

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

Project Title: Rattlesnake Hill, New Salem

DWSP Harvest Permit Number: 3148

DWSP Proposal ID: NS-17-16

DCR Forest Cutting Plan File Number: 204-8835-17

Location Information

Watershed: Quabbin

Town(s): New Salem

Acres: 20.4

Nearest Road: Millington Road

Natural Heritage Atlas overlap?: No

Public Drinking Water Supply Watershed?: Yes

Area of Critical Environmental Concern (ACEC)?: No

Site Information

Forest Types: red pine, white pine, white pine-hardwood, and red oak

Soils: Montauk fine sandy loam, 3 to 15 percent slopes, very stony; Scituate fine sandy loam, 3 to 8 percent slopes, very stony; Hinckley sandy loam, 3 to 8 percent slopes; Canton fine sandy loam, 3 to 8 percent slopes, very stony; Sudbury sandy loam, 0 to 8 percent slopes

Wetland Resources: Intermittent streams and a three acre shrub swamp are near but not within the harvest area. The harvest boundary was drawn to exclude these wetland resources.

Vernal Pools: none

Harvest Information

Harvest Start Date: October 5, 2017

Harvest End Date: January 28, 2018

Number of Wetland Crossings: none

Number of Stream Crossings: one

Best Management Practices Applied

Stream Crossings: existing culvert

Filter Strips: variable width

Wetland Crossings: n/a

Harvesting in Wetlands: n/a

DWSP Forester supervising this harvest

Name: Helen Johnson

Forester License number: 383

Phone number: (617) 733-2937

Email: Helen.Johnson@mass.gov

Narrative

General Description/Forest Composition/History

This harvest in the town of New Salem is located a half mile south of Quabbin Gate 29 on the northwest slope of Rattlesnake Hill, southwest of a high tension power line, and east of Millington Road. This is one of the few areas at Quabbin that is open for bicycling, and it is very popular among walkers and bicyclists alike.

The harvest has two sections on either side of an intermittent stream, which are set back from the stream by variable width filter strips. The west section is composed of a 4.9 acre red pine plantation that straddles an access road intersecting Millington Road. The red pine was still healthy when the lot was proposed, but at risk of rapid mortality due to red pine scale. White pine was the primary associate, and to a lesser degree, red maple, sugar maple and black cherry, which are more common around the perimeter.

The section to the east is composed of white pine and red oak mixed with other oaks and hardwoods. White pine is dominant to the north, gradually transitioning to a higher proportion of oaks and other hardwoods as one approaches the summit of Rattlesnake Hill, where the main canopy is dominated by red oak with occasional white pine emergents. Hemlock is an occasional associate throughout, often with good form but thin crowns, probably due to hemlock woolly adelgid, elongate hemlock scale, and/or hemlock looper. White pine form is mixed, with some trees excessively branchy, or sweepy or forked due to weevil damage. Red oak form is also variable, sometimes with sweep, low forks and/or dead branches, others with clear straight stems. Variability of form is most evident in the area closest to the road, where there have been no known past treatments.

Previous harvests in this area included a shelterwood prep cut on the upper western slopes in 1979, an intermediate thinning on the upper eastern slopes in 1982, and a selection cut in the small triangle between the power line, wetland, and connector road in 2002.

Site Selection

The primary reason this site was selected was to remove the red pine plantation before the trees are killed by red pine scale, an invasive insect that is moving swiftly through the region and causes rapid mortality, as has already occurred in other locations at Quabbin. If left to die, these trees would become safety hazards for walkers and bicyclists. Harvesting them before that happens protects public safety while avoiding the expense of removing dead trees, and also facilitates the transition from monoculture to diverse native forest. Since the cut trees will be used primarily for durable wood products, an additional benefit is that most of their carbon will be sequestered for decades to come. If left to die, the red pines would release carbon into the atmosphere as they decayed.

The second reason this site was selected was due to the mixed condition of the white pine and red oak, and in some places due to the dominance of mature white pine, which is particularly vulnerable to uprooting or snapping in strong winds.

Silvicultural Objectives

The primary objective of harvesting at Quabbin is to create and maintain a forest that is resilient to and can quickly recover from small and large scale disturbances, including diseases, insect infestations, ice storms, microbursts, and hurricanes. The ideal way to achieve such resiliency is to foster a forest of diverse species at various stages of development (seedlings through large legacy trees) that are actively growing and regenerating. This combination of structural and species diversity builds resistance and resilience into the forest.

