EXHIBIT 6

Waters Delineation Report
2843 Mount Pleasant Rd
Mt Joy, Pennsylvania

November 2025

Submitted to:

Mr. Franklin B. Greiner, Jr.

Prepared by:

Northland Airboats Marine & Environment, Inc.

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INTRODUCTION

Northland Airboats Marine & Environment, Inc. (Northland) performed a waters delineation on behalf of Mr. Franklin B. Greiner, Jr. at the property located at the address of 2843 Mount Pleasant Rd, Mt Joy, Pennsylvania, hereafter referred to as the "Site." The Site consists of a single tax parcel with tax parcel identification number 4618992200000 and a nearby paper street that crosses parcel 4611537900000 between Steel Way Drive and Mount Pleasant Road, located in Mt. Joy Township, Lancaster County, Pennsylvania. The Site consists of approximately 106.5 acres plus the paper street. For the approximate Site location, refer to the enclosed United States Geological Survey (USGS) Elizabethtown PA 7.5-minute Topographic Quadrangle Map provided as **Appendix A**.

The purpose of this assessment was to identify potentially jurisdictional waters on-site, and where present, to delineate their physical limits in the field so they can be shown on project mapping and to avoid or minimize their impact during site engineering, planning, and design. The waters delineation assessment was conducted using the 1987 Corps of Engineers Wetland Delineation Manual (the 1987 Manual) with the Regional Supplement: Eastern Mountains and Piedmont Region – Version 2.0 (April 2012). Results of the assessment are summarized herein and include the following:

- A brief description of wetlands, watercourses and upland areas within the Site boundary
- A United States Geological Survey (U.S.G.S.) Elizabethtown PA 7.5-minute Topographic Quadrangle Map (**Appendix A**)
- Natural Resources Map (**Appendix B**)
- County Soil Survey Soil Unit Descriptions (**Appendix C**)
- Completed United States Army Corps of Engineers (USACE) Wetland Determination Data Forms (**Appendix D**)
- Photograph Log with Descriptions (**Appendix E**)

SETTING

The Site is located in the Little Chickies/Little Chiques Creek Watershed, with 12-digit Hydrologic Unit Code (HUC): 020503060802. The nearest named watercourse is Little Chickies/Little Chiques Creek, located approximately 1.5 miles east beyond the eastern Site boundary. A portion of the northern site area is crossed by an unnamed tributary to Little Chickies Creek (National Hydrographic Dataset permanent identifier 57462913, mapped as intermittent with flowline reach code of 02050306001282).

Existing conditions on-site primarily consist of active cropland, upland deciduous forest, upland meadows and swales, a Palustrine Emergent (PEM) wetland, upland vegetated roadways, gravel roads, and a barn. Site elevation ranges from ±406 ft. above mean sea level (AMSL) to ± 530 ft. AMSL. Site topography generally slopes downward to the northeast at approximately 5.0% (Google Earth).

SECONDARY DATA

The following paragraphs contain a summary of the secondary data review ("desktop review") of the following public resources for potentially jurisdictional waters conducted prior to the field investigation.

- National Wetland Inventory (NWI) data

- Pennsylvania Spatial Data Access (PASDA) NWI for Pennsylvania
- eMapPa Environmental Search Tool
- National Hydrology Dataset (NHD) data
- Current and Historic Aerial Imagery, Google Earth, and Historicaerials.com
- United States Geological Survey (USGS) 7.5-minute topographic maps
- USGS Natural Resources Conservation Service (NRCS) Soil Survey
- Federal Emergency Management Act (FEMA) National Flood Insurance Rate Maps (FIRM)

USGS 7.5-Minute Quadrangle

The Site appears on the Elizabethtown, PA USGS 7.5-minute topographic quadrangle at approximately 40° 8.787' N Latitude and 76° 32.600' W Longitude. The USGS quadrangle for this property illustrates open areas throughout a majority of the Site with a watercourse shown on the northern Site boundary. A small pond is shown present in the central region of the Site, no surface connections are shown. Refer to **Appendix A** for the USGS Topographic Quadrangle map that depicts the Site and surrounding areas.

U.S. Fish and Wildlife Service National Wetland Inventory Maps

A review of the National Wetland Inventory (NWI) Wetlands Map was conducted utilizing the U.S. Fish and Wildlife Service (USFWS) online Wetlands Mapper tool. NWI Mapper depicts two potential areas on-site: a watercourse that crosses the site from west to east near the northern site boundary and a small, isolated depression or pond near the southwestern site edge. The NWI maps are prepared from the analysis of high-altitude imagery. The presence or absence of wetlands is based on field data such as vegetation, visible hydrology, and soils. To determine the presence or absence of wetlands at a particular location, an on-site wetland determination must be performed. Refer to **Appendix B** for the Natural Resources Map that shows the approximate location of NWI mapped features.

U.S. Department of Agriculture Natural Resources Conservation Service – Soil Survey

USDA Natural Resources Conservation Service (NRCS) soil survey mapping displays the following six soils types on the Site: AbB: Abbottstown silt loam, 3 to 8 percent slopes, BdB: Bedington silt loam, 3 to 8 percent slopes, BdC: Bedington silt loam, 8 to 15 percent slopes, BeD: Bedington channery silt loam, 15 to 25 percent slopes, BuC: Bucks silt loam, 8 to 15 percent slopes, and RaB: Readington silt loam, 3 to 8 percent slopes, and the pond is shown as Water.

<u>AbB: Abbottstown silt loam, 3 to 8 percent slopes (542715)</u>

The Abbottstown series consists of deep and very deep, somewhat poorly drained soils. They formed in residuum from acid red shale, siltstone and sandstone. They are on concave upland slopes of 0 to 15 percent. Saturated hydraulic conductivity is moderately low to moderately high above the fragipan and moderately low in and below the fragipan. Mean annual precipitation is 46 inches.

<u>BdB: Bedington silt loam, 3 to 8 percent slopes (542719)</u>

The Bedington series consists of very deep, well drained soils. Bedington soils formed in residuum from dark brown, gray and olive acid, sedimentary, siltstone and shale, with some sandstone interbeds. They are on nearly level to steep convex uplands and on the sideslopes of hills and ridges. Permeability is moderate. Mean annual precipitation is 42 inches.

