

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

**Project Title:**

<b>DWSP Harvest Permit Number:</b> 1046
<b>DCR Forest Cutting Plan File Number:</b> 124-7796-16

**Site Information**

<b>Watershed:</b> Quabbin	<b>Town(s):</b> Hardwick
<b>Acres:</b> 38.8	<b>Nearest Road:</b> Mellon Road
<b>Natural Heritage Atlas overlap?:</b> Yes	<b>Public Drinking Water Supply Watershed?:</b> No
<b>Forest Types:</b> mixed oak and white pine/oak	<b>ACEC?:</b> No
<b>Soils:</b> Woodbridge-Paxton and Charlton-Paxton associations, extremely stony	
<b>Wetland Resources:</b> Muddy Brook runs parallel to the harvest area on the east side.	
<b>Vernal Pools:</b> None on lot, one on west side of Mellon Rd. on private property and is buffered on this lot.	

**Harvest Information**

<b>Harvest Start Date:</b> 3/10/2017	<b>Harvest End Date:</b> 5/1/17
<b>Number of Wetland Crossings:</b> None	<b>Number of Stream Crossings:</b> None

**Best Management Practices Applied**

<b>Stream Crossings</b>	There are no stream crossings.
<b>Filter Strips</b>	Variable width filter strip along Muddy Brook; no harvesting within 50 feet of Brook.
<b>Wetland Crossings</b>	There are no wetland crossings.
<b>Harvesting in Wetlands</b>	There is no harvesting in wetlands.

**DWSP Forester supervising this harvest**

<b>Name:</b> Steven Wood
<b>Forester License #:</b> 257
<b>Phone #:</b> 413-323-6921 ext. 156
<b>Email:</b> Steven.Wood@state.ma.us

## **NARRATIVES**

### **General Description/Forest Composition/History:**

The area to be harvested is in the town of Hardwick, and is bounded by Fleming Road to the north and Mellon Road to the west. Muddy Brook runs parallel to the east boundary of the lot, about 100 feet away. Lot 1045 abuts this lot on the south and runs south along Mellon Rd. to Greenwich Rd.

The stone walls on this lot attest to its history of clearing for agriculture, mostly for pasture. When the farmland was abandoned, probably in the late 19<sup>th</sup> or early 20<sup>th</sup> century, it reverted to forest. This lot was part of a privately owned parcel that was given to the Nature Conservancy in 1978, which donated it to DCR (then called the Metropolitan District Commission) in 1980.

The primary tree species are white pine and mixed oaks, particularly red oak. Other hardwoods include black and paper birch, red maple, aspen, ash, and hickories. Hemlock occurs in small groups, mainly as suppressed mid-story trees, particularly near Mellon Road. A harvest in 1990 resulted in extensive regeneration, some of which was damaged and/or partially released by recent winter storms.

The soils on this lot are primarily Woodbridge-Paxton and Charlton-Paxton associations, extremely stony. These are glacial till soils derived from granite and gneiss, composed mostly of fine sandy loams. They range from moderately well drained (Woodbridge) to well drained (Charlton and Paxton).

### **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. In order 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 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 full diversity of native species is being maintained in all age classes. This combination of structural and species diversity builds resistance and resilience into the forest.

### **Silvicultural Objectives:**

The main treatment at this time is the removal of the overstory in small groups, up to ½ acre in size, in order to foster regeneration. Some groups were placed where there were clusters of trees that were declining or had weak stem form, often due to insects, diseases, or storm damage. These vulnerable trees will be replaced with vigorous new seedlings, or with saplings where there is existing regeneration to be released. Where there were groups of regeneration created from the previous cut these were expanded upon by creating a new abutting group.

On the slope leading to the stream the areas between groups were thinned to improve the vigor of the remaining overstory trees. Wherever possible wildlife habitat features were maintained and protected, such as snags (dead trees) and trees with cavities or nests.

#### **Cultural Resources:**

Stone walls are numerous throughout this section. There are many breaks and barways in these walls and other than one barway which will need to be widened they can easily be avoided and 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. Otherwise, this area has been determined not to be culturally or archeologically sensitive based on a review by the DCR Archaeologist.

#### **Wildlife/Rare or Endangered Species:**

The eastern most portion of this lot is within a habitat "bubble" designated for protection by the Natural Heritage and Endangered Species Program (NHESP). NHESP has determined that the area within 50-300 feet of Muddy Brook should be harvested between November 1 and March 31 in order to protect these species. (The time window would be narrower for the area within 50 feet of the Brook, but this area will not be part of this harvest.)

