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August 30, 2019

Ms. Tanowa M. Troupe, Secretary
The Ohio Power Siting Board
180 E. Broad Street, 11th Floor
Columbus, OH 43215-3793

Re: Case No. 18-1546-EL-BGN
Nestlewood Solar I LLC

Dear Ms. Troupe:

Please find attached electronic copies of Company Exhibit 9 and Company Exhibit 10 from the record in the above-referenced proceeding. These exhibits are being submitted to the docket in electronic form given that the exhibits contain color maps and some full size maps.

Very truly yours,

/s/ Michael J. Settineri

Michael J. Settineri

Attorneys for Nestlewood Solar I LLC

MJS/jsk
Attachments
cc: All parties of record

Doug Wynn LLC
Herpetological Consulting Since 1986
ODNR Approved Herpetologist
241 Chase Street, Suite A1
Russells Point, Ohio 43348
(614) 306-0313
Sistrurus@aol.com

EXECUTIVE SUMMARY – August 20, 2019

Tetra Tech, Inc.

Nestlewood Solar I LLC

a) The purpose of the following project was to survey a parcel in Clermont County, Ohio for Kirtland's Snake Habitats.

b) A field survey was conducted on August 12, 2018 and focused on wet, open meadows.

c) The site was not identified as potential suitable habitat for Kirtland's Snakes.

d) A presence-absence survey or avoidance of the potential habitat area is not necessary.

If I can be of further assistance or can answer any questions, please advise.

Doug Wynn

A Survey for Kirtland's Snake (*Clonophis kirtlandii)* Habitats for the

Nestlewood Solar 1 Project,

Clermont County, Ohio.

August 20, 2019

Prepared for:

Tetra Tech Inc.

2 Lan Drive

Suite 210

Westford, MA 01886

Prepared by:

Doug Wynn

241 Chase Street, Suite A1

Russell's Point, Ohio 43348

(614) 306-0313

Sistrurus@aol.com

INTRODUCTION:

The Kirtland's Snake is a relatively small snake ranging in size from 4-18 inches. The dorsum is reddish or reddish-brown with four rows of alternating black spots, and all of the Ohio individuals that I have observed have a deep red venter (e.g., underbelly). A row of black spots extends down each side of the venter, which is probably the easiest diagnostic feature. The head is narrow, and the snout rounded. Newborn Kirtland's Snakes are dark and, in some cases, their dorsal blotches blend into the background. They were originally considered a watersnake and superficially resemble a cross between a watersnake and a gartersnake.

This species is found from west central Pennsylvania, across most of Ohio, and ranges just into southern Michigan, across most of Indiana, slightly crossing into northern Kentucky, into Illinois, a small area of northeastern Missouri, and northward into the extreme southeastern corner of Wisconsin.

Biogeographers have long pointed out the correspondence of the Kirtland's Snake's distribution to the post-glacial peninsula (Conant 1938; Schmidt 1938; Thomas 1951; Smith 1957) and considered the Kirtland's Snake to be a prairie immigrant. After the retreat of the last glacier, a series of climatic changes occurred. Between 4,000 and 2,000 B.C. Ohio was much more arid. Western prairies moved eastward bringing their grassland flora and fauna. These fingers of prairie extended into Ohio and have been referred to as the prairie peninsula. When Ohio's climate became more humid, the present mesic communities replaced most of the prairies.

Thomas (1951) pointed out that the Kirtland's Snake is not found west of central Illinois like the numerous other prairie species that invaded Ohio during the xerothermic period. Thus, he suggested that the snake species was present prior to the glaciations, survived along the edge of the ice, and recolonized as the glacier retreated.

In Ohio the Kirtland's Snake has historically been found throughout the state with the exception of the eastern and most of the southeastern borders. This species is generally restricted to glaciated areas, although it is found in some of Ohio's unglaciated southeastern counties. It has been documented from Butler, Champaign, Clermont, Greene, Hamilton, Hancock, Licking, Logan, Lucas, Montgomery, Muskingum, Ottawa, Preble, Ross, Warren, Wayne and Wyandot counties (Wynn and Moody 2006). The Kirtland's Snake was historically locally abundant, including in urban settings. Populations were well-known in Cincinnati, and even the grounds of the Toledo Zoo.

Ecology

The Kirtland's Snake inhabits wet meadows and seeps. In some areas of their range they are found with Massasaugas. These grassy wet meadow areas are often a mosaic of small, early successional woody species such as hawthorn (*Crataegus sp.*), dogwood (*Cornus sp.*), multiflora rose (*Rosa multiflora*) or raspberry (*Rubus sp.*).

Common herbaceous species associated with the Kirtland's Snake may include the sensitive fern (*Onoclea sensibilis*), goldenrod (*Solidago sp.*), partridge pea (*Cassia fasciculata*), cinquefoil (*Potentilla sp.*), strawberry (*Fragaria sp.*), and *Sphagnum*. Conant (1938) mentions that the habitats of the southeastern Ohio records all originate from former river valleys that have been filled with glacial sediments. Thus, wetlands and boggy areas persist, providing habitats for the Kirtland's Snake.

