

**Massachusetts Department of Conservation and Recreation**  
**Division of Water Supply Protection, Office of Watershed Management**  
***Forest Management Project Summary***

**Project Title**

<b>DWSP Harvest Permit Number: 2045</b>
<b>DCR Forest Cutting Plan File Number: 230-7006-14</b>

**Site Information**

<b>Watershed:</b> Quabbin	<b>Town(s):</b> Pelham
<b>Acres:</b> 55	<b>Nearest Road:</b> route 202, Gate 12
<b>Natural Heritage Atlas overlap?:</b> No	<b>Public Drinking Water Supply Watershed?:</b> Yes
<b>Forest Types:</b> White pine-oak, Red oak, Mixed oak	<b>ACEC?:</b> No
<b>Soils:</b> primarily Canton fine sandy loams, shallow to bed rock upper slopes, deepening down slope, seasonal wetter non growing	
<b>Wetland Resources:</b> Lot borders Purgee Brook and tributary to Briggs brook. Two vernal pools in wetland on the lot	
<b>Vernal Pools:</b> Two vernal pools in wooded wetland	

**Harvest Information**

<b>Harvest Start Date:</b> Has not started	<b>Harvest End Date:</b> n/a
<b>Number of Wetland Crossings:</b> One seasonal	<b>Number of Stream Crossings:</b> one intermittent bridged

**Best Management Practices Applied**

<b>Stream Crossings</b>	One intermittent bridged.
<b>Filter Strips</b>	Two, both Variable width
<b>Wetland Crossings</b>	One, approximately 100 feet at stream crossing
<b>Harvesting in Wetlands</b>	Harvesting at stream crossing only

<b>DWSP Foresters supervising this harvest</b>	
<b>Name:</b> Herm Eck and Steven Ward	
<b>Forester License #:</b> Eck - #63	
<b>Phone #:</b> 413-323-6912 ext.553	

## **NARRATIVES**

### **General Description/Forest Composition/History:**

This lot has three sections. The southern end of the lot is predominately Northern Red Oak and Mixed hardwood forest on enriched soils with little or no regeneration.

The middle section of this lot is predominately White pine and Oaks forest with some Hemlocks intermixed. This section received a harvest treatment in the 1960's that resulted in a mid canopy of regenerated Black birch and white pine.

The northern section is predominately Northern red oak forest. A thinning of this section in the 1980's resulted in the establishment of Black birch and the shrub witch hazel. This lot has a lack of diversity in understory and shrub layers

Soils are Canton Fine Sandy Loams. Depths range from thin on ledge areas to deep above till and receding slopes. Extremely stony described with good hydraulic conductivity, surface run off would be negligible

### **Site Selection:**

The primary goal of the watershed forest management program is to create and maintain a forest that provides high quality drinking water to current users and future generations. In order to achieve this, DWSP has determined that the forest should contain a diversity of species in various stages of development (seedlings through large legacy trees). In addition, the forest should be vigorous; actively growing and regenerating. Forest in this condition are suited to be resilient to small and large scale disturbances such as disease, insect infestation, ice storms and hurricanes.

The forest within the proposed operation consists of various species, size and age classes but can be made more diverse and hopefully more resilient with the planned forest harvest. The goals of this harvest are to releasing from competition some large and mid size trees and promote seeding and establishment of eventual replacement trees of species adapted to the site. The Division uses careful forest management techniques to create areas of young trees that serve to enhance the forest age structure.

### **Silvicultural Objectives:**

Establish and release diverse regeneration in small gaps. Enhance seed production and seedling establishment by removing less vigorous, poorly formed and competing stems. Make openings large enough for seedling establishment and development. Intermediate treatments to release sub canopy and start a more diverse mix of regeneration. Retain some healthy trees of all species to provide seed sources. Enhance structural diversity of this area. Retain large overstory stems to dominating the landscape. Regenerate to northern hardwoods.

