

MUNIS 201903000  
GIS 07800534



**TOWN OF SOUTH WINDSOR  
INLAND WETLANDS, WATERCOURSES AND CONSERVATION APPLICATION**

Application # 20-04P Date Received 1-15-20

**INSTRUCTIONS**

1. **Fifteen applications (15) with map and plans (2 copies)** shall be submitted together with the fee set forth in the Inland Wetlands, Watercourses and Conservation Regulations, Town of South Windsor. (See Regulations, Section VII – X)
2. The South Windsor Inland Wetlands, Watercourses and Conservation Regulations should be reviewed with respect to the standards and criteria for application Evaluation. (See Regulations, Sections VII – X)
3. The applicant understands that this application is to be considered complete only when all information and documents required by the Agency have been submitted. The applicant shall also complete the state filing form.

A. Applicant's Name: Horseshoe Lane Associates, LLC

Address: 18-3 Arthur Lane South Windsor, CT 06074

Phone: (home) \_\_\_\_\_ (work) (860) 268-2452 (email) bob.a.urso@gmail.com

B. Legal owner's name: Theresa Gedrim

Address 655 Nevers Road, South Windsor, CT 06074

Phone (home) \_\_\_\_\_ (work) \_\_\_\_\_ (email) \_\_\_\_\_

(List additional owners, addresses, and phone numbers on back of application)

C. If the applicant is not the owner of the subject property; a letter by the owner(s) authorizing the proposed regulated activity set forth in the application must accompany this form and will be part of the application.

D. Project Name (if any) Chestnut Ridge

Project Address 534 Barber Hill Road, South Windsor, CT 06074

1. Contact Person (if further information is needed)

Benjamin Wheeler, DPI, 21 Jeffrey Drive, South Windsor CT (work) (860) 291-8755 (fax) \_\_\_\_\_

E. The geographical location of the property which is to be affected by the proposed regulated activities including a description of the land in sufficient detail to allow identification of the property on the Inland Wetland and Watercourse Map.

Assessor's map # 149 Parcel # 3 Zone RR

F. Names of all abutting property owners from records in Town Clerk's office. (use separate sheet if necessary)

G. Have you notified all abutting property owners (from records in Town Clerk's office) by certified letter that an application is pending before the Agency?

☒ \*\* (you are required to supply a copy of the letter with the list of the names of the abutters)\*\*

H. Purpose and description of all proposed regulated activity(s) including amount of disturbance in square feet and types of fill and the time element involved:

The purpose of the regulated activity of land disturbance is to create an open space subdivision for 19 homes. The parcel area is

---

56.13 acres and the total disturbance is 22.06± acres. A portion of the site, at 11.86± acres, is regulated wetlands. No disturbance

---

will occur within the regulated wetland. However, there are 10.20± acres of upland review area on site, of which 1.18± acres will be

---

disturbed. Septic systems are proposed for all 19 lots, with select fill necessary. Native fill will be used elsewhere as needed.

---

I. A class A-2 map of the property drawn to 1" = 40', showing the area to be developed, extent of the wetlands and watercourses affected, topography, existing and proposed activities and names and locations of adjacent property owners must be submitted.

J. Amount of regulated area disturbance (within upland review area or regulated buffers)  
1.18± acres

K. Acreage of wetlands and watercourses in regulated areas to be altered: 0.00 acres

L. Acreage of wetlands and watercourses to be created: 0.00 acres

M. Lineal feet of proposed stream alteration: 0.00 acres

N. Total land area of project and percentage, which is wetlands: Property area = 56.13 acres

---

11.86± acres of wetland area (21% of site)

---

O. Identify all other permits or approvals that have been issued, applied for, or required with respect to the proposed activity set forth in this application. (These may include but not be limited to, local Planning & Zoning, Zoning Board of Appeals, D.E.P., F.E.M.A., D.O.T., The Army Corps of Engineers, and any other State, Local or Federal Permits.) P&Z, Health Dept, DEP

P. The applicant (or designated representative) hereby attests that a sign will be posted at the following location(s) 534 Barber Hill Road, South Windsor, CT

By DPI Name Benjamin Wheeler

on or before the following date 10 days prior to the Public Hearing.

Signature: \_\_\_\_\_

These signs must be displayed continuously for at **least ten (10) days prior to scheduled meeting** (see Regulations, Section 7.3a). The applicant is responsible for maintaining the sign during this period.

The undersigned hereby applies for the regulated activities listed in paragraph H above, for a Inland Wetlands, Watercourses and Conservation permit for the property described herein and confirms that:

1. She/he is familiar with the currently effective Inland Wetlands, Watercourses and Conservation Regulations of the Town of South Windsor.
2. She/he understands that at any time during the review period, the Agency may require the applicant to provide more information about the wetlands and/or watercourses in question and/or any proposed activity.
3. All information submitted in the application for review shall be considered factual, or in the case of anticipated activity, binding. A knowing failure of the applicant or any of her/his agents to provide correct information, or performance exceeding the levels of activity anticipated, shall be sufficient grounds for revocation of any permit under these regulations.
4. By making this application, the applicant gives permission to the Inland Wetlands, Watercourses and Conservation Commission members and/or its representative to enter the portions of the premises which are subject of the application for the purpose of inspection and investigation and otherwise evaluating the merits of the application both before and after a final decision has been issued.

  
\_\_\_\_\_  
Signature of Owner of Property

Date January 10, 2020

  
\_\_\_\_\_  
Signature of Applicant

Date January 10, 2020

**IWA/CC APPLICATION REVIEW (to be filled out by the Applicant):**

Name Chestnut Ridge Application # \_\_\_\_\_

**I.**

- ☒ **Fifteen copies of application**
- ☒ Plans filed in triplicate.
- ☒ Application fee(s) paid in full.

**II.**

- ☒ The applicant's name, home and business address, telephone and fax numbers.
- ☒ The owner's name (if applicant is not the owner of the property), home and business addresses, telephone and fax numbers, and written consent to the proposed activity set forth in the application.
- ☒ If applicant is not the owner, state interest in the land.
- ☒ The geographical location of the property which is to be affected by the proposed activity, including a description of the land in sufficient detail to allow identification of the property on the Inland Wetlands and Water Courses Map included the Map # and Parcel # as shown on the Tax Assessor's Map.
- ☒ Names of current adjacent property owners from records in the Town Assessor's office.
- ☒ Proof that all abutting property owners have been notified by certified mail that an application is pending before the Agency.
- ☒ Purpose and description of all proposed regulated activity and the time element involved.
- ☒ Amount and kind of material proposed to be removed, or deposited and/or type of use.
- ☒ Acreage of regulated area to be altered (wetlands, watercourses, or regulated buffer)
- ☒ Acreage of wetlands and watercourses to be created.
- ☒ Lineal feet of proposed stream alteration.
- ☒ Total land area of project and percentage, which are wetlands.
- ☒ Alternatives considered by the applicant and why the proposal to alter the wetlands set forth in the application was chosen.

**III.**

- ☒ Class A-2 map of the area to be developed, 1" = 40', showing the following:
  - ☒ Designate regulated activities;
  - ☒ Existing structures and property lines;
  - ☒ Locations of existing watercourses and wetlands, as defined in section 2.1bb and 2.1cc and boundaries of regulated areas defined in section 2.1t. Identify the reference for watercourses and/or wetlands boundaries as shown on the map. The identifying numbers or other reference systems used in field delineation shall verify the limits as shown on the plans and shall submit a written report describing the findings. If the property does not contain any watercourses or wetlands this shall be noted on the plans.



