



PSI Project Number: 05171863-1
January 7, 2025

Professional Service Industries, Inc.
95 Chastain Road, Suite 301
Kennesaw, Georgia 30144
Phone: 770.424.6200

Advenir Azora Development, LLC
17501 Biscayne Blvd.
Aventura, FL 33160

Attention: Zak Swafford, Development Analyst
Zak@advenirdevelopment.com

Re: Wetland Delineation Report
LEO at Haywood
~20.95-acres Residential Land
1741 Haywood Road, Hendersonville, Henderson County, North Carolina

Dear Mr. Swafford:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to inform you of our findings for the above-referenced project. The work was conducted in accordance with PSI Proposal 0517-439561 dated November 6, 2024. Our scope included a Wetland Delineation of the subject property, including site observations, online research, interpretations and a letter report.

SITE DESCRIPTION AND PURPOSE

The above referenced property is located south of the intersection of Haywood Road & Morris Lane, and consists of mostly wooded land and cleared pastureland, totaling ~20.95-acres, with multiple dilapidated single-family residences and sheds/barns in the south-central portion. One stream is located in the central portion of the subject property, flowing from west to east. A second stream is also located along the eastern boundary of the property, flowing from north to south. According to the Henderson County Parcel Viewer, the subject property consists of one land parcel (ID# 9973193) owned by Jeffrey Justus. The property boundary is shown on Figures 1-3.

The adjoining properties consist of single-family residential neighborhoods to the north, east, and south, and apartment complexes to the west.

Streams and wetlands were delineated so the client can determine potential land use and cost to impact Waters of the United States (WUS) as defined by the United States Army Corps of Engineers (USACE).

DATA COLLECTION METHODOLOGY

A records review and site reconnaissance were conducted to determine the presence of wetlands, state waters, or floodplains/floodways on the subject property. The wetland records review is intended to provide information on the potential occurrence of wetlands on the subject property. The review is not intended to establish the definitive presence or absence of wetlands. Research for potential wetland areas was performed by reviewing appropriate source documents, as available, for the property, including U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, Natural Resources Conservation Service (NRCS) maps, or information





available from the USACE.

Andrew Peiken, Certified Ecologist with PSI, conducted the site assessment on December 20, 2024. The weather was partly cloudy with temperatures in the 40's-50's. According to Wunderground.com, there was 0.54-inches of reportable rainfall within the previous 96-hours, with the most recent rainfall occurring on January 18, 2024 (0.02 inches) and January 19, 2024 (0.1 inches). PSI investigated the property for indications of wetlands and/or WUS.

Potential streams and other WUS including wetlands, if present, were delineated. PSI delineated the landward extent of the on-site WUS in the field with flagging tape and/or stakes in accordance with methodologies outlined in Chapter 62-340, F.A.C., *U.S. Army Corps of Engineers (USACE) Corps Wetland Delineation Manual* (1987), and the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. This technique uses a multi-parameter approach which requires positive identification of three criteria:

- Hydrophytic vegetation
- Hydric soil
- Wetland hydrology

Areas exhibiting the above three wetland characteristics, as well as streams and tributary systems, were considered jurisdictional and were marked in the field with plastic survey flags by PSI personnel in preparation for USACE and appropriate local and state agency verification, if required. Please note that the wetland and waters boundary lines identified in the field are not an official jurisdictional delineation until verified by the USACE and/or the appropriate local and state agencies.

The distribution of distinctive vegetative communities, combined with topographic and hydrologic data, were used to determine if wetlands or streams were present within the study area limits. The subject property and suspect areas were photographed to provide the client, and potentially the USACE, with visual information regarding the wetland and stream characteristics, as necessary.

The specific methods used and the results of the assessment are presented in this report.

Suspect areas within the study area were examined in accordance with the procedures set forth in the 1987 Manual and regional supplement. The upper soil profile was probed, and samples were examined to determine the soil's consistency, color, and moisture content. The soil color, value and chroma, as well as consistency, were used to characterize sampled soils. The soil moisture condition was used to determine the potential saturation or other wetland hydrology characteristics. Random soil probe samples were taken to a depth of approximately 12-18 inches.

