T-48 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: T-48 Transect Number: 1 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees:				
Green Ash (Fraxinus pennsylvanica) 22", 16", 12", 12"	5.606/6.877	81%	yes	FACW *
Hemlock (Tsuga canadensis) 13"	.922/6.877	14%	No	FACU *
White Birch (Betula papyrifera) 8"	.342/6.877	5%	No	FACU
Shrubs:				
Quaking Aspen (Populus tremula)	10/15	67%	Yes	FACU
Spicebush (Lindera benzoin)	2.5/15	17%	No	FACW- *
Ironwood (Carpinus caroliniana)	2.5/15	17%	No	FAC *
Herbaceous Stratum:				
Skunk cabbage (Symplocarpus foetidus)	10/20	50%	Yes	OBL *
Jewel weed (Impatiens capensis)	5/20	25%	Yes	FACW *
Christmas Fern (Polystichum acrostichoides)	5/20	25%	Yes	FACU —

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

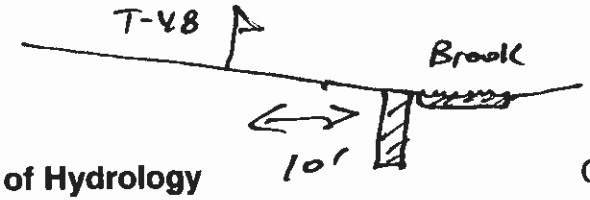
Vegetation conclusion:

Number of dominant wetland indicator plants: 3 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



T-48 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Glouster is somewhat excessively drained.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	5Y 2.5/1 Silt Loam	none
Bg	4-8+"	5Y 4/2 V. stony silt loam	m2p (7.5YR 4/6)

Remarks: Very difficult to penetrate Bg due to stones.

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

meets hydric soil criterion VI.

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

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: 12"
- ☒ Depth to soil saturation in observation hole: surface
- ☐ 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: pit is one foot from flowing brook

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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

T-48 UPLAND SLOPE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: T-48 Transect Number: 1 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees:				
Hemlock (Tsuga canadensis) 30"	4.91/5.259	93%	Yes	FACU*
Sugar Maple (Acer saccharum) 8"	.349	7%	No	FACU-
Shrubs:				
Quaking Aspen (Populus tremula)	10/10	100%	Yes	FACU
Herbs:				
Christmas Fern (Polystichum acrostichoides)	5/5	100%	Yes	FACU-
Red Maple (Acer rubrum) seedling	<1/5	0	No	FAC+
Partridgeberry (Mitchella repens)	<1/5	0	No	FACU

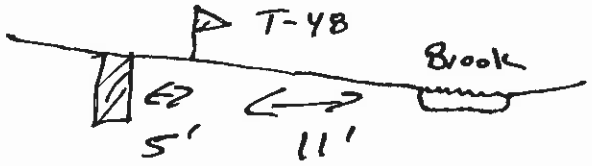
* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as 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 indicator plants:** 2

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.



T-48 upland Side

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? (yes) no

Remarks: Upland side of flag is consistent with S. excessively well drained Gloucester type

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	10YR 2/2 v. fine sandy loam	none
Bw1	4-11"	10YR 3/4 v. fine sandy loam	none
Bw2	11-20+"	10YR 5/6 v. fine sandy loam	C2P (7.5YR 4/6) @ 11"

Remarks: Seasonal high water @ 11"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: >20"
- ☐ Depth to soil saturation in observation hole: >20"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

N-66 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: N-66 Transect Number: 2 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Red Maple (Acer rubrum) 14", 14"	2:138/3.534	60%	yes	FAC*
Black Birch (Betula lenta) 16"	1:396/3.534	40%	yes	FACU
Saplings: Hemlock (Tsuga canadensis)	10/10	100%	yes	FACU*
Shrubs: Green Ash (Fraxinus pennsylvanica)	5/10	50%	yes	FACW-*
Black Birch (Betula lenta)	5/10	50%	yes	FACU
Herbs: Jewelweed (Impatiens capensis)	30/52	58%	yes	FACW*
Poison Ivy (Toxicodendron radicans)	5/52	2%	No	FAC*
Partridgeberry (Mitchella repens)	5/52	2%	No	FACU
Jack in the pulpit (Arisaema triphyllum)	2.5/52	1%	No	FACW-*
Hayscented fern (Dennstaedtia punctilobula)	5/52	2%	No	NL
Lady Fern (Athyrium felix-femina)	2.5/52	1%	No	FAC*
Starflower (Trientalis borealis)	<1/52	—	No	FAC*
Sedge (Carex spp.)	<1/52	—	No	FACW*
Canada Mayflower (Maianthemum canadense)	<1/52	—	No	(Assumed) FAC-
New York Fern (Thelypteris noveboracensis)	2/52	4%	No	FAC*
Princess Pine (Lycopodium complanatum)	<1/52	—	No	FACU-