Ohio Kirtland's Snakes are often associated with crayfish burrows (*Cambarus diogenes*) which may or may not be visible due to vegetation heights. These burrows may be utilized for overwintering or shelter during the active season. (Wilsman and Sellers 1988; Anton and Mauger 2004). Bavetz (1994) suggested that Kirtland's Snakes may be utilizing burrows of the prairie crayfish (*Procambarus gracilis*) and the digger crayfish (*Fallicambarus fodiens*). Little is known about their ecology, but their habits are similar to those of the Common Gartersnake in that they eat earthworms, slugs, fish, and crayfish.

When encountered, the Kirtland's Snake may defend itself by flattening the body, musking, and defecating. Some individuals may become very rigid and others may make a feeble attempt to bite. Wood and Duellman (1947) stated that all of the individuals that they collected were "aggressive" and attempted to bite. Ernst and Barbour (1989) report that they will strike, bite and chew if handled. I have also seen individuals hide their heads under their body when being handled.

SURVEY SITE:

Figure 1 shows the location of the survey site which is located approximately 3.8 miles southeast of Bethel, in Clermont County, Ohio on Bethel-Maple Road at approximately 38.914426 N and -84.045034 W.

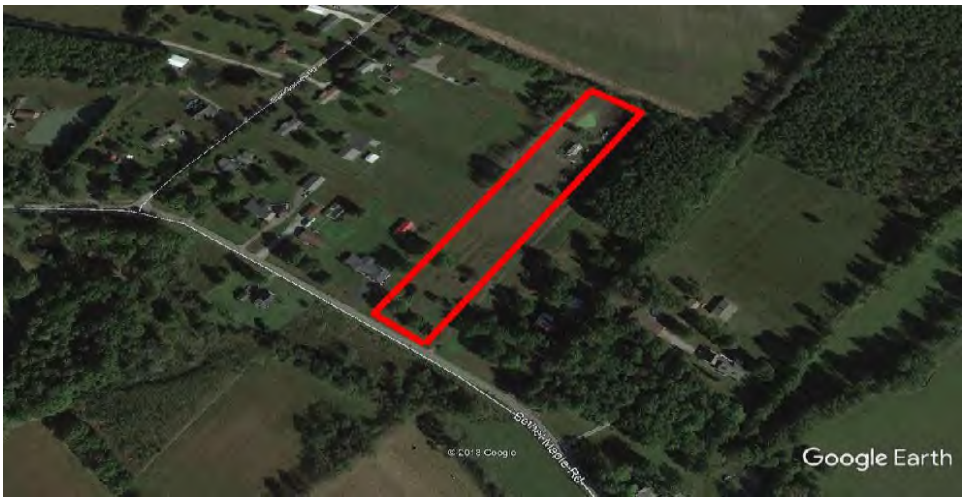

Figure 1. The study area.

METHODS:

Prior to conducting the field survey, resources were examined which included published reports, un-published reports, museum holdings, and notes from conversations with other Ohio herpetologists and the general public. Topographic maps and aerial photographs were examined in order to better understand the land use. The nearest localities where the Kirtland's Snake had been documented had previously been visited to gain an idea regarding the type of habitats that are utilized by the species in that area.

A field survey was conducted on August 12, 2019 and focused on wet, open meadows. More specifically the following criteria were used:

a. species of vegetation present
b. structure of vegetation
c. presence of crayfish burrows
d. presence of low-lying habitats with adjacent suitable uplands
e. size of suitable habitat
f. isolation from human disturbances
g. presence/history of human disturbances
h. proximity/presence of suitable migration corridors
i. size of suitable habitats within potential migratory distances
j. proximity to nearest known Kirtland's Snake localities
k. proximity to nearest undocumented, anecdotal Kirtland's Snake sightings
l. general knowledge of county, area, etc., based on museum catalogs
m. inquiries with local residents, soil/water agents, wildlife officers, etc.
n. correspondences with other biologists

RESULTS:

The survey site did not exhibit any suitable Kirtland's Snake habitats. The south end of the site was closely mowed. The north end of the site was heavily disturbed.

DISCUSSION AND RECOMMENDATIONS

Kirtland's Snakes are small, secretive and can be very sporadic in their behaviors however the disturbances to the survey site have made it unsuitable for the species. Further activities at the survey site would not impact the Kirtland Snake populations in Ohio. Thus, no further actions to accommodate the snake are warranted.

REFERENCES CITED:

Anton TG, Mauger, D. 2004. *Clonophis kirtlandii* (Kirtland's Snake). Reproduction. Herpetological Review 35(1):58-59. 0

Bavetz M. 1994. Geographic variation, status, and distribution of Kirtland's Snake (*Clonophis kirtlandii* Kennicott) in Illinois. Transactions of the Illinois State Academy of Science. 87(3-4):151-163.

Conant R. 1938. The Reptiles of Ohio. American Midland Naturalist 20(1):200 p.

Ernst CH, Barbour R. 1989. Snakes of Eastern North America. Fairfax (Virginia): George Mason University Press. 282p.

Schmidt KP. 1938. Herpetological evidence for the postglacial eastward extension of the steppe in North America. Ecology 19(3):396-407.

Smith PW. 1957. An analysis of post-Wisconsin biogeography of the prairie peninsula region based on distributional phenomena among terrestrial vertebrate populations. Ecology 38(2): 205-218.

Thomas ES. 1951. Distribution of Ohio animals. Ohio Journal of Science 51(4):153-167.

