

October 23, 2012

Mr. Aidan McCann
Sound View Engineers & Land Surveyors LLC
239 Glenville Road
Greenwich, CT 06831

Re: Wetland and Watercourse Delineation
26 Rising Rock Road, Stamford, Connecticut

Dear Mr. McCann:

As requested, I visited the referenced property to determine the presence or absence of wetlands and/or watercourses, to demarcate (flag) the boundaries of wetlands and watercourses identified, and to identify onsite soil types. This letter includes the methods and results of my investigation, which I completed today, October 23, 2012. In summary, one inland wetland and watercourse system was identified and delineated. The system, which borders the eastern and southern boundaries of the property, is a segment of the East Branch Mianus River and includes a ponded area and a narrow fringe of bordering inland wetlands.

Regulatory Definitions

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as “land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain.” Watercourses are defined in the act as “rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof.” The Act defines Intermittent Watercourses as having a defined permanent channel and bank and the occurrence of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

The Tidal Wetlands Act (Connecticut General Statutes §22a-28) defines wetlands as those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing hydrophytic vegetation as identified in the Statutes.

Methodology

A second order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the *Soil Survey of the State of Connecticut* (USDA 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g. a pond). Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of two feet) were completed at the site.

Tidal wetland determinations were completed based on the presence of a predominance of tidal wetland vegetation and physical markings or water laid deposits resulting from tidal action.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

Wetland and watercourse boundaries were demarcated (flagged) with pink surveyor's tape (hung from vegetation) or small flags (on wire stakes) labeled "William Kenny Associates" that are generally spaced a maximum of every 50 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. The wetland and watercourse boundaries are subject to change until adopted by local, state, or federal regulatory agencies.

On the day of the review, the sky was light rain and air temperatures were in the 60's ° F. The upland soil was moist and wetland soil was saturated to inundated.

Results

The approximate 1.3-acre residential property is located at 26 Rising Rock Road in Stamford, Connecticut. Rising Rock Road borders the northern property boundary. Property improvements include a single-family residence, a septic system and an asphalt driveway. The vegetative cover in the southeastern and south-central portions of the property is lawn with other ornamentals and some shade trees. A broadleaved deciduous woodland is present in the western and northern portions of the property.

One inland wetland and watercourse system was identified and delineated. The system, which borders the eastern and southern boundaries of the property, is a segment of the East Branch Mianus River, and includes a pond and a very narrow fringe of inland wetlands.. The approximate location of the system is shown on the attached map. The boundary of the system was marked at the site with flags numbered 1 to 18.

Three soil map units were identified on the property (one wetland and two upland). Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic and their land use implications follows the table. A complete description of each soil map unit can be found in the *Soil Survey of the State of Connecticut* (USDA 2005), and at <http://soils.usda.gov/technical/classification/osd/index.html>. The approximate location of the mapped wetlands and soil map units at the project site are shown on the attached wetland map.

<u>Map Unit</u> <u>Sym.</u>	<u>Map Unit</u> <u>Name</u>	<u>Parent</u> <u>Material</u>	<u>Slope</u> <u>(%)</u>	<u>Drainage</u> <u>Class</u>	<u>High Water Table</u>			<u>Depth To</u> <u>Bedrock</u> <u>(in)</u>
					<u>Depth</u> <u>(ft)</u>	<u>Kind</u>	<u>Mos.</u>	
<u>Upland Soil</u>								
61	Charlton very stony fine sandy loam	Loose glacial Till	3-8 8-15	Well Drained	>6.0	--	--	>60
308	Udorthents, Smoothed	Excavated or Filled Soil (>2 feet)	0-45	Well Drained to Somewhat Poorly Drained	1.5->6.0	Apparent	Nov-May	>60
<u>Wetland Soil</u>								
3	Ridgebury	Compact Glacial Till	0-8	Poorly Drained	0.0-1.5	Perched	Nov-May	>60
	Leicester	Loose glacial Till	0-3	Poorly Drained	0.0-1.5	Apparent	Nov-May	>60
	Whitman extremely stony fine sandy loam	Compact Glacial Till	0-3	Very Poorly Drained	0.0-1.5	Perched	Sep-Jun	>60

Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand, and silt, which is commonly stratified, deposited by glacial melt water. Alluvium is material such as sand, silt, or clay, deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling, and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most

glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction sub base material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

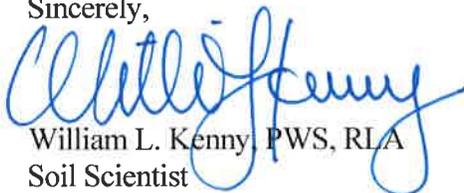
High water table is the highest level of a saturated zone in the soil in most years. The water table can affect the timing of excavations; the ease of excavating, constructing, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting, and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

Conclusions

Today, I investigated the property at 26 Rising Rock Road in Cos Cob, Connecticut and identified and delineated one inland wetland and watercourse system. Thank you for the opportunity to assist you. If you should have any questions or comments, please do not hesitate to contact me.