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

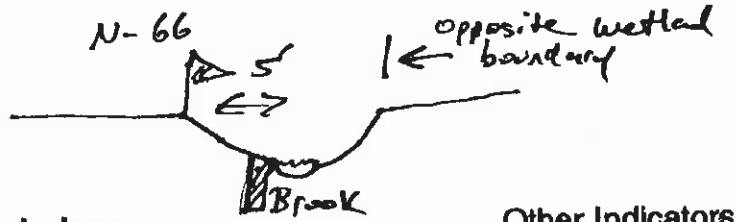
Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



N-66 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: yes

Are field observations consistent with soil survey? yes (no)

Remarks: Not a somewhat excessively drained soil

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Oa	0-3"	5Y 2.5/1	—

refusal @ 3", very stony

Remarks: Sapric horizon over rocks.

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

may qualify under criterion V or XIII

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

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: 3"
- ☒ Depth to soil saturation in observation hole: Surface
- ☐ 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: pit is next to brook with slight flow

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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

N-66 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: N-66 Transect Number: 2 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hemlock (Tsuga canadensis) 5", 5", 7", 5", 6", 5"	1.007/3.531	29%	yes	FACU+
Black Birch (Betula lenta) 13", 12, 6, 5, 5	2.175/3.531	62%	yes	FACU
Red Maple (Acer rubrum) 8"	.349/3.531	9%	No	FAC+
Saplings:				
Hemlock (Tsuga canadensis)	20/20	100%	yes	FACU*
Herbs:				
Partridgeberry (Mitchella repens)	5/5	100%	yes	FACU
New York Fern (Thelypteris noveboracensis)	<1	—	no	FAC+
Sugar Maple (Acer saccharum) Seedling	<1	—	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

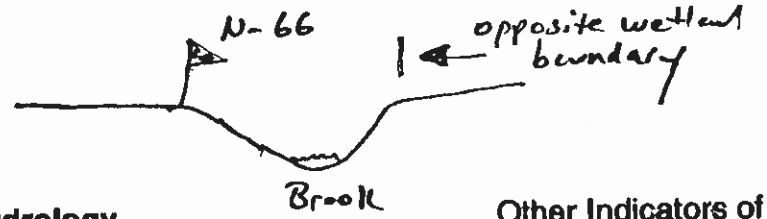
Vegetation conclusion:

Number of dominant wetland indicator plants: 2 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



N-66 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? (yes) no

Remarks: Consistent with a somewhat excessively drained soil.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	10YR 2/2 v. fine sandy loam	—
Bw1	4-12"	10YR 4/4 v. fine sandy loam	none
Bw2	12-21"	10YR 4/3 v. fine sandy loam	none

Remarks: No redoxymorphic features to refusal @ 21"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: >21"
- ☐ Depth to soil saturation in observation hole: >21"
- ☐ 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: No evidence of wetland hydrology

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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

* Dominant wetland indicator plants solely Hemlock, rated "FACU" but listed in the Act.