Wilsman LA, Sellers, Jr. MA. 1988. *Clonophis kirtlandii* range wide survey. Unpublished report to the U.S. Fish and Wildlife Service. 44 p.

Wood JT, Duellman WE. 1947. Range extension of *Natrix kirtlandii* in Ohio. Herpetologica 3(5):151.

Wynn DE, Moody SM. 2006. Ohio Turtle, Lizard, and Snake Atlas. Ohio Biological Survey Miscellaneous Contribution No. 10. Columbus: Ohio Biological Survey. 8.

SMART SERVICES, INC.
Surveying ▪ Environmental ▪ Traffic ▪ CA/CM
An Ohio EDGE Certified Firm

July 25, 2019

Lynn Gresock
Tetra Tech, Inc.
2 Lan Drive
Suite. 210
Westford, MA 01886

Re: Amendment to Waters of US Determination for Nestlewood Solar, Clermont/Brown Counties, Ohio

Ms. Gresock:

Smart Services, Inc. is pleased to submit the following amendment to the report dated November 26, 2018, regarding the waters of the US, including wetlands, delineation for Tetra Tech, Inc. at the 610-acre Nestlewood Solar project located adjacent to Vandament Road in Tate Township Clermont and Brown counties, Ohio. Enclosed is one electronic copy of the report.

We appreciate this opportunity to work with Tetra Tech, Inc. and look forward to our continued relationship.

Sincerely,

Mitchel R. Strain
Director of Environmental Services

88 W. Church Street
Newark, Ohio 43055
740.345.4700

1900 Crown Park Court
Columbus, Ohio 43235
614 914.5543

SMART SERVICES, INC.

Surveying • Environmental • Traffic • CA/CM

An Ohio EDGE Certified Firm

AMENDMENT TO WATERS OF THE US DELINEATION AND ASSESSMENT FOR NESTLEWOOD SOLAR PROJECT BROWN AND CLERMONT COUNTIES, OHIO

PREPARED FOR:

TETRA TECH, INC.
2 LAN DRIVE, SUITE 210
WESTFORD, MA 01886

PREPARED BY:

SMART SERVICES, INC.
88 W. CHURCH STREET, NEWARK, OHIO 43055
P: 740.345.4700 || WWW.SMARTSERVICES-INC.COM

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APPENDICES

EXECUTIVE SUMMARY

Smart Services Inc. (Smart) has completed an amendment to the Waters of the United States (WOUS), including wetlands, delineation for the proposed Nestlewood Solar project (the Project). The additional Project area is on 1.9-acres located along Bethel Maple Road in Tate Township, Clermont County, Ohio (the Project Area). This executive summary is intended to be taken in context with the complete report and is not designed to be used as a separate document. A summary of the findings of the report follows.

This document is a determination of the regulatory status of any wetland, significant bodies of water, watercourse, and/or floodplain located on the Project Area, based on Section 404 of the federal Clean Water Act (CWA) and by Section 401 of the CWA, Ohio Revised Code (ORC) Section 6111.03(P). Protection is provided for all wetlands under ORC 6111.04, the Wetland Anti-Degradation Rule under Ohio Administrative Code (OAC) 3745-1-54, the Section 401 Water Quality Certification Rules under OAC 3745-32, and for isolated wetlands under ORC 6111.02 3111.029. The WOUS Delineation performed provides the accurate size, shape, location, and function of each feature identified on the Project Area, thereby aiding in the determination of the regulatory status of all jurisdictional areas present on the Project Area.

The WOUS Delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987)* (1987 Manual) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region 2.0 (2010).* The determination of any wetlands depends on three basic parameters. These parameters include: 1) the presence of hydrophytic vegetation; 2) the presence of hydric soils; and 3) the presence of wetland hydrology on a consistent basis.

In Ohio, the United States Army Corps of Engineers (USACE) has jurisdiction over wetlands that are considered "adjacent" (hydrologically connected) to a WOUS, while the Ohio Environmental Protection Agency (Ohio EPA) has the authority to regulate and permit impacts to "isolated", or non-adjacent wetlands. Therefore, in an attempt to establish the level of jurisdictional authority, the hydrology of each wetland within the Project Area was evaluated to determine whether or not they should be considered adjacent.

The majority of the Project Area is mowed/maintained, and no wetlands were observed or delineated. Two small, 0.1-acre, open water systems (ponds), were identified. The ponds were considered WOUS and jurisdictional because of their connection to the on-site Poplar Creek, which drains to the off-site Big Indian Creek, that eventually drains into the Little Miami River.

1.0 INTRODUCTION

Mr. Kyle Dixon, Environmental Scientist and Project Lead; and Mr. Mitchel Strain providing Quality Assurance/Quality Control, completed a WOUS, including wetlands, delineation on the proposed 1.9-acre Project Area addition located along Bethel Maple Road in Tate Township, Clermont County, Ohio. A Location Map is included in Appendix A.

The purpose of the WOUS delineation for the Project Area was to facilitate Project development by identifying WOUS, including wetlands, which might require permitting under the federal CWA. Early planning for CWA requirements will limit Project schedule delays and financial liabilities.

Under Sections 404 and 401 of the CWA, the USACE and the Ohio EPA, respectively, maintain jurisdiction over the filling and dredging of WOUS, including wetlands. Ohio EPA separately regulates impacts to isolated wetlands. If the future development will impact wetlands or streams through filling or dredging, USACE and Ohio EPA will be the regulatory permitting agencies.