BdC: Bedington silt loam, 8 to 15 percent slopes (542720)

The Bedington series consists of very deep, well drained soils. Bedington soils formed in residuum from dark brown, gray and olive acid, sedimentary, siltstone and shale, with some sandstone interbeds. They are on nearly level to steep convex uplands and on the sideslopes of hills and ridges. Permeability is moderate. Mean annual precipitation is 42 inches.

BeD: Bedington channery silt loam, 15 to 25 percent slopes (542721)

The Bedington series consists of very deep, well drained soils. Bedington soils formed in residuum from dark brown, gray and olive acid, sedimentary, siltstone and shale, with some sandstone interbeds. They are on nearly level to steep convex uplands and on the sideslopes of hills and ridges. Permeability is moderate. Mean annual precipitation is 42 inches.

Bm: Blairton silt loam, 3 to 10 percent slopes (542722)

The Blairton series consists of moderately deep, somewhat poorly and moderately well drained soils on uplands. They are formed in materials weathered from gray shale. They are on upland flats, depressions, and in drainage heads. Slopes range from 0 to 35 percent. Permeability is moderately slow. Average annual precipitation is 41 inches.

BuC: Bucks silt loam, 8 to 15 percent slopes (542730)

The Bucks series consists of deep well drained soil on uplands. They formed in a silt mantle over weathered red shale, siltstone, or fine grained sandstone. Bucks soils have dark yellowish brown silt loam Ap horizons, reddish brown to dark reddish brown silt loam B2t horizons underlain by dark reddish brown shaly silt loam C horizons.

RaB: Readington silt loam, 3 to 8 percent slopes (542791)

The Readington series consists of deep and very deep, moderately well drained soils formed in medium textured residuum weathered from noncalcareous shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 15 slopes. Saturated hydraulic conductivity is moderately slow. Mean annual precipitation is 43 inches.

The following table shows the percent of each soil type in the Area of Interest (Site plus a small buffer for mapping uncertainty).

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AbB	Abbottstown silt loam, 3 to 8 percent slopes	4.5	3.6%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BdB	Bedington silt loam, 3 to 8 percent slopes	59.4	48.1%
BdC	Bedington silt loam, 8 to 15 percent slopes	6.1	4.9%
BeD	Bedington channery silt loam, 15 to 25 percent slopes	29.5	23.9%
Bm	Blarion silt loam, 3 to 8 percent slopes	9.4	7.6%
BuB	Bucks silt loam, 3 to 8 percent slopes	2.1	1.7%
RaB	Readington silt loam, 3 to 8 percent slopes	8.7	7.1%
W	Water	3.6	2.9%
Total		**123.5**	**100.0%**

Digital Aerial Imagery

Google Earth digital historic aerial imagery (1985-2021) and Historicaerials.com (1951-2019) indicate land cover on-site has primarily consisted of agricultural land with a small amount of forested areas on steep slopes since 1951. A house and barn are visible near the location of the present-day barn. There is a rectangular structure at the approximate location of the modern pond visible in 1951 and 1957 aerial images, but the area was converted into a teardrop shaped pond or depression with an obvious perimeter berm by 1961. The structure is interpreted as a former springhouse. Review of historical aerial imagery does not indicate surface inundation or prolonged saturation of the agricultural fields over consecutive years, suggesting a non-wetland hydric regime. Refer to **Appendix B**, Natural Resources Map, for current aerial imagery.

METHODS AND REGULATORY FRAMEWORK

Wetland delineation procedures were conducted in accordance with procedures established by the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Y-1987-1), dated January 1987 and the Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0), April 2012. More specifically, the Routine Wetlands Determination Method, and when needed, the Problematic Hydric Soils/Vegetation Procedures were used, as shown in the attached USACE data forms and sections of this report. This site evaluation included a desktop analysis and an on-site assessment. Site data were collected and recorded on Eastern Mountains and Piedmont Region Wetland Determination Data Forms provided as **Appendix D.**

The USACE and EPA define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions." The three-parameter approach (e.g., vegetation, soils, and hydrology) was developed by the USACE in order to identify and delineate wetlands jurisdictional under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (33 U.S.C. 403). This approach dictates under normal environmental conditions that areas meeting the defined criteria of hydrophytic vegetation, hydric soils, and wetland hydrology will be designated as wetlands.

The USACE does not regulate an area that, prior to December 23, 1985, was drained or otherwise

manipulated for the purpose, or having the effect, of making production of an agricultural product possible." An area would cease to be considered Prior Converted Cropland (PCC) for purposes of the CWA when both the PCC "is not used for, or in support of, agricultural purposes at least once in the immediately preceding five years" and the land reverts to wetland status, as defined in the rule". The Pennsylvania Department of Environmental Protection (PADEP) may assert jurisdiction over a PCC area that currently meets the three parameter wetland criteria.

Vegetation

USDA Natural Resources Conservation Services (NRCS) designates an indicator status to plant species based on the estimated probability, or frequency, with which the species was thought to occur in wetlands, as opposed to non-wetlands, across its entire range. The five USDA NRCS wetland indicators are Obligate (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL). Plant species that have not been assigned an indicator status are listed as "No Indicator" (NI) and are not included in calculations and determinations of hydrophytic vegetation. The hydrophytic vegetation decisions are based on the wetland indicator status of each plant species within the community. Refer to Table 2 below for percent occurrence in wetlands of each indicator status.

Table 2: Wetland Indicator Status Ratings and Their Rating Categories

Indicator Status (abbreviation)	% Occurrence in wetlands
Obligate (OBL)	99
Facultative Wetland (FACW)	67-99
Facultative (FAC)	34-66
Facultative Upland (FACU)	1-33
Upland (UPL)	1

The Routine Determination Method involved identifying the major vegetative units on Site. Visual estimates of absolute percent cover of plant species were taken in representative locations within the different upland and wetland plant communities. Vegetation abundance within each plant community on the Site was tested for hydrophytic vegetation indicators using the rapid assessment, dominance, and, if needed, prevalence index tests. If the vegetation at the sample point did not pass the rapid test, then the 50/20 dominance test was performed. For the dominance test, plant species at the sample point were recorded and documented by percentage of absolute cover in four strata: tree (30-ft radius plot), sapling/shrub (15-ft radius plot), herbaceous (5-ft radius plot), and woody vine (30-ft radius plot). If the vegetation at the sample point did not pass the dominance test, then the prevalence index test was initiated. If the vegetation passed any of these tests, then it was determined that hydrophytic vegetation was present. Under normal circumstances, if the vegetation does not pass any of these tests, then hydrophytic vegetation is not present.