Cultural Resources

Stone walls line portions of the access roads, and there are three cellar holes near the roads, one of which has been identified as a former residence. The DCR Archeologist has identified the area as Potentially Sensitive, with recommendations to minimize soil compaction and disturbance through the use of appropriate BMPs, and protecting forwarding roads with slash as needed. Any unmapped or currently unknown cultural features that are found during the harvest will be flagged, photographed, and reported to the DCR Archeologist; and all cultural features will be avoided and protected to the greatest possible degree.

Rare or Endangered Species

No known rare or endangered species on this site.

Forest Cutting Plan

Forest Cutting Plan page 1 of 6

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 204-8835-17 Case No. _____
 Date Rec'd 5/26/17 Nat. Hert. NO
 Earliest Start 6/13/17 Nat. Hert. Imp. N/A
 River Basin Chicopee Pub. Dr. Wat. Quabbin
 Gen. Obj. LT ACEC NO

FINAL

Site Information

Location

Town New Salem LOT 3148 (Rattlesnake Hill)
 Road Route 202 (Quabbin Gate 29)
 Acres 20.4 Proposed Start Date June 2017
 Vol. MBF 197.7 Vol. Cds. 54 Vol. Tons 90

Plan Preparer

Name Helen Johnson & Richard MacLean
 Address DCR-DWSP Quabbin Section
485 Ware Road
 Town, State, Zip Belchertown, MA 01007
 Phone 978-544-6343
 Type of Preparer Mass. Licensed Forester
 *Mass. Forester License # 383 (Helen Johnson)
 *Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR-DWSP Quabbin Section
 Mailing Address 485 Ware Road
Helen.Johnson@state.ma.us/RichardMacLean@state.ma.us
 Town, State, Zip Belchertown, MA 01007
 Phone HJ: 978-544-6343 RM: 413-323-6921, ext. 553
 Ch61 61A 61B Stew *Case #
 CR CR Holder _____

Licensed Timber Harvester**

Name King Timber Harvesting
 Address 15 Rugged Hill Rd
 Town, State, Zip Hubbardston, MA 01452
 Phone 978-928-4122
 Mass. Lic. Harvester # 267; 128
 **This information may be supplied after the plan is approved, but before work begins.

Best Management Practices

Stream Crossings No Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	CU			
Existing Structure	Yes			
Type of Bottom	ST			
Bank Height (ft)	>1'			
Stabilization	OT			

Wetland Crossings No Crossings

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

Filter Strips

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

Harvesting in Wetlands None

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

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom	Note:
LF Mass. Lic. Fer.	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	

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	93.9	Red Maple	1.7
Red Pine	90.3	Sugar Maple	
Pitch Pine		Red Oak	6.2
Hemlock	2.9	Black Oak	0.6
Spruce		White Oak	
Other Sfld.		Other Hdwd.	
White Ash		Total Mbf	197.7
Beech		Cordwood (Cds)	54
White Birch		SW Pulp (Tons)	90
B & Y Birch	2.0	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	RP	WP	WH	OR
Acres	3.6	3.9	7.6	5.3
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE*	SE*	SE*	SE*
Source of Regeneration	AD/SE	AD/SE	AD/SE	AD/SE

* Small group and single tree selection, with groups up to 2 acres.

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.



Signature of landowner(s)

5-25-17
Date

Service Forester

Determination and Status 204-8835-17

Approved Disapproved Expires 5/26/19
 Cutting Plan 
 Signature of Service Forester/Director's Agent 6/6/2017 Date

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

Amendment App 1 Dis 1 App 2 Dis 2 1

Final Report and Comments

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

 2-6-2018
 Signature of Service Forester/Director's Agent Date

Codes

Forest Types	Designation of Trees	Type of Cut	Intermediate Harvests:	Source of Regeneration
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	Landowner Objective	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 (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 Quabbin

Town New Salem

File Number 204-8835-17

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.

Stabilization for SC-1: straw bales, if needed. This is an existing crossing in the Quabbin road system.

Blue Paint: dot = cordwood or pulp; horizontal line = sawlog; vertical/diagonal line = TSI; "X" = cull; three dots = harvest boundary

Pink "Do Not Cut" flagging = trees to be protected. Solid pink flagging = cultural features to be protected (stone walls, cellar holes, etc.).

Solid orange flags or paint = edge of group (save trees). Blue flagging OR Yellow "Skid Trail" flagging = skidder/forwarder trails.

Orange "Streamside Management Zone" or "SMZ" flags = 50 foot filter strip (no equipment beyond this point).

