D2327.001
March 20, 2024

FRESHWATER WETLAND DELINEATION REPORT

730 BUCK ROAD
BLOCK 44 * LOT 4
ELK TOWNSHIP,
GLOUCESTER COUNTY, NEW JERSEY

PREPARED FOR:

ATH-NJ, LLC
219 NORTH VINELAND BOULEVARD
COLLINGSWOOD, NJ 08108

PREPARED BY:

DuBois & ASSOCIATES
190 North Main Street
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AMY JONES, PWS
SENIOR BIOLOGIST/PROJECT MANAGER

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I. INTRODUCTION

A Freshwater Wetland Delineation Report has been prepared for land within the vicinity of a 79.5-acre site designated as Block 44, Lot 4 ("the site") located within Elk Township, Gloucester County, New Jersey. The property and immediate surrounding areas were investigated for the presence or absence of freshwater wetlands and a subsequent delineation of wetland/upland boundaries were conducted. The methodology utilized to determine the presence of wetlands was the "Three Parameter Approach for Wetland Delineation" as described within the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, published by the Federal Interagency Committee for Wetlands Delineation, January 1989. The Army Corp. of Engineers Regional Wetland Supplements and the most current U.S. Department of Agriculture Natural Resource Conservation Service *Field Indicators of Hydric Soil* manual were also utilized.

II. SITE LOCATION

The subject site is located on Sheet 25 of the official tax map of Elk Township (refer to *Figure 1: Elk Township Tax Map*). The site contains road frontage along Buck Road to the east, the terminus of Hughes Lane to the south, and is south of Elk Road (*Figure 2: New Jersey Road Map*). The site can be found on the Pitman East and Pitman West United States Geological Survey (USGS) Quadrangles with NAD 1983 state plane coordinates (feet) of E(x) 315,011 and N(y) 294,407 at the approximate center of the site (refer to *Figure 3: Pitman East & Pitman West U.S.G.S Quadrangle Map*). The site is located in the Maurice, Salem and Cohansey Watershed Management Area (WMA 17), the Still Run/Little Ease Run watershed (17IA), and Reed Branch (Still Run) subwatershed (17IA04). The site drains to the Reed Branch tributary mapped immediately southwest of the site.

Currently, the site is primarily characterized as an active farm with fields at the time of investigation planted with vegetables, and others subject to prior disking and harvesting at various stages. Areas of the southern section of the site included greenhouses, residential dwellings, man-made pond, fallow areas and forested communities. Surrounding land consists of agricultural land use, residential development, and expansive forested upland and wetland areas. Refer to *Figure 3: Aerial Map* for a depiction of the land coverage present on and in the vicinity of the subject site.

III. SOILS

According to the SSURGO GIS data layer provided by the USDA Natural Resources Conservation Service (NRCS), six (6) soil types representing six (6) soil series are mapped on a majority of the subject site (refer to *Figure 5: Gloucester County Soil Survey Map*). The following information is referenced directly from the Soil Survey of Gloucester County (USDA NRCS).

Glocuester County, New Jersey (NJ015)		
Map Unit Symbol	**Map Unit Name**	**Hydric Rating?**
WokA	Woodstown – Glassboro complex, 0 – 2 percent slopes	Yes
AtsAr	Atsion sand, 0 – 2 percent slopes, rarely flooded	Yes
DoeA	Downer sandy loam, 0 – 2 percent slopes	Yes
HbmB	Hammonton loamy sand, 0 – 5 percent slopes	Yes
FamA	Fallsington sandy loam, 0 – 2 percent slopes	Yes
AvtB	Aura – Sassafras sandy loams, 2 – 5 percent slopes	No

IV. TOPOGRAPHY AND DRAINAGE

The overall site is generally level and has minimal sloping. Based on the plan prepared by Pennoni Associates, Inc. (Pennoni) entitled "Boundary & Topographic Survey, 730 Buck Road; Township of Elk, Gloucester County, New Jersey" (6 Sheets), dated 5/24/2022, a high contour elevation of 129 is present in the central section of the site, and a low elevation of 119 feet is in the eastern section of the site in the vicinity of Elk Road. The wetland limits are variable throughout the site. The property drains to the Reed Branch tributary mapped to the east of the site and existing on-site man-made ponds.

V. SURFACE WATER QUALITY

The site is located in the Maurice, Salem and Cohansey Watershed Management Area (WMA 17), the Still Run/Little Ease Run watershed (17IA), and Reed Branch (Still Run) subwatershed (17IA04). According to the NJDEP GIS digital data layer entitled "NJDEP Surface Water Quality Standards of New Jersey", the mapped Reed Branch tributary off-site is a Freshwater Class 2, Non-Trout (FW2-NT) waterway according to the Surface Water Quality Standards at N.J.A.C.7:9B.

VI. STUDY METHODOLOGY

A field investigation was conducted by DuBois and Associates, LLC (DuBois) personnel in May, 2022. The methodology utilized to determine the presence or absence of wetlands and the delineation of a definitive line separating upland areas from wetland areas was the Three Parameter Approach set forth in a manual entitled *Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Manual)*, published under the Federal Interagency Committee for Wetland Delineation (FICWD), 1989. Three parameters were evaluated to determine the wetland limits, including hydrology, vegetation and soils. The Army Corp. of Engineers Regional Wetland Supplements, and the most current U.S. Department of Agriculture Natural Resource Conservation Service *Field Indicators of Hydric Soil* manual was also utilized. Three parameters were evaluated to determine the wetland limits, including hydrology, vegetation and soils.

A. Wetland Hydrology

The *Federal Manual* describes wetland hydrology as saturation to the surface when soils in the following natural drainage classes meet the following conditions:

1. Somewhat poorly drained mineral soils where the water table is less than six inches from the surface for one week or more during the growing season;

2. Low permeability soils (<6 inches/hour), poorly drained or very poorly drained mineral soils, water table is less than 1.5 feet from the surface for one week or more during the growing season;

3. Soils that are more permeable (>6 inches/hour), poorly drained, or very poorly drained mineral soils, water table is less than 1 foot from the surface for one week or more during the growing season

4. Water table is at a depth where saturation occurs more than rarely in poorly drained or very poorly drained organic soils;

5. An area is inundated at some time if ponded or frequently flooded with surface water for one week or more during the growing season.

Wetland hydrology is determined by the visual presence of drift lines, watermarks, sediment deposition, standing water, saturated soils, and buttressed tree trunks, among others. Hydrology varies with the season and amount of recent precipitation. Therefore, the hydrology criteria cannot always be a major determining factor, but it assists in the final verification of a wetland limit. Where appropriate, soil description and/or historical data were utilized to supplement field observations.