M-3 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: M-3 Transect Number: 3 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees:				
Hemlock (Tsuga canadensis) 16"	1.396/1.396	100%	Yes	FACU*
Shrubs:				
Hemlock (Tsuga canadensis)	15/15	100%	Yes	FACU*
Herbs:				
Partridgeberry (Mitchella repens)	15/50	30%	Yes	FACU
Lady Fern (Athyrium felix-foemina)	10/50	20%	Yes	FAC*
Canada Mayflower (Maianthemum canadense)	10/50	20%	Yes	FAC-
Sedges (Carex spp)	10/50	20%	Yes	FACW-OBL* (assumed)

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

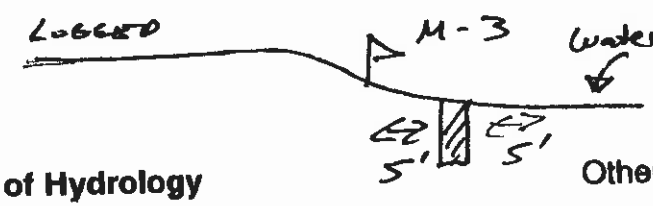
Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



M-3 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)
map number: 7
soil type mapped: Gloucester
hydric soil inclusions: yes

Are field observations consistent with soil survey? yes (no)

Remarks: Soil is too wet for Gloucester type.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-3"	2.5Y 2.5/1 mucky v. fine sandy loam	—
Bg1	3-12"	2.5Y 5/1 v. fine sandy loam	C2P (2.5Y 4/3)
Bg2	12-15+	2.5Y 4/2 silt loam	C2P (2.5Y 4/4)

Remarks:

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

meets criterion VI.

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

- ☐ Site inundated: ____
- ☐ Depth to free water in observation hole: ____
- ☒ Depth to soil saturation in observation hole: 12"
- ☐ Water marks: ____
- ☐ Drift lines: ____
- ☐ Sediment deposits: ____
- ☐ Drainage patterns in BVW: ____
- ☐ Oxidized rhizospheres: ____
- ☒ Water-stained leaves: within 5' of pit
- ☐ 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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

M-3 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: M-3 Transect Number: 3 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees:				
Black Birch (Betula lenta) 22", 18"	4.407/7.564	58%	YES	FACU
Hemlock (Tsuga canadensis) 13, 11, 10, 10, 8, 5	3.157/7.564	42%	Yes	FACU*
Shrubs:				
Black Birch (Betula lenta)	5/5	100%	Yes	FACU
Herbs:				
Partridgeberry (Mitchella repens)	5/7	71%	YES	FACU
Blackberry (Rubus allegheniensis)	1/7	14%	NO	FACU
Black Birch (Betula lenta) seedlings	1/7	14%	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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 indicator plants:** 1

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.

MA DEP; 3/95

M-3 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks:

Redox features at 18"

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-2"	10YR 2/1 v. fine sandy loam	—
Bw_1	2-5"	10YR 3/4 v. fine sandy loam	none
Bw_2	5-20"	10YR 4/6 v. fine sandy loam	C2P (7.5YR 4/8) @ 18"

Remarks: refusal @ 20"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: >20"
- ☐ Depth to soil saturation 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

N-10 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: _____ Transect Number: 4 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Red Maple (Acer rubrum) 12" 6"	.981/.981	100%	Yes	FAC+*
Saplings: Hemlock (Tsuga canadensis)	10/10	100%	Yes	FACU*
Shrubs: Corktree (Phellodendron amurense)	5/10	50%	Yes	NL
Black Birch (Betula lenta)	5/10	50%	Yes	FACU
Herbs: Blunt Broomsedge (Carex tribuloides)	40/100	40%	Yes	FACW+*
Partridgeberry (Mitchella repens)	20/100	20%	Yes	FACU
Blackberry (Rubus allegheniensis)	10/100	10%	No	FACU
Red Raspberry (Rubus idaeus)	10/100	10%	No	FAC-
Jewel weed (Impatiens capensis)	5/100	5%	No	FACW*
goldenrod (Solidago altissima)	5/100	5%	No	FACU
Rough goldenrod (Solidago rugosa)	5/100	5%	No	FAC*
Blue-eyed Grass (Iris spp.)	5/100	5%	No	FACW-OBL*
Common Cinquefoil (Potentilla simplex)	<1	—	No	FACU-
Jack in the pulpit (Arisaema triphyllum)	<1	—	No	FACW
Common Speedwell (Veronica officinalis)	<1	—	No	FACU-
Wood Sorrell (Oxalis acetosa)	<1	—	No	NL

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

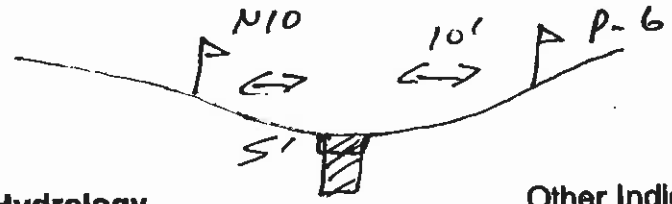
Vegetation conclusion:

Number of dominant wetland indicator plants: 3 **Number of dominant non-wetland indicator 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.

