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

Project Title: Tri-town Red PineDWSP Harvest Permit Number: 1056

DWSP Proposal ID: HA-18-13

DCR Forest Cutting Plan File Number: 124-9785-19

Site Information

Watershed: Quabbin

Town(s): Barre, Hardwick, Petersham

Acres: 26

Nearest Road: Hardwick Road Natural Heritage Atlas overlap: No

Public Drinking Water Supply Watershed: Quabbin

Forest Types: Red pine, white pine hardwood, w. pine-oak

Area of Critical Environmental Concern (ACEC): No

Soils: Charlton-Paxton association (902E), Woodbridge-Paxton (910C)

Wetland Resources: Wetlands, streams and intermittent streams are present on or near lot.

Vernal Pools: No

Harvest Information

Harvest Start Date: 5/6/2020 Harvest End Date: 6/11/2020

Number of Wetland Crossings: Zero Number of Stream Crossings: Two

Best Management Practices Applied

Stream Crossings: Portable bridge utilized for temporary crossing, seed and corduroy used for

soil stabilization

Filter Strips: Four of variable width

Wetland Crossings: N/A Harvesting in Wetlands: N/A

DWSP Forester supervising this harvest

Name: Steven J. Wood

Forester License number: 257 Phone number: (413) 323-6921 Email: steven.wood@mass.gov

Narrative

General Description/Forest Composition/History

The area to be harvested is located on the east side of 32A in the southern part of Petersham with some acreage in abutting sections of Barre and Hardwick. Access to the landing is through Quabbin barway HD7 which is just south of town line in Hardwick.

The stone walls on this lot attest to its history of being cleared for agriculture, most likely for pasture. When the farmland was abandoned, probably in the late 19th or early 20th century, it reverted to forest. There are 3 areas that were planted to red pine around 1940. These stands were thinned in 1969 and 1984 as was most of the lot. The red pine has declined from a non-native insect the red pine scale and secondary pathogens such as root rot are most likely also present. Sapling to pole sized white and black birch are common in the understory with some white pine and red maple mixed in. Seedlings of most native tree species are scattered throughout, though there is not much oak present. Openings # 5 & 6 have particularly dense and diverse regeneration established already.

The rest of the harvest is in white pine/hardwood or white pine/oak stands which had also been previously thinned with a few openings up to $1/10^{th}$ acre created. For the most part these stands regenerated better than the red pine containing mainly white pine, black birch and red maple with a fair amount of sugar maple in some areas. Some of the white pine in overstory is quite large and multi-stemmed, often referred to as "old field white pine" referencing the open growing conditions they had when established at field abandonment. The poorest formed of these have little if any commercial value and will be girdled to keep them from suppressing new regeneration while creating wildlife habitat. Existing dead snags of white and red pine (numerous), along with some hardwoods are scattered throughout and will be left standing, as much as possible, during the harvest.

The primary tree species present in overstory are white pine with black birch, red maple, and mixed oaks (predominately red oak) with scattered hemlock. Other hardwoods include paper birch, aspen, ash, sugar maple, hickory and black cherry. On the areas with red pine, it is the predominate species with most of the other species above scattered throughout the stand.

The soils on this lot are primarily Charlton-Paxton association (902E) and Woodbridge-Paxton (910C).

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. 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. A forest in this condition is resilient to and can quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This site was chosen since the stands overstory is predominately even aged and the red pine was declining. The white pine is large, with many poorly formed stems. Most of the site is on productive soils so it is anticipated that a better formed, healthier, more diverse forest will become established. Also, there is healthy, vigorous and somewhat diverse regeneration present that won't stay in that condition much longer if not released.

Silvicultural Objectives

The goal of this harvest is to build on the success of the work started in 1969 by continuing the process of establishing new tree seedlings and providing space for existing regeneration to expand and grow. The diversity of native species present is being maintained. This combination of structural and species diversity builds resistance and resilience into the forest.

Guided by the principles stated above, the primary purpose of this harvest is the establishment of a new age class by harvesting part of the overstory in small groups, up to 3.6 acres in size, to foster regeneration. Groups were placed according to our guidelines. Areas where there were clusters of trees that were declining or had weak stem form, often due to insects, diseases, or storm damage, were specifically targeted. Where there were groups of regeneration created from the previous cut these were expanded upon by cutting a new abutting group. The red pine stands in openings 2, 3 and 5 were already regenerated and well stocked with hardwood poles up to about 7" in diameter so these areas are having the remainder of the red pine overstory cut. At least 10 square feet of basal area is retained in all openings over ½ acre. Red and white oak, black cherry, hickory, sugar maple and white birch were favored for retention in hopes that they will seed in and be more common in the future stand.