B. Hydrophytic Vegetation

As per the *Federal Manual*, hydrophytic vegetation is defined as "macrophytic plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content." Indicator statuses are used to designate a plant species' preference for occurrence in a wetland or upland. The vegetation on the project site was identified and classified in accordance with the 2016 National Wetland Plant List, which is a list compiled as an interagency effort between the U.S. Army Corp. of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service and the USDA NRCS to be utilized for all jurisdictional wetland determinations. Plants are assigned an indicator, and classifications listed are as follows:

Obligatory (OBL)	Almost always is a hydrophyte, rarely in uplands
Facultative Wetland (FACW)	Usually is a hydrophyte but occasionally found in uplands
Facultative (FAC)	Commonly occurs as either a hydrophyte or non-hydrophyte
Facultative Upland (FACU)	Occasionally is a hydrophyte but usually occurs in uplands
Upland (UPL)	Rarely is a hydrophyte, almost always in uplands
No Indicator (NI)	No indicator status

The *Federal Manual* states that there are two instances for an area to meet the hydrophytic vegetation criteria:

1. more than 50 percent of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species, or
2. a frequency analysis of all species within the community yields a prevalence index value of less than 3.0 (where OBL = 1.0, FACW = 2.0, FAC = 3.0, and UPL = 5.0)

C. Hydric Soils

The *Federal Manual* defines hydric soils as "soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". The determination of hydric soils was evaluated by taking soil borings with a hand held auger to a depth of 20+ inches. Where applicable, hydric soils were identified in accordance with the indicators established within the publication "*Field Indicators of Hydric Soils in the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2*," published by the USDA NRCS in 2018. The soils were evaluated based on texture, color, structure and presence/absence of redoximorphic features (mottling). Soil color was evaluated using a Munsell color chart; soil texture was described using the USDA classification system; structure was estimated using the methods described in the Soil Survey Manual, prepared by the USDA, 1993; and any other indicators that assisted in the classification of soil types were recorded in the field.

Soil texture is the proportion of sand, silt and clay in the soil. This composition affects water content, water intake rates, aeration, root penetration and some chemical properties (Gardiner & Miller, 2004).

Redoximorphic features (mottling) occurs in soils that are seasonally inundated, creating a varying aerobic/anaerobic environment. When the water table fluctuates, iron (orange/reddish brown) or manganese (dark reddish-brown/black) becomes oxidized during the dry (aerobic) period. This process forms mottles, which appear as oxidized iron or manganese features in an otherwise reduced soil column. These features are typically insoluble and are commonly used as an indicator of a seasonal high water table and hydric soils.

Soil structure is described as angular blocky, subangular blocky, columnar, granular, platy and prismatic (Gardiner & Miller, 2004). The structure of the soil can influence factors such as water and air infiltration.

Soils are considered hydric if the chroma of the matrix was less than 2 or equal to 2 when mottling was present. Sandy soils were evaluated by observing streaking of subsurface horizons, high organic matter in the surface and/or the presence of organic peds. These features are required to be within 12 inches of the surface to meet hydric criteria.

VII. RESULTS OF ON-SITE ASSESSMENT

According to the NJDEP freshwater wetland GIS mappings, freshwater wetlands are mapped in the eastern and northwestern sections of the site (refer to *Figure 6: NJDEP Freshwater Wetlands Map*). The presence of freshwater wetlands was confirmed on the site during the field investigation. The extent of freshwater wetlands was flagged in the field by the staff of DuBois in May, 2022, the location of which is generally consistent with NJDEP mapping, with few additional areas. The flags were then surveyed and transcribed onto the plan entitled "Boundary & Topographic Survey, 730 Buck Road; Township of Elk, Gloucester County, New Jersey" (6 Sheets), dated 5/24/2022 as prepared by Pennoni, as referenced above.

A. Wetland Hydrology

Within the areas identified as freshwater wetlands on the site, positive wetland hydrologic indicators were observed including a high water table, soil saturation, vegetation morphological adaptations such as shallow root systems, and few areas of water stained leaves in forested areas. Agricultural wetlands exhibited standard hydrologic indicators that include topographic depressions, evidence of stunted crop growth, cracked soils, and evidence of and observed standing water. Emergent wetlands not farmed also exhibited herbaceous hummocks. All other areas of the site were absent of hydrologic indicators. Hydrology varies with the season and amount of recent precipitation; therefore, the hydrology criteria cannot always be a major determining factor, but it assists in the final verification of a wetland limit.

B. Hydrophytic Vegetation

A majority of the uplands on the site are classified as agricultural and developed areas that are actively farmed, and exhibit features such as housing, greenhouses, maintained lawn areas, and access drives. Areas of fallow and unfarmed uplands include species typical in these areas such as purple deadnettle (*Lamium purpureum*, NI), mugwort (*Artemisia vulgaris*, FACU), English plantain (*Plantago lanceolata*, FACU), common plantain (*Plantago major*, FACU), field sorrel (*Rumex acetosella*, FACU), dandelion (*Taraxacum officinale*, FACU), foxtail grass (*Setaria italica*, FACU), bushclover (*Lespedeza cuneata*, FACU), red clover (*Trifolium pratense*, FACU), yellow rocket (*Barbarea vulgaris*, FAC), and white clover (*Trifolium repens*, FACU). Overstory canopy species along edge and developed areas include white oak (*Quercus alba*, FACU), and sweet gum *(Liquidambar styraciflua*, FAC).

Emergent wetland areas on the site surround the man made ponds and exhibit species such as softrush (*Juncus effusus*, FACW), common reed (*Phragmites australis*, FACW), spikerush (*Eleocharis spp*., OBL), smartweed (*Polygonum, spp.,* FACW), occasional tussocks sedge (*Carex stricta*, OBL), seed box (*Ludwigia alternifolia*, OBL) and red maple (*Acer rubrum*, FAC) and sweet gum saplings. Wetland areas in the greenhouse facilities also include cattail (*Typha latifolia*, OBL). The vegetative composition of these wetland areas exceeds the 50 percent dominance criterion, and the hydrophytic vegetation parameter is met. Agricultural wetlands lack a vegetation species composition.

C. Hydric Soils

An on-site assessment was conducted to identify existing characteristics of the soils and to identify restrictive layers, seasonal high-water tables and groundwater levels. Soil borings were performed throughout the upland/wetland boundaries on the site with a handheld auger. The soils within identified wetland area have low chroma matrix colors of 10YR 2/1, 10YR3/2 and 10YR4/2 with mottling less than ten (10) inches from the surface. Soils throughout the uplands exhibit matrix Munsell notations of 10YR3/4, 10YR4/4, 10YR5/6 and 2.5Y4/3 and do not exhibit the low chroma matrix criterion. Refer to *Appendix B* for a copy of the Field Data Sheets.

VIII. PROPOSED PROJECT

The applicant is applying for the appropriate land verification of the wetland and transition area limits on the site to determine the extent of unregulated uplands on the property.

IX. SUMMARY

A field investigation and subsequent wetland delineation was performed upon Block 44, Lot 4 within Elk Township, Gloucester County. Freshwater wetlands were identified and flagged on-site by DuBois. Locations were then surveyed and transferred to the plan prepared by Pennoni entitled “Boundary & Topographic Survey, 730 Buck Road; Township of Elk, Gloucester County, New Jersey” (6 Sheets), dated 5/24/2022.

