

APPENDIX A

WETLANDS AND WATERBODY FIELD SURVEY RESULTS SUMMARY

APPENDIX A
Canton Mountain Wind Project
Wetland and Waterbody Delineation Summary

Resource Identification		Wetlands ¹				Streams					Notes ⁶
Plan ID	Field ID	PFO	PSS	PEM	WSS ²	Type ³	Width	Depth	MDEP ⁴	NJD ⁵	
Access Road Resources											
AW1	CAWBK2	D		X							Forested wetland dominated by red maple and American elm. Small emergent area of wetland in utility ROW. ATV trail through this area. Micro-topography drains wetland to the south into upland drainage CADBK1.
AW2	CAWBK4		X	D							Emergent wetland in utility ROW with small scrub-shrub component.
AW3	CAWBK6			X	F						Palustrine unconsolidated bottom wetland (no vegetation present) in oxbow stream channel. Contains a small emergent component along Ludden Brook. Two potential vernal pools were identified within this wetland as CAPVPBK7 and CAPVPBK8.
AW4	CAWBK11			D							Small emergent wetland with a forested overstory (outside of wetland) adjacent to Ludden Lane.
AW5	CAWBK12	D	X	X	R,F						Wetland complex associated with floodplain of Ludden Brook.
AS6 Ludden Brook	CASBK13					P	120	7-12	S		This feature is a portion of Ludden Brook. Current and past beaver activity was found in many areas of the brook south of where it crosses Ludden Lane. Stream was completely over its banks in many places.
AW7	CAWBK14	D									Forested wetland dominated by yellow birch and red maple near intersection of Ludden Lane and a secondary gravel road.
AW8	CAWBK15	D		X							Small spring (CASPRINGBK65) discharging water on steep sideslope flowing to ditch along Ludden Lane.
AS9 Trib to Ludden Brook	CASBK22					I	36	0-6	X		Mineral scoured channel flowing from the survey boundary (east of Ludden Lane) to a culvert that crosses Ludden Lane where the stream enters Ludden Brook.
AW10	CAWBK17	X		D							Small sideslope seep draining to ditch along Ludden Lane.
AW11	CAWBK19			D	F						Emergent wetland near residence. Soil profile shows evidence of historic wetland fill.
AW12	CAWBK20	X	D		R,F						Shrub/forested wetland at toe of slope along Ludden Lane. Wetland drains to ditch and culvert and into CASBK18 on east side of Ludden Lane.

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AS13 Trib to Fletcher Brook	CASBK18					I	48	0-6	X		Small intermittent stream flowing from culvert and into Fletcher Brook near the confluence of Fletcher and Ludden Brook. Stream is draining wetland (CAWBK20) on west side of Ludden Lane.
AW14	CAWBK21	D			F						Forested wetland at base of slope along Ludden Lane. Wetland shows signs of historic impacts. There are old spoil piles evident at the intersection of Ludden Lane and a secondary gravel road.
AW15	CAWBK27		D								Wetland in naturalized borrow pit at the intersection of Ludden Lane and a secondary gravel road.
AW16	CAWBK24		D								Scrub-shrub wetland dominated by witch-hazel and speckled alder located on small terrace upslope (E) of Ludden Lane and cemetery. Wetland is surrounded by old skidder trails.
AS17 Trib to Fletcher Brook	CASBK23					P	72	7-12	X		Small tributary of Fletcher Brook located to the west of the cemetery.
AW18	CAWBK28	X	X	D	R						Floodplain wetland complex to the west of cemetery dominated by cinnamon and sensitive fern.
AS19	CASBJ4					I	48	13-24	X		Intermittent stream beginning at road culvert. Stream shows signs of erosion from road bed. An old outhouse was found in stream near intersection of gravel roads. Stream drains to wetland CAWBK28.
AW20	CAWBJ3			D							Emergent wetland at confluence of several old skid trails. Large cedar trees and evidence of water discharge from side-slope indicate that this area was wet prior to skid impacts.
AW21	CAWBW20			D							A PEM wetland that is located in an old borrow pit along the access road. It has naturalized and had many breeding indicator species egg masses during 2009 spring vernal pool survey (Mapped as CA_CP18_BA).
AW22	CAWBJ6			D							Cut over area at the confluence of several old skid trails. Several drainages entering in from old ruts of trails outside of wetland.
AW23	CAWBK32		X	D							Predominately emergent wetland along Ludden Lane dominated by fringed sedge and cinnamon fern. Berm and ditch through wetland along road.
AW24	CAWBW3	D	X		R						A seepage wetland with evidence of saturation and an abundance of water marks. CA_3NVP_BA is located in the middle of this wetland.