2.0 METHODOLOGY

Smart reviewed available background information including aerial photographs, soil surveys, topographic maps, and National Wetland Inventory (NWI) maps to gain an understanding of Project Area conditions and potential jurisdictional areas. Smart then visited the Project Area to document current conditions and identify potential wetlands, streams or other jurisdictional WOUS in accordance with the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 [(1987)*(1987 Manual)] and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region 2.0 (2010).*

The data on vegetation, soils, and hydrology collected at each of the sample plots was used to complete the data sheets at the time of field work. Global Positioning System (GPS) technology was used to document sample plot locations, along with all delineated wetland boundaries. Appendix B includes all background information, including the NWI Map; United States Geological Survey (USGS) Topographic Maps; and United States Department of Agricultural (USDA), Natural Resource Conservation Service (NRCS) Soil Map. Appendix C includes the features map showing the location of all sample plots, transects, and jurisdictional areas with photo documentation. Data sheets are included in Appendix D.

3.0 RESULTS

The following section includes the results of the background information review, site reconnaissance, WOUS Delineation, and ORAM.

3.1 Background Information

3.1.1 National Wetland Inventory

A review of the NWI was conducted to determine the likely presence, location, size and type of wetlands that may be located on the subject property. NWI maps are compiled by the U.S. Department of the Interior, Fish & Wildlife Services (USFWS). These maps outline existing wetlands and deep-water habitats on individual (USGS) topographic maps. NWI maps are prepared by stereoscopic analysis of high-altitude aerial photographs obtained during the following years: 2002, 2005, 2010, and 2015. The aerial photographs typically reflect conditions during the specific year and season when they were taken.

Because small wetlands and those hidden by dense forest cover may not be represented on these maps, NWI maps cannot be used as the sole method of determining the presence or absence of jurisdictional wetlands on a property.

The review of the NWI map covering the Project Area indicated wetlands are not present.

3.1.2 FIRM Flood Plain Map

A review of the Flood Insurance Rate Map (FIRM) floodplain map was used to determine the existence, location, and zone of the floodplain which may be located within the boundary of the subject property. FIRMs are maps that depict floodplain areas along rivers and tributaries. The maps record the following data: 100-year (l percent [%] chance of annual flooding) and 500-year (0.2% annual chance of flooding) floodplains, the height of the base flood (Base Flood Elevations), and the level of risk premium zones developed from topographical information across a floodplain. The Federal Emergency Management Agency (FEMA) generates FIRM floodplain maps for flood insurance purposes.

According to the FIRM prepared by FEMA, the property is located in an area designated Zone X, indicating no concerns for flooding. The area is not in the 100- or 500-year floodplains.

3.1.3 USGS Topographic Map

Smart reviewed the 2016 Bethel USGS 7.5 Map of the Project Area and surrounding area.

The Project Area is situated east of Bethel Maple Rd, north of Leonard Road, and south of Oak Corner Road. The elevation on the Project Area is approximately 935-feet above mean sea level. Wetlands are not indicated on the map. One blue line water feature

(stream) is shown, identified as Poplar Creek, just west of the area investigated. This stream eventually drains into the Little Miami River via Big Indian Creek.

3.1.4 Soils

The *Soil Survey of Clermont County, Ohio* depicts four soil series within the Project Area. Relevant information for the mapped soil types is included below:

- **Clermont Series (Cle) –** This map unit consists of fine-silty, mixed, superactive, mesic Typic Glossaqualfs. According to *Hydric Soils of the United States* the Clermont Series is hydric.
- **Westboro Series (Ws) –** This map unit consists of fine-silty, mixed, active, mesic Fragiaquic Glossudalfs. According to *Hydric Soils of the United States* the Westboro Series is hydric.

3.2 Site Reconnaissance and Characteristics

Smart conducted a field inspection and WOUS delineation of the Project Area on May 9, 2019. The Project Area consists of approximately 1.9 acres.

Site reconnaissance revealed the majority of the Project Area was mowed/maintained and used for cattle grazing. No wetlands were delineated. Two open water ponds were observed in the Project Area. The above referenced features are identified on the *Features Map* provided in Appendix C. A discussion of the features situated in the Project Area follows.

3.2.1 Ponds

The open water features were observed in the potential easement area along Bethel Maple Road with connectivity to Poplar Creek. They both totaled 0.1 acres in aerial extent.

Features Map and photographs are in Appendix C with *Data Sheets* in Appendix D.

4.0 CONCLUSIONS AND RECOMMENDATIONS

In 2001, the United States Supreme Court found USACE did not have jurisdiction over isolated wetlands (SWANCC v. U.S. Army Corps of Engineers, *et al*., 2001). Therefore, USACE only has jurisdiction over wetlands considered adjacent, hydrologically connected, to a WOUS. In response to this ruling, the Ohio EPA instituted emergency rules to protect isolated wetlands, essentially granting the Ohio EPA the authority to regulate and permit impacts to isolated wetlands. Therefore, in an attempt to establish the level of jurisdictional authority, the hydrology of each wetland within the subject property was evaluated to define whether or not the wetland should be considered adjacent or isolated.