### **Cultural Resources:**

Lot contains a cellar hole, a barn foundation and a well. Stone walls in the middle of the lot are well made with large stones at base field picked stones placed above. Walls along the road are large rubble pile type. Scattered stone piles and exposed ledge across hill top. The road forming eastern boundary is of 1960 harvest origin. No machinery will operate through house or barn site. Landing site at Quabbin Road intersection 12-3 has been used numerous times in last 25 years

### **Wildlife/Rare or Endangered Species:**

Vernal Pools in the middle of the lot are certified and have been given 100 foot no cut buffers. Wet meadow on west edge of the lot is also used by breeding amphibians. This lot has sections of softwoods that provide thermal cover for some species. Moose, deer, porcupine, and fisher sign has been noted on this lot. Many large dead trees "snags" standing and fallen, offer other habitats, as do the exposed ledges and walls.

## **FIGURES**

**Figure 1. Forest Cutting Plan**

**Figure 2. Pre-Harvest Photographs, A-B**

DH

# Forest Cutting Plan

and Notice of Intent under M.G.L.  
Chapter 132 – The Forest Cutting  
Practices Act, 304 CMR 11.00  
(Effective Date: 1/1/04)

### For DCR Use Only:

File Number	<u>230.7006.14</u>	Case No.	_____
Date Rec'd	<u>5.19.14</u>	Nat. Hert.	<u>Y</u>
Earliest Start	<u>6.3.14</u>	Nat. Hert. Imp.	<u>N</u>
River Basin	<u>HILLOPEE</u>	Pub. Dr. Wat.	<u>QUABBIN</u>
Gen. Obj.	<u>LT</u>	ACEC	<u>N</u>

Site Information

### Location

Town Pelham  
Road DCR/DWSP Gate 12 Private  
Acres 55 Proposed Start Date 2014  
Vol. MBF 115.7 Vol. Cds. 242 Vol. Tons 26

### Plan Preparer

Name Steven Ward  
Address DCR/DWSP Quabbin  
485 Ware road  
Town, State, Zip Belchertown, MA.01007  
Phone 413-323-7764-553

Type of Preparer Other  
\*Mass. Forester License # \_\_\_\_\_

\*Required for land under Ch61, Ch61A or Forest Stewardship

### Landowner

Name DCR/Division Water Supply, Quabbin  
Mailing Address 485 Ware Road  
Town, State, Zip Belchertown, MA. 01007  
Phone 413-323-6921  
Ch61  Ch61A  Stew  \*Case # \_\_\_\_\_  
Est. Stumpage Value \_\_\_\_\_

### Licensed Timber Harvester\*\*

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Town, State, Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Mass. Lic. Harvester # \_\_\_\_\_

\*\*This information may be supplied after the plan is approved, but before work begins.

Best Management Practices

### Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	BR			
Existing Structure	NO			
Type of Bottom	OT			
Bank Height (ft)	6			
Stabilization	CO			

### Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	100			
Mitigation	DR			
Stabilization	COOT			

### Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	VA	VA		

### Harvesting in Wetlands

Indicate location on map	HW-1	HW-2	HW-3	HW-4
Forest Type (see pg 2)	WH			
Acres to be Harvested	1/4			
Resid. Basal Area (>50%)	yes			

### Service Forester Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Lodge
TH Lic. Tim. Har	BR Bridge	MU Mulch	DR Dry	ST Stony
TB Timber Buyer	FO Ford	CO Corduroy	OT Other	MU Mud
LO Landowner	PO Poled	ST Stone		GR Gravel
OT Other	OT Other	HB Hay Bales		OT Other
		OT Other		

Note:  
Applicant must provide DCR with all relevant information before plan may be approved and cutting may begin.  
Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits. Consult MA Forestry BMP Manual for further information.

If Other (OT) is used in any category an explanation must be given on an attached narrative page

Forest Products

Products to be Harvested\*

Table with 4 columns: Species, Mb/Cds, Species, Mb/Cds. Rows include White Pine, Red Pine, Pitch Pine, Hemlock, Spruce, Other Sftwd., White Ash, Beech, White Birch, B & Y Birch, Black Cherry.

\*Note: Volumes and values indicated in the Plan are as reported by the plan preparer and have not been independently verified by the service forester upon approval. MbF = thousand board feet.