Detailed results of the delineation, including specific species of plants, hydrologic indicators and soil characteristics, can be found on the Wetland Determination Data Forms (attached). Two data forms were completed for the assessment. The vicinity of the data points was photographed. The location of the data points are shown on Figure 2.

After the field inspection was completed, the following sources were consulted to prepare the report:

- The List of Hydric Soils (National Resource Conservation Service (NRCS 2007)
- The National List of Plant Species that Occur in Wetlands: 1988 National Summary (Reed)



- USACE National Wetland Plant List – Eastern Mountains and Piedmont Region (USACE, 2022)
- The Soil Survey of Henderson County, NC (online NRCS Web Soil Survey)
- USDA/NRCS PLANTS database (<http://plants.usda.gov/>)
- FEMA FIRMette National Flood Hazard Map (#3700956900J effective 10/2/2008)

Hydric Soils & NWI Map

PSI reviewed soil maps provided by the USDA NRCS for the subject property. Five soils were mapped on the property:

- Bab: Bradson gravelly loam, 2 to 7 percent slopes; non-hydric.
- Co: Codorus loam (arkaqua); frequently flooded; found on floodplains; generally non-hydric (depth to water table 18-24"); however, includes ~5% hydric component (Toxaway, undrained soils).
- EdE: Edneyville (edneytown) fine sandy loam, 15 to 25 percent slopes; non-hydric.
- EwE: Evard soils, 15 to 25 percent slopes; non-hydric.
- HyC: Hayesville loam, 7 to 15 percent slopes; non-hydric.

One partially hydric soil type was mapped on the property by the USDA NRCS. It was located in the central portion of the subject property in the general vicinity of the stream that bisects the property. The soil maps can be found in **Appendix A**.

On-site soils probed by PSI generally matched the USDA NRCS description. The soils identified in the wetland area (WE1) were saturated with moisture and exhibited hydric features (see the attached Wetland Determination Data Forms).

The USFWS National Wetlands Inventory (NWI) map indicates one stream (Brittain Creek) in the central portion of the subject property, in the general vicinity of the stream PSI identified as Stream #1 (ST1). It was identified as R5UBH (Riverine-Unknown Perennial-Unconsolidated Bottom-Permanently Flooded). No wetlands were identified on the NWI map. It should be noted that the NWI map is generated based on historical aerial photography, and not based on ground-truthed investigation by the USFWS. The NWI map is appended as Figure 3.

Topographical Maps and Aerial Photographs

Based on historical Google Earth™ imagery (1985-2023), and historical 7.5-minute Series Quadrangle USGS Topographical Maps "Hendersonville, NC 2022", the subject property consisted of partially wooded and partially cleared pasture-land with a single family residence in the southern portion. These documents indicate two stream systems, in the general vicinity of streams identified by PSI as ST1 and Stream #2 (ST2). ST1 is in the central portion of the property, flowing from west to east. ST2 is located along the eastern property boundary, flowing from north to south. The 2022 topographical map indicates that the stream systems are perennial (solid blue lines).

See Appendix A for a Topographical Map and Site Location Map overlain an aerial photograph.

FEMA Flood Maps

PSI reviewed the FEMA FIRMette National Flood Hazard Map (#3700956900J effective 10/2/2008) to determine if the subject property is in a flood zone. According to the flood map, northern and southern portions of the subject property lay within Zone X (unshaded), which indicates it falls outside the 0.2-1.0 annual chance flood hazard, a low risk. The central portion of the property, in the general vicinity of ST1, lies within a Zone AE Regulatory



Floodway, a Zone AE Special Flood Hazard Area with Base Flood Elevation, and Zone X (shaded), which indicates 1% Annual Chance Flood Hazard. The FEMA FIRMette map is included in the figures section of the Appendix.

Hydrologic Conditions

Hydrology is a dynamic characteristic in wetlands and is often not present during periods of minimal seasonal precipitation. Indirect indicators are used to determine if wetland hydrology such as extended saturation or ponding has been present during the growing season. Examples of indirect hydrology indicators include water staining, flow patterns, buttressing of trees, and moss growth on trees near the ground surface. Water staining in leaves occurs when they are saturated or inundated for extended periods, causing the tannins or brown coloring in the leaves to leach out, leaving a grayish hue to the leaves. Mosses tend to colonize trees in wet, damp wooded areas.

