DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: upl Transect number: A2 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
white pine/Pinus strobus	38	39	Y	FACU
black oak/Quercus velutina	38	39	Y	UPL
red oak/Quercus rubra	20.5	22	Y	FACU
Sapling				
white pine/Pinus strobus	20.5	100	Y	FACU
Shrub				
white pine/Pinus strobus	10.5	100	Y	FACU
Herb				
white pine/Pinus strobus	3.0	50	Y	FACU
starflower/Trientales borealis	3.0	50	Y	FAC*

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 1 Number of dominant non-wetland plants: 6
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☐ yes ☒ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
O	1-0"		
A	0-6"	10YR 3/2	
B	6-12	7.5YR 4/6	
B2	12-20+	7.5YR 3/4	

Remarks

3. Other loamy sand overlain by fine sandy loam

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☐ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☐	☒
Wetland hydrology present:	☐	☒
Hydric soil present		
Other indicators of hydrology present:	☐	☒
Sample location is in a BVW	☐	☒

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: wet Transect number: A2 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	85.5	88	Y	FAC*
black oak/Quercus velutina	10.5	11	N	UPL
Shrub				
highbush blueberry/Vaccinium corymbosum	20.5	50	Y	FACW*
glossy buckthorn/Rhamnus frangula	20.5	50	Y	FAC*
Herb				
canada mayflower/Maianthemum canadense	10.5	34	Y	FACU
club moss/Lycopodium obscurum	20.5	66	Y	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 3 Number of dominant non-wetland plants: 2
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
O	2-0"		
A	0-14	10YR 3/1	
B	14-20+	10YR 4/1	10YR 3/1 and 5/1

Remarks

3. Other

Conclusion: Is soil hydric? ☒ yes ☐ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☒ Depth to free water in observation hole: _6"_____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☒ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☒	☐
Other indicators of hydrology present:	☒	☐
Sample location is in a BVW	☒	☐

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: upl Transect number: B5 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
white pine/Pinus strobus	63	56	Y	FACU
red maple/Acer rubrum	38	34	Y	FAC*
grey birch/Betula populifolia	10.5	9	N	FAC*
Shrub				
highbush blueberry/Vaccinium corymbosum	20.5	100	Y	FACW*
Herb				
canada mayflower/Maianthemum canadense	10.5	100	Y	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 2 Number of dominant non-wetland plants: 2
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-5"	10YR 3/1	
B	5-20+"	10YR 4/6	

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☐ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☐	☒
Other indicators of hydrology present:	☐	☒
Sample location is in a BVW	☐	☒

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: wet Transect number: B5 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	38	50	Y	FAC*
pitch pine/ Pinus rigida	38	50	Y	FACU
Shrub				
highbush blueberry/Vaccinium corymbosum	38	100	Y	FACW*
Herb				
cinnamon fern/Osmunda cinnamomea	20.5	87	Y	FACW*
canada mayflower/Maianthemum canadense	3.0	13	N	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 3 Number of dominant non-wetland plants: 1
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
O	.5-0"		
A	0-4	10YR 2/1	
B	4-12"	10YR4/5	10YR 4/6 and 3/2
B2	12-20+"	10YR 4/4	10YR 4/6, 4/2

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☒ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☐	☒
Other indicators of hydrology present:	☒	☐
Sample location is in a BVW	☒	☐

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: upl Transect number: C5 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
white pine/Pinus strobus	63	75	Y	FACU
black oak/Quercus velutina	20.5	25	Y	FACU
Sapling				
white pine/Pinus strobus	20.5	100	Y	FACU
Herb				
catbriar/Smilax rotundifolia	20.5	100	Y	FAC*

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 1 Number of dominant non-wetland plants: 3
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☐ yes ☒ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
O	.5-0		
A	0-6"	10YR 2/1	
B	6-15"	10YR 3/3	
B2	15-20+	10YR 4/6	

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☐ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☐	☒
Wetland hydrology present: Hydric soil present	☐	☒
Other indicators of hydrology present:	☐	☒
Sample location is in a BVW	☐	☒

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: wet Transect number: C5 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	38	100	Y	FAC*
Shrub				
glossy buckthorn/Rhamnus frangula	10.5	100	Y	FAC*
Herb				
catbriar/Smilax rotundifolia	38	100	Y	FAC*

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 3 Number of dominant non-wetland plants: 0
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-10	10YR 2/1	

Remarks

3. Other refusal @10"

Conclusion: Is soil hydric? ☐ yes ☐ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☒ Depth to free water in observation hole: _8"_____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☒ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☐	☐
Other indicators of hydrology present:	☒	☐
Sample location is in a BVW	☒	☐