Wherever possible wildlife habitat features were maintained and protected, such as snags (dead trees) and trees with cavities or nests. Exceptional individuals of all species present were retained in the stand for seed and to enhance diversity.

Cultural Resources

Stone walls are numerous throughout this area and will be protected during the upcoming harvest. This is in keeping with DWSP's standard practice, which dictates that every effort is made to keep existing stone walls intact. There are some old cellar holes to the north and south of the lot which are outside the cut area and will be avoided. Otherwise, this area has been determined not to be culturally or archeologically sensitive based on a review by the DCR Archaeologist.

Rare or Endangered Species

The lot contains no critical habitats or known rare or endangered species, and no vernal pools. The uplands are home to a variety of wildlife including deer, turkey, coyote and moose. Beaver have periodically dammed the stream and wetland complex to the north of the lot and have cut down saplings in the harvest area as far as 400' from the stream but no new activity was noted there last year.

orest Cut nd Notice of Intent napter 132 – The Fractices Act, 304 CN ffective Date: 1/1/04)	under Morest Corest County	M.G.L. utting	lan	2019		tart 3.11.19	9 Nat. I 9 Nat. I	Hert. Hert. Imp Dr. Wat.		
Location					La	ndowner				
Town Hardwick, F Road Route 32a Acres 26.6 Vol. MBF 217.8 V	Prop	osed Star	rt Date	5/1/2019	. Ma	me DCR, Divisiling Address 485 wn, State, Zip Belconne (413)	Ware Rd.	MA 0100		tion
Plan Preparer						61 Ch61A	70	1139	ise#	
						Stumpage Value			N. NO.	
Name Steven J.		5777 108	W Net W		Lic	ensed Timbe	r Harve	eter*	*	
	vision of W	ater Sup	ply Protec	ction_		The second second		01.01	- 100	21 10
485 Ware Town, State, Zip Belo		MA 0100	7	_	Nar		13A			
	3) 213-794		1		Tov	iress 152 WILLIAM	BARDETON	I MA	01452	lo
The second secon	Manager 1			- 175	Pho	vn, State, Zip Kuri ne (978)	270	- 991	6	
Type of Preparer <u>Mass. Licensed Forester</u> *Mass. Forester License # 257				Mas	ss. Lic. Harvester #	2000-	587	2242		
*Required for land und	er Ch61, C	ch61A or	Forest Ste	ewardship		his information may be s begins.	upplied alte	r the plan is	approved,	but
Stream Crossing	gs				Н	arvesting in \	Netlan	ds		
Indicate location on map	SC-1	SC-2	SC-3	SC-4	Ind	icate location on map	HW-1	HW-2	HW-3	Н
Type of Crossing	BR	CU			For	rest Type (see pg 2)				
Existing Structure	no	yes				res to be Harvested				L
Existing birdetate	ST	ST			Res	sid, Basal Area				
Type of Bottom					(>5	(0%?)				
Type of Bottom Bank Height (ft)	0.5	0.5			(>5	0%?)	100			
Type of Bottom Bank Height (ft) Stabilization	0.5 SE/CO				-					
Type of Bottom Bank Height (ft)	0.5 SE/CO	0.5			-	Gervice Fores	ter Cor	nment	s	
Type of Bottom Bank Height (ft) Stabilization	0.5 SE/CO	0.5	WC-3	WC-4	2 5	Service Fores				
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing	0.5 SE/CO	0.5 road	WC-3	WC-4	2 5	Service Fores	EY DU	r ser	VICE	
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing Mitigation	0.5 SE/CO	0.5 road	WC-3	WC-4		PLEASE NOTIFE FORESTER	EY DU AT STA	R SER	VICE OPERA	
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing	0.5 SE/CO	0.5 road	WC-3	WC-4		Service Fores PLEASE NOTIFE PORESTER MAIN ACCESS	EY DU AT STA RUAD IS	R SER RT OF	VICE OPERA EXISTI	NO
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing Mitigation	0.5 SE/CO	0.5 road	WC-3	WC-4		FLEASE NOTTH FORESTER MAIN ACCESS NO HARVESTIN	AT STA RUAD IS	R SER RT OF B PRE- WETLA	VICE OPERA EXISTIN	N C
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing Mitigation Stabilization Filter Strips	0.5 SE/CO	0.5 road				Service Fores PLEASE NOTIFE PORESTER MAIN ACCESS	AT STAI RUAD IS RUAD IN	R SER RT OF S PRE- WETLAN	VICE OPERA EXISTI ND 9R	NG GA OR
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing Mitigation Stabilization Filter Strips Indicate location on map	0.5 SE/CO	0.5 road	FS-3	FS-4		FURASE NOTTH FORESTER MAIN ACCESS NO HARVESTIN UNIOS AME	AT STA RUAD IS NO IN ENDINEN	R SER RT OF S PRE- WEILAN T MAC ER SN	VICE OPERA EXISTI ND 98 DE PRI 40W C	NO GA OR
Type of Bottom Bank Height (ft) Stabilization Wetland Crossin Indicate location on map Length of Crossing Mitigation Stabilization Filter Strips	0.5 SE/CO	0.5 road				FLEASE NOTTH FORESTER MAIN ACCESS NO HARVESTIN UNICSS AME REVIEW DON	AT STA RUAD IS NO IN ENDINEN	R SER RT OF S PRE- WEILAN T MAC ER SN	VICE OPERA EXISTI ND 98 DE PRI 40W C	NG GAL OR