Soils

To determine the presence of hydric soils, test pits were dug to examine the nature of the soil below the

"A" horizon. The hydric nature of soils can generally be determined by the color changes resulting from the chemical reduction of soil components, which occurs because of extended periods of saturation or inundation. According to USDA NRCS, hydric soils are defined as "soils that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part." For purposes of this definition, the following assumptions must be made:

1. Long enough is defined as at least 14 days;
2. The growing season is the period when soil temperatures are above biologic zero (41°F);
3. Anaerobic conditions are caused by the displacement of air by water; and,
4. The upper part is the A or B horizon or root zone of the soil.

Somewhat poorly drained soils have a water table at the soil surface during the growing season. Poorly drained or very poorly drained soils have either a water table at the soil surface during the growing season if textures are coarse sand, sand or fine sand in all layers within 20 inches (in.) or a water table at less than or equal to 0.5 ft. from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in. or water tables at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in. from the surface. Soils were examined at each sample point as well as in other locations along the wetland/upland boundary, using a 1.5 inch hand auger. Test pits were excavated to a maximum depth of 20 in., depending on conditions at the sample point. Layers in the soil profile were described by depth, color of the soil matrix, and any redoximorphic features using the Munsell Soil Color Charts (GretagMacbeth, revised 2009), texture, and any other applicable characteristics. The soil profile was compared with hydric soil indicators listed in the Regional Supplement based on soil texture for any applicable positive indicators.

Some soils that meet the hydric soil definition may not exhibit any of the hydric soil indicators. These problematic hydric soils exist for a number of reasons, such as agricultural fields, red parent material, or anthropogenic activities. Where this was observed, the Problematic Hydric Soils of the Eastern Mountains and Piedmont Region Regional Supplement was used.

Hydrology

Wetland hydrology indicators are used in combination with hydric soil and hydrophytic vegetation to determine whether an area is a wetland; these indicators reflect a Site's hydrologic regime. If hydrology has not been altered, vegetation and soils provide strong evidence that wetland hydrology is present (USACE, 2012). Wetland hydrology indicators are intended as one-time observations of Site conditions that are sufficient evidence of wetland hydrology. Wetland hydrology was evaluated utilizing Primary and Secondary indicators such as direct observation of surface water, soil saturation, or if the Site was subject to flooding or ponding/inundation based on its position in the landscape, as well as by noting additional wetland hydrology indicators as specified in the regional supplement. Hydrology is generally the least exact of the three technical criteria and is the most difficult to establish in the field due to annual, seasonal, and daily fluctuations. However, it is essential to establish that a wetland is periodically inundated or has saturated soils during the growing season.

Wetland Delineation

Once wetlands and uplands were determined using sample point data, a wetland boundary (line) was established along the wetland edge and marked in the field using pink survey flagging imprinted with

"Wetland Delineation". Each flag was assigned a unique alpha-numeric identifier numbered sequentially. Pink survey flagging was placed at data plots labeled with the appropriate plot identification name, and handheld GPS coordinates were collected at each point (Garmin eTrex 22x with WAAS enabled). Photographs were taken at various observation points to document the vegetation, local topography, and other features of each area.

Watercourses

The presence or absence of watercourses on-site were determined by the presence or absence of an Ordinary High-Water Mark (OHWM) and bed and bank using the National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (ERDC/CRREL TR-25-1, 2025). When present, the flow regime, hydrologic regime, substrate, channel width and surface water connection to a navigable waterway were also evaluated. The OHWM of watercourses are delineated and flagged in the field using blue survey flagging.

Drainage Features

Drainage features (DF) are likely not Pennsylvania Department of Environmental Protection (PADEP) or USACE jurisdictional watercourses or wetlands due to an absence of geomorphological characteristics and properties such as bed and banks, ordinary high-water marks, hydric soils and a dominance of hydrophytic vegetation. When present, DFs are identified on-site to provide context on a site's overall hydrologic conceptual model and their possible hydrologic contribution to potentially regulated aquatic resources.

Surface Waters: Open Waterbodies

According to Chapter 93: Water Quality Standards of the Pennsylvania Code, a waterbody is a surface water, such as lakes, reservoirs, ponds. The Pennsylvania Department of Environmental Protection (PADEP) may also refer to wetlands, springs, natural seeps, perennial and intermittent streams, rivers, and estuaries as surface waters, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds, and constructed wetlands used as part of a wastewater treatment process.

When positive open waterbody determinations are made in the field, indicators of normal pool elevation are identified and marked using blue survey flagging. Each flag is assigned a unique alpha-numeric identifier numbered sequentially and photographs are taken at various observation points to document the characteristics of each feature.

FIELD INVESTIGATION

The on-site assessment was performed by Northland Airboats' wetland scientists on October 9th-10th, 2025. Northland Airboats identified and delineated one Palustrine Emergent wetland and one watercourse on the Site.

The following is a summary of existing conditions, habitats and plant communities observed on-site.

Copies of completed Wetland Determination Routine Method data forms are included as **Appendix D**, a photograph log with captions is included as **Appendix E**. Please refer to the Natural Resources Map provided as **Appendix B** for the location of wetlands and watercourse delineated on the property.

Plant Communities

Upland Cropland

Most of the parcel comprises active farmland that was cultivated with corn/maize (*Rhea mays*) in 2025. At the time of the field investigation, the 2025 corn had been harvested and only stubble remained. Abandoned fields in the paper street parcel were dominated by Japanese bristle grass (*Setaria faberi* – FACU) and goldenrods (*Solidago* species).

Upland Deciduous Forests

The forested portion of the Site consists of upland deciduous forest on relatively steep slopes (~20 – 30%). Dominant tree, shrub, and sapling species within this plant community consist of black walnut (*Juglans nigra* – FACU), white oak (*Quercus alba* – FACU), red maple (*Acer rubrum* – FAC), and white pine (*Pinus strobus* – FACU). Understory vegetation was sparse and comprised mainly of saplings of the above species. The upland deciduous forested portion of the paper street parcel comprised primarily silver maple (*Acer saccharinum*).

