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December 5, 2023

Ms. Maureen FitzGerald
Environmental Planner
Town of Waterford
15 Rope Ferry Road,
Waterford, CT 06385-2886

RE: CLA #7226
1122 & 1124 Hartford Turnpike
Waterford CT

Dear Ms. FitzGerald:

CLA Engineers has prepared an application to the Waterford Conservation Commission for the proposed construction of parking areas, stormwater management facilities and replacement of a chicken coop at the referenced site. The wetland boundary shown on the submitted plans was previously delineated by James Cowen C.S.S. and verified in 2020 by Robert Russo C.S.S. The verification was done using a hand auger and per the definition in C.G.S. sec 22a. The wetland delineation is shown on plan sheet 1.

Plan sheet 1 also shows the existing limits of disturbance and plantings install by the owner. The limits of disturbance were created by the owner and the subject of a Notice of Violation from the Waterford Conservation Commission. In response to the NOV, the owner restored plantings (as shown on sheet 1) to a 50 foot wide buffer around the wetlands and that buffer will remain undisturbed.

Site Setting

122 & 1124 Hartford Turnpike has existing structures (a residence and barn) that will remain and a chicken coop that will be replaced. As such, a significant portion of the site was previously cleared of trees however; the 50-foot buffer mentioned above is now vegetated. A portion of the driveway in front of the house is paved. The area a mapped as wetland/watercourse includes streamside wooded swamp located along the west side of the site and an isolated pocket along the east side. The streamside wooded swamp contains Oil Mill Brook and a tributary that enters from the east. The isolated wetland has a localized watershed and receives local surface water runoff.

The current land use surrounding the site is a mixture of commercial, institutional (a church) and residential. The site is also bounded by a wooded buffer to the west.

Throughout the site slopes vary from gentle on the east and west with steeper slopes in the center. The higher elevations (174 ft NAV D) occur near the center while the lower

elevations (164 ft NAVD) are in the southern corner. The surface water drains to the west and south to Oil Mill Brook.

Surficial Geology and Soils

Southern New England was overlain by glacial ice as recently as 12,000-15,000 years ago. The materials that the glaciers deposited over top the local bedrock determine the surficial geology of the region and of the site. Glacial deposits are generally divided into three categories: glacial till (un-stratified sand, silt and rock), glaciofluvial (water sorted, stratified sand and gravel), and glaciolacustrine (stratified sand, silt and clay that settled out in lakebeds). The type of glacial deposit present on the site is glacial outwash. This finding is based on on-site observations and the NRCS mapping (attached) and on-site investigation, which revealed deposits of coarse sand and gravel. In addition to the glacial outwash, post glacial stream deposits (alluvium) occur along Oil Mill Brook and organic soils (mucks) occur in the northerly wetland.

As noted above, the soils on the site has been partially re-graded for the previous development however much of the site area has pervious soils surfaces.

Table 1 is a summary table of the soils found on the site.

Table 1 - Soil Types and Properties at the 1122 and 1124 Hartford Turnpike Site*

<u>Soil Series</u>	<u>Parent Material</u>	<u>Drainage Class</u>	<u>Texture/Characteristics</u>
17 Timakwa and Natchaug *	Organic matter	Poorly drained	Mucky
38 Hinckley	Glacial till	Excessively drained	Sand and gravel
103 Rippowam*	Alluvium	Well drained	Fine sandy loam

* Wetland soil types mapped by NRCS on site.

One upland soil is mapped on the site per the data included in Appendix A. Hinckley soil consists of coarse texture sand and gravel and is present in the central part of the site. The Rippowam soil series consists of poorly drained, sandy and fine sandy soils that occur along stream floodplains. The Timakwa and Natchaug soils are very poorly drained mucky soils that occur in depressions in the landscape that stay wet long enough to slow plant

decomposition and generate organic soils. Field investigation revealed on site soils that are consistent with NRCS mapping.

Wetland Description

This site has two wetland systems, one that is not hydrologically connected to offsite wetlands, the other is part of the Oil Mill Brook system. Under the USFWS system, the wetland systems are both classified as PFO1E. The USFWS description is as follows: (Source:<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.)

Classification code: PFO1 E

System **Palustrine (P)** : The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Class **Forested (FO)** : Characterized by woody vegetation that is 6 m tall or taller.

Subclass **Broad-Leaved Deciduous (1)** : Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (*Fraxinus nigra*).

Water Regime **Seasonally Flooded/Saturated (E)** : Surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years. When surface water is absent, the substrate typically remains saturated at or near the surface.

The dominant tree in the on-site wetland is red maple (*Acer rubrum*) typically of 16-24 inches DBH. The shrub/sapling layer also has red maple as well as clammy azalea (*Rhododendron viscosum*) sweet pepperbush (*Clethra alnifolia*) and spicebush (*Lindera benzoin*). The herbaceous layer has tussock sedge (*Carex stricta*) as well as cinnamon fern (*Osmunda cinnamomea*) and skunk cabbage (*Symplocarups foetidus*).

CLA has coordinated with the CTDEEP NDDB regarding protected species and believes that the project design accommodates CTDEEP concerns.

CLA conducted a wetland investigation in the spring of 2021 and found wood frog egg masses in the isolated wetland.

Assessment/Potential for Impacts

The site has been subject to past development and the current proposal maintains the existing buildings with the addition of asphalt milling parking areas. The potential for

wetland impacts due to the installation of the new impervious surface will be dealt with by the installation of a stormwater treatment basin designed to meet the standards of the CTDEEP 2004 Manual as revised. The construction process is designed per the CTDEEP 2002 Manual and is protective of the wetland resources during construction. This protection is in the form of Best Management Practices (BMPs) specified on the plans. These details show how stormwater will be managed during construction using a temporary sediment trap and perimeter E&S measures.

Summary

The proposed activities will not directly affect wetlands. The work in the upland review zone, which includes construction and grading, can be accomplished without impacts to the wetland and watercourse resources if erosion and sedimentation control measures are adhered to. CLA believes that there will be no adverse wetland impacts if the plans are adhered to.

Sincerely,

Robert C Russo

Robert C. Russo CS

Appendix A

Soils Data

Soil Map—State of Connecticut
(Halls Rd Soils)

Soil Map may not be valid at this scale.

Map Scale: 1:6,050 if printed on A landscape (11" x 8.5") sheet.



The scale section includes a north arrow pointing upwards. Below it are two horizontal scale bars. The top bar is labeled 'Meters' and has markings at 0, 50, 100, 200, and 300. The bottom bar is labeled 'Feet' and has markings at 0, 250, 500, 1000, and 1500.

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



Web Soil Survey
National Cooperative Soil Survey

9/11/2023
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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
12	Raypol silt loam	1.0	0.6%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	5.1	3.3%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	19.0	12.3%
36B	Windsor loamy sand, 3 to 8 percent slopes	9.7	6.3%
38A	Hinckley loamy sand, 0 to 3 percent slopes	12.7	8.2%
38C	Hinckley loamy sand, 3 to 15 percent slopes	11.9	7.7%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	4.3	2.8%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	2.3	1.5%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	1.8	1.2%
74C	Narragansett-Hollis complex, 3 to 15 percent slopes, very rocky	6.9	4.4%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	0.0	0.0%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	3.1	2.0%
99	Westbrook mucky peat, low salt	20.2	13.1%
305	Udorthents-Pits complex, gravelly	3.8	2.5%
307	Urban land	18.8	12.1%
703B	Haven silt loam, 3 to 8 percent slopes	26.0	16.8%
W	Water	8.1	5.2%
Totals for Area of Interest		154.6	100.0%