- ☒ Location of 100 year flood lines;
- ☒ Elevations by 2 ft contours;
- ☒ Natural landscape features, woodland and vegetation; existing and proposed tree line.
- ☒ Utilities existing and proposed;
- ☒ Layout of existing and proposed drainage systems;
- ☒ Layout of existing and proposed sanitary sewers or septic systems;
- ☒ Proposed open spaces;
- ☒ Proposed limits of clearing.
- ☒ Proposed areas of change where material is intended to be deposited or removed;
- ☒ Proposed grading or any earth movement anticipated;
- ☒ Percentage of impervious coverage;
- ☒ Disposition of stumps;
- ☒ Test pits on site;
- ☒ Buildable area as defined in section 2.1c; (see waiver provision in section 8.4);
- ☒ Proposed detention basin, if required, sized for 100 year storm;
- ☒ Proposed soil erosion prevention, sediment control and other soil conservation treatments to be taken showing any proposed sediment basin, diversion dikes, indicating the timing of stripping of topsoil, when topsoil shall be stripped, where topsoil shall be stored and for how long, and what method stabilization shall be used, and be in complete compliance with the guidelines expressly set forth in Public Act 83-388, as amended, "An Act Concerning Soil Erosion and Sediment Control" which amends sections 8-2, 8-13d, and 8-25 of the General Statutes of Connecticut.
- ☒ Projected changes in velocity, volume or course of water flow or in the water table and their effects.
- ☒ Soils information – consistent with Natural Resources Conservation Service categories as determined in the field by a qualified soil scientist.
- ☒ Biological and Wetland information – providing a functional analysis of any impacted wetlands, watercourses, an analysis of the probable effect of the proposed activity upon the plant and animal ecosystem.

#### IV.

- ☐ Additional Comments:

May 10, 2019

Town of South Windsor  
1540 Sullivan Avenue  
South Windsor CT 06074

Re: 534 Barber Hill Road  
L006 Barber Hill Road  
South Windsor CT 06074

I, Vincent Bifulck, the executor for the Estate of Theresa Gedrim, the owner of record for the above-reference parcels of land. I hereby authorize Robert A. Urso to execute, on the owner's behalf, any land use and related applications associated with the development of these properties known as 534 Barber Hill Road and L006 Barber Hill Road in South Windsor, Connecticut.

Sincerely,

A handwritten signature in black ink, appearing to read "Vincent Bifulck", written in a cursive style.

Vincent Bifulck  
29 George Drive  
Vernon CT 06066



**CIVIL & TRAFFIC ENGINEERS / PLANNERS / SURVEYORS / GIS ANALYSTS / LANDSCAPE ARCHITECTS**  
*Serving Connecticut, Massachusetts, & Rhode Island*

P.O. BOX 1167  
21 JEFFREY DRIVE  
SOUTH WINDSOR, CT 06074  
PHONE: 860.291.8755  
FAX: 860.291.8757  
www.designprofessionalsinc.com

January 13, 2020

Re: Inland Wetlands & Watercourses / Planning & Zoning Applications  
534 Barber Hill Road, South Windsor, CT 06074

Dear Abutting Property Owner:

In accordance with Section 7.3b of the "Town of South Windsor Inland Wetlands, Watercourses, and Conservation Regulations", we are required to notify you that an application has been filed on the property abutting yours and is subject to a hearing by the Inland Wetlands Agency/Conservation Commission. The application and plans are on file with the South Windsor Planning Department.

As an abutting property owner, you are invited to the hearing to ask questions and/or give comments, however, you are not required to attend. You may also submit written comments regarding the application prior to the hearing if you so desire. For further information regarding the specific date this will be heard please contact Jeff Folger, Environmental Planner/Conservation Officer, Planning Department, 860-644-2511, ext. 229.

Furthermore, in accordance with the Rules & Regulations of the South Windsor Planning & Zoning Commission, you are hereby notified that an application has been filed on the property abutting yours and is subject to a hearing by the Planning & Zoning Commission. The application and plans are on file with the South Windsor Planning Department.

As an abutting property owner, you are invited to the hearing(s) to ask questions and/or give comments, however, you are not required to attend. You may also submit written comments regarding the application(s) prior to the meeting if you so desire. For further information regarding the specific date this application will be heard, please contact Michele Lipe, AICP, Town Planner, at the South Windsor Planning Department at 860-644-2511, ext. 252.

If you have any questions regarding the specifics of the plans, please feel free to contact our office at 860-291-8755. Thank you.

Sincerely,  
DESIGN PROFESSIONALS, INC.

Benjamin P. Wheeler, PLA  
Director of Operations

Cc: Town of South Windsor  
Client

TOWN OF SOUTH WINDSOR, CONNECTICUT DIRECT ABUTTERS

Parcel ID	Site Address	Owner Name	Mailing Address	Mailing City	Mailing State	Mailing Zip
7800579	579 BARBER HILL ROAD	DZEN PROPERTIES LLC	187 WINDSORVILLE ROAD	ELLINGTON	CT	06029- 0000
63600612	612 NIEDERWERFER ROAD	COULTER MARK	35 NIEDERWERFER ROAD	BROAD BROOK	CT	06016- 0000
63600570	570 NIEDERWERFER ROAD	PAIXAO FERNANDO S & NUNO F	570 NIEDERWERFER ROAD	SOUTH WINDSOR	CT	06074- 0000
7800476	476 BARBER HILL ROAD	CONN STATE OF	165 CAPITOL AVE	HARTFORD	CT	06106- 0000
63600495	495 NIEDERWERFER ROAD	RAMSDELL EDWARD A & AMANND A	495 NIEDERWERFER ROAD	SOUTH WINDSOR	CT	06074- 0000
63600528	528 NIEDERWERFER ROAD	BRITO MICHAEL M	528 NIEDERWERFER ROAD	SOUTH WINDSOR	CT	06074- 0000
63600354	354 NIEDERWERFER ROAD	BURKE PAULINE L/U	354 NIEDERWERFER ROAD	SOUTH WINDSOR	CT	06074- 0000
63600582	582 NIEDERWERFER ROAD	CONN LIGHT & POWER CO	PO BOX 270	HARTFORD	CT	06141-0270- 0000
7800537	537 BARBER HILL ROAD	DZEN PROPERTIES LLC	187 WINDSORVILLE ROAD	ELLINGTON	CT	06029- 0000
7800534	534 BARBER HILL ROAD	GEDRIM THERESA	655 NEVERS ROAD	SOUTH WINDSOR	CT	06074- 0000
7800503	503 BARBER HILL ROAD	GEDRIM THERESA	655 NEVERS ROAD	SOUTH WINDSOR	CT	06074- 0000
7800577	577 BARBER HILL ROAD	HAMM JUDITH R & JEFFREY J	577 BARBER HILL ROAD	SOUTH WINDSOR	CT	06074- 0000
63600610	610 NIEDERWERFER ROAD	COOKSLEY DAVID C	610 NIEDERWERFER RD	SOUTH WINDSOR	CT	06074- 0000
63600588	588 NIEDERWERFER ROAD	SARRIS ALEXANDER E	588 NIEDERWERFER ROAD	SOUTH WINDSOR	CT	06074- 0000

TOWN OF EAST WINDSOR, CONNECTICUT DIRECT ABUTTERS

Parcel ID	Site Address	Owner Name	Mailing Address	Mailing City	Mailing State	Mailing Zip
009 71 009	BARBER HILL RD	DZEN PROPERTIES LLC	187 WINDSORVILLE RD	ELLINGTON	CT	06029- 0000
009 71 008	92 BARBER HILL RD	MCCONNELL TIMOTHY P & SOPHIE P	92 BARBER HILL RD	BROAD BROOK	CT	060169715- 0000
010 84 007	35 NIEDERWERFER RD	COULTER MARK P	35 NIEDERWERFER RD	BROAD BROOK	CT	060160000- 0000
009 73 010	BARBER HILL RD	DZEN PROPERTIES L L C	87 BARBER HILL RD	BROAD BROOK	CT	06016- 0000
010 73 009	34 NIEDERWERFER RD	RABIDA WILLIAM & MAMIE	34 NIEDERWERFER RD	BROAD BROOK	CT	060169713- 0000



