Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Summary

Project Title: East Entrance Red Pine

DWSP Harvest Permit Number: 1049
DCR Forest Cutting Plan File Number: 309-8230-16

Site Information

Watershed: Quabbin	**Town(s)**: Ware
Acres: 27	**Nearest Road:** East entrance to Quabbin Park
Natural Heritage Atlas overlap?: Yes but no impact.	**Public Drinking Water Supply Watershed?:** Quabbin
Forest Types: Red pine and mixed red/white pine.	**ACEC?:** No
Soils: Hinckley loamy sand, Canton fine sandy loam and Merrimac sandy loam.	
Wetland Resources: Parts of harvest abut Quabbin Reservoir and 3 small streams..	
Vernal Pools present or within 200 feet of harvest: None	

Harvest Information

Harvest Start Date: TBD	**Harvest End Date**
Number of Wetland Crossings: One short one.	**Number of Stream Crossings:** Potentially one.

Best Management Practices Applied

Stream Crossings	Existing culvert in dirt road, portable bridge required to reinforce.
Filter Strips	Variable width with no cutting to a maximum of 50% of basal area cut.
Wetland Crossings	One existing 20’ long will be corduroyed or crossed with a portable bridge.
Harvesting in Wetlands	No harvesting in wetlands.

DWSP Forester supervising this harvest
Name: Steven J. Wood
Forester License #: 257
Phone #: 1 (413) 323-6921 ext. 156
Email: steven.wood@state.ma.us

NARRATIVE

General Description/Forest Composition/History:

The area to be harvested is located in the town of Ware and contains nine separate stands along the East Entrance Road of Quabbin Park up to lower Goodnough Dike Road.

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, the land reverted to forest. The areas to be cut were all planted to red pine. All have been cut before, most multiple times over the last 40 years. This has resulted in most being 2 aged stands with an unevenly stocked overstory of mainly red and white pine. Some hardwoods have also emerged over the years.

The understory is well stocked with white pine (many over 15' tall) and some hardwood and hemlock in areas that haven't been heavily browsed. In general due to the high deer population the understory has low species diversity.

The soils on this lot are well drained, primarily Hinckley loamy sand, Canton fine sandy loam and Merrimac sandy loam. Some sections have a lot of surface stone. Slopes are generally flat to moderate.

Site Selection:

All the red pine is in various stages of decline due mainly to the red pine scale and root rot. Sections already have significant mortality. The outlook for red pine surviving in this area is very poor and the species no longer meets DWSP objectives of having "a diverse mix of healthy trees that are long-lived, well-suited to their location, and vigorously growing and assimilating nutrients".

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.

Silvicultural Objectives:

A goal of this harvest is to build on the success of the work started in 1980 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 and should be enhanced. 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 (most of the remaining red pine) in order to encourage new regeneration and release existing regeneration. Groups were placed according to DWSP guidelines. Areas with regeneration created from the previous cut were released by cutting the remaining overstory or expanded upon by creating an abutting group. Exceptional individuals of all species present were retained in the stand for seed and to enhance diversity.

Wherever possible wildlife habitat features, such as snags (dead trees) and trees with cavities or nests were maintained and protected.

Cultural Resources:

Stone walls are numerous throughout this area. There are many breaks and barways in these walls and they can be used to avoid and 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 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:

There are two sections of this lot within a habitat "bubble" designated for protection by the Natural Heritage and Endangered Species Program (NHESP). NHESP does not expect activities proposed in the plan to negatively impact listed species and did not require modifications to the plan.

The lot contains no other critical habitats or known rare or endangered species, and no vernal pools. The uplands are used by a variety of wildlife including deer, turkey, coyote, bob cat, bald eagle and moose.