Palustrine Emergent (PEM) Wetland

One (1) PEM wetland was identified on-site. It is associated with the former farm pond near the northwest corner of the site. Dominant vegetation in the identified wetland included cattail (probably hybrid *Typha glauca* – OBL), duckweed (*Lemna minor* – OBL), and Pennsylvania smartweed (*Polygonum pennsylvanicum* – FACW).

Upland Vegetated Roadways and Swales

Upland vegetated roadways and swales were located throughout the Site in areas that have been previously cleared of woody vegetation and are used to maintain the site for agricultural use. The dominant herbaceous species consists of white clover (*Trifolium repens* – FACU), green bristle grass (*Setaria viridis* – no indicator status), and Japanese bristlegrass (*Setaria faberi* - FACU).

Wetlands

Wetlands were delineated on-site with pink survey flagging and characterized by their Cowardin and Hydrogeomorphic classification and investigated for hydrologic connection to known Waters of the United States (WOTUS) such as non-relatively permanent waters (non-RPWs), Relatively Permanent Waters (RPWs) and traditional navigable waterways (TNWs) of the United States (US), such as the Susquehanna River. Representative sample points or data points (DP) were collected within each distinct vegetative wetland community. Wetland Determination data forms, provided as **Appendix D**, were completed for wetland and upland areas, and photos (**Appendix E**) were taken of all reviewed wetlands, uplands, and other Site features.

The single onsite delineated wetland (12,336 square feet) appears to have been associated with a former farm pond. The foundations of what appears to be an old springhouse were found near Wetland Flag 3, and surface water was expressing from the ground within the foundation. Water from the spring is largely contained by a manmade berm that is roughly teardrop shaped. The berm appears to have failed relatively recently between Wetland Flags 7 and 12, because fresh earth is apparent at this location and the berm can be seen in cross section where the flow leaves the impoundment through this breach.

Outside the berm to the north, the flow continues northward for approximately 300 feet along the PEM vegetated wetland swale. The swale exhibits wetland diagnostic vegetation, soils, and hydrology where delineated. At the approximate northern terminus of the delineated wetland, the wetland is cut off by a farm road crossing, that is repeatedly crossed by farm vehicles. Wheel ruts are visible at the crossing. Within the crossing and north of the crossing, wetland hydrology, wetland soils and wetland vegetation are not observed.

WATERCOURSES

One (1) watercoruse was identified on-site, it begins at the terminus of an upland swale, then extends eastward through forested land between agricultural fields for approximately 900 feet. This portion of the watercourse is straight as if dug by machine, although it is mapped as an intermittent stream. Once entering the mature forest onsite, the watercourse continues eastward through a narrow valley between two relatively high and steep slopes before continuing eastward offsite.

The onsite portion of the watercourse was flagged where there was a defined channel comprising bed and bank. During the October 2025 field effort, the entire length of the stream was dry (except for two small puddles at local low spots). Apart from the dry nature of the stream, observations that point to intermittent flow include the absence of onsite point bars, debris jams, sediment sorting, or defined thalweg.

RESULTS AND CONCLUSIONS

One (1) wetland and one (1) watercourse were identified and delineated on-site by Northland Airboats.

The wetland is associated with an abandoned, man-made farm pond and appears isolated with no observable connections to other wetlands and waters; thus, it is likely classified as an isolated Waters of the Commonwealth under jurisdiction of the Pennsylvania Department of Environmental Protection (PADEP).

LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Northland Airboat's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions, and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Northland Airboats makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

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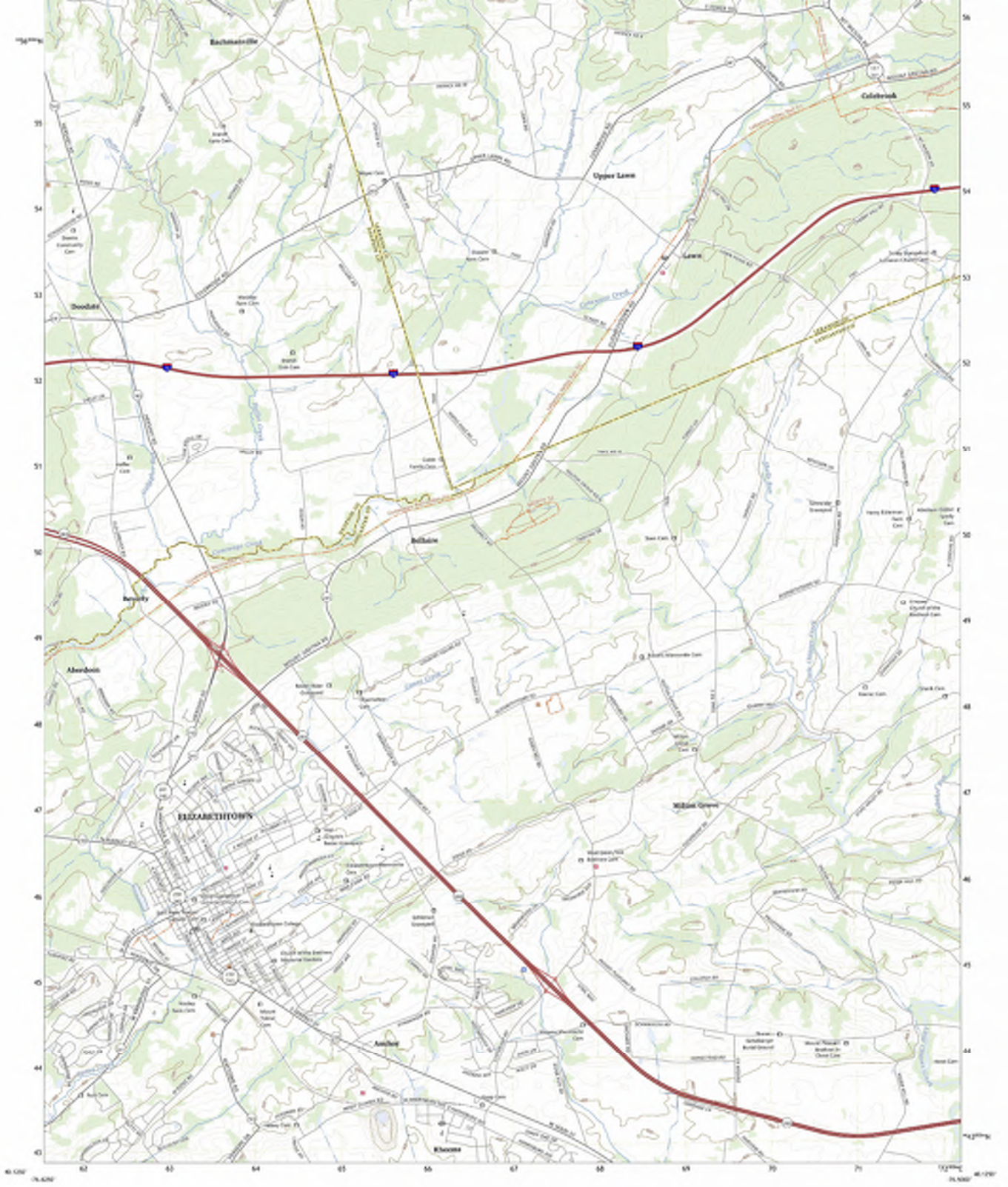
This report reflects the professional opinion of the Northland. Formal determination of wetlands, streams and other regulated features can only be determined by the USACE through the jurisdictional determination process. PADEP and the Pennsylvania Fish and Boat Commission (PFBC) are the regulatory agencies that assign State classifications for wetlands and streams.

