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

Project Title:

DWSP Harvest Permit Number: 2056
DWSP Proposal ID: PE-20-14
DCR Forest Cutting Plan File Number: 272.26770.20

Site Information

Watershed: Quabbin	Town(s): Shutesbury
Acres: 21	Nearest Road: Daniel Shays Hwy (Rte. 202)
Natural Heritage Atlas overlap?: No	Public Drinking Water Supply Watershed?:
Forest Types: White pine/hardwood; Oak/hardwood	ACEC?: No
Soils:	
Wetland Resources: No	
Vernal Pools: None known	

Harvest Information

Harvest Start Date: TBD	Harvest End Date: TBD
Number of Wetland Crossings: None	Number of Stream Crossings: None

Best Management Practices Applied

Stream Crossings	None
Filter Strips	None
Wetland Crossings	None
Harvesting in Wetlands	None

DWSP Forester supervising this harvest
Name: Richard MacLean & Herm Eck
Forester License #: 63 (Eck)
Phone #: 413-213-7950
Email: richard.maclean@mass.gov

NARRATIVE

General Description/Forest Composition/History:

Forest composition at this harvest is in two stands, eastern white pine/hardwood and northern red oak/hardwood. The eastern white pine/hardwood cover is the larger of the stands and is dominated by larger (>20 " diameter) even aged eastern white pine. Northern red oak is the second most abundant with red maple, eastern hemlock, and yellow birch rounding out the canopy. The northern red oak/hardwood stand is dominated by sawlog sized northern red oak with a minor component of red maple, eastern white pine and black and white oak.

Both stands were last harvested in 1983 and 1982 with a combination of thinning and small gap regeneration openings (< 0.25 acre). Regeneration within the gap openings is composed of white pine, black birch and a small amount of red maple. Much of the white pine regeneration has stagnated and died, but most gaps contain a few stems still growing with a healthy crown, and the black birch is similarly sized but a higher density. Regeneration between the gaps in the eastern white pine/hardwood stand is mixed between large sapling black birch and small sapling white pine. There is a large amount of dead large sapling white pine which grew up after the thinning but did not have enough light to persist in the understory. The small sapling white pine is less than ten years old and will respond well to release within new regeneration openings.

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. With climate change we expect to see a range of disturbances such as diseases, insect infestations, ice storms and hurricanes becoming increasingly common. The ideal way to achieve such resiliency is to foster a forest diverse in species of 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 species diversity of the area by opening up low diversity eastern white pine stands to more diverse species regeneration and favoring oak and tall/well-formed white pine for the edge and interior retention. Finally, this harvest will improve quality and overall vigor of the forest by removing poorly formed white pine. Advanced white pine and oak seedlings will be released by the white pine removal. Further, group regeneration openings from previous harvests have helped start a new cohort of regeneration which would benefit from release by adjacent overstory harvest.

Silvicultural Objectives:

The silvicultural objectives at this site will focus on species diversity and improving regeneration. The first goal will be to increase species diversity by treating the less diverse sections of eastern white pine/hardwood with large green retention openings (approximately 1 acre). The even aged eastern white pine will be replaced by shorter more vigorous mixed species regeneration waiting to be released. Additionally, the opening placed in the white pine stands have > 10 sq ft of basal area green tree retention to provide further seed for regeneration and retain some of the older cohort for advanced vertical structure.

The second goal will be accomplished in two separate ways. First, regeneration openings are being located adjacent to the southern and eastern edges of regeneration openings from previous harvests, which will increase light and improve growing conditions for the regeneration established after previous harvests, these regeneration openings will also be releasing young white pine and mixed hardwood regeneration within the openings potentially creating a uneven aged stand. Secondly, thinning and improvement cutting will be performed in the area surrounding the harvest regeneration openings to reduce poorly formed and unhealthy individuals and promote the growth of the remaining trees by removing competition.

Cultural Resources:

This lot does not contain any known cultural resources.

Rare or Endangered Species:

No known rare or endangered species are present. Two DCR verified vernal pools are present to the south east of the harvest area, but excluded from the harvest.

FIGURES

Figure 1. Forest Cutting Plan

Gen. Obj.

LT

Forest Cutting Plan and Notice of Intent under M.G.L.

Chapter 132 - The Forest Cutting Practices Act, 304 CMR 11.00 (Effective Date: 3/15/16)

Location

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Town Shutesbury				_		Name DCR-DWSF	P Quabbir	n Ware F	River Re	gion
Road Daniel Shays	s Highway	(Rte 20	2)			Mailing Address 485	Ware Ro	1		
Acres 21	Prop	osed Sta	It Date T	BD	_					
Vol. MBF 50.5 V	ol. Cds.	27	Vol. Tor	1s 80		Town, State, Zin Bel	chertown.	MA 010	07	
					-	Phone 413-2	13-7918			
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rian riebarei		New Section					Holder		SC #	
Name Richard Mac	Lean & He	m Eck					noidei			
Address 485 Ware Ro	1.	IIII LOK			1	Licensed Timbe	r Harve	ester*	*	
	1					Neme TOD				
Town State Zin Belo	hertown I	MA 0100	17			Adduage				
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Stream Crossing	gs SC-1	SC-2	SC-3	SC-4].	Harvesting in M Indicate location on map Forest Type (see pg 2)	HW-1	ds	HW-3	HV
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For DCR Use Only: File Number 272.26770.20Case No. Date Rec'd 3.12.20 Earliest Start 3.27.20 River Basin Chicopee ACEC NO.

