APPENDIX 10

FEDERAL WETLAND DELINEATION REPORT

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FEDERAL WETLAND DELINEATION REPORT

FOR

THE WINDHAM MOUNTAIN SPORTING CLUB
TOWN OF WINDHAM
GREENE COUNTY, NEW YORK

PREPARED FOR
TUCK EASTSIDE PARTNERS, L.P.
34 SALISBURY ROAD
DARIEN, CT 06820

NOVEMBER 2009

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TABLE OF CONTENTS

Tables

Figures and Drawings

Appendices

1 INTRODUCTION

This report describes the wetlands regulated by the federal government that exist within a 464.6-acre property in the Town of Windham, Greene County, New York. Personnel of the LA Group, P.C., delineated the wetland boundaries within the site between September 29 and November 26, 2008. In identifying and delineating the wetland boundaries, they followed the methods of the US Army Corps of Engineers (Environmental Laboratory, 1987). A total of 15.41 acres of wetlands were identified and delineated, of which 12.67 acres are under federal jurisdiction.

2 SITE DESCRIPTION

2.1 General

The project site is situated in the northwestern part of Greene County, approximately ½ mile south of the center of the hamlet of Windham. There are access points to the site from Trailside Road and Panorama Drive. Figure 1 illustrates the location of the site. Geographic coordinates of the center of the site are approximately 42º 17' 40" N latitude, 74º 14' 30" W longitude (NAD 83 datum).

The project site lies on the northeastern part of Cave Mountain. Elevations on the site range from about 1660 to 3050 feet above mean sea level. Most of the site is covered with forest that has been managed and selectively logged in recent years. Wetlands on the site are associated with small stream channels and with places where groundwater seeps out at the surface or lies a few inches below it, particularly on relatively flat bedrock benches.

2.2 Vegetation

The vegetation of the project site consists mainly of upland forests composed of sugar maple with smaller amounts of other hardwood trees. Smaller areas are covered with forest dominated by eastern hemlock and other trees. It is evident that these forests have been managed on a regular basis, for log skidder trails are found throughout, and the forest canopy is somewhat more open than would be expected in a forest allowed to grow naturally.

Evidence of previous agricultural activity on the site is present in the form of non-forested areas that vary from fields covered mainly with grasses and broadleaved herbs to areas dominated by shrubs and tree saplings. These areas were apparently cleared of forest to create pastures or hayfields, were later abandoned, and are in the process of ecological succession that will re-establish forest. Reportedly, such open areas in the eastern part of the property were once used for grazing sheep.

Drawing L-1 is a map of the vegetation of the project site. The vegetation types depicted on that map are based largely on the ecological community classification used by the New York Natural Heritage Program of the NYSDEC (Edinger *et al.*, 2002). Descriptions of these communities are presented below.

Scientific and common names of all plant species identified growing on the site are presented in Table 1. Given that this list is based on fieldwork carried out in the fall of 2008, it cannot be considered an exhaustive list of the flora of this site because it may not include plants that are visible mainly in the spring and early summer.

Maple–northern hardwood forest

This community covers more of the project site than any other plant community, approximately 314 acres. Sugar maple is the dominant tree in all examples of this community, sometimes being the only canopy tree in patches of several acres or more. However, there usually is a minor component of other hardwood trees in the canopy, such as red maple, yellow birch, sweet birch, white ash, northern red oak, black cherry, and American basswood. Eastern hop-hornbeam is an abundant understory tree in many places. American beech is rare as an overstory tree, but it is a common sapling and understory tree in many parts. Eastern hemlock occurs as scattered individuals, but white pine is relatively rare in this community.

Saplings in the understory are generally the same species as in the overstory. Striped maple is also common in the shrub and understory tree layers. Red raspberry and old-field blackberry are commonly the most abundant non-woody plants in the shrub layer. Japanese barberry, which is an undesirable invasive species, is abundant in some places, especially in the northern part of the site, sometimes forming large, dense patches.

The herbaceous layer in the maple–northern hardwood forest community tends to be relatively sparse. The more common plants in this layer include evergreen woodfern, marginal woodfern, New York fern, white snakeroot, wreath goldenrod, Pennsylvania sedge, graceful sedge, bearded shorthusk, white wood aster, herb-Robert, hay-scented fern, and running pine.

Hemlock–northern hardwood forest

The only other plant community on the site that is a type of mature forest is the hemlock–northern hardwood forest. It covers 27 acres, occurring mainly on north-facing slopes in the northern part of the site, and is dominated by eastern hemlock. It can vary from a forest composed almost entirely of hemlock, to one in which hemlock is co-dominant with deciduous hardwoods, mainly sugar maple, sweet birch, and paper birch. The shrub/sapling and herbaceous layers are sparse to nonexistent, especially where the tree canopy is dense, casting a deep shade.

Successional old field

There are only two places on the northern edge of the site where herbaceous plants are dominant in the vegetation. Together, these areas comprise about 8 acres. These are apparently old hayfields or pastures that are in the process of reverting to forest. Common herbaceous plants include smooth brome, Timothy grass, quack grass, Kentucky bluegrass, hair fescue, white bedstraw, calico aster, small-headed aster, common yarrow, Canada goldenrod, tall buttercup, dwarf cinquefoil, red clover, and white clover. There is a relatively patchy shrub layer that include old-field blackberry, black raspberry, stiff dogwood, and very small saplings of trees such as white ash, red maple, and gray birch.

Successional shrubland

This community represents the next stage in regeneration of forest after abandonment of agricultural fields and pastures. Within the areas mapped as this community, there still are herb-dominated patches, but they constitute less than 50% of the area. The majority of the area is occupied by shrubs and tree saplings, mainly stiff dogwood, blackberries and raspberries, Japanese barberry, northern arrow-wood, narrow-leaf meadow-sweet, Bebb willow, common juniper, hawthorn, gray birch, red maple, quaking aspen, white pine, and northern red oak. Some of the trees are relatively large, more than 20 feet tall, and may be 15 to 25 years old. On the vegetation map (Drawing L-1), 19 acres are identified as this vegetation type.

Successional northern hardwoods

The successional northern hardwoods community is the successional stage at which a closed canopy has been achieved. However, the canopy may be composed of densely growing saplings and young trees only 20 feet tall. Typical trees include red maple, green ash, white ash, gray birch, paper birch, white pine, quaking aspen, and bigtooth aspen.

A couple of patches of this vegetation type cover 33 acres in the eastern part of the site. A large area in the northernmost part of the site has a complex mosaic of successional northern hardwoods and successional shrubland. On the vegetation map (Drawing L-1), this is mapped as a single unit, which covers 25 acres.

Ski trail

The only maintained non-forest vegetation on the project site is that of a couple of ski trails that are part of the Ski Windham Resort. These trails are mowed regularly to prevent the growth of woody plants that could pose a hazard to skiers. Therefore, the trails are dominated by herbaceous plants, many of which are typical of lawns and infrequently mowed turf. These include Kentucky bluegrass, Timothy grass, panic grass, hair fescue, red clover, white clover, dandelion, rabbit's-foot clover, ox-eye daisy, St. John's-wort, common yarrow, ribgrass, common plantain, and bird's-foot trefoil. This vegetation type covers approximately 20 acres.

Shallow emergent marsh

Wetland vegetation on the project site is largely limited to narrow drainageways that may or may not include a perennial, intermittent, or ephemeral stream. There are also disturbed areas, mostly trails used by logging equipment, that have become compacted, rutted, or hollowed out by machine traffic, and which hold water for long periods. Places such as these often develop a herb-dominated wetland vegetation. Their soils are saturated to near the surface for much of the year, but standing water is rare, except in low pockets or stream beds. Dominant plants are mostly herbaceous, such as fringed sedge, sallow sedge, swamp aster, flat-top white aster, fowl manna grass, spotted touch-me-not, soft rush, wool-grass, green bulrush, sensitive fern, cinnamon fern, interrupted fern, flat-top fragrant goldenrod, and reed canary grass. The shrub layer is usually sparse, and may include narrow-leaf meadow-sweet, steeple-bush, shrub willows, common red raspberry, and old-field blackberry. Trees in these wetlands are few, and may include red maple, green ash, and yellow birch, as well as trees typical of the adjacent uplands, such as sugar maple, beech, and eastern hemlock. Due to the fact that most of these wetland patches are elongated and relatively narrow, they tend to be shaded by trees of the adjacent

uplands. The presence of this canopy may cause these areas to resemble wooded wetland communities such as red maple–hardwood swamp or hemlock–hardwood swamp. Areas identified as shallow emergent marsh cover 5 acres on the vegetation map.

Table 1. Flora of the Windham Mountain Sporting Club Site

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Trees		
Acer rubrum	red maple	FAC
Acer saccharum	sugar maple	FACU-
Betula alleghaniensis	yellow birch	FAC
Betula lenta	sweet birch	FACU
Betula papyrifera	paper birch	FACU
Betula populifolia	gray birch	FAC
Carpinus caroliniana	American hornbeam	FAC
Fagus grandifolia	American beech	FACU
Fraxinus americana	white ash	FACU
Fraxinus pennsylvanica	green ash	FACW
Ostrya virginiana	eastern hop-hornbeam	FACU-
Picea abies	Norway spruce	NL
Picea rubens	red spruce	FACU
Pinus resinosa	red pine	FACU
Pinus strobus	white pine	FACU
Pinus sylvestris	Scotch pine	NL
Populus grandidentata	bigtooth aspen	FACU-
Populus tremuloides	quaking aspen	FACU
Prunus serotina	black cherry	FACU
Quercus rubra	northern red oak	FACU-
Salix nigra	black willow	FACW+
Tilia americana	American basswood	FACU
Tsuga canadensis	eastern hemlock	FACU
Ulmus americana	American elm	FACW-
Shrubs and Vines		
Acer pensylvanicum	striped maple	FACU
Alnus incana ssp. *rugosa*	speckled alder	FACW
Amelanchier sp.	shadbush	FAC
Berberis thunbergii	Japanese barberry	FACU
Clematis virginiana	Virginia virgin's-bower	FAC

Table 1, continued

Scientific Name[1]	**Common Name**	**Wetland Indicator Category**[2]
Cornus foemina	stiff dogwood	FACW
Crataegus sp.	hawthorn	---
Elaeagnus umbellata	autumn olive	NL
Hamamelis virginiana	American witch-hazel	FACU+
Juniperus communis	common juniper	NL
Prunus virginiana	choke cherry	FACU
Rhus hirta	staghorn sumac	NL
Ribes sp.	currant	---
Rosa canina	dog rose	NL
Rosa multiflora	multiflora rose	FACU
Rubus allegheniensis	old-field blackberry	FACU-
Rubus idaeus	common red raspberry	FAC-
Rubus occidentalis	black raspberry	NL
Rubus odoratus	pink thimbleberry	NL
Salix bebbiana	Bebb willow	FACW
Salix petiolaris (?)	meadow willow	FACW+
Sambucus canadensis	American elder	FACW
Sambucus racemosa	red elderberry	FACU
Spiraea alba	narrow-leaf meadow-sweet	FACW+
Spiraea tomentosa	steeple-bush	FACW-
Vaccinium corymbosum	highbush blueberry	FACW-
Viburnum dentatum var. *lucidum*	northern arrow-wood	FACW-
Vitis sp.	wild grape	---
Herbaceous plants, Low Woody Plants		
Achillea millefolium	common yarrow	FACU
Actaea pachypoda	white baneberry	UPL
Ageratina altissima	white snakeroot	FACU-
Agrimonia gryposepala	tall hairy groovebur	FACU
Agropyron repens	quackgrass	FACU-
Agrostis alba (= *A. gigantea*)	redtop	FACW
Agrostis stolonifera	spreading bentgrass	FACW
Alliaria petiolata	garlic mustard	FACU-
Ambrosia artemisiifolia	annual ragweed	FACU
Anaphalis margaritacea	pearly everlasting	NL
Anthoxanthum odoratum	sweet vernal grass	FACU
Arisaema triphyllum	swamp jack-in-the-pulpit	FACW-

Table 1, continued

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Asclepias syriaca	common milkweed	FACU-
Aster divaricatus	white wood aster	NL
Aster lateriflorus	calico aster	FACW-
Aster lowrieanus	fall aster	NL
Aster novae-angliae	New England aster	FACW-
Aster prenanthoides	crooked-stem aster	FAC
Aster puniceus	swamp aster	OBL
Aster racemosus	small-headed aster	NL
Aster umbellatus	flat-top white aster	FACW
Athyrium filix-femina	lady-fern	FAC
Bidens frondosa	devil's beggar-ticks	FACW
Brachyelytrum erectum	bearded shorthusk	NL
Bromus inermis	smooth brome	UPL
Caltha palustris	common marsh marigold	OBL
Carex sp.	sedge	---
Carex baileyi	Bailey's sedge	OBL
Carex crinita	fringed sedge	OBL
Carex gracillima	graceful sedge	FACU
Carex lurida	sallow sedge	OBL
Carex pensylvanica	Pennsylvania sedge	NL
Carex scoparia	pointed broom-sedge	FACW
Centaurea jacea	brown knapweed	NL
Centaurea maculosa	bushy knapweed	NL
Cinna latifolia	slender wood-reedgrass	FACW
Cirsium vulgare	bull thistle	FACU-
Dactylis glomerata	orchard grass	FACU
Danthonia compressa	flattened oatgrass	FACU-
Daucus carota	Queen Anne's Lace	NL
Dennstaedtia punctilobula	hay-scented fern	UPL
Deparia acrostichoides	silvery spleenwort	FAC
Dianthus armeria	Deptford pink	UPL
Dryopteris cristata	crested shield-fern	FACW+
Dryopteris intermedia	evergreen woodfern	FACU
Dryopteris marginalis	marginal woodfern	FACU-
Eleocharis sp.	spikerush	OBL/FACW
Epilobium coloratum	purple-leaf willow-herb	OBL

Table 1, continued

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Epipactis helleborine	helleborine	UPL
Equisetum arvense	field horsetail	FAC
Equisetum sylvaticum	woodland horsetail	FACW
Erigeron annuus	white-top fleabane	FACU
Erigeron sp.	fleabane	---
Eupatorium maculatum	spotted Joe-Pye weed	FACW
Euthamia graminifolia	flat-top fragrant goldenrod	FAC
Festuca filiformis	hair fescue	NL
Fragaria virginiana	Virginia strawberry	FACU
Galeopsis tetrahit	hemp-nettle	NL
Galium mollugo	white bedstraw	NL
Galium sp.	bedstraw	---
Galium triflorum	sweet-scent bedstraw	FACU
Geranium robertianum	herb-Robert	NL
Geum sp.	avens	---
Glyceria melicaria	melic manna grass	OBL
Glyceria striata	fowl manna grass	OBL
Hypericum sp.	St. John's-wort	---
Impatiens capensis	spotted touch-me-not	FACW
Juncus effusus	soft rush	FACW+
Juncus tenuis	slender rush	FAC-
Leontodon autumnalis	autumn hawkbit	NI
Leucanthemum vulgare	ox-eye daisy	UPL
Lotus corniculatus	bird's-foot trefoil	FACU-
Lycopodium clavatum	running pine	FAC
Lycopodium digitatum	running pine	FACU-
Lycopodium lucidulum	shining clubmoss	FACW-
Lycopodium obscurum	tree clubmoss	FACU
Lycopus americanus	American bugleweed	OBL
Lycopus uniflorus	northern bugleweed	OBL
Lysimachia ciliata	fringed loosestrife	FACW
Mitchella repens	partridge-berry	FACU
Myosoton aquaticum	giant chickweed	FACW
Onoclea sensibilis	sensitive fern	FACW
Osmunda cinnamomea	cinnamon fern	FACW
Osmunda claytoniana	interrupted fern	FAC