---

# JMM WETLAND CONSULTING SERVICES, LLC

---

23 Horseshoe Ridge Road  
Newtown, CT 06482

Phone: 203-364-0345  
Mobile: 203-994-3428  
james@jmmwetland.com  
jmmwetland.com

January 11, 2020

Town of South Windsor  
Inland Wetlands Agency/Conservation Commission  
1540 Sullivan Avenue  
South Windsor, CT 06074

RE: ***Wetlands Assessment/Impact Analysis***  
Chestnut Ridge – Open Space Subdivision  
534 Barber Hill Road, South Windsor, Connecticut  
  
*JMM Job # 20-2541-SWN-1*

Dear Commissioners:

At the request of the applicant, Horseshoe Lane Associates, LLC, **JMM Wetland Consulting Services, LLC** (JMM) is providing this Wetlands Assessment/Impact Analysis report to be submitted with an application to conduct regulated activities at the above-referenced property.

Soils-based wetland delineations were previously conducted at the site by Certified Soil Scientist John Ianni of Highland Soils, LLC. JMM reviewed the wetland boundary and gathered additional baseline information for this report, on January 9, 2020. The wetland boundaries were found to be substantially correct and no additional regulated resources were observed.

In this report, JMM is providing the following:

1. Descriptions of the on-site regulated wetlands and watercourses.

2. A functions and values assessment of the regulated wetlands associated with and adjacent to the site (i.e., Wetland A).
3. An analysis of potential indirect impacts upon the regulated resources and upon the functions and values they provide.

## **1.0 Introduction**

The site is located east of Barber Hill Road, and west of Niederwerfer Road, in South Windsor, Connecticut (see Figures 1 and 2, attached). The South Windsor Wildlife Sanctuary property owned and management by the state (i.e., CT-DEEP) abuts the property to the south, while the northern property boundary is coincident with the South Windsor/East Windsor municipal boundary.

The property is within the watershed of Ketch Brook, which flows in a westerly direction to the Scantic River in neighboring East Windsor. This +/- 57.6-acre parcel is currently an active agricultural land within its western uplands, while the balance of the site is comprised of forested upland and wetland areas. Based on archival aerial photography going back to the 1940s, the western uplands have been predominately in agricultural fields. Within the south-central portion of the property a pole-sized woodland, previously an agricultural field, was abandoned sometime in the 1990s (see photos 1-10, attached). It should be noted that an electric right-of-way (ROW) traverses the southeastern corner of the site, near Niederwerfer Road.

## **2.0 Description of Regulated Resource Areas**

### **Overview**

The site contains two north-south oriented forested corridor, embedded within the forested portion of the overall property. The easternmost wetland (i.e., Wetland B) was viewed by JMM, but it is not fully characterized in this report, since it is not proximal to the proposed residential development (see photos 7 & 8).

### **Wetland A**

This is a north-south oriented forested corridor which drains in a northerly direction to an off-site agricultural pond along the northern property line, which is located in East Windsor. As stated above, JMM carefully reviewed the wetland boundaries delineated by



Mr. Ianni. All of the wetland boundary flags were clearly visible during the site inspection and appear to be accurately depicted on the site plans provided to us.

The wetland is classified as a *palustrine, broad-leaved forested* wetland (PFO1E) according to the National Wetland Inventory (NWI) Classification system (see photos 1-6). The dominant hydrologic regimes within this wooded swamp are *seasonally saturated* and *seasonally flooded* (see appended definitions). The wetland's hydro-geomorphic classification (HGM) is predominately *groundwater slope*. Within this wetland area soils are both poorly drained and very poorly drained.

The dominant tree within Wetland A is red maple. Other typical vegetation observed within this wooded swamp included such species as spicebush, silky dogwood, highbush blueberry, meadowsweet, steplebush, multiflora rose (invasive), in the moderately dense to locally dense understory. Cinnamon fern, wood fern, sensitive fern, skunk cabbage, reed canary grass, stout wood reedgrass, sedges, goldenrods, purple willow herbs, are the common or dominant plants in the herbaceous layer. Also noted in certain areas were sphagnum mosses. Lianas include Asiatic bittersweet (invasive), and poison ivy.

### 3.0 Soils of Study Area

The soils within the study area were observed to be mainly undisturbed throughout the site. Disturbed soils were observed scattered throughout, which were most likely associated with past agriculture activities. The undisturbed soils are derived from glacial till (i.e., unstratified sand, silt, and rock) deposits. The undisturbed soils are derived from glacial till (i.e., unstratified sand, silt, and rock) deposits. These undisturbed upland soils are comprised of the well-drained Narragansett (66) soil series and the moderately well drained Wapping (53) soil series.

**Narragansett silt loam (66).** This series consists of deep, well drained soils formed in silt mantled, friable glacial till on uplands. They are nearly level to very steep soils on till plains and hills. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically, these soils have a surface layer of dark brown silt loam 8 inches thick. The subsoil from 8 to 28 inches is yellowish brown silt loam. The substratum from 26 to 60 inches or more is light olive brown gravelly fine sandy loam or loamy sand.

**Wapping silt loam (53).** This series consists of deep, moderately well drained loamy soils formed in silty mantled, friable, glacial till on uplands. They are nearly level to steeply sloping soils on till plains, low ridges and hills, being typically located on lower slopes and in slight depressions. The soils formed in acid glacial till derived mainly from schist, gneiss or granite. Typically, these soils have a surface layer of very dark brown silt loam 5 inches thick. The upper part of the subsoil from 5 to 19 inches is dark yellowish brown silt loam. The lower part of the subsoil from 19 to 30 inches is mottled, dark brown silt loam. The substratum from 30 to 60 inches mottled, brown sandy loam.

The disturbed upland soils were mapped as the Udorthents (308) mapping unit.

**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.

The undisturbed “wetland-type” soils are identified as the poorly to very poorly drained Wilbraham-Menlo (6) soil series complex.

**Wilbraham silt loam (5/6).** This series consists of deep, poorly drained soils formed in a coarse-loamy mantle underlain by firm, compact glacial till from Triassic materials. They are nearly level to sloping soils located in drainage ways and low lying positions on till plains, low ridges and drumloidal landforms. The soils have developed in glacial till derived mainly from reddish Triassic sandstone, conglomerate and shale with some basalt. Typically, these soils have a dark brown silt loam surface layer 8 inches thick. The subsoil from 8 to 25 inches is reddish brown, mottled silt loam. The substratum from 26 to 60 inches is reddish brown, mottled, very firm fine sandy loam.

**Menlo (6).** This series consists of very poorly drained loamy soils formed in subglacial till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level soils in depressions and drainageways of till covered plains and hills. Slope ranges from 0 to 3 percent. Saturated hydraulic conductivity is moderately low to high in the solum and low to moderately high in the substratum.



Any disturbed wetland soils were mapped as the Aquents (308w) soil mapping unit.

**Aquents (308w).** This soil map unit consists of poorly drained and very poorly drained disturbed land areas. They are most often found on landscapes, which have been subject to prior filling and/or excavation activities. In general, this soil map unit occurs where two or more feet of the original soil surface has been filled over, graded or excavated. The *Aquents* are characterized by a seasonal to prolonged high ground water table and either support or are capable of supporting wetland vegetation. *Aquents* are recently formed soils, which have an aquic moisture regime. An aquic moisture regime is associated with a reducing soil environment that is virtually free of dissolved oxygen because the soil is saturated by groundwater or by water of the capillary fringe. The key feature is the presence of a ground water table at or very near to the soil surface for a period of fourteen days or longer during the growing season.