Appendix A - United States Geological Survey (U.S.G.S.) Elizabethtown PA 7.5-minute Topographic Quadrangle Map

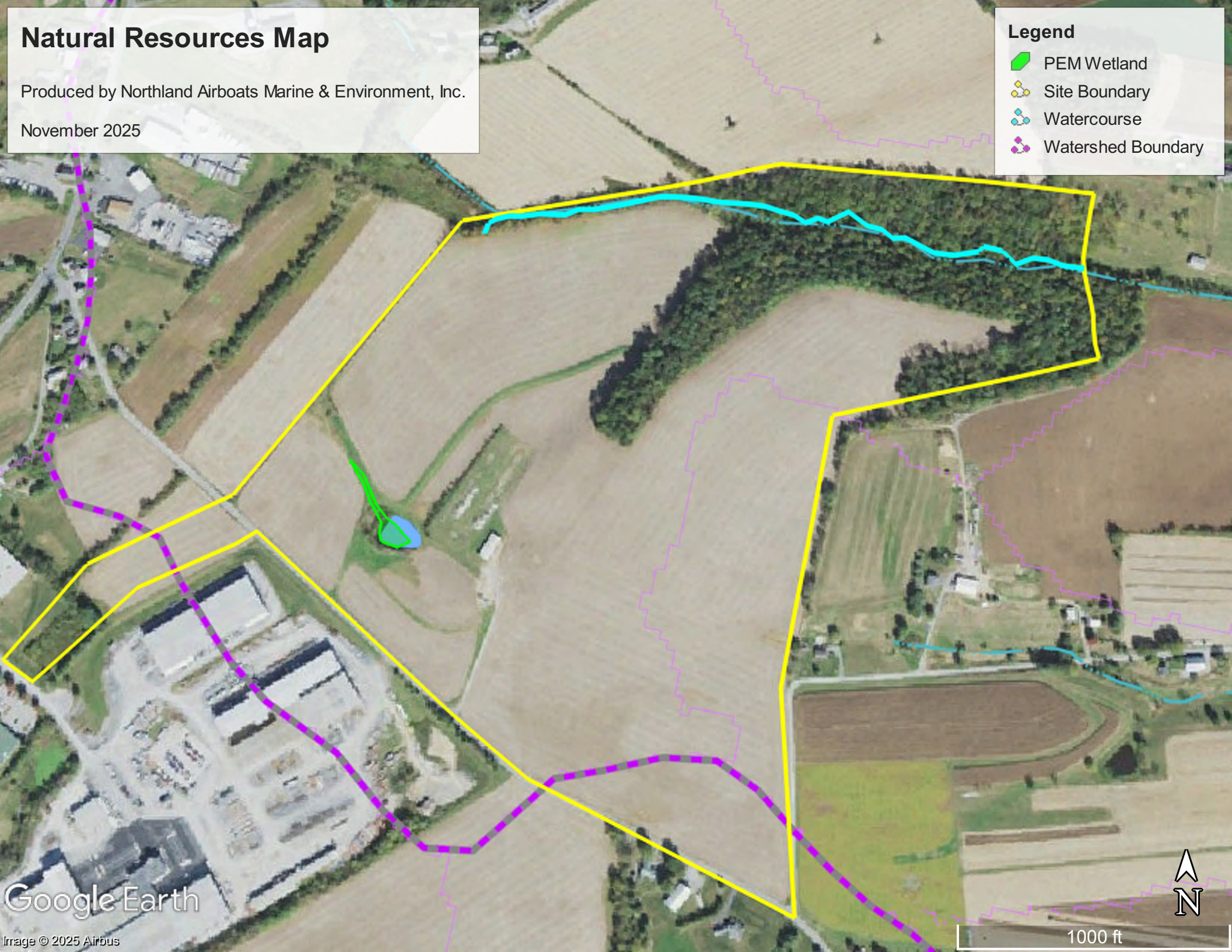

Bachmansville
Upper Lawn
Lawn
Colebrook
Doodsville
Bellaire
Beverly
Aberdeen
ELIZABETHTOWN
Amelong
Rheems

Appendix B - Natural Resources Map

Natural Resources Map

Produced by Northland Airboats Marine & Environment, Inc.

November 2025



Appendix C - County Soil Survey Soil Unit Descriptions

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lancaster County, Pennsylvania

