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

Project Title: 148 & 122

DWSP Harvest Permit Number: WR 4390	
DCR Forest Cutting Plan File Number: 222-8241-16	

Site Information

Watershed: Ware River	Town(s): Oakham and Rutland					
Acres: 35	Nearest Road: Rt 148 and 122					
Natural Heritage Atlas overlap?: No	Public Drinking Water Supply Watershed?: Yes					
Forest Types: White pine -hardwood, Red Pine	ACEC?: No					
Soils: Most of the lot is on 253 Hinckley loamy sand, excessively drained.						
Wetland Resources: The lot is located south of Rt 122 and east of Rt 148 where they intersect.						
Vernal Pools: None Known						

Harvest Information

Harvest Start Date: 4/10/17	Harvest End Date: 5/3/17
Number of Wetland Crossings: None	Number of Stream Crossings: None

Best Management Practices Applied

Dest Management I race.	oes rippirea			
Stream Crossings There are no stream crossings.				
Filter Strips	There are no filter strips.			
Wetland Crossings	There are no wetland crossings.			
Harvesting in Wetlands	There is no harvesting in wetlands.			

DWSP Forester supervising this harvest	
Name: Kenneth W. Canfield	
Forester License #: 431	
Phone #: 508-882-3636 ext.1603	

NARRATIVE

General Description/Forest Composition/History:

The harvest area lies south of Rt 122 and east of Rt 148 where they intersect in Oakham. The lot extends east to the Rutland town line. A small portion of one group selection patch crosses into Rutland.

This area was harvested several times in the recent past. Shelterwood harvests were completed in 1991 and 2000. Two patch cuts of 4 and 7 acres were also created in 2000 on the eastern edge of the lot. The patch cuts regenerated well with a mix of oak, white pine, aspen, red maple, and birch.

There is 6.5 acres of previously thinned red pine plantation in the northwest corner of the lot. That area was thinned in 1991 and 1998 and has regenerated well under a sparse canopy of residual red pine stems.

There is some heath type habitat with large pitch pines present in the western portion of the lot.

The soil is excessively drained.

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. DWSP recognizes that wildlife habitat management and restoration of rare habitats are important secondary goals, where they are compatible with maintaining high quality drinking water.

This area was chosen partially because the residual red pine is likely to succumb to pests within the next ten years. The two patch cuts are ready to have their edges released and expanded. The pitch pine that is present will be released.

Silvicultural Objectives:

The harvest in the red pine will be a shleterwood removal cut to remove the residual overstory red pine before it succumbs to pests and release the advanced regeneration that is abundantly present. The two patch cuts on the eastern edge of the lot will be expanded by placing new groups adjacent to them. The new groups will be located to the south of the patch cuts, resulting in increased light for the regeneration on the southern edge. New groups, ¼ to 1.9 acres in size, will established throughout the lot, removing low quality overstory white pine and hardwood, while retaining some stems, mostly white and red oak, for aesthetic purposes.

Cultural Resources:

This land has been determined to not be culturally or archeologically sensitive based on a review by the DCR Archaeologist. Standard practice dictates that every effort is made to avoid disturbing stone walls and other cultural resources.

Wildlife/Rare or Endangered Species:

No known vernal pools are present within the lot. One group in particular was located within an area that had mature pitch pine present. All pitch pine was retained and released.

FIGURES

- Figure 1. Final Forest Cutting Plan
- Figure 2 A-D. Pre-Harvest Photographs from photo points 1-3 taken 7/22/16
- Figure 3 A-D. Post-Harvest Photographs from photo points 1-3 taken 5/9/17
- Figure 4 A-C. Post-Harvest Photographs from points 1-3 taken 8/15/18