#### 4.0 Functions/Values Assessment

The assessment of wetland functions and values is based primarily on the US Army Corps of Engineers' (USACE) *Descriptive Approach* (1995), and on best professional judgment. The assessment looks mainly at Wetland A, which is the wetland proximal to the proposed development. However, Wetland B was also taken into account in this assessment, due to its juxtaposition to Wetland A.

A summary of the functions and values assessment can be found in Table 1, below. As can be seen, Wetland A offers four principal functions and values, that is, these are not only present, but available to at least a moderate-high degree.

This assessment is based on a number of factors, including the fact that the southern portion had been in agriculture for many decades, while the northern portion has been adjacent to agricultural land at least back to the 1940s. Moreover, the wetland does not include a flowing watercourse, but it does connect off-site with an agricultural pond. The dominant cover type (i.e., forested) is favorable, but wetland classes/subclasses are limited to a few additional small wet meadow inclusions. Floristically, the wetland does not appear to be disserve, and only contains the typical vegetation found in this type of wetland cover type in the region. Even though the wetland is found within a moderately fragmented landscape, the presence of a DEEP-owned wildlife sanctuary immediately to the south raises its value for wildlife potential.

Table 1: Summary of Wetland/Watercourse Function-Value Assessment

Function/Value	Wetland A
Groundwater Recharge/Discharge	P
Floodflow Alteration	Y
Sediment/Shoreline Stabilization	N/A
Sediment/Toxicant/Pathogen Retention	P
Nutrient Removal/Retention/Transformation	P
Production Export	Y
Fish and Aquatic Habitat	N/A
Wildlife Habitat	P
Endangered Species Habitat	N
Visual Quality/Aesthetics	Y
Educational/Scientific Value	Y
Recreation (Passive, Active)	Y
Uniqueness/Heritage	N

Notes: P = Principal function; Y = function present; N = function not appreciably present or absent

## 5.0 Proposed Activities

### Overview

According to the reviewed plans, entitled *Chestnut Ridge, Open Space Subdivision, Special Exception, 534 Barber Hill Road, South Windsor, CT*, by Design Professional, Inc., and dated January 10, 2020, 19 single-family residential lots are proposed, off a “horseshoe-like” public roadway (i.e., Gedrim Place), connected to Barber Hill Road. This residential subdivision will be served by individual on-site septic systems and public water supply. The roadway, detention/water quality basin, and other miscellaneous site work are also proposed. Finally, it should be noted that 32.91-acres of open space is proposed, of which 6.25-acres is forested wetlands (i.e., Wetland A and B). All of the site’s wetlands are within the proposed open space, that is, outside of lot limits.

### Direct Wetland Impacts

According to the reviewed site plans no *direct* wetland or watercourse impacts are proposed at the subject site.

### Indirect Wetland Impacts

*Indirect* or secondary impacts to a wetland or watercourse can occur as a result of activities outside of wetlands or watercourses. Such impacts can be *short-term* or *long-term*, and are typically associated with erosion and sedimentation, mostly during the construction period,



the removal or disturbance of vegetation in upland areas, but adjacent to wetlands or watercourses, the alteration of wetland hydrology or the flow regime of a watercourse, and the discharge of degraded or insufficiently treated surface water or groundwater, which may adversely impact the water quality of the regulated resources.

The potential for any of these indirect impacts to occur at the site as a result of the proposal depends on the regulated resources themselves, their sensitivity, their ecological and physical characteristics, and the degree to which they provide recognized functions and values. These *potential* impacts are discussed below.

### ***Erosion and Sedimentation***

The potential for soil erosion and subsequent deposition in wetlands or watercourses exists at every construction site that involves soil disturbance. At this site the risk or the potential for adverse impacts from erosion and sedimentation is considered *moderate*. The primary reasons for this assessment are as follows: (1) a detailed erosion and sedimentation control plan has been prepared and submitted, which complies with the CT DEEP's 2002 *Connecticut Guidelines for Erosion and Sediment Control*, as well as any recent guidelines promulgated by regulatory agencies; and (2) the site's undisturbed soils are moderately erosive mainly due to finer texture soils within the field (i.e., Narragansett silt loam) (see attached K-factor assessment). However, the slopes within the development area are relatively gentle to moderately sloping, which reduces the risk of significant erosion and sedimentation.

### ***Removal of Native Vegetation and Habitat Loss***

Habitat loss associated with land clearing is an unavoidable consequence of land development, which has the potential of impacting wetlands and watercourses. At the subject site, an effort has been made to limit any disturbance of woody vegetation to the extent possible, maintaining a sufficient wooded and/or planted buffer to the both of the site's resources.

The proposed plans show that the overwhelming majority of the proposed earthwork associated with the proposal will be accomplished with the existing open field. Very limited removal of woody vegetation within the 80-foot wide regulated area (i.e., upland review area) will take place. In particular, some limited tree/shrub clearing will take place on Lots 5 and 6 for construction of the septic systems. We should note that the actual

residences for the lots that are to the west of Wetland A (i.e., Lots 5 through 9) are in the order of 300-feet removed from the wetlands.

#### ***Potential Impacts to Wetland Hydrology and Stream Flow***

The hydrologic and flow regime of Wetland A is dependent both on on-site and off-site (i.e., to the south) contributions via shallow groundwater flow and surface flows, from its watershed, which includes the agricultural field where development is proposed. The site plans show that an effort has been made to ensure that wetland hydrology will be preserved. We note that a significant portion of the development site remains pervious and will continue to infiltrate runoff and precipitation into the groundwater regime that feeds Wetland A. This will be supplemented by treated effluent from the proposed septic systems, which is additive water from the Town public water supply. Based on the plans the hydrology of the wetland will be maintained.

#### ***Potential Water Quality Impacts***

Stormwater runoff from impervious surfaces of residential sites has the potential of degrading the water quality (i.e., surface and groundwater) of regulated resources. Generation of potential pollutants on impervious surfaces typically results from vehicular traffic over them.

The CT-DEEP's 2004 *Stormwater Quality Manual* ("the Manual") is used to guide the selection, design, siting, and sizing of appropriate best management practices (BMPs), which are protective of surface and groundwater quality. The CT-DEEP has adopted, through their General Permit for discharge of stormwater, an 80% TSS (total suspended solids) minimum annual removal goal, because research has shown that the concomitant removal of other runoff constituents is high at these levels of TSS removal.

As mentioned above, flows generated from the proposed roadway will be intercepted and conveyed through a formal stormwater management system which includes catch basins and a water quality basin (i.e., wet detention basin). This basin has been designed with a large sediment forebay and has been sized to completely accommodate the water quality volume, per the CT-DEEP guidelines.

It is JMM's opinion that the proposed handling of runoff from the site will protect downgradient regulated resources. We should also note that with the conversion of the



agricultural field to a residential development, the amount of sediment that has entered the forested wetlands over the many decades of agricultural activities, will be greatly reduced or completely eliminated.

## **6.0 Conclusion**

In conclusion, it is JMM's opinion that as proposed, and with diligent monitoring of erosion and sediment controls, the proposal will not have significant adverse short-term (construction) or long-term (water quality/habitat) impacts upon the regulated resources.

Please call us if you have any questions on the above or need further assistance.