FIGURES

Figure 1. Forest Cutting Plan

Figure 2. Pre-Harvest Photographs, A-B

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)

05-26-16P12:26 RCVD

For DCR Use Only:

File Number	209-8233-16	Case No.	
Date Rec'd	5/26/16	Nat. Hert.	N
Earliest Start	6/13/16	Nat. Hert. Imp.	N
River Basin	CH/CONN	Pub. Dr. Wat.	QUABBIN
Gen. Obj.	LT	ACEC	N

Site Information

Location

Town: Ware Quabbin Lot 1049
Road: Quabbin East Entrance
Acres: 27 Proposed Start Date: 10/1/16
Vol. MBF: 265.4 Vol. Cds.: 111 Vol. Tons: 278

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	CU			
Existing Structure	yes			
Type of Bottom	ST			
Bank Height (ft)	1.0'			
Stabilization	PBR			

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	15'			
Mitigation	PO			
Stabilization	CO/SE			

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	VA	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

NO NHESP IMPACT – SEE ATTACHED LETTER

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

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	60.3 M	Red Maple	2.2 M
Red Pine	182.4 M	Sugar Maple	
Pitch Pine		Red Oak	
Hemlock		Black Oak	17.2 M
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash	3.3 M	**Total Mbf**	265.4
Beech		**Cordwood (Cds)**	111
White Birch		**SW Pulp (Tons)**	278
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.

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	RP	RP/WP		
Acres	24	3		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SE	SH		
Source of Regeneration	AD/SE	AD/SE		

Landowner

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 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.

Signature of landowner(s) — Date: 5-20-16

Service Forester

Determination and Status 309-8230-16

	Approved	Disapproved	Expires
Cutting Plan	☐	☐	5/27/18

Signature of Service Forester/Director's Agent — Date: 6/8/16

			Expires	Ser. For. Ints.
Extension	1☐	2☐	/	/

	App 1	Dis 1	App 2	Dis 2	
Amendment	☐	☐	☐	☐	/

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

Codes

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

Designation of Trees
CT Cut Tree
LT Leave Tree
SB Stand Boundary
OT Other

Landowner Objective
LT Long-term Mgt.
ST Short-term Har.

Type of Cut
SH Shelterwood
ST Seed Tree
CC Clear Cut
SE Selection
SA Salvage
SN Sanitation

Intermediate Harvests:
CT Commercial Thin
NT Non Com Thin

Non-Standard Systems:*
HG Highgrade*
DL Diameter Limit*
OT Other*

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

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 339-8230-16

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 harvest is a pre-salvage of red pine plantations that were previously cut and are now starting to decline due to scale and root rot. Some white pine and hardwoods will also be cut in and around the plantations. Regeneration is present throughout, mainly white pine and black birch and as much as possible will be protected. This treatment will remove most of the RP. Most of treatment best described as group selection with openings up to 5 acres created. 5-10 sq ft of basal area will be retained in openings over 0.5 ac. Note: most of stands are in NHESP bubbles. ST-1, 1a and 2 have wood turtle listed. If NH determines impact then limit to 11/1-3/31. Cut trees marked with blue paint, stand boundaries and save trees marked with orange.

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.