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: wet Transect number: D4 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	85.5	100	Y	FAC*
Sapling				
white pine/Pinus strobus	10.5	100	Y	FACU
Shrub				
glossy buckthorn/Rhamnus frangula	63	100	Y	FAC*
Herb				
Canada mayflower/Maianthemum canadense	3.0	100	Y	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 2 Number of dominant non-wetland plants: 2
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-11"	10YR 2/1	
B	11-18+	10YR 4/2	10YR 2/1 and 4/6

Remarks

3. Other

Conclusion: Is soil hydric? ☒ yes ☐ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☒ Drainage patterns in BVW: _____

☒ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☒	☐
Other indicators of hydrology present:	☒	☐
Sample location is in a BVW	☒	☐

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: upl Transect number: D4 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	63	75	Y	FAC*
white pine/Pinus strobus	20.5	25	Y	FACU
Shrub				
glossy buckthorn/Rhamnus frangula	63	100	Y	FAC*
Herb				
canada mayflower/Maianthemum candense	3.0	100	Y	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 2 Number of dominant non-wetland plants: 2
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12"	10YR 2/1	
B	12-20"	10yr 5/4	10yr 4/6

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☐ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☐	☒
Other indicators of hydrology present:	☐	☒
Sample location is in a BVW	☐	☒

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: upl Transect number: F6 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
white pine/Pinus strobus	85.5	100	Y	FACU
Shrub				
black oak/Quercus velutina	10.5	33	Y	UPL
glossy buckthorn/Rhamnus frangula	10.5	33	Y	FAC*
red maple/Acer rubrum	10.5	33	Y	FAC*
Herb				
canada mayflower/Maianthemum canadense	20.5	100	Y	FACU

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 2 Number of dominant non-wetland plants: 3
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☐ yes ☒ no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent MADEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-14"	10YR 2/1	
B	14-20"	10YR 3/4	

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☐ Depth to free water in observation hole: _ _____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☐ Drainage patterns in BVW: _____

☐ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☐	☒
Wetland hydrology present:	☐	☒
Hydric soil present		
Other indicators of hydrology present:	☐	☒
Sample location is in a BVW	☐	☒

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Form

Applicant: Minuteman High School Prepared by: Rimmer Environmental Project location: Marrett Rd Lexington/Linc DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate BVW boundary: fill out section I only
- ☒ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation: Observation plot Number: wet Transect number: F6 Date of delineation: 4/30/13

A. Sample layer and plant species (by common name/scientific name)	B. Percent cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Tree				
red maple/Acer rubrum	38	50	Y	FAC*
black oak/Quercus velutina	38	50	Y	UPL
Sapling				
red maple/Acer rubrum	20.5	100	Y	FAC*
Shrub				
highbush blueberry/Vaccinium corymbosum	38	55	Y	FACW*
swamp azalea/Rhododendron viscosum	20.5	30	Y	FACW*
glossy buckthorn/Rhamnus frangula	10.5	15	N	FAC*

Use an asterisk to mark wetland indicator plants: species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FAC-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:
Number of dominant wetland indicator plants: 4 Number of dominant non-wetland plants: 1
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? ☒ yes ☐ no

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site?

Title/date:
Map number:
Soil type mapped:
Hydric soil inclusions:

Are field observations consistent with soil survey? ☐ yes ☐ no
Remarks:

2. Soil description

Horizon	Depth	Matrix Color	Mottles Color
A	0-9"	10YR 2/1	
B	9-18"	7.5YR 2.5/2	
B2	18-20	5YR 3/4	

Remarks

3. Other

Conclusion: Is soil hydric? ☐ yes ☒ no

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated: _____

☒ Depth to free water in observation hole: _18"_____

☐ Water marks: ___ _____

☐ Drift lines: _____

☐ Sediment deposits: _____

☒ Drainage patterns in BVW: _____

☒ Oxidized rhizospheres: _____

☐ Water-stained leaves: _____

☐ Recorded data(stream, lake, or tidal gauge; aerial photo, other):__

☐ Other: _____

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥number of non-wetland indicator plants:	☒	☐
Wetland hydrology present: Hydric soil present	☐	☒
Other indicators of hydrology present:	☒	☐
Sample location is in a BVW	☒	☐

Wetland Resource Delineation and Evaluation

Minuteman Regional High School
Lexington/Lincoln, MA
May 22, 2013

Introduction and Methods

On April 30, 2013 Rimmer Environmental Consulting, LLC (REC) conducted an inspection and evaluation of wetland resources subject to jurisdiction under the Massachusetts Wetlands Protection Act (MGL Ch. 131 s. 40) and the Towns of Lincoln and Lexington Wetlands Protection Bylaws within portions of the Minuteman Regional High School campus on Marrett Road in Lexington and Lincoln. The figure below indicates the approximate project locus.