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Table 1, continued

Scientific Name[1]	**Common Name**	**Wetland Indicator Category**[2]
Oxalis montana	white woodsorrel	FAC-
Panicum sp.	panic grass	--
Phalaris arundinacea	reed canary grass	FACW
Phegopteris connectilis	northern beech fern	FACU
Phleum pratense	timothy	FACU
Pilea pumila	Canada clearweed	FACW
Plantago lanceolata	ribgrass	NL
Plantago major	common plantain	FACU
Poa pratensis	Kentucky bluegrass	FACU
Polygonum cilinode	fringed bindweed	NL
Polygonum sagittatum	arrow-leaf tear-thumb	OBL
Polypodium virginianum	common polypody	NL
Polystichum achrostichoides	Christmas fern	FACU-
Potentilla canadensis	dwarf cinquefoil	NL
Potentilla simplex	old field cinquefoil	FACU-
Prunella vulgaris	heal-all	FACU+
Ranunculus acris	tall buttercup	FAC+
Ranunculus hispidus	bristly butter-cup	FAC
Rorippa nasturtium-aquaticum	water-cress	OBL
Rubus pubescens	dwarf blackberry	FACW
Rumex obtusifolius	bitter dock	FACU-
Scirpus atrovirens	green bulrush	OBL
Scirpus cyperinus	wool-grass	FACW+
Senecio pauperculus	balsam ragwort	FAC
Solanum dulcamara	climbing nightshade	FAC
Solidago bicolor	white goldenrod	NL
Solidago caesia	wreath goldenrod	FACU
Solidago canadensis	Canada goldenrod	FACU
Solidago gigantea	giant goldenrod	FACW
Solidago juncea	early goldenrod	NL
Solidago nemoralis	gray goldenrod	NL
Solidago patula	rough-leaf goldenrod	OBL
Solidago rugosa	wrinkled goldenrod	FAC
Stellaria media	common chickweed	UPL
Taraxacum officinale	common dandelion	FACU-
Thelypteris noveboracensis	New York fern	FAC

Table 1, continued

Scientific Name[1]	Common Name	Wetland Indicator Category[2]
Thymus pulegioides	wild thyme	NL
Tiarella cordifolia	heart-leaf foamflower	FAC-
Tragopogon pratensis	yellow goat's-beard	NL
Trifolium arvense	rabbit's-foot clover	NL
Trifolium aureum	hop-clover	NL
Trifolium pratense	red clover	FACU-
Trifolium repens	white clover	FACU-
Tussilago farfara	colt's-foot	FACU
Verbena hastata	blue vervain	FACW+
Veronica officinalis	common speedwell	FACU-
Vicia sp.	vetch	---
Viola sagittata	arrow-leaf violet	FACW
Mosses and Liverworts		
Fontinalis sp. [*F. antipyretica*?]		
Pleurozium schreberi		
Polytrichum commune	common hair-cap moss	
Polytrichum juniperinum		

[1] Scientific and common names and wetland indicator categories are from Reed (1988, 1996) and Tiner et al. (1995). Taxonomy for plants not listed in Reed (1988) is from Mitchell and Tucker (1997).

[2] Indicator category codes: OBL = Obligate Wetland, FACW = Facultative Wetland, FAC = Facultative, FACU = Facultative Upland, NL = not listed

A + or a - appended to an indicator category code indicates a somewhat greater (+) or lesser (-) tendency to be found in wetlands.

Shrub Swamp

The areas identified as shrub swamp have more than 50% of their area occupied by shrubs and tree saplings, mainly stiff dogwood, narrow-leaf meadow-sweet, Bebb willow, highbush blueberry, arrow-wood, green ash, red maple, American elm, and gray birch. There are many herbaceous plants, often occurring in large patches, including redtop, spreading bentgrass, sensitive fern, sedges, soft rush, flat-top white aster, spotted Joe-pye weed, fowl manna grass, wool-grass, flat-top fragrant goldenrod, and wrinkled goldenrod. While there are many small patches of shrub swamp within other wetland vegetation units, the few larger patches of this vegetation type constitute a total of 2.3 acres.

Hardwood Swamp

Hardwood swamp has a canopy, usually relatively open, composed of trees such as red maple, green ash, and American elm. There may be some shrubs in the understory, mainly narrow-leaf meadow-sweet, steeple-bush, and raspberries. The herbaceous layer is composed mainly of sedges, sensitive fern, fowl manna-grass, and touch-me-not. A total of 7 acres of hardwood swamp was identified on the site.

Hemlock-Hardwood Swamp

The main difference between this and the preceding community is the presence of hemlock as a co-dominant species in the tree and sapling layers. The shrub and herbaceous layers may be sparse, especially where there is much shading from hemlocks. Only 0.2 acre has been classified as this vegetation type.

2.3 Soils

According to the Soil Survey of Greene County (Broad, 1993), a major part of the site is mapped as having soils of the Vly-Halcott complex (see Figure 2). A small area on the northern edge of the site is mapped as Lewbeach and Willowemoc channery silt loams. These soils are classified as well drained. In the course of wetland delineation on the site, soils of the Halcott, Lewbeach, Onteora, Suny, Tor, Vly, and Willowemoc series were identified in the wetlands and the adjacent uplands. The soils found in the wetlands were mainly poorly drained Onteora, Tor, and Suny soils. Suny soils are classified as hydric soils, whereas soils of the Onteora and Tor series are classified as soils with hydric inclusions (Soil Conservation Service, 1989).

2.4 Hydrological Setting

The Windham area receives approximately 45 inches of precipitation each year, of which approximately 27 inches go into surface runoff (Randall, 1998). Some of the precipitation first percolates into the soil and travels below the surface before being discharged into streams, ponds, or wetlands. Discharge of groundwater commonly occurs at places where the topography changes, such as on the bedrock benches that are found on the hillsides of this site. Being relatively flat, the benches are poorly drained in places, resulting in the development of wetlands.

Surface waters on the site mainly consist of small, intermittent or ephemeral streams. There are two main stream systems that appear to be perennial streams. One is in the southeastern quarter of the property, and flows eastward, crossing the property line near the site's easternmost corner. The other has its head in the west-central part of the site and flows northward, leaving the property in its northwestern corner. There are no ponds or lakes except for two small artificial ponds, each covering about 2,000 square feet, in the northern part of the property.

The entire site lies within the watershed of the Batavia Kill, which is a tributary of Schoharie Creek. The USGS Hydrologic Unit Code of the Schoharie watershed is 02020005. Schoharie Creek is a tributary of the Mohawk River, a traditional navigable waterway. In the NYSDEC waters index system, the Batavia Kill is identified as no. H-240-82-117. The portions of the Batavia Kill that receive runoff from the site are assigned standards of A(T) and A(TS), which mean that they are trout waters, the upper part of which is used for spawning by trout (6 NYCRR §879.6, items 217 and 217.1). Only one stream on the project site has been classified by

NYSDEC. It is the one that runs near the western edge of the site and exits in its extreme northwestern corner, and it is assigned class and standards of C (6 NYCRR §879.6, item 231; waters index no. H-240-82-117-12a).

The National Wetlands Inventory (NWI) map for this vicinity (Figure 3) does not indicate any wetland on or immediately adjacent to the project site. The larger mapped wetlands in the area are associated with the Batavia Kill and its tributaries. The smaller wetlands are mainly artificial ponds. The NWI maps are produced through analysis of aerial photographs, and relatively small seepage wetlands on hillsides, such as those on the project site, may be difficult to identify on aerial photographs.

The nearest wetlands regulated by New York state agencies are all more than 1.3 miles from the project site, as illustrated in Figure 4, "NYSDEC Wetlands Map."

3 DELINEATION METHODS

The wetland delineation on the project site was performed using the routine wetland determination method (Environmental Laboratory, 1987). Biologists and soil scientists of the LA Group, P.C. delineated wetland boundaries on the project site mainly between September 29 and October 3, 2008, with some additional delineation on November 4, 5, 20, and 26, 2008.

Positions of the wetland boundaries were determined through observation of changes in slope, vegetation changes, variations in soil characteristics, and evidence of hydrology. To mark points on the wetland boundaries, pieces of plastic flagging tape were tied to trees and shrubs at intervals of 20 to 80 feet. Stream centerlines were also delineated using flags hung at points along the length of the stream, especially where the stream channels had a significant bend. Each flag on a wetland boundary line or stream centerline was marked with an identification number beginning with two letters identifying the particular line, followed by a number. Some of the delineators used a "W" prefix before to letters identifying the line, signifying that it was a wetland boundary line, as opposed to a stream centerline. The positions of the flags were surveyed and mapped by a professional land surveyor, and are shown on Drawings WD-1 through WD-10.

At a number of representative locations, the characteristics of the soil, vegetation, and hydrology on both sides of the wetland boundary were recorded. The wetland indicator categories of the dominant plants, which are those listed by Reed (1988, 1996), were used to determine whether the vegetation is hydrophytic.

These sample plot data are presented in Appendix A, "Wetland Determination Summary Forms." The locations of these sampling points are identified by the number of the nearest wetland boundary flag. Photographs of the wetlands and uplands at some of these sampling points are presented in Appendix B, "Photographs of Wetlands and Adjacent Uplands on the Windham Mountain Sporting Club Site."

4 DELINEATED WETLANDS AND STREAMS

4.1 Wetlands

A total of 36 separate wetland areas were identified and delineated. As shown on the wetland maps (Drawings WD-1 through WD-10), each wetland was assigned an identification number. Table 2 identifies the boundary lines defining each wetland and lists the area of each wetland in terms of acreage. If the delineator of a line used a "W" prefix on the flag ID numbers to designate a wetland boundary, that prefix was omitted from the line identifier in the second column of Table 2.

Table 2 also shows whether each wetland is under federal jurisdiction. The jurisdictional wetlands are connected to streams that eventually drain to traditionally navigable waters. Those identified as non-jurisdictional are isolated and not connected by surface waters to traditionally navigable waters. All streams and their tributaries have been assigned identification numbers, which are also shown on the wetland delineation maps.

Table 2. Summary of Wetlands on the Windham Mountain Sporting Club Site

Wetland ID No.	Boundary lines defining the wetland	Under Federal Jurisdiction?	Area (acres)	Main Vegetation Type†	Relationship to Surface Waters
W-1	CG	yes	0.14	SEM, SBS	Wetland is drained by stream S-2.
W-2	CB	yes	0.16	SBS	Wetland is drained by stream S-3.2.1
W-3	CD	yes	0.10	SEM	Drained by streams S-3.2.2 & S-3.2.3
W-4	FE	yes	0.08	SEM	Wetland is drained by stream S-3.1.2, flowing through its east end.
W-5	FB, FC	yes	0.16	SEM	Drains into stream S-3.1.2
W-6	CZ	no	0.09	SBS	Not connected - overflow from pond disappears on slope below.
W-7	AG	yes	0.77	HWS	Drained by stream S-1.2.2, which runs the length of the wetland.
W-8	CJ	yes	0.02	SEM	Abuts and is drained by stream S-1.1
W-9	CK	yes	0.14	SEM, SBS	Abuts and is drained by streams S-1.1 & S-1.3.1
W-10	CL, CM, CQ, CR	yes	4.13	SEM, HWS	Wetland is traversed and drained by streams S-1, S-1.1, S-1.3, S-1.3.2, S-1.3.3, & S-1.5.
W-11	HD	yes	0.09	SEM	Drains into W-10 via stream S-1.1.2
W-12	DA, CY	yes	0.03	HWS	Abuts and is drained by stream S-1.8
W-13	DB	yes	0.12	SEM	Wetland is traversed and drained by stream S-1.12.2
W-14	DC	yes	0.14	HWS	Abuts and is drained by stream S-1.12.1
W-15	AP	yes	0.18	SEM	Wetland drains into stream S-1.12.1.1
W-16	DE	no	0.16	SEM	No visible connection to other wetlands or surface waters

Table 2, continued.

Wetland ID No.	Boundary lines defining the wetland	Under Federal Jurisdiction?	Area (acres)	Main Vegetation Type†	Relationship to Surface Waters
W-17	EL	no	0.02	SEM	Wetland is on a seepy slope abutting S-4, which drains it, but which is not connected to other surface waters.
W-18	CV	no	0.28	SEM, SBS	No visible connection to other wetlands or surface waters
W-19	CW	no	1.03	SEM, SBS	No visible connection to other wetlands or surface waters
W-20	CT	no	0.29	SEM	No visible connection to other wetlands or surface waters
W-21	CS	no	0.17	SEM	No visible connection to other wetlands or surface waters
W-22	CU	no	0.38	SEM, HWS	No visible connection to other wetlands or surface waters
W-23	CX	no	0.17	SEM	No visible connection to other wetlands or surface waters
W-24	EY	yes	1.26	SBS, SEM	Wetland is drained by streams S-6.1 and S-6.2
W-25	EB, ED, EE, EF, EI, GG, GH, GJ, GP, GQ, GY	yes	3.95	SEM, HWS	Wetland abuts and is traversed by streams S-7, S-7.1, and S-8
W-26	EW	yes	0.09	SEM, SBS	Wetland drains into W-25 via stream S-10
W-27	GX	yes	0.12	SEM, SBS	Wetland receives drainage from part of W-25 via stream S-11.
W-28	GC	yes	0.04	SEM	Wetland is traversed and drained by S-7.4.
W-29	GA	yes	0.03	SEM	Wetland is drained by S-7.4.
W-30	GE	yes	0.20	SEM	Wetland is traversed and drained by S-7.6.
W-31	HC	no	0.11	SEM	No visible connection to other wetlands or surface waters

Table 2, continued.

Wetland ID No.	Boundary lines defining the wetland	Under Federal Jurisdiction?	Area (acres)	Main Vegetation Type†	Relationship to Surface Waters
W-32	HA	no	0.04	SEM	No visible connection to other wetlands or surface waters
W-33	EP, GR, GT	yes	0.40	SEM	Wetland abuts and is drained by S-12 & S-13.
W-34	GO	yes	0.25	SEM, HWS	Wetland is traversed and drained by S-13 and S-13.3.
W-35	ES	yes	0.06	SEM	Wetland drains into S-13.3.
W-36	GN	yes	0.01	SEM	Wetland is traversed and drained by S-15.
Total wetland area on site			15.41		
Total non-jurisdictional wetland acreage			2.74		
Total federal jurisdictional wetland acreage			12.67		

† SEM= shallow emergent marsh, SBS = shrub swamp, HHS = hemlock–hardwood swamp, HWS = hardwood swamp.

4.2 Streams

Table 3 presents information on the streams, which have been divided into segments, each of which begins and ends where the stream order changes, or at the point where it crosses the property line. The ID numbers assigned to a stream and its tributaries begin at the point where the main stream leaves the property. In tracing it upstream, a new point number is assigned to each branch added. For example, a stream may be assigned ID number S-8 at its lowermost point, where it leaves the property. In working upstream, the first tributary will be assigned ID number S-8.1. If that tributary, in turn, is followed up to the point where it is formed by the joining of two first-order streams, then stream segment S-8.1 ends at that point, and those two sub-tributaries are assigned ID numbers S-8.1.1 and S-8.1.2. The UTM coordinates (NAD83 datum) of the beginning (downstream) and end points (upstream) of each stream segment are provided in Table 3.