Stand Treatment

Cutting Standards

Table with 5 columns: Indicate location on map, ST-1, ST-2, ST-3, ST-4. Rows include Forest Type, Acres, Landowner Objective, Designation of Trees, Type of Cut, Source of Regeneration.

Landowner

Landowner Signature

The most important information on a cutting plan is the Landowner's objective, as this will determine which trees will be harvested and which will remain; this decision will also determine the future condition of the forest for decades to come.

[X] LT - Long-term Forest Management

Planned management of the forest to achieve one or more of the following objectives: produce immediate and maximize long-term income, enhance wildlife habitat, improve recreational opportunities, protect soil and water quality, or produce forest specialty products.

[ ] ST - Short-term Harvest

Harvest of trees with the main intention of producing short-term income with minimal consideration given to improving the future forest condition, which often results in a forest dominated by poor quality and low value species.

I (we) have read the Massachusetts Cutting Plan Information Sheet, and am aware of my (our) management options. I (we) hereby certify that I (we) have the legal authority to carry out the operation described above. I (we) certify that I (we) have notified the Conservation Commission in the town in which the operation is to take place and the abutters of record within two hundred feet of the area to be harvested. I (we) understand that the volumes and values (Ch61 only) in this plan have not been independently verified by the service forester upon approval and will report final values and volumes to the Director or his/her agent if the final figures differ from those reported.

Signature of landowner(s) [Handwritten Signature]

Date 5-19-14

Service Forester

Determination and Status

Form with checkboxes for Approved, Disapproved, Expires, Extension, Amendment. Includes handwritten signature and date.

Final Report and Comments

I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.

Signature of Service Forester/Director's Agent Date

Codes

Table with 4 columns: Forest Types, Designation of Trees, Type of Cut, Source of Regeneration. Lists various codes and their corresponding tree types or treatments.

# Forest Cutting Plan

Narrative Page (Effective Date: 1/1/04)

Use this page to provide further explanation or if Other (OT) was used in any category on pages 3 or 4.

Landowner DCR/DWSP

Town Pelham

File Number 230.7006.14

BMPs

Use this Section to provide further explanation or if Other (OT) was used in any category in the Best Management Practices Section on Page 3.

SC-1, WC-1 and HW-1 are on small intermittent stream flowing north to Briggs brook, this is being treated as a regulated stream FS-2

due to estimated volumè 1/4 acre foot rule in wetland feeding it from the vernal pool area.

Shallow to bedrock soils can be saturated none growing season

FS-1 along tributary to Purgee brook, old beaver damming made this a wet meadow, functions as a vernal pool

Gate 12 road ditches and culverts maintained as nessacary by DWSP crews

Designation of Trees

Use this Section to describe the types of trees to be harvested and/or retained if Other (OT) was used for "Designation of Trees" in the Stand Treatment Section on page 4.

Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed

Regeneration & Future Condition

Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

Stand No.	Source of Regeneration (ex. AD, SE)	How will Regeneration be obtained/protected? If using AD - Describe the species present and how the regeneration will be protected If using SE - Describe the source of the seed and the number of seed trees/acre


Stand No. **Desired Future Condition**  
Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

ST-1	A lot will depend on Moose population and seeding establishment the area may have to be planted to establish a mix of hardwoods desired a more diverse mix other than just Black Birch, Oaks retained for seeding, as are all seed sources
ST-2	Still stand dominated by large white pine should have a more irregular three age structure with retained 40 to 60 year old hardwoods, moose will also effect regeneration, white pine should reestablish
ST-3	Hemlock will continue to decline and not likely to regenerate, White pine and mix of hardwoods should become eestablished

DCR Division of Water Supply Protection - Quabbin Section  
Volume Summary Sheet

Lot #: 2045

Acres: 55.0

**Summary of Sawtimber**

Species Name	Total BF Volume	Cords Pulp in Tops	Cords Fuel in Tops	Total # trees	Avg dbh	BF/tree	BF/acre	BA/acre
Black Birch	11,600	0	18	126	14.4	92	211	3
Mixed Oak	900	0	2	11	14.4	85	17	0
Red Maple	1,300	0	1	18	13.1	71	23	0
Red Oak	59,600	0	90	362	17.3	165	1,083	11
White Pine	42,400	25	0	148	17.1	286	770	5
<b>Totals:</b>	115,700	25	111	665	16.6	174	2,104	19