The main criterion used to determine adjacency was whether or not the wetland had a direct connection to surface water, i.e., intermittent, ephemeral, or man-made, connection to a tributary system considered to be a WOUS. Any wetland adjacent to a tributary system is considered jurisdictional by the USACE under Section 404 of the federal CWA as regulated by the USACE. The Ohio EPA also regulates the filling of these wetlands under Section 401 of the CWA. Wetlands that meet the three wetland criteria as per the 1987 Manual but are considered not to have a connection to other WOUS are classified as isolated wetlands and thus fall within the regulation of the Ohio EPA only. The USACE regulates adjacent wetlands only and all streams.

In conclusion, the majority of the 1.9 acre Project Area is mowed/maintained, and no wetlands were observed or delineated. The ponds are both considered to be WOUS and jurisdictional because of their connection to the on-site Poplar Creek which drains to the off-site Big Indian Creek, that eventually drains into the Little Miami River.

All WOUS features identified within the Project Area are presented on the *Features Map*, provided in Appendix C. *Routine Data Forms* prepared for the wetlands are included in Appendix D. Table 1 provides a summary of WOUS features identified within the Project Area.

Table 1. Wetland Features Identified on the Project Area

Feature	Classification	Jurisdictional	Adjacent	Size	ORAM
Pond	Open Water	Yes	Yes	0.1 acres	N/A
Pond	Open Water	Yes	Yes	0.1 acres	N/A

5.0 REFERENCES

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual, Technical Report &-87-1,* U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0, ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

NRCS. 1975. *Soil Survey of Clermont County, Ohio* U.S. Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Ohio Department of Natural Resources, Division of Soil and Water Conservation; the Ohio Agricultural Research and Development Center.

Soil Survey Staff. 1991. *Hydric Soils of the United States.* U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the National Technical Committee for Hydric Soils, Miscellaneous Publication Number 1491.

COMMON WETLAND DEFINITIONS

Atypical wetland: This term refers to areas in which one or more parameters (vegetation, soil and/or hydrology) have been sufficiently altered by human activities or natural events to preclude the presence of wetland indicators of the parameter.

Emergent Wetland: Vegetative classification of a wetland system based on the dominant vegetation consisting of rooted herbaceous plant species that have parts extending above a water surface.

100-year flood: A flood with a magnitude, which has a 1% chance of occurring or being exceeded in any given year.

Floodplain: The area of land adjoining a river or steam that will be inundated by a 100-year flood.

Floodway: The channel of a river or stream and the portions of the floodplain adjoining the channel that are reasonably required to carry and discharge a 100-year flood.

Hydric soil: Soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (1991 National Technical Committee on Hydric Soils definition).

Hydrophytes: Plant species that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats.

Scrub/Shrub Wetland: Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants less than three (3) inches in diameter but greater than three (3) feet in height.

Typical situation: That, which nominally, usually, or commonly occurs.

Wooded (Forested) Wetland: Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants Three (3) inches in diameter or greater regardless of height.

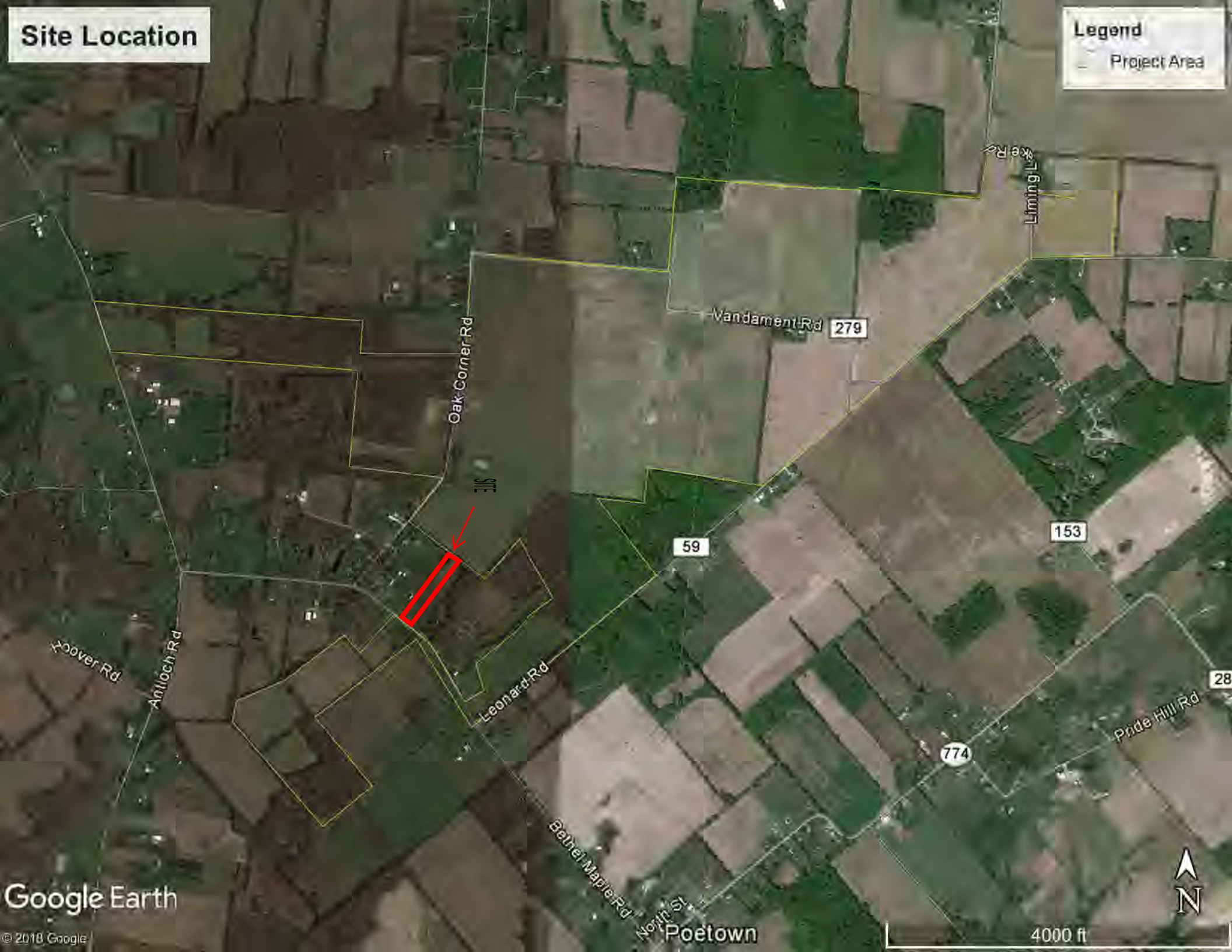
Wetland: "Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions," as defined by Section 404 of the Clean Water Act.