In the course of delineation, each stream segment was assigned a hydrological type: perennial, intermittent, or ephemeral. These hydrology assignments, along with a determination of whether or not each stream is a relatively permanent water (RPW), are found in Table 3.

The substrates of these streams are all similar because they have gradients that create sufficient velocity to wash away fine particles. Therefore, their channels have bottoms lined with sand, gravel, and cobbles. In some locations, boulders are abundant in the streams, as well as bedrock outcrops.

4.3 Watersheds

In order to examine the connections between the various wetlands and traditionally navigable waters, the approximate boundaries of the watersheds of the main streams on the site were drawn using the surveyed site topography and observed drainage pathways. Figure 5 shows the watersheds delineated in this way. Table 4 summarizes the size of each watershed, the wetlands and streams contained within the watershed, and its discharge rate, based on 27 in. of annual runoff (Randall, 1998). This table indicates that these watersheds occupy a total of 352 acres, which is about 110 acres less than the size of the site. This is because the runoff from some parts of the site does not get concentrated in a stream channel until after it flows across the site's boundary.

The largest on-site watershed is that drained by stream S-1 and its tributaries, comprising approximately 127 acres. This is the uppermost part of the NYSDEC-regulated stream H-240-82-117-12a, with an estimated average annual discharge of 0.39 cfs at the point where the stream leaves the property. S-1 appears to be a perennial stream, at least in its lower reaches. After leaving the site, this stream travels approximately 2,000 feet before joining the Batavia Kill. The distance from the mouth of this stream to the junction of the Batavia Kill and Schoharie Creek is approximately 9.6 river miles, or 8.5 miles straight-line distance. Schoharie Creek is considered by New York State as "navigable-in-fact," and the federal government may also hold that view. It is also possible that the Batavia Kill, at least in its lower reaches, may be considered a

navigable waterway. The site also lies approximately 4.4 miles north of the upper part of Schoharie Creek, but none of the drainage from the site reaches that part of Schoharie Creek.

Within the watershed of stream S-1, and drained directly by the stream and its tributaries, there are 9 separate wetlands comprising a total area of 5.62acres. There are also three isolated wetlands (W-16, W-20, and W-22) within the watershed. These isolated wetlands are generally centered on flatter bedrock benches in the hillside, and places where they overflow onto the slopes below may be visible. However, there are no apparent channels by which water draining from them reaches stream S-1 or its tributaries.

The watershed of stream S-2, at 26 acres, is about 20% the size of the watershed of S-1, but it has much less in terms of delineated stream channels. It appears that much of the runoff in this watershed travels by sheet flow towards Trailside Road, where it gets directed into a roadside ditch that connects to stream S-2. The stream also receives overflow from a pond and associated wetland (W-1). The water carried by stream S-2 flows into the roadside ditch, where it continues northward and under South Street (County Rte. 12). From there it heads northwestward several hundred feet, then northward again along Church Street to the Batavia Kill. The distance of flow from the property line to the Batavia Kill is approximately 1,900 feet.

Stream S-3 drains a watershed of 57 acres, about twice the size of that of S-2. There are four wetlands connected to this stream system, comprising a total of 0.50 acre. There is also one isolated artificial pond and associated wetland (W-6), which overflows northward onto the slope below, with no apparent overland channel connecting to any stream. From the point where stream S-3 leaves the property, its channel heads northwestward across a field, joining the ditch along Trailside road that carries the flow of stream S-2. From the point where the flow of stream S-3 leaves the property to the point where it empties into the Batavia Kill, it travels approximately 2,000 feet.

The watershed of stream S-4 covers only about 17 acres, and most of the water it carries is collected by gravel roads that traverse the area. Only one small wetland, W-17, is directly associated with the stream. Wetlands W-18 and W-19 are isolated wetlands occupying skidder trails on a relatively flat bench; they overflow down the adjacent slopes, but without sufficient volume or frequency to create channels connecting to any surface watercourses.

The 8-acre watershed of stream S-5 does not contain any wetlands. This intermittent stream is fed by runoff from the slopes above. Before leaving the property, stream S-5 splits into two channels, with part of its flow going down the channel identified as S-5.1. A short distance downhill, just off the property, these two channels reunite, and even farther down the hill, this stream joins the extension of stream S-4. The channel formed by the combined flow of these streams is traceable to an open area approximately 600 feet north of the property boundary. There, the channel ends, with evidence that the flow spreads out and disappears in that open area. This infiltration of surface flow in streambeds, particularly where they enter larger valleys, has been documented to occur in the Batavia Kill basin (Heisig, 1998). Because of the lack of a clear surface-water connection to the Batavia Kill, streams S-4 and S-5 are indicated as non-jurisdictional in the table on Drawing JD-1.

Table 3. Streams on the Windham Mountain Sporting Club Site

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-1	CH-1 to CH-13; AA-1 to AA-42	2,936	Perennial RPW	3	There is a gap in the property between the CH and AA segments	561666 E 4683360 N	562190 E 4682493 N
S-1.1	AA-1, AB-1 to AB-21	1,213	Intermittent, seasonal RPW	1		561857 E 4683054 N	562183 E 4682993 N
S-1.1.1	AB-6, AC-1 to AC-3, AB-10	241	Ephemeral, non-RPW	1		561980 E 4683042 N	562023 E 4683014 N
S-1.1.2	CQ-84 & HD-1	45	Intermittent, seasonal RPW	1		562352 E 4682937 N	562365 E 4682937 N
S-1.2	AA-8, AD-1 to AD-5	144	Intermittent, seasonal RPW	2		561935 E 4682994 N	561900 E 4682920 N
S-1.2.1	AD-3, AE-1, AE-3	180	Intermittent, seasonal RPW	1		561918 E 4682956 N	561877 E 4682919 N
S-1.2.2	AD-5 to AD-14	667	Intermittent, seasonal RPW	1		561900 E 4682920 N	561969 E 4682780 N
S-1.2.3	AD-5, AF-1 to AF-3	140	Ephemeral, non-RPW	1	This is a skidder trail that has become a drainageway	561900 E 4682920 N	561935 E 4682901 N
S-1.3	CN-1 to CN-22, AH-3 to AH-7, AA-29	1,000	Intermittent, seasonal RPW	3	CN-1 connects to Line AA between AA-11 and AA-12.	561959 E 4682944 N	562122 E 4682714 N
S-1.3.1	CN-5, CO-1, CO-2, CN-7	62	Intermittent, seasonal RPW	3		561985 E 4682927 N	561998 E 4682916 N
S-1.3.2	CN-18, CQ-1	12	Intermittent, seasonal RPW	1		562059 E 4682841 N	562062 E 4682840 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-1.3.3	CN-21, CP-1 to CP-13	36	Intermittent, seasonal RPW	1		562074 E 4682820 N	562466 E 4682803 N
S-1.4	AA-15, AK-1 to AK-14	716	Ephemeral, non-RPW	2	This is a skidder trail that has become a drainageway	561990 E 4682907 N	562074 E 4682744 N
S-1.4.1	AK-14 to AK-18	217	Ephemeral, non-RPW	1	This is a skidder trail that has become a drainageway	562074 E 4682744 N	562094 4682681 N
S-1.4.2	AK-14, BB-4 to BB-1, BA-1	307	Ephemeral, non-RPW	1		562074 E 4682744 N	562107 E 4682662 N
S-1.5	AA-20, AH-1 to AH-3	488	Intermittent, seasonal RPW	3		562039 E 4682830 N	562077 E 4682810 N
S-1.6	AA-27, AI-1 to AI-5, AJ-2	218	Intermittent, seasonal RPW	3		562102 E 4682738 N	562123 E 4682678 N
S-1.6.1	AI-3, BA-2, BA-1	114	Ephemeral, non-RPW	1		562112 E 4682696 N	562107 E 4682662 N
S-1.7	AA-30, AJ-1 to AJ-5, AA-32	191	Ephemeral, non-RPW	3		562128 E 4682697 N	562137 E 4682644 N
S-1.8	AA-30A, CY-1 to CY-15	583	Perennial (?) RPW	2		562140 E 4682678 N	562199 E 4682528 N
S-1.8.1	CY-15, BD-1 to BD-3	201	Intermittent, seasonal RPW	1		562199 E 4682528 N	562222 E 4682485 N
S-1.8.2	CY-15 to CY-18	114	Intermittent, seasonal RPW	1		562199 E 4682528 N	562197 E 4682494 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-1.9	AM-1 to AM-4, BC-1 to BC-5, AO-6	616	Ephemeral, non-RPW	2	AM-1 connects to line AA at the upstream end of culvert under ski trail	562139 E 4682599 N	562162 E 4682424 N
S-1.9.1	AL-1 to AL-5, AM-2	140	Ephemeral, non-RPW	2		562110 E 4682614 N	562122 E 4682575 N
S-1.9.2	AM-4 to AM-6	118	Ephemeral, non-RPW	1		562125 E 4682545 N	562149 E 4682519 N
S-1.10	AA-41, AO-1 to AO-6, AA-48	289	Ephemeral, non-RPW	2		562179 E 4682498 N	562166 E 4682418 N
S-1.10.1	AO-4 to AA-48	106	Ephemeral, non-RPW	2		562167 E 4682450 N	562166 E 4682418 N
S-1.11	AA-42, AN-6 to AN-5	50	Ephemeral, non-RPW	2		562190 E 4682493 N	562214 E 4682484 N
S-1.11.1	AN-5 to AN-1	201	Ephemeral, non-RPW	1		562214 E 4682484 N	562226 E 4682437 N
S-1.11.2	AN-5, BD-3, BD-4	64	Ephemeral, non-RPW	1		562214 E 4682484 N	562234 E 4682482 N
S-1.12	AA-42 to AA-48	289	Perennial or Intermittent, seasonal RPW	2		562190 E 4682493 N	562166 E 4682418 N
S-1.12.1	AA-48, AR-7 to AR-1, DC-20	413	Ephemeral, non-RPW (?)	1		562166 E 4682418 N	562202 E 4682315 N
S-1.12.1.1	DC-22, DD-1 to DD-3, AQ-11 to AQ-1	448	Ephemeral, non-RPW (?)	1		562217 E 4682298 N	562238 E 4682181 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-1.12.2	AA-48 to AA-61	646	Intermittent, seasonal RPW	1		562166 E 4682418 N	562152 E 4682251 N
S-2	CF-1 & CF-2	59	Intermittent, seasonal RPW	1		561922 E 4683536 N	561929 E 4683536 N
S-3	CA-1 to CA-3	63	Intermittent, seasonal RPW	3		562011 E 4683561 N	562020 E 4683544 N
S-3.1	CA-3, CE-13 to CE-1, AS-1 to FD-18.	766	Intermittent, seasonal RPW	2		562020 E 4683544 N	562138 E 4683371 N
S-3.1.1	CE-1, AT-3 to AT-1, CC-17	304	Intermittent, seasonal RPW	1		562116 E 4683465 N	562196 E 4683421 N
S-3.1.2	FD-18 to FD-1	729	Intermittent / ephemeral, seasonal RPW	1	Intermittent below flag –14, ephemeral above FD-13. FD-18 ties to line AS between AS-5 and AS-6.	562138 E 4683371 N	562155 E 4683164 N
S-3.1.3	FD-18, AS-6 to AS-14	529	Intermittent, seasonal RPW	1		562138 E 4683371 N	562270 E 4683294 N
S-3.2	CA-3 to CA-11, CC-1 to CC-16, CL-1	1,238	Intermittent, seasonal RPW	2	CC-1 ties to line CA between CA-11 and CA-12; the stream segment ends where line CI meets line CC.	562020 E 4683544 N	562202 E 4683425 N
S-3.2.1	From stream S-3.2 to CA-12	31	Intermittent, seasonal RPW	1		562221 E 4683549 N	562230 E 4683549 N
S-3.2.2	CC-16 and CD-1	11	Intermittent, seasonal RPW	1		562216 E 4683438 N	562219 E 4683436 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-3.2.3	CL-1 to CL-7	212	Intermittent, seasonal RPW	1	CL-1 ties to line CC between CC-16 and CC-17.	562202 E 4683425 N	562230 E 4683372 N
S-3.2.4	From junction of lines CC and CL to CC-17, through CC-22.	155	Ephemeral, non-RPW	1		562202 E 4683425 N	562196 E 4683375 N
S-4	EJ-1 to EJ-24	869	Intermittent, non-RPW	1	Downstream, off the site, it joins S-5, then disappears ca. 600 ft north of the property line. No significant nexus to TNW. Non-jurisdictional.	562696 E 4683267 N	562604 E 4683160 N
S-4.1	EM-1 to EM-8, EJ-15	213	Ephemeral, non-RPW	1	EM-1 ties to line EJ between EJ-7 and EJ-8.	562741 E 4683237 N	562733 E 4683176 N
S-4.2	EJ-16, EN-1, EN-2	56	Intermittent, non-RPW	1	The upper part, above EJ-20, may be ephemeral.	562731 E 4683168 N	562719 E 4683160 N
S-5	AV-1 to AV-6, EJ-16	336	Intermittent, non-RPW	1	See note for S-4. Non-jurisdictional.	562810 E 4683206 N	562731 E 4683168 N
S-5.1	AU-1, AU-2, AV-2	104	Intermittent, non-RPW	1		562785 N 4683212 N	562810 E 4683195 N
S-6	EZ-7 to EZ-4	143	Intermittent, seasonal RPW	2		563214 E 4682695 N	563204 E 4682688 N
S-6.1	EZ-4 to EZ-1	169	Intermittent, seasonal RPW	1		563204 E 4682688 E	563188 E 4682664 N
S-6.2	EZ-4, FA-1 to FA-6	424	Intermittent, seasonal RPW	1		563204 E 4682688 N	563166 E 4682656 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-7	EA-1 to EA-9, GB-43 to GB-11, GF-13 to GF-11; also GF-12 to GL-1, GL-2, and GF-11.	1,621	Perennial / intermittent, seasonal RPW	2	It may be perennial in its lower part and intermittent in its upper reaches.	563352 E 4682474 N	562876 E 4682361 N
S-7.1	EA-3, EG-1 to EG-5	99	Intermittent, seasonal RPW	1		563341 E 4682474 N	563315 E 4682469 N
S-7.2	EA-6, EH-1 to EH-3, EA-9	84	Intermittent, seasonal RPW	2		563320 E 4682481 N	563299 E 4682483 N
S-7.3	GB-32, GD-4 to GD-1	114	Intermittent, seasonal RPW	1		563142 E 4682461 N	563108 E 4682460 N
S-7.4	GB-11 to GB-1, W-GA-5	442	Intermittent, seasonal RPW	1		562896 E 4682380 N	562778 E 4682339 N
S-7.5	GF-11, GL-3, GL-4	133	Ephemeral (?), non-RPW	1		562875 E 4682361 N	562880 E 4682335 N
S-7.6	GF-11 to GF-1	506	Intermittent, seasonal RPW	1		562875 E 4682361 N	562765 E 4682322 N
S-8	EC-2, EC-1, W-EB-3	27	Intermittent, seasonal RPW	1		563361 E 4682464 N	563353 E 4682463 N
S-9	W-GJ-1, GI-5 to GI-1	186	Intermittent, seasonal RPW	1		563137 E 4682428 N	563083 E 4682419 N
S-10	EX-5 to EX-1, W-EW-10	161	Intermittent, seasonal RPW	1	At its lower end, the stream enters a wetland and spreads out.	563292 E 4682381 N	563245 E 4682368 N
S-11	GW-4 to GW-1	99	Intermittent, seasonal RPW	1		563234 E 4682314 N	563205 E 4682311 N

Table 3, continued.

