

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

Project Title: Birch Drive at 122

DWSP Harvest Permit Number: 3141

DWSP Proposal ID: PT-16-14

DCR Forest Cutting Plan File Number: 234-7900-16

Location Information

Watershed: Quabbin

Town(s): Petersham

Acres: 52.2

Nearest Road: Route 122

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Area of Critical Environmental Concern (ACEC)?: No

Site Information

Forest Types: white pine, usually mixed with oak and other hardwoods and/or hemlock

Soils: Montauk-Scituate-Canton and Charlton-Chatfield associations

Wetland Resources: stream-wetland complex outside the cutting area to the west; two small, wooded wetlands outside the cutting area to the east; one ¾ acre shrub swamp in the center of the lot.

Vernal Pools: The central shrub swamp and the two northernmost wooded wetlands to the west have been verified by DWSP as vernal pools and are being protected as such.

Harvest Information

Harvest Start Date: April 23, 2018

Harvest End Date: May 8, 2018

Number of Wetland Crossings: none (the one on the cutting plan was not used)

Number of Stream Crossings: one (the two others on the cutting plan were not used)

Best Management Practices Applied

Stream Crossings: bridged when running, with the option to cross on poles when dry; stabilization with corduroy.

Filter Strips: variable width based on slope on streams, 100 feet on vernal pools, and 50 feet on wetlands.

Wetland Crossings: not applicable

Harvesting in Wetlands: not applicable

DWSP Forester supervising this harvest

Name: Helen Johnson

Forester License number: 383

Phone number: (617) 733-2937

Email: Helen.Johnson@mass.gov

Narrative

General Description/Forest Composition/History

The area to be harvested is on the south side of Route 122 in the town of Petersham, just to the east of Birch Drive. Forest types within the cutting area are dominated by white pine, mixed with hemlock and/or hardwoods or in some areas as a near monoculture. Much of the pine has sustained multiple injuries due to white pine weevil, an insect that kills the terminal shoot, causing excessive branching, forking and sweep in the main stem and weakening the overall architecture of the tree. The focus of this harvest is on removing these pines and other disease- or injury-weakened trees in patches large enough to stimulate regeneration of a diverse mix of species.

There are numerous stone walls within and around this lot, evidence that the land was once cleared for agriculture. The areas along Route 122 that are heaviest to pine and have the least populated understories were probably cultivated. Cultivation generally results in reduction of microtopography due to leveling of the soil. However, in this area some microtopography was reintroduced prior to acquisition by DCR by the excavation of test pits, reportedly for the purpose of checking the suitability of the site for a town landfill. The landfill was located elsewhere, and the test pits were never refilled.

The layout of this harvest has been carefully planned to avoid and protect the streams and wetlands in the area. The most significant stream-wetland complex flows south to north just outside the west edge of the harvest area. The two northernmost of these wetlands, near the intersection of Birch Drive and Route 122, are believed to be vernal pools, as is an isolated wetland in the center of the lot. Lastly, there are two small wetlands to the east of the harvest area, also along Route 122. The easternmost of these is part of a narrow stream-wetland complex oriented south to north and located primarily on abutting private land. Filter strips of variable width based on slope, but at least 100 feet, were placed on all streams and wetlands, including those believed to be vernal pools. Cutting will be extremely limited in the filter strips, well below the 50% of basal area allowed by law.

The Cutting Plan shows two stream crossings and one wetland crossing. However, the stream crossings will not be used because no trees are being cut in the areas accessed by those crossings. The wetland crossing is a well armored (rocky) existing crossing on an existing skid road leading to an existing landing on the private property to the east. The wetland crossing would allow access to that landing, which is a safer point of access to Route 122 than anywhere on DWSP property. However, it is possible that the landing will be more centrally located, so the wetland crossing may not be used.