PSI observed evidence of surface water, extended soil saturation, water-stained leaves, drainage patterns, moss trim lines on trees, and other hydrologic indicators within the suspected wetland area ("WE1") on the subject property (see the attached Wetland Determination Data Forms).

Hydrophytic Vegetation

The indicator status of each plant species, assigned by the United States Department of the Interior, Fish and Wildlife Service (USFWS), is a measure of how often a species is located in a wetland area. Obligate Wetland (OBL) plant species are found in a wetland >99% of the time. Facultative Wetland (FACW) plant species are found in a wetland 67-99% of the time. Facultative (FAC) plant species are found in a wetland 34-66% of the time. Facultative Upland (FACU) plant species are found in a wetland 1-33% of the time. Obligate Upland (UPL) plant species are found in a wetland <1% of the time. Modifiers ("+" and "-") are used to further modify the indicator status, so that a FAC+ species is more likely to occur in a wetland than a FAC- species.

The tree overstory in the upland areas was comprised of mostly Chestnut Oak (*Quercus montana*, UPL), Tulip Poplar (*Liriodendron tulipifera*, FACU), Eastern White Pine (*Pinus strobus*, FACU), Southern Magnolia (*Magnolia grandiflora*, FACU), American Holly (*Ilex opaca*, FACU), and Southern Red Oak (*Quercus falcata*, FACU).

The upland thick understory (sapling/shrub stratum) was dominated by Chinese privet (*Ligustrum sinense*, FAC), Common Greenbrier (*Smilax rotundifolia*, FAC), American Holly, flowering dogwood (*Cornus florida*, FACU), Great Laurel (*Rhododendron maximum*, FAC), blackberry (*Rubus argutus*, FACU), Broomsedge (*Andropogon virginicus*, FACU), and saplings of the above-mentioned tree stratum species.

The upland ground cover (herbaceous stratum) was dominated by English ivy (*Hedera helix*, FACU), Christmas Fern (*Polystichum acrostichoides*, FACU), and all Fescue (*Schedonorus arundinaceus*, FACU).

The wetland area was comprised of Highland Doghobble (*Leucothoe fontanesiana*, FACW), Great Laurel (*Rhododendron maximum*, FAC), Green-Head Coneflower (*Rudbeckia laciniata*, FACW), and Golden Ragwort – (*Packera aurea*, FACW).

As can be seen above, the upland vegetation was dominated by FACU (facultative upland) designations. The wetland area was dominated by hydrophytic vegetation (FACW). The total estimated cover percentage of each species' indicator status is recorded and multiplied by a constant to determine the total prevalence index. If the sum of the prevalence indices is less than or equal to 3.0, the plot area is within a wetland community. The Prevalence Index Worksheet on the attached Wetland Determination Data Forms indicated that the vegetation observed was not considered to be hydrophytic in the upland areas but was considered hydrophytic in the wetland area.



WETLAND DATA FORMS

Two data points were established on the subject property. Data point #1 was advanced within the low, Wetland 1 area, and Data Point #2 was advanced within the upland area adjoining east of Wetland 1. Routine Wetland Determination Data Forms were completed for these data points. As detailed on the data forms in the Appendix, the following criteria were identified:

Data Point #	Soil Type	Vegetation Type	Wetland Hydrology	Conclusion
1	Non-Hydric	Non-Hydrophytic	No	Upland
2	Hydric	Hydrophytic	Yes	Wetland

OBSERVATIONS

Based on our observations, hydric soils, hydrophytic vegetation, and hydrologic conditions were determined to be present. One wetland and two streams were observed. These three features were identified on the property as described below:

- Stream #1 (ST1) – ST1 entered the property from the western residential property boundary and flows west to east. The USGS topo maps and USFWS NWI maps identify it as “Brittain Creek” a blue-line perennial stream. It exits the eastern boundary of the property into a residential neighborhood. The stream is fed by one tributary stream system, identified by PSI as Stream #2 (ST2) as discussed below. The stream segment on the subject property is approximately 550-linear feet, and flows through a metal culvert under a gravel driveway. The stream is about 15-20 feet wide at the Ordinary High-Water Mark (or the point of wrested vegetation) and is approximately 4-12 inches deep. PSI observed fish in the stream. There was observable water flow, and the stream bed consisted of sand, gravel, cobble, and boulder. PSI observed hydric soils (gleyed soils) within the stream bank. The OHWM of ST1 was flagged with a total of 30 flags (north bank: ST1-1 through ST1-15, south bank: ST1-16 through ST1-30).
- Stream #2 (ST2) – ST2 entered the subject property from the north residential property via two metal culverts under Haywood Road and flows to the south. The USGS topo map identifies it as an unnamed, blue-line perennial stream. The USFWS NWI map does not identify it. It merges with the larger ST2, discussed above. The stream segment on the subject property is approximately 775-linear feet, and flows just east of the dirt driveway. The stream is about 3-5 feet wide at the OHWM and is approximately 1-4 inches deep. PSI observed hydric soils (gleyed soils) within the stream bank. PSI did not observe fish in the stream. There was observable water flow (although slight), and the in the stream bed consisted of mostly sand and gravel with some exposed bedrock. The OHWM of ST2 was flagged with a total of 40 flags (East bank: ST2-1E through ST2-20E, and West bank: ST2-1W through ST2-20W).
- Wetland #1 (WE1) – WE1, a forested wetland, is located in the central portion of the subject property. It lies between a steep slope and ST1. WE1 is hydrologically connected with ST1 via a black corrugated pipe. PSI observed a slight outflow of water from WE1 into ST1 via this pipe. PSI observed hydric soils, hydrophytic vegetation, and hydrologic conditions within this wetland area. It was delineated at the upland/wetland boundary with 34 pink flags. WE1 was determined to be approximately 0.4-acres in size. One data point was established within the wetland. Data forms can be found in the Appendix.



The estimated locations of the delineated streams and wetland are shown in Figure 2. The following table summarizes the waters identified.

Table 1. Summary of Delineated Waters

Name	Size	Notes
Stream #1 (ST1)	~550 linear feet	Perennial Stream (Jurisdictional)
Stream #2 (ST2)	~775 linear feet	Intermittent or Perennial Stream (Jurisdictional)
Wetland #1 (WE1)	~0.4-acres	Forested Wetland (Jurisdictional)

See Appendix A, Figure 2, for an aerial photograph with site observations. See Appendix B for site photographs.

CONCLUSIONS

Two stream systems (ST1 and ST2) were identified on the subject property, totaling approximately 1,325-lf in length. PSI determined that both exhibited visual stream flow, with a defined bank/bed structure and distinct OHWM, indicating a relatively permanent flow of water. ST1 is likely perennial, while ST2 is either intermittent or perennial. The streams are hydrologically connected to another downstream jurisdictional water (Mud Creek) which ultimately discharges into the French Broad River, approximately 3.5-miles to the west, a navigable water. Based on this information, the two streams are likely to be considered jurisdictional to the USACE, which regulates both intermittent and perennial streams.

One wetland was observed on the central portion of the property (WE1). It was approximately 0.4-acres. It was hydrologically connected to ST1. WE1 exhibited all three components of a wetland required by the USACE: hydric soils, hydrophytic vegetation, and hydrologic conditions. Since WE1 is hydrologically connected to ST1, a presumed jurisdictional water, it too would be considered jurisdictional to the USACE.

The three jurisdictional WUS would require federal wetlands permit to impact or fill them. Requesting a permit from the federal government (if necessary) automatically triggers the Historic Preservation Act and the Endangered Species Act. Because of this, a cultural resources archeological investigation and an endangered species habitat evaluation may be necessary to be performed on the property in conjunction with an application for a USACE Federal Nationwide or Individual permit. These initial studies may lead to more extensive and more costly surveys regarding specific cultural resources if regulators determine that cultural resources are likely to be found on the property or if the USFWS determines that specific endangered species are likely to inhabit the property. PSI will coordinate with all appropriate parties in the event additional studies beyond those that have already been developed will be required.