Name T	3D
Address	
Town, Sta	e, Zip
Phone	
Mass. Lic.	Harvester #
**This infor work begins	nation may be supplied after the plan is approved, but before

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

pg3of5

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

Figure 1a: Forest Cutting Plan pg. 1.

Species	Mbf/Cds	40 S	Mbf/Cds
White Pine	43	Red Maple	.4
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	4.5
Hemlock ·	1.3	Black Oak	.9
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	1
White Ash		Total Mbf	50.5
Beech		Cordwood (Cds)	27
White Birch		SW Pulp (Tons)	80
B & Y Birch	.4	HW Pulp (Tons)	
Black Cherry		Chins (Tons)	

*Note: Volumes 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.

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WH	OH	WO	OH
Acres	14.1	2.5	2.6	1.7
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	CT	CT	CT
Source of Regeneration	SE	AD	AD	AD

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.

Landowner	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 opportunitie protect soil and water quality, or produce forest specialty products. I (we) have read the Massachusetts Cutting Plan Information Sheet, a I (we) hereby certify that I (we) have the legal authority to carry out t I (we) certify that I (we) have notified the Conservation Commission abutters of record within two hundred feet of the area to be harvested I (we) understand that the volumes in this plan have not been indepen- upon approval and will report final values and volumes to the Director	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. and am aware of my (our) management options. the operation described above, in the town in which the operation is to take place and the dently verified by the service forester or or his/her agent if the final figures differ from those reported.		
	Signature of landowner(s)	Date		
	Determination and Status	Final Report and Comments		
rester	Approved Disapproved Expires Cutting Plan A \Box $3 \cdot 12 \cdot 22$ A = A	I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.		
ice Fo	Signature of Service Forestor Director's Agent Date	Signature of Service Forester/Director's Agent Date		
erv	Expires Ser. For. Ints. Extension $I \square 2 \square \underline{/} \underline{/}$			
S	App 1 Dis 1 App 2 Dis 2 Amendment			
Codes	Forest Types Designation of Trees WP White Pine HK Hemlock OM Mixed Oak CT Cut Tree WK WP/Iem HH Hem/Hdwd RM Red Maple LT Leave Tree WH WP/Idwd BC Blek Cherry BE Beech SB Stand Boundary WO WP/Oak BB Bee/Bir/Map SF Spruce/Fir OT Other RP red Pine OH Oak/Hdwd SM Sugar Maple LT Landowner Objective SR Red Spruce OR N Red Oak PP Pitch Pine LT Long-term Mgt. ST Short-term Har. ST Short-term Har. ST	Type of Cut Source of Regeneration SH Shelterwood Intermediate Harvests: AD Advanced ST Seed Tree CT Commercial Thin SE Natural Seed CC Clear Cut NT Non Com Thin PL Plant SE Selection Non-Standard Systems:* CO Coppice SA Salvage HG Highgrade* DS Direct Seed SN Sanitation DL Diameter Limit* OT Other OT Other ion must be given on attached narrative nage no 4 of 5 S S		

Figure 1b: Forest Cutting Plan pg. 2.

Forest Cutting Plan

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Narrative Page (Effective Date: 3/15/16) 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	Shutesbury (Quabbin Lot 20
File Number	

ry (Quabbin Lot 2056)

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.

BLUE PAINT - Cut Trees | ORANGE PAINT - Leave trees | Pink and Black Timber Harvest Boundary Flagging - end of sale | Yellow and Black Stripe Flagging - Skid Road | G trees are to be girdled | BLUE & ORANGE X trees are to be felled and left whole on site.

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. Additional narrative description may be added on a separate page.

	Describe Tre	es to be Cut		Describe Trees to be Left			% BA/	% BA/AC	
Stand No.	Species	Size	Quality	Species	Size	Quality	Cut	Left	
			,						
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	Use this Section to des was	cribe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) s 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 sced and the number of seed trees/acre
5		
3		
<u>ช</u>		
5		
Stand No.	Describe what the star	Desired Future Condition id is expected to look like five years from the harvest, including the condition of the overstory & understory
5		
3		
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pg S of 5

Figure 1c: Forest Cutting Plan pg 3.



Figure 1d: Forest Cutting Plan pg. 4.



Figure 1e: Forest Cutting Plan pg. 5.

dcr	COMMONWEALTH OF MAS Department of Conservation ar Division of State Parks and Rec	SACHUSETTS F d Recreation eation	FILE # <u>272-26770-20</u>
FORI	EST CUTTING PLA	N CERTIFICATE	E
ost this ir	a conspicuous place within the area in the second sec	which the harvesting operation is the second s	to take place. (1) WN, MA in accordance with the 01087
provision of	of M.G.L. Chapter 132, Section 40-46, file ation, Division of State Parks and Recreat 2056 lot. Shulesbury	d in <u>Amberst F.O.</u> ion, a Notice of Intent to cut fores	with the Dept. of Conservation st products upon the
Juabbin	Sector sector sector and the sector se		
Approval D	Date 3/26/2020 Agent Andrew Rawcliffe	ISSUED B	W: Park Yeige

Figure 1f: Forest Cutting Plan pg. 6