The soils within the harvest area are primarily Montauk-Scituate-Canton and Charlton-Chatfield associations, both extremely stony. These are coarse-loamy glacial till soils derived from gneiss, granite, and/or schist. Montauk, Canton, Charlton, and Chatfield are all well drained; Scituate is moderately well drained. Along Route 122, to the east of Birch Drive and the nearby wetlands, is about half an acre of fill that was deposited, along with propagules of honeysuckle and barberry, in the process of highway construction. This fill area was excluded from the

harvest in order to minimize spread of invasive species. Areas with poorly drained soils were also avoided, as were steep areas with exposed bedrock.

Site Selection

The primary goal of harvesting on the watershed is to create and maintain a forest that is resilient to and can quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes, all of which are becoming increasingly common. The ideal way to achieve this is to have a diversity of species in various stages of development (seedlings through large legacy trees) that are actively growing and regenerating. This combination of structural and species diversity builds resistance and resilience into the forest.

This particular lot has a high proportion of poor-quality white pine, as is typical for the first-generation forest following agricultural abandonment. As the pines mature, their fallen needles rehabilitate the soil, enabling successive forests to support a more diverse mix of species, as is expected to occur in response to this harvest.

Silvicultural Objectives

This harvest focuses on removal of the overstory in small groups, ranging from 1/10 to 2 acres in size and averaging 0.85 acres, in order to foster regeneration. Groups were placed where there were clusters of trees that were declining or had weak stem form, with a preference for cutting weevilled white pine. These vulnerable trees will be replaced with vigorous new seedlings. Wherever possible wildlife habitat features were maintained and protected, such as snags (dead trees) and trees with cavities or raptors' nests. The full diversity of existing native tree species is being maintained and promoted.

Cultural Resources

This parcel is almost entirely bordered by stone walls, some of which encompass large boulders that lie along the property boundary. There are also several stone walls within the eastern third of the lot. These walls will be protected and avoided during the harvest, and existing barways will be utilized where needed to minimize damage. 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 Natural Heritage and Endangered Species Program (NHESP) of the Division of Fisheries and Wildlife has determined that state-listed sensitive species or habitats may exist within the harvest area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included here. This harvest has been designed in consultation with NHESP in order to enhance habitat for state listed species, as well as to ensure their protection. In order to prevent a Take, NHESP issued restrictions on this project that are incorporated into the Forest Cutting Plan and have been implemented on this harvest from its earliest planning stages.

NHESP reviewed the Forest Cutting Plan for this lot and determined that,

“Based on details of the Plan and information in the NHESP database, the Division [of Fisheries and Wildlife] does not expect activities proposed in the Plan to negatively impact Estimated Habitat or result in “Take” (as defined in 321 CMR 10.02) of plant or animal species protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00).”

Forest Cutting Plan

Forest Cutting Plan page 1 of 9

11-10-15P04:31 RCVD

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 234-7900-16 Case No. _____
 Date Rec'd 11-10-15 Nat. Hert. YES
 Earliest Start 11-25-15 Nat. Hert. Imp. NO
 River Basin Chicopee Pub. Dr. Wat. Quabbin
 Gen. Obj. LT ACEC NO

EXTENSION #2 (9/17) Amendment 5/18 Final 5/25

Site Information

Location

Town Petersham **Quabbin Lot 3141**
 Road Route 122
 Acres 52.2 Proposed Start Date Dec. 2015
 Vol. MBF 64.2 Vol. Cds. 56 Vol. Tons 145

Plan Preparer

Name Helen Johnson
 Address DCR-DWSP Quabbin Section
485 Ware Road
 Town, State, Zip Belchertown, MA 01007
 Phone 978-544-6343
 Type of Preparer Mass. Licensed Forester
 *Mass. Forester License # 383
 *Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name DCR-DWSP Quabbin Section
 Mailing Address 485 Ware Road
Helen.Johnson@state.ma.us
 Town, State, Zip Belchertown, MA 01007
 Phone 978-544-6343
 Ch61 61A 61B Stew *Case # _____
 CR CR Holder _____