October 30, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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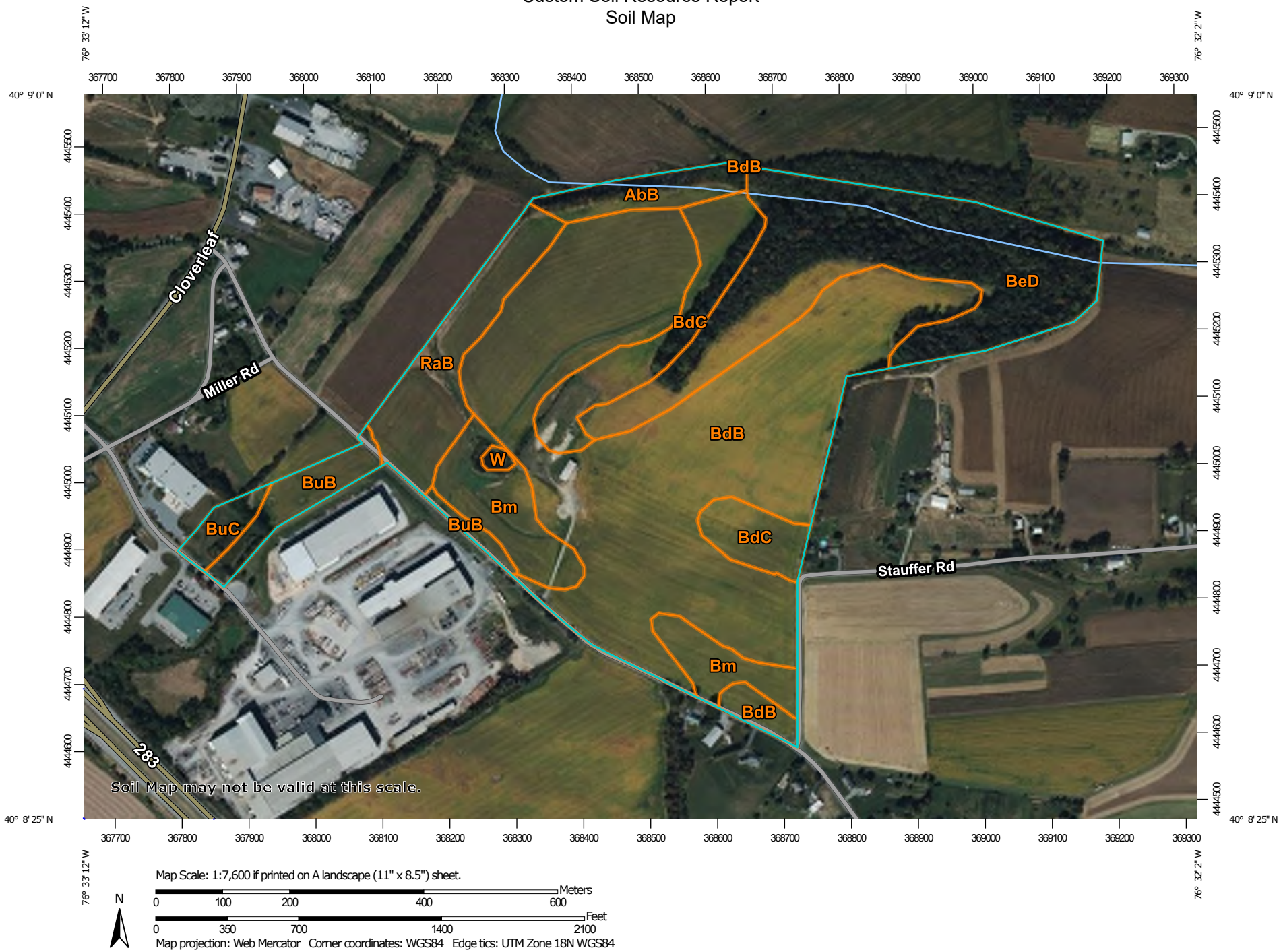
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



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 1:15,800.

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: Lancaster County, Pennsylvania
Survey Area Data: Version 24, Sep 3, 2025

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

Date(s) aerial images were photographed: Jul 6, 2020—Nov 7, 2020

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
AbB	Abbottstown silt loam, 3 to 8 percent slopes	3.7	2.9%
BdB	Bedington silt loam, 3 to 8 percent slopes	59.1	47.1%
BdC	Bedington silt loam, 8 to 15 percent slopes	11.1	8.8%
BeD	Bedington channery silt loam, 15 to 25 percent slopes	27.3	21.7%
Bm	Blairton silt loam, 3 to 10 percent slopes	9.3	7.4%
BuB	Bucks silt loam, 3 to 8 percent slopes	4.4	3.5%
BuC	Bucks silt loam, 8 to 15 percent slopes	1.8	1.4%
RaB	Readington silt loam, 3 to 8 percent slopes	8.7	7.0%
W	Water	0.3	0.3%
Totals for Area of Interest		**125.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lancaster County, Pennsylvania

AbB—Abbottstown silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2v7gd
Elevation: 130 to 660 feet
Mean annual precipitation: 40 to 48 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 190 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Abbottstown and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Abbottstown

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Parent material: Acid reddish brown residuum weathered from shale and siltstone

Typical profile

Ap - 0 to 10 inches: silt loam
Bt - 10 to 20 inches: silt loam
Bx - 20 to 39 inches: channery silt loam
BCg - 39 to 48 inches: channery silt loam
R - 48 to 58 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 22 inches to fragipan; 40 to 60 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

Minor Components

Klinesville

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Croton

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Penn

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

BdB—Bedington silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: l6r2
Elevation: 300 to 1,500 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 140 to 217 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bedington and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bedington

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope

Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from shale and siltstone

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 47 inches: channery silty clay loam
H3 - 47 to 63 inches: very channery clay loam
R - 63 to 67 inches: weathered bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 48 to 99 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F147XY002PA - Mixed Sedimentary Upland
Hydric soil rating: No

Minor Components

Berks

Percent of map unit: 10 percent
Hydric soil rating: No

Edom

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hartleton

Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Watson

Percent of map unit: 5 percent
Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope

Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

BdC—Bedington silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: l6r3
Elevation: 300 to 1,500 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 140 to 217 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bedington and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bedington

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from shale and siltstone

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 47 inches: channery silty clay loam
H3 - 47 to 63 inches: very channery clay loam
R - 63 to 67 inches: weathered bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 48 to 99 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Ecological site: F147XY002PA - Mixed Sedimentary Upland
Hydric soil rating: No

Minor Components

Berks
Percent of map unit: 10 percent
Hydric soil rating: No

Edom
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Watson
Percent of map unit: 5 percent
Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Hartleton
Percent of map unit: 5 percent
Landform: — error in exists on —
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

BeD—Bedington channery silt loam, 15 to 25 percent slopes

Map Unit Setting
National map unit symbol: l6r4
Elevation: 300 to 1,600 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 120 to 214 days
Farmland classification: Not prime farmland

Map Unit Composition
Bedington and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bedington

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Acid residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 9 inches: channery silt loam
H2 - 9 to 29 inches: channery silty clay loam
H3 - 29 to 72 inches: very channery silt loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 60 to 80 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F147XY002PA - Mixed Sedimentary Upland
Hydric soil rating: No