Stream ID No.	Flagged centerlines defining the stream segment (starting at downstream end)	Segment Length (feet)	Hydrological type	Stream Order	Notes	Start point (UTM coordinates, NAD 83 datum)	End point (UTM coordinates)
S-12	HB-4 to HB-1, W-GR-13	100	Intermittent, seasonal RPW	1		563201 E 4682137 N	563172 E 4682128 N
S-12.1	GS-5 to GS-1	148	Intermittent, seasonal RPW	1	GS-5 connects to W-GT line between W-GT-6 and W-GT-7.	563129 E 4682111 N	563084 E 4682108 N
S-12.2	EO-5 to EO-1, GS-2	229	Intermittent, seasonal RPW	1	This is a skidder trail that has captured part of the flow of S-12.1	563122 E 4682171 N	563095 E 4682108 N
S-13	GV-12 to GV-4, EQ-1, EQ-2	328	Intermittent, seasonal RPW	2		563170 E 4682068 N	563094 E 4682045 N
S-13.1	GU-4 to GU-2 (GU-1)	49	Intermittent, seasonal RPW	1	GU-4 is at the same point as GV-7. Surveyor did not find flag GU-1.	563121 E 4682057 N	563106 E 4682058 N
S-13.2	EQ-2 to EQ-8	159	Intermittent, seasonal RPW	1		563094 E 4682045 N	563058 E 4682039 N
S-13.3	EQ-2, GV-3 to GV-1, ET-6 to ET-1	229	Intermittent, seasonal RPW	1		563094 E 4682045 N	563045 E 4682016 N
S-14	GZ-4 to GZ-1	91	Intermittent, non-RPW	1	This stream ends on a bench, where the flow spreads out. There is no discernible overland flow out of that area.	563009 E 4682044 N	562985 E 4682031 N
S-15	EU-1 to EU-7, GM-11 to GM-1	571	Intermittent, seasonal RPW	1		563155 E 4682030 N	563013 E 4681965 N
S-16	ER-10 to ER-1	259	Intermittent, seasonal RPW	1		563127 E 4681981 N	563065 E 4681953 N

Table 4. Watersheds on the Windham Mountain Sporting Club Site

Main Stream of Watershed	Wetlands and Other Streams Within Watershed	Watershed Area (s.f.)	Watershed Area (acres)	Estimated Yearly Discharge (cu ft)	Average Annual Discharge (cfs)
S-1	W-7, W-8, W-9, W-10, W-11, W-12, W-13, W-14, W-15, W-16, W-20, W-22	5,536,000	127	12,456,000	0.39
S-2	W-1	1,143,000	26	2,571,750	0.08
S-3	W-2, W-3, W-4, W-5, W-6	2,492,000	57	5,607,000	0.18
S-4	W-17, W-18, W-19	734,000	17	1,651,500	0.05
S-5	W-21	350,000	8	787,500	0.02
S-6	W-23, W-24	1,049,000	24	2,360,250	0.07
S-7	W-25 (part), W-28, W-29, W-30, S-9	2,300,000	53	5,175,000	0.16
S-8	W-25 (part), W-26, W-27, W-31, S-10, S-11	734,000	17	1,651,500	0.05
S-12	W-33 (most of it)	361,000	8	812,250	0.03
S-13	W-33 (part), W-34 (most of it), W-35, S-14	422,000	10	949,500	0.03
S-15	W-34 (part)	135,389	3	304,625	0.01
S-16		72,000	2	162,000	0.01
	totals	**15,328,389**	**352**	**34,488,875**	**1.09**

Stream S-6 and its two tributaries serve mainly to carry discharge from wetland W-24. This wetland receives runoff via sheet flow from other parts of the watershed, including isolated wetland W-23. The route of this stream was not traced off the Windham Mountain Sporting Club site. However, based on examination of the topographic map and stereo aerial photographs, it appears likely that S-6 is part of the headwaters of NYSDEC-regulated stream H-240-82-117-14a (see Figure 5). If that is correct, then water in this stream flows approximately 4,500 feet off the site before reaching the Batavia Kill. That point on the Batavia Kill lies 1.9 miles upstream from the point where stream S-1 joins it, or 11.5 miles from the point where the Batavia Kill joins Schoharie Creek.

The third largest watershed on the site, which covers 53 acres, is drained by stream S-7. This may be a perennial stream, but its observed discharge was small enough that it appears likely to stop flowing in drier than normal years, if not during most summers. Three wetlands (W-25, W-28, W-29, and W-30) drain directly into this stream and its tributaries. This channel was not

followed off the site; however, examination of 1:7200-scale stereo aerial photographs indicates that this stream flows eastward, passing through the center of the hamlet of Hensonville, and joining the Batavia Kill in that vicinity. The crossing of NYS Rte. 65 over the Batavia Kill near Hensonville is approximately 12.6 miles upstream from the confluence with Schoharie Creek.

S-8 is a small intermittent stream draining part of wetland W-25, as well as its interconnected wetlands W-26 and W-27. Isolated wetland W-31 also lies in this watershed. It is most likely that this stream joins S-7 a short distance east of the property.

Streams S-12, S-13, S-15, and S-16 are all intermittent streams that flow only several hundred feet on the site before crossing onto the property to the east. Collectively, they drain three wetlands (W-33, W-34, and W-35). From examination of the 1:7200-scale aerial photographs, it is apparent that these are all tributaries of a stream that flows east-northeastward, and which joins the stream that is a continuation of stream S-7.

Stream S-14 is a short channel that appears to have developed in part of an old skidder trail, and the drainage it carries disappears in a flat area on a hillside bench. There is no visible surface flow from that flat area. This is all a part of the drainage basin of stream S-13.

This examination of the watersheds indicates that all of the streams, except for S-4, S-5, and S-14, have clear connections to the Batavia Kill, and to traditionally navigable waters downstream.

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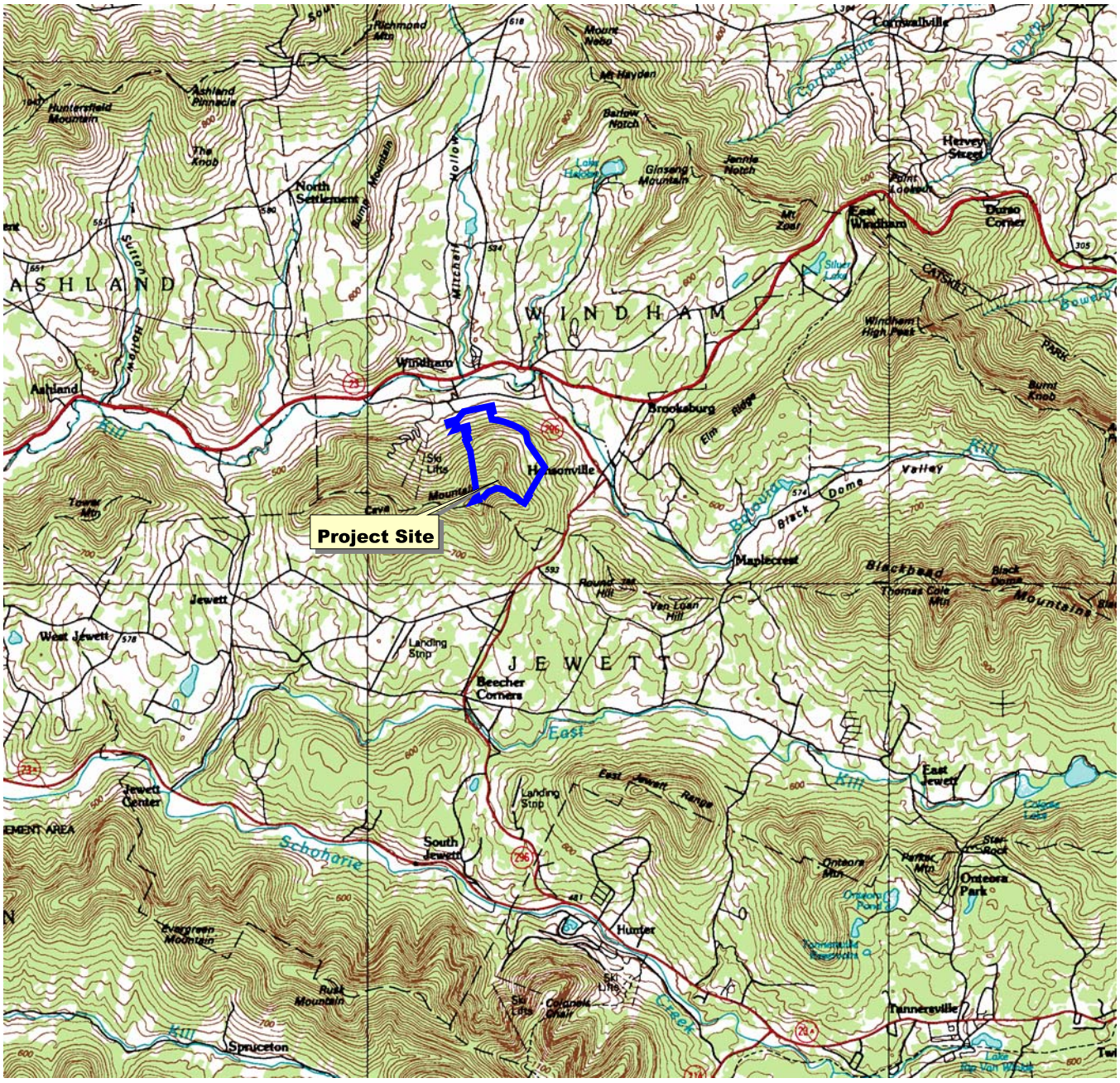
FIGURES



10000 0 10000 Feet

1 0 1 2 3 Miles

1:120,000 scale
1 inch = 10,000 feet

N
W E
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Base map is from the Pepacton Reservoir, NY, 1:100,000-scale USGS topographic quadrangle, digital raster graphics version (1986 edition). Contour elevations are in meters.

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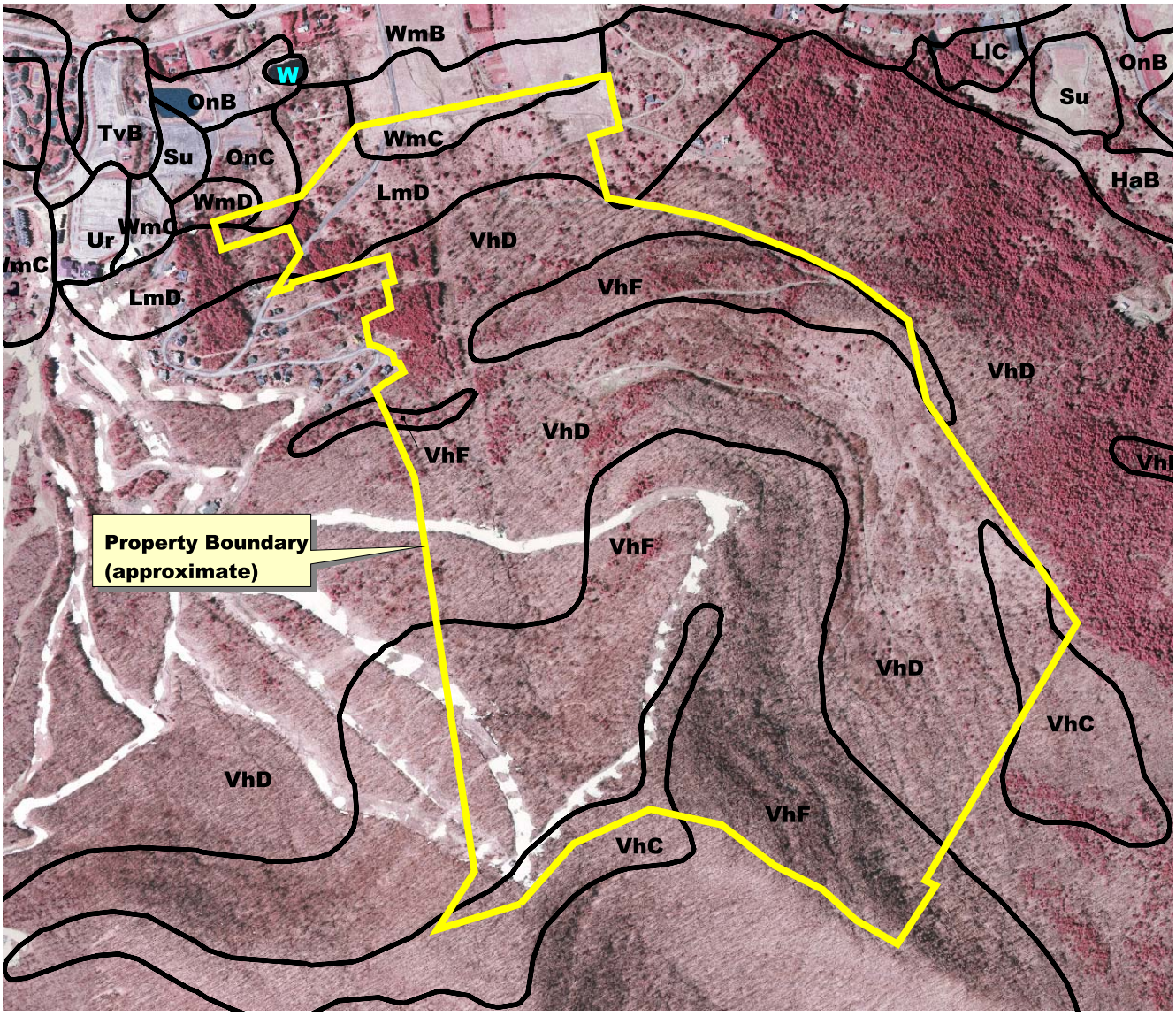
Wetland Delineation Report
Windham East
Town of Windham
Greene County, New York
Job no. 08077

Figure 1
Site Location Map



SOIL LEGEND

HaB	Halcott channery silt loam, 3-8% slopes
LlC	Lewbeach and Willowemoc channery silt loams, 3-15% slopes, very stony
LmD	Lewbeach and Willowemoc channery silt loams, moderately steep, very bouldery
OnB	Onteora silt loam, 3-8% slopes
OnC	Onteora silt loam, 8-15% slopes
Su	Suny gravelly silt loam, very stony
TvB	Tunkhannock gravelly loam, fan, 3-8% slopes
Ur	Udorthents, loamy
VhC	Vly-Halcott complex, strongly sloping, very rocky
VhD	Vly-Halcott complex, moderately steep, very rocky
VhF	Vly-Halcott complex, very steep, rocky
W	Water
WmB	Willowemoc channery silt loam, 3-8% slopes
WmC	Willowemoc channery silt loam, 8-15% slopes
WmD	Willowemoc channery silt loam, 15-25% slopes

N

600 0 600 1200 Feet

1:14,400 scale
1 inch = 1200 feet

Source: Soil Survey Geographic (SSURGO) data base, Natural Resources Conservation Service, US Department of Agriculture; based on Soil Survey of Greene County. The original soil mapping was at a scale of 1:24,000. The aerial photo base is a one-foot resolution color infrared image from 2001, New York State Statewide Digital Orthophotography Program; obtained from the NYS GIS Clearinghouse (www.nysgis.state.ny.us).