Please note that the wetland and streams boundary lines identified in the field are not an official jurisdictional delineation until verified by the USACE and/or the appropriate local and state agencies. These agencies may require that the flags be professionally surveyed prior to their verification.

Permitting can take between 4 and 12 months to acquire from initial permit submittal depending on the permit needed. The above studies would require completion before the federal permit application is acceptable for



submittal. This would likely delay the project and securing the permit requested is never guaranteed.

WARRANTY

The information contained in this report is based upon the information furnished by the Client and observations and research provided by PSI. These observations and results are time dependent, are subject to changing site conditions, and revisions to Federal, State and local regulations. The findings are preliminary in nature, and include site observations conducted by qualified person(s).

PSI only warrants the information in this report to be correct at the time of completion of this report. PSI warrants that the findings and conclusions contained herein were accomplished in accordance with the methodologies set forth in the Corps of Engineers Wetland Delineation Manual. These methodologies are described by the manual and represent good commercial and customary practice for conducting a Wetland Assessment of a site for the purpose of identifying recognized wetland conditions. However, these findings and conclusions contain all of the limitations inherent in these methodologies which are referred to in the protocol and some of which are more specifically set forth below.

Regardless of the professional opinion and interpretation of the laws by PSI, the USACE reserves the right to make all final decisions regarding their jurisdiction over any potential wetland. PSI believes that the information obtained from the record reviews and site visits is reliable. However, PSI cannot and does not warrant or guarantee that the information provided by these other sources is accurate or complete. The methodologies of this assessment are not intended to produce all-inclusive or comprehensive results, but rather to provide the client with information regarding apparent suspicions of existing and potential wetland conditions relating to the study area.

This report was prepared pursuant to the contract PSI has with Advenir Azora Development, LLC. That contractual relationship included an exchange of information about the subject site that was unique and between PSI and its client and served as the basis upon which this report was prepared. Because of the importance of the communication between PSI and its client, reliance or any use of this report by anyone other than Advenir Azora Development, LLC, for whom it was prepared, is prohibited and therefore not foreseeable to PSI.

Reliance or use by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to PSI's contract with Advenir Azora Development, LLC. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

No other warranties are implied or expressed.

UNIDENTIFIABLE CONDITIONS

This report is necessarily limited to the conditions observed and to the information available at the time of the work. Due to the nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of work or which were not apparent at the time of our site work. This report is also limited to information available from the client at the time it was conducted. The report may not represent all conditions at the subject site as it only reflects the information gathered from specific locations.



PSI appreciates the opportunity to have been of service to you. If you have any questions regarding our findings, please do not hesitate to contact us at (770) 424-6200.

Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Eric Lowe
Department Manager

Andrew Peiken
Principal Consultant

Enclosures: Appendices

APPENDIX A - FIGURES

intertek
psi

Legend

 Study Area



U.S. Fish and Wildlife Service
National Wetlands Inventory

1741 Haywood Road, Hendersonville, NC



December 10, 2024

Wetlands

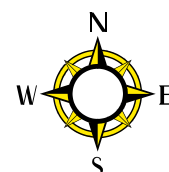
 Estuarine and Marine Deepwater
 Estuarine and Marine Wetland

 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 Wetlands Inventory (NWI)
This page was produced by the NWI mapper



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National Wetland Inventory (NWI)

Advenir Azora Development, LLC
1741 Haywood Road
Hendersonville, NC

Project No.:
05171863-1

Drawn by: ASP
Checked by: EL

Date:
12/10/2024

Source: USFWS
NWI Mapper

Figure 3

Classification code: R5UBH

System **Riverine (R)** : The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 ppt or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.

Subsystem **Unknown Perennial (5)** : This Subsystem designation was created specifically for use when the distinction between lower perennial, upper perennial, and tidal cannot be made from aerial photography and no data is available.

Class **Unconsolidated Bottom (UB)** : Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.

Water Regime **Permanently Flooded (H)** : Water covers the substrate throughout the year in all years.

1:6,000

82°28'22"W 35°19'22"N

Basemap Imagery Source: USGS National Map 2023

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	
	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

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 **12/10/2024 at 4:17 PM** 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.