Town Oakham and Road Rt 122 Acres 35 Vol. MBF 47.5 V	Prop	osed Star	t Data	- 19	Name DCR. Division of Water Supply Protection	2.1		
Road <u>Rt 122</u> Acres <u>35</u> Vol. MBF <u>47.5</u> V	Prop		t Data			n		
Acres <u>35</u> Vol. MBF <u>47.5</u> V			+ Data		Mailing Address 485 Ware Rd			
Vol. MBF 47.5 V			1 Date	6/16				
		9			Town, State, Zip Belchertown, MA 01007			
Plan Preparer					Phone (413) 323 - 6921			
Plan Preparer					Ch61 61A 61B Stew *Case #			
					CR CR Holder			
Name Kenneth	W. Canfield	d						
Address 578 Old T					Licensed Timber Harvester**			
	ampine It				Name			
Town, State, Zip Oak	ham MA (11068			4.11			
	3) 882 – 37		3					
Type of Preparer LF		69 A 100	3		Town, State, ZipPhone			
*Mass. Forester Licens					Mass. Lic. Harvester #			
*Required for land und					**This information may be supplied after the plan is approved, bu	it bef		
Indicate location on map	SC-1	SC-2	SC-3	SC-4		HW		
Type of Crossing	_				Forest Type (see pg 2)	_		
Existing Structure	-	-			Acres to be Harvested Resid, Basal Area			
Type of Bottom		-		-	(>50%?)			
Bank Height (ft) Stabilization								
Wetland Crossin	igs				Service Forester Comments			
	WC-1	WC-2	WC-3	WC-4	•			
Indicate location on map					Notify Service Forester			
Indicate location on map								
					when I harvest begins			
Length of Crossing					when I harvest begins			
Length of Crossing Mitigation					when I harrest begins			
Length of Crossing Mitigation Stabilization Filter Strips					when I harrest bogins			
Length of Crossing Mitigation Stabilization	FS-1	FS-2	FS-3	FS-4	when I harrest bogins			

Products to be Harvested* Mbf/Cds Species Mbf/Cds White Pine 32.5 M Red Maple Red Pine 12.9 M Sugar Maple Pitch Pine Red Oak 1.4 M Hemlock Black Oak 0.2 M White Oak 0.5 M Spruce Other Sftwd. Other Hdwd White Ash Total Mbf 47.5 Beech Cordwood (Cds) 69 White Birch SW Pulp (Tons) B & Y Birch HW Pulp (Tons) Black Cherry Chips (Tons) 645 Landowner Signature ∠T – Long-term Forest Management

*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	WH	WH	RP	
Acres	23.5	5	6.5	
Landowner Objective	LT	LT	LT	. D
Designation of Trees	CT -	CT	CT	
Type of Cut	SE	SE	SH	
Source of Regeneration	SE	SE	AD	

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.

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.

6-1-2016 Date Signature of landowner(s)

ı	Determination	and	Status

Final Penort and Comments

	Approved	Disapproved	Expir		I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied wi
Cutting Plan	×			13/30/16	4
Signature of S	ervice Foreste	er/Director's Age	nt	Date	Signature of Service Forester/Director's Agent
Extension	1	2	Expires /	Ser. For. Ints.	
Amendment	App I I	Dis 1 App 2	Dis 2		

Forest Types WP White Pine WK WP/Hem Hemlock OM Mixed Oak HH Hem/Hdwd RM Red Maple WH WP/Hdwd WO WP/Oak BC Blck Cherry BE Beech SF SM Bee/Bir/Map Spruce/Fir Sugar Maple Oak/Hdwd Red Pine OH N Red Oak Pitch Pine

Designation of Trees Cut Tree LT Leave Tree SB Stand Boundary Landowner Objective OT Other Long-term Mgt. ST Short-term Har

Type of Cut SH Shelte Shelterwood ST Seed Tree SE Selection Salvage

Sanitation

Intermediate Harvests: CT Commercial Thin NT Non Com Thin Non-Standard Systems: Non-HG Highgrade* Diameter Limit* Other*

OT

Source of Regeneration AD Advanced SE Natural Seed Pl. Plant CO Coppice DS Direct Seed 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