Respectfully submitted,

**JMM WETLAND CONSULTING SERVICES, LLC**

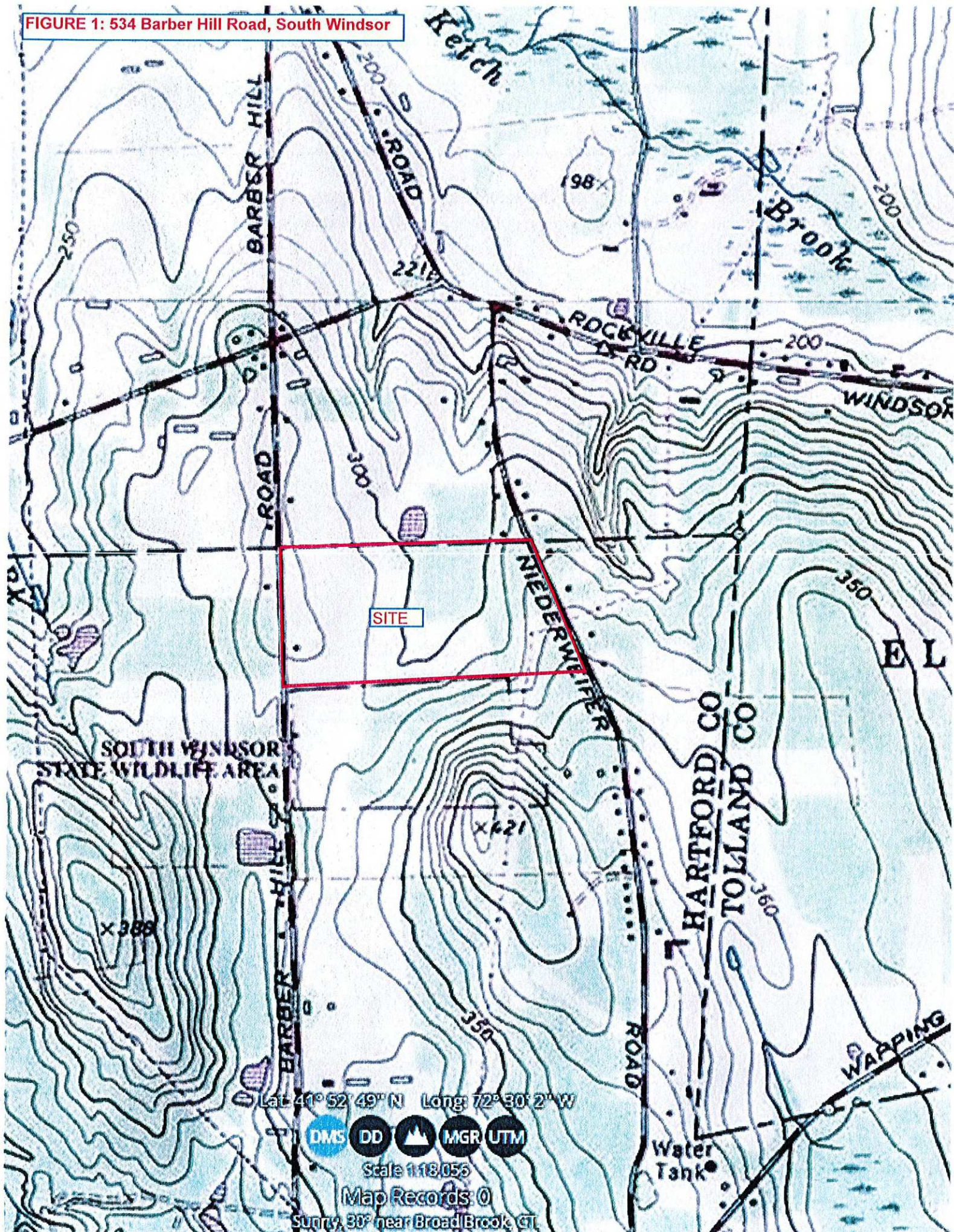


James M. McManus, MS, CPSS  
Certified Professional Soil Scientist (No. 15226)

Attachments: Figures 1-2, Photos 1-10, NRCS Web Soil Survey Map, K-Factor Erodibility Assessment,  
Wetland Classification Definitions



FIGURE 1: 534 Barber Hill Road, South Windsor

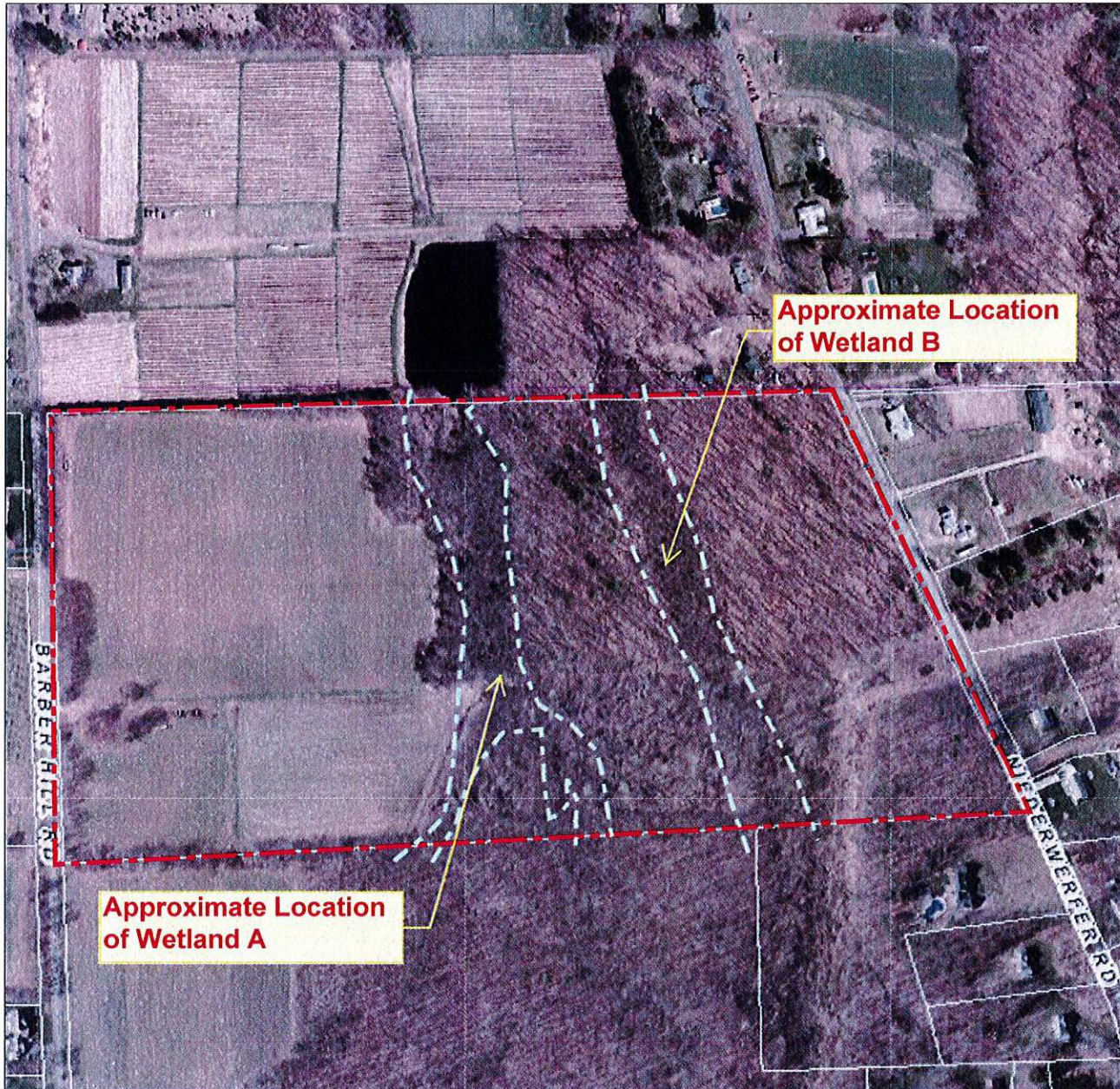




**FIGURE 2: 534 Barber Hill Road, South Windsor, CT**  
**Town GIS Aerial Photo Showing the Approximate Location of Wetland and Property Boundaries.**