Soil Map—Henderson County, North Carolina
(1741 Haywood Road)



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: Henderson County, North Carolina

Survey Area Data: Version 25, Sep 9, 2024

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

Date(s) aerial images were photographed: Apr 1, 2022—May 9, 2022

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
BaB	Bradson gravelly loam, 2 to 7 percent slopes	3.5	16.2%
Co	Codorus loam (arkaqua)	5.3	25.0%
EdE	Edneyville (edneytown) fine sandy loam, 15 to 25 percent slopes	0.2	1.1%
EwE	Evard soils, 15 to 25 percent slopes	4.4	20.5%
HyC	Hayesville loam, 7 to 15 percent slopes	8.0	37.2%
Totals for Area of Interest		21.4	100.0%

Hydric Rating by Map Unit—Henderson County, North Carolina (1741 Haywood Road)



Hydric Rating by Map Unit—Henderson County, North Carolina
(1741 Haywood Road)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

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.

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Web Soil Survey URL:
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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.

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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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Bradson gravelly loam, 2 to 7 percent slopes	0	3.5	16.2%
Co	Codorus loam (arkaqua)	5	5.3	25.0%
EdE	Edneyville (edneytown) fine sandy loam, 15 to 25 percent slopes	0	0.2	1.1%
EwE	Evard soils, 15 to 25 percent slopes	0	4.4	20.5%
HyC	Hayesville loam, 7 to 15 percent slopes	0	8.0	37.2%
Totals for Area of Interest			21.4	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) 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 (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Henderson County, North Carolina

Co—Codorus loam (arkaqua)

Map Unit Setting

National map unit symbol: lc18

Elevation: 1,200 to 2,000 feet

Mean annual precipitation: 45 to 70 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 116 to 170 days

Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Arkaqua, frequently flooded, and similar soils: 90 percent

Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arkaqua, Frequently Flooded

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium

Typical profile

Ap - 0 to 9 inches: loam

Bw - 9 to 30 inches: clay loam

Bg - 30 to 46 inches: sandy clay loam

Cg - 46 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 44 to 72 inches to strongly contrasting textural stratification

Drainage class: Somewhat poorly drained

Runoff class: Low

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.57 to 1.98 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: B/D

Ecological site: F130BY011WV - Hydric Floodplains

Hydric soil rating: No

Minor Components

Toxaway, undrained

Percent of map unit: 5 percent

Landform: Depressions on flood plains

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Henderson County, North Carolina

Survey Area Data: Version 25, Sep 9, 2024



APPENDIX B – PROPERTY PHOTOGRAPHS



Photo 1: Subject property (northern portion) off Haywood Road.



Photo 2: Subject property (southern portion, dilapidated structures).



Photo 3: Dirt road/driveway.



Photo 4: Typical wooded areas



Photo 5: ST1 – enters property from the west



Photo 6: ST1 – culvert and bridge for driveway



Photo 7: ST1 – exits the property at the eastern boundary



Photo 8: ST2 entering the property at Haywood Road via 2 metal culverts



Photo 9: ST2



Photo 10: ST2 stream bottom and stream flow



Photo 11: ST2 hydric soils in the bank



Photo 12: ST2 discharges into ST1



Photo 13: WE1



Photo 14: WE1 outflow



Photo 15: WE1 outflow into ST1 via black pipe



Photo 16: Data Point #1 (DP1) in upland



Photo 17: DP1 soil pit



Photo 18: DP1 non-hydric soils



Photo 19: Data Point #2 (DP2) in wetland.



Photo 20: DP2 soil pit (note water in bottom)



Photo 21: DP2 hydric soil

APPENDIX C – WETLAND/UPLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Proposed 20.95-acre Residential Site City/County: Hendersonville/Henderson Sampling Date: 12/19/2024
Applicant/Owner: Advenir Azora Development, LLC State: NC Sampling Point: DP-1
Investigator(s): Andrew Peiken Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Sloped Slope (%): 20
Subregion (LRR or MLRA): LRR N Lat: 35 19/40"N Long: 82 28'39"W Datum: _____
Soil Map Unit Name: Co - Codorus Loam (Arkaqua) NWI classification: Hydric

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	

Remarks:

Located east of Wetland 1.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)
		☐ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

