

Appendix C:
Wetland Report

This page intentionally left blank for double sided printing

United States Department of Agriculture



Natural Resources Conservation Service
100 Northfield Drive, 4th Floor
Windsor, CT 06095

(860) 688-7725 (phone)
(860) 688-0083 (fax)
www.ct.nrcs.usda.gov

June 24, 2008
Joseph J. Kavan, Civil Engineer
USDA-NRCS
344 Merrow Road, Suite A
Tolland, CT 06084-3917

RE: Heminway Pond Wetland Delineation, Oakville (Watertown), CT

Dear Mr. Kavan,

On April 30, 2008 an on-site wetland delineation was conducted around Heminway Pond in Watertown, CT. Wetlands were identified and flagged in the field with pink (Connecticut wetlands) and blue (Federal wetlands) survey ribbons by Margie Faber and Lisa Krall, USDA Natural Resources Conservation Service soil scientists. Wetlands were delineated by making observations of soils, vegetation and hydrology present at the site. The wetland flags were then marked using a Garmin GPSmap76 equipped with a radio beacon receiver. The GPS marked points were then used to make a map of the wetland boundaries within the project area.

Two methodologies were followed for wetland delineations within the project area. First, Connecticut state wetlands were identified in accordance with the Connecticut Inland Wetlands and Watercourses Act. Under this Act wetlands are defined as "land including submerged land, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial and floodplain by the National Cooperative Soil Survey of the Natural Resources Conservation Service of the United States Department of Agriculture." Watercourses means "rivers, streams, brooks, waterways, lakes and ponds marshes, swamps, bogs and all other bodies of water natural and artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." Second, federal wetlands were delineated in accordance with section 404 of the Clean Water Act. Under the federal system wetlands are defined using the three parameter approach, wetlands are required to exhibit the following: hydric soils, wetland hydrology and a dominance of hydrophytic vegetation. All federal wetlands fall within the Connecticut state wetland boundary.

Please refer to the attached report and accompanying maps, photos, and documents for a more detailed description of the wetlands on the site. Don't hesitate to contact Margie Faber or Lisa Krall if you have any questions or need any more information.

Sincerely,

Margie Faber & Lisa Krall, Soil Scientists, USDA-NRCS

cc: Kip Kolesinkas, State Soil Scientist, USDA- NRCS, Tolland, CT



Natural Resources Conservation Service
100 Northfield Drive, 4th Floor
Windsor, CT 06095

(860) 688-7725 (phone)
(860) 688-0083 (fax)
www.ct.nrcs.usda.gov

Report Title: Heminway Pond Wetland Delineation, Watertown, CT

Date: 4/30/08

Performed by: Margie Faber, Lisa Krall, Joseph Kavan

Please refer to the accompanying wetland delineation map, which illustrates the extent and distribution of the wetlands within the project area.

Overall Project Area:

The site is located within and adjacent to the floodplain of the Steele Brook in Watertown, Connecticut. Our area of observations included the floodplain along the west bank of Heminway Pond from the north side of Heminway Park. The northerly limit of observations was Knowlton Street and a line continuing west from Knowlton Street, across the Steele Brook, to the south edge of the residential lot off Steele Brook Road. Observations were made along the east bank the Steele Brook from Knowlton Street south to Echo Lake Road.

Four distinct areas of wetlands are present within the project area; these include three areas of alluvial soils on the floodplain and an intermittent watercourse also on the floodplain.

Pink Line: These soils occupy the area between the pink line and the watercourse. The floodplain and its accompanying alluvial soils are all wetlands under the Connecticut definition. This floodplain is dominated by the moderately well drained Pootatuck soils series. The Pootatuck Soil is a loamy alluvial soil. It typically has a seasonal high water table at or around 2 feet from the surface and is a subject to frequent flooding during larger storm events.



Figure 1: The floodplain and its accompanying alluvial soils represent most of the wetlands under the Connecticut definition. Here the blue ribbon marks the boundary between the federal wetland (hydric alluvial soils) and the Connecticut wetlands (moderately well drained alluvial soils).



Natural Resources Conservation Service
100 Northfield Drive, 4th Floor
Windsor, CT 06095

(860) 688-7725 (phone)
(860) 688-0083 (fax)
www.ct.nrcs.usda.gov

Blue Line: There are two areas of poorly drained Rippowam soils and very poorly drained Saco soils that occupy small back water depressions on the floodplain. One of these areas is on the west side of Steele Brook and one area is on the east side of Steele Brook. Only these depressions were observed to contain hydric soils, wetland hydrology and the dominance of hydrophytic vegetation and will classify as federal wetlands under the Section 404 of the Clean Water Act. The Steele Brook channel also falls under the jurisdiction of the clean water act as “other waters of the US”.