The lot contains no other critical habitats or known rare or endangered species, and no vernal pools. Beavers have had a substantial impact on Muddy Brook, altering the hydrology and killing hardwoods on the banks. The uplands are home to a variety of wildlife including deer, turkey, coyote and moose.

#### **FIGURES**

**Figure 1. Forest Cutting Plan**

**Figure 2. Pre-Harvest Photographs, A-C**

**Figure 3: 2 years after harvest (7/19/2018) photos D & E**

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)

## For DCR Use Only:

File Number 34-7796-16 Case No. \_\_\_\_\_  
Date Rec'd 8-16-15 Nat. Hert. Yes  
Earliest Start 8-26-15 Nat. Hert. Imp. Yes  
River Basin Chicopee Pub. Dr. Wat. Quabbin  
Gen. Obj. LT ACEC N

Site Information

### Location

Town Hardwick, Lot 1046  
Road Mellon Rd.  
Acres 38.8 Proposed Start Date 9/15/15  
Vol. MBF 98.5 Vol. Cds. 192 Vol. Tons 97

### Plan Preparer

Name Steven J. Wood  
Address DCR, Division of Water Supply Protection  
485 Ware Rd.  
Town, State, Zip Belchertown, MA 01007  
Phone (413) 323-6921 ext. 156  
Type of Preparer Mass. Licensed Forester  
\*Mass. Forester License # 257  
\*Required for land under Ch61, Ch61A or Forest Stewardship

### Landowner

Name DCR, Division of Water Supply Protection  
Mailing Address 485 Ware Rd.  
Town, State, Zip Belchertown, MA 01007  
Phone (413) 323-6921  
Ch61 ☐ Ch61A ☐ Stew ☐ \*Case # \_\_\_\_\_  
Est. Stumpage Value \_\_\_\_\_

### Licensed Timber Harvester\*\*

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Town, State, Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Mass. Lic. Harvester # \_\_\_\_\_

\*\*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	SC-4
Type of Crossing				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

### Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing				
Mitigation				
Stabilization				

### 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

\* See attached NITESP determination  
- boundaries of 300' buffer has been flagged

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge
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		

Note:  
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.

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

## Products to be Harvested\*

Species	Mbf/Cds		Mbf/Cds
White Pine	25.7	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	49.8
Hemlock		Black Oak	15.1
Spruce		White Oak	7.5
Other Sftwd.		Other Hdwd.	0.5
White Ash		Total Mbf	98.5
Beech		Cordwood (Cds)	192
White Birch		SW Pulp (Tons)	97
B & Y Birch		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.

## Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	OM4			
Acres	38.8			
Landowner Objective	LT			
Designation of Trees	CT			
Type of Cut	SE			
Source of Regeneration	AD/SE			

## 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 species.

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.

*Willie S. Pa* 8-6-15

Signature of landowner(s)

Date

## Determination and Status

Approved Disapproved Expires

Cutting Plan



8-11-2017

Signature of Service Forester/Director's Agent

Date

Extension

1 ☐

2 ☐

Expires

Ser. For. Ints.

9-18-2015

Amendment

App 1 ☐

Dis 1 ☐

App 2 ☐

Dis 2 ☐

Expires

## Final Report and Comments

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

Signature of Service Forester/Director's Agent

Date

5/5/2017

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

\*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 DCR, DWSP

Town Hardwick

File Number \_\_\_\_\_

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.

This area is being managed as an irregular shelterwood using group selection with some thinning between groups occurring mainly in road and wetland buffers. There are 20 groups ranging in size from .2-.5 acres. Cut trees are yellow marked with some blue used in the northern end. Edges of groups are designated by an orange stripe and dot and pink flagging. Orange marked trees are to be protected. This is a continuation of and similar treatment as lot 1045, covered by another cutting plan, and is marked with blue paint and pink "Harvest Boundary" flagging separates the 2 lots. The same landings or only the northern one may be used depending on the timing and who wins the bid. A NHESP bubble is along Muddy Br. and opening 13, 14 and 16 fall within it.