Wetland hydrology: Hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season.

Wetland Indicator Status: *OBL:* Obligate wetland plant that occurs almost always, 99% of the time, in wetlands under natural conditions, but which rarely occur in non-wetlands; *FACW:* Facultative wetland plant, that occurs usually, 67% to 99% of the time, in wetlands, but also occurs 1% to 33% in non-wetlands; *FAC:* Facultative plant, that occurs in both wetlands and non-wetlands 33% to 67% of the time; *FACU:* Plant that occurs sometimes 1% to 33% of the time in wetlands but occurs more often, 67% to 99% in non-wetlands.

APPENDIX A

Site Location Map


Site Location
Legend
Project Area
Oak Corner Rd
Vandament Rd
279
59
153
774
Leonard Rd
Hoover Rd
Antioch Rd
Bethel Maple Rd
North St
Poetown
Pride Hill Rd
Liming L
Ke Rd
Google Earth
© 2018 Google
4000 ft
N

APPENDIX B

Background and Historical Information

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

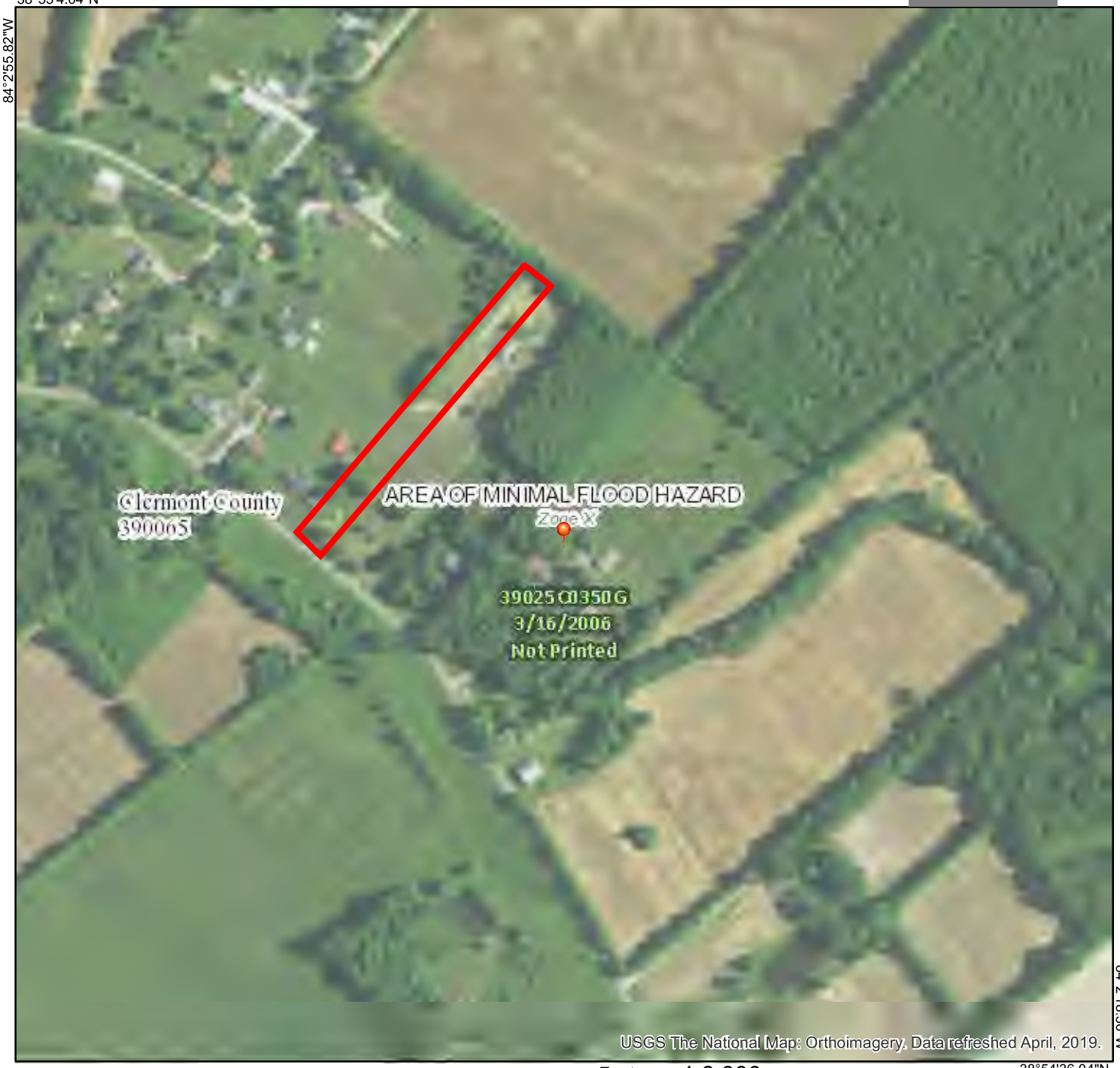
November 6, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/10/2019 at 11:09:59 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map
US Topo