MA DEP: 3/95



N-10 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)
map number: 7
soil type mapped: Gloucester
hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Soil is not somewhat excessively drained

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	2.5Y 2/2 v. fine sandy loam	—
Bw_1	4-9"	10YR 4/6 v. fine sandy loam	none
Bw_2	9-17"	10YR 3/6 Silt Loam	none

Remarks: No redox to refusal @ 17"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

does not meet any hydric soil criteria.

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

- ☐ Site inundated: ____
- ☐ Depth to free water in observation hole: ____
- ☒ Depth to soil saturation in observation hole: 9"
- ☐ 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: faint discontinuous drainage channel

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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

N-10 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: N-10 Transect Number: 4 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hemlock (Tsuga canadensis) 6", 5"	.332/.332	100%	Yes	FACU*
Shrubs: Maple-leaf Viburnum (Viburnum acerfolium)	5/10	50%	yes	NL
Black Birch (Betula lenta)	5/10	50%	yes	FACU
Herbs: Blackberry (Rubus allegheniensis)	90/105	86%	yes	FACU
Blunt Broom Sedge (Carex tribuloides)	10/105	10%	No	FACW+*
Black Birch (Betula lenta)	5/105	5%	No	FACU
Pennsylvania Sedge (Carex pennsylvanica)	5/105	5%	No	NL
Canada Mayflower (Maianthemum canadense)	5/105	5%	No	FAC-
Christmas Fern (Polystichum acrostichoides)	<1	—	No	FACU-

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

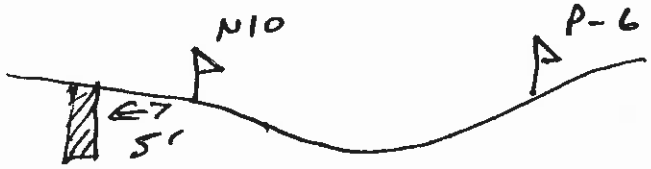
Vegetation conclusion:

Number of dominant wetland indicator plants: 0 **Number of dominant non-wetland indicator plants:** 4

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.

MA DEP; 3/95



N-10 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? (yes) no

Remarks: Consistent with somewhat excessively well drained

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-3"	10YR 3/3 fine sandy loam	—
Bw1	3-10"	10YR 4/6 v. fine sandy loam	none
Bw2	10-24+	10YR 4/4 v. fine sandy loam	none

Remarks: No Redox to 24"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: > 24"
- ☐ Depth to soil saturation in observation hole: > 24"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

P-38 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: P-38 Transect Number: 5 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Black Birch (Betula lenta) 18"	1.767/1.767	100%	Yes	FACU
Shrubs: Hemlock (Tsuga canadensis)	10/10	100%	yes	FACU*
Herbs: Dewberry (Rubus hispidus)	10/30	33%	yes	FACW*
* Woodfern (Dryopteris carthusiana)	10/30	33%	yes	FAC+ *
Virginia Creeper (Parthenocissus quinefolia)	5/30	17%	No	FACU
Sedge (Carex debilis)	3/30	10%	No	FAC *
Common Cinquefoil (Potentilla simplex)	2/30	7%	No	FACU-
Jack in the pulpit (Arisaema triphyllum)	<1	—	No	FACW
Black birch (Betula lenta)	<1	—	No	FACU
Hemlock (Tsuga canadensis)	<1	—	No	FACU*
Red Maple (Acer rubrum)	<1	—	No	FAC *
White pine (Pinus strobus)	<1	—	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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:

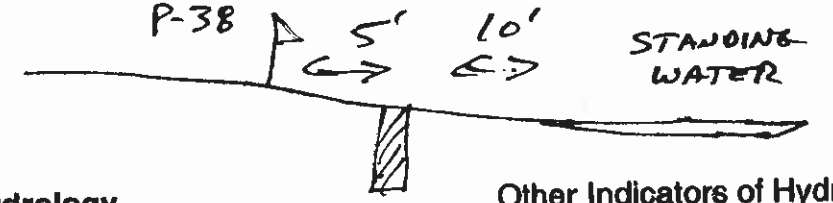
Number of dominant wetland indicator plants: 3 **Number of dominant non-wetland indicator plants:** 1

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.