Licensed Timber Harvester**

Name TBD Chris Pimer
 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 (on DWSP property)

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing	BR/PO	BR/PO	BR/PO	
Existing Structure	No	No	No	
Type of Bottom	ST	ST	MU	
Bank Height (ft)	1	<1	<1	
Stabilization	CO	CO	CO	

Wetland Crossings (on abutters' property)

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	25'			
Mitigation	DR/FR			
Stabilization	CO			

Filter Strips

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

Harvesting in Wetlands None

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

*New expiration date: 11-20-2018
 PE 9/18/17
 * -> Added SC-3 to Amend

Codes

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

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	38.4	Red Maple	3
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	7.3
Hemlock	13.1	Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	2.5
White Ash		Total Mbf	64.2
Beech		Cordwood (Cds)	56
White Birch		SW Pulp (Tons)	145
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	OM	WH		
Acres	15.5	36.7		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SE*	SE*		
Source of Regeneration	AD/SE	AD/SE		

* Small group and single tree selection, with groups up to 2 acres.

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.

William F. [Signature] _____ 11-6-15
 Signature of landowner(s) Date

Determination and Status <i>234-7900-16</i>			Final Report and Comments	
Approved	Disapproved	Expires		
Cutting Plan <input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>11/20/2017</u>	I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.	
<i>[Signature]</i>		<u>11/23/15</u>	<i>[Signature]</i> <u>5.7.25</u>	
Signature of Service Forester/Director's Agent		Date	Signature of Service Forester/Director's Agent Date	
Extension <input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<u>11-20-2018</u> Expires	Ser. For. Ints. <u>FE1</u>	
Amendment <input checked="" type="checkbox"/> App 1	<input type="checkbox"/> Dis 1	<input type="checkbox"/> App 2	<input type="checkbox"/> Dis 2	<u>AR</u>
<u>5/14/18</u>				