(52 tons)

**Summary of Cordwood (not including Hardwood sawlog topwood)**

Species Name	Total Cords	Total # Trees	Avg DBH	Trees/Cord	Cords/Acre	BA/acre
Mixed Hardwood	131	930	9.0	7.1	2.4	7.9
<b>Totals:</b>	131	930	9.0	7.1	2.4	7.9

**Summary of Pulpwood (not including Softwood sawlog topwood)**

Species Name	Total cords	(tons)	Total # Trees	avgdbh	Cords/acre	BA/acre
White Pine	14	26	161	8.3	0	1.1
<b>Totals:</b>	14	26	161	8.3	0	1.1

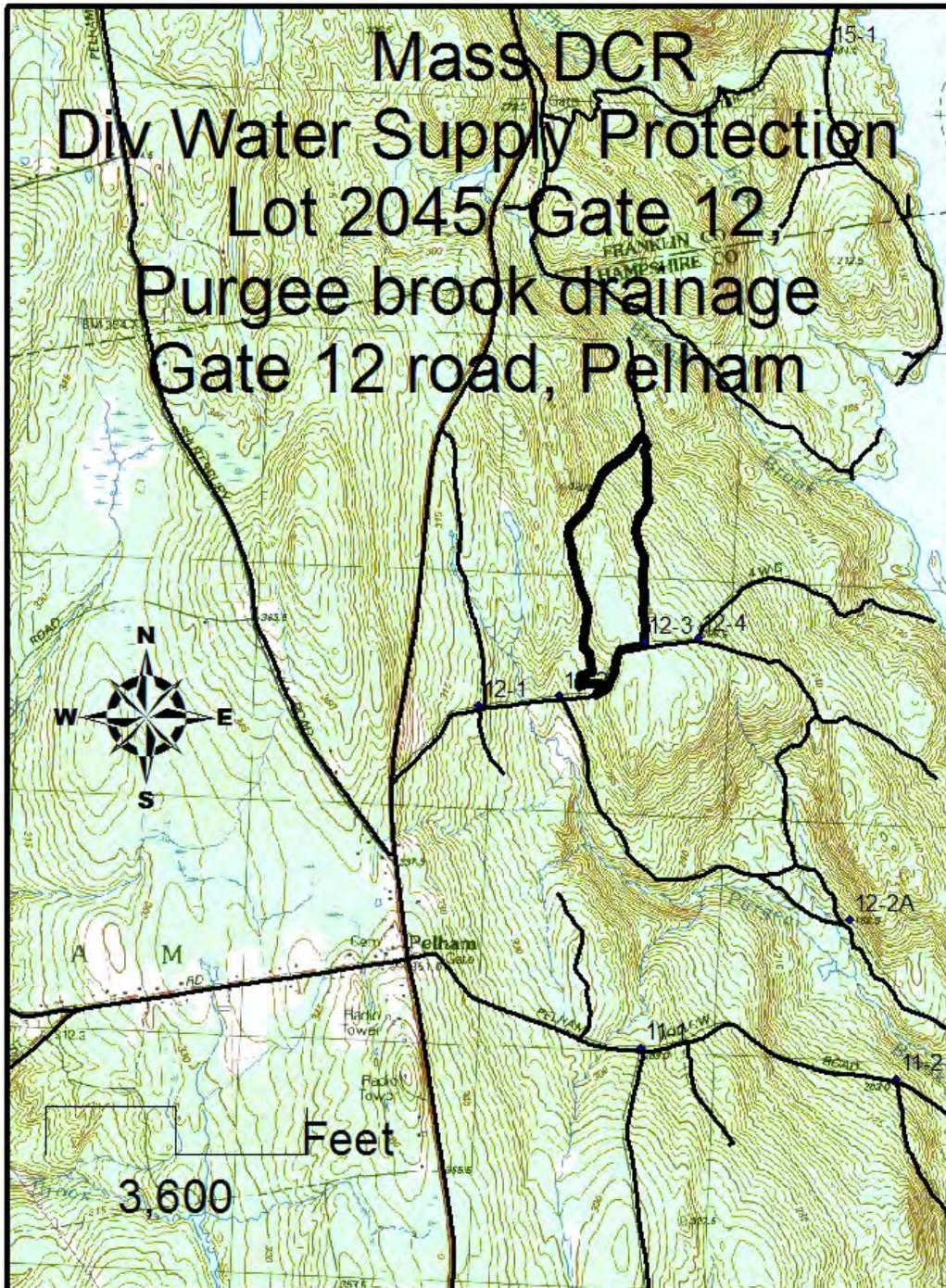
**Summary of Silviculture**

Total trees removed, all products, all species	1756
Trees/acre removed, all products, all species	32
Total BA removed, all products, all species (sq. ft.)	1545
Total BA/acre removed, all products, all species (sq. ft./acre)	28
Average DBH for the lot (inches)	11.8

## Notes to Service Forester DCR/DWSP lot 2045

Object of harvesting is watershed protection forest, uneven aged mixed species forest, to function as biofilter. Harvest is irregular groups and patches to enhance structure, as well as establish and release some younger age classes. Past deer impacts have effected species composition in these younger stems to (white pine, black birch mainly). Hemlock is declining due to insect problems and is not being removed for diversity reasons. The vernal pools in the wooded wetland in the middle of the lot are certified, though one is out of place on mass heritage data base( location data for Certified Vernal pool (OBJECTID 4862, CVP\_NUM 3322, and certified 6-30-2003) is incorrect. I believe this was certified from paper maps without GPS coordinates; it is located in the same wooded wetland with pool (OBJECTID 4861, CVP\_NUM 3321, and certified 6-30-2003) and is part of the same wetland complex. These coordinates will be forwarded thru our GIS Coordinator to Heritage. The tributary to Purgee brook with old beaver impoundment on the west side of the lot also functions as a vernal pool, obligate species observed spring 2013. The stream leaving the wooded wetland with the vernal pools is intermittent but the wetland itself is estimated to meet the 1\4 acre foot volume so it has been given a filter strip and will be treated as a protected stream. SC-1, WC-1 and HW-1 are located on this stream. WC-1 is a shallow soils over bedrock saturated in non growing conditions, less than ¼ acre area of harvest along forwarder road. There will be work in and along this filter stripe beyond the 50 foot zone, but no main forwarder road will be here except at SC-1, bridged. The pool complex has been given a 100 foot buffer all the way around (no marked trees here) Red Marked trees are to be retained and protected, Legacy, snags, wildlife and retained stocking in and around openings. Some work in the other Filter strip beyond 50 zone, all filter strips Variable width due to watershed restrictions. Lot is specified for forwarder transport.