MA DEP; 3/95

* Note: Dryopteris carthusiana not listed, formerly D. Spinulosa (FAC+).



P-38 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)
map number: 7
soil type mapped: Gloucester
hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Silt Loam in texture

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-6"	2.5Y 2.5/1 Silt Loam	—
Bw	6-20+	2.5Y 4/3 Silt Loam	c2p (10yr 4/4)

Remarks: No low chroma colors within 20"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

similar to, but does not quite meet, Criterion X1, Marginally Hydric

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

- [x] Site inundated: 10 feet from pit
- [ ] Depth to free water in observation hole: >20"
- [x] Depth to soil saturation 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) :
- [x] Other: windthrown tree in wetland

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	[x]	[ ]
Wetland hydrology present:		
hydric soil present *(Marginally)	[x]	[ ]
other indicators of hydrology present	[x]	[ ]
Sample location is in a BVW	[x]	[ ]

Submit this form with the Request for Determination of Applicability or Notice of Intent.

P-38 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: P-38 Transect Number: 5 Date of ~~Delineation~~ data collection: 7/17/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: White Pine (Pinus strobus) 32"	5.59/7.455	75%	yes	FACU
Hemlock (Tsuga canadensis) 11, 11, 8, 6"	1.865/7.455	25%	yes	FACU*
Shrubs: Black Birch (Betula lenta)	10/25	40%	yes	FACU
Hemlock (Tsuga canadensis)	15/25	60%	yes	FACU*
Vines: Virginia Creeper (Parthenocissus quinquefolia)	10/10	100%	yes	FACU
Herbs: Partridgeberry (Mitchella repens)	30/72	42%	yes	FACU
Virginia Creeper (P. quinquefolia)	30/72	42%	yes	FACU
Hemlock (Tsuga canadensis)	10/72	14%	No	FACU*
White Pine (Pinus strobus)	2/72	3%	No	FACU
Sedge (Carex debilis)	<1	—	No	FAC*
Black Birch (Betula lenta)	<1	—	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

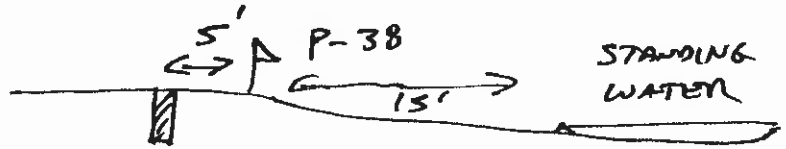
Vegetation conclusion:

Number of dominant wetland indicator plants: 2 **Number of dominant non-wetland indicator plants:** 5

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.

MA DEP; 3/95



P-38 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Bw_2 horizon is silt loam

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	10YR 3/3 fine sandy loam	—
Bw_1	4-12"	10YR 4/4 fine sandy loam	none
Bw_2	12-20+	10YR 4/3 silt loam	none

Remarks: No redox to 20+ inches.

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: ____
- ☐ Depth to free water in observation hole: ____
- ☐ Depth to soil saturation in observation hole: 12"
- ☐ 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: No evidence of wetland hydrology

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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

E-15 WETLAND SIDE

Appendix G

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: E-15 Transect Number: 6 Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hickory (Carya glabra) 13"	.922/1.707	54%	yes	FACU-
Hemlock (Tsuga canadensis) 12"	.785/1.707	46%	yes	FACU*
Shrubs: Black Birch (Betula lenta)	10/10	100%	yes	FACU
Herbs: Blackberry (Rubus allegheniensis)	20/36	56%	yes	FACU
Raspberry (Rubus idaeus)	5/36	14%	No	FAC-
Black Birch (Betula lenta)	5/36	14%	No	FACU
Bittersweet (Celastrus orbiculatus)	5/36	14%	No	NL
Black Oak (Quercus velutina)	1/36	3%	No	NL
White Ash (Fraxinus americana)	<1	—	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