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Windham East
Town of Windham
Greene County, New York
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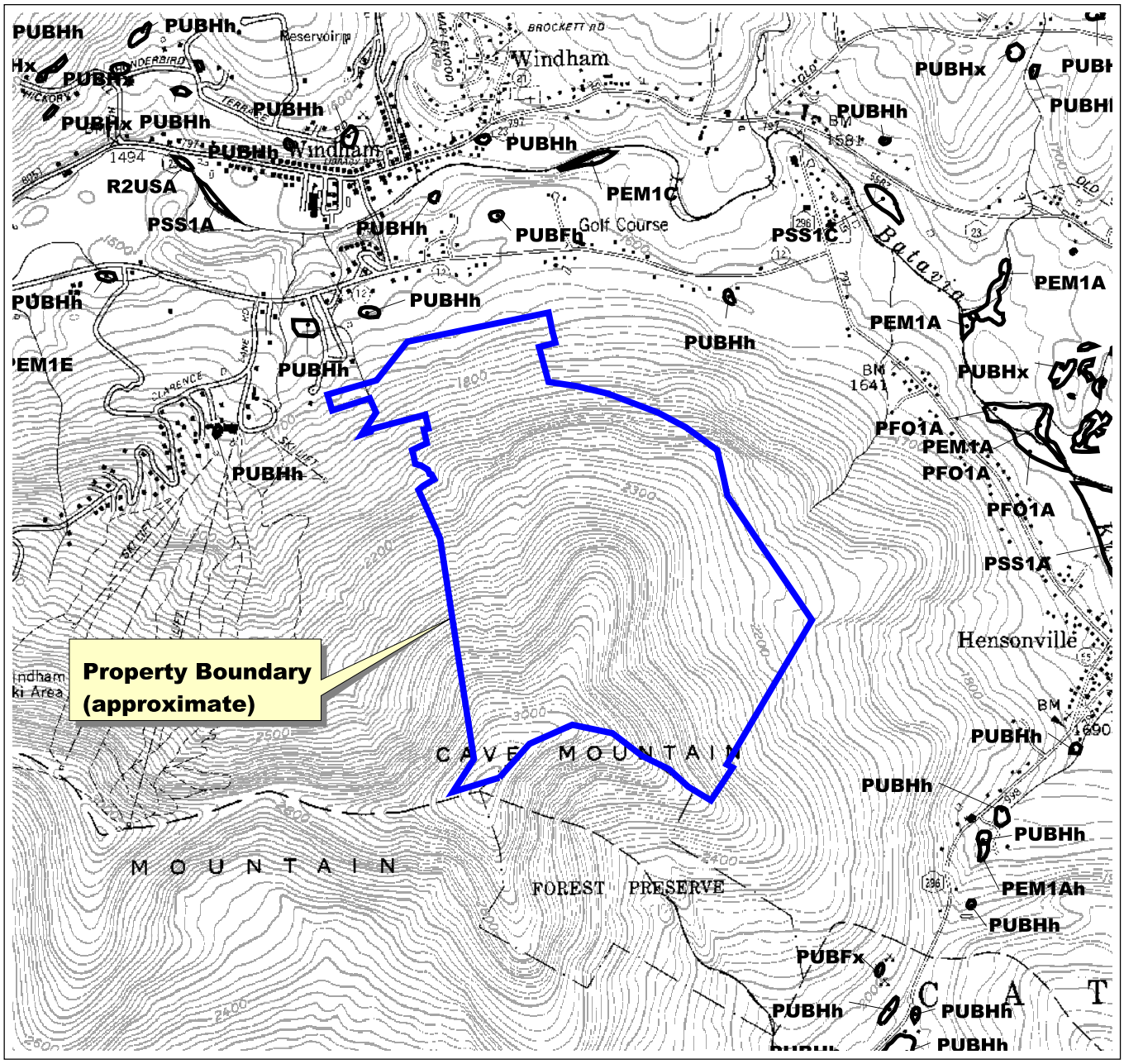
Figure 2
Soils Map



Source: National Wetlands inventory; digital wetlands data, published on the National Wetlands Inventory website, http://www.fws.gov/nwi. U.S. Department of the Interior, Fish and Wildlife Service, St. Petersburg, FL. Base map is from the Ashland and Hensonville 7½-minute quadrangles, digital raster graphics version, with planimetric and topographic data published by the New York State Department of Transportation.

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Windham East
Town of Windham
Greene County, New York
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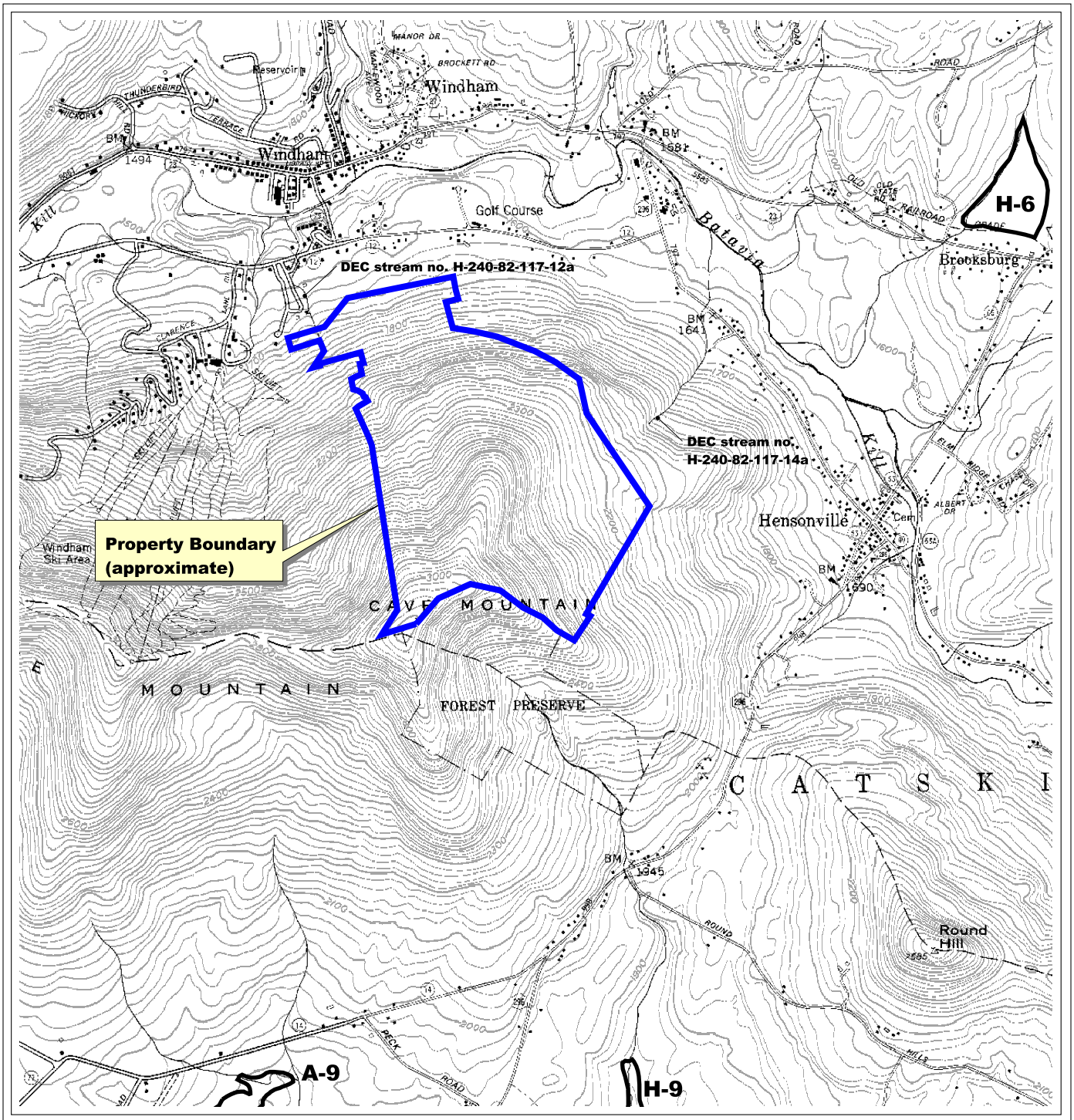
Figure 3
National Wetlands Inventory Map



Source: New York State Department of Environmental Conservation, official wetlands map of Greene County, digital version. Base map is from the Ashland and Hensonville 7½-minute quadrangles, digital raster graphics versions, with planimetric and topographic data published by the New York State Department of Transportation.

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Windham East Site
Town of Windham
Greene County, New York
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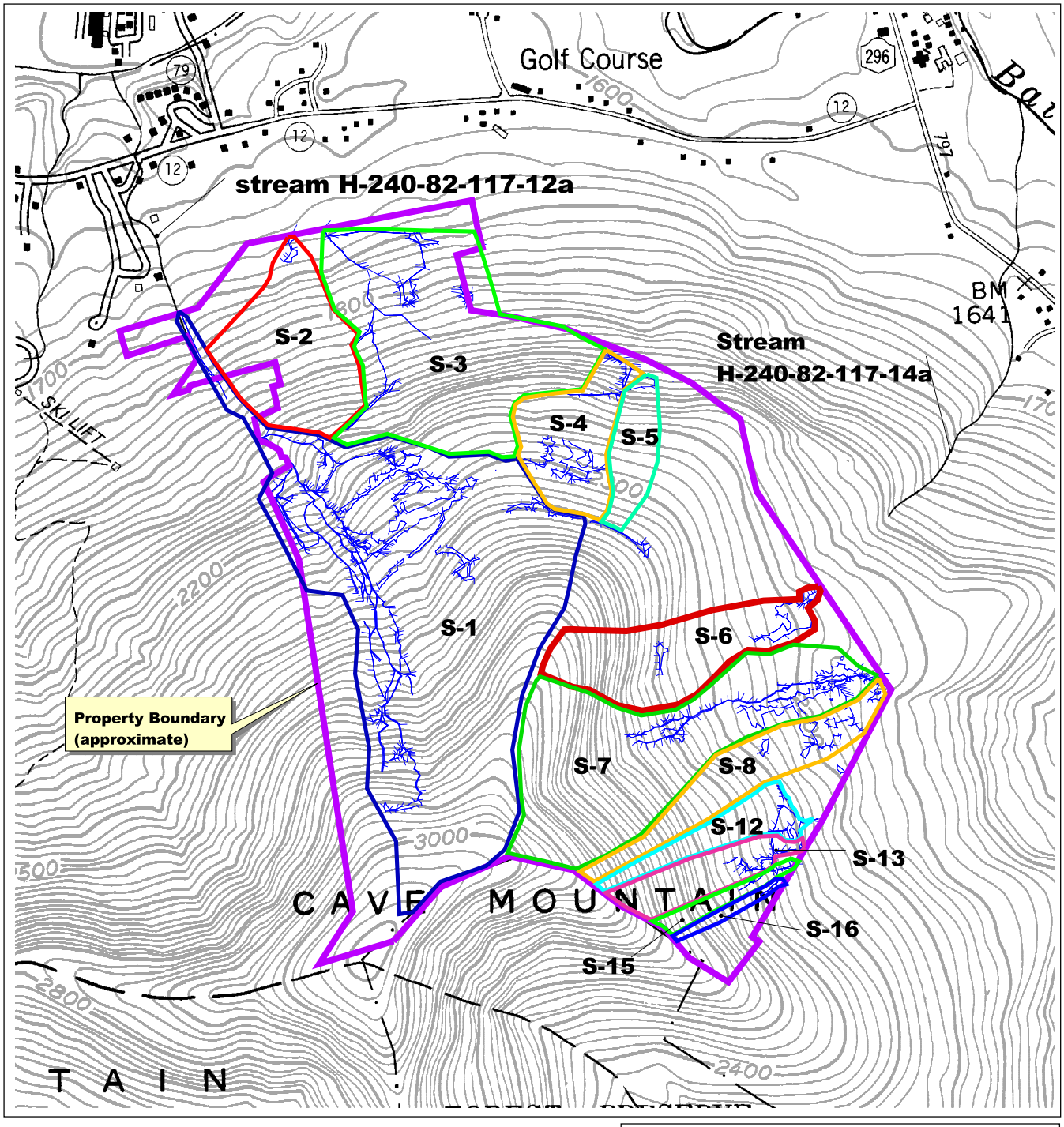
Figure 4
NYSDEC
Wetlands Map



600 0 600 1200 Feet

1:14,400 scale
1 inch = 1,200 feet

N
W E
S

Source: Base map is from the Ashland and Hensonville 7½-minute quadrangles, digital raster graphics versions, with planimetric and topographic data published by the New York State Department of Transportation.

