

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

Project Title: 202 Blowdown
DWSP Harvest Permit Number: 2051
DWSP Proposal ID: PE-18-11-02
DCR Forest Cutting Plan File Number: 230-9098-18

Site Information

Watershed: Quabbin
Town(s): Pelham, Shutesbury
Acres: 100.2
Nearest Road: Daniel Shays Highway
Natural Heritage Atlas overlap?: No
Public Drinking Water Supply Watershed?: Yes
Forest Types: Oak/Hardwood; Helmock Hardwood
Area of Critical Environmental Concern (ACEC)?: No
Soils: The dominant soil types are: Scituate fine sandy loam and Charlton-Hollis or Chatfield Hollis soils.
Wetland Resources: Wetlands are present
Vernal Pools: None known.

Harvest Information

Harvest Start Date: 12/4/2017
Harvest End Date: 10/23/2019
Number of Wetland Crossings: none
Number of Stream Crossings: 3

Best Management Practices Applied

Stream Crossings: There are three stream crossings of intermittent streams. Stream crossing (SC) 1 takes advantage of an existing stone culvert, but will be bridged during operations to ensure stability. SC-2 is a channeled intermittent stream that will be bridged when running and poled otherwise. SC-3 is an intermittent that will be bridged when running and poled otherwise.
Filter Strips: All filter strips are variable width, and determined by slope as directed by Massachusetts Best Management Practices.
Wetland Crossings: None.
Harvesting in Wetlands: None.

DWSP Forester supervising this harvest

Name: Richard MacLean & Herm Eck
Forester License number: #63 (Eck)
Phone number: 413-323-6921 x 553
Email: richard.maclean@mass.gov

Narrative

General Description/Forest Composition/History

This site can be split into a northern section at the town line, a central section west of the old town road, a western section at the top of the hill, and a section between Route 202 and the gate PL8 road. The northern section is gradual to steeply sloping northern hardwoods and oak hardwoods. Form is variable, from twisted and sweeping trunks to straight stems, cordwood to sawlog in size. The slope in this section starts gradually near the town line and increases into section that would be considered steep slopes and either difficult to operate in or unmanageable. It was last harvested in 1983 with an intermediate thinning.

The oak/hardwood in the central section of the lot is composed of primarily red oak with a second age class of mostly black birch and red maple. Approximately 40 canopy dominant oaks over 10 acres were blown down in the late summer of 2016. This has left a younger, low diversity, black birch/red maple forest behind. Oak/hardwood east of the wetland and in the southern section of the property wasn't in the path of the blow down and larger oaks are still standing. This section was last harvested in 1982, likely a selective thinning or small group selection cut of hardwood saw logs and cordwood.

The Forest in the western section on the slope to the top of the hill is white pine/hardwood or hemlock/hardwood; much of the white pine is larger than 20", but with a history of weevil damage, and open growth. The hemlock is in definite decline from observed hemlock woolly adelgid (*Adelges tsugae*), and hemlock borer (*Melanophila fulvoguttata*), and likely elongate hemlock scale (*Fiorinia externa*). Regeneration is light, but hemlock and white pine saplings are present. There appears to be heavy browse pressure on the regenerating hemlock.

The section abutting Rte. 202 is mostly white pine/hardwood with large multi stemmed white pines and mixed hardwoods including canopy and regenerating members. There are several large white pines roadside of Rte. 202 that have the potential to be safety hazards for passing traffic.

Mapped wetlands in the southwest corner of the lot will not be operated in. Sections of the wet red maple stand that demonstrate wetland characteristics will also be avoided. There are also two potential wetland areas in the central and western section of the proposed lot that will be delineated before the lot is marked for sale.

Site Selection

The primary goal of harvesting on the watershed is to create and maintain a forest that is resilient to and can quickly recover from small and large scale disturbances such as diseases, insect infestations, ice storms and hurricanes, all of which are becoming increasingly common. The ideal way to achieve this is to have a diversity of species in 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. This harvest aims to increase the diversity of the forest regenerating around the oak blowdown, and to encourage a diverse new age class in areas that were not affected by this past blowdown.

Silvicultural Objectives

The silvicultural objectives at this site will focus on three goals centered on species diversity and disturbance resilience. The first goal will be to thin the black birch and red maple left in the area of most concentrated oak blowdown. With the canopy dominant oak blown down this stand currently looks as if it was high graded by nature. The thinning will help prevent advanced black birch from dominating the stand and shading out new regeneration. The second goal will be to increase age and species diversity in oak/hardwood and white pine/hardwood stands that were not affected by this past blowdown. Both stand types have low diversity black birch regeneration and very tall individuals who would be susceptible to future blowdowns. In these stands regeneration openings will be created to provide opportunity for existing oak seedlings to grow. Finally, the third goal will address the declining hemlock. Where the hemlock is mixed with hardwood species regeneration openings will be created to promote a higher species diversity in regeneration, and where possible, to provide more light for regenerating hemlock to help it resist future adelgid infestation.