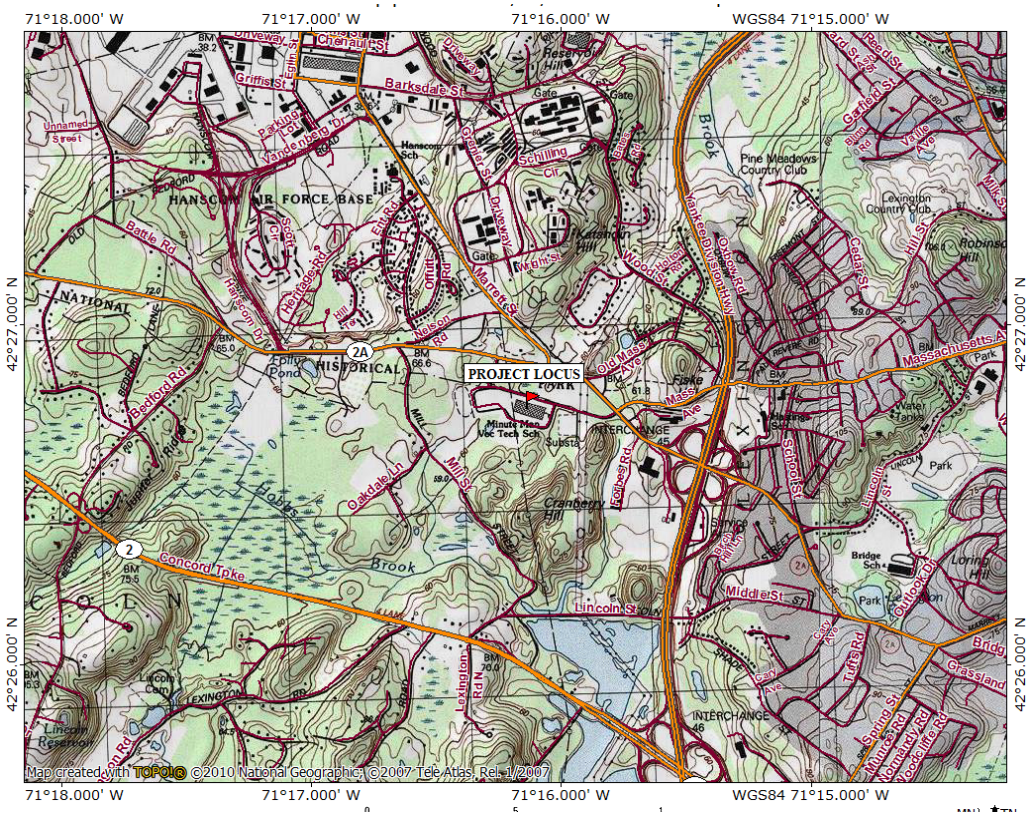


FIG. 1 USGS Site Locus

Wetlands were delineated in the eastern portion of the campus, east of the athletic fields in accordance with the procedures established in the Massachusetts Wetlands

Protection Act Regulations (310 CMR 10.00) and the relevant local bylaw regulations. The presence of 50% or more wetland vegetation as well as other indicators of hydrology including hydric soil was used to establish wetland boundaries. Numbered sequences of were placed in the field to identify the limit of wetland resource areas. DEP Delineating Bordering Vegetated Wetland Field Data forms were completed within each wetland series to provide documentation of the wetland boundary delineation and are included as an attachment to this report.

Findings

Based upon site evaluations described above, the following jurisdictional wetland resources were found to be present in the project area. Wetlands A, B, C, F and G are located within the Town of Lincoln and Wetlands D and E are located in Lexington.

Bordering Vegetated Wetland (BVW)

Flags A1-A30 delineate the eastern boundary of vegetated wetlands associated with an unnamed stream tributary to Hobbs Brook that passes south through the site from the Minuteman National Historical Park toward Mill Street. The wetlands associated with this stream include forested areas north and south of the athletic field, dominated by a red maple (*Acer rubrum*) overstory with glossy buckthorn (*Rhamnus frangula*) and highbush blueberry (*Vaccinium corymbosum*) common in the understory. The portion along the athletic field includes mostly herbaceous vegetation including rushes (*Juncus* sp) and sedges (*Carex* sp.) and recently cut shrubby growth where the banks are maintained near the field. Adjacent upland areas consist primarily of white pine (*Pinus strobus*), black oak (*Quercus velutina*) and red oak (*Quercus rubra*). The western side of this channel along the edge of the athletic field was delineated by flags G1-G19.