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Windham East Site
Town of Windham
Greene County, New York
Job no. 08077

Figure 5
Stream Watershed Map

SYMBOL	VEGETATION COMMUNITY
HHF	HEMLOCK-NORTHERN HARDWOOD FOREST
HHS	HEMLOCK-HARDWOOD SWAMP
HWS	HARDWOOD SWAMP
MHF	MAPLE-NORTHERN HARDWOOD FOREST
SBS	SHRUB SWAMP
SEM	SHALLOW EMERGENT MARSH
SNH	SUCCESSIONAL NORTHERN HARDWOODS
SOF	SUCCESSIONAL OLD FIELD
SSL	SUCCESSIONAL SHRUBLAND
SSL/SNH	PATCHWORK OF SMALL AREAS OF SUCCESSIONAL SHRUBLAND AND SUCCESSIONAL NORTHERN HARDWOODS

WETLANDS UNDER FEDERAL JURISDICTION

NON-JURISDICTIONAL WETLANDS

0 600

SCALE: 1"=600'

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THE WINDHAM MOUNTAIN SPORTING CLUB

TOWN ON WINDHAM
GREENE COUNTY, NEW YORK

Title: EXISTING VEGETATION MAP

NORTH

Revisions
04/10/09

Project: 08077
Date: 03/19/09

Drawing
L-1

Plotted By: JUSTIN SANFORD
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APPENDICES

Appendix A

Wetland Determination Summary Forms

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	AG-6-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Onoclea sensibilis*	herb	FACW	9.		
2. *Glyceria striata*	herb	OBL	10.		
3. *Solidago rugosa*	herb	FAC	11.		
4. *Fraxinus pennsylvanica*	Tree	FACW	12.		
5. *Acer rubrum*	tree	FAC	13.		
6. *Betula alleghaniensis*	Tree	FAC	14.		
7. *Tsuga canadensis*	tree	FACU	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 86%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
			Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: AG-6-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	AC	2.5YR 3/4			Silt loam
4					Refusal on sandstone bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X Yes	___ No		
Wetland Hydrology Present?	X Yes	___ No		
Hydric Soils Present?	X Yes	___ No	Is this Sampling Point Within a Wetland?	X Yes ___ No

Remarks: Photo 1105_30

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	AG-6-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Tsuga canadensis*	tree	FACU	9. *Dryopteris intermedia*	Herb	FACU
2. *Acer saccharum*	tree	FACU-	10. *Ageratina altissima*	herb	FACU
3. *Fraxinus* sp.	tree	unknown	11.		
4. *Tsuga canadensis*	sapling	FACU	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Acer saccharum*	sapling	FACU-	14.		
7. *Rubus allegheniensis*	shrub	FACU	15.		
8. *Dryopteris marginalis*	herb	FACU-	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: _____ (in.)
Depth to Free Water in Pit: _____ (in.)
Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks:

SITE: Windham East
DATE: November 5, 2008
PLOT ID: AG-6-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	Ap	2.5YR 4/4			Silt loam
6-16	Bw	2.5YR 4/6			Silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1105_31.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East				Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners				County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case				State:	New York
Do normal circumstances exist on the site?		X	Yes	No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes	No	Plot ID:	CK-[1]12-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Berberis thunbergii*	shrub	FACU	10.		
3. *Spiraea alba*	shrub	FACW+	11.		
4. *Spiraea tomentosa*	shrub	FACW-	12.		
5. *Phalaris arundinacea*	herb	FACW	13.		
6. *Onoclea sensibilis*	herb	FACW	14.		
7. *Solidago gigantea*	herb	FACW	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 71%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: 2 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
___ Oxidized root channels in upper 12 inches
___ Water-Stained Leaves
___ Local Soil Survey Data
X FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

1

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CK-12-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class:
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	AC	2.5YR 4/4			Silt loam
4					Refusal on bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No
Wetland Hydrology Present?	X	Yes	___	No
Hydric Soils Present?	X	Yes	___	No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1105_26. (Photo 1 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CK-12-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Tsuga canadensis*	tree	FACU	10.		
3. *Berberis thunbergii*	Shrub	FACU	11.		
4. *Dennstaedtia punctilobula*	herb	FACU	12.		
5. *Dryopteris marginalis*	Herb	FACU-	13.		
6. *Dryopteris intermedia*	herb	FACU	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: n/a (in.)
Depth to Saturated Soil: n/a (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: The soil is extremely thin in this area, and many points were tested before this meager soil profile was found. There was no water in the hole and no saturated soil.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CK-12-U

SOILS

Map Unit Name (Series and Phase): Rubble land
Drainage Class:
Taxonomy (Subgroup):
Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	10R 4/4			Silt loam surrounded by boulders

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The sample point is at the base of a slope of about 30%.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___	Yes	X	No	
Wetland Hydrology Present?	___	Yes	X	No	
Hydric Soils Present?	___	Yes	X	No	Is this Sampling Point Within a Wetland? ___ Yes X No

Remarks: Photo 1105_27. (Photo 2 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CM-21-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer pensylvanicum*	sapling	FACU	9.		
2. *Carpinus caroliniana*	sapling	FACU-	10.		
3. *Rubus idaeus*	shrub	FAC-	11.		
4. *Rubus allegheniensis*	shrub	FACU	12.		
5. *Carex crinita*	herb	OBL	13.		
6. *Scirpus cyperinus*	herb	FACW+	14.		
7. *Solidago rugosa*	Herb	FAC	15.		
8. *Euthamia graminifolia*	herb	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 50%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: _____ (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: _____ (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: _____ (in.)	_____ Other (Explain in Remarks)

Remarks:

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-21-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained.
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	5YR 5/4			Silt loam
4-16	Bw	2.5YR 5/4	5YR 6/8	Few, fine, faint	Silt loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No
Wetland Hydrology Present?	X	Yes	____	No
Hydric Soils Present?	X	Yes	____	No

Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1105_28.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CM-21-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9. *Dryopteris marginalis*	herb	FACU-
2. *Tsuga canadensis*	tree	FACU	10.		
3. *Ostrya virginiana*	tree	FACU-	11.		
4. *Tsuga canadensis*	sapling	FACU	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Acer pensylvanicum*	sapling	FACU	14.		
7. *Berberis thunbergii*	Shrub	FACU	15.		
8. *Carex* sp.	herb	unknown	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: >15 (in.)
Depth to Saturated Soil: >15 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
___ Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
___ Oxidized root channels in upper 12 inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-21-U

SOILS

Map Unit Name (Series and Phase): Halcott silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Lithic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	AE	2.5YR 3/4			Silt loam
3-15	Bw	2.5YR 5/6			Silt loam with a little gravel in the lower part

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1105_29.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CM-47-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Fraxinus pennsylvanica*	tree	FACW	10.		
3. *Carex crinita*	herb	OBL	11.		
4. *Euthamia graminifolia*	herb	FAC	12.		
5. *Glyceria striata*	herb	OBL	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 80%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
			Sediment Deposits
Field Observations:		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	none (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	3 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-47-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam
Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts
Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	2.5YR 3/2			Silt loam
5-14	Bc	2.5YR 5/4			Silt loam
14					Refusal on bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ___ Yes X No
Wetland Hydrology Present? ___ Yes X No
Hydric Soils Present? ___ Yes X No
Is this Sampling Point Within a Wetland? ___ Yes X No

Remarks: Photo 1105_15. (Photo 3 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East				Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners				County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case				State:	New York
Do normal circumstances exist on the site?			Yes	No	Community ID:	upland
Is the site significantly disturbed (Atypical Situation)?			Yes	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes	No	Plot ID:	CM-47-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9. *Carex* sp.	herb	unknown
2. *Fagus grandifolia*	Tree	FACU	10.		
3. *Tsuga canadensis*	tree	FACU	11.		
4. *Fagus grandifolia*	sapling	FACU	12.		
5. *Acer saccharum*	sapling	FACU-	13.		
6. *Ostrya virginiana*	sapling	FACU-	14.		
7. *Brachyelytrum erectum*	herb	NL	15.		
8. *Ageratina altissima*	herb	FACU-	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: >10 (in.)
Depth to Saturated Soil: >10 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
____ Oxidized root channels in upper 12 inches
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: The soil is moist but not saturated. No evidence of wetland hydrology.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-47-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 5/4			Silt loam
3-10	Bw	2.5YR 5/6			Very gravelly silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is on a slope of about 20% with lots of boulders. This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1105_16. (Photo 4 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East			Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners			County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case			State:	New York
Do normal circumstances exist on the site?			Yes / No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes / No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*	X		Yes / No	Plot ID:	CM-94-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Fraxinus pennsylvanica*	tree	FACW	9.		
2. *Crataegus* sp.	sapling	unknown	10.		
3. *Ostrya virginiana*	sapling	FACU-	11.		
4. *Spiraea tomentosa*	shrub	FACW-	12.		
5. *Euthamia graminifolia*	herb	FAC	13.		
6. *Glyceria striata*	herb	OBL	14.		
7. *Aster puniceus*	herb	OBL	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 71%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other

____ No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)

Depth to Free Water in Pit: 1 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- X Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ____ Oxidized root channels in upper 12 inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- X FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-94-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	AC	2.5Y 4/6			Silt loam
12					Refusal on bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No
Wetland Hydrology Present?	X	Yes	___	No
Hydric Soils Present?	X	Yes	___	No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1105_17

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CM-94-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9.		
2. *Quercus rubra*	Tree	FACU-	10.		
3. *Fraxinus* sp.	Tree	unknown	11.		
4. *Ostrya virginiana*	sapling	FACU-	12.		
5. *Berberis thunbergii*	shrub	FACU	13.		
6. *Ageratina altissima*	herb	FACU-	14.		
7. *Potentilla canadensis*	herb	NL	15.		
8. *Dryopteris intermedia*	herb	FACU	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: >4 (in.)
Depth to Saturated Soil: >4 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CM-94-U

SOILS

Map Unit Name (Series and Phase): Halcott silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Lithic Dystrudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	AC	2.5Y 5/6			Silt loam
4					Refusal on sandstone bedrock

Hydric Soil Indicators: This is a slope of at least 25% with vertical steps of outcropping sandstone.

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1105_18.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CQ-113-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9.		
2. *Acer rubrum*	Tree	FAC	10.		
3. *Acer pensylvanicum*	sapling	FACU	11.		
4. *Osmunda cinnamomea*	herb	FACW	12.		
5. *Onoclea sensibilis*	Herb	FACW	13.		
6. *Carex crinita*	herb	OBL	14.		
7. *Solidago rugosa*	herb	FAC	15.		
8. *Aster umbellatus*	herb	FACW	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 75%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)		Wetland Hydrology Indicators:
	Stream, Lake, or Tide Gauge		Primary Indicators:
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
			Sediment Deposits
Field Observations:		X	Drainage Patterns in Wetlands
			Secondary indicators (2 or more required):
Depth of Surface Water:	0 (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CQ-113-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	2.5YR 3/4			Silt loam
3-10	Bc	2.5YR 4/6			Silt loam with a few sandstone rock fragments in the bottom of the hole.
10					Sandstone bedrock

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: This is a broad, bedrock-controlled bench. The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No	
Wetland Hydrology Present?	X	Yes	____	No	
Hydric Soils Present?	X	Yes	____	No	Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1105_01. (Photo 5 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CQ-113-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9. *Carex* sp.	Herb	unknown
2. *Acer saccharum*	sapling	FACU-	10. *Dryopteris marginalis*	herb	FACU-
3. *Acer pensylvanicum*	sapling	FACU	11.		
4. *Rubus idaeus*	shrub	FAC-	12.		
5. *Rubus allegheniensis*	Shrub	FACU-	13.		
6. *Fraxinus* sp.	Sapling	unknown	14.		
7. *Ostrya virginiana*	sapling	FACU-	15.		
8. *Dryopteris intermedia*	herb	FACU	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	X Saturated in Upper 12 inches
_____ No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: none (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: 3 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: 3 (in.)	_____ Other (Explain in Remarks)

Remarks: Remarks: Wetland hydrology appears to be present. However, the sampling was done about a week after a 22-inch snowfall, and there has been much melting and runoff in the time since, as well as at the time of sampling.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CQ-113-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	10YR 4/3			Silt loam
3-9	Bw	2.5YR 5/6			Silt loam with rock fragments in lower part.
9					Refusal on boulder

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	____	Yes	X	No	
Wetland Hydrology Present?	X	Yes	____	No	
Hydric Soils Present?	____	Yes	X	No	Is this Sampling Point Within a Wetland? ____ Yes X No

Remarks: Photo 1105_02. (Photo 6 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CS-7-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Fraxinus pennsylvanica*	sapling	FACW	9. *Solidago rugosa*	herb	FAC
2. *Rubus idaeus*	shrub	FAC-	10.		
3. *Rubus allegheniensis*	shrub	FACU	11.		
4. *Euthamia graminifolia*	herb	FAC	12.		
5. *Carex stricta*	Herb	OBL	13.		
6. *Onoclea sensibilis*	herb	FACW	14.		
7. *Dryopteris intermedia*	herb	FACU	15.		
8. *Glyceria striata*	herb	OBL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 67%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: None (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: 0 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: 0 (in.)	_____ Other (Explain in Remarks)

Remarks:

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CS-7-W

SOILS

Map Unit Name (Series and Phase): Tor Silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	A	5YR 4/4			Silt loam
2-14	Bw	2.5Y 4/6			Silt loam
14					Refusal on bedrock

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	____ Yes	X No		
Wetland Hydrology Present?	____ Yes	X No		
Hydric Soils Present?	____ Yes	X No	Is this Sampling Point Within a Wetland?	____ Yes X No

Remarks: Photo 1104_15. (Photo 7 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland forest
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CS-7-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Acer pensylvanicum*	Sapling	FACU	10.		
3. *Acer saccharum*	Sapling	FACU	11.		
4. *Rubus idaeus*	shrub	FAC-	12.		
5. *Dryopteris intermedia*	herb	FACU	13.		
6. *Rubus idaeus*	herb	FAC-	14.		
7. *Geranium robertianum*	herb	NL	15.		
8. *Brachyelytrum erectum*	herb	NL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: none (in.)
Depth to Free Water in Pit: >13 (in.)
Depth to Saturated Soil: >13 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
____ Oxidized root channels in upper 12 inches
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: Photo 1104_16. (Photo 8 in Appendix B)

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CS-7-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	5YR 4/4			Silt loam
8-13	Bw	2.5YYR 4/6			Silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CT-9-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9. *Onoclea sensibilis*	Herb	FACW
2. *Acer pensylvanicum*	Sapling	FACU	10.		
3. *Fraxinus pennsylvanica*	sapling	FACW	11.		
4. *Rubus allegheniensis*	shrub	FACU	12.		
5. *Rubus idaeus*	shrub	FAC-	13.		
6. *Carex crinita*	herb	OBL	14.		
7. *Euthamia graminifolia*	herb	FAC	15.		
8. *Aster umbellatus*	herb	FACW	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 56%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)		Wetland Hydrology Indicators:
	Stream, Lake, or Tide Gauge		Primary Indicators:
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
			Sediment Deposits
Field Observations:		X	Drainage Patterns in Wetlands
			Secondary indicators (2 or more required):
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CT-9-W

SOILS

Map Unit Name (Series and Phase): Suny silt loam	Drainage Class: Very poorly drained
Taxonomy (Subgroup): Aeric Epiaquepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	Ap	5YR 3/3			Silt loam
6-16	Bw	5YR 6/6		none	Silty clay loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The red color of the parent material is masking the reduced features in the soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No	
Wetland Hydrology Present?	X	Yes	____	No	
Hydric Soils Present?	X	Yes	____	No	Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1104_17.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland forest
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CT-9-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Fraxinus pennsylvanica*	tree	FACW	10.		
3. *Acer pensylvanicum*	sapling	FACU	11.		
4. *Rubus idaeus*	shrub	FAC-	12.		
5. *Rubus allegheniensis*	shrub	FACU	13.		
6. *Solidago rugosa*	herb	FAC	14.		
7. *Dryopteris intermedia*	herb	FACU	15.		
8. *Festuca filiformis*	herb	NL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 25%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)

Depth to Free Water in Pit: None (in.)

Depth to Saturated Soil: None (in.)

Wetland Hydrology Indicators:

Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CT-9-U

SOILS

Map Unit Name (Series and Phase): Lewbeach silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	Ap	5YR 4/3			Silt loam
2-8	Bw	10R 3/6			Silt loam
8					Refusal on boulder.