## Town of South Windsor

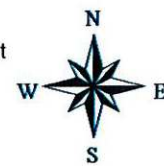
Geographic Information System (GIS)



### **MAP DISCLAIMER - NOTICE OF LIABILITY**

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of South Windsor and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 400 feet







*Photo 1: View of regulated wetlands within the northern part of Wetland A  
(JMM photo taken 1/9/20); facing northeasterly*



*Photo 2: View of regulated wetlands within the northern part of Wetland A  
(JMM photo taken 1/9/20); facing southeasterly*



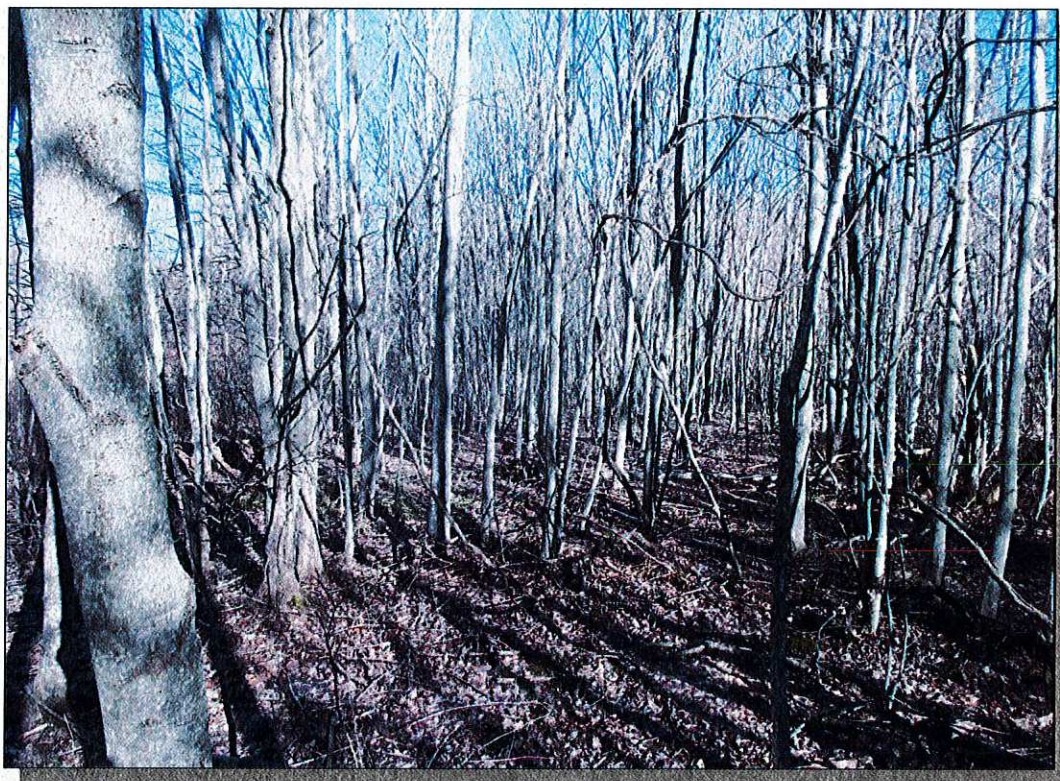


*Photo 3: View of regulated wetlands within the southern part of Wetland A (JMM photo taken 1/9/20); facing southeasterly*



*Photo 4: View of wet meadow component within Wetland A (JMM photo taken 1/9/20); facing westerly*





*Photo 5: View of regulated wetlands within southern part of Wetland A (JMM photo taken 1/9/20); facing northeasterly*



*Photo 6: View of small man-made pond adjacent to the southern property line within Wetland A (JMM photo taken 1/9/20); facing southeasterly*





*Photo 7: View of regulated wetlands within Wetland B (JMM photo taken 1/9/20); facing northeasterly*



*Photo 8: View of regulated wetlands within Wetland B (JMM photo taken 1/9/20); facing northeasterly*





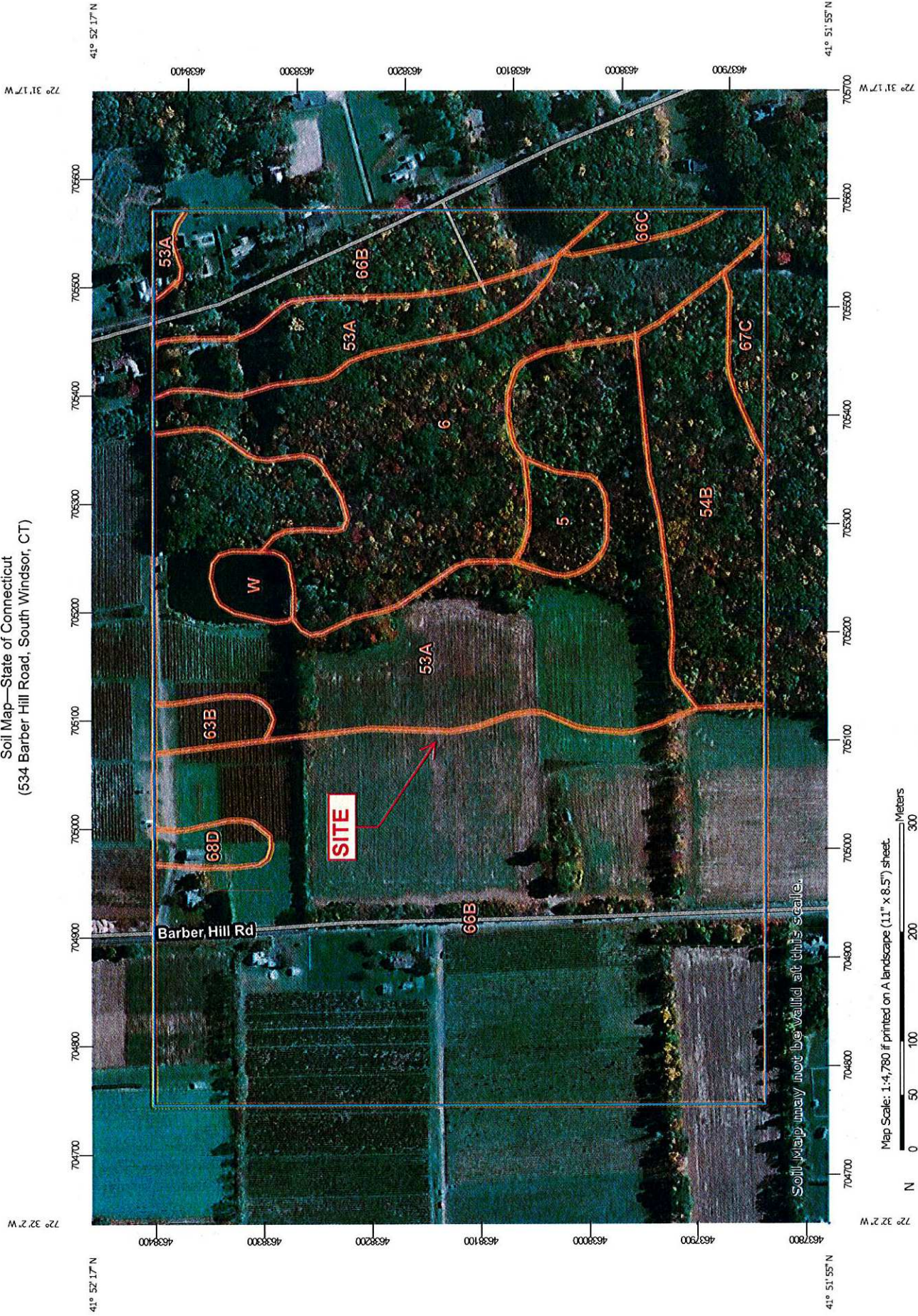
*Photo 9: View of upland area within the western part of site (JMM photo taken 1/9/20); facing northerly*



