

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

Project Title: Lot 5270

DWSP Harvest Permit Number: 5270

DWSP Proposal ID: WA-17-179

DCR Forest Cutting Plan File Number: 039-8994-18

Site Information

Watershed: Wachusett

Town(s): Boylston

Acres: 55.5

Nearest Road: Diamond Hill Road

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Forest Types: White pine/oak, Northern red oak

Area of Critical Environmental Concern (ACEC)?: No

Soils: Chatfield-Hollis-Rock outcrop complex and Merrimac and Hinckley sandy loams.

Wetland Resources: Malagasco Brook is along the southern end of this sale area and flows directly into the Wachusett Reservoir. A wetland forms the northern boundary of the area

Vernal Pools: There is a vernal pool just south of the Gate 16 road.

Harvest Information

Harvest Start Date: 9/20/2017

Harvest End Date: 12/6/2019

Number of Wetland Crossings: None

Number of Stream Crossings: None

Best Management Practices Applied

Stream Crossings: There are no stream crossings.

Filter Strips: Some oak trees will be cut in the filter strip along the reservoir in an effort to maintain the arborvitae and white pine hedge which screens hardwood leaves from going into the reservoir.

Wetland Crossings: There are no wetland crossings.

Harvesting in Wetlands: No harvesting in wetlands will occur.

DWSP Forester supervising this harvest

Name: Greg Buzzell

Forester License number: 025

Phone number: 774-261-1841

Email: greg.buzzell@mass.gov

Narrative

General Description/Forest Composition/History

This property was acquired in the original takings in 1900 from John Flagg. At the time the land was mostly woodland with some sprout land and pasture which was planted with white pine shortly thereafter. In 1938 a major hurricane damaged this working unit and as a result was partially cleared and replanted with white pine in some areas. A handful of Asian longhorned beetle infested trees found a few years ago were removed. Currently this forest is comprised primarily of red oak and white pine along with sugar maple, red maple, eastern hophornbeam, black birch, red pine, American beech, white oak, white ash and hickory. The understory within this mature forest is variable depending on location. The red and white pine stands in the southern end have very good white pine and oak regeneration. In the middle of the unit the red oak stand has a marginal mix of eastern hophornbeam, sugar maple, and red maple. The white pine and oak stands have good oak regeneration.

Site Selection

The ideal watershed protection forest is one which best serves the function of the land as a producer of high quality drinking water in both short- and long-term. This forest must be vigorous and diverse in tree species and ages, be actively accumulating biomass and actively regenerating. Such a forest will be ideally suited to be resilient to and quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This area was chosen due to the lack of age diversity both in these 55 acres as well as the 1,337 acres of DCR-owned land that drains into the Wachusett Reservoir.

Silvicultural Objectives

With good advance regeneration throughout much of this sale area, this operation will remove portions of the overstory in order to release these young trees. This will result in the establishment of a new age class in this currently even-aged forest. Fifteen openings in the forest are being created covering 12.1 acres. These openings range in size from 0.2 to 2 acres with an average of 0.8 acres. These are well distributed throughout the area taking advantage of where the regeneration is most numerous and diverse. Another 6.5 acres is being lightly thinned, removing the trees of poorest quality and vigor.

Cultural Resources

There are no known or documented significant historic or archeological resources in this area. This area has been determined to be "Not Sensitive" for the possible presence of archaeological features by the DCR Archeologist.

There is a group of old foundations on the south side of the Gate 16 road (formerly Diamond Hill Road). Logging equipment will not be allowed in this area.

Rare or Endangered Species

This treatment area falls within a NHESP Priority Habitat of Rare Species due to the presence of nesting loons and eagles at Wachusett Reservoir. Review of the planned operation by the NHESP program has determined that no negative impact to these species will occur.

Figures

- Figure 1. Forest Cutting Plan
- Figure 2. Maps of harvest area showing approximate boundary, proposed openings and other features
- Figure 3. General locus map showing the location of the proposed timber harvest
- Figure 4. Pre-Harvest Photographs, A-B
- Figure 5. Post-Harvest Photographs, A-B

Figure 1. Forest Cutting Plan

Forest Cutting Plan

and Notice of Intent under M.G.L. Chapter 132 – The Forest Cutting Practices Act, 304 CMR 11.00 **AUG 29 2017**
(Effective Date: 1/1/04)

For DCR Use Only:

File Number 059-2954-6 Case No. _____
 Date Rec'd 8/15/17 Nat. Hert. yes / 9-17-17
 Earliest Start 9/15/17 Nat. Hert. Imp. no impact
 River Basin Nashua Pub. Dr. Wat. yes
 Gen. Obj. CT ACEC _____