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

*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page

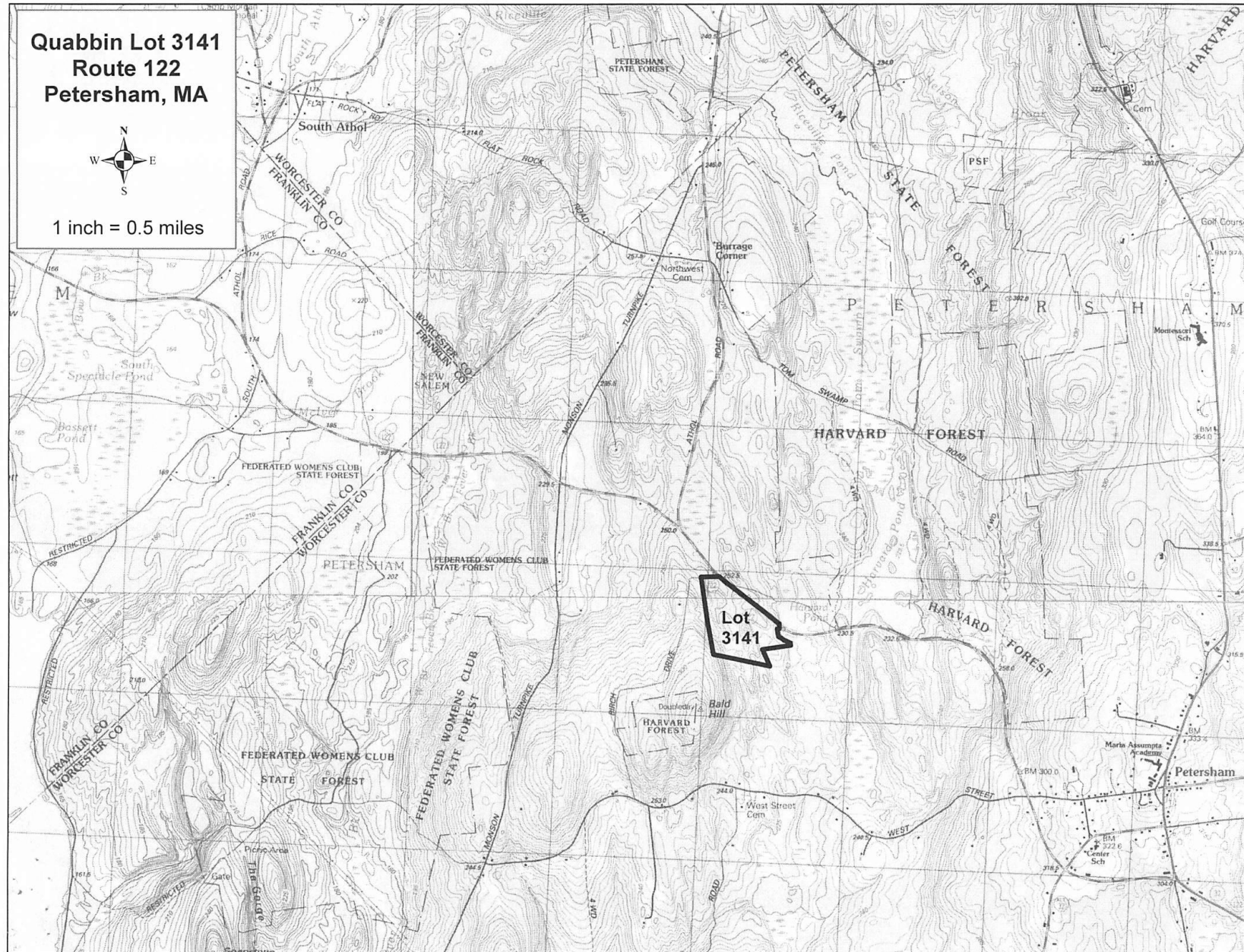
Forest Products

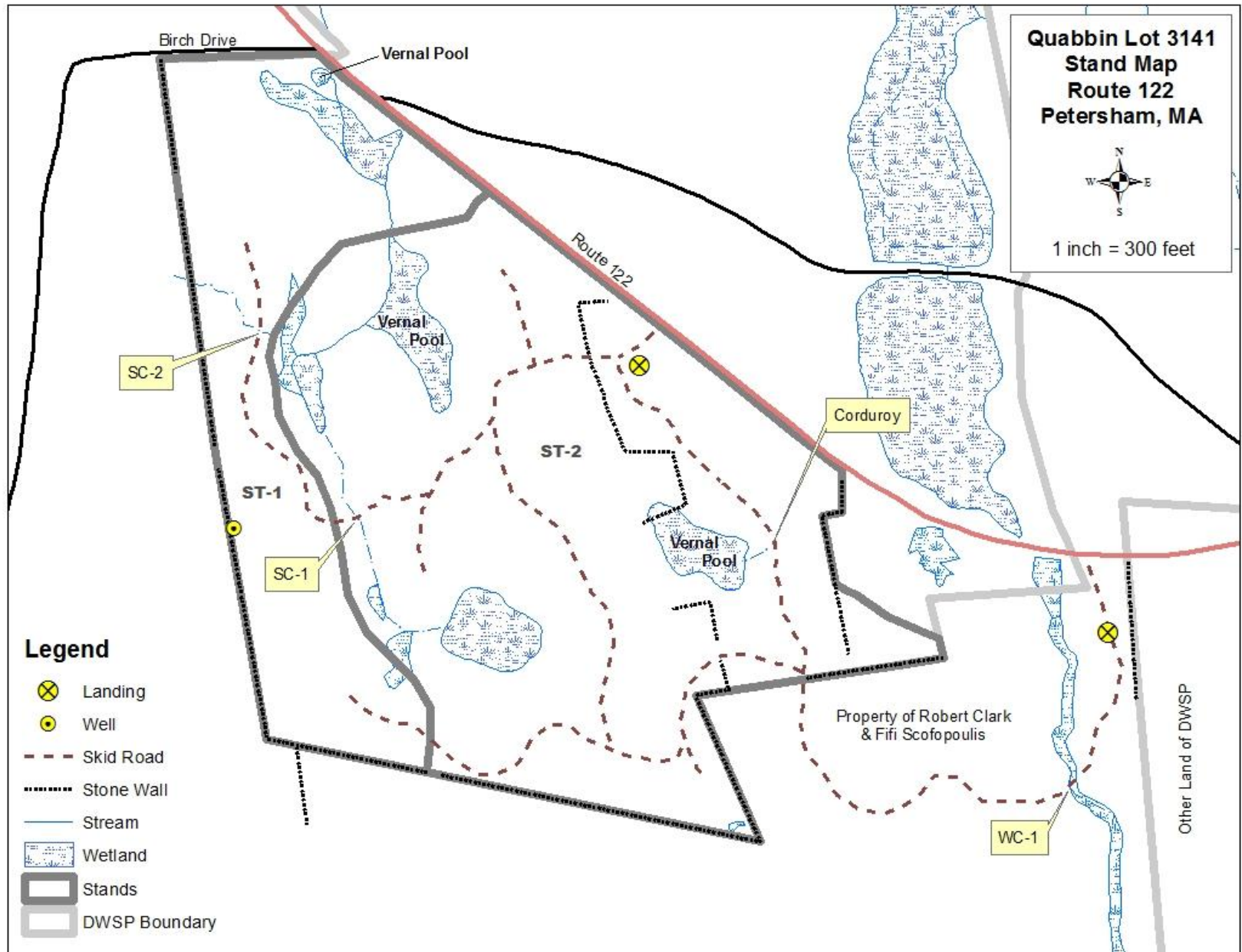
Stand Treatment

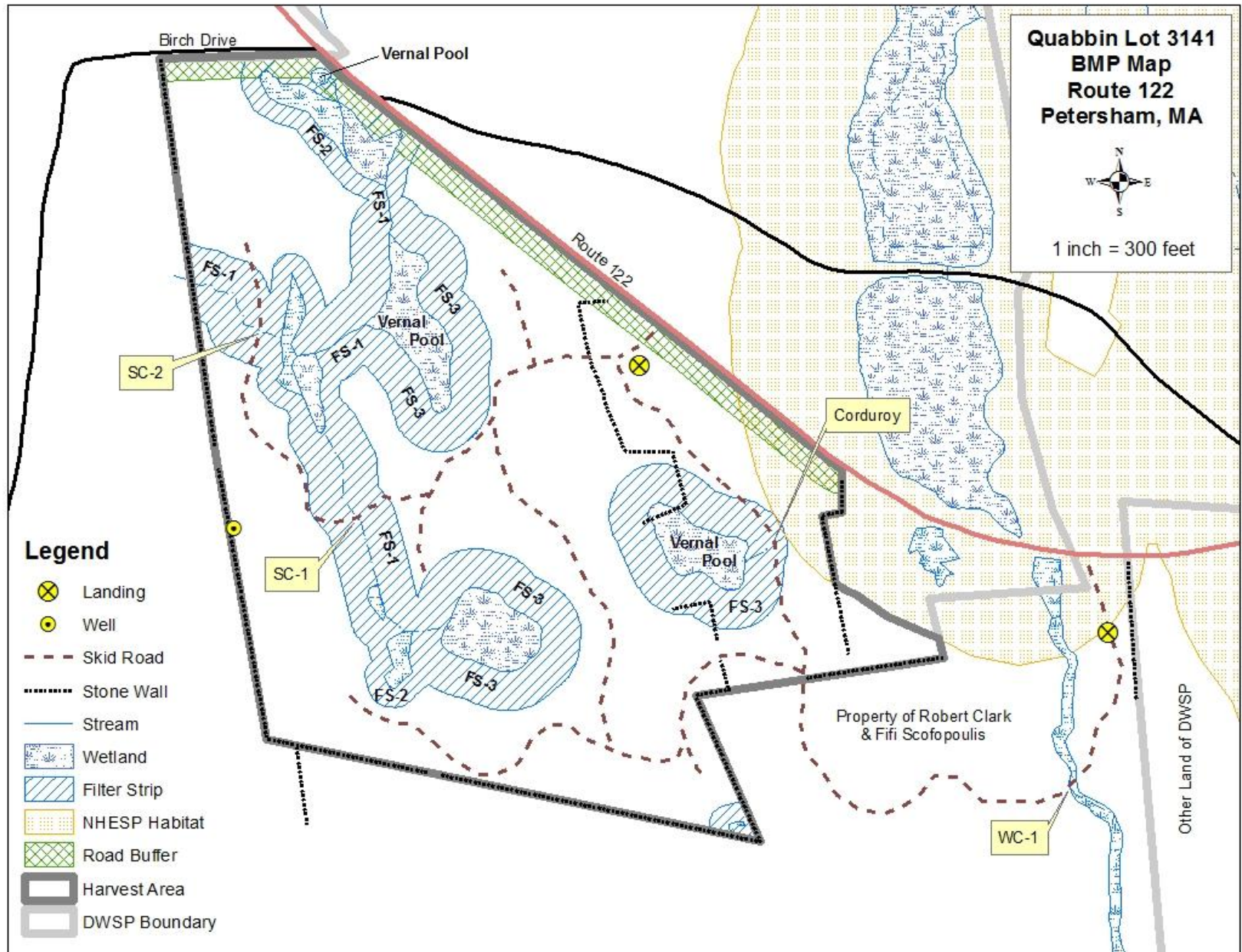
Landowner

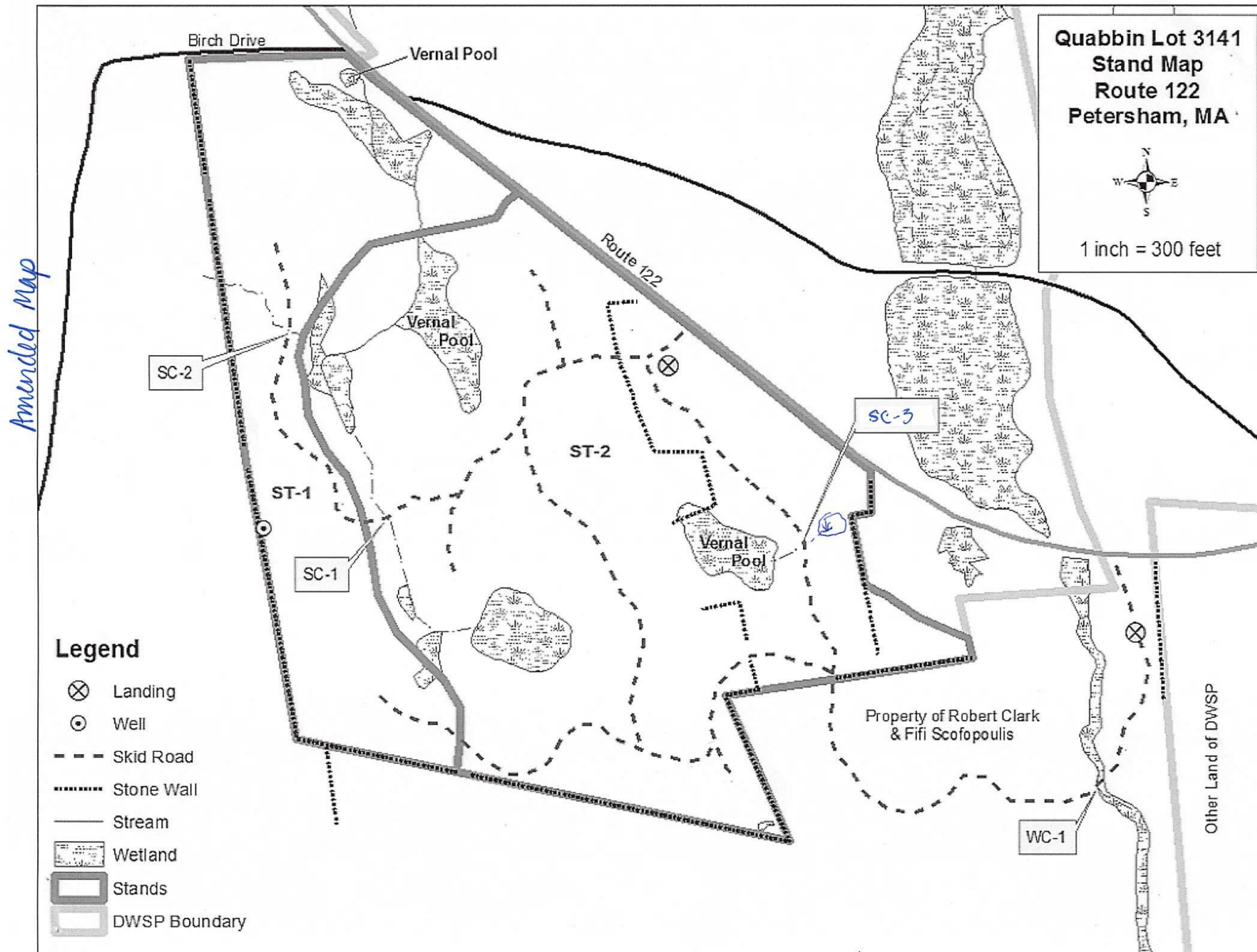
Service Forester

Codes









Commonwealth of Massachusetts



Division of Fisheries & Wildlife

Jack Buckley, *Director*

Fletcher Clark
Department of Conservation and Recreation
40 Cold Storage Drive
P.O. Box 484
Amherst, MA 01004