*Photo 10: View of upland area within the western part of site (JMM photo taken 1/9/20); facing northeasterly*



Soil Map—State of Connecticut  
(534 Barber Hill Road, South Windsor, CT)





## MAP LEGEND

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

## 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 19, Sep 13, 2019

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

Date(s) aerial images were photographed: Aug 27, 2016—Oct 30, 2017

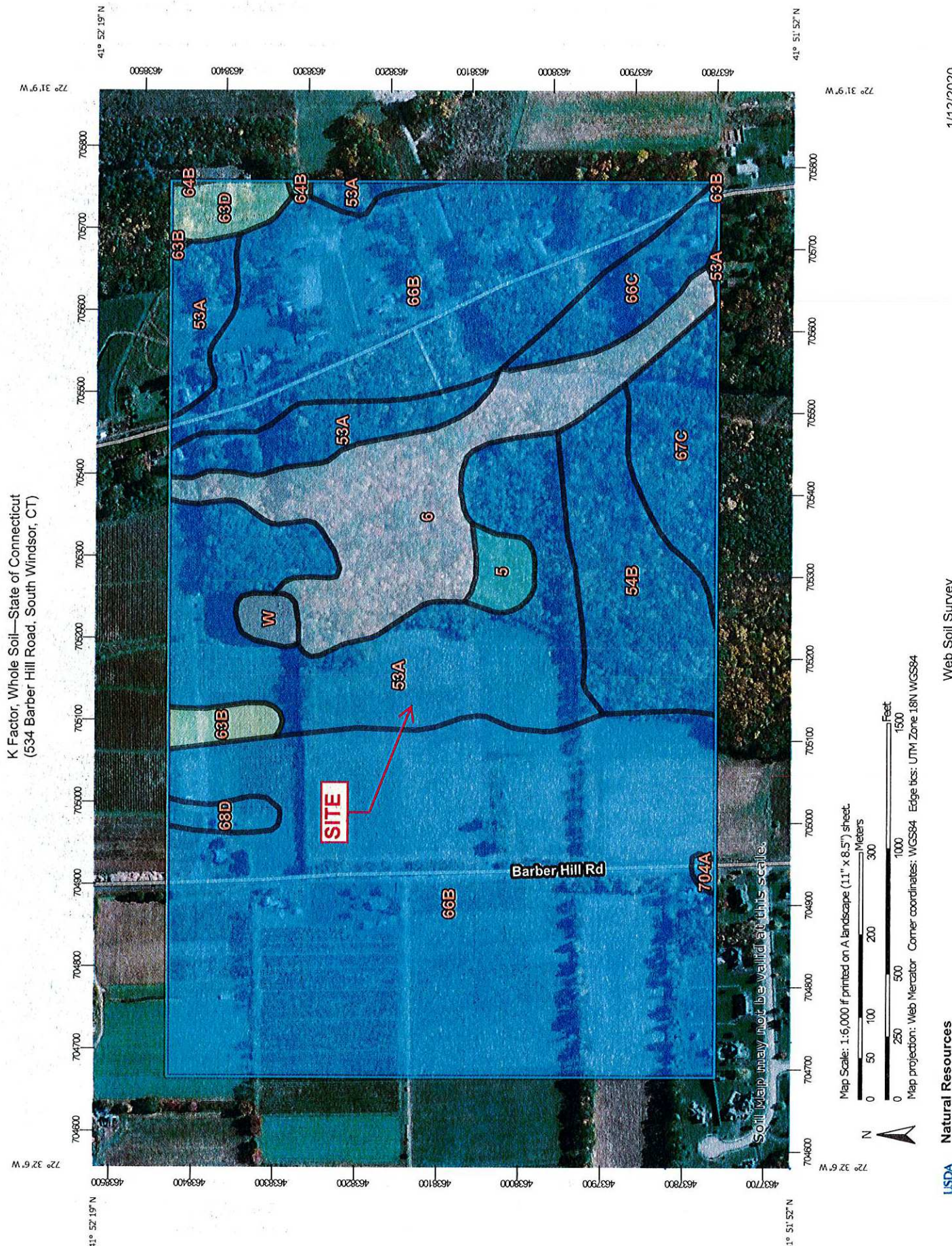
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5	Wilbraham silt loam, 0 to 3 percent slopes	1.6	1.4%
6	Wilbraham and Menlo soils, 0 to 8 percent slopes, extremely stony	16.7	14.5%
53A	Wapping very fine sandy loam, 0 to 3 percent slopes	28.3	24.5%
54B	Wapping very fine sandy loam, 2 to 8 percent slopes, very stony	8.3	7.2%
63B	Cheshire fine sandy loam, 3 to 8 percent slopes	1.2	1.0%
66B	Narragansett silt loam, 2 to 8 percent slopes	55.3	47.9%
66C	Narragansett silt loam, 8 to 15 percent slopes	0.8	0.7%
67C	Narragansett silt loam, 8 to 15 percent slopes, very stony	1.3	1.1%
68D	Narragansett silt loam, 15 to 25 percent slopes, extremely stony	1.0	0.8%
W	Water	1.0	0.9%
<b>Totals for Area of Interest</b>		<b>115.5</b>	<b>100.0%</b>



K Factor, Whole Soil—State of Connecticut  
(534 Barber Hill Road, South Windsor, CT)





## MAP LEGEND

Area of Interest (AOI)  
Area of Interest (AOI)

Soils

Soil Rating Polygons

.02

.05

.10

.15

.17

.20

.24

.28

.32

.37

.43

.49

.55

.64

Not rated or not available

Soil Rating Lines

.02

.05

.10

.15

.17

.20

Water Features

.24

.28

.32

.37

.43

.49

.55

.64

Not rated or not available

Soil Rating Points

.02

.05

.10

.15

.17

.20

.24

.28

.32

.37

.43

.49

.55

.64

Not rated or not available

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 19, Sep 13, 2019

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

Date(s) aerial images were photographed: Aug 27, 2016—Oct 30, 2017

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.

## K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5	Wilbraham silt loam, 0 to 3 percent slopes	.32	1.6	0.9%
6	Wilbraham and Menlo soils, 0 to 8 percent slopes, extremely stony		18.0	9.9%
53A	Wapping very fine sandy loam, 0 to 3 percent slopes	.43	34.3	18.9%
54B	Wapping very fine sandy loam, 2 to 8 percent slopes, very stony	.43	11.7	6.5%
63B	Cheshire fine sandy loam, 3 to 8 percent slopes	.24	1.6	0.9%
63D	Cheshire fine sandy loam, 15 to 25 percent slopes	.24	2.2	1.2%
64B	Cheshire fine sandy loam, 3 to 8 percent slopes, very stony	.24	0.2	0.1%
66B	Narragansett silt loam, 2 to 8 percent slopes	.43	97.8	53.9%
66C	Narragansett silt loam, 8 to 15 percent slopes	.43	4.8	2.6%
67C	Narragansett silt loam, 8 to 15 percent slopes, very stony	.43	6.7	3.7%
68D	Narragansett silt loam, 15 to 25 percent slopes, extremely stony	.43	1.2	0.7%
704A	Enfield silt loam, 0 to 3 percent slopes	.43	0.3	0.1%
W	Water		1.0	0.6%
<b>Totals for Area of Interest</b>			<b>181.5</b>	<b>100.0%</b>

## Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

*Layer Options (Horizon Aggregation Method):* Surface Layer (Not applicable)



## WETLANDS: *The Physical Environment*

### WETLAND HYDROGEOMORPHIC CLASSIFICATION

**Surface-Water Depression Wetlands:** In these wetlands, precipitation and overland flow (surface runoff) collect in a depression where there is little or no groundwater discharge. Water leaves the wetland principally by evapotranspiration and infiltration (groundwater recharge). The wetland hydrologic system lies above the local or regional groundwater system and is isolated from it by an unsaturated zone; thus, it is said to be "perched." In the glaciated Northeast, surface-water depression wetlands are most likely to form over bedrock or till deposits in topographically elevated areas of landscape; however, they may develop in lowland kettles or ice-block basins that formed in glaciolacustrine or fine-textured glaciofluvial deposits.

