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

Project Title: Gate 49 Red Pine

DWSP Harvest Permit Number: 1062

DWSP Proposal ID: HA-22-05

DCR Forest Cutting Plan File Number: 309-34012-23

Site Information

Watershed: Quabbin

Town(s): Ware Acres: 25.1

Nearest Road: Greenwich Plains Rd Natural Heritage Atlas overlap: No

Public Drinking Water Supply Watershed: Quabbin

Forest Types: Red pine plantation and white pine with hardwoods

Area of Critical Environmental Concern (ACEC): No Soils: Well drained thick Canton fine sandy loam

Wetland Resources: A small stream and several abutting wetlands.

Vernal Pools: Two on the northern end of the lot.

Harvest Information

Harvest Start Date: 2/8/2023 Harvest End Date: 1/24/2024

Number of Wetland Crossings: One Number of Stream Crossings: One

Best Management Practices Applied

Stream Crossings: Existing culvert utilized. Seed used for soil stabilization

Filter Strips: One of variable width

Wetland Crossings: Seed and corduroy used for soil stabilization

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 stone walls on this lot attest to its history of being cleared for agriculture, mostly for pasture. When the farmland was abandoned, probably in the late 19th or early 20th century, it reverted to forest. The red pine was planted in the early '40's possibly from seedlings raised in nurseries run by the MDC. These seedlings were planted in areas of old fields/pastures that hadn't fully reverted to forest yet.

The primary tree species present are white pine and mixed oaks (predominately red oak). Other hardwoods include black and paper birch, red maple, aspen, ash, and hickories. Hemlock occurs in small groups, mainly as suppressed under-story or mid-story trees.

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. The red pine plantations that were present in several locations here have been declining for over a decade, mainly due to infestation by the non-native red pine scale. Additionally red pine is not a native species of this area.

Adjoining areas of white pine and mixed hardwoods were also treated to encourage more diverse regeneration to become established in these areas which are only accessible through the red pine stands due to property boundaries and wetlands. A small abutting stand of pitch pine (locally uncommon) with white pine and mixed hardwoods was also treated to release some of the pitch pine and hopefully encourage it to regenerate. Interestingly there was an abundance of suppressed hickory regeneration and saplings here which is also locally uncommon. The added light to forest floor should allow these to thrive, or sprout vigorously, if they were cut or damaged in the harvest.

Silvicultural Objectives

The goal of this harvest is to build on the success of the work started in 1990 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, and the resulting young forest will sequester carbon rapidly while maturing into the next stand. As this natural succession progresses habitat for many species will also be created from

early successional to late seral stages. With proper management this process can be repeated indefinitely, all the while supplying clean water and air, habitat, carbon sequestration and storage, and the wonderful wood products that society needs, along with many other benefits.

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 2 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 to be cut. Where there were patches of regeneration created from the previous cuts these were often expanded upon by harvesting some of the adjacent over-story or creating a new abutting opening.

Wherever possible wildlife habitat features were maintained and protected, such as snags (dead trees) and trees with large 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. There are many breaks and barways in these walls and they can be used to protect the stone walls during the upcoming harvest. This is in keeping with DWSP's standard practice, which dictates that every effort is made to keep existing cultural resources intact. 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 other critical habitats or known rare or endangered species. The uplands are home to a variety of wildlife including deer, turkey, coyote, bobcat, and moose.

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 | 304, 34012, 23 | Case No. | Date Rec'd | 51,252 | Nat. Hert. | No / Learliest Start | River Basin | Chicopet | Pub. Dr. Wat. | Quabble | Quality | Qua Pub. Dr. Wat. Quabbin Gen. Obj. Long Term ACEC N٥

Final(1/24) Location Landowner Ware DWSP lot 1062 Town Name DCR, Division of Water Supply Protection Road Greenwich Plains Road Mailing Address 485 Ware Rd. Proposed Start Date Sept. 2022 Acres 25.1 Vol. MBF 147.2 Vol. Cds. 167 Vol. Tons 172 Town, State, Zip Belchertown, MA 01007 (413) 323-6921 Phone Ch61 Ch61A Stew *Case# Plan Preparer Est. Stumpage Value 15,000 Steven J. Wood Licensed Timber Harvester** Address DCR, Division of Water Supply Protection 485 Ware Rd. Name Gerald Gaumond Address 81 Sibley Road Town, State, Zip New Brainfree, MA 01531 Phone 413-813-8139 Town, State, Zip Belchertown, MA 01007 (413) 213-7944 Type of Preparer Mass. Licensed Forester Mass. Lic. Harvester # 2024 - 5610 *Mass. Forester License # 257 **This information may be supplied after the plan is approved, but before *Required for land under Ch61, Ch61A or Forest Stewardship

Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	CU			
Existing Structure	Y			
Type of Bottom	MU			
Bank Height (ft)	0.2'			
Stabilization	BR/SE		l	

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	12			
Mitigation	OT			
Stabilization	CO/SE			

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

			ne culver	9/2/20	
Harv	ester is	allow	ed to	operate	withh
the	cdic	of Fs	٠١. 5	ic-1 to a mate	be
Sta	bil: zed	with	weads	n mats	during
	hane				

Typ	e of Preparer	Type	e of Crossing	Stab	ilization	Miti	gation	Typ	of Bottom	Noie:
LF	Mass. Lic. For.	CU	Culvert	SE	Seed	FR	Frozen	LE	Ledge	Applicant must provide DCR with all relevant information
TH	Lic. Tim. Har	BR	Bridge	MU	Mulch	DR	Dry	ST	Stony	before plan may be approved and cutting may begin.
TB	Timber Buyer	FO	Ford	CO	Corduroy	OT	Other	MU	Mud	Some forestry activities, such as prescribed burning and
LO	Landowner	PO	Poled	ST	Stone			GR	Gravel	pesticide or fertilizer application may require additional permits.
OT	Other	OT	Other	HB	Hay Bales			OT	Other	Consult MA Forestry BMP Manual for further information.
				OT	Other					•

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

pg 3 of 5

Species	Mbf/Cds	1	Mbf/Cds	by the service forester upon	ve not beer approval.	Mbf - tho	usand boa	
White Pine	54.7 M	Red Maple	14 M					
Red Pine	69.7 M	Sugar Maple	7.11	Cutting Standa	rds			
Pitch Pine		Red Oak	2,2 M					
Hemlock		Black Oak	2.6 M	Indicate location on map Forest Type	ST-1	ST-2	ST-3	ST-4
Spruce	1	White Oak		Forest Type	RP4	WH4	31-3	31-4
Other Sftwd.		Other Hdwd.		d Acres	12.9	12.2		
White Ash	3.6 M	Total Mbf	147.2 M	Landowner Objective	LT	LT		
Beech		Cordwood (Cds)	167	Designation of Trees	СТ	СТ		
White Birch	1	SW Pulp (Tons)	172	Type of Cut	SE	SH		
B & Y Birch	0.4 M	HW Pulp (Tons)		Source of Regeneration	ADSE	ADSE		
Black Cherry		Chips (Tons)						
		1					_	
income, enh protect soil : I (we) have re: I (we) hereby ! I (we) certify ! abutters of rec I (we) underst:	ance wildlife and water qu ad the Massa certify that I that I (we) ha ord within to and that the	(we) have the legal ive notified the Cor vo hundred feet of a volumes and values	ecreational opportest specialty protein an Information Stauthority to carruservation Commite area to be har (Ch61 only) in the	tunities, improving the fundates. in a forest domin theet, and am aware of my (our) y out the operation described at ission in the town in which the	iture forest nated by po managem- pove. operation i dently verif inal figures	condition, for quality a ent options is to take pl	which off and low vi- ace and the service fo	en resul alue spe ne rester
					0/2/			
Signature of la	indowner(s)	· · · · · · · · · · · · · · · · · · ·			Date			
Signature of la		d Status		Final Report ar	Date			