Minor Components

Comly

Percent of map unit: 7 percent
Hydric soil rating: No

Berks

Percent of map unit: 5 percent
Hydric soil rating: No

Weikert

Percent of map unit: 3 percent
Hydric soil rating: No

Bm—Blairton silt loam, 3 to 10 percent slopes

Map Unit Setting

National map unit symbol: l6r5
Elevation: 300 to 1,500 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 120 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Blairton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Blairton

Setting

Landform: Depressions
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Local silty colluvium derived from shale and siltstone over acid silty residuum weathered from shale and siltstone

Typical profile

Ap - 0 to 10 inches: silt loam
Bt - 10 to 35 inches: channery silty clay loam
Cg - 35 to 39 inches: very channery loam
R - 39 to 43 inches: bedrock

Properties and qualities

Slope: 3 to 10 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 6 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F148XY024PA - Moist, Piedmont - felsic, Upland, Mixed Oak - Hardwood - Conifer Forest

Hydric soil rating: No

Minor Components

Poorly drained areas
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Ungers
Percent of map unit: 2 percent
Hydric soil rating: No

Bucks
Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Bedington
Percent of map unit: 1 percent
Hydric soil rating: No

BuB—Bucks silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: l6rd
Elevation: 300 to 1,500 feet
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 46 to 57 degrees F
Frost-free period: 150 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Bucks and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Silt mantle over residuum weathered from sandstone and siltstone

Typical profile

Ap - 0 to 6 inches: silt loam
Bt - 6 to 30 inches: silty clay loam
C - 30 to 52 inches: very gravelly silty clay loam
R - 52 to 56 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 40 to 72 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F148XY022PA - Dry, Triassic, Upland, Mixed Oak Heath / Oak-Pine Woodland
Hydric soil rating: No

Minor Components

Readington

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, side slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Lehigh

Percent of map unit: 2 percent
Landform: Hillsides
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Ungers

Percent of map unit: 2 percent
Hydric soil rating: No

Lansdale

Percent of map unit: 1 percent
Landform: Hillsides

Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

BuC—Bucks silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: l6rf
Elevation: 300 to 1,500 feet
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 46 to 57 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Bucks and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Silt mantle over residuum weathered from sandstone and siltstone

Typical profile

Ap - 0 to 6 inches: silt loam
Bt - 6 to 30 inches: silty clay loam
C - 30 to 52 inches: very gravelly silty clay loam
R - 52 to 56 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 40 to 72 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F148XY022PA - Dry, Triassic, Upland, Mixed Oak Heath / Oak-Pine Woodland
Hydric soil rating: No

Minor Components

Readington

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, side slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Ungers

Percent of map unit: 2 percent
Hydric soil rating: No

Lehigh

Percent of map unit: 2 percent
Landform: Hillsides
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Lansdale

Percent of map unit: 1 percent
Landform: Hillsides
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

RaB—Readington silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w05x
Elevation: 70 to 950 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 43 to 57 degrees F
Frost-free period: 170 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Readington and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Readington

Setting

Landform: Hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, side slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Triassic colluvium derived from shale and siltstone and/or triassic residuum weathered from shale and siltstone

Typical profile

Ap - 0 to 10 inches: silt loam
Bt1 - 10 to 17 inches: silt loam
Bt2 - 17 to 34 inches: silty clay loam
Btx - 34 to 48 inches: clay loam
C - 48 to 58 inches: channery silt loam
R - 58 to 68 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 20 to 36 inches to fragipan; 40 to 60 inches to lithic bedrock
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

Minor Components

Penn

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Reaville

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: No

Abbottstown

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: l6tr
Mean annual precipitation: 36 to 50 inches
Mean annual air temperature: 46 to 59 degrees F
Frost-free period: 120 to 214 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Parent material: Rivers streams ponds

Properties and qualities

Frequency of ponding: Frequent

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Appendix D - Completed United States Army Corps of Engineers (USACE) Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 2843 Mount Pleasant Rd City/County: Mt. Joy/Lancaster Sampling Date: 10/9/25
Applicant/Owner: State: PA Sampling Point: Up1
Investigator(s): Shawn Shotzberger Section, Township, Range: Mt. Joy Township
Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 3 - 5
Subregion (LRR or MLRA): LRR S Lat: 40° 8.765'N Long: 76° 32.831'W Datum: WGS84
Soil Map Unit Name: RaB: Readington 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 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 x	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No x
Hydric Soil Present?	Yes x	No ____	
Wetland Hydrology Present?	Yes x	No ____	

Remarks:

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 x	Depth (inches): 1 - 2
Water Table Present?	Yes ____	No x	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): 0

Wetland Hydrology Present? Yes ____ No x

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

Remarks:

Wetland extends northward from and is contiguous with an abandoned farm pond, now emergent wetland (Typha dominated). Wetland hydrology continues northward along a swale (no bank or bed) for approx. 300' before dissipating back to groundwater.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Up1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 10')			
1. Typha glauca	5		OBL
2. Polygonum pensylvanicum	5		FACW
3. Setaria faberi	10		FACU
4. Setaria viridis	20	x	N/A
5. Trifolium repens	5		FACU
6. Asclepias syriaca	5		FACU
7. Solidago canadensis	50	x	FACU
8.			
9.			
10.			
11.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

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 x

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

SOIL

Sampling Point: Up1

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 %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	7.5YR 4/3	100					Slt lm	
10-20	5YR 4/3	100						

[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)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 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 Mucky Mineral (F1) **(MLRA 136)**
- ___ 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 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

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)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

AGENCY DISCLOSURE NOTIFICATION

The public reporting burden for this collection of information, OMB Control Number 0710-0024, is estimated to average 30 minutes per response, including the timefor reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services,at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR REQUEST TO THE ABOVE EMAIL.**

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: 2843 Mount Pleasant Rd City/County: Mt. Joy/Lancaster Sampling Date: 10/9/25
Applicant/Owner: State: PA Sampling Point: Wet1
Investigator(s): Shawn Shotzberger Section, Township, Range: Mt. Joy Township
Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 3 - 5
Subregion (LRR or MLRA): LRR S Lat: 40° 8.752'N Long: 76° 32.820'W Datum: WGS84
Soil Map Unit Name: RaB: Readington 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 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 x	No ____	**Is the Sampled Area within a Wetland?** Yes x No ____
Hydric Soil Present?	Yes x	No ____	
Wetland Hydrology Present?	Yes x	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- x Surface Water (A1)
- x High Water Table (A2)
- x 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 x	No ____	Depth (inches): 1 - 2
Water Table Present?	Yes x	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes x No ____