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

 Sampling Point: DP-1

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>Chestnut Oak - Quercus montana</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)														
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20</u> (A/B)														
4. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>1</u></td> <td>x 5 = <u>5</u></td> </tr> <tr> <td>Column Totals: <u>5</u> (A)</td> <td><u>20</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>1</u>	x 3 = <u>3</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>1</u>	x 5 = <u>5</u>	Column Totals: <u>5</u> (A)	<u>20</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>1</u>	x 3 = <u>3</u>																	
FACU species <u>3</u>	x 4 = <u>12</u>																	
UPL species <u>1</u>	x 5 = <u>5</u>																	
Column Totals: <u>5</u> (A)	<u>20</u> (B)																	
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____	_____	_____	_____															
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index = B/A = <u>4</u>														
Sapling/Shrub Stratum (Plot size: <u>30 ft</u>)				Hydrophytic Vegetation Indicators: <u>N</u> 1 - Rapid Test for Hydrophytic Vegetation <u>N</u> 2 - Dominance Test is >50% <u>N</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. <u>Mountain Laurel - Kalmia latifolia</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>															
2. <u>Great Laurel - Rhododendron maximum</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Eastern Red Cedar - Juniperus virginiana</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>25</u> = Total Cover 50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				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 in height. Woody vine – All woody vines greater than 3.28 ft in height.														
Herb Stratum (Plot size: <u>15 ft</u>)																		
1. <u>Christmas Fern - Polystichum acrostichoides</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>														
Woody Vine Stratum (Plot size: <u>15 ft</u>)																		
1. <u>NA</u>	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: DP-1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Proposed 20.95-acre Residential Site City/County: Hendersonville/Henderson Sampling Date: 12/19/2024
Applicant/Owner: Advenir Azora Development, LLC State: NC Sampling Point: DP-2
Investigator(s): Andrew Peiken Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): LRR N Lat: 35 19' 40"N Long: 82 28'340"W Datum: _____
Soil Map Unit Name: Co - Codorus Loam (Arkaqua) NWI classification: Hydric

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
☒ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☒ Sparsely Vegetated Concave Surface (B8)
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☒ Drainage Patterns (B10)
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☒ Moss Trim Lines (B16)
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)
☐ Inundation Visible on Aerial Imagery (B7)		☒ Geomorphic Position (D2)
☒ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)
		☒ FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes <u>X</u> No _____	Depth (inches): <u>1"</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present? Yes <u>X</u> No _____	Depth (inches): <u>10"</u>	
Saturation Present? Yes <u>X</u> No _____	Depth (inches): <u>surface</u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

 Sampling Point: DP-2

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>NA</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				
4. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
5. _____				
6. _____				Prevalence Index worksheet:
7. _____				
_____ = Total Cover				Total % Cover of: _____ Multiply by: _____
50% of total cover: _____ 20% of total cover: _____				OBL species <u>0</u> x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot size: <u>30 ft</u>)				FACW species <u>3</u> x 2 = <u>6</u>
1. <u>Highland Doghobble - Leucothoe fontanesiana</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	FAC species <u>1</u> x 3 = <u>3</u>
2. <u>Great Laurel - Rhododendron maximum</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	FACU species <u>0</u> x 4 = <u>0</u>
3. _____				UPL species <u>0</u> x 5 = <u>0</u>
4. _____				Column Totals: <u>4</u> (A) <u>9</u> (B)
5. _____				Prevalence Index = B/A = <u>2.25</u>
6. _____				
7. _____				Hydrophytic Vegetation Indicators:
8. _____				
9. _____				<u>Y</u> 1 - Rapid Test for Hydrophytic Vegetation
_____ = Total Cover				<u>Y</u> 2 - Dominance Test is >50%
50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				<u>Y</u> 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: <u>15 ft</u>)				<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
1. <u>Green-Head Coneflower - Rudbeckia laciniata</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Golden Ragwort - Packera aurea</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____				
4. _____				Definitions of Four Vegetation Strata:
5. _____				
6. _____				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
7. _____				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
8. _____				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9. _____				Woody vine – All woody vines greater than 3.28 ft in height.
10. _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
11. _____				
_____ = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1. <u>NA</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: DP-2

[illegible]