This report is to be submitted to the NJDEP along with a Letter of Interpretation application package requesting verification of the delineated wetland line and establishment of the resource value and transition area width associated with the subject wetland areas. This request and application also request confirmation in the Letter of Interpretation that the delineated E and F line wetlands are isolated features that are not connected to a surface water tributary system.

X. REFERENCES

Federal Interagency Committee for Wetland Delineation, 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Services, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative Technical Publication.

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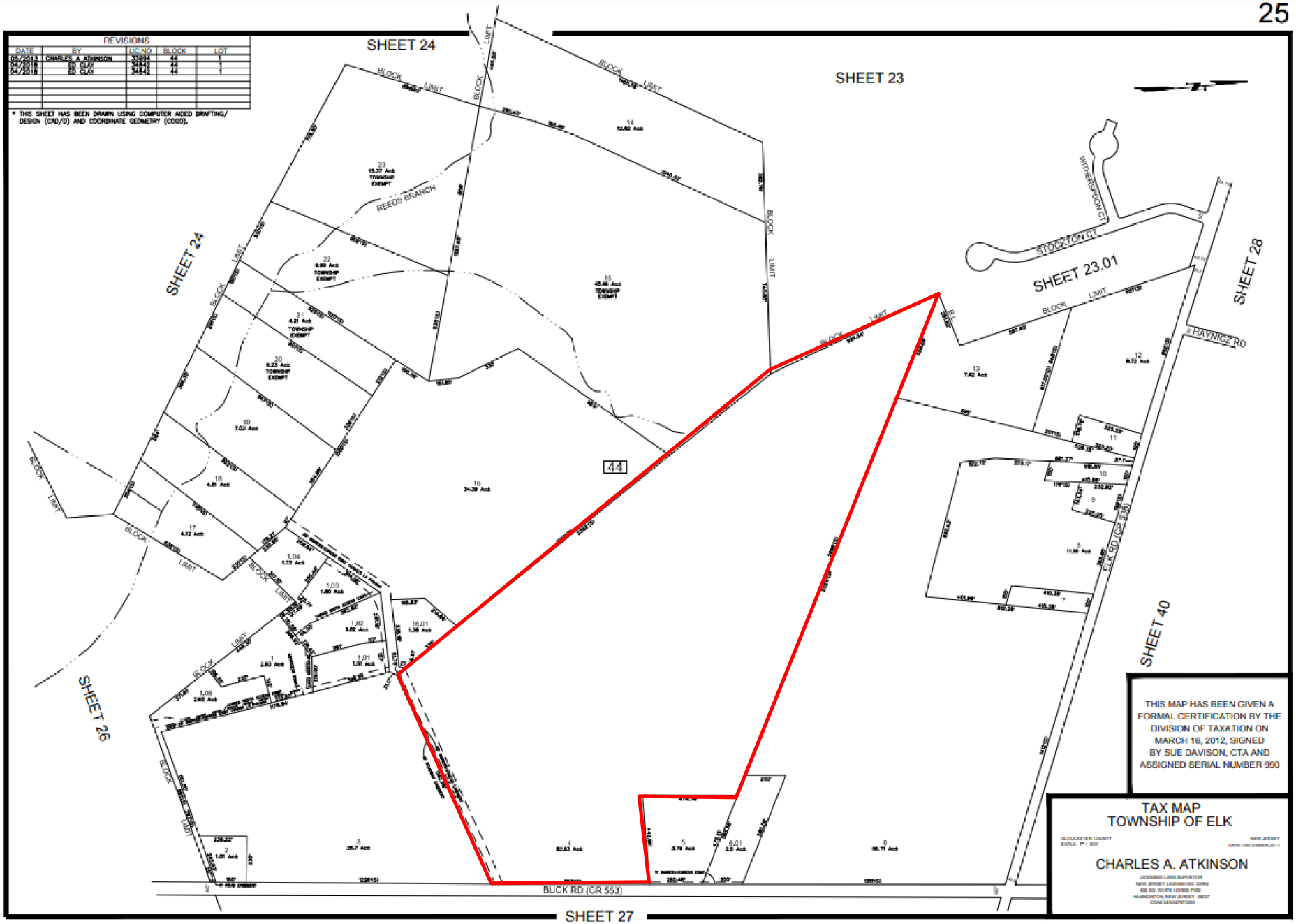
United States Department of Agriculture, Natural Resources Conservation Service, Soil Data Mart. Accessed 2022 & March, 2024. http://soildatamart.nrcs.usda.gov/State.aspx

United States Fish and Wildlife Service, United States Environmental Protection Agency, United States Army Corp. of Engineers, United States Department of Agriculture Natural Resources Conservation Service. 2020. National Wetland Plant List. Available Online at http://plants.usda.gov/wetland.html. Accessed June, 2022.