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AW25	CAWBW4	D			R						Wetland that has been flooded due to beaver activity. The beaver dam appears to have been breached recently (Summer 2010).
AW26	CAWBW9	D		X							Forested wetland with evidence of old skid ruts through the southern end of the wetland.
AW27	CAWBB1	X		D	R						Predominately emergent wetland along gravel road. Areas of wetland (PFO) previously flooded due to beaver activity. Was connected to wetland CAWBW4 at spring high over top of road bed. Evidence of wetland previously being used as an old "log landing" area. Decaying piles of slash and woody debris were found within wetland near road.
AS28	CASBW5					P	48	0-6"	X		Channel flows east from beaver flowage and eventually enters Ludden Brook.
AS29	CASBW6					P	600"	0-24"	X		Portion of Ludden Brook.
AW30	CAWBW10		D								Shrub-dominated wetland located near the access road with dominant vegetation of meadowsweet and speckled alder.
AS31	CASBB3					I	60	0-6	X		Stream channel flowing generally SE toward wetland CAWBB1. Surface flow appears to become diffuse and goes underground at large boulder in wetland.
AW32	CAWBW11	X		D	R						Mostly emergent wetland with red maple, green ash, sensitive fern, cinnamon fern, and tussock sedge as dominate vegetation.
AW33	CAWBB4	D		X							PFO wetland along gravel road. Wetland appears to have been ditched with boulders and spoil being placed along road. Also was logged at one point and emergent portion of wetland is confined to an old skid trail.
AW34	CAWBW13			D	R						A wetland with yellow birch, arrow-wood viburnum, hemlock, and lurid sedge. The wetland drains a large forested wetland at the top of a nearby terrace and eventually drains into Ludden Brook.
AS35	CASBW7					I	24"	0-6"	X		A small tributary to Ludden Brook.
AW36	CAWBW14	D									A large wetland that extends past the survey area and that is dominated by black ash, yellow birch, balsam fir, and sensitive fern.

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AS37 Trib to Ludden Brook	CASBW8					P	120"	0-6"	X		Large perennial tributary to Ludden Brook on the north side of the access road.
AW38	CAWBW2	D									A small forested wetland at the beginning of a fork in the access road with a stream on the eastern side (not within 25').
AW39	CAWBK34		D	X	R						Shrub/emergent wetland with a forested overstory (outside of wetland boundary).
AW40	CAWBW16	X		D							A wetland with black ash, yellow birch, balsam fir, red maple, and cinnamon fern. Wetland flows toward a roadside ditch.
AW41	CAWBK35			D	R						Emergent wetland in an old oxbow of stream.
AW42	CAWBK36			D	R						Emergent wetland in forested floodplain of stream.
AW43	CAWBK37	D	X								Forested wetland dominated by balsam fir and yellow birch. Evidence of old skid trail through wetland.
AW44	CAWBW18	D									A large wetland that extends outside the survey area with black ash, red maple, yellow birch, speckled alder, sensitive fern and cinnamon fern.
AW45	CAWBK39	D	X		R						Floodplain wetland complex dominated by red maple and yellow birch.
AS46	CASBK38					I	24	0-6	X		Intermittent, narrow mineral-scoured channel associated with wetland CAWBK39.
AW47	CAWBK57	D									Forested wetland adjacent to old skid trail. Sheet flow appears to be exiting wetland and flowing into ditch down old skid trail.
AS48	CASBK41					I	48	0-6	X		Intermittent gravel/cobble stream channel.
AS49	CASBK42					I	60	0-6	X		Intermittent gravel/cobble stream channel.