6

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

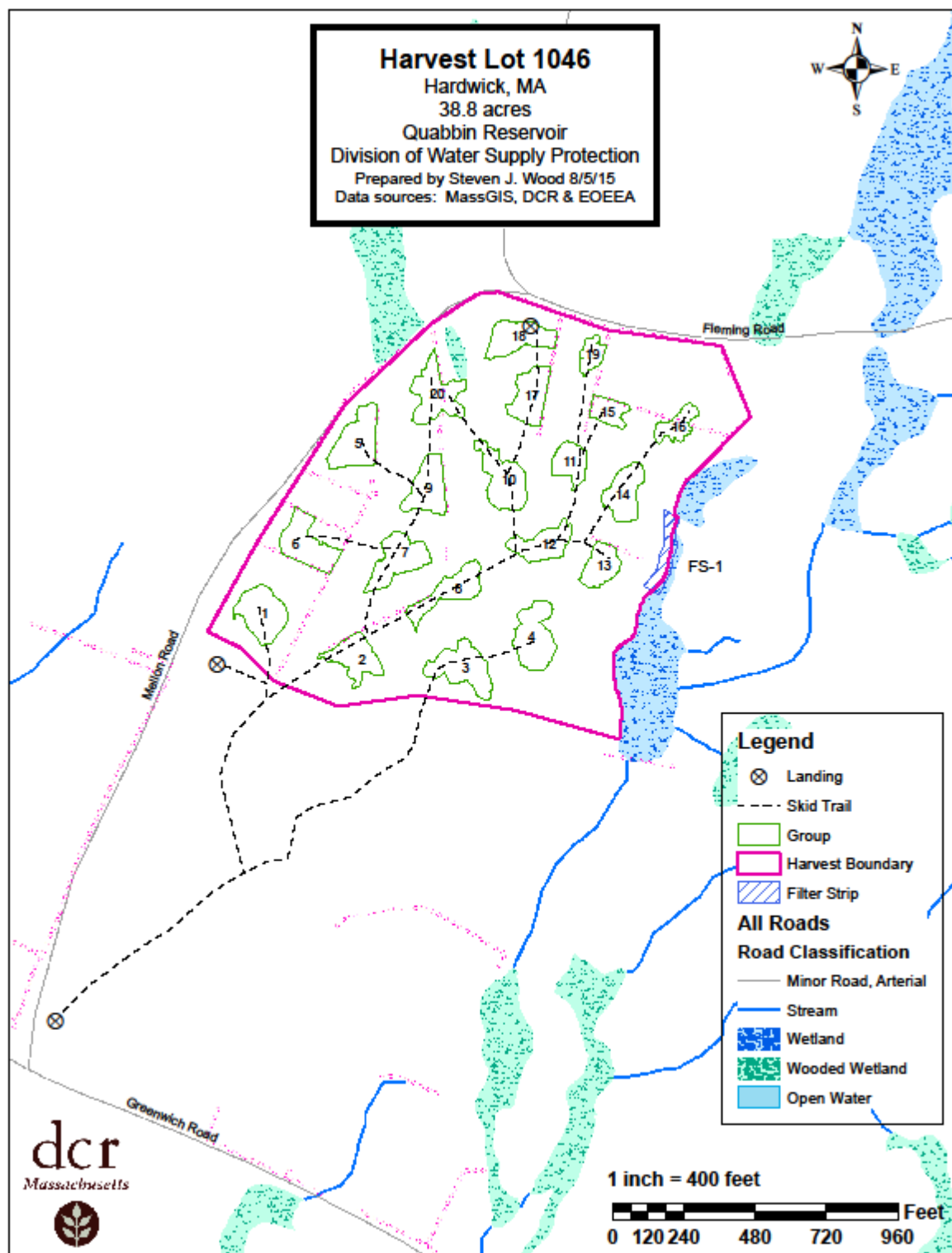
Regeneration & Future Condition

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


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


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## Harvest Lot 1046

Hardwick, MA

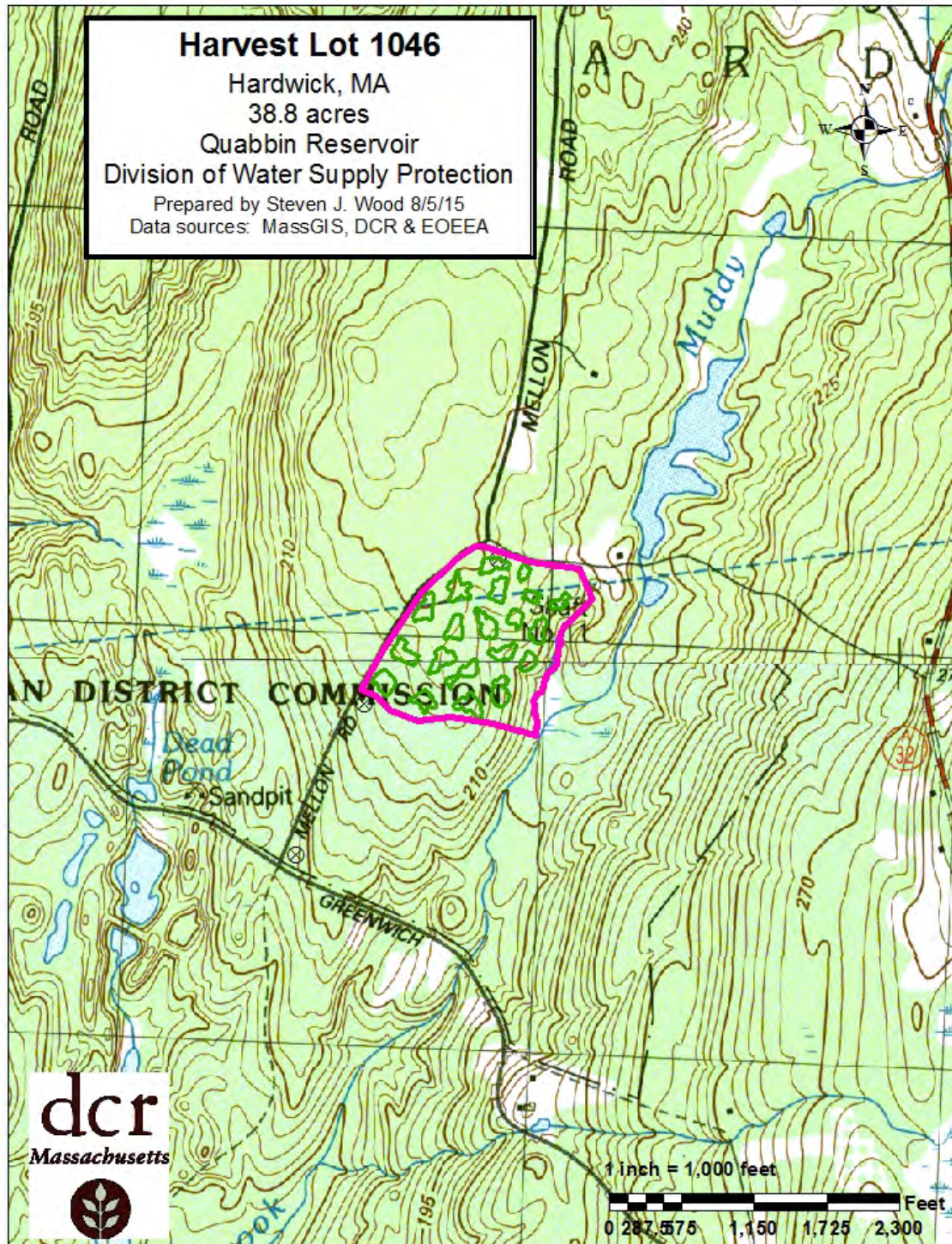
38.8 acres

Quabbin Reservoir

Division of Water Supply Protection

Prepared by Steven J. Wood 8/5/15

Data sources: MassGIS, DCR & EOEEA







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

FILE # 124-7796-16

## FOREST CUTTING PLAN CERTIFICATE

# W

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that DWEP 485 Ware Rd Balahertown in accordance with the  
(Name of Owner) (Address)

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

Approval Date 9/18/2015

Director's Agent Kate Marquis

DCR Phone No. (413) 992 8734

ISSUED BY:

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

**Figure 2: Pre-Harvest Photographs A, B & C**

**A.**



Photo point 1 looking west towards barway on Mellon Rd., in opening #6, 0.5 acres. Yellow marked trees to be cut.



**B.**



Photo point 2 northeast of barway (orange/black flagging) looking southwest along wall into 0.5 acre group #6.



C.



Taken from proposed entrance to new landing, just south of Fleming Rd. looking south.



Figure 3: 2 years after harvest (7/19/2018) photos D & E

D.



Photo point 1 looking north.

E.



Photo point 2 looking south, same view as **photo B**.