FIGURES



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DuBois & ASSOCIATES

Elk Township Tax Map

Block 44 * Lot 4

Elk Township, Gloucester County, NJ

NORTH

Figure 1

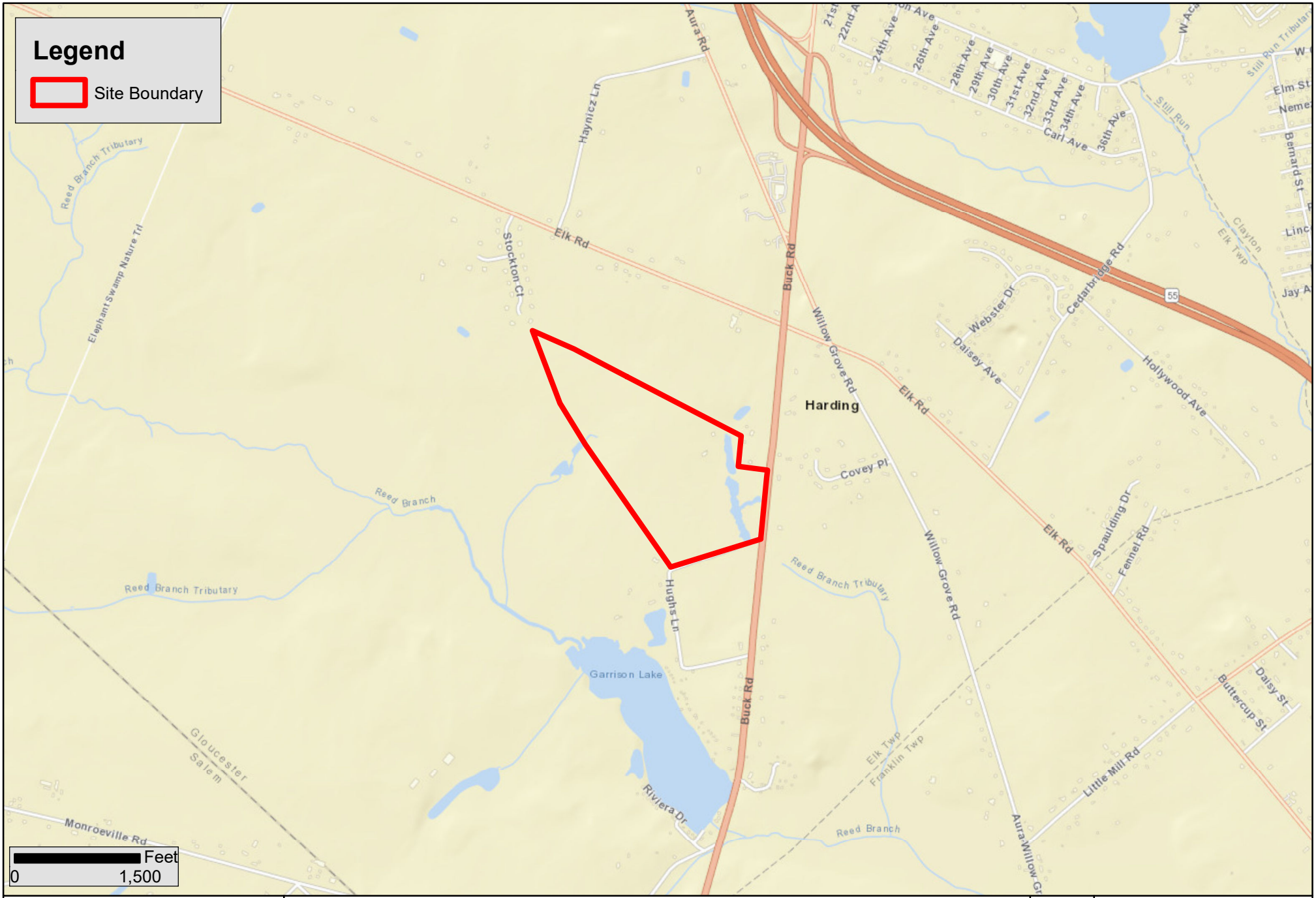
Job No.: D2327.001

Date: 3/1/2022

Drawn By: HJ

Document Path: S:\JOBS NUMBERS\D2327.001\Tax.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.



DuBois & ASSOCIATES

New Jersey Road Map

Block 44 * Lot 4
Elk Township, Gloucester County, NJ

NORTH

Figure 2

Job No.: D2327.001
Scale: 1 in = 1,500 ft
Date: 3/1/2022
Drawn By: HJ

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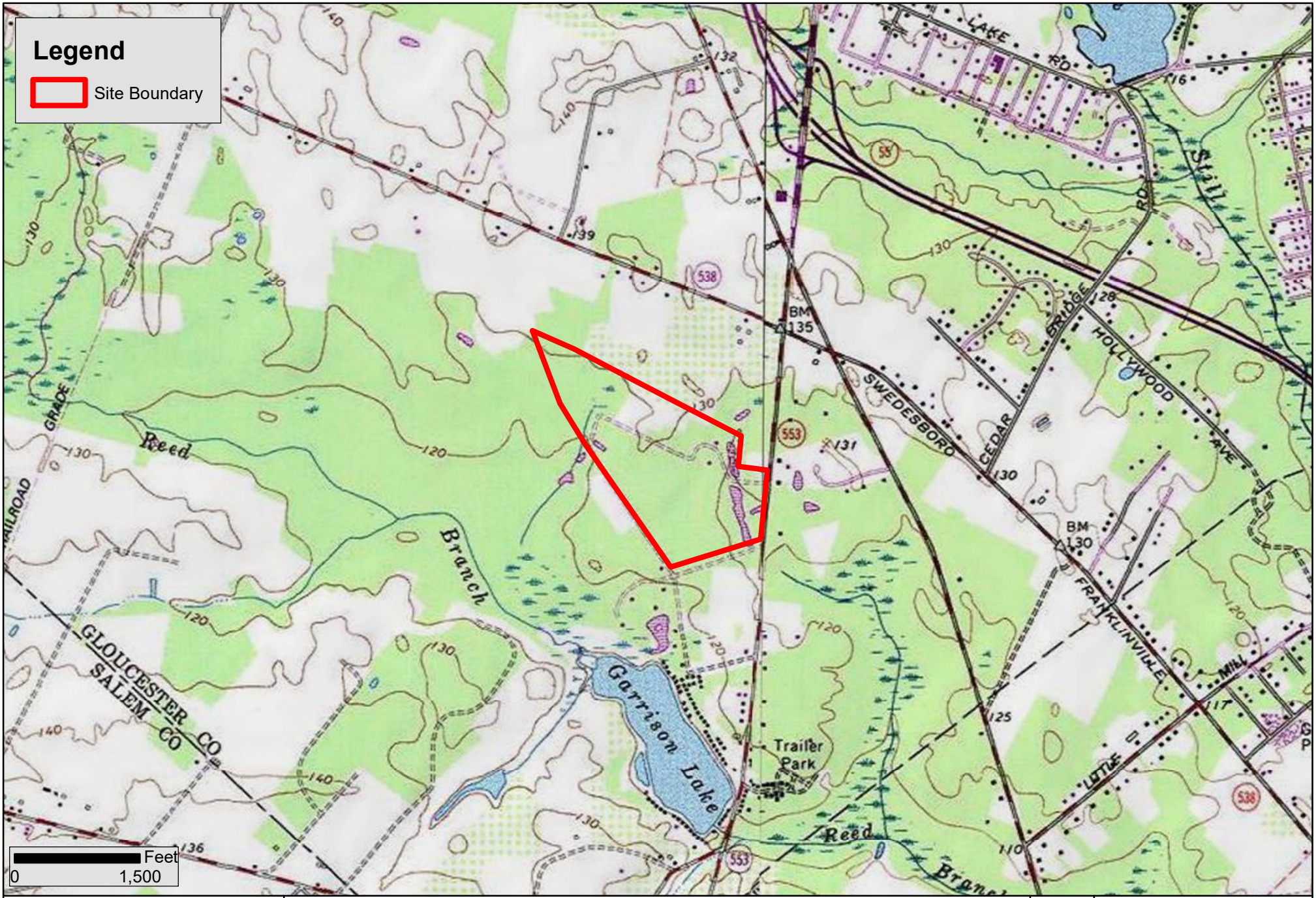