ALB AREA

Site Information

Location

Town Boylston Lot 5270
 Road Diamond Hill Road
 Acres 59.5 Proposed Start Date 9/17
 Vol. MBF 134.7 Vol. Cds. 166 Vol. Tons 101

Plan Preparer

Name Gregory S. Buzzell
 Address 180 Beaman Rd.
 Town, State, Zip West Boylston, MA, 01583
 Phone 508-792-7806 Ext 317
 Type of Preparer Mass. Licensed Forester
 *Mass. Forester License # 25
 *Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR/DWSP/OWM Wachusett/Sudbury
 Mailing Address 180 Beaman St.
 Town, State, Zip West Boylston, MA 01583
 Phone 608-792-7806
 Ch61 Ch61A Stew *Case # _____
 Est. Stumpage Value _____

Licensed Timber Harvester**

Name To be supplied when known.
 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				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

Wetland Crossings

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

Filter Strips

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

Harvesting in Wetlands

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

Service Forester Comments

Timber Harvester /s/ will need ALB compliance training.

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation -	Type of Bottom	Note:
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge	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.
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			

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

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	86.9	Red Maple	
Red Pine	2.7	Sugar Maple	
Pitch Pine		Red Oak	21.9
Hemlock		Black Oak	17.3
Spruce		White Oak	6.0
Other Sftwd.		Other Hdwd.	
White Ash		Total Mbf	134.7
Beech		Cordwood (Cds)	166
White Birch		SW Pulp (Tons)	101
B & Y Birch		HW Pulp (Tons)	
Black Cherry		Chips (Tons)	

*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

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WO	OR		
Acres	53.5	6.0		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SH	SH		
Source of Regeneration	AD	AD		

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.** After having read the Massachusetts Forest Cutting Plan Information Sheet on page one, indicate your objective by checking the appropriate box below.

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.

Michael _____ Date 8/29/17

Service Forester

Determination and Status

Approved Disapproved Expires 8-29-19

Cutting Plan *Jane Dwyer* _____ Date 9-26-17

Signature of Service Forester/Director's Agent _____

Extension 1 2 Expires _____ Ser. For. Ints. _____

Amendment App 1 Dis 1 App 2 Dis 2 _____

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

<u>Forest Types</u>	<u>Designation of Trees</u>	<u>Type of Cut</u>	<u>Intermediate Harvests:</u>	<u>Source of Regeneration</u>
WP White Pine	CT Cut Tree	SH Shelterwood	AD Advanced	AD Advanced
WK WP/Hem	LT Leave Tree	ST Seed Tree	CT Commercial Thin	SE Natural Seed
WH WP/Hdwd	SB Stand Boundary	CC Clear Cut	NT Non Com Thin	PL Plant
WO WP/Oak	OT Other	SE Selection	Non-Standard Systems:*	CO Coppice
RP Red Pine	<u>Landowner Objective</u>	SA Salvage	HG Highgrade*	DS Direct Seed
SR Red Spruce	LT Long-term Mgt.	SN Sanitation	DL Diameter Limit*	OT Other
	ST Short-term Har.		OT Other*	

*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page pg 4 of 5

Forest Cutting Plan

Narrative Page

Use only if further explanation is required of information on pages one or two or if "other" was used in any category.

Landowner: DCR/DWSP
Town: Boylston
File Number: 0391-8994-18

BMPs	<p><u>There are no stream or wetland crossings in this lot.</u> ✓</p> <p><u>In the portions of the overstory removal areas that are adjacent to the shoreline and are within the variable-width filter strip, a significant number of overstory white pines are being retained. In addition, no trees that comprise the hedge are being cut. These trees are both arborvitae and white pine that were planted in the first quarter of the 20th Century.</u></p>
Silviculture	<p><u>In order to release advance regeneration, 15 openings in the overstory are being created, covering 12.1 acres. These openings range from 0.2 acres to 2 acres in size with an average of 0.8 acres. They are well distributed throughout the sale area taking advantage of the advance regeneration comprised of white pine, oaks and other hardwoods.</u></p> <p><u>6.5 acres are being lightly thinned in order to remove the poorest quality trees. In a small stretch near the shoreline south of Diamond Hill Road insided of Gate 16, trees are being removed for the benefit of the reservoir shoreline arborvitae hedge.</u></p>
Objectives	<p><u>The main objective of this operation is to diversify the age structure of the forest by removing the overstory in patches thereby releasing the advance regeneration. The current age structure is limited with an insufficient component of young forest.</u></p>
Other	

