



Martin Brogie, Inc.
ENVIRONMENTAL SERVICES

- Environmental Site Investigations
 - Building Contaminant Surveys
 - Wetlands Consulting
- Remediation Contract Management

July 6, 2023

Ray Vergati
Regional Manager
Homeland Towers, LLC
9 Harmony Street, 2nd Floor
Danbury, CT 06810

RE: Wetlands Delineation Report
Wireless Telecommunications Facility (CT402 Haddam North)
124 Ague Spring Road
Haddam, Connecticut

Dear Mr. Vergati:

Martin Brogie, Inc. (MBI) is pleased to submit the following information regarding a wetland delineation performed for the above referenced property on May 19, 2023. The work was completed to evaluate the presence and extent of wetlands on the property for the purpose of assessing the potential wetland impacts associated with a proposed communications tower and associated facilities including an access drive.

Site Description

The subject property consists of a 13.4-acre residential/agricultural property located along the east side of Ague Spring Road in Haddam, Connecticut. It is occupied by a 3-bedroom residence reportedly built in 1790 and several outbuildings and a barn constructed in the 1930s. The buildings are generally located in the southern portion of the property at the southern end of an approximate 6.5-acre hay field that extends from the east side of Ague Spring Road to a stone wall oriented north to south along the east side of the hay field. The hay field is situated along a ridge line with generally steep slopes to the west and east side of the ridge.

Mature forest, including a semi-perennial watercourse and man-made pond are located in the eastern portion of the site. Connecticut regulated wetlands are located within the forested area along the watercourse.

28 Arbor Lane
Madison, CT 06443

martinbrogieinc@gmail.com
860-208-0360

The property is located in a primarily wooded area with residential development nearby to the south and west.

A site location map is provided as Figure 1. An aerial view of the property depicting the approximate wetland delineations and proposed cell tower improvements is provided as Figure 2. Photographs of the site and wetland areas are provided as Attachment A.

Wetland Delineation

On May 19, 2023, MBI's Soil Scientist Martin Brogie, LEP reported to the site to assess the presence of wetlands and watercourses/intermittent watercourses in accordance with the definitions provided in Connecticut General Statutes Section 22a-38 definitions (15) and (16) including: soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey; and, rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent. In addition, intermittent watercourses defined as having a permanent channel and bank and the occurrence of two or more of the following characteristics: evidence of scour or deposits of recent alluvium or detritus; the presence of standing or flowing water for a duration longer than a storm incident; and/or the presence of hydrophytic vegetation were delineated.

MBI accessed the property via an existing, unimproved driveway extending east off of Ague Spring Road and serving a lookout tower in the northern end of the hayfield (northwest portion of the site). The hayfield extended to the northern and western property boundaries and to the residence and outbuildings in the southern portion of the property. A stone wall along a wood line serves as the eastern hayfield boundary. Several vehicles and farm equipment are stored along the west side of the stone wall.

MBI walked the hayfield area and entered the adjacent woodland along the northern property boundary and followed the slope down to the east. A small open field bounding a narrow, semi-perennial watercourse was observed immediately adjacent to the northern property boundary near the northeastern portion of the site. The stream flows generally southward below a stone wall and was culverted below an unpaved road that traverses from west to east, along the northern property boundary. Wetland delineation commenced along the stonewall and Wetland Flag WF#4 was hung along the west side of the culvert outfall area.

Poorly-drained wetland soils were identified in the lightly wooded area along the west side of the watercourse and extended 20 to 40 feet from the edge of high water before returning to the streamside in areas of rock outcropping, boulders or other topographic relief sloping toward the stream. The delineation included poorly-drained soil and edge of water demarcation.

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124 Ague Spring Road – Haddam, CT
July 6, 2023

An area of wooded paths including a man-made, dammed shallow pond was observed northeast of the farmstead outbuildings. The wetland line skirted the pond and then moved south capturing an area of poorly-drained soil southwest of the pond before returning to the edge of the stream and exiting the southern property boundary.