DuBois & ASSOCIATES

SE Pitman West & SW Pitman East NJ USGS Quad Map

Block 44 * Lot 4
Elk Township, Gloucester County, NJ

NORTH

Figure 3

Job No.: D2327.001
Scale: 1 in = 1,500 ft
Date: 3/1/2022
Drawn By: HJ

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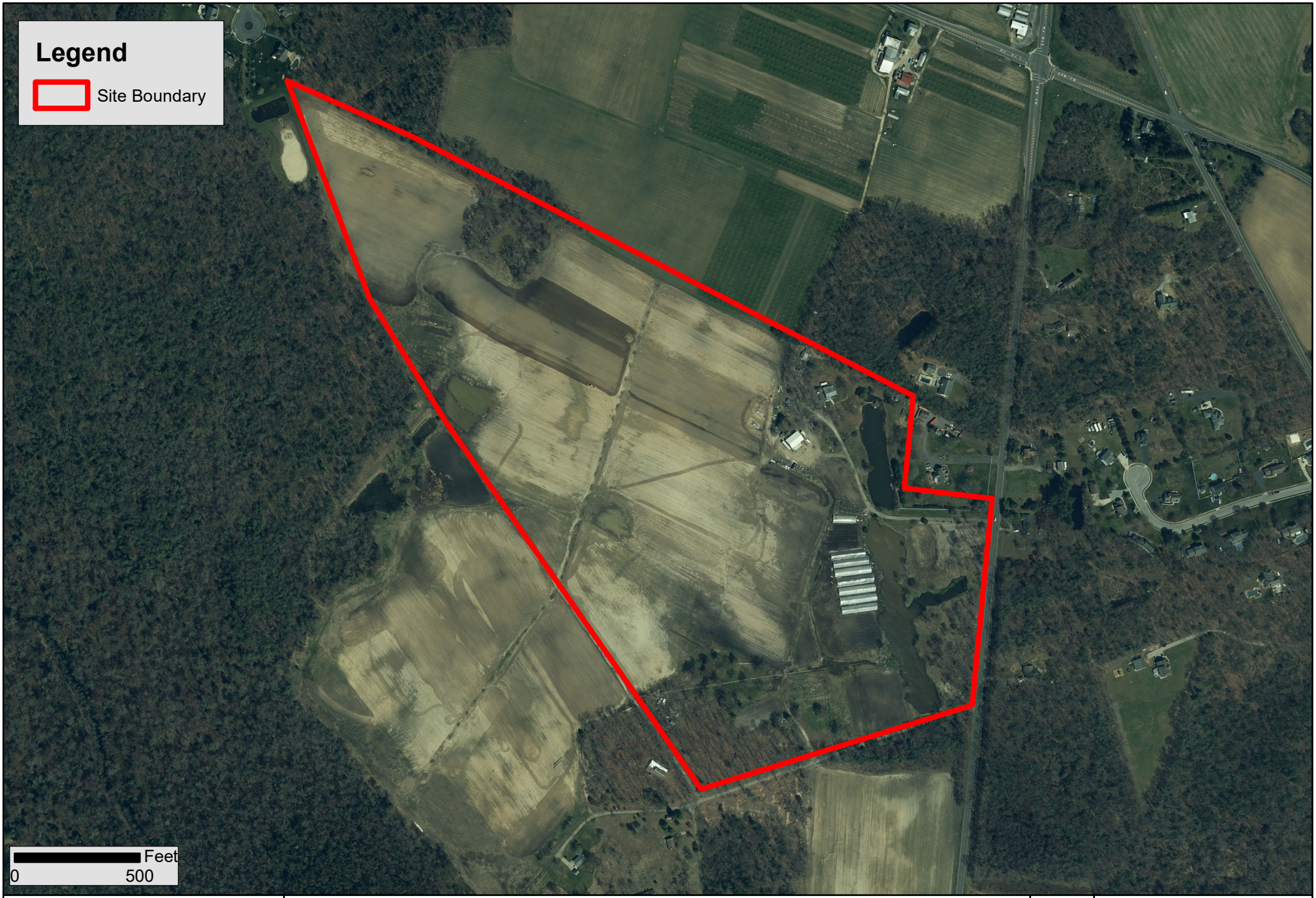

DuBois & ASSOCIATES

Aerial Map

Block 44 * Lot 4
Elk Township, Gloucester County, NJ

NORTH

Figure 4

Job No.: D2327.001
Scale: 1 in = 500 ft
Date: 3/1/2022
Drawn By: HJ

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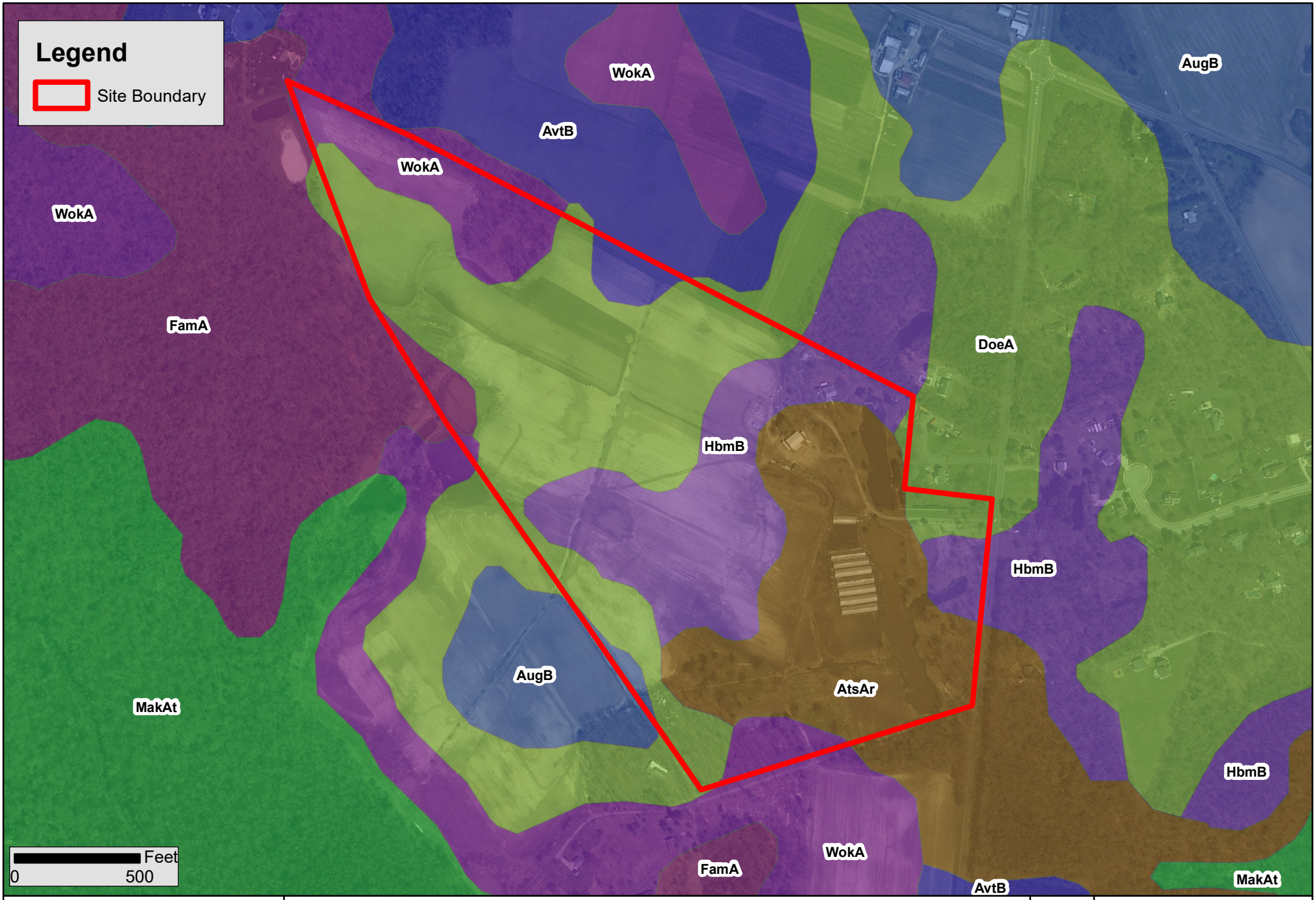