Flags C1-C28 delineate BVW surrounding a pond located south of the main parking area. This pond is a known vernal pool and was found to contain numerous wood frog (*Rana sylvatica*) egg masses at the time of inspection. Vegetation in this area also consists of red maple in the overstory with highbush blueberry, glossy buckthorn and catbriar (*Smilax rotundifolia*) in the understory.

The B-series flags (B1-B14) delineate a small swale and wooded wetland that connects the A and B-series wetlands described above. Vegetation is similar to the C series described above, but the adjacent upland consists of primarily pitch pine (*Pinus rigida*) in addition to mixed oaks.

The D-series wetland (flags D1-D20) is located at the eastern portion of the site between the school and the adjacent electrical substation within the Town of Lexington. An unnamed and unmapped stream flows south through this area. Water stained leaves indicated some seasonal flooding of this wetland. The vegetative community is similar to the other forested wetlands described above, with a higher percentage of white pine mixed with the red maple. Canada mayflower (*Maianthemum canadense*) is common as groundcover. This plant community is dominated by primarily facultative species and there is not a clear vegetative change between upland and wetland. This boundary was

determined primarily by a subtle difference in soils that marks the transition between upland and wetland.

The E-series (flags E1-D25), also in Lexington, is located on the north side of Marrett Road and follows primarily along the toe of slope at the edge of the road shoulder. Again, red maple, highbush blueberry, glossy buckthorn and Canada mayflower are the dominant species.

The F-series wetland (F-F9) is a small extension of the A-series wetland from A1 to the rear access to Route 2A on the north side of the main parking lot. The vegetative community is very similar to the A series wetland.

Inland Bank/Land Under a Waterbody

The pond within the C-series wetland likely contains permanent standing water with an area of at least 10,000 square feet and is therefore presumed to be a pond under 310 CMR 10.56 with associated bank resource along its mean high water line. The limits of bank resource at this location were not specifically delineated, since the BVW extends further from the pond edge and therefore any buffer zone would extend from BVW and not bank.

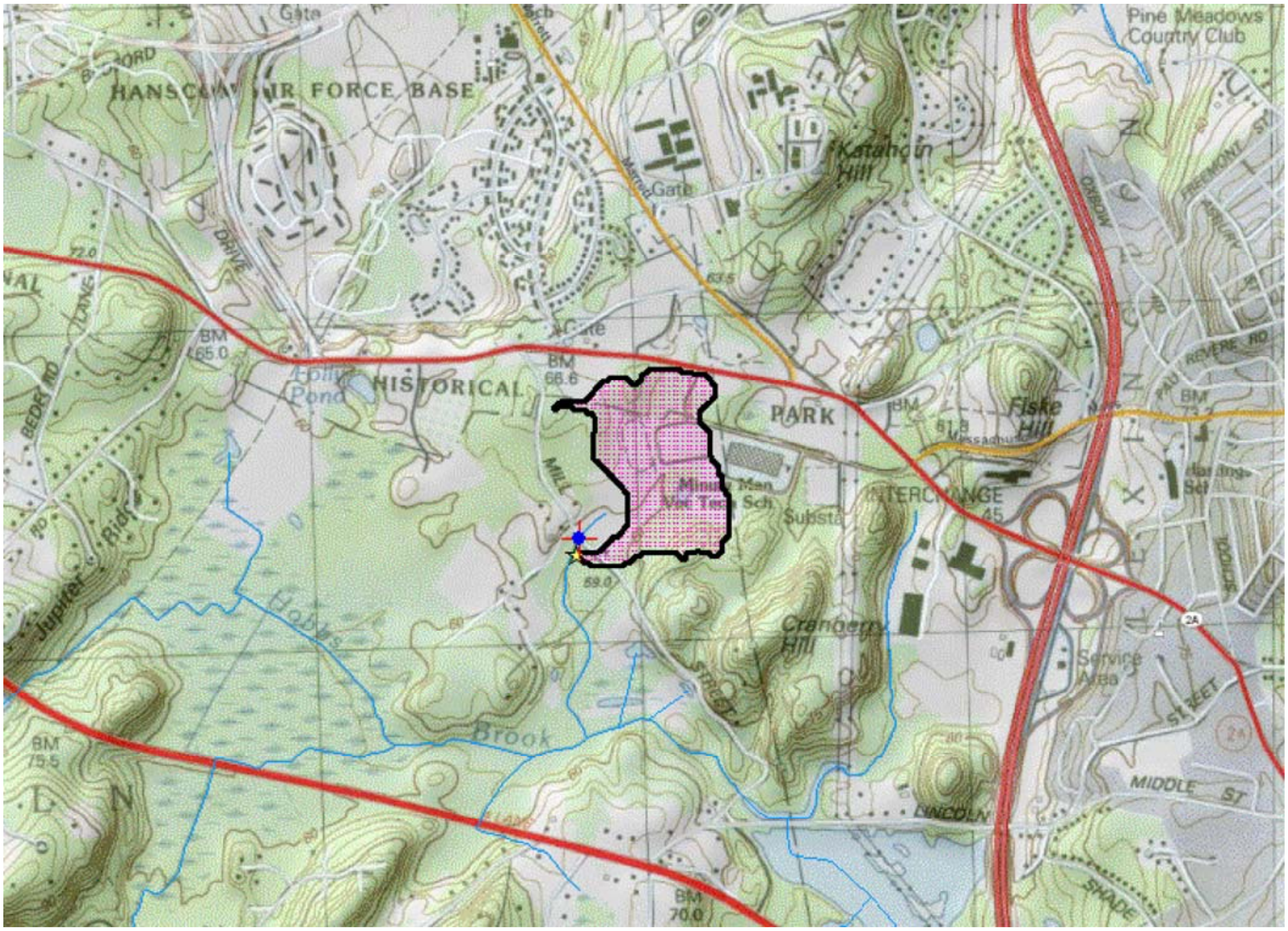
The stream within the A/G series wetland as well as the D-series also contains bank resource. Again, the limits of bank were not specifically delineated.