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	99.2 M	Red Maple	2.4 M
Red Pine	98.4 M	Sugar Maple	· ·
Pitch Pine		Red Oak	10.4 M
Hemlock		Black Oak	2.4 M
Spruce		White Oak	0.5 M
Other Sflwd.		Other Hdwd.	<u> </u>
White Ash	2.8 M	Total Mbf	217.8
Beech		Cordwood (Cds)	137
White Birch		SW Pulp (Tons)	459
B & Y Birch	0.6 M	HW Pulp (Tons)	
Black Cherry	1.1 M	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.

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	RP4	WP4	RM4	
Acres	4.7	15.9	5.9	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	СТ	
Type of Cut	SE	SE	CT	
Source of Regeneration	AD/SE	AD/SE	AD/SE	

pg 4 of 5

ı	B & Y Birch 0.6 M HW Pulp (Tons) Black Cherry 1.1 M Chips (Tons)	Source of Regeneration About About About				
-						
4	Landowner Signature					
	which will remain: this decision will also determine the futu	wner's objective, as this will determine which trees will be harvested and re condition of the forest for decades to come. After having read the one, indicate your objective by checking the appropriate box below.				
andowner	LT – Long-term Forest Management Planned management of the forest to achieve one or more of following objectives: produce immediate and maximize long income, enhance wildlife habitat, improve recreational oppo protect soil and water quality, or produce forest specialty pro	storm short-term income with minimal consideration given to improving the future forest condition, which often results				
1	abutters of record within two hundred feet of the area to be har	y out the operation described above. ission in the town in which the operation is to take place and the				
1		2-15-19 Date				
L	Signature of landowner(s)	Date				
	Determination and Status 124 - 9785 - 19	Final Report and Comments				
ster	Approved Disapproved Expires Cutting Plan	I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.				
Fore	Signature of Service Forester/Director's Agent Date	Signature of Service Forester/Director's Agent Date				
Service Foreste	Extension 1 2 Expires Ser. For.	Ints.				
	App 1 Dis 1 App 2 Dis 2 Amendment					
Codes	No. Price Price	Shi Shelterwood Intermediate Harvests: AD Advanced				