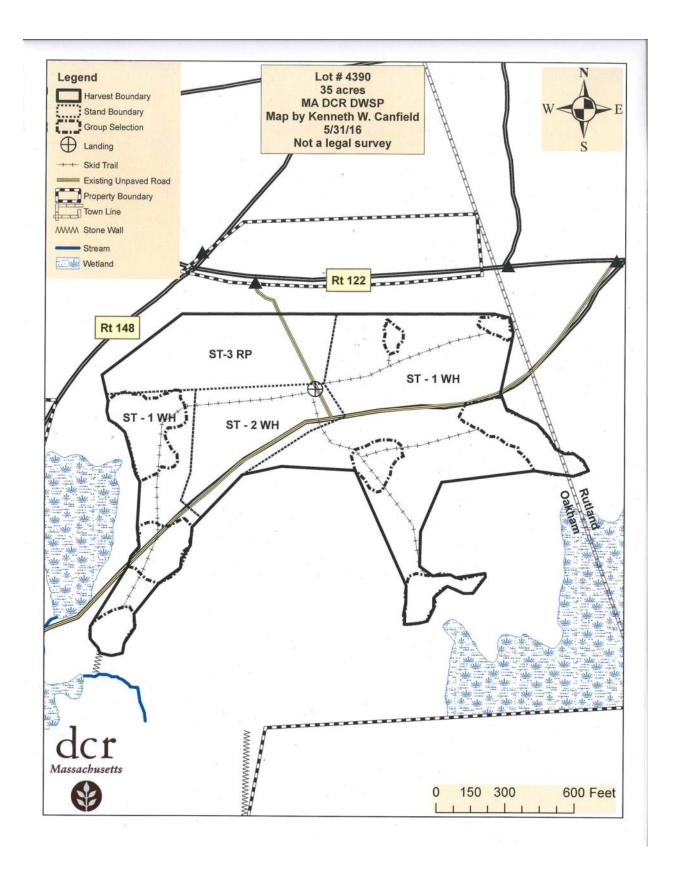
MA DCR, DWSP

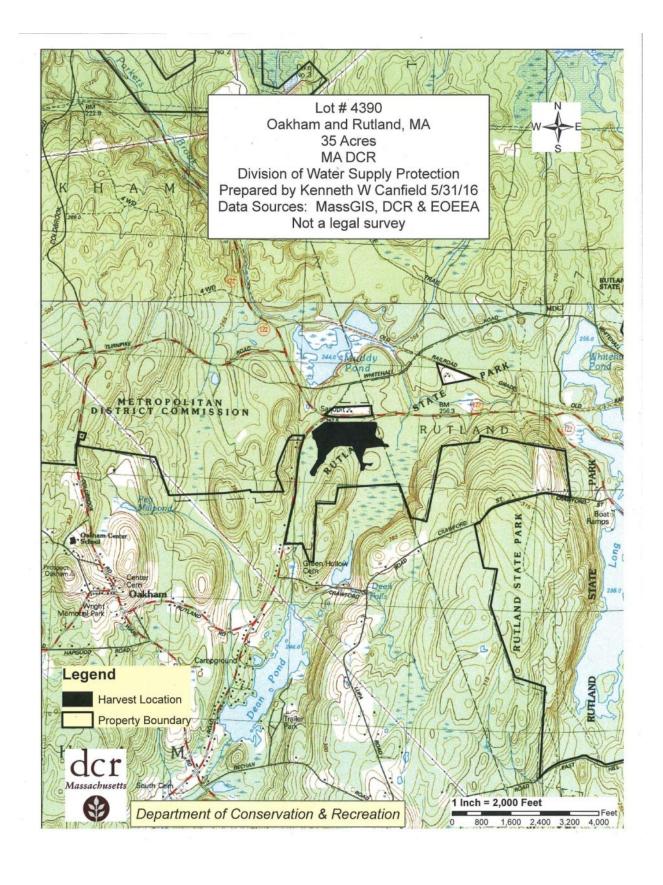
Town

Oakham and Rutland

File Number 222-8241-16

Use this Section	to provide further expl	apation or if Other (OT) was used in a	my category in the Best Management F	ractices Section on Page :
Stand 1 is WH w	rith 8 group selection of	penings ranging from ¼ to 1.9 acres in	size, with 7.5 acres total in groups. O	roups are targeted in area
expand past grou	ip openings that were e	stablished in previous harvesis and to	remove patches of low quality white p	ne. There is also some p
pine present that	will be released. Stand	12 is WH, with lower stocking and yo	unger trees than Stand 1. One area wit	h pitch pine present will !
Into than 1/2 anse.	group established to rel	ease the pitch pine. Some thinning wi	ill take place directly adjecent to main	skád tralls in both Stands
			shelterwood cuts. Advanced regenera	, <u>, , , , , , , , , , , , , , , , , , </u>
3(2)(0.7.1.) & 31(0)	CEMODE TOSIAS VAS CUE AI	a rou jado stato dist tas two provious	SHOUSE WORLD CHO. PROVINCE LOGGISTIC	SEGIOT FET AND OUGEN OWN
Same and Sam				
Use this	Section to describe the	types of trees to be harvested and/or to to the Stand Treatment Sec	ctained if Other (OT) was used for "De tion on page 4.	signation of Trees"
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Remove
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
				2.2. 2.3.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2
				-
				
			•	
U:		ibe how Chapter 132 requirements will used for the "Type of Cut" in the Cuttin	I be met if a non standard system (HG, og Standards Section on page 4.	DL, or OT)
Stand No. Sc Rej		sed for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	ng Standards Section on page 4.	be protected
Stand No. Sc Rej	was u purce of generation	sed for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	ng Standards Section on page 4. ned/protected? present and how the regeneration will	be protected
Stand No. Sc Rej	was u purce of generation	sed for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	ng Standards Section on page 4. ned/protected? present and how the regeneration will	be protected
Stand No. Sc Rej	was u purce of generation	sed for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	ng Standards Section on page 4. ned/protected? present and how the regeneration will	be protected