Riverfront Area

The unnamed stream within the A/G series wetland within Lincoln is not shown on the the USGS map within the project site, but is indicated as a perennial stream downstream of the site, east of Mill Street. In order to determine if the portion of the stream that passes through the site might qualify as a perennial stream under 310 CMR 10.58, the USGS StreamStats program was run to determine the watershed area and flow duration value at the point at which the stream is indicated as becoming perennial. According to Stream Stats, the watershed area upstream of Mill Street for this stream is only 0.07 square miles which is too small to qualify as a perennial stream. (See attached StreamStats results.) Therefore, it was our conclusion that there is no Riverfront Area on site.

Other Resources

This project area is not located within areas identified by the Massachusetts Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program (NHESP) as Estimated Habitat of Rare Wetlands Wildlife and Priority Habitat, as determined by reference to the most recently available information from MassGIS. The C-series wetland is indicated as a potential vernal pool.


HANSCOM AIR FORCE BASE
HISTORICAL
PARK
Katahdin Hill
Fiske Hill
Cranberry Hill
Pine Meadows Country Club
Service Area
MIDDLE ST
LINCOLN
Brook
INTERCHANGE 45
Minute Man Voc Tech Sch

USGS Massachusetts StreamStats

Streamstats Ungaged Site Report

Date: Wed May 22 2013 09:47:00 Mountain Daylight Time
Site Location: Massachusetts
NAD27 Latitude: 42.4431 (42 26 35)
NAD27 Longitude: -71.2761 (-71 16 34)
NAD83 Latitude: 42.4432 (42 26 36)
NAD83 Longitude: -71.2756 (-71 16 32)
ReachCode: 01090001022088
Measure: 79.60
Drainage Area: 0.0763 mi2
Percent Urban: 39 %
Percent Impervious: 10.8 %

Low Flows Basin Characteristics

100% Statewide Low Flow (0.0763 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area	0.0763		
Mean Basin Slope from 250K DEM	0.00344		
Stratified Drift per Stream Length			
Massachusetts Region	0		

Probability of Perennial Flow Basin Characteristics

100% Perennial Flow Probability (0.0763 mi2)

Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	0.0763	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	55.96	0	100
Percent Forest (percent)	63.76	0	100
Massachusetts Region (dimensionless)	0	0	1

The equation for estimating the probability of perennial flow is applicable for most areas of Massachusetts except eastern Buzzards Bay, Cape Cod, and the Island regions. The estimate obtained from the equation assumes natural flow conditions at the site. The equation also is best used for sites with drainage areas between 0.01 to 1.99 mi2, as errors beyond for basins beyond these bounds are unknown.

Probability of Perennial Flow Statistics

Statistic	Value	Standard Error (percent)
PROBPEREN	0.35	0.4