The delineated wetland area was dominated by Red Maple (*Acer rubra*), and included Eastern Cottonwood (*Populus deltoides*), Sycamore (*Platanus occidentalis*), Sweet Birch (*Betula lenta*) and Green Ash (*Fraxinus pennsylvanica*). Black Oak (*Quercus velutina*) and Shagbark Hickory (*Carya ovata*) dominated the adjacent uplands. The understory included Spicebush (*Lindera benzoin*), American Hornbeam (*Carpinus Caroliniana*), Multiflora Rose (*Rosa Multiflora*), Oriental Bittersweet (*Celastrus orbiculatus*), and Raspberry (*Rubus spp.*). Skunk Cabbage (*Symplocarpus foetidus*) and Tussock Sedge (*Carex stricta*) were noted in the herbaceous layer.

The Natural Resource Conservation Service (NRCS) identifies the Ridgebury, Leicester, and Whitman Soil Complex along the delineated wetland area. The wetland soil identified onsite was consistent with the Ridgebury Soil Series. NRCS soil mapping and descriptions are provided as Attachment B.

The Connecticut Department of Energy and Environmental Protection (CTDEEP) Natural Diversity Database does not indicate that the property contains any listed state or federal species or habitats. A copy of the map segment showing the subject property is provided in Attachment C.

Project Description

MBI reviewed project design plans that depicted the proposed improvements including a 150 foot monopole and a driveway access off of Ague Spring Road that utilizes much of an existing driveway that serves the existing lookout tower. Underground utilities would parallel the access drive. The project is located on the high point of the ridge (within the hay field) and along the western slope down to Ague Spring Road.

Conclusions and Recommendations

The site wetland resources are located 500+ feet from the proposed cell tower location, within a wooded area and with a mature forest buffer between the wetland boundary and the open field where the tower will be located. Given the distance between the proposed project and wetlands, in addition to the significant change in habitat from wooded wetland to open field, no impacts to potential biological receptors/wetland wildlife users is expected. Further, although no specific Vernal Pool studies were completed for the man-made pond located along the wetland corridor (over 600 feet from the project area), the distance from pond and the relatively small area of construction also suggest that there would be no impact to potential Vernal Pool habitat/users.

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Considering the sloping land west of the proposed tower area, and the requirements for construction in this area, installation and maintenance of erosion control measures during and after construction will be important to maintaining slope stability. Based on the large, vegetated buffer between the project and the wetlands, no erosion concerns related to wetland impacts are present.

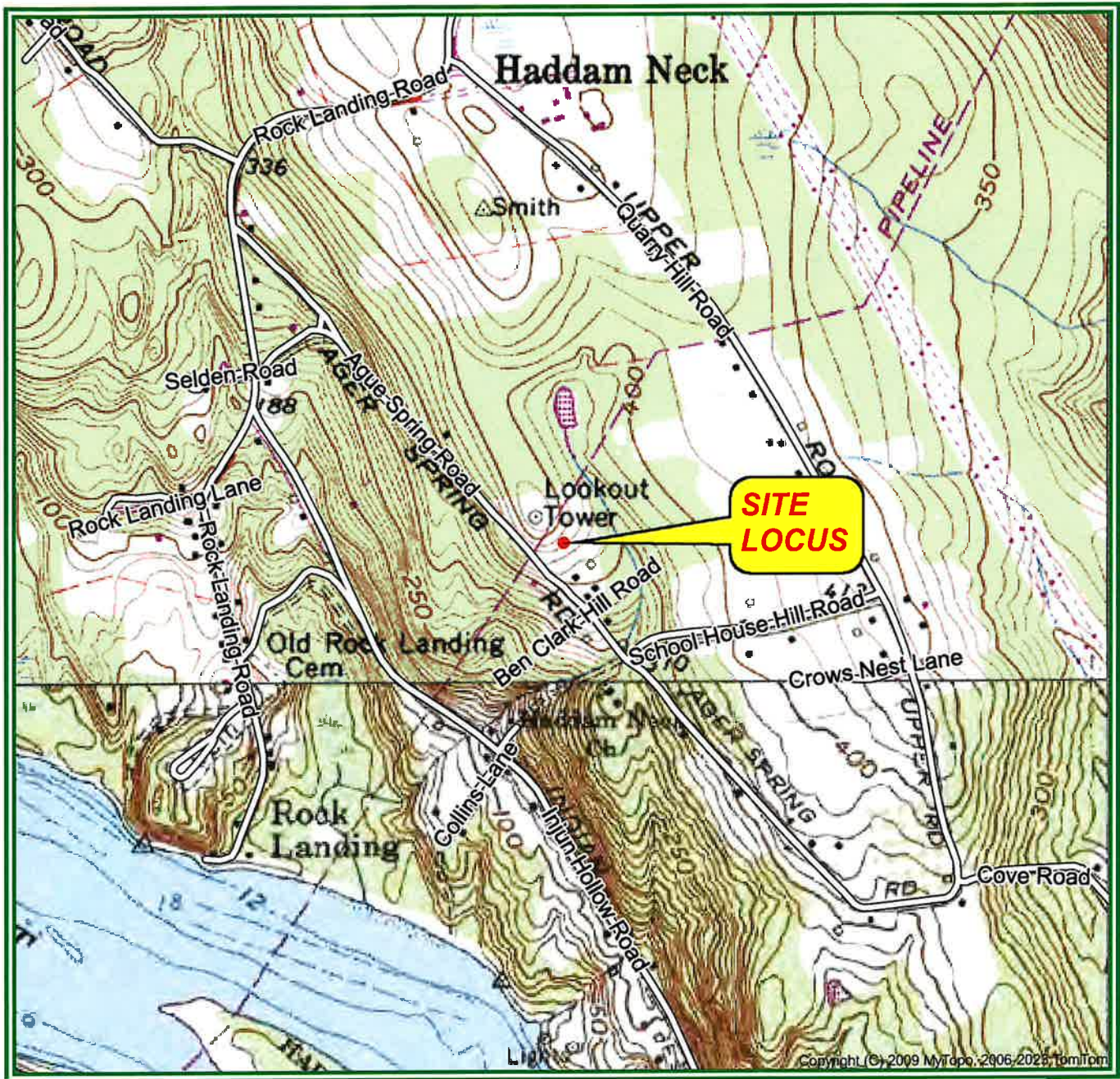
Overall, it is our professional opinion that the proposed project will have no impact on the onsite wetland resources during or after construction.