BETHEL QUADRANGLE
OHIO
7.5-MINUTE SERIES

84°07'30" | 39°00' | 5' | 2'30" | 84°00' | 1 540 000 FEET

Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 16S
10 000-foot ticks: Ohio Coordinate System of 1983 (south zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, October 2015
Roads..... U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2015
Contours.....National Elevation Dataset, 2010
Boundaries.....Multiple sources; see metadata file 1972 - 2016
Public Land Survey System.....BLM, 2013
Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN
6° 3′ 108 MILS
GN
1° 51′ 33 MILS
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
GJ
Grid Zone Designation
16S

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

OHIO
QUADRANGLE LOCATION

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

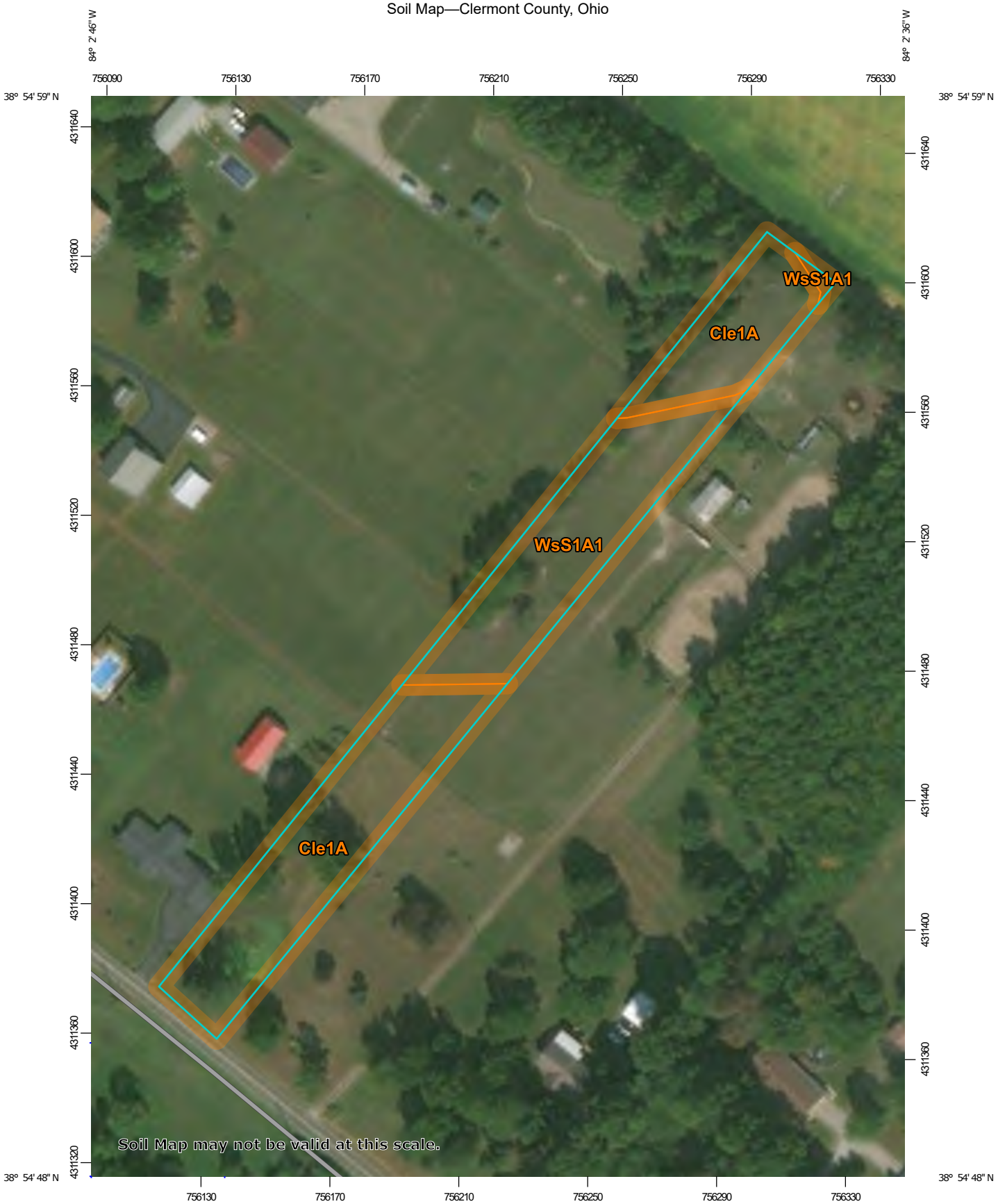
ADJOINING QUADRANGLES
1 Batavia
2 Williamsburg
3 Mount Orab
4 Laurel
5 Hamersville
6 Moscow
7 Felicity
8 Higginsport