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1104_18.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CU-27-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer pensylvanicum*	sapling	FACU	9.		
2. *Acer saccharum*	sapling	FACU-	10.		
3. *Dryopteris intermedia*	Herb	FACU	11.		
4. *Glyceria striata*	herb	OBL	12.		
5. *Onoclea sensibilis*	herb	FACW	13.		
6. *Lycopus uniflorus*	herb	OBL	14.		
7. *Osmunda cinnamomea*	herb	FACW	15.		
8. *Solidago rugosa*	herb	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 63%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	X Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: none (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: 2 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: 0 (in.)	_____ Other (Explain in Remarks)

Remarks: Wetland hydrology is present

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CU-27-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	AC	2.5YR 4/4			Silt loam
8					Refusal on bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the soil parent material masks any evidence of reduction. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X Yes	___ No		
Wetland Hydrology Present?	X Yes	___ No		
Hydric Soils Present?	X Yes	___ No	Is this Sampling Point Within a Wetland?	X Yes ___ No

Remarks: Photo 1105_09.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CU-27-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Fagus grandifolia*	sapling	FACU	10.		
3. *Acer pensylvanicum*	sapling	FACU	11.		
4. *Acer saccharum*	sapling	FACU-	12.		
5. *Dryopteris intermedia*	herb	FACU	13.		
6. *Dennstaedtia punctilobula*	herb	UPL	14.		
7. *Dryopteris marginalis*	herb	FACU-	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: None (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: >16 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: >16 (in.)	_____ Other (Explain in Remarks)

Remarks: There is no evidence of wetland hydrology.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: CU-27-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	AE	2.5YR 5/2			Silt loam
4-16	Bw	2.5YR 5/8			Silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1105_10.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CV-2-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Spiraea alba*	Shrub	FACW+	9.		
2. *Spiraea tomentosa*	shrub	FACW-	10.		
3. *Aster umbellatus*	Herb	FACW	11.		
4. *Euthamia graminifolia*	herb	FAC	12.		
5. *Agrostis stolonifera*	herb	FACW	13.		
6. *Carex sp.*	herb	unknown	14.		
7. *Juncus effusus*	herb	FACW+	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 86%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	None (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks:

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CV-2-W

SOILS

Map Unit Name (Series and Phase): Tor silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Lithic Endoaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-1	A	5YR 3/3			Silt loam
1-6	Bc	2.5Y 3/6			Silty clay loam.
6					Refusal on bedrock

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is a hydric soil. Tor is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No	
Wetland Hydrology Present?	X	Yes	___	No	
Hydric Soils Present?	X	Yes	___	No	Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1104_19. (Photo 9 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CV-2-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Spiraea alba*	shrub	FACW+	9.		
2. *Spiraea tomentosa*	shrub	FACW-	10.		
3. *Festuca filiformis*	herb	NL	11.		
4. *Danthonia compressa*	herb	FACU-	12.		
5. *Solidago canadensis*	herb	FACU	13.		
6. *Solidago juncea*	Herb	NL	14.		
7. *Prunella vulgaris*	Herb	FACU+	15.		
8. *Potentilla canadensis*	herb	NL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 25%

Remarks: The vegetation is open, on thin soil over bedrock.

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: none (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: _____ (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: _____ (in.)	_____ Other (Explain in Remarks)

Remarks: This sample point is on very thin soil over bedrock. There are no wetland hydrology indicators.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CV-2-U

SOILS

Map Unit Name (Series and Phase): Bedrock outcrop in Halcott soil	Drainage Class: Well drained
Taxonomy (Subgroup):	Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is a broad exposure of sandstone bedrock. It is an inclusion with shallow, well drained Halcott soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1104_20. (Photo 10 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	CX-2-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Fraxinus pennsylvanica*	tree	FACW	9.		
2. *Acer saccharum*	tree	FACU-	10.		
3. *Acer rubrum*	tree	FAC	11.		
4. *Fraxinus pennsylvanica*	sapling	FACW	12.		
5. *Rubus idaeus*	shrub	FAC-	13.		
6. *Carex crinita*	herb	OBL	14.		
7. *Onoclea sensibilis*	Herb	FACW	15.		
8. *Euthamia graminifolia*	herb	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 75%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)		Wetland Hydrology Indicators:
	Stream, Lake, or Tide Gauge		Primary Indicators:
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
			Sediment Deposits
Field Observations:		X	Drainage Patterns in Wetlands
			Secondary indicators (2 or more required):
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CX-2-W

SOILS

Map Unit Name (Series and Phase): Onteora silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 4/4			Silt loam
3-10	Bw	2.5YR 3/4	5YR 5/3	Very faint	Silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
X	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No	
Wetland Hydrology Present?	X	Yes	___	No	
Hydric Soils Present?	X	Yes	___	No	Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1104_13.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East			Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners			County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case			State:	New York
Do normal circumstances exist on the site?			Yes / No	Community ID:	Upland forest
Is the site significantly disturbed (Atypical Situation)?			Yes / No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes / No	Plot ID:	CX-2-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Fraxinus americana*	tree	FACU	10.		
3. *Quercus rubra*	tree	FACU-	11.		
4. *Ostrya virginiana*	sapling	FACU-	12.		
5. *Berberis thunbergii*	shrub	FACU	13.		
6. *Solidago rugosa*	herb	FAC	14.		
7. *Rubus idaeus*	Herb	FAC-	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 14%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:
- Depth of Surface Water: none (in.)
- Depth to Free Water in Pit: >10 (in.)
- Depth to Saturated Soil: >10 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- ____ Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ____ Oxidized root channels in upper 12 inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: wetland hydrology is not present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: CX-2-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	2.5YR 4/4			Silt loam
4-10	Bw	10R 3/6			Gravelly silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1104_14.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	DB-15-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Betula alleghaniensis*	tree	FAC	10.		
3. *Acer pensylvanicum*	sapling	FACU	11.		
4. *Fagus grandifolia*	Sapling	FACU	12.		
5. *Rubus idaeus*	shrub	FAC-	13.		
6. *Glyceria striata*	herb	OBL	14.		
7. *Solidago rugosa*	herb	FAC	15.		
8. *Carex crinita*	herb	OBL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 50%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
_____ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1 (in.)
Depth to Free Water in Pit: _____ (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
X Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: DB-15-W

SOILS

Map Unit Name (Series and Phase): Onteora silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5	Ac	2.5YR 3/2			Silt loam
5					Refusal on boulder

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The red color of the parent material is masking the hydric nature of this soil. Onteora soil is classified as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No
Wetland Hydrology Present?	X	Yes	___	No
Hydric Soils Present?	X	Yes	___	No

Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1105_03.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	DB-4-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9. *Dryopteris marginalis*	herb	FACU-
2. *Fraxinus americana*	tree	FACU	10.		
3. *Acer saccharum*	sapling	FACU-	11.		
4. *Acer pensylvanicum*	sapling	FACU	12.		
5. *Fagus grandifolia*	Sapling	FACU	13.		
6. *Rubus idaeus*	shrub	FAC-	14.		
7. *Dryopteris intermedia*	herb	FACU	15.		
8. *Ageratina altissima*	herb	FACU-	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	_____ Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: None (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: >10 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: >10 (in.)	_____ Other (Explain in Remarks)

Remarks: No evidence of wetland hydrology.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: DB-4-U

SOILS

Map Unit Name (Series and Phase): Lewbeach	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 3/3			Silt loam
3-10	E	10R 5/3			Fine sandy loam
10					Refusal on boulder

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___	Yes	X	No
Wetland Hydrology Present?	___	Yes	X	No
Hydric Soils Present?	___	Yes	X	No

Is this Sampling Point Within a Wetland? ___ Yes X No

Remarks: Photo 1105_04.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	DC-15-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	sapling	FACU-	9.		
2. *Betula alleghaniensis*	sapling	FAC	10.		
3. *Rubus idaeus*	Shrub	FAC-	11.		
4. *Glyceria striata*	Herb	OBL	12.		
5. *Euthamia graminifolia*	Herb	FAC	13.		
6. *Tiarella cordifolia*	herb	FAC-	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 50%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: Ca. 1 (in.)
Depth to Free Water in Pit: 0 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
X Inundated
X Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
X Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
___ Oxidized root channels in upper 12 inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: DC-15-W

SOILS

Map Unit Name (Series and Phase): Onteora gravelly silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	AC	5YR 5/6			Gravelly silt loam
8					Refusal on rock

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The red color of the parent material is masking the hydric nature of this soil. Onteora soil is classified as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No
Wetland Hydrology Present?	X	Yes	____	No
Hydric Soils Present?	X	Yes	____	No

Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1105_05. (Photo 11 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 5, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	DC-2-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Acer saccharum*	sapling	FACU-	10.		
3. *Betula alleghaniensis*	sapling	FAC	11.		
4. *Acer pensylvanicum*	sapling	FACU	12.		
5. *Rubus idaeus*	shrub	FAC-	13.		
6. *Ageratina altissima*	herb	FACU-	14.		
7. *Dryopteris intermedia*	herb	FACU	15.		
8. *Tiarella cordifolia*	herb	FAC-	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 13%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: ___ (in.)
Depth to Free Water in Pit: >10 (in.)
Depth to Saturated Soil: 9 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
___ Oxidized root channels in upper 12 inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology appears to be present. However, the sampling was done about a week after a 22-inch snowfall, and there has been much melting and runoff in the time since, as well as at the time of sampling.

SITE: Windham East
DATE: November 5, 2008
PLOT ID: DC-2-U

SOILS

Map Unit Name (Series and Phase): Lewbeach silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	Ap	5YR 3/2			Silt loam
2-6	E	2.5YR 5/2			Silt loam
6-10	Bw	5YR 5/4			Silt loam
10					Refusal on boulder

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___	Yes	X	No
Wetland Hydrology Present?	___	Yes	X	No
Hydric Soils Present?	___	Yes	X	No

Is this Sampling Point Within a Wetland? ___ Yes X No

Remarks: Photo 1105_06. (Photo 12 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	ED-11-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9. *Aster puniceus*	herb	OBL
2. *Tsuga canadensis*	tree	FACU	10. *Equisetum sylvaticum*	herb	FACW
3. *Fraxinus pennsylvanica*	tree	FACW	11.		
4. *Acer rubrum*	Sapling	FAC	12.		
5. *Ulmus americana*	Sapling	FACW-	13.		
6. *Spiraea alba*	shrub	FACW+	14.		
7. *Cornus foemina*	shrub	FACW	15.		
8. *Onoclea sensibilis*	herb	FACW	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 90%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	4 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: ED-11-W

SOILS

Map Unit Name (Series and Phase): Onteora silt loam	Drainage Class: poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 4/4			Silt loam
3-16	Bw	2.5YR 5/6			Silt loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
X	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The red color of the parent material is masking the hydric nature of this soil. Onteora soil is classified as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No
Wetland Hydrology Present?	X	Yes	____	No
Hydric Soils Present?	X	Yes	____	No

Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1104_01.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	ED-11-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	Tree	FACU-	9.		
2. *Acer rubrum*	tree	FAC	10.		
3. *Quercus rubra*	Tree	FACU-	11.		
4. *Ostrya virginiana*	Sapling	FACU-	12.		
5. *Fraxinus americana*.	sapling	FACU	13.		
6. *Carex sp.*	Herb	unknown	14.		
7. *Solidago caesia*	Herb	FACU	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 14%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
- ____ Stream, Lake, or Tide Gauge
- ____ Aerial Photographs
- ____ Other
- X No Recorded Data Available

Field Observations:

- Depth of Surface Water: None (in.)
- Depth to Free Water in Pit: 0 (in.)
- Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundated
- X Saturated in Upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary indicators (2 or more required):
- ____ Oxidized root channels in upper 12 inches
- ____ Water-Stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-Neutral Test
- ____ Other (Explain in Remarks)

Remarks: Wetland hydrology appears to be present. However, the sampling was done about a week after a 22-inch snowfall, and there has been much melting and runoff in the time since.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: ED-11-U

SOILS

Map Unit Name (Series and Phase): Willowemoc	Drainage Class: Moderately well drained
Taxonomy (Subgroup): Typic Fragiudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	2.5YR 4/4			Silt loam
4-16	Bw	2.5YR 5/6			Silt loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	____ Yes	X No		
Wetland Hydrology Present?	____ Yes	X No		
Hydric Soils Present?	____ Yes	X No	Is this Sampling Point Within a Wetland?	____ Yes X No

Remarks: Photo 1104_02.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GE-10-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Fraxinus pennsylvanica*	tree	FACW	9.		
2. *Acer saccharum*	tree	FACU-	10.		
3. *Rubus idaeus*	shrub	FAC-	11.		
4. *Onoclea sensibilis*	herb	FACW	12.		
5. *Glyceria striata*	Herb	OBL	13.		
6. *Aster umbellatus*	Herb	FACW	14.		
7. *Fraxinus pennsylvanica*	sapling	FACW	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 71%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GE-10-W

SOILS

Map Unit Name (Series and Phase): Suny gravelly silt loam	Drainage Class: Very poorly drained
Taxonomy (Subgroup): Aeric Epiaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	5YR 4/3			Very gravelly silt loam, alluvial
9-	C	2.5YR 3/4			Silt loam, compacted

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: The sample point is in an area of braided stream channels. It is a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	___	No	
Wetland Hydrology Present?	X	Yes	___	No	
Hydric Soils Present?	X	Yes	___	No	Is this Sampling Point Within a Wetland? X Yes ___ No

Remarks: Photo 1104_11. (Photo 13 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland forest
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GE-10-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Quercus rubra*	tree	FACU-	10.		
3. *Acer saccharum*	Sapling	FACU-	11.		
4. *Ostrya virginiana*	Sapling	FACU-	12.		
5. *Rubus allegheniensis*	shrub	FACU-	13.		
6. *Dryopteris intermedia*	herb	FACU	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 0%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)
_____ Stream, Lake, or Tide Gauge
_____ Aerial Photographs
_____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: >7 (in.)
Depth to Saturated Soil: >7 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
_____ Inundated
_____ Saturated in Upper 12 inches
_____ Water Marks
_____ Drift Lines
_____ Sediment Deposits
_____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
_____ Oxidized root channels in upper 12 inches
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ FAC-Neutral Test
_____ Other (Explain in Remarks)

Remarks: The hole could not be dug more than 7 inches deep due to shallow soil.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GE-10-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 3/3			Silt loam
3-7	Bw	2.5YR 4/4			Very gravelly silt loam
7					Refusal on boulder.

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
____	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: This is an area of bouldery terrain. The soil is not hydric.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	____ Yes	X No		
Wetland Hydrology Present?	____ Yes	X No		
Hydric Soils Present?	____ Yes	X No	Is this Sampling Point Within a Wetland?	____ Yes X No

Remarks: Photo 1104_12. (Photo 14 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GJ-8-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Betula alleghaniensis*	Tree	FAC	9. *Euthamia graminifolia*	herb	FAC
2. *Acer rubrum*	tree	FAC	10. *Aster umbellatus*	herb	FACW
3. *Tsuga canadensis*	Tree	FACU	11.		
4. *Acer rubrum*	sapling	FAC	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Quercus rubra*	sapling	FACU-	14.		
7. *Spiraea alba*	shrub	FACW+	15.		
8. *Dryopteris cristata*	herb	FACW+	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 70%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks:

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GJ-8-W

SOILS

Map Unit Name (Series and Phase): Onteora silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	2.5YR 3/4			Silt loam
3-12	Bw	2.5YR 4/6	2.5Y 6/3	Common, medium, distinct	Silt loam
12+					Refusal, perhaps on a hardpan.