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AW50	CAWBK54			D							Shrub wetland with a forested over story in adjacent upland.
AS51	CASBK46					I	42	0-6	X		Intermittent gravel/cobble stream channel.
AW52	CAWBK47		D		R						Shrub wetland dominated by red maple adjacent to gravel road and containing stream CASBK46.
AW53	CAWBK51	D	X								This area has significant surface flow. Timber harvesting in the recent past has caused hydrology to be altered with skid trails bisecting flow in wetland.
AW54	CAWBK49	D	X								Forested and shrub wetland dominated by white ash and speckled alder.
AW55	CRWBW22			D							A wetland located on an old skidder road with evidence of soil compaction.
AW56	CRWBB7			D	R						Small floodplain of stream CRSBW21. Stream is adjacent to gravel road and wetland appears to have a horizon in the soil profile of deposited material from road. Wetland dominated by fringed sedge.
AW57	CRWBB6			D	R						Small floodplain of stream CASBK42. Wetland has little vegetation, mostly leaves with a few herbs.
AS58	CRSBW23					P	36"	0-6"	X		Stream flows westerly from ditch along access road. Has a mineral-scoured bottom, and amphibians and invertebrates were found within the channel.
AW59	CRWBW27	X		D							The wetland appears to be impacted by forestry activity due to the compaction of the soils along with upland plant species growing in little pockets of the wetland.
AS60	CRSBK58					I	36		X		Intermittent gravel/cobble stream channel. Receives underground flow from CRWBK59.
AS61	CRSBB8					I	36	0-6	X	X	Headwater of stream begins as an upland drainage in old skidder rut. Stream appears to be very "flashy" showing signs of heavy flow at various times of year. On downslope (W) side of gravel road there is a small section of diffuse sheet flow from culvert with no channel. Channel begins again further downslope with deep eroded gullies.

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AS62	CRSBW28					I	36 - 60"	7-12"	X		A westerly flowing intermittent stream with presence of invertebrates and an organic material substrate.
AW63	CRWBK59	D	X								Forested wetland near project boundary. Possibly a historic (50+ years) woods road.
AW64	CRWBK63	D									Forested wetland bisected by an old skid trail, dominated by red maple.
Ridgeline Resources											
RW65	CRWBW36		D								Wetland shows evidence of impacts from recent skidder activity. A saddle at the base of seepage area is a collection point for water flow. Deep organic soils (histosols) found throughout wetland.
RW66	CRWBB12			D	R						Emergent wetland with a closed shrub canopy (outside of wetland). Wetland also encompasses stream CRSBW35. Part of wetland contained previously mapped "amphibian breeding area" (ABA) CR_1CP_BA. This area had been freshly skidded through at time of survey due to active logging taking place in the area.
RS67	CRSBK35					P	60"	0-6"	X		A southerly flowing stream with a cobble/gravel substrate and evidence of frogs and invertebrates. Stream is associated with CRDBW34 and wetland CRWBB12. Stream seems to have a small watershed, however presence of flowing water in August (no substantial rainfall prior to survey for several weeks), and a confirmed sighting of a Northern Spring Salamander indicates that the stream is perennial.
RW68	CRWBJ1		X	D							A kettle-hole depression on the ridgeline in the saddle of several hemlock dominant slopes.
RW69	CRWBW32			D							This wetland is located in a forested depression with no trees and surrounded by upland tree species that overhang the wetland area. During the spring of 2010 this wetland was flooded.
RW70	CRWBJ3			D	H						An emergent wetland/shallow ephemeral pond. Previously flagged as Significant Vernal Pool CR_11SVP_BA.
RW71	CRWBW40			D							A wetland within a forested area with shallow ponding. Vegetation includes sphagnum moss, balsam fir, cinnamon fern, and yellow birch.