BETHEL, OH
2016

NSN 7643016384744220
NGA REF NO. USGSX24K35533


JACOBS DR
SODOM RD
BETHEL MAPLE RD
BROWN RD
ROGERS LN
HOOVER RD
ANTIOCH RD
BLACK OAK LN
OAK CORNER RD
VANDAMENT RD
LEONARD RD
FEESBURG POETOWN RD
FEESBURG-POETOWN RD
BLACKSHIRE RD
TWP HWY 515
TWP HWY 152
YANKEETOWN RD
Yankeetown
LIMING VAN THOMPSON RD
TWP HWY 38
TWP HWY 153
TWP HWY 280
TWP HWY 41
Poplar Cr
W Br Bullskin Cr
SITE
125
774
774
900
900
900
900
950
950
950
950
43 15
43 14
43 13
43 12
55'
43 11
43 10
43 09

Soil Map—Clermont County, Ohio



Map Scale: 1:1,630 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clermont County, Ohio
Survey Area Data: Version 18, Sep 17, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 7, 2015—Feb 5, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cle1A	Clermont silt loam, 0 to 1 percent slopes	1.2	62.2%
WsS1A1	Westboro-Schaffer silt loams, 0 to 2 percent slopes	0.7	37.8%
Totals for Area of Interest		**1.9**	**100.0%**

Clermont/Brown County

Leonard Road

Hamersville, OH 45130

Inquiry Number: 5457535.1

October 22, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Date EDR Searched Historical Sources:

Aerial Photography October 22, 2018

Target Property:

Leonard Road

Hamersville, OH 45130

Year	***Scale***	***Details***	***Source***
1938	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1938	USDA
1950	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1950	USDA
1952	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1952	USGS
1960	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1960	USGS
1967	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1967	USGS
1974	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1974	USGS
1976	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1976	USGS
1984	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1984	USDA
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	DOQQ_USGS
2004	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2004	NAIP_USGS
2010	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2010	NAIP_USGS
2013	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2013	NAIP_USGS
2017	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2017	NAIP_USGS


SITE
INQUIRY #: 5457535.1
YEAR: 1938
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1950
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1952
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1960
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1967
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1974
SCALE : 1"=1000'

INQUIRY #: 5457535.1
YEAR: 1976
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1984
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 1994
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 2004
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 2010
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 2013
SCALE : 1"=1000'


SITE
INQUIRY #: 5457535.1
YEAR: 2017
SCALE : 1"=1000'

APPENDIX C

WOUS Delineation Map and Photographs

Features Map

Data Points Map

Photograph Log Map

Photograph Log

Photograph 1 Looking southwest from northeast side of Property, note small open water pond

Photograph 2 Looking northwest to open water pond on southwest side of Property

Photograph 3 Looking northeast between open water ponds

APPENDIX D

Data Forms

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Nestlewood City/County: Brown/Clermont Sampling Date: 5/30/2019

Applicant/Owner: Tetra Tech, Inc. State: Ohio Sampling Point: Data Point 21

Investigator(s): Dixon Section, Township, Range: Tate

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): none

Slope (%): 0-1% Lat: 38°54'56.14"N Long: 84° 2'38.93"W Datum: WGS84

Soil Map Unit Name: WsS1A1 NWI Classification: Upland

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

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Area includes two small open water ponds, but no hydrophytic vegetation or hydrology present. Area considered upland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Robinia psuedoacacia	20	Y	FACU
2. Quercus velutina	15	Y	UPL
3. Fraxinus pennsylvanica	10	Y	FACW
4.			
5.			
	45	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. Asimina triloba	10	Y	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. Lonicera maackii	15	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1. Toxicodendron radicans	80	Y	FAC
2.			
	80	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (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 species	0	x 1 =	0
FACW species	10	X 2 =	20
FAC species	90	X 3 =	270
FACU species	20	X 4 =	80
UPL species	30	X 5 =	150
Column Totals:	150 (A)		520 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is > 50%

____ 3 - Prevalence Test 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.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Area dominated with UPL and FACU vegetation, area considered upland.

SOIL

Sampling Point: Data Point 21

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 2/1	100						
7-18	10 YR 6/4	90	10 YR 7/8	10	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Mangenese Masses (F12)
- ___ Very Shallow Dark Surfaces (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.7

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Most of area is active cow pasture. Hydric indicators in soil below 7 inches. Soils are hydric

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)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Two small open water ponds on area but no other hydrology observed. Area considered upland with ponds.

Summary: Correspondence Providing Copies of Certain Exhibits in Electronic Form electronically filed by Mr. Michael J. Settineri on behalf of Nestlewood Solar I LLC