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
X	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is a hydric soil. The red color of the parent material is masking the hydric nature of this soil. Onteora soil is classified as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	___ No		
Wetland Hydrology Present?	___ Yes	___ No		
Hydric Soils Present?	___ Yes	___ No	Is this Sampling Point Within a Wetland?	___ Yes ___ No

Remarks: Photo 1104_06.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland forest
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GJ-8-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9. *Mitchella repens*	herb	FACU
2. *Betula alleghaniensis*	tree	FAC	10.		
3. *Acer saccharum*	tree	FACU-	11.		
4. *Fagus grandifolia*	sapling	FACU	12.		
5. *Ostrya virginiana*	sapling	FACU-	13.		
6. *Quercus rubra*	sapling	FACU-	14.		
7. *Polystichum achrostichoides*	herb	FACU-	15.		
8. *Carex* sp. (*C. gracillima*?)	herb	unknown	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 22%

Remarks:

HYDROLOGY

_____ Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:
_____ Stream, Lake, or Tide Gauge	Primary Indicators:
_____ Aerial Photographs	_____ Inundated
_____ Other	X Saturated in Upper 12 inches
X No Recorded Data Available	_____ Water Marks
	_____ Drift Lines
	_____ Sediment Deposits
Field Observations:	_____ Drainage Patterns in Wetlands
	Secondary indicators (2 or more required):
Depth of Surface Water: None (in.)	_____ Oxidized root channels in upper 12 inches
	_____ Water-Stained Leaves
Depth to Free Water in Pit: 8 (in.)	_____ Local Soil Survey Data
	_____ FAC-Neutral Test
Depth to Saturated Soil: 4 (in.)	_____ Other (Explain in Remarks)

Remarks: Wetland hydrology appears to be present. However, the sampling was done about a week after a 22-inch snowfall, and there has been much melting and runoff in the time since.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GJ-8-U

SOILS

Map Unit Name (Series and Phase): Vly silt loam	Drainage Class: Well drained
Taxonomy (Subgroup): Typic Dystrudepts	Field Observations Confirm Mapped Type? X Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7	Ae	5YR 4/4			Silt loam
7-12	Bw	2.5YR 4/4			Silt loam
12					Refusal on a boulder.

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	___ No		
Wetland Hydrology Present?	___ Yes	___ No		
Hydric Soils Present?	___ Yes	___ No	Is this Sampling Point Within a Wetland?	___ Yes ___ No

Remarks: Photo 1104_07.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GP-6-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	tree	FAC	9. *Euthamia graminifolia*	herb	FAC
2. *Betula populifolia*	tree	FAC	10.		
3. *Betula alleghaniensis*	tree	FAC	11.		
4. *Acer rubrum*	Sapling	FAC	12.		
5. *Tsuga canadensis*	sapling	FACU	13.		
6. *Spiraea alba*	shrub	FACW+	14.		
7. *Fragaria virginiana*	herb	FACU	15.		
8. *Onoclea sensibilis*	herb	FACW	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 78%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
			FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GP-6-W

SOILS

Map Unit Name (Series and Phase): Suny silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aeric Epiaquepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Ap	5YR 3/2			Silty clay loam
3-12	Bw	5YR 6/4			clay
12					refusal

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	X	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is a hydric soil. The red color of the parent material is masking the hydric nature of this soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X Yes	___ No		
Wetland Hydrology Present?	X Yes	___ No		
Hydric Soils Present?	X Yes	___ No	Is this Sampling Point Within a Wetland?	X Yes ___ No

Remarks: Photo 1104_08.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GP-6-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer saccharum*	tree	FACU-	9.		
2. *Quercus rubra*	tree	FACU-	10.		
3. *Betula alleghaniensis*	tree	FAC	11.		
4. *Acer pensylvanicum*	sapling	FACU	12.		
5. *Acer saccharum*	sapling	FACU-	13.		
6. *Quercus rubra*	sapling	FACU-	14.		
7. *Dryopteris marginalis*	herb	FACU-	15.		
8. *Carex* sp.	herb	unknown	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 13%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
____ Stream, Lake, or Tide Gauge
____ Aerial Photographs
____ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Wetland Hydrology Indicators:
Primary Indicators:
____ Inundated
____ Saturated in Upper 12 inches
____ Water Marks
____ Drift Lines
____ Sediment Deposits
____ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
____ Oxidized root channels in upper 12 inches
____ Water-Stained Leaves
____ Local Soil Survey Data
____ FAC-Neutral Test
____ Other (Explain in Remarks)

Remarks: Soil is bedrock outcrop with very thin soil. No pit was dug.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GP-6-U

SOILS

Map Unit Name (Series and Phase): Halcott	Drainage Class: Excessively drained
Taxonomy (Subgroup): Lithic Dystrudepts	Field Observations Confirm Mapped Type? ___ Yes ___ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0+					Massive and fractured rock outcrops

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___ Yes	X No		
Wetland Hydrology Present?	___ Yes	X No		
Hydric Soils Present?	___ Yes	X No	Is this Sampling Point Within a Wetland?	___ Yes X No

Remarks: Photo 1104_09.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East					Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners					County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case					State:	New York
Do normal circumstances exist on the site?		X	Yes		No	Community ID:	Wetland
Is the site significantly disturbed (Atypical Situation)?			Yes	X	No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes		No	Plot ID:	GX-3-W

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Acer rubrum*	Tree	FAC	9. *Carex crinita*	herb	OBL
2. *Fraxinus pennsylvanica*	Tree	FACW	10.		
3. *Acer rubrum*	sapling	FAC	11.		
4. *Fraxinus pennsylvanica*	sapling	FACW	12.		
5. *Rubus idaeus*	Shrub	FAC-	13.		
6. *Spiraea alba*	shrub	FACW+	14.		
7. *Onoclea sensibilis*	herb	FACW	15.		
8. *Athyrium filix-femina*	herb	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 89%

Remarks:

HYDROLOGY

	Recorded Data (Describe in Remarks)	Wetland Hydrology Indicators:	
	Stream, Lake, or Tide Gauge	Primary Indicators:	
	Aerial Photographs		Inundated
	Other	X	Saturated in Upper 12 inches
X	No Recorded Data Available		Water Marks
			Drift Lines
Field Observations:			Sediment Deposits
		X	Drainage Patterns in Wetlands
		Secondary indicators (2 or more required):	
Depth of Surface Water:	None (in.)		Oxidized root channels in upper 12 inches
			Water-Stained Leaves
Depth to Free Water in Pit:	0 (in.)		Local Soil Survey Data
		X	FAC-Neutral Test
Depth to Saturated Soil:	0 (in.)		Other (Explain in Remarks)

Remarks: Wetland hydrology is present.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GX-3-W

SOILS

Map Unit Name (Series and Phase): Onteora silt loam	Drainage Class: Poorly drained
Taxonomy (Subgroup): Aquic Fragiudepts	Field Observations Confirm Mapped Type? ____ Yes ____ No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	2.5YR 4/4			Silt loam
4-16	BW	2.5YR 5/6	5YR 6/8	Common, fine	Silt loam

Hydric Soil Indicators:

____	Histosol	____	Concretions
____	Histic Epipedon	____	High Organic Content in Surface Layer in Sandy Soils
____	Sulfidic Odor	____	Organic Streaking in Sandy Soils
X	Aquic Moisture Regime	____	Listed on Local Hydric Soils List
____	Reducing Conditions	____	Listed on National Hydric Soils List
____	Gleyed or Low-Chroma Colors	____	Other (Explain in Remarks)

Remarks: The mottles described are essentially oxidized rhizospheres. Onteora is listed as a soil with potential hydric inclusions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	X	Yes	____	No
Wetland Hydrology Present?	X	Yes	____	No
Hydric Soils Present?	X	Yes	____	No

Is this Sampling Point Within a Wetland? X Yes ____ No

Remarks: Photo 1104_03. (Photo 15 in Appendix B)

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	Windham East				Date:	Nov. 4, 2008
Applicant/Owner	Tuck Eastside Partners				County:	Greene
Investigator(s)	Richard P. Futyma & Roger J. Case				State:	New York
Do normal circumstances exist on the site?		X	Yes	No	Community ID:	upland
Is the site significantly disturbed (Atypical Situation)?			Yes	X No	Transect ID:	
Is the area a potential Problem Area? *Red soil parent materials make soil interpretation difficult*		X	Yes	No	Plot ID:	GX-3-U

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. *Ostrya virginiana*	tree	FACU-	9.		
2. *Acer saccharum*	tree	FACU-	10.		
3. *Acer rubrum*	Tree	FAC	11.		
4. *Ostrya virginiana*	sapling	FACU-	12.		
5. *Quercus rubra*	sapling	FACU-	13.		
6. *Veronica officinalis*	herb	FACU-	14.		
7. *Rubus allegheniensis*	herb	FACU-	15.		
8. *Carex pensylvanica*	herb	NL	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 13%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks)
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Field Observations:

Depth of Surface Water: None (in.)
Depth to Free Water in Pit: 0 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated in Upper 12 inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary indicators (2 or more required):
___ Oxidized root channels in upper 12 inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology appears to be present. However, the sampling was done about a week after a 22-inch snowfall, and there has been much melting and runoff in the time since.

SITE: Windham East
DATE: November 4, 2008
PLOT ID: GX-3-U

SOILS

Map Unit Name (Series and Phase): Willowemoc silt loam	Drainage Class: Moderately well drained
Taxonomy (Subgroup): Typic Fragiudepts	Field Observations Confirm Mapped Type? ___ Yes X No

Profile Description:

Depth inches	Horizon	Matrix Color (Munsell moist)	Mottle Colors (Munsell moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Ap	5YR 4/3			Silt loam
4-16	Bw	5YR 5/4			Silt loam

Hydric Soil Indicators:

___	Histosol	___	Concretions
___	Histic Epipedon	___	High Organic Content in Surface Layer in Sandy Soils
___	Sulfidic Odor	___	Organic Streaking in Sandy Soils
___	Aquic Moisture Regime	___	Listed on Local Hydric Soils List
___	Reducing Conditions	___	Listed on National Hydric Soils List
___	Gleyed or Low-Chroma Colors	___	Other (Explain in Remarks)

Remarks: This is not a hydric soil.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	___	Yes	X	No	
Wetland Hydrology Present?	X	Yes	___	No	
Hydric Soils Present?	___	Yes	X	No	Is this Sampling Point Within a Wetland? ___ Yes X No

Remarks: Photo 1104_04. (Photo 16 in Appendix B)

Appendix B

Photographs of Wetlands and
Adjacent Uplands on the Windham Mountain Sporting Club Site

Captions for photographs on pages B-4 through B7.

Photo 1. View of the wetland near boundary flag CK-12. This wetland is open, with a few sugar maple trees on the edge. Shrubs include Japanese barberry, narrow-leaf meadow-sweet, and steeple-bush. Dominant herbs include reed canary grass, sensitive fern, and giant goldenrod. Photographed November 5, 2008.

Photo 2. The upland near wetland flag CK-12 is a forest dominated by sugar maple and hemlock, with a sparse shrub layer with Japanese barberry. The herb layer is composed mainly of hay-scented fern, marginal woodfern, and evergreen woodfern. Photographed Nov. 5, 2008.

Photo 3. Near flag CM-47, the wetland has an open canopy of sugar maple and green ash, which is typical of wetlands on hillside benches. The dominants in the herb layer are fringed sedge, fowl manna-grass, and flat-top fragrant goldenrod. Photographed Nov. 5, 2008.

Photo 4. The upland near flag CM-47 is a maple–northern hardwood forest on a bouldery slope. Sugar maple, beech, and hemlock dominate the canopy and are present in the understory, as is hop-hornbeam. The most abundant herbs are bearded shorthusk, white snakeroot, and a woodland sedge. Photographed Nov. 5, 2008.

Photo 5. The wetland at flag CQ-113, also on a bedrock bench, has a canopy of sugar maples red maples mainly on its edges. Striped maple was the only plant of the shrub and sapling layer near the sampling point. The herb layer included cinnamon fern, sensitive fern, fringed sedge, wrinkled goldenrod, and flat-top white aster. Photographed Nov. 5, 2008.

Photo 6. The upland forest near CQ-113 is dominated by deciduous hardwoods, mainly sugar maple, ash, hop-hornbeam, and striped maple. Red raspberry and old-field blackberry dominate the shrub layer. Evergreen woodfern and marginal woodfern, along with a woodland sedge, are herbaceous dominants. Photographed Nov. 5, 2008.

Photo 7. The wetland surrounded by line CS is an isolated wetland on a bedrock bench, which exists mainly because log skidder traffic has created a trough that collects water. There are no trees in the wetland near flag CS-7, except for saplings of green ash. The shrub layer is composed of red raspberry and old-field blackberry. Flat-top fragrant goldenrod, wrinkled goldenrod, tussock sedge, fowl manna-grass, sensitive fern, and evergreen woodfern are the most abundant herbs. Photographed Nov. 4, 2008.

Photo 8. The upland slopes above the wetland at flag CS-7 is dominated by sugar maple in the tree and sapling layers. There is some striped maple in the sapling layer, and the shrub layer is composed of red raspberry. Dominant herbs include evergreen woodfern, herb-Robert, and bearded shorthusk. Photographed Nov. 4, 2008.

Photo 9. The wetland surrounded by line CV is in a large, open, and relatively flat area. The vegetation is dominated by low shrubs and herbs, including narrow-leaf meadow-sweet, steeple-bush, flat-top white aster, flat-top fragrant goldenrod, spreading bentgrass, sedges, and soft rush. Photographed Nov. 4, 2008.

Photo 10. The upland near flag CV-1 is also dominated by herbs and shrubs. Dominants include narrow-leaf meadow-sweet, steeple-bush, flattened oatgrass, hair fescue, Canada goldenrod, early goldenrod, heal-all, and dwarf cinquefoil. Photographed Nov. 4, 2008.

Photo 11. The wetland bounded by line DC is associated with a stream channel. Trees in this wetland are sugar maple and yellow birch. Red raspberry is the only shrub, and the dominant herbs are fowl manna-grass, flat-top fragrant goldenrod, and heart-leaf foamflower. Photographed Nov. 5, 2008.

Photo 12. The upland bordering line DC is on bouldery upland slopes above 2500 feet elevation. Dominants in the tree and sapling layers are sugar maple, yellow birch, and striped maple. Most abundant among the herbs are white snakeroot, evergreen woodfern, and heart-leaf foamflower. Photographed Nov. 5, 2008.

Photo 13. The wetland bounded by line GE straddles the upper part of the main stream draining the eastern part of the property. Near flag GE-10, the dominant trees in the wetland are green ash and sugar maple. Red raspberry is the only shrub, and the dominant herbs are sensitive fern, fowl manna-grass, and flat-top white aster. Photographed Nov. 4, 2008.

Photo 14. The upland near flag GE-10 has tree and sapling layers composed of sugar maple, northern red oak, and hop-hornbeam. The shrub and herb layers are sparse, containing some red raspberry and evergreen woodfern.

Photo 15. Line GX bounds a wetland in a seepy are on a moderately gentle slope. Red maple and green ash are the dominants in the tree and sapling layers. Dominant trees are red raspberry and narrow-leaf meadow-sweet. Sensitive fern, lady-fern, and fringed sedge are the dominant herbs. Photographed Nov. 4, 2008.

Photo 16. The upland near flag GX-3 is a hardwood forest of sugar maple, red maple, northern red oak, and hop-hornbeam. There are few shrubs to speak of. The dominants in the herb layer are common speedwell, red raspberry, and Pennsylvania sedge. Photographed Nov. 4, 2008.

Photo 1. Wetland near flag CK-12.

Photo 2. Upland near flag CK-12.

Photo 3. Wetland near flag CM-47.

Photo 4. Upland near flag CM-47.

Photo 5. Wetland at CQ-113.

Photo 6. Upland near flag CQ-113.

Photo 7. Wetland at CS-7-W.

Photo 8. Upland near CS-7.

Photo 9. Wetland at flag CV-1.

Photo 10. Upland at CV-1.

Photo 11. Wetland at DC-15.

Photo 12. The upland near DC-2.

Photo 13. Wetland at GE-10.

Photo 14. Upland near GE-10.

Photo 15. Wetland near flag GX-3.

Photo 16. The upland near flag GX-3.