Cutting Plan No. None provided
NHESP Tracking No. 15-35003
Town Petersham
Road Route 122
Landowner DCR DWSP
Preparer Helen Johnson
Date November 23, 2015

Dear Fletcher,

The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife ("the Division") has reviewed the above-referenced Forest Cutting Plan (hereinafter "the Plan") pursuant to the special approval procedures of the Forest Cutting Practices Regulations (304 CMR 11.04(6)). Based on details of the Plan and information in the NHESP database, the Division does not expect activities proposed in the Plan to negatively impact Estimated Habitat or result in "Take" (as defined in 321 CMR 10.02) of plant or animal species protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). Therefore, the Division does not require that the Plan be modified at this time.

Please copy the Division on any proposed amendment, extension and on the approved Plan for the site. If you have any questions about this letter, please contact Brent Powers at (508) 389-6354.

Sincerely,

Thomas W. French, Ph.D.
Assistant Director

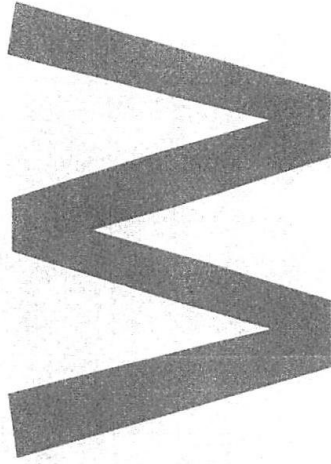
Cc: Petersham Conservation Commission (via e-mail)





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

FILE # 234-7900-16



FOREST CUTTING PLAN CERTIFICATE

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

This certifies that DCR-DWSP 485 Ware Rd Belcher town MA 01007 in accordance with the
(Name of Owner) (Address)

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

Lot 3141 lot.

Approval Date 11/23/2015

Director's Agent Flaherty Clerk

DCR Phone No. 413-262-2367

ISSUED BY:

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