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RW72	CRWBB14		D								Small wetland pocket in narrow ravine amongst large bedrock outcrops. Wetland was sparsely vegetated with hobblebush and contained deep organics throughout.
RW73	CRWBJ4		D								Shrub-dominated kettle-hole bog on the ridge top. Soils are saturated to the surface and there is 10 inches of fibrous sphagnum on top of peat/muck.
RW74	CRWBW41	D									An emergent wetland with red maple, balsam fir, hemlock, yellow birch, and cinnamon fern. The wetland extends outside the survey area boundary and is located downslope from wetland CRWBJ4.
RW75	CRWBJ6	D									Wetland was located on an old skid trail with compacted soils. It is a small low-value isolated wetland depression in a probable relic skid trail.
RW76	CRWBB17	X	D								Small scrub-shrub wetland on side-slope.
RW77	CRWBB15	D									Small forested wetland that contains vernal pool CR_3VP_BA419. An area of the wetland is being impacted by an ATV trail.
Transmission Line Resources											
TW1	CAWBK2/W0	X		D							PEM-PFO wetland located slightly south of the existing transmission line and north of Canton Point Road. Wetland is dominated by yellow birch and red maple in the overstory in the plot. Yellow birch, eastern hemlock and balsam fir were identified in the sapling/shrub stratum. The understory is dominated by cinnamon fern with some New York fern, lady fern, sensitive fern and dwarf red raspberry. In the transmission line, the dominant vegetation is woolgrass, rough-stemmed goldenrod and sedges.
TW2	AFA & AFB-W1/W1	D		X							Primarily PFO wetland area with small section of PEM near easternmost edge of study corridor. Wetland overstory is dominated by red maple and yellow birch. The sapling/shrub stratum contains green ash, yellow birch and striped maple. The herb stratum includes cinnamon fern, sensitive fern and Canada mayflower.
TW3	CAWBK11/W1A	D									Forested wetland area with surface drainage running to culvert under Ludden Road.
TW4	AFA & AFB-W2/W2	D									Forested wetland area with surface drainage running to ditch alongside Ludden Road. The tree stratum is dominated by yellow birch with some balsam fir and American hophornbeam. Sapling and shrub stratum

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											contains red maple and yellow birch. The herb stratum is dominated by nodding sedge, panicled aster and New York fern.
TW5	AFAW3/W3	D									Small forested wetland area with red maple and eastern hemlock dominating the overstory. Eastern hemlock dominates the sparse sapling/shrub stratum. Marsh fern, two-seeded sedge, sallow sedge and cinnamon fern occur in the herb stratum.
TW6	CAWBK12/W7	D	X								PFO /PSS wetland, disturbed by previous logging activities with a long-disused road bed in places. There was a ponded area near the road. The wetland consists of a series of wetland "fingers" extending to the south and east of the main wetland body. Wetland contains no tree stratum in the plot. The sapling/shrub layer is dominated by speckled alder. The herb layer is dominated by northern mannagrass with a some sensitive fern and rough stemmed goldenrod.
TW7	CAWBK14/W6	D									PFO bounded by Ludden Road to the west and a private driveway to the south. Overstory contains red maple and eastern hemlock. Shrub layer has yellow birch, and balsam fir. Cinnamon fern and royal fern are most common in the herb stratum.
TW8	AFA-W4/W4	D			H						Entirely PFO, the east side of wetland 4 has been disturbed by previous logging operations. Wetland has been previously identified as WSS because it contains a svp. Overstory is dominated by green ash, red maple, yellow birch and eastern hemlock. The sapling stratum only contains eastern hemlock. The herb stratum is dominated by cinnamon fern.
TW9	CAWBK15/W5A	D									Forested depressional wetland area east of Ludden Road.
TW10	AFA & AFB-W5/W5	X		D							Primarily PEM wetland with small section of PFO to west. Area is disturbed by previous logging operations. The sparse overstory contains yellow birch and green ash. Shrub stratum contains red maple. The herb layer is dominated by shallow sedge and nodding sedge.
TS11	S-1					I	1'-4'+/-	0"-6"	X	X	Stream flows in a southerly direction within the area of Wetland 8. No water present at time of survey. Channel is discontinuous/braided.