**Surface-Water Slope Wetlands:** These wetlands are located along the edge of stream or lake or on the sloping surface of a floodplain. They may occur on till or stratified drift but are commonly found on alluvium. While precipitation and overland flow also feed these wetlands, the principal source of water is the overflow of the adjacent water body. The sloping surface of the wetland permits water to drain readily back to the lake or river as its stage falls. As was the case with the previous class, the wetland surface usually lies well above the local water table, so groundwater discharge to the wetland is negligible or nonexistent. Groundwater recharge from the wetland is possible, depending on the permeability of underlying surficial deposits.

**Groundwater Depression Wetlands:** These wetlands occur where a basin intercepts the local groundwater table, so that groundwater discharge as well as precipitation and overland flow feed the wetland. Classic groundwater depression wetlands have no surface drainage leaving the site; however, occasional streamflow out may occur from basin overflow. Groundwater inflow may be continuous or seasonal, depending upon the depth of the basin and the degree of fluctuation of the local water table. During periods when the wetland water level is higher than the local groundwater table (e.g., after major precipitation events in dry season), groundwater recharge may occur. Groundwater may enter the wetland basin from all directions, or it may discharge in one area and recharge in another. In the glaciated Northeast, groundwater depression wetlands are most likely to occur in stratified drift, particularly in coarse-textured glaciofluvial deposits where relatively rapid movement between groundwater and surface water can occur.

**Groundwater Slope Wetlands:** These wetlands occur where groundwater discharges as springs or seeps at the land surface and drains away as streamflow. Most commonly, these wetlands occur on hillsides over till deposits or at the base of hills where stratified drift and till come into contact. Headwater wetlands are typically groundwater slope wetlands. The local water table slopes toward the wetland surface. Where groundwater flow is continuous, the soil remains saturated. At many sites, however, groundwater inputs cease during late summer or early fall as evapotranspiration depletes soil moisture in the root zone, in which case the soil is only seasonally saturated. Permanent ponding of water is prevented by the sloping land surface, but water may collect temporarily in isolated depressions. Precipitation and overland flow provide additional water to the wetland on an intermittent basis. Groundwater recharge may occur in the wetland after such events, but amounts are likely to be negligible, especially where wetland soils have formed over dense lodgment till deposits. Where such deposits are present, groundwater slope wetlands may be fed primarily by shallow groundwater systems perched above the regional system.

#### Reference:

Golet, C.G., A.J.K. Calhoun, W.R. DeRagon, D.J. Lowry, and A.J. Gold. 1993. Ecology of Red Maple Swamps in the Glaciated Northeast: A Community Profile. USFWS. Biological Report No. 12

## **WETLANDS: *The Physical Environment***

### **COMMON WATER REGIMES OF NORTHEASTERN WETLANDS**

**Seasonally flooded:** Surface water is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

**Temporarily flooded:** Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season.

**Seasonally saturated:** The soil is saturated to the surface, especially early in the growing season, but unsaturated conditions prevail by the end of the season in most years. Surface water is absent except for groundwater seepage and overland flow.

**Semi-permanently flooded:** Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.

**Permanently flooded:** Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes.

**Saturated:** The substratum is saturated to the surface for extended periods during the growing season, but surface water is seldom present. This water regime applies to permanently saturated, non-flooded wetlands such as bogs.

#### **References:**

- Golet, F. C., A. J. K. Calhoun, W. R. DeRagon, D. J. Lowry and A. J. Gold. 1993. Ecology of Red Maple Swamps in the Glaciated Northeast: A Community Profile. U. S. Dep. Int. Fish Wild. Serv. Biol. Rep. 12, 152 pp.
- Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Fish Wild. Serv. Biol. Serv. Program FWS-OBS 79/31. 103 pp.



## **WETLANDS: *The Plant Community***

### **WETLAND CLASSES AND SUBCLASSES IN THE GLACIATED NORTHEAST**

<u>WETLAND CLASS</u>	<u>WETLAND SUBCLASS</u>
<i>Open Water</i>	(OW-1) Vegetated (OW-2) Floating-leaved (OW-3) Non-vegetated
<i>Deep Marsh</i>	(DM-1) Dead Woody (DM-2) Shrub (DM-3) Sub-shrub (DM-4) Robust (DM-5) Narrow-leaved (DM-6) Broad-leaved
<i>Shallow Marsh</i>	(SM-1) Robust (SM-2) Narrow-leaved (SM-3) Broad-leaved
<i>Meadow</i>	(M-1) Ungrazed (M-2) Grazed
<i>Shrub Swamp</i>	(SS-1) Sapling (SS-2) Bushy (SS-3) Compact (SS-4) Aquatic
<i>Wooded Swamp</i>	(WS-1) Deciduous (WS-2) Evergreen
<i>Bog</i>	(BG-1A) Compact Shrub (BG-1B) Bushy Shrub (BG-2) Wooded (BG-3) Emergent

**Note:** Subclass (OW-2) has replaced (SM-4)  
Seasonally Flooded Class (SF-1 & SF-2) has been removed

**Reference:**

Golet, F.C., and J.S. Larson. 1974. Classification of freshwater wetlands in the glaciated Northeast.  
USFWS Resour. Publ. 116. 56 pp.

## **WETLANDS: *The Physical Environment***

### ***SOIL DRAINAGE CLASSES***

***Excessively drained:*** Brightly colored; usually coarse-textured; rapid permeability; very low water-holding capacity; subsoil free of mottles

***Somewhat excessively drained:*** Brightly colored; rather sandy; rapid permeability; low water-holding capacity; subsoil free of mottles

***Well drained:*** Color usually bright yellow, red, or brown; drain excess water readily, but contain sufficient fine material to provide adequate moisture for plant growth; subsoil is free of mottles to a depth of at least 36 inches.

***Moderately well drained:*** Generally any texture, but internal drainage is restricted to some degree; mottles common in the lower part of the subsoil, generally at a depth of 18 to 36 inches; may remain wet and cold later in spring; generally suited for agricultural use.

***Somewhat poorly drained:*** Remain wet for long periods of time due to slow removal of water; generally have a slowly permeable layer within the profile or a high water table; mottles common in the subsoil at a depth of 8 to 18 inches.

***Poorly drained:*** Dark, thick surface horizons commonly; gray colors usually dominate subsoil; water table at or near the surface during a considerable part of the year; mottles frequently found within 8 inches of the soil surface.

***Very poorly drained:*** Generally thick black surface horizons and gray subsoil; saturated by high water table most of the year; usually occur in level or depressed sites and are frequently ponded with water.

### **Reference:**

Wright, W. R., and E. H. Sautter. 1979. Soils of Rhode Island landscapes. R.I. Agric Exp. Station Bull. 429. 42 pp.