Gloucester County Soil Survey Map

Block 44 * Lot 4
Elk Township, Gloucester County, NJ

DuBois & ASSOCIATES

NORTH

Figure 5

Job No.: D2327.001
Scale: 1 in = 500 ft
Date: 3/1/2022
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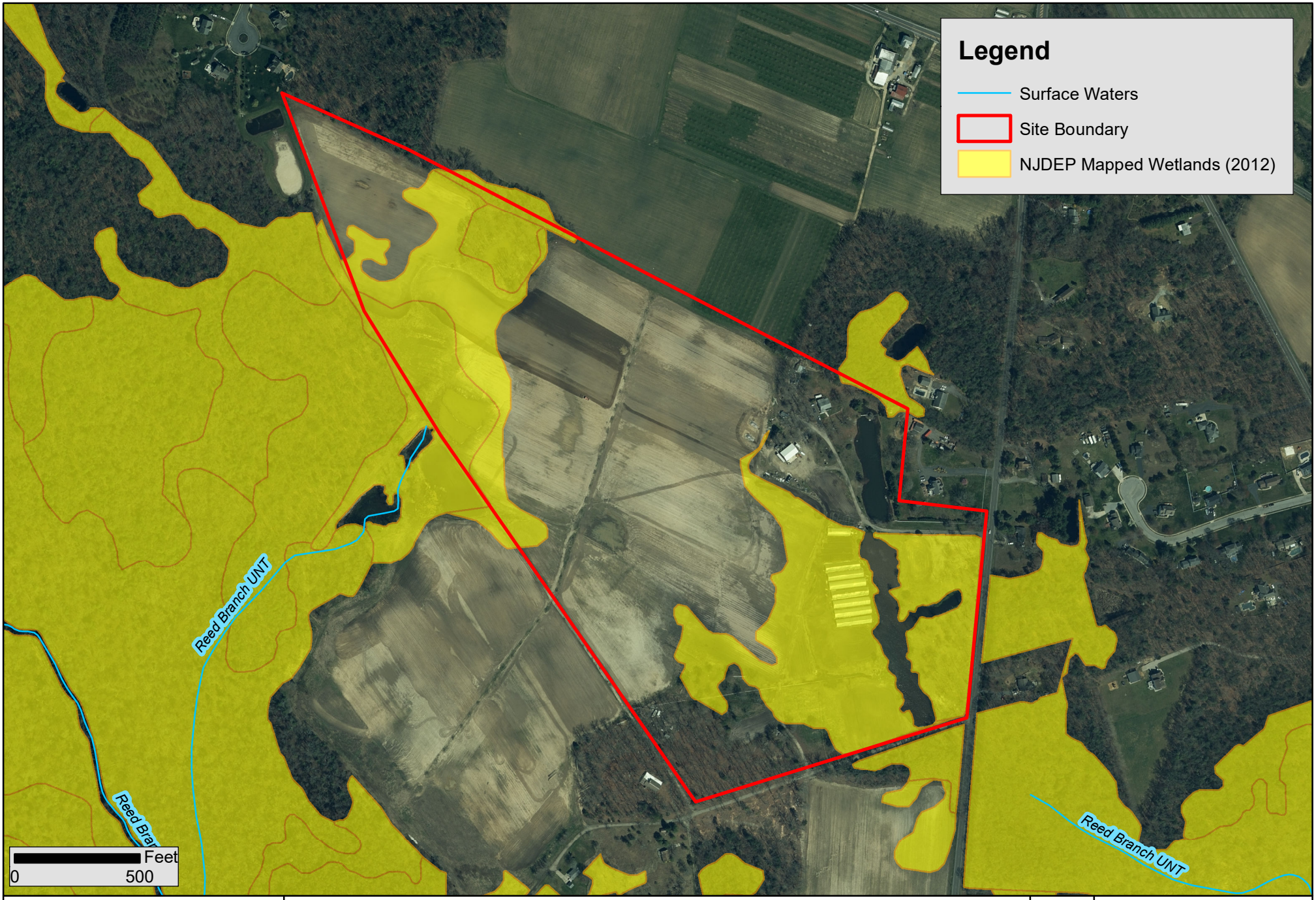

NJDEP Freshwater Wetlands Map

Block 44 * Lot 4
Elk Township, Gloucester County, NJ

DuBois & ASSOCIATES

NORTH

Figure 6

Job No.: D2327.001	
Scale: 1 in = 500 ft	
Date: 3/27/2024	
Drawn By: HJ	

Document Path: Z:\D2327.001\Wet.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

APPENDIX A

SITE PHOTOGRAPHS

Site Photographs
Block 44 * Lot 4
Elk Township, Gloucester County, New Jersey
May, 2022

Photo 1: Representative view of the existing agricultural building, access drive and farmed fields in the eastern section of the site.

Photo 2: Representative view of fallow agricultural upland fields, illustrating bright matrix upland soils.

Photo 3: View through the wetland and pond feature facing west from the vicinity of wetland point A11.

Photo 4: View along the wetland line facing south from the vicinity of point A44.

Photo 5: Facing south along the pond limit from point B9.

Photo 6: Representative view of the modified agricultural isolated F wetland area.

Photo 7: View into the D wetland area and point from the vicinity of point D23.

Photo 8: Representative view of the E wetland area in the northwest section of the site in the vicinity of point E15.

Photo 9: Representative view of the fallow agricultural upland field in the northwest section of the site.

Photo 10: View of hydric soils characteristics and emergent conditions in the D wetland area in the southwest section of the site.

APPENDIX B

Field Data Logs

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: A15

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
Lamium purpureum	NI	Herbaceous
Artemisia vulgaris	FACU	Herbaceous
Plantago lanceolata	FACU	Herbaceous
Plantago major	FACU	Herbaceous
Rumex acetosella	FACU	Herbaceous
Taraxacum officinale	FACU	Herbaceous
Liquidambar styraciflua	FAC	Canopy

Percent of dominant species that are OBL, FACW and/or FAC: 15%
Is the Hydrophytic Vegetation Criterion met? Yes: ☐ No: ☑

Soils

Series: DoeA
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☐ No: ☑ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 5	10YR3/2
MATRIX COLOR:	5 - 10	10YR4/4
MATRIX COLOR:	10-12+	10YR5/6
MATRIX COLOR:		

Other hydric soil indicators: _____
Is the hydric soil criterion met?: Yes: ☐ No: ☑

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth: _____
Is the soil saturated?: Yes: ☐ No: ☑ Depth to saturation: _____
Other evidence of surface inundation or soil saturation: _____

Is the wetland hydrology criterion met?: Yes: ☐ No: ☑

Is this observation point a wetland?: Yes: ☐ No: ☑

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: A15

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
Juncus effusus	FACW	Herbaceous
Eleocharis spp.	OBL	Herbaceous
Phragmites australis (occasional)	FACW	Herbaceous
Phalaris arundincaea	FACW	Herbaceous