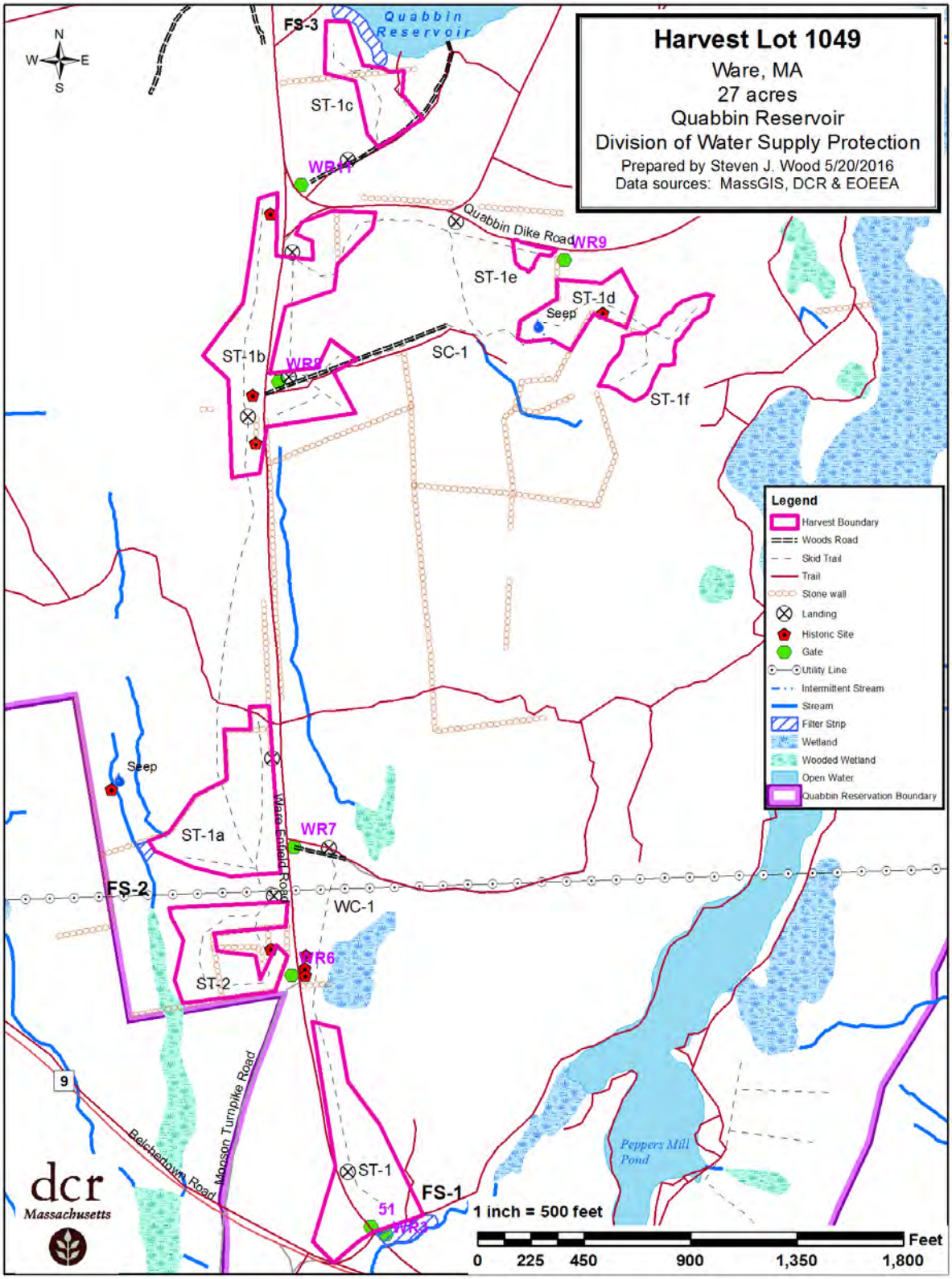
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed