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

Remarks:

Wetland extends northward from and is contiguous with an abandoned farm pond, now emergent wetland (Typha dominated). Wetland hydrology continues northward along a swale (no bank or bed) for approx. 300' before dissipating back to groundwater.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: Wet1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 10')			
1. Typha glauca	50	x	OBL
2. Polygonum pensylvanicum	30	x	FACW
3. Setaria faberi	10	x	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

x 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** x **No** ___

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

SOIL

Sampling Point: Wet1

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
0-4	10YR3/1	100					mk	
4-10	7.5YR 4/3	100					Slt lm	
10-20	5YR 4/3	100						

[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)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 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)**
- x Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ 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 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

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)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** x **No** ____

Remarks:

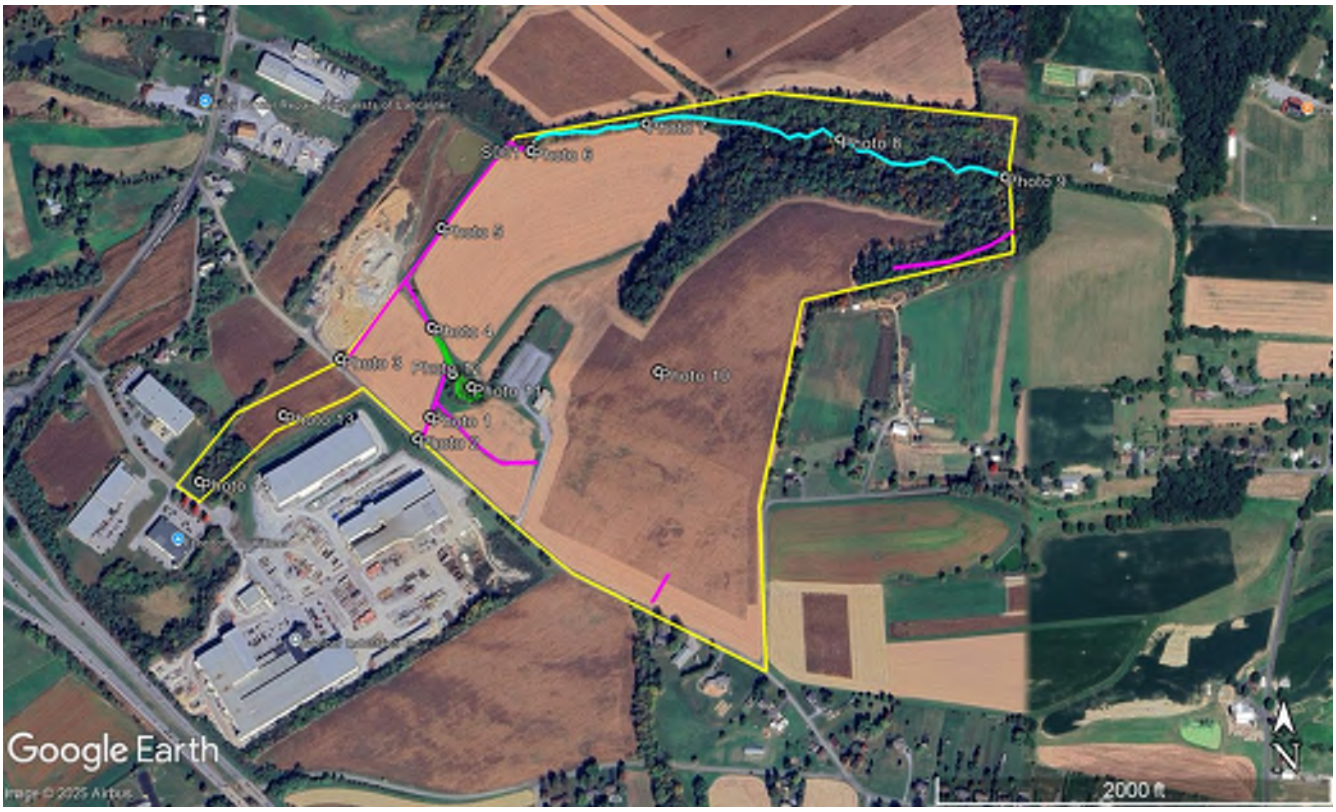
AGENCY DISCLOSURE NOTIFICATION

The public reporting burden for this collection of information, OMB Control Number 0710-0024, is estimated to average 30 minutes per response, including the timefor reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services,at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR REQUEST TO THE ABOVE EMAIL.**

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

Appendix E - A Photograph Log with Descriptions



Photograph location map

Photograph 1: Swale from Mt. Pleasant Road to farm pond. This image is looking northeast along the swale.

Photograph 2: Google Earth wintertime image of the same swale, from the same vantage point, as shown in Photo 1.

Photograph 3: Google Earth wintertime image of the westernmost property corner showing swale (looking eastward)

Photograph 4: Swale below old farm pond. The pond is within the trees near the top center of the image and the flow is northward out of the pond toward the image location. Farm equipment wheel ruts (some with water) are visible crossing the swale in the foreground. Image looking southward.

Photograph 5: Offsite stormwater basin to the north of the Site. At the time of the field investigation, the water in the basin was approximately 4 – 5 feet below the ground elevation on the site, suggesting groundwater is well below the rooting zone.

Photograph 6: Upper onsite terminus of intermittent stream looking approximately northeastward

Photograph 7: Intermittent watercourse channel along northern parcel boundary looking approximately northeast. The watercourse was dry at the time of this photo.

Photograph 8: Typical intermittent watercourse cross section looking upstream (northwest).

Photograph 9: The eastern end of the onsite watercourse reach looking northeast. The outbuildings in the image are offsite to the northeast,

Photograph 10: Image looking northward from onsite high point. The offsite detention basin is visible in the distance.

Photograph 11: Emergent wetland within the old farm pond berm. The berm is to the right in this image. Image looking north.

Photograph 12: Breached farm pond berm between wetland points 7 and 13. Photo looking north

Photograph 13: Culvert at rip-rap apron at the low point of the paper street location on Steel Way Drive (road in background).

Photograph 14: Abandoned agricultural field in the location of the paper street between Steel Way Drive and Mount Pleasant Road.