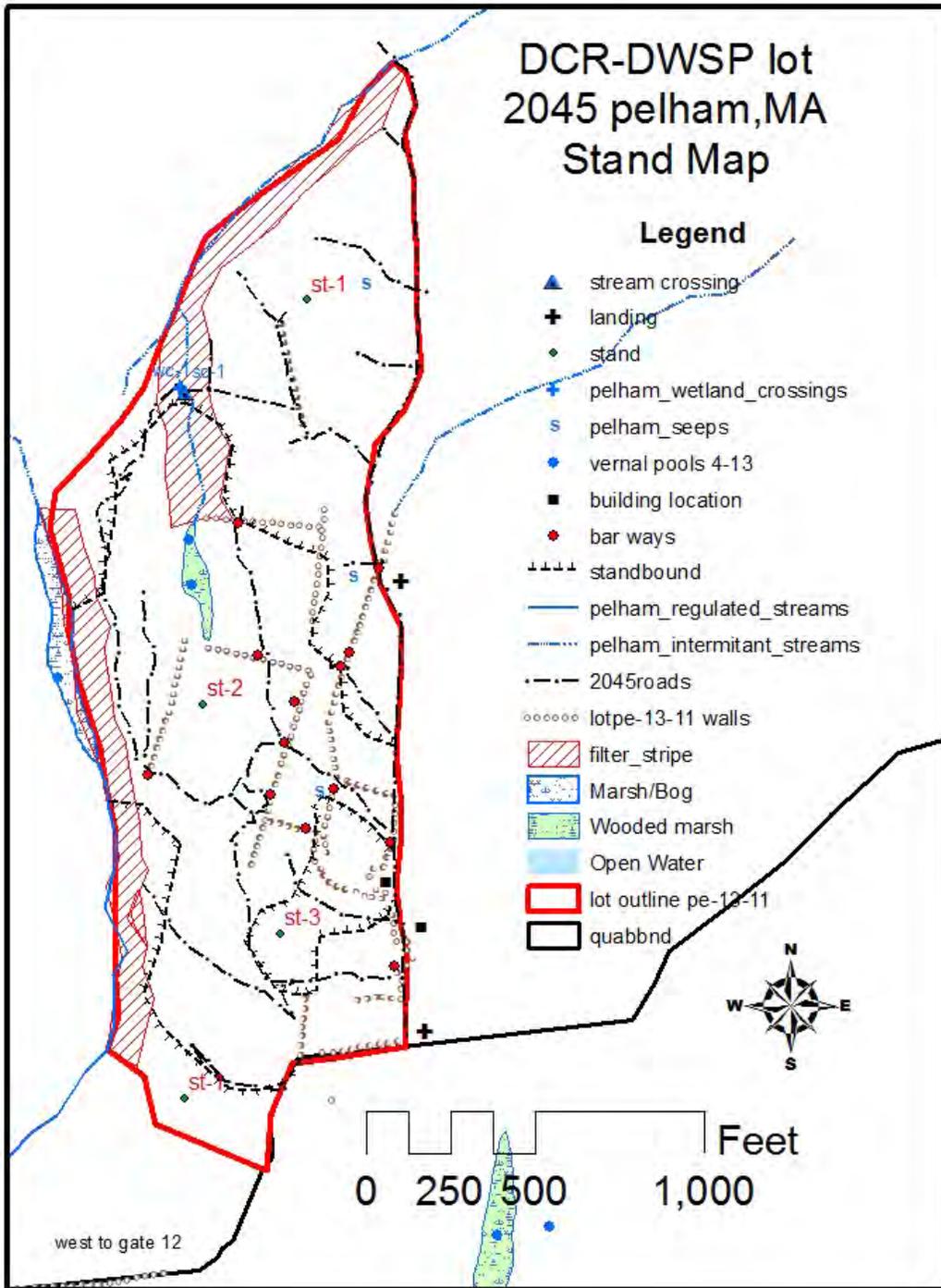
Mass DCR  
Div Water Supply Protection  
Lot 2045 - Gate 12,  
Purgee brook drainage  
Gate 12 road, Pelham