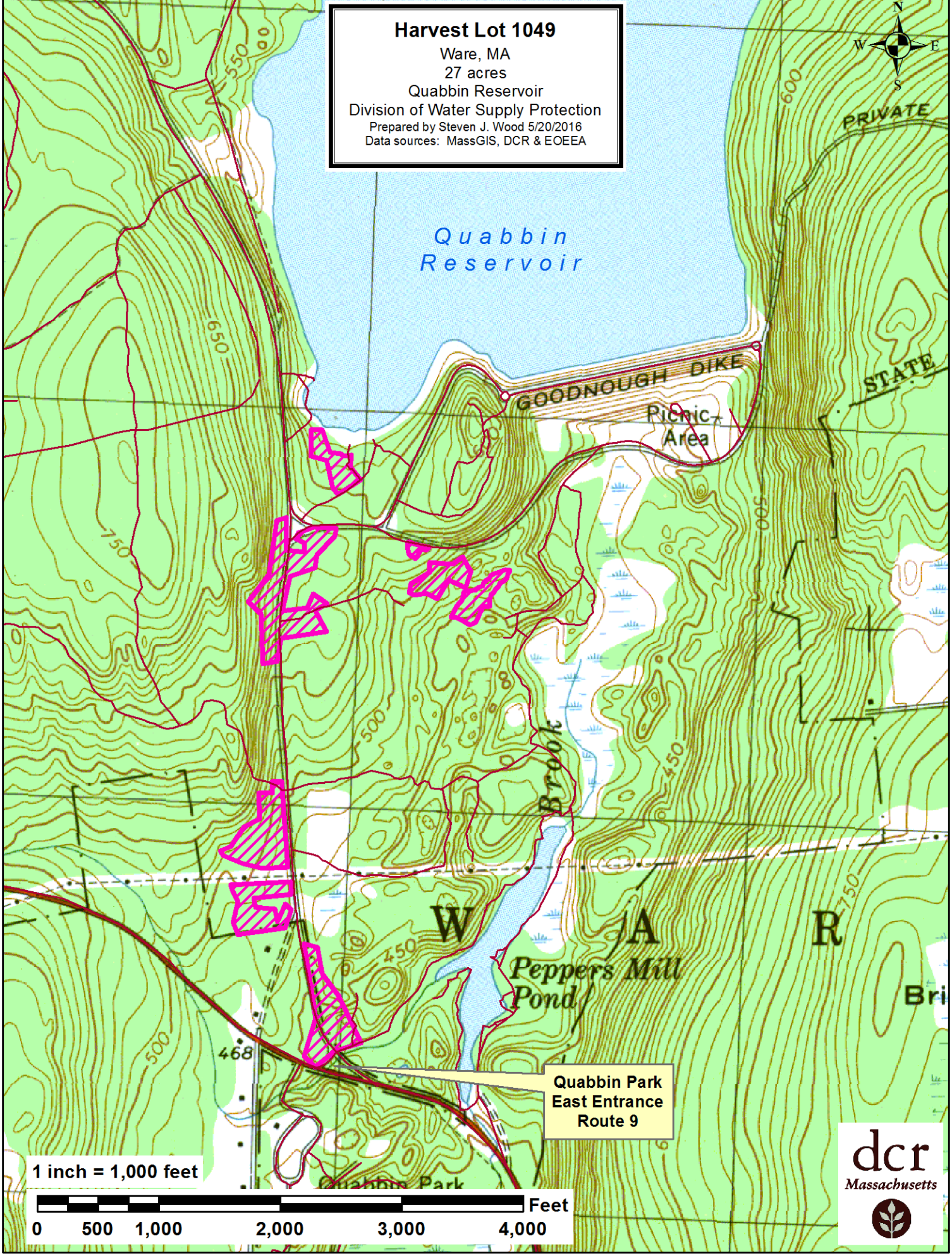
Regeneration & Future Condition

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


Harvest Lot 1049
Ware, MA
27 acres
Quabbin Reservoir
Division of Water Supply Protection
Prepared by Steven J. Wood 5/20/2016
Data sources: MassGIS, DCR & EOEEA
N
W
E
S
Quabbin Reservoir
FS-3
ST-1c
WR11
Quabbin Dike Road
WR9
ST-1e
ST-1d
Seep
ST-1b
WR8
SC-1
ST-1f
Legend
Harvest Boundary
Woods Road
Skid Trail
Trail
Stone wall
Landing
Historic Site
Gate
Utility Line
Intermittent Stream
Stream
Filter Strip
Wetland
Wooded Wetland
Open Water
Quabbin Reservation Boundary
Seep
ST-1a
WR7
Ware Enfield Road
FS-2
WC-1
WR6
ST-2
9
Belchertown Road
Monson Turnpike Road
ST-1
FS-1
51
WR5
Peppers Mill Pond
dcr
Massachusetts
1 inch = 500 feet
Feet
0
225
450
900
1,350
1,800


Harvest Lot 1049
Ware, MA
27 acres
Quabbin Reservoir
Division of Water Supply Protection
Prepared by Steven J. Wood 5/20/2016
Data sources: MassGIS, DCR & EOEEA
N
W
E
S
Quabbin Reservoir
PRIVATE
GOODNOUGH DIKE
Picnic Area
STATE
Peppers Mill Pond
Quabbin Park East Entrance Route 9
1 inch = 1,000 feet
Feet
0
500
1,000
2,000
3,000
4,000
dcr
Massachusetts

dcr

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

FILE # 309-8230-16

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 DCR - DWSP Quabbin 485 Ware Rd. Belchertown, MA in accordance with the
(Name of Owner) (Address)

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 products upon the East Entrance lot. "Lot 1049"

Approval Date 6/7/16

Director's Agent Doug Hutcheson

DCR Phone No. (413) 545-7020

ISSUED BY:

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

Figure 2: Pre-Harvest Photographs, A-B (9/13/16)

A.

Photo point 1 looking north from point on east side of road just inside east entrance to Quabbin Park. Declining crowns of red pine are evident.

B.

Photo point 2 taken from west side of road, south side of power line. Dead and declining red pines are evident as is dense white pine regeneration in understory. Foreground is the cleared power line right of way.