Figure 2: A partially submerged wetland at the northeast end of the pond. This area classifies as a Federal and Connecticut wetland.



Figure 3: The east side of the pond is bordered by areas of soils that have been disturbed by human activities of cutting and filling.



Natural Resources Conservation Service
100 Northfield Drive, 4th Floor
Windsor, CT 06095

(860) 688-7725 (phone)
(860) 688-0083 (fax)
www.ct.nrcs.usda.gov

Push Pin Symbols: These points identify the sites that correspond to the field data sheets. The orange pin is the upland site. The blue one is the wetland.



Figure 4: The representative wetland site has poorly drained Rippowam and very poorly drained Saco soils. Low chroma matrix colors indicate long periods of saturation. These soils classify as hydric soils and as Connecticut wetland soils.



Figure 5: Areas of moderately well drained Pootatuck soils do not classify as Federal wetlands, but they are regulated as Connecticut wetlands.

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer

United States Department of Agriculture



Natural Resources Conservation Service
100 Northfield Drive, 4th Floor
Windsor, CT 06095

(860) 688-7725 (phone)
(860) 688-0083 (fax)
www.ct.nrcs.usda.gov

Purple Line: There is one intermittent stream that flows into the northwest side of Heminway Pond. It has been delineated as an intermittent water course under Connecticut's definition and is also identified as "other waters of the US" under the federal definition. This watercourse exhibited evidence of scour and deposition and would most likely flow for some time after major storm events.

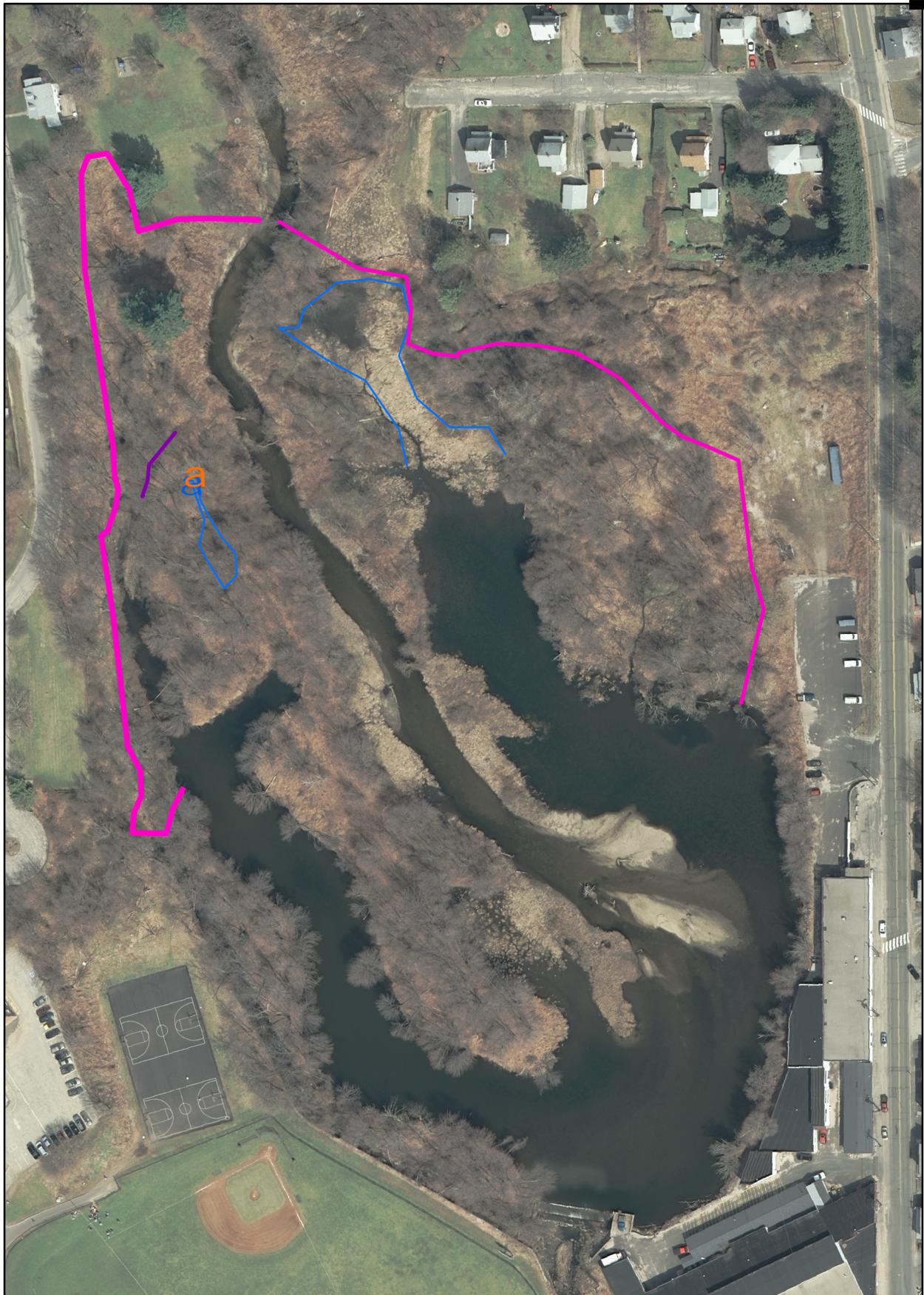
Supporting data also enclosed includes:

GPS waypoints

National Cooperative Soil Survey Map

2 field data sheets describing one typical wetland and upland site and soil

Heminway Pond Wetland Boundaries



0.025 0.0125 0 0.025 Miles



Heminway Pond Way Points



Soil Map—State of Connecticut
(Heminway Park, Watertown)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh
-  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

-  Gully
-  Short Steep Slope
-  Other

Transportation

-  Rails

Roads

-  Interstate Highways
-  US Routes
-  State Highways
-  Local Roads
-  Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 18N

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 6, Mar 22, 2007

Date(s) aerial images were photographed: 4/12/1991

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

State of Connecticut (CT600)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
21A	Ninigret and Tisbury soils, 0 to 5 percent slopes	2.3	4.1%
32C	Haven and Enfield soils, 8 to 15 percent slopes	0.6	1.1%
34C	Merrimac sandy loam, 8 to 15 percent slopes	7.7	13.5%
38C	Hinckley gravelly sandy loam, 3 to 15 percent slopes	5.8	10.2%
38E	Hinckley gravelly sandy loam, 15 to 45 percent slopes	3.9	6.9%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	0.3	0.5%
102	Pootatuck fine sandy loam	4.8	8.5%
238C	Hinckley-Urban land complex, 3 to 15 percent slopes	0.0	0.0%
305	Udorthents-Pits complex, gravelly	1.6	2.8%
306	Udorthents-Urban land complex	7.5	13.1%
307	Urban land	5.9	10.4%
308	Udorthents, smoothed	7.0	12.4%
W	Water	9.4	16.6%
Totals for Area of Interest (AOI)		56.8	100.0%

DATA & DETERMINATION HYDROLOGY

NOTE:

1. Hydrology is often the most difficult feature to observe.
2. Investigators must consider the appropriateness of the observations in light of the season, recent weather conditions, and weathered observations, etc.
3. Interpretation of hydrology may require repeated observations over more than one season.

Recorded Data
 Stream, lake or tidal gauge
 Aerial Photograph
 Other
 No Recorded Data Available

Identification _____
 Identification _____
 Identification _____

REPORT ANY OF THE FOLLOWING OBSERVATIONS:

Depth to Free Water: 12

Depth to Saturation: 12

Describe Altered Hydrology:

Inundated
 Saturated in upper 12 inches NO
 Water Marks
 Dirt Lines
 Sediment Deposits
 Drainage Patterns within Wetlands

Remarks:

CONCLUSIONS

Project Title: Amesbury Pond

Date: _____

Director: Lisa Grant / Margie Fobes

Plot: _____

Transect: _____

Greater than 50 Percent Hydrophytes? Yes No
 Hydric Soils Criterion Met? Yes No
 Wetland Hydrology Present? Yes No

IS THIS DATAPOINT WITHIN A WETLAND? Yes No

Remarks:

SOIL DETERMINATION

NOTE:

1. "NO" in all the following is evidence that the soil is NOT HYDRIC.
2. This checklist is valid for use by the New England Corps of Engineers outside the six New England States may be inappropriate.
3. This interpretive guide may be inappropriate in unusual cases.

Yes No
 Soil is frequently FROZEN or FLOODED for a duration longer than two weeks during the growing season. (attach an explanation of the basis for your conclusions)

Yes No
 The soil meets the Corps of Engineers regional criteria as a VERY POORLY DRAINED SOIL and there is no evidence of altered hydrology.

Yes No
 POORLY DRAINED SOIL and there is no evidence of altered hydrology.

Yes No
 The soil meets the Corps of Engineers regional criteria as a SOMEWHAT POORLY DRAINED SOIL that has either of the following two characteristics:
 Yes NO
 1. Within 9 inches of the soil surface there are:
 a. soil mottles within an A or Ap horizon and the subsoil is mottled throughout; OR
 b. common to many, distinct or prominent mottles with a matrix of chroma 3 or less; OR
 c. distinct or prominent oxidized rhizosphere and the subsoil is mottled throughout.