# DCR-DWSP lot 2045 pelham, MA Stand Map

## Legend

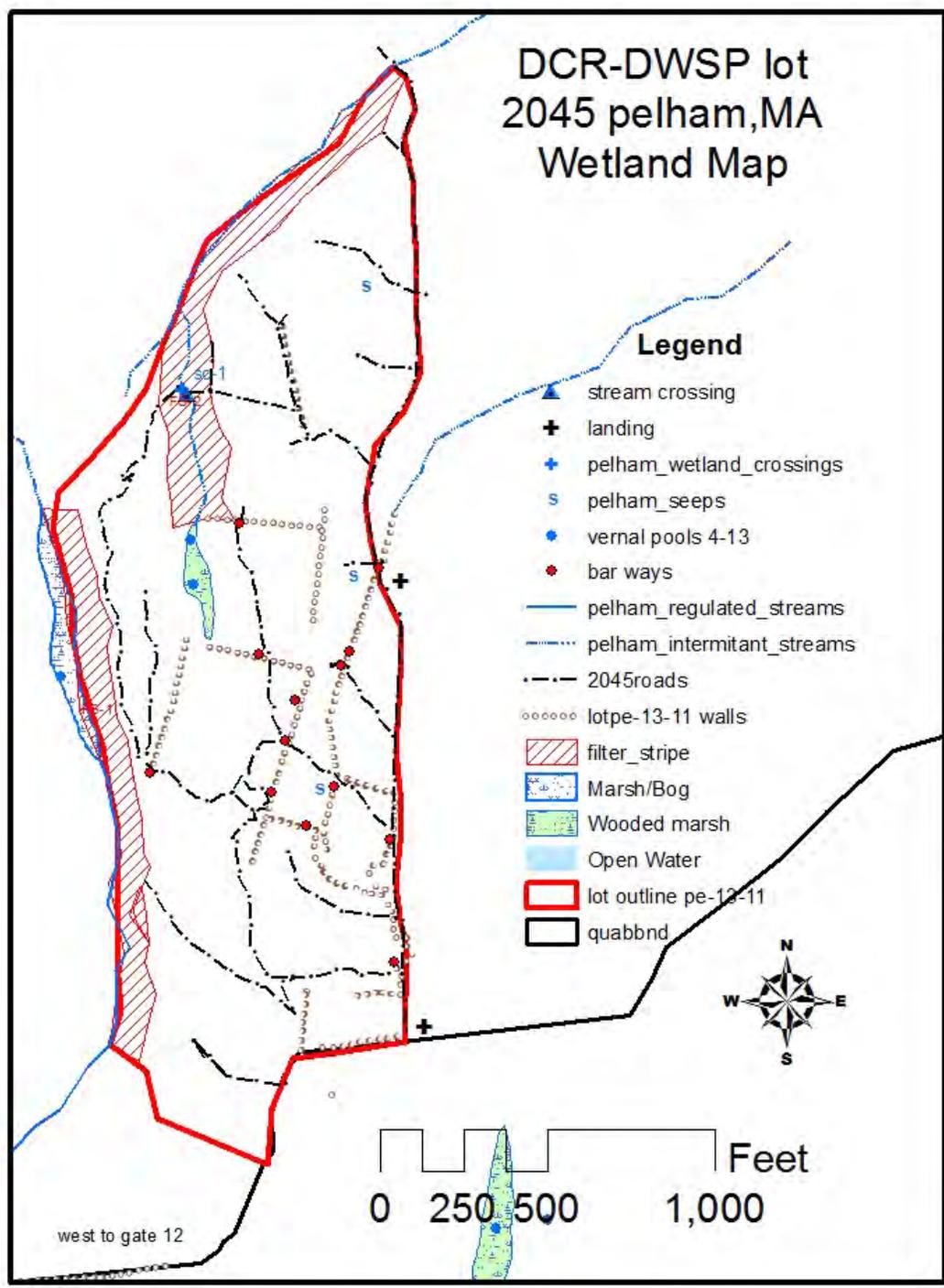
- stream crossing
- landing
- stand
- pelham\_wetland\_crossings
- pelham\_seeps
- vernal pools 4-13
- building location
- bar ways
- standbound
- pelham\_regulated\_streams
- pelham\_intermittant\_streams
- 2045roads
- lotpe-13-11 walls
- filter\_stripe
- Marsh/Bog
- Wooded marsh
- Open Water
- lot outline pe-13-11
- quabbnd



# DCR-DWSP lot 2045 pelham, MA Wetland Map

## Legend

-  stream crossing
-  landing
-  pelham\_wetland\_crossings
-  pelham\_seeps
-  vernal pools 4-13
-  bar ways
-  pelham\_regulated\_streams
-  pelham\_intermittant\_streams
-  2045roads
-  lotpe-13-11 walls
-  filter\_stripe
-  Marsh/Bog
-  Wooded marsh
-  Open Water
-  lot outline pe-13-11
-  quabbnd



**Figure 2: Pre-Harvest Photographs (May 2014)**



A. Mixed oak forest with little regeneration due to canopy closure, marked to thin and regenerate



B. Large emergent white pine retained from harvest, over mixed Oak and other hardwoods.