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

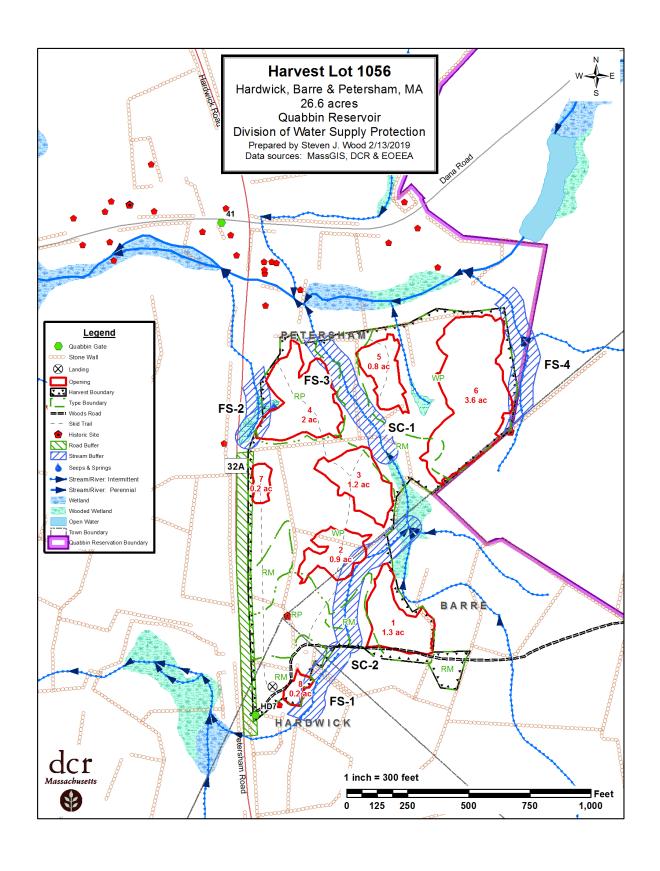
DCR, DWSP

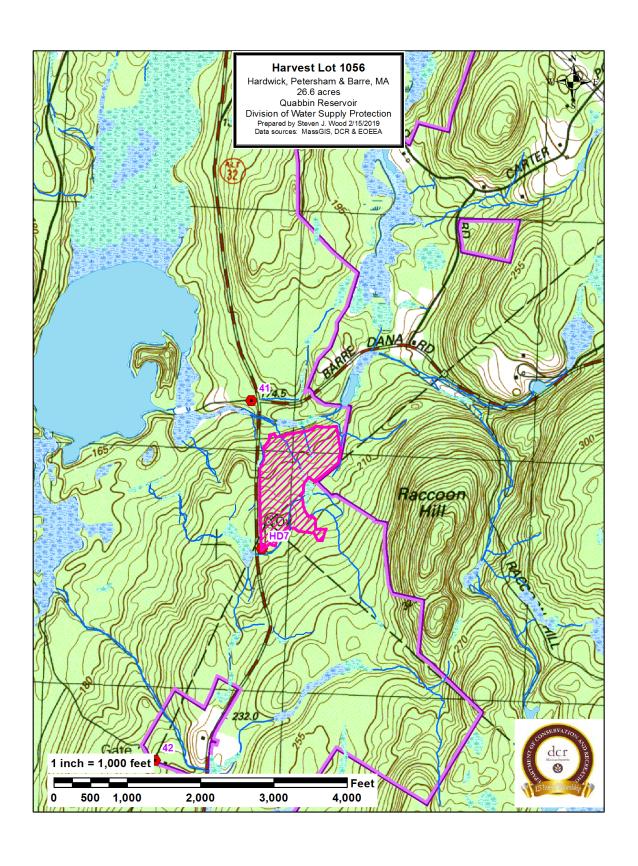
Town

Hardwick, Peteresham

File Number 124-9785-19

having at lea	ninning done between a	cline, probably infected with scale and root of groups on about 2/3rds of the remaining non ed. Retention is mainly vigorous better form or wildlife. Individuals of all species present	wetland area. Groups range from .2 t	o 3.6 acres with ones over 0.5 a hite pine with a few coarse or
		marked. Double orange stripe is edge of cut spring as a salvage if dying from gypsy moth		edge of opening. Note additions
Use	this Section to describ	e the types of trees to be harvested and/or re in the Stand Treatment Sect		esignation of Trees"
Stand No.	Species to be C	Tut Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed
Use Stand No				
		·		
Stand No.	Source of Regeneration		g Standards Section on page 4.	l be protected
	(ex. AD, SE)	If using 55 - Describe the source o	i the seed and the humber of seed to	es/acre
	(ex. AD, SE)	If using 55 - Describe the source of	and the sect and the manner of sect are	syacre
	(ex. AD, SE)	If using 55 - Describe the source o	i nie seed and nie manbed of seed nee	is/acre
Stand No.		Desired Future Conditionstand is expected to look like five years from	n	
Stand No.		Desired Future Conditio	n	







COMMONWEALTH OF MASSACHUSETTS

Department of Conservation and Recreation
Division of State Parks and Recreation

FILE # 124 -9785-19



Post this in a conspicuous place within the area in which	the harvesting operation is to take place.
This certifies that DWSP 1056 485 (Name of Owner)	WARE RD, BELCHERTOWN in accordance with the (Address) MA 01007
provision of M.G.L. Chapter 132, Section 40-46, filed in _ and Recreation, Division of State Parks and Recreation, a	with the Dept. of Conservation
Approval Date 2/21/19 Director's Agent CHRIS CAPONE DCR Phone No. (857) 406-0175	Priscilla E. Geigis, Director Division of State Parks and Recreation