Sincerely,


William L. Kenny, PWS, RLA
Soil Scientist

Enclosure

SOIL LEGEND:

UPLAND:

- 61 CANTON AND CHARLTON SOILS
- 308 UDORTHERTS, SMOOTHED

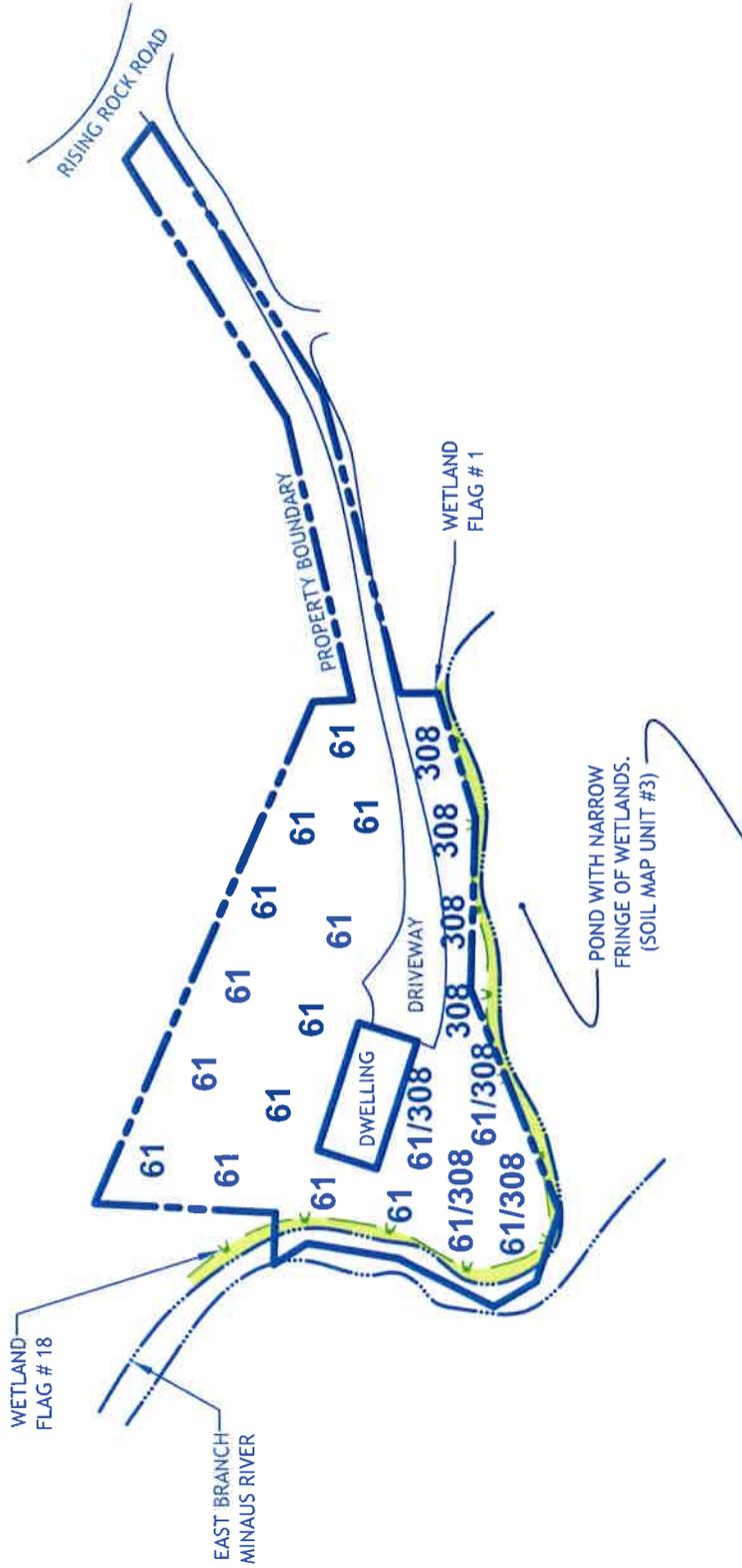
WETLAND:

- 3 RIDGEBURY, LEICESTER AND WHITMAN SOILS

**WILLIAM KENNY
ASSOCIATES LLC**

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NOTES:

- INFORMATION SHOWN ON THIS DRAWING, INCLUDING THE WETLAND BOUNDARY, IS APPROXIMATE. THE BOUNDARY IS NOT A SURVEYED REPRESENTATION OF WHAT WAS FIELD MARKED (FLAGGED).
- WETLAND AND SOIL INFORMATION PROVIDED BY WILLIAM KENNY ASSOC. OTHER INFORMATION TAKEN FROM A CITY OF STAMFORD TAX MAP.
- 61, 308 AND 3 ARE SOIL MAPPING UNIT SYMBOLS. SEE WETLAND DELINEATION REPORT FOR THE SOIL MAP UNIT NAMES AND ADDITIONAL RELATED INFORMATION.

I CERTIFY THAT THIS WETLAND MAP
SUBSTANTIALLY REPRESENTS THE SOILS
AND WETLANDS MAPPED IN THE FIELD

WILLIAM L. KENNY, SOIL SCIENTIST

WETLAND & WATERCOURSE MAP

**26 RISING ROCK ROAD
STAMFORD, CONNECTICUT**

SCALE: NOT TO SCALE
DATE: OCTOBER 23, 2012



NORTH

Ref. No. 2463