offers over 10 years of natural resource and environmental site investigation experience. Crystal's experience includes wetland delineations, stream and habitat assessments, botanical surveys, invasive species surveys, mitigation design and monitoring, habitat suitability studies for rare, threatened, and endangered (RTE) species, RTE coordination and clearance, macroinvertebrate studies, electrofishing surveys, mine surface subsidence investigations, NEPA documentation and resource permitting, FEMA floodway revision studies, and environmental inspection.

Crystal has conducted work nationwide and across multiple industries, including oil and gas, wind and nuclear energy, transportation, planning, mining, land development, municipal, and water resources. Crystal has a bachelor's degree in Environmental Science and Biology from Edinboro University of Pennsylvania. Crystal completed the USACE 36-Hour Army Corps of Engineers Wetland Delineation Training Program, has received PEC Safeland training, is 40-hour HAZWOPER certified, and is registered as a Professional Wetland Scientist (PWS) through The Society of Wetland Scientists.

Trevor Surgener – Trevor serves as an Environmental Scientist in the Airside office (Moon Township, PA) of Michael Baker International. Trevor has a wide variety of experience contributing to a diverse skill set, including ecological sampling, limnology, freshwater science, stream ecology, wetland studies, macroinvertebrate studies, microscopy, electrofishing surveys, solar and renewable energies, construction, atmospheric and aquatic instrumentation, and remote monitoring. Trevor has over five years of experience in freshwater science and stream ecology and over eight years of cumulative experience collecting ecological data for various employers.

Trevor has conducted work ranging throughout Northwest Pennsylvania, the Great Lakes, and the Arctic. Trevor has a bachelor's degree in Sustainability and Environmental Sciences with a focus in freshwater biology from Mercyhurst University in Erie, Pennsylvania. Trevor holds a 40-hour HAZWOPER certificate, and a certificate for Wilderness First Aid.