Please contact the undersigned at 860-208-0360 if you have any questions or require further information. Thank you for the opportunity to be of service.

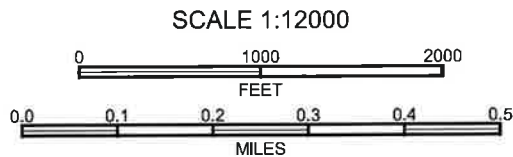
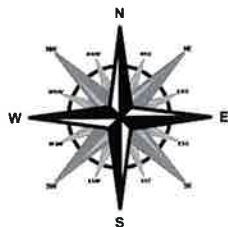
Sincerely,

A handwritten signature in black ink, appearing to read 'Martin Brogie', with a stylized flourish at the end.

Martin Brogie, LEP
Soil Scientist



MIDDLE HADDAM Topographic 1961 41072-E5-TF-024 National Geodetic Vertical Datum 1929



Site Coordinates:
 041° 30' 09.33" N, 072° 30' 48.38" W

Project:
 124 Ague Spring Road

Site Location:
 124 Ague Spring Road
 Haddam, Connecticut



Martin Brogie, Inc.
 ENVIRONMENTAL SERVICES

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Figure 1
Site Locus Map



Project:	Parcel #12-28 Ague Spring Road
Drawn by:	K. Hazel
Date:	6/23/23
Scale:	AS SHOWN