Cultural Resources

There are stone walls present along the old town road, as well as a walled in old pasture. While no cellar holes are present there is a possible excavation pit which is being avoided. All cultural features are being protected and avoided as much as possible. Existing barways (breaks in walls) were utilized in order to minimize damage.

Rare or Endangered Species

The lot contains no known rare or endangered species.

Figures

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 (Effective Date: 1/1/04)

Final

For DCR Use Only:

File Number 230-9098-18 Case No. _____
 Date Rec'd 11/2/17 Nat. Hert. 1
 Earliest Start 11/20/17 Nat. Hert. Imp.
 River Basin CHICOPPEE Pub. Dr. Wat. QUABBIN
 Gen. Obj. LT ACEC

Site Information

Location

Town Pelham | Lot 2051
 Road Rte. 202 | DCR Quabbin Gate SH1
 Acres 100.2 Proposed Start Date Fall 2017
 Vol. MBF 98.9 Vol. Cds. 106 Vol. Tons 52

Plan Preparer

Name Richard MacLean & Herm Eck
 Address DCR-DWSP Quabbin Section
485 Ware Road
 Town, State, Zip Belchertown, MA 01007
 Phone 413 323-6921 x 553
 Type of Preparer Mass. Licensed Forester
 *Mass. Forester License # 63
 *Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR-DWSP Quabbin Section
 Mailing Address 485 Ware Road
Richard.MacLean@state.ma.us | HEck@state.ma.us
 Town, State, Zip Belchertown, MA 01007
 Phone (413) 323-6921 x553 | (978) 544-6343
 Ch61 61A 61B Stew *Case #
 CR CR Holder _____

Licensed Timber Harvester**

Name JIM HARRINGTON
 Address 4 EAST STREET
 Town, State, Zip PETTUSHAM MA 01366
 Phone (978) 724-3472
 Mass. Lic. Harvester # 2018-402
 **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	
Type of Crossing	CU	BR	BR	
Existing Structure	Y	N	N	
Type of Bottom	MU	GR	ST	
Bank Height (ft)	2	.5	.5	
Stabilization	ST	MU	MU	

Wetland Crossings No Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	<u>50</u>			
Mitigation	<u>OT SEE PAGE 3</u>			
Stabilization	<u>CO/BR</u>			

Filter Strips

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

* PER DISCUSSION W/ RICH MACLEAN ON MONDAY 8/22/18

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

Figure 1a: Forest Cutting Plan pg. 1.

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	27.8	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	31.8
Hemlock	23.7	Black Oak	8.2
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	1.8
White Ash		Total Mbf	97.7
Beech		Cordwood (Cds)	109
White Birch		SW Pulp (Tons)	52
B & Y Birch	4.6	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

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	OH	HH	WH	RM
Acres	43.4	38.0	12.6	4.9
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	SE	SE	SE
Source of Regeneration	SE	SE	SE	SE

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 specie

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]
 Signature of landowner(s)

10-1-17
 Date

Service Forester

Determination and Status *230-9098-18*

Approved Disapproved Expires *11/2/19*

Cutting Plan *[Signature]* *11/6/17*
 Signature of Service Forester/Director's Agent Date

SITE VISIT w/ RICH MACLEAN 10/20/17
 Expires Ser. For. Ints.

Extension

Amendment
DST 8/27/18

Final Report and Comments

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

[Signature] *10/23/19*
 Signature of Service Forester/Director's Agent Date

SITE VISITS 10/16/19 + 10/23/19
W/AL HERMACK AND RICH MACLEAN

Codes

Forest Types	WP White Pine	HK Hemlock	OM Mixed Oak	CT Cut Tree	SH Shelterwood	Intermediate Harvests:	Source of Regeneration
WK WP/Hem	HH Hem/Hdwd	RM Red Maple	LT Leave Tree	ST Seed Tree	CT Commercial Thin	AD Advanced	SE Natural Seed
WH WP/Hdwd	BC Bkck Cherry	BE Beech	SB Stand Boundary	CC Clear Cut	NT Non Com Thin	PL Plant	PL Plant
WO WP/Oak	BB Bee/Bir/Map	SF Spruce/Fir	OT Other	SE Selection	Non-Standard Systems:*	CO Coppice	CO Coppice
RP Red Pine	OH Oak/Hdwd	SM Sugar Maple	Landowner Objective	SA Salvage	HG Highgrade*	DS Direct Seed	DS Direct Seed
SR Red Spruce	OR N Red Oak	PP Pitch Pine	LT Long-term Mgt.	SN Sanitation	DL Diameter Limit*	OT Other	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 2 of 5

Figure 1b: Forest Cutting Plan pg. 2.

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 Pelham | Lot 2051
 File Number 230-9098-18

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.