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

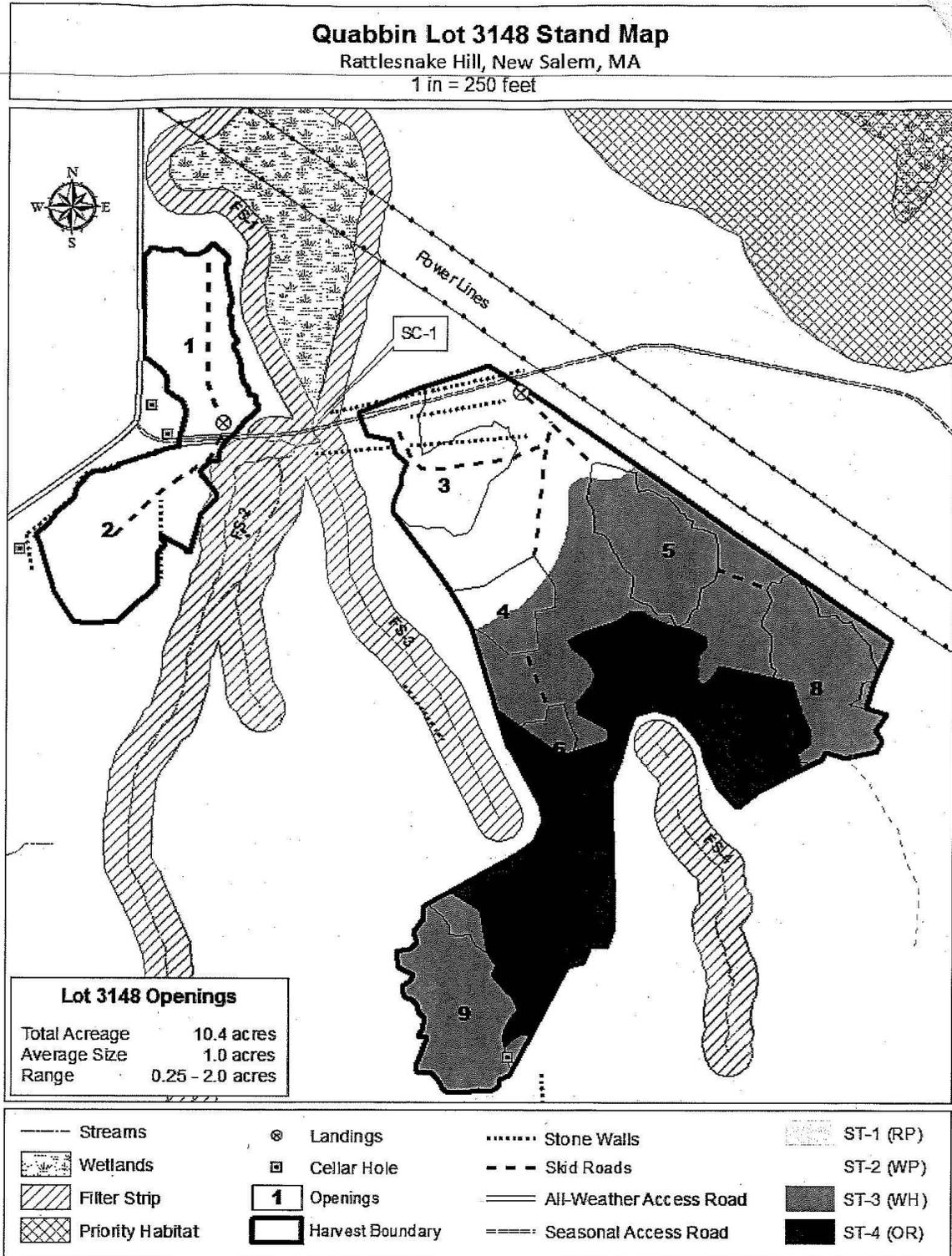
Stand No.	Desired Future Condition
	Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

Quabbin Lot 3148 Locus Map

Rattlesnake Hill, New Salem, MA

1:25,000





dcf



COMMONWEALTH OF MASSACHUSETTS
Department of Conservation and Recreation
Division of State Parks and Recreation

FILE # 204-8835-17

W

FOREST CUTTING PLAN CERTIFICATE

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that DCR-DWSP Quabbin (Name of Owner) 485 Ware Rd, Belcher town (Address) in accordance with the

provision of M.G.L. Chapter 132, Section 40-46, filed in Amherst FO with the Dept. of Conservation and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the

Grade 29 / lot 3148, New Salem

Approval Date 6/6/17

Director's Agent Fletcher Clark

DCR Phone No. (413) 262-2367

ISSUED BY:

Priscilla E. Geigis, Director
Division of State Parks and Recreation