Figure 2 - Aerial Site Plan

124 Ague Spring Road
Haddam, Middlesex County, Connecticut

Martin Brogie, Inc.
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LEGEND

DELIMITED WETLAND LINES

SCALE

0 200 400

APPROXIMATE SCALE IN FEET

ATTACHMENT A
SITE PHOTOGRAPHIC LOG

SITE PHOTO LOG

124 Ague Spring Road - Haddam, CT



AREA OF PROPOSED TOWER ATOP RIDGELINE WITHIN ACTIVE HAYFIELD

SITE PHOTO LOG

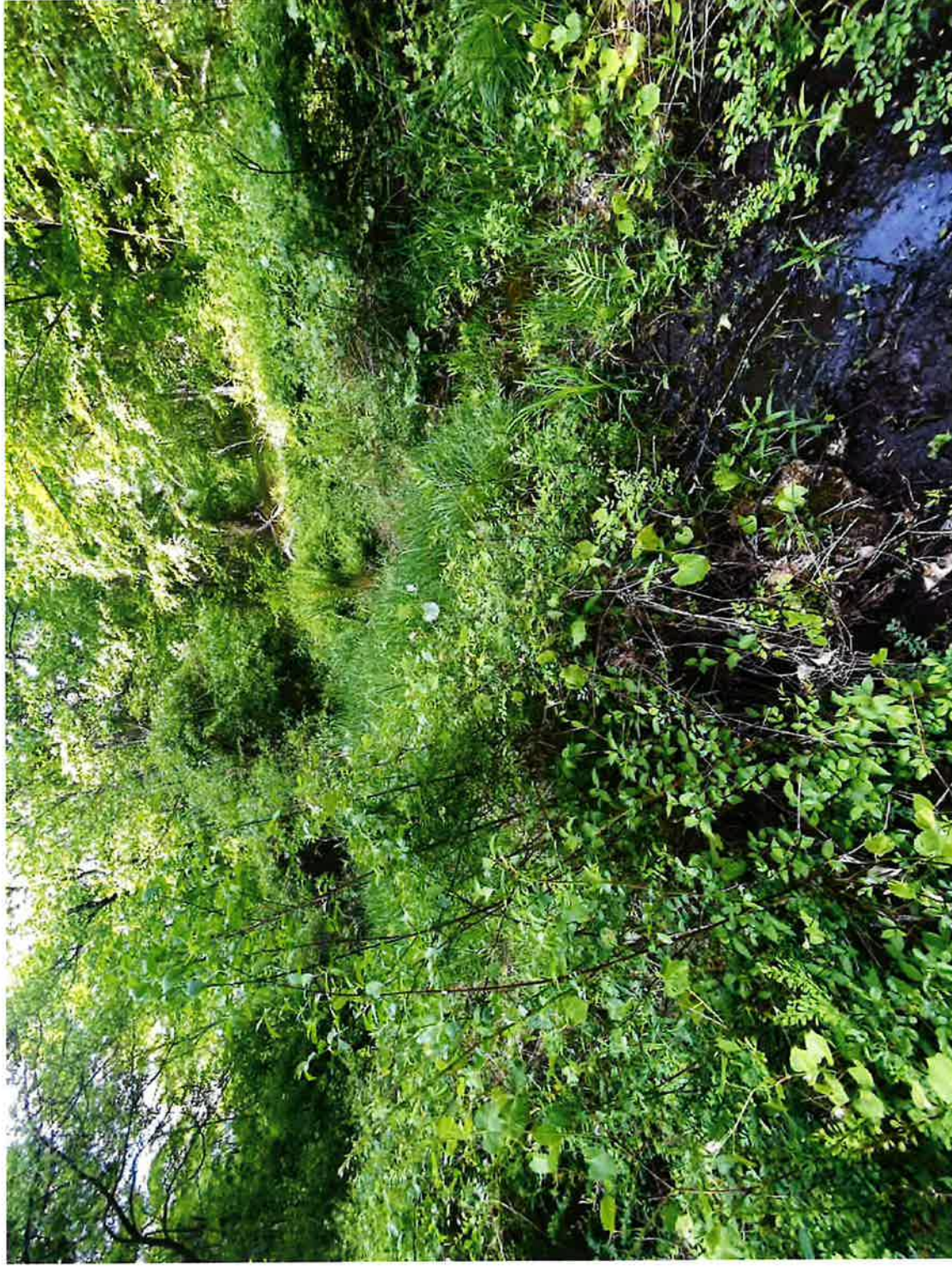
124 Ague Spring Road - Haddam, CT



MATURE FORESTED AREA NORTH OF NORTHERN PROPERTY BOUNDARY AND CELL TOWER LOCATION

SITE PHOTO LOG

124 Ague Spring Road - Haddam, CT



SEMI-PERENNIAL WATERCOURSE WITH PERIPHERAL WETLANDS JUST NORTH OF NORTHERN PROPERTY BOUNDARY BEFORE ENTERING SITE - FLOWING NORTH TO SOUTH.

SITE PHOTO LOG

124 Ague Spring Road - Haddam, CT



NORTHERN PORTION OF ONSITE WETLAND LOOKING SOUTH ALONG WATERCOURSE.