Yes No
 2. Within 24 inches of the soil surface, there are mottles which are common to many, distinct or prominent, and that are chroma 3 or less, and one of the following:
 Yes NO
 a. In the horizon that lies within 10 inches of the soil surface and directly beneath a dark A or Ap horizon, the mottle is chroma 3 or less, the mottle is at least 10% in abundance and distinct or prominent.
 b. When a dark Ap horizon is between 10 and 14 inches thick, wetness morphology may be masked by organic matter. Normally, these problem situations will be considered hydric where:
 i. there is no evidence of altered hydrology, and
 ii. in the horizon that lies directly beneath the Ap horizon, the mottle color is chroma 3 or less and mottles are at least 10% in abundance and distinct or prominent.

Yes No
 Check here and attach a description of your procedure and conclusions if one of the following options were chosen for your hydric soil determination: measured redox potential, colorimetric test for ferrous iron (Fe²⁺-Dipyridil), or other measurements and observations.

Yes No
 Typically in New England, soils having these morphologies will be classified in an aquic suborder or an aquic subgroup in soil taxonomy.
 Note: a dark A or Ap is defined as having a value of 3 or less and a chroma of 3 or less.

Remarks:

NOTE: This form reflects changes that are consistent with the substance of the Corps of Engineers Wetland Determination Manual (Revised August 1977) January 1987

Wetland Determination Manual - Version 24AUB1

SOIL DETERMINATION

NOTE: 1. "NO" in all the following is evidence that the soil is NOT HYDRIC
 2. This checklist is valid for use by the New England Corps of Engineers
 use outside the old New England States may be inappropriate.
 3. This interpretive guide may be inappropriate in unusual cases.

Yes No

Soil is frequently FLOODED or FLOODED for a duration longer than two weeks during the growing season. (attach an explanation of the basis for your conclusions)

The soil meets the Corps of Engineers regional criteria as a VERY POORLY DRAINED SOIL and there is no evidence of altered hydrology.

POORLY DRAINED SOIL and there is no evidence of altered hydrology.

The soil meets the Corps of Engineers regional criteria as a SOMEWHAT POORLY DRAINED SOIL that has either of the following two characteristics:
 Yes NO

1. Within 6 inches of the soil surface there are:
 Yes No

a. soil mottles within an A or Ap horizon and the subsoil is mottled throughout; OR

b. common to many, distinct or prominent mottles with a matrix of chroma 3 or less; OR

c. distinct or prominent oxidized rhizospheres and the subsoil is mottled throughout.

2. Within 24 inches of the soil surface, there are mottles which are:
 a. common to many, distinct or prominent, and that are also 3 or less, and one of the following:
 Yes NO

a. In the horizon that lies within 10 inches of the soil surface and directly beneath a dark A or Ap horizon, the matrix is chroma 3 or less; the mottles are at least 10% in abundance and distinct or prominent.

b. When a dark Ap horizon is between 10 and 14 inches thick, wetness morphology may be masked by organic matter. Normally, these problem situations will be considered hydric when:
 I. hydrophytes are prevalent,
 II. there is no evidence of altered hydrology, and
 III. In the horizon that lies directly beneath the Ap horizon, the matrix color is chroma 3 or less and mottles are at least 10% in abundance and distinct or prominent.

Check here and attach a description of your procedure and conclusions if one of the following options were chosen for your hydric soil determination: measured redox potential, colorimetric test for ferrous iron test (Fe²⁺-Dipyridyl), or other measurements and observations.

Typically in New England, soils having these morphologies will be classified in an aquic suborder or an aquic subgroup in soil taxonomy.
 ** Note: a dark A or Ap is defined as having a value of 3 or less and a chroma of 2 or less

Remarks:

DATA A DETERMINATION HYDROLOGY

NOTE: 1. Hydrology is often the most difficult feature to observe.
 2. Estimations must consider the appropriateness of the observations in light of the season, recent weather conditions, and watershed alterations, etc.
 3. Interpretation of hydrology may require repeated observations over more than one season.

Recorded Date: _____
 Stream, lake or tidal gauge _____
 Aerial Photograph _____
 Other _____
 No Recorded Data Available

Identifications: _____
 Identifications: _____
 Identifications: _____

REPORT ANY OF THE FOLLOWING OBSERVATIONS:

Depth to Free Water: 0

Depth to Saturation: 0

Describe Altered Hydrology: _____

Inundated

Saturated in upper 12 inches

Water Marks

Drift Lines

Sediment Deposits

Drainage Patterns within Wetlands

Remarks:

CONCLUSIONS

Project Title: Hemlock Road

Date: _____

Delineator: Lisa Wade / Margie Fisher

Plot: _____

Yes No

Greater than 50 Percent Hydrophytes?

Hydric Soil Criterion Met?

Wetland Hydrology Present?

IS THIS DATAPoint WITHIN A WETLAND?

Yes No

Remarks:

NOTE: This form replaces drawings that are in compliance with the standards of the Corps of Engineers Wetland Delineation Manual (Corps Report V-77-1) January 1977.