Figure 2. Maps of harvest area showing approximate boundary, proposed openings and other features

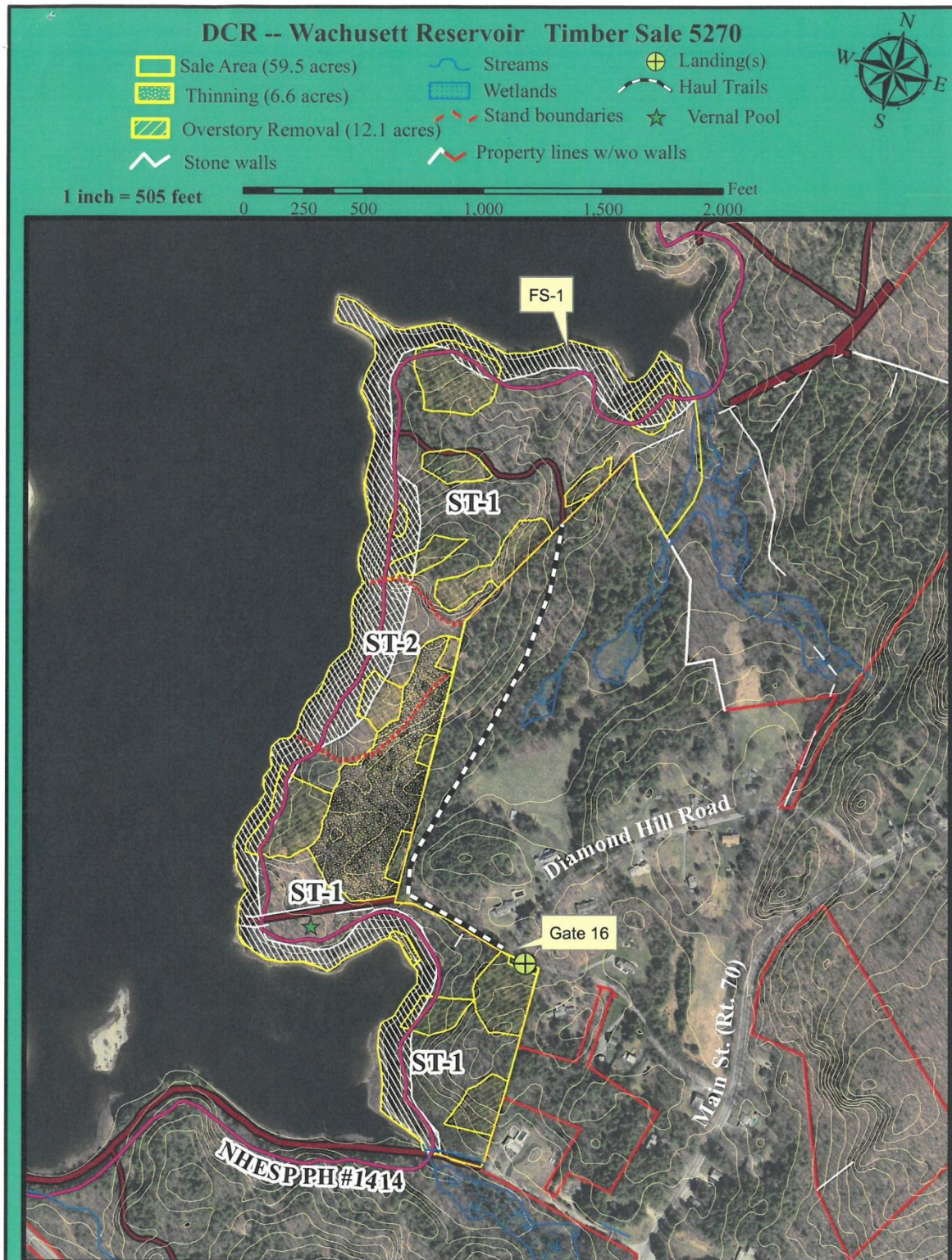


Figure 4. Pre-Harvest Photographs, A-B



A. This primarily red oak overstory is being removed to give the more diverse understory of white pine, oaks and red maple the space and light they need to continue to grow.



B. While the majority of the trees in this 2 acre patch will be removed to give the young trees space and light, some trees, such as the large white pine in the middle of the photo, will be retained. This provides valuable structural diversity as well as wildlife habitat and a long-term source of white pine seeds into this area.

Figure 5. Post-Harvest Photographs, A-B



A. Hardwood stand removed with white pine retention and regeneration released.



B. Overstory removed with white pine retention and mixed hardwood and softwood regeneration released.