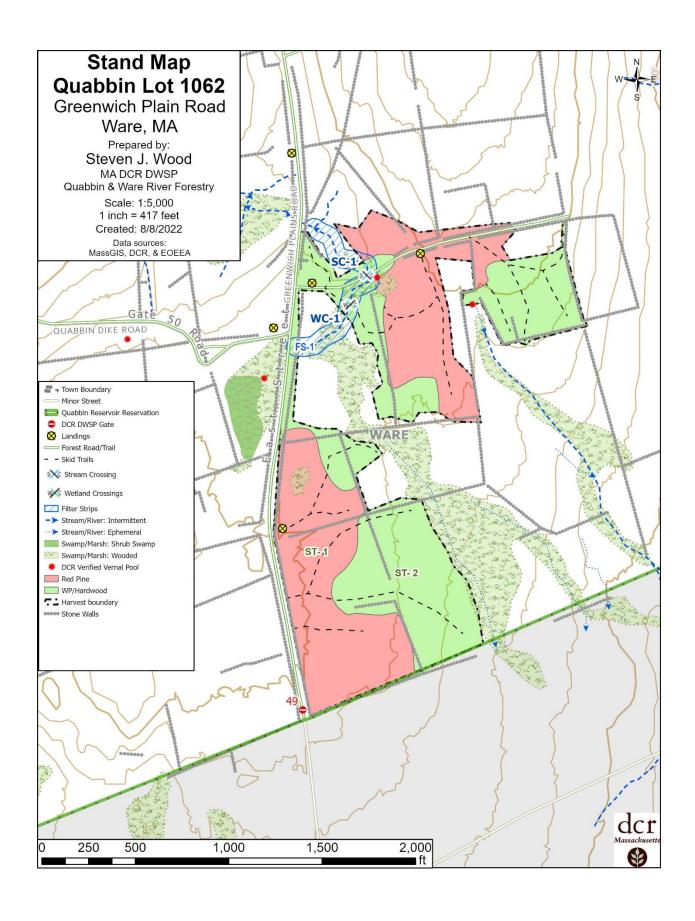
Forest Cutting Plan

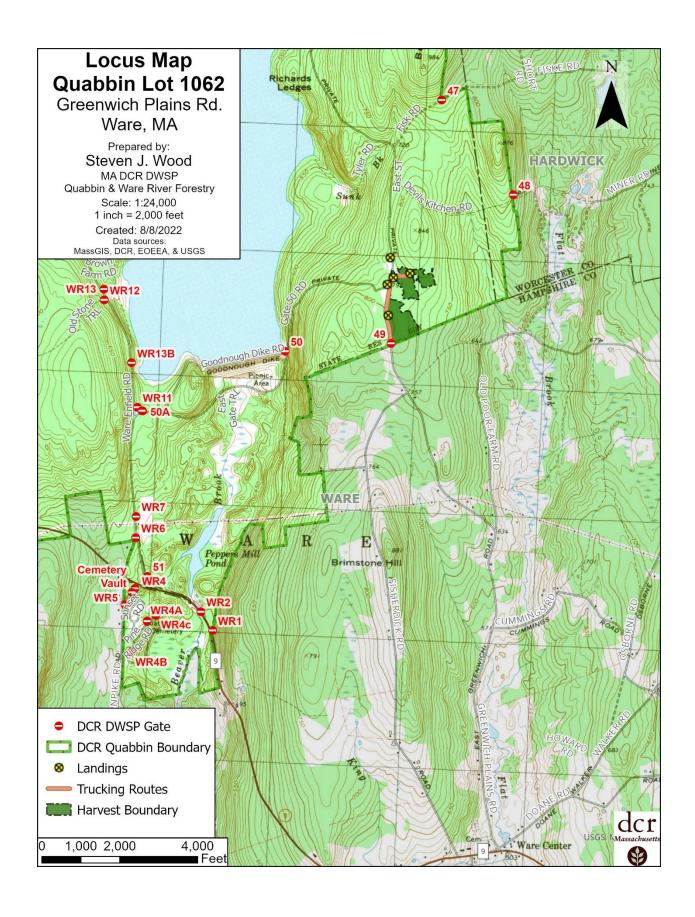
Narrative Page (Effective Date: 1/1/04)
Use this page to provide further explanation or if
Other (OT) was used in any category on pages 3 or 4.

Landowner	DCR, DWSP
Town	Ware
File Number	

not have been	n cut previously aar	nd will be t	treated as an irregular shelterwood sa	aving most of the sugar maple, better	formed oak and the best
RM, WP alor	ng with some vario	ous sized as	h. Most but not all of ash has EAB.	WC-1 to be foled or	bridged. Solv
Would like to	allow tracked har	vester to op	perate in edge of filter strip to lift ou	t stems to do less damage to residual t	rees and understory.
Use t	this Section to desc	cribe the typ	nes of trees to be harvested and or re in the Stand Treatment Sect	tained if Other (OT) was used for "De ion on page 4.	esignation of Trees"
Stand No.	Species to be	e Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Remov
	4		Y.		
Stand No.	Use this Section		d for the "Type of Cut" in the Cuttin		i, DL, or OT)
Stand No.			d for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	g Standards Section on page 4.	I be protected
Stand No.	Source of Regeneration		d for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	g Standards Section on page 4. ned/protected? present and how the regeneration wil	I be protected
Stand No.	Source of Regeneration		d for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species If using SE - Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will fithe seed and the number of seed tree.	The protected es acre
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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.







Director's Agent Jacob Macko

DCR Phone No. 857-202-2824

COMMONWEALTH OF MASSACHUSETTS

Department of Conservation and Recreation Division of State Parks and Recreation FILE # 309-34012-23

Priscilla E. Geigis, Director

Division of State Parks and Recreation



FOREST CUTTING PLAN CERTIFICATE

Post this in a conspicuous place within the area in which	the narvesting operation is to to	ake place.
This certifies that DCR - DWSP 435 War (Name of Owner)	re Rd, Belchertown, N	AA Oloo7 in accordance with the
provision of M.G.L. Chapter 132, Section 40-46, filed in _	Amherst F.O.	with the Dept. of Conservation
and Recreation, Division of State Parks and Recreation, a	Notice of Intent to cut forest pr	oducts upon the
Ware DWSP 1062 lot. Greenwich Plains Rd)		
Approval Date 9/9/72	ISSUED BY:	Paul Mi