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TW12	AFA & AFB-W8/W8	X		D	R							PEM/PFO wetland. PEM areas have been disturbed by logging activity. Wetland area contains a vernal pool not deemed to be significant. Wetland body contains a Maine DEP jurisdictional stream (S-1) channel which outlets from the southwestern end. It also has 2 drainages entering the wetland from the northern side. The western drainage comes from wetland also labeled as W8. The vegetation sampling plot is located in this northwestern branch. In the plot, the overstory consists of red maple and yellow birch. Shrub/sapling layer has yellow birch and eastern hemlock. Herb stratum contains northern bugleweed, turtlehead, violet and sallow sedge.
TS13	S-2					I	1'-2'	0"-6"	X	X		Stream flows in a westerly direction and drains to Wetland 8.
TW14	AFA-W9/W9			D								Small PEM wetland, disturbed by logging operations. No trees grow in overstory. The sparse sapling/shrub stratum contains red maple and gray birch. The most common species in the herb stratum are hayscented fern, interrupted fern, sensitive fern and woolgrass.
TW15	AFA & AFB-W10/W10	D										PFO wetland with overstory consisting of red maple and eastern hemlock. Sapling stratum has green ash and red maple. Herb layer contains mostly northern bugleweed with sensitive fern, New York fern, marsh pennywort and dwarf red raspberry.
TW16	AFA & AFB-W12/W12	D		X	R							Wetland is more than 75% PFO. Overstory is dominated by northern white cedar, red maple and yellow birch. Shrub layer has green ash, speckled alder and hobblebush. Northern mannagrass, cinnamon fern, wood horsetail and northern bugleweed make up the herb stratum. There are cattails out of plot, but not large enough an area to be WSS.
TW17	AFA-W11/W11			D								PFO wetland on a concave sideslope where past logging activity has intercepted the seasonal water table. Overstory consists of green ash, red maple and hemlock. Sapling/shrub stratum has hemlock, red maple and yellow birch. Herb layer contains interrupted fern, sensitive fern and northern mannagrass.
TS18	S-3					P	15'-30'	13"-24"	X	X		Named "Ludden Brook". Flows westerly. Presence of fish species observed at time of survey.

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TW19	AFA-W13/W13	D			R						PFO wetland that contains skidder ruts. Overstory has yellow birch, green ash and red maple. Sapling/shrub stratum contains balsam fir, eastern hemlock and striped maple. Herb layer has New York fern, starflower and Canada mayflower.
TW20	AFA-W14/W14	X		D							Approximately 70% of the wetland is PEM due to past disturbance. There were no trees in the plot. Shrub layer consists of steeplebush. Woolgrass, sallow sedge and soft rush are dominant in the herb stratum.
TW21	AFA-W16/W16		D								PSS wetland with no tree stratum. The sapling/shrub stratum consists of steeplebush. The herb stratum has shallow sedge, pointed broom sedge and bugleweed.

- 1 Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31, U.S. Fish and Wildlife Service, Office of Biological Services, Washington, D.C.:
PFO=Palustrine (freshwater) forested wetland PSS=Palustrine shrub-scrub wetland PEM=Palustrine emergent wetland.
D = Dominant Wetland Type; X = Present.
- 2 Wetlands of Special Significance Designations:
R = all or a portion of the wetland occurs within 25 feet of NRPA jurisdictional river, stream, or brook.
H = occurs within 250 feet of a significant vernal pool.
F = occurs within the FEMA-mapped 100 year floodplain.
- 3 P = Perennial, flows more than 6 month of the year and likely year round:
I = Intermittent, flows more than 3 months of the year but less than 6 months
E = Ephemeral, flows less than 3 months of the year.
- 4 S = Northern Spring Salamander Habitat.
- 5 NJD = Non-jurisdictional drainage.
- 6 References to specific wetlands and streams use the Field ID, which can be found in the second column of the Resource Identification column in this Appendix.

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