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December 15, 2023

VIA EMAIL

4 Elements Direct Primary Care, LLC  
1199 Sullivan Avenue  
Suite A  
South Windsor, CT 06074

**ATTN:** Dr. Vasanth Kainkaryam, MD, MS

**RE: SOILS INVESTIGATION REPORT**  
8 Collins Lane, South Windsor, CT

*REMA Job No.: 23-2664-SWN125*

Dear Dr. Kainkaryam:

At your request, REMA Ecological Services, LLC (REMA) presents herein our findings during our site walk of the above-referenced site, for the purpose of determining the presence or absence of regulated wetlands and watercourses.

## **1.0 INTRODUCTION**

This *Soils Investigation Report* represents the effort by REMA to conduct soil explorations on the subject site (“the study area”), on October 19<sup>th</sup>, 2023. This effort included the in-field delineations and/or mapping of regulatory wetlands and watercourses, based on State Statutes, should those be observed at the site, or within 100 feet of the study area.

Attachments to this document include a recent aerial photograph of the study area, from CT Ecological Conditions Online (CT ECO), and the USDA-NRCS Web Soil Survey, showing the mapped soil types in the vicinity. Also attached are representative annotated photographs (1 to 4).



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## 2.0 STUDY AREA SETTING

The study area (or “site”) encompasses approximately 4.68 acres which includes two existing parcels separated by Collins Lane, which extends from Sullivan Avenue to Sand Hills Road. Access to the larger parcel with a residential structure is from Sullivan Avenue to the west. This is the location of an old farmstead, dating back to the 1800s, once roughly 22 acres, with balance now owned by the Town of South Windsor immediately to the east.

## 3.0 DOMINANT SOIL TYPES

Soils exploration was conducted in accordance with the Connecticut General Statutes governing inland wetlands (i.e., CGS Sec. 22a-36 ff). Poorly drained and very poorly drained soils were *not* observed on the subject site, and, also, poorly or very poorly drained soils were *not* observed within 100 feet to the north and to east of the subject site.

The following undisturbed *upland* soil mapping unit dominates the site:

*Enfield silt loam (704)*. This series consists of deep, well drained soils formed in a coarse-silty mantle underlain by sandy water deposited glacial outwash materials. They are level to very steep soils on outwash plains and high stream terraces. The soils formed in loamy over stratified sandy and gravelly glacial outwash derived mainly from a variety of acid rocks. Typically, these soils have a dark grayish brown silt loam surface layer 8 inches thick. The subsoil from 8 to 26 inches is strong brown and light olive brown silt loam. The substratum from 26 to 60 inches is brown to reddish brown is stratified sand and gravel.

Disturbed soils can also be found within portions of the northern parcel, where previously standing agricultural buildings (i.e., barns) occurred. These have been taken down over the years, the last one sometime between 2012 and 2013 just north of the residence. The following soil mapping unit is identified for these disturbed areas:

*udorthents (308)*. This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of the original soil removed or have more than two feet of fill material on top of the original soil. *udorthents* or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

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**Mr. Vasanth Kainkaryam, MD, MS**

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The vegetative cover types identified at the subject site include ruderal forest, shrub/vine tangles, moist meadow, a fishpole bamboo stand, and mowed lawn. Several specimen trees, planted as ornamentals were observed, mostly to the south and southeast of the residence. These include European and Copper beech, tamarack, American holly, ginkgo, and a large dawn redwood (*Metsequoia glypostroboides*).

Please feel free to contact us with any questions on the above.

Respectfully submitted,

**REMA ECOLOGICAL SERVICES, LLC**



George T. Logan, MS, PWS, CSE

Registered Soil Scientist/Professional Wetland Scientist

Certified Senior Ecologist

Attachments: Figure A; Photos 1 – 4; USDA-NRCS Web Soil Survey





**ANNOTATED BY:** Rema Ecological Services, LLC  
**DATE:** 12/15/2023  
**BASE MAP:** Spring 2016 aerial with 2016 topography

1: 2,257

### Legend

- Federal Open Space
- DEEP Property**
  - State Forest
  - State Park
  - State Park Scenic Reserve
  - State Park Trail
  - Natural Area Preserve
  - Historic Preserve
  - Wildlife Area
  - Wildlife Sanctuary
  - DEP Owned Waterbody
  - Water Access
  - Flood Control
  - Fish Hatchery
  - Other
- Parcels for Protected Open Sp
- Town Boundary**
  - State Boundary
  - Town Boundary
  - Coastline
- Light Gray Canvas Base

### Notes

0.1 0 0.04 0.1 Miles

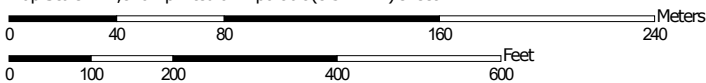


Soil Map—State of Connecticut, Western Part  
(8 Collins Lane, South Windsor, CT)



Soil Map may not be valid at this scale.

Map Scale: 1:2,810 if printed on A portrait (8.5" x 11") sheet.



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



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

12/15/2023  
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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, Western Part

Survey Area Data: Version 1, Sep 15, 2023

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
28A	Elmridge fine sandy loam, 0 to 3 percent slopes	5.8	14.1%
30A	Branford silt loam, 0 to 3 percent slopes	2.3	5.7%
37E	Manchester gravelly sandy loam, 15 to 45 percent slopes	5.6	13.6%
108	Saco silt loam, frequently ponded, 0 to 2 percent slopes, frequently flooded	1.4	3.4%
306	Udorthents-Urban land complex	4.0	9.6%
308	Udorthents, smoothed	0.7	1.7%
704A	Enfield silt loam, 0 to 3 percent slopes	12.5	30.3%
704B	Enfield silt loam, 3 to 8 percent slopes	9.0	21.7%
<b>Totals for Area of Interest</b>		<b>41.3</b>	<b>100.0%</b>




	<b>SITE/LOCATION:</b> 8 Collins Lane South Windsor, CT	REMA JOB NO.: 23-2664-SWN125	<b>ANNOTATED PHOTO LOG</b>
	<b>INVESTIGATOR(S):</b> George T. Logan, MS, PWS, CSE		
<b>DATE:</b> October 9, 2023	<b>FACING:</b> SOUTHERLY	<b>PHOTO NO.:</b> 1	
		<b>Comments:</b> <i>Northeasterly portion of property; area of old structures associated with farmstead</i>	

<b>DATE:</b> October 9, 2023	<b>FACING:</b> NORTHEASTERLY	<b>PHOTO NO.:</b> 2	
		<b>Comments:</b> <i>Fishpole bamboo (Phyllostachys aurea) stand; an aggressive colonizer (not listed as invasive), occupies roughly 15,000 sq. ft. of property</i>	



	<b>SITE/LOCATION:</b> 8 Collins Lane South Windsor, CT	REMA JOB NO.: 23-2664-SWN125	<b>ANNOTATED PHOTO LOG</b>
	<b>INVESTIGATOR(S):</b> George T. Logan, MS, PWS, CSE		
<b>DATE:</b> October 9, 2023	<b>FACING:</b> SOUTHEASTERLY	<b>PHOTO NO.:</b> 3	
		<b>Comments:</b> Ruderal woods in northern portion of property (4-acre parcel); once a plowed field	

<b>DATE:</b> October 9, 2023	<b>FACING:</b> SOUTHERLY	<b>PHOTO NO.:</b> 4	
		<b>Comments:</b> 0.68-acre "triangel" parcel, between Collins Lane Sullivan Avenue; once a tree nursery	