CENTRAL PORTION OF WETLANDS LOOKING SOUTH. NOTE RACK LINE SHOWING EVIDENCE OF HIGH FLOW CONDITIONS.

SITE PHOTO LOG

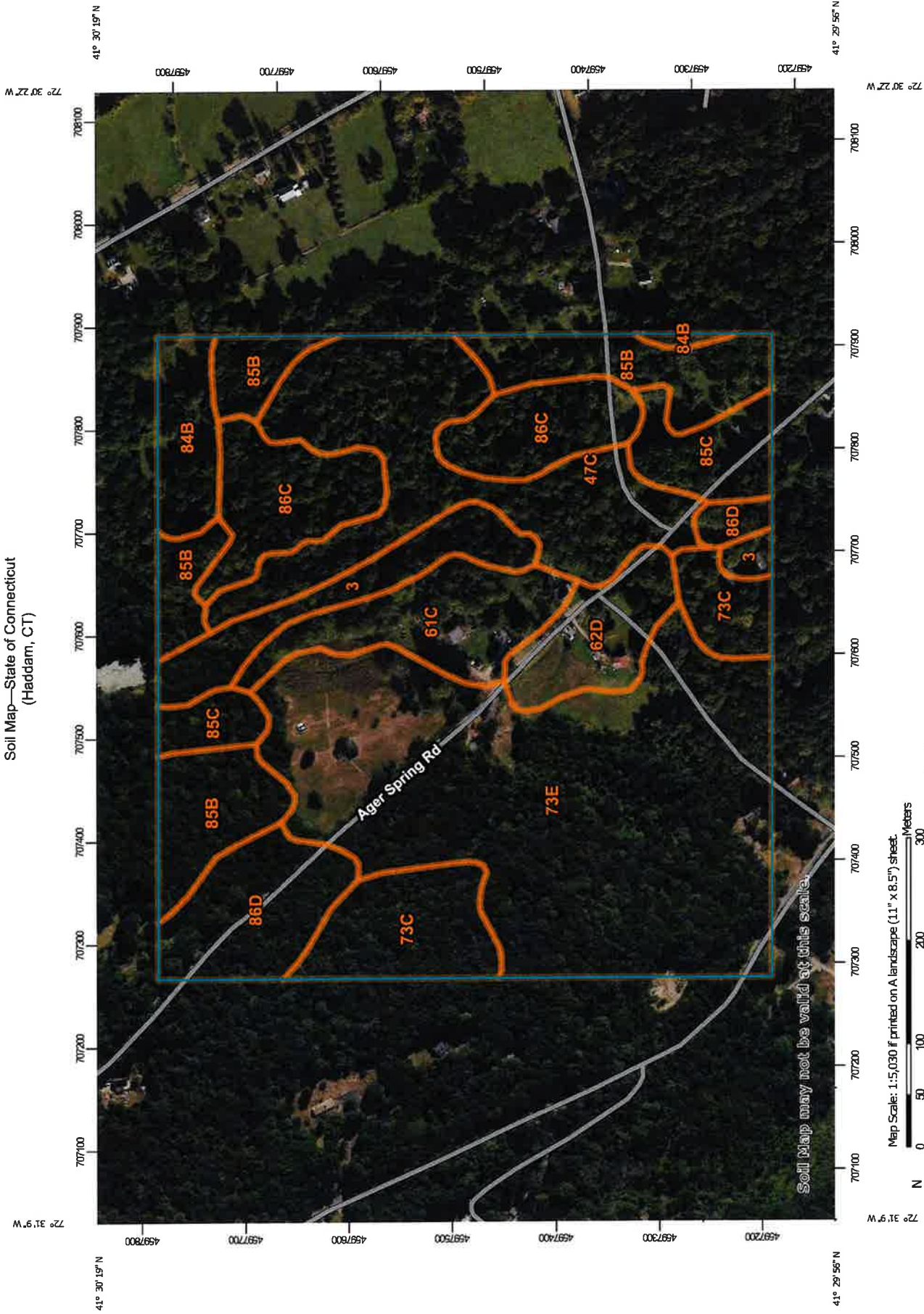
124 Ague Spring Road - Haddam, CT



VIEW OF MAN-MADE POND IN SOUTHCENTRAL PORTION OF WETLAND LOOKING EAST.