Percent of dominant species that are OBL, FACW and/or FAC: 100%
Is the Hydrophytic Vegetation Criterion met? Yes: ☑ No: ☐

Soils

Series: HbmB
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☑ No: ☐ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 7	10YR2/1
MATRIX COLOR:	7 - 12+	10YR3/2 w/ 10YR4/6 mottles
MATRIX COLOR:		
MATRIX COLOR:		

Other hydric soil indicators: saturation
Is the hydric soil criterion met?: Yes: ☑ No: ☐

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth: _____
Is the soil saturated?: Yes: ☑ No: ☐ Depth to saturation: 0"
Other evidence of surface inundation or soil saturation: _____

adjacent pond, drainage features

Is the wetland hydrology criterion met?: Yes: ☑ No: ☐

Is this observation point a wetland?: Yes: ☑ No: ☐

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: B9

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
Turf grass	NI	Herbaceous
Andropogon virginicus	FAC	Herbaceous
Plantago lanceolata	FACU	Herbaceous

Percent of dominant species that are OBL, FACW and/or FAC: 33%
Is the Hydrophytic Vegetation Criterion met? Yes: ☐ No: ☑

Soils

Series: AtsAr
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☐ No: ☑ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 4	10YR3/2
MATRIX COLOR:	4 - 8	10YR3/4
MATRIX COLOR:	8 - 12+	10YR4/4
MATRIX COLOR:		

Other hydric soil indicators:
Is the hydric soil criterion met?: Yes: ☐ No: ☑

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth:
Is the soil saturated?: Yes: ☐ No: ☑ Depth to saturation:
Other evidence of surface inundation or soil saturation:

Is the wetland hydrology criterion met?: Yes: ☐ No: ☑

Is this observation point a wetland?: Yes: ☐ No: ☑

* Adjacent wetland a State open water feature with no wetland fringe. No wetland data sheet applicable

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: D8 & E14

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
crop stubble	NI	Herbaceous
Ambrosia artemisiifolia	FACU	Herbaceous
Setaria italica	FACU	Herbaceous
Rumex acetosella	FACU	Herbaceous

Percent of dominant species that are OBL, FACW and/or FAC: 0%
Is the Hydrophytic Vegetation Criterion met? Yes: ☐ No: ☑

Soils

Series: DoeA
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☐ No: ☑ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 5	10YR3/4
MATRIX COLOR:	5 - 12+	10YR5/6
MATRIX COLOR:		
MATRIX COLOR:		

Other hydric soil indicators: _____
Is the hydric soil criterion met?: Yes: ☐ No: ☑

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth: _____
Is the soil saturated?: Yes: ☐ No: ☑ Depth to saturation: _____
Other evidence of surface inundation or soil saturation: _____

Is the wetland hydrology criterion met?: Yes: ☐ No: ☑

Is this observation point a wetland?: Yes: ☐ No: ☑

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: D8

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
Juncus effusus	FACW	Herbaceous
Phragmites australis	FACW	Herbaceous
Polygonum pensylvanica	FACW	Herbaceous
Carex stricta (occasional)	FACW	Herbaceous
Barbarea vulgaris	FAC	Herbaceous
Phalaris arundinacea	FAC	Herbaceous

Percent of dominant species that are OBL, FACW and/or FAC: 100%
Is the Hydrophytic Vegetation Criterion met? Yes: ☑ No: ☐

Soils

Series: DoeA
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☑ No: ☐ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 10	10YR2/1
MATRIX COLOR:	10 - 12+	10YR3/2 w/ 10YR4/6 mottles
MATRIX COLOR:		
MATRIX COLOR:		

Other hydric soil indicators: saturation
Is the hydric soil criterion met?: Yes: ☑ No: ☐

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth: _____
Is the soil saturated?: Yes: ☑ No: ☐ Depth to saturation: 0"
Other evidence of surface inundation or soil saturation: herbaceous hummocks

Is the wetland hydrology criterion met?: Yes: ☑ No: ☐

Is this observation point a wetland?: Yes: ☑ No: ☐

DuBois & ASSOCIATES

Project Number: D2327.001
Sample Point: E14

Wetland Delineation Data Form

Project Site: 730 Buck Road	**City/County/State:** ElkTwp, Gloucester Cty
Applicant Owner: ATH - NJ, LLC	
Investigators: Amy Jones, PWS	

Vegetation

Dominant Plant Species	Indicator Status	Stratum
Juncus effusus	FACW	Herbaceous
Phragmites australis	FACW	Herbaceous
Polygonum pensylvanica	FACW	Herbaceous
Barbarea vulgaris	FAC	Herbaceous
Acer rubrum	FAC	Canopy
Liquidambar styraciflua	FAC	Canopy

Percent of dominant species that are OBL, FACW and/or FAC: 100%
Is the Hydrophytic Vegetation Criterion met? Yes: ☑ No: ☐

Soils

Series: WokA
Is the soil on the hydric soils list?: Yes: ☑ No: ☐ Unknown: ☐
Is the soil mottled? Yes: ☑ No: ☐ Gleyed?: Yes: ☐ No: ☐

	DEPTH	MUNSELL NOTATION
MATRIX COLOR:	0 - 6	10YR2/1
MATRIX COLOR:	6 - 10	10YR3/2 w/ 10YR4/6 mottles
MATRIX COLOR:	10 - 12+	10YR4/2 w/ 10YR4/6 and 10YR3/2 mottles
MATRIX COLOR:		

Other hydric soil indicators: saturation
Is the hydric soil criterion met?: Yes: ☑ No: ☐

Hydrology

Is the ground surface inundated?: Yes ☐ No: ☑ Surface water depth: _____
Is the soil saturated?: Yes: ☑ No: ☐ Depth to saturation: 0"
Other evidence of surface inundation or soil saturation: herbaceous hummocks, shallow root systems and water stained leaves in forested areas

Is the wetland hydrology criterion met?: Yes: ☑ No: ☐

Is this observation point a wetland?: Yes: ☑ No: ☐

APPENDIX C

STATEMENT OF QUALIFICATIONS

Amy Jones
Senior Biologist/Project Manager
ajones@denviro.com

DuBois & ASSOCIATES

190 North Main Street
Manahawkin, NJ 08050
609-488-2857

Education:

B.S. Ecology
Juniata College – 2000

Certifications:

Professional Wetland Scientist-Society of Wetland Scientists

Qualified Specialist (Ecologist & Ornithologist) able to certify ESA Protection Plans

USFWS Recognized Qualified Bog Turtle Surveyor – NJ

NJDEP ENSP Recognized Qualified Venomous Snake Monitor

Continuing Education:

Rutgers University
Methodology for Delineating Wetland & Wetland Vegetation Identification

Threatened and Endangered Species of Northern and Southern New Jersey (field and classroom courses)

Richard Stockton College of NJ
Ornithology

Shepherd College
Shorebird Management & Ecology

Bowman's Hill Wildflower Preserve
Identification of Cool Season Grasses, Sedges and Rushes
Plant Stewardship Index (PSI)

Professional Affiliations:

The Wildlife Society
-National Member
-NJ Chapter Member
-NJ Chapter Secretary
2007 – 2014
-NJ Chapter Board Member
2014 – 2016
-NJ Chapter Newsletter Editor
2017 – present

Fields of Competence:

Amy Jones has over 24 years of experience in the fields of biology, ecology, wetland science, and land use regulatory compliance. She conducts various environmental site assessments, development feasibility studies, wetland delineations, rare species habitat evaluations and population surveys. She has extensive experience in managing a variety of projects from the initial field study stage through various regulatory application and approval processes, including extensive coordination with regulatory personnel. Mrs. Jones has a respected professional relationship with various municipal and county agencies, NJDEP, USFWS and USDA NRCS personnel.