FLAGGING: Pink "Do Not Cut" = trees to be protected | Pink = Caution | Blue = skid road | Orange = Edge of opening | Orange & black = Filter Str

BLUE PAINT: Dot = cordwood or pulp | Three vertical dots = edge of stand. | Horizontal line = sawlog | Vertical line = TSI | "X" = cull

Operation will be restricted to dry or frozen conditions. SC-2&3 are intermittent streams and will be armored/poled while dry and bridged if water is present. SC-1 will be bridged at all times.

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
ST-1		
ST-2		
ST-3		
ST-4		

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	
ST-2	
ST-3	
ST-4	

Figure 1c: Forest Cutting Plan pg 3.

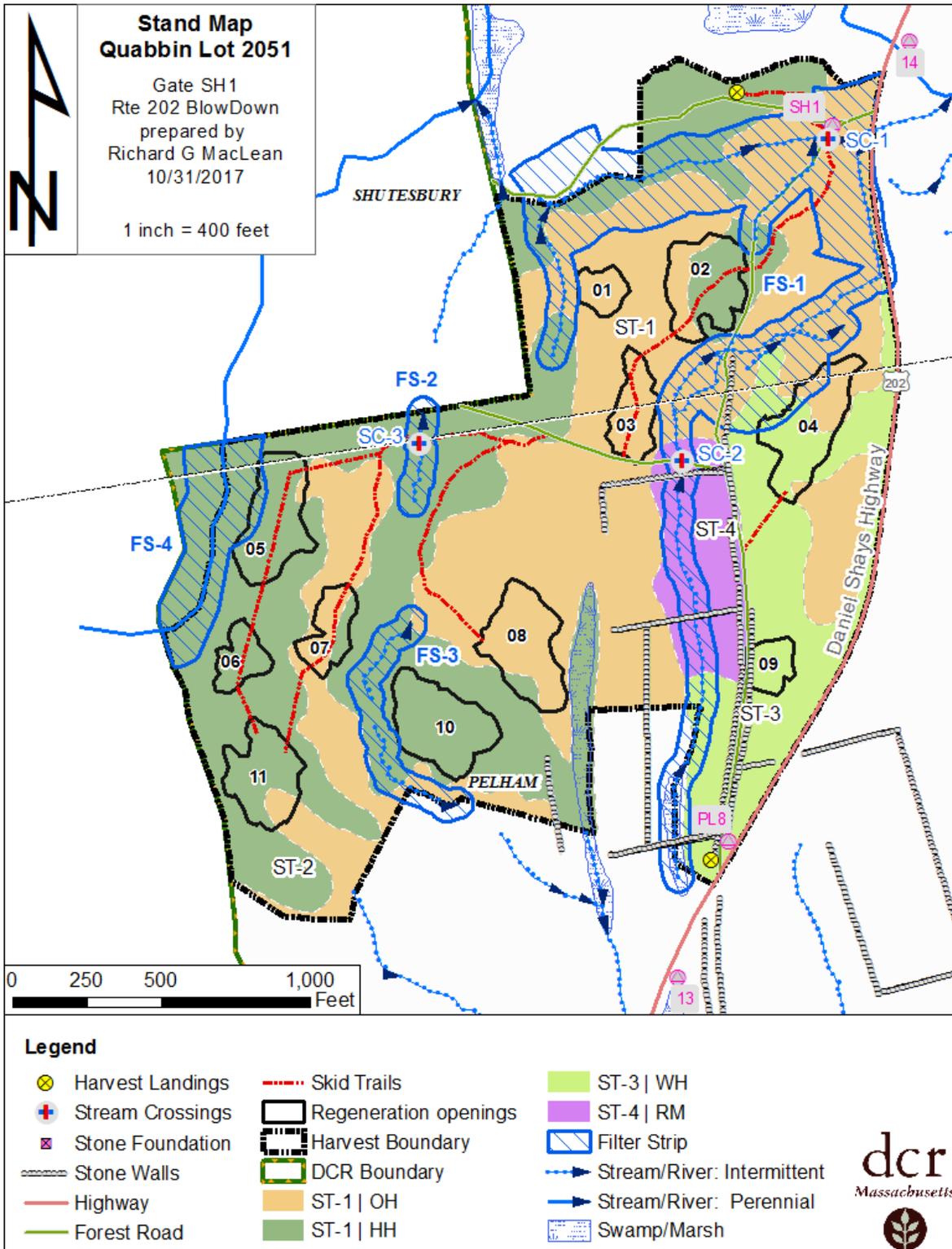


Figure 1e: Forest Cutting Plan pg. 5.



dcR

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

FILE # 230-9098.18

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 485 Ware Rd, Belcher town, MA in accordance with the
(Name of Owner) (Address)

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

Gate SH1/2051lot, Pelham

Approval Date 11/6/17

Director's Agent Douglas Hutcherson

DCR Phone No. (413) 545-7020

ISSUED BY:

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

Figure 1f: Forest Cutting Plan pg. 6.