ATTACHMENT B
NRCS SOIL SURVEY MAP

Soil Map—State of Connecticut
(Haddam, CT)



Map Scale: 1:5,030 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM, Zone 18N WGS84

MAP LEGEND

- Area of Interest (AOI)
- Area of Interest (AOI)
- Soils**
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features
- Water Features**
- Streams and Canals
- Transportation**
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background**
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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: State of Connecticut
Survey Area Data: Version 22, Sep 12, 2022

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

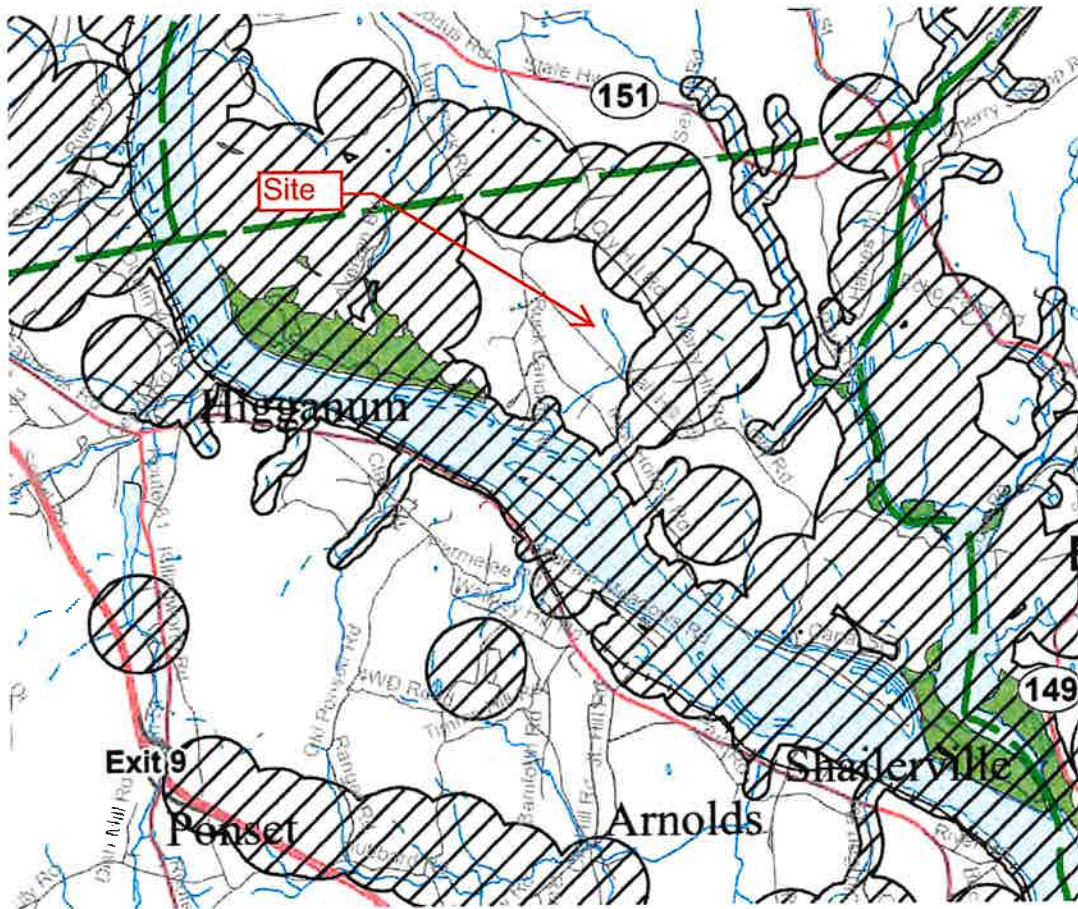
Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

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
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	4.3	4.7%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	12.4	13.5%
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	5.1	5.6%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	3.6	3.9%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	6.1	6.7%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	30.2	32.9%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	2.9	3.1%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	10.1	11.0%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	4.0	4.4%
86C	Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony	7.6	8.3%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	5.5	6.0%
Totals for Area of Interest		91.9	100.0%




ATTACHMENT C
NATURAL DIVERSITY DATABASE



Natural Diversity Data Base Areas

HADDAM, CT

June 2023

-  State and Federal Listed Species
-  Critical Habitat
-  Town Boundary