Professional Experience:

Mrs. Jones is a senior biologist and project manager with the firm of DuBois and Associates. She manages all aspects of a project and coordinates specifically with a variety of clients to organize projects and proposals. Mrs. Jones manages each individual project to ensure all appropriate and applicable regulations and tasks are implemented to facilitate successful completion/approval of the project.

Mrs. Jones is responsible for conducting development feasibilities, wetland delineations, natural resource inventories, threatened/endangered species habitat assessments and directed surveys, and monitoring activities. Mrs. Jones has extensive experience with the survey and sampling protocols required under the jurisdiction of the USFWS, NJDEP, PAFBC, and Pinelands Commission for threatened and endangered species surveys. This survey work includes experience in various snake and salamander species drift fence trapping, numerous raptor and woodpecker nest investigations and breeding vocalization broadcast surveys, shorebird and colonial waterbird nesting and monitoring surveys, opportunistic and visual encounter turtle surveys, amphibian monitoring and call detection/playback surveys, and bat studies. Mrs. Jones has received numerous scientific collection permits from regulatory agencies as both the primary permittee and sub-permittee.

Specific experience and responsibilities include ecological and environmental monitoring activities for various linear development and improvement projects. This monitoring oversight and coordination ensures the construction activities are in compliance with county, state, and federal conditions and standards, and all best management practices are implemented as required. Monitoring activities also serve to ensure the construction activities will not result in adverse impacts to environmentally sensitive areas, or rare faunal or floral habitats and/or populations.

Mrs. Jones conducts vegetation inventories within a variety of biotic communities throughout New Jersey. These have included species specific surveys for numerous target plants considered rare or State and/or Federally listed. Mrs. Jones has conducted numerous botanical investigations for rare plant species within the jurisdiction of the Pinelands Commission and NJDEP. Specifically, these directed evaluations have included surveys for the Federally listed swamp pink, seabeach amaranth, and Knieskern's beaked rush plants, results of which have been accepted by all regulatory state agencies and the USFWS.

Mrs. Jones is responsible for performing wetland delineations under the jurisdiction of multiple agencies, which are conducted pursuant to the interagency evaluation procedures. This includes expertise in analyzing the vegetation and technical indicators of hydrology and soils. She authors Freshwater Wetland Delineation Reports and prepares Freshwater Wetland Letter of Interpretation applications for submittal to the NJDEP for verification of the delineated wetland limits.

Amy Jones
Senior Biologist/Project Manager
ajones@denviro.com

DuBois & ASSOCIATES

190 North Main Street
Manahawkin, NJ 08050
609-488-2857

NJ Builders Association
-Environmental Commission
2016 – present

The Society of Women Environmental Professionals
-Greater Philadelphia
2017 - present

Career Positions:

U.S. Fish & Wildlife Service
E.B. Forsythe NWR
Brigantine, NJ-
Wildlife Biologist
2000-2002

Habitat Management & Design, Inc.
Trenton, NJ-
Sr. Environmental Consultant
2002-2007

Water's Edge Environmental, LLC
Ocean City, NJ-
Senior Biologist
2007-2014

DuBois and Associates, LLC
Manahawkin, NJ –
Sr. Biologist/Environmental Scientist
2014 – Present

Mrs. Jones coordinates directly with professional engineers, attorneys, clients, and regulatory agencies to evaluate compliance and design of projects pursuant to various environmental regulations, inclusive of the Freshwater Wetlands Protection Act Rules, Flood Hazard Area Control Act Rules, and coastal/waterfront development regulations. Based on these permit analyses and project designs, she prepares the applicable permit applications pursuant to the NJDEP and USACOE regulations.

Mrs. Jones has also conducted numerous volunteer survey efforts in coordination with the NJDEP, NJ Audubon Society, and NJ Conserve Wildlife Foundation. These survey efforts include State directed Bog Turtle surveys, participation in grassland bird surveys as part of the Landowner Incentive Program, the Calling Amphibian Monitoring Program (CAMP), and regional Wood Turtle monitoring surveys.

Representative Projects of Relevance:

Burlington County Park Projects
Ecological and environmental work was completed to assist Burlington County in conducting environmental constraints evaluations and permit analyses for improvements on numerous County owned park and greenway projects. Mrs. Jones works directly with the landscape architects and engineers in assisting with design of the project to ensure compliance of proposed improvements pursuant to State waterfront development, freshwater wetlands, and flood hazard regulations. Mrs. Jones also coordinates with the NJDEP and USACOE with regard to permit requirements and to ensure no adverse impacts to documented state and federal threatened and endangered species habitat, including the bald eagle and bog turtle. Mrs. Jones prepared all necessary permit applications and ensured continued cooperative coordination with the regulatory agencies to ensure receipt of the applicable permit approvals for the park projects. Mrs. Jones has respected professional relationship with Burlington County and is involved in ongoing and future park improvement projects.

Holly Realty Project
Conducted red-headed woodpecker, barred owl, red-shouldered hawk, and northern long eared bat surveys in order to determine presence/absence and evaluate compliance with the New Jersey coastal regulations. These included nest cavity searches and call playback surveys for the red-headed woodpecker, barred owl, and red-shouldered hawk, and mist net surveys for the northern long-eared bat. These surveys were conducted pursuant to accepted state and federal survey methods. Survey methodology and results summaries have been prepared for the client and state agency review for continued impact and mitigation review.

New Jersey Department of Transportation Roadway Improvement Projects
Coordination with the NJDOT and project engineer to conduct the necessary field investigations and prepare full permit applications pursuant for various roadway and bridge improvement and development projects throughout the state. This has included wetland delineations, vegetation and wildlife inventories, and preparation and submission of state wetland and flood hazard permit and waiver applications, USACOE permit applications, and coastal and waterfront development permit applications.

Atlantic Cape Community College – Cape May Campus
Mrs. Jones conducted extensive monitoring of habitat mitigation measures implemented as part of CAFRA approval for construction the Cape May campus facilities. This included eastern tiger salamander trapping to evaluate success of the constructed breeding pond on the site. Monitoring resulted in the positive capture and identification of juvenile tiger salamanders, demonstrating success of the breeding pond. Additional monitoring and surveys included barred owl call playback surveys and long term avian point count surveys to evaluate impacts.