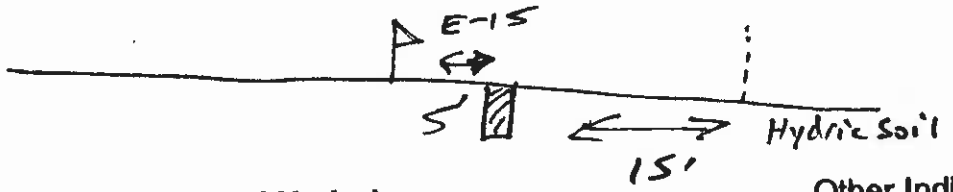
Vegetation conclusion:

Number of dominant wetland indicator plants: 1 **Number of dominant non-wetland indicator 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.

MA DEP; 3/95



E-15 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)
map number: 7
soil type mapped: Gloucester
hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Soil is not Somewhat Excessively Drained

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-7"	10YR 3/2 fine sandy loam	—
Bw1	7-14"	10YR 4/4 v. fine sandy loam	none
Bw2	14-20+	2.5Y 4/3 v. fine sandy loam	cap (10YR 4/4) cap (2.5Y 4/2)

Remarks:

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric. Hydric soil begins approximately 15' downgradient of pit.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: >20"
- ☐ Depth to soil saturation in observation hole: 14"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

* Flag E-15 is approximately 20 feet too High.

E-15 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: E-15 Transect Number: 6 Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: White Ash (Fraxinus americana) 13"	.922/1.62	57%	Yes	FACU
Black Oak (Quercus velutina) 8"	.349/1.62	22%	Yes	NL
Sugar Maple (Acer saccharum) 8"	.349/1.62	22%	Yes	FACU-
Shrubs: White Ash (Fraxinus americana)	20/40	50%	Yes	FACU
Pignut Hickory (Carya glabra)	15/40	38%	Yes	FACU-
Red Maple (Acer rubrum)	5/40	12%	No	FAC+
Herbs: Blackberry (Rubus allegheniensis)	60/68	88%	Yes	FACU
Red Maple (Acer rubrum)	5/68	7%	No	FAC+
Sedge (Carex debilis)	2/68	3%	No	FAC+
Black Oak (Quercus velutina)	<1	—	No	NL
Wood Sorrel (Oxalis acetosa)	<1	—	No	NL

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

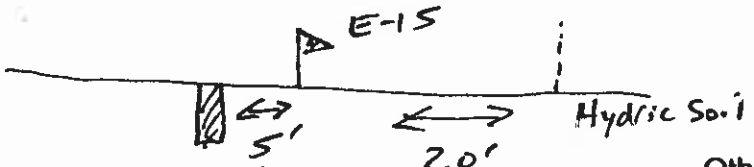
Vegetation conclusion:

Number of dominant wetland indicator plants: 0 **Number of dominant non-wetland indicator plants:** 6

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.

MA DEP; 3/95



E-15 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? (yes) no

Remarks:
Soil is well drained

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12"	10YR 3/2 fine sandy loam	—
Bw	12-22+	10YR 3/4 fine sandy loam	none

Remarks: No redox to 22"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: > 22"
- ☐ Depth to soil saturation in observation hole: > 22"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

B-50 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: B-50 Transect Number: 7 Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hemlock (Tsuga canadensis) 26, 6, 5	4.022/6.53	62%	yes	FACU*
Red Maple (Acer rubrum) 18, 6"	1.963/6.53	30%	yes	FAC*
Yellow Birch (Betula allegheniensis) 10"	.545/6.53	8%	No	FAC*
Shrubs: Hemlock (Tsuga canadensis)	10/20	50%	yes	FACU*
Spicebush (Lindera benzoin)	5/20	25%	yes	FACW-*
Yellow Birch (Betula alleghaniensis)	5/20	25%	yes	FAC*
Herbs: Jewelweed (Impatiens capensis)	30/57	53%	yes	FACW*
New York Fern (Thelypteris noveboracensis)	15/57	26%	yes	FAC*
Partridgeberry (Mitchella repens)	5/57	9%	No	FACU
Sedge (Carex lurida)	2/57	4%	No	OBL*
Wood Nettle (Laportea canadensis)	2/57	4%	No	FACW*
Jack in the Pulpit (Arisaema triphyllum)	2/57	4%	No	FACW*
Virginia Creeper (Parthenocissus quinquefolia)	1/57	2%	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