Stand No. Sc Rej	was u purce of generation	sed for the "Type of Cut" in the Cuttin How will Regeneration be obtain If using AD - Describe the species	ng Standards Section on page 4. ned/protected? present and how the regeneration will	be protected
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed tree	be protected s/aure
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed free	he protected
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed tree	he protected
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed tree	he protected
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed tree	he protected
Stand No. Sc Rej (ex.	was u purce of generation . AD, SE)	sed 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 Describe the source of	ng Standards Section on page 4. ned/protected? present and how the regeneration will of the seed and the number of seed tree	he protected





COMMONWEALTH OF MASSACHUSETTS

Department of Conservation and Recreation
Division of State Parks and Recreation

FILE # 222 - 8241-16

FOREST CUTTING PLAN CERTIFICATE

Post this in a conspicuous place within the area in v This certifies that DCR - DWSP (Name of Owner)	which the harvesting operation is to ta 485 Ware Red Belaner burn, Ma (Address)	
provision of M.G.L. Chapter 132, Section 40-46, files and Recreation, Division of State Parks and Recreating lot.	din Clinton	_with the Dept. of Conservation
Approval Date 61312016 Director's Agent Kottle Marquis DCR Phone No. (413) 992-8734	ISSUED BY: Priscilla E. Gel Division of St	Guil Juj Igis, Director ate Parks and Recreation

Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

A. Photo Point 1 towards SW



Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

B. Photo Point 1 towards SE



Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

C. Photo Point 2



Figure 2: Pre-Harvest photographs from marked photo points taken 7/22/16

D. Photo Point 3



Figure 3: Post-Harvest Photographs from photo points 1-3 taken 5/9/17



Figure 3: Post-Harvest Photographs from photo points 1-3 taken 5/9/17 B. Photo Point 1 towards SE



Figure 3: Post-Harvest Photographs from photo points 1-3 taken 5/9/17 C. Photo Point 2



Figure 3: Post-Harvest Photographs from photo points 1-3 taken 5/9/17
D. Photo Point 3



Figure 4: Post-Harvest Photographs from points 1-3 taken 8/15/18

A. Photo Point 1 towards SW



Figure 4: Post-Harvest Photographs from points 1-3 taken 8/15/18

B. Photo Point 2



Figure 4: Post-Harvest Photographs from points 1-3 taken 8/15/18

C. Photo Point 3