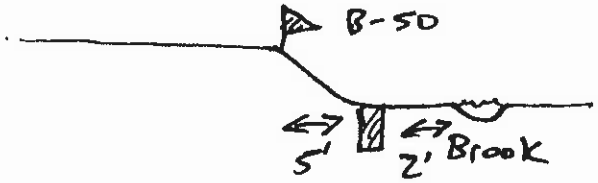
Vegetation conclusion:

Number of dominant wetland indicator plants: 7 **Number of dominant non-wetland indicator plants:** 0

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.

MA DEP; 3/95



B-50 WETLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Too wet for Gloucester type

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Oi	0-4"	2.5Y 2.5/1 Sapric organic	—

refusal @ 4"

Remarks:

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

Soil is hydric if organic material is >4" (Criterion V, mineral Histic)

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

- ☐ Site inundated: _____
- ☒ Depth to free water in observation hole: 1"
- ☒ Depth to soil saturation in observation hole: Surface
- ☐ 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: Flowing stream 2 feet from pit

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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

B-50 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: B-50 Transect Number: Z Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hemlock (Tsuga canadensis) 17", 14", 12", 10"	3.975/12.503	32%	yes	FACU *
Red Maple (Acer rubrum) 20, 12, 10"	3.511/12.503	28%	yes	FAC *
Black Birch (Betula lenta) 20, 14"	3.25/12.503	26%	yes	FACU
White Pine (Pinus strobus) 18"	1.767/12.503	14%	no	FACU
Saplings: Hemlock (Tsuga canadensis)	15/15	100%	yes	FACU *
Shrubs: Hemlock (Tsuga canadensis)	5/5	100%	yes	FACU *
Herbs: Partridgeberry (Mitchella repens)	5/10	50%	yes	FACU
Cinnamon Fern (Osmunda cinnamomea)	3/10	30%	yes	FACW *
Red Maple (Acer rubrum)	2/10	20%	yes	FAC *

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

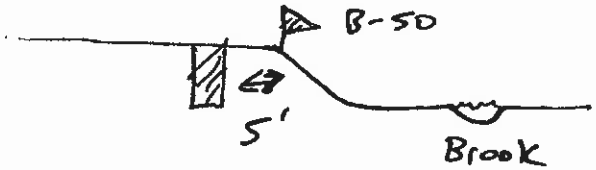
Vegetation conclusion:

Number of dominant wetland indicator plants: 6 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



B-50 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)
map number: 7
soil type mapped: Gloucester
hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Not a somewhat excessively drained soil.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4"	10YR 2/2 fine sandy loam	—
Bw1	4-7"	10YR 4/4 fine sandy loam	none
Bw2	7-15	10YR 3/4 fine sandy loam	none
Bw3	15-18"	2.5Y 4/3 Silt Loam	c2p (2.5Y 5/2) c2p (10YR 4/6)

Remarks: refusal @ 18"

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? yes (no)

Soil is not hydric; redox too deep below A.

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: > 18"
- ☐ Depth to soil saturation in observation hole: 12"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.

* Indicator plants primarily Hemlock, FACU rated but listed in The Act.

S-29 WETLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retreat, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: S-29 Transect Number: 8 Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Saplings: Black Birch (Betula lenta)	30/40	75%	yes	FACU
Sugar Maple (Acer saccharum)	5/40	13%	no	FACU-
Green Ash (Fraxinus pennsylvanica)	5/40	13%	no	FACW- *
Shrubs: Spicebush (Lindera benzoin)	20/41	49%	yes	FACW*
Quaking Aspen (Populus tremula)	10/41	24%	yes	FACU
Multiflora Rose (Rosa multiflora)	5/41	12%	no	FACU
Hemlock (Tsuga canadensis)	5/41	12%	no	FACU*
Buckthorn (Rhamnus frangula)	1/41	2%	no	FAC*
Vines: Bittersweet (Celastrus orbiculata)	2.5/5	50%	yes	NL
Grape (Vitis spp)	2.5/5	50%	yes	FAC* (assumed)
Herbs: Hayscented Fern (Dennstaedtia punctilobula)	15/63	24%	yes	NL
Blunt Broomsedge (Carex tribuloides)	10/63	16%	yes	FACW*
Partridgeberry (Mitchella repens)	10/63	16%	yes	FACU
New York Fern (Thelypteris noveboracensis)	5/63	8%	no	FAC*
Panic Grass (Dichanthelium acuminatum)	5/63	8%	no	FAC*
Goldenrod (Solidago spp.)	5/63	8%	no	—
Sedge (Carex pensylvanica)	5/63	8%	no	NL
Dewberry (Rubus hispidus)	1/63	2%	no	FACW*
Swamp Candles (Lysimachia terrestris)	1/63	2%	no	OBL*
Blackberry (Rubus allegheniensis)	1/63	2%	no	FACU
Grass-leaved Goldenrod (Euthamia spp.)	2/63	4%	no	FAC*
Jack in the Pulpit (Arisaema triphyllum)	<1/63	—	no	FACW*
Green Ash (Fraxinus pennsylvanica)	1/63	2	no	FACW
[illegible]			no	FAC

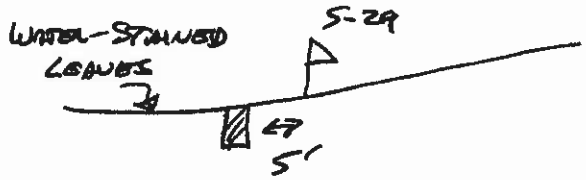
* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as 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 indicator plants:** 5

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.



S-29 wetland side

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? yes (no)

Remarks: Soil is too wet for Gloucester

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-5"	2.5Y 3/2 fine sandy loam	—
Bw	5-14"	2.5Y 4/3 fine sandy loam	c2p (10YR 4/6)

refusal @ 14"

Remarks:

3. Other: According to "Field Indicators for Identifying Hydric Soils in New England, Version 3" (2004)

Conclusion: Is soil hydric? (yes) no

Soil is hydric if assume low chroma matrix within 20".

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

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: > 14"
- ☒ Depth to soil saturation in observation hole: 5"
- ☐ 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	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

Does not meet vegetative criterion, but clearly wetland.

S-29 UPLAND SIDE

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

Applicant: Landmark Prepared by: Ward Smith, PWS Project location: Retirement, Amherst DEP File #: 641-738

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate 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: S-29 Transect Number: 8 Date of ~~Delineation~~ data collection: 7/20/14

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees: Hemlock (Tsuga canadensis) 25", 13", 9", 7"	5.041/5.041	100%	Yes	FACU*
Shrubs: Black Birch (Betula lenta)	15/15	100%	Yes	FACU
Herbs: Hayscented Fern (Dennstaedtia punctilobula)	85/	85%	Yes	NL
Partridgeberry (Mitchella repens)	10/100	10%	No	FACU
Blackberry (Rubus allegheniensis)	5/100	5%	No	FACU

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, 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.

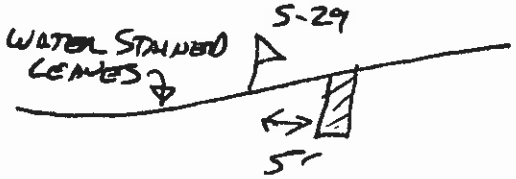
Vegetation conclusion:

Number of dominant wetland indicator plants: 1 **Number of dominant non-wetland indicator plants:** 2

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.

MA DEP; 3/95



S-29 UPLAND SIDE

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Soil Survey of Hampshire County, Central Part (1981)

map number: 7

soil type mapped: Gloucester

hydric soil inclusions: Yes

Are field observations consistent with soil survey? (yes) no

Remarks: Consistent with somewhat excessively well drained soil.

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-3"	10YR 3/3 fine sandy loam	—
Bw1	3-5	10YR 3/4 fine sandy loam	none
Bw2	5-16"	10YR 4/4 fine sandy loam	none

Remarks: Refusal @ 16"

3. Other: No redox to 16"

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: >16"
- ☐ Depth to soil saturation in observation hole: >16"
- ☐ 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	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent.