Massachusetts Department of Conservation and Recreation
Bureau of Forest Fire Control and Forestry
Forest Management Proposal
Name: Egg Shell Lot

Date Posted: November 27, 2012
End of Comment Period: January 11, 2013

Region:	**West**
Recreation District:	**Lakes**
Forest Management District:	**Southern Berkshires**
State Forest:	**Sandisfield**
Closest Road:	**South Sandisfield**
Town	**Sandisfield**

Contact Information:

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Overview:

The Sandisfield State Forest/Egg Shell Lot is located in an extensive large block of continuous forestland in the Southern Berkshires that extends into Connecticut (See Locus Map. It is in a unique area of Massachusetts that is in a working forest landscape and home to a large variety of flora and fauna. The area was selected for a forest management project because:

- Past forest management activities (timber sales) have started the development of a complex forest structure (multiple species, sizes and ages) in the unit. This set of proposed treatments will further that goal.
- It offers an excellent opportunity to demonstrate and fulfill objectives for DCR Woodlands.

The Egg Shell Lot Forest Management Project endeavors to:

- Demonstrate silvicultural techniques such as thinning and gap expansion to create and maintain species and structural complexity in an area of multiple forest types.
- Demonstrate harvesting techniques and best management practices that protect forest productivity soil and water resources.
- Fulfill management approaches for Woodlands as directed by the Forest Futures Visioning Process (2010) and subsequent Management Guidelines (2012).
- Follow general guidelines of the Southern Berkshires Forest Resource Management Plan.
- Protect against significant white ash loss due to emerald ash borer; regenerate ash.
- Prevent proliferation of American beech with beech bark disease complex.

The Egg Shell Lot Forest Management Project will result in two or more separate timber sale entries.

Site Description:

This 165 acre proposed project area is located on the 320 acre Hartshorn parcel of the Sandisfield State Forest.

- Topography: the site straddles a series of low ridges. High points of the ridges are approximately 500 meters elevation. Slopes are gentle to moderate with a total elevation change of less than 50 meters. Some areas of poor drainage are found in saddles between the ridgetops

- Soils: According to the Soil Survey of Berkshire County produced by NRCS in 1988, this area contains four soil associations.
  TuC- Tunbridge Lyman association: (7%) this association which is found on the tops of mountains is composed of moderately deep, well drained Tunbridge and shallow somewhat excessively drained Lyman soils.

  PoB-Pillsbury Loam: (12%) This is a nearly level to gently sloping, very deep, poorly drained soil found at the foot of slopes and in slightly concave areas. The main management concerns are seasonal high water table, seedling mortality and wind throw.

  PmC-Peru Marlow association: (33%) this association consists of very deep, moderately well drained Peru soils and very deep well drained Marlow soils. Peru soils are typically found on the lower parts of the slopes and Marlow on the upper slopes.

  BmE- Berkshire Marlow association: (48%) this association which is found on the sides of hills and mountains consists of very deep, well drained Berkshire and Marlow soils. Berkshire soils are typically on steeper and higher slopes and Marlow on the less steep, lower slopes.

Stand Description:

Species composition: Main overstory species are hemlock (Tsuga canadensis), beech, (Fagus grandifolia), ash (Fraxinus Americana), cherry (Prunus serotina), sugar maple (Acer saccarum) and red oak (Quercus rubra) with some patches of white pine (pinus strobus). Other species present include yellow birch (Betula allegheniensis) and an occasional basswood (Tilia Americana). The shrub/small tree understory is made up of the above tree species along with patches of hobblebush (Viburnum alnifolium)and striped maple (Acer pennsylvanicum) and witch hazel (Hamamelis virginiana) in wetter areas. The herbaceous layer is dominated by variable densities of fern, including hay-scented fern (Dennstaedtia punctilobula), wood fern (Dryopteris intermedia), Christmas fern (Polystichum acrostichoides) and cinnamon fern (Osmunda cinnamomomea). In some places fern densities are very high and capable of limiting development of new tree regeneration.

Ages and size classes present:
From the described forest type map it can be assumed that the original forest is at least 125 years old and that the larger trees present are representatives of this forest. Thus ages vary from

one or two years to more than 125 years. Tree sizes range from seedling to very large mature trees. Beech tends to occur throughout the area in the understory and mid story. Where large beech are, or were, in the overstory young beech has become dominant in lower strata. Where the overstory was reduced in the absence of beech, red oak seedlings are common, but few are advanced enough to become established in a future overstory. In places yellow birch is the dominant species in this mid story. Cherry seedlings have become established in the plantation removal sites and in some of the larger gaps. Sugar maple has been more successful becoming established as advanced seedlings, saplings and small trees.

Stand and tree vigor:
Beech bark disease has infected most beech trees, with only an occasional one not showing signs of infestation. Ash has been steadily declining and is now faced with almost certain infestation with emerald ash borer. Many trees were impacted by the recent ice storm. Cherry, which is over mature or nearing maturity, was particularly impacted by ice damage. Many of the cherries have sprouted new crowns, but experience has shown that this species rots quickly from broken crowns. The older oak and sugar maple are declining in vigor due to age. In general though, these are vigorous stands with many non-vigorous trees. Past management has insured that sufficient vigorous trees are present to replace those lost due to natural forces, non native insects or diseases, or timber harvest. However, it is predictable that without further natural or manmade intervention, in the long run, the stand will move through natural succession be and convert to diseased beech.

Stocking level:
As previously discussed, stocking varies from patchy seedling/herbaceous to over stocked, with most area having variable stocking levels, but are mostly fully stocked.

Previous silvicultural treatments:
According to the 1924 forest type map only a small portion of this proposed area was harvested shortly before acquisition by the Commonwealth. The average tree in the unharvested areas appears to be 7-8" dbh at the time that the map was made, thus the stand was already formed at the time of our acquisition. The current species distribution is remarkably similar to that on the old type map. Since 1960 there have been eight timber harvests on the property, including one which was completed in 2009. At least five of these harvests occurred in the area currently proposed. One sale removed a small dying red pine stand and the most recent harvest removed a rapidly declining seven acre spruce plantation. The remaining harvests were a variety of thinnings and small group harvests designed to decrease the percentage of beech, salvage dying ash, create a diversity of age classes and grow an extended rotation stand of large, high quality hardwoods.

Summary of existing stands:
The DCR Management Guidelines of 2012 stated that forest stands will be "classed . . . and considered for silvicultural treatments that generally fit their productivity, structural complexity (or potential thereof) and diversity". An analysis of site history (land use; agriculture/logging) and conditions (soil types, productivity; vegetation cover) suggest that the majority of these stands described above have a high soil productivity and forest complexity indicating that uneven age or multiage methods of forest management are appropriate in the stands present in the project area.

The attached " map 2- Forest types" shows approximate forest types as determined by a 2001 forest mapping project. These forest types can be roughly organized into 4 stands. The forest on the southern edge of the area can be defined as hemlock hardwood. Forest types labeled HH are included in this area. A 25 acre stand on the northern side of the area has not been harvested in more than 50 years and provides a uniform red oak stand composed primarily of trees ranging from 14- 24 inches in diameter. It can be defined as the northern portion of the OH type. The six or seven acre former plantation is now an herbaceous/ seedling stand with young cherry and oak and some larger individual and groups of trees. This stand is labeled as SN on the type map.

Elsewhere, the result of these overlapping harvests on differing sites has been the creation of a mosaic of several different assemblages. Species composition, size and density vary throughout the parcel, making delineation of individual stands difficult and creating a complex and varied forest. In general, gaps created by previous harvests have filled in and while variable, the overstory density is generally high and more sunlight is required to release existing small regeneration.

Aesthetic, Recreation, Wetlands, Cultural, Rare Species and Wildlife Considerations:

Aesthetic:
There do not appear to be any aesthetic concerns with this proposal. While some of the harvested slopes may be visible from South Sandisfield Road in the leafless seasons, the adjoining beaver swamp provides a buffer of at least 350 feet between the harvest and the road.

Recreation:
There are no designated trails on this property, nor any known geocaches.
Recreational activities are limited to hunting and informal uses such as hiking, snowshoeing or cross country skiing by local residents.

Wetlands:
Wetlands within the designated area include an intermittent stream which requires a mitigated crossing, a second intermittent stream which will not be crossed, and two seeps in poorly drained soils which will not be crossed. A 2008 inventory by Natural Heritage identified two potential vernal pools associated with a poorly drained area. All potential vernal pools are treated as certified pools. Adjacent vegetated wetlands which include beaver related ponds and swamps and forested wetlands will be appropriately buffered.

Cultural Resources:
Stone walls and plantations on the property indicate former agricultural use, but no foundations have been noted. Where possible, crossing of stone walls will be limited to existing bar ways or breaks in the wall.

Rare and Endangered Species:
According to the 13th addition of the Massachusetts Natural Heritage Atlas this proposed sale contains no estimated or priority habitats and a 2008 inventory by Natural Heritage found no rare plant species.

Wildlife:
The variable topography and species composition of the forest, together with the past harvest history has resulted in a variety of wildlife habitats and therefore potential species. With the exception of woodcock, habitat for all the bird species listed in the Vermont Audubon's birders dozen can temporarily be found on this forest.

A partial list of species, based on casual observation, includes yellowed belly sapsucker, downy woodpecker, veery, wood thrush, barred owl, red tailed hawk, turkey, coyote, moose, deer and bear.

The proposed harvest will not significantly adversely affect habitat for most species. The exception is those species which require large blocks of early successional habitat, which will significantly decline in the next 10-15 years under the management strategy summarized here.

Past management has resulted in an abundance of large cavity trees which will remain for many years. Mortality resulting from natural events will continue to add to the number of available cavity trees.

Sale Layout and Harvesting Limitations:

It is anticipated that the harvest may be divided into two or more sales to be conducted over the next 5 years.

Areas of hydric soil adjacent to wetlands and small forest seeps will be excluded from the harvest.

Landings and skid roads:
The existing landing, located 250 feet off South Sandisfield Rd will be used. The existing skid roads will form the backbone of the network for this proposed harvest, but minor relocations and additions may be made. One intermittent stream crossing will require a temporary bridge.

Equipment restrictions:
Restrictions on types of equipment used are not anticipated, but sizes of equipment will be restricted. The lot is probably best suited to a combination of cable skidder and forwarder and a mechanical harvester would be suitable on much of the area. Grapple skidders, if allowed would be limited to use on main skid roads.

Silviculture:

Goals and objectives:
The primary goal is the continuation of a varied and complex stand capable of buffering future disturbance, providing a variety of wildlife habitats, and maintaining the current species, size and genetic diversity and the demonstration of a system which can obtain these goals. Secondary goals include supporting local wood products industry, salvaging the value of damaged and diseased trees, providing income to the town and to the general fund. Another goal is the

establishment of ash regeneration which might survive the expected borer infestation and provide seeds for a future population.

Methods used to accomplish these goals:
The main method used is the continuation of past practices, including thinning to promote very large trees, creation of small group harvests centered on mature or declining trees, expansion of existing openings where adequate regeneration has developed. In addition, selective chemical treatment of beech stumps will be necessary to retard the expansion of beech.

Short and long term desired conditions:
Both the short and long term desired condition is a forest composed of a variety of tree, shrub and herbaceous species, size classes and overstory densities. This forest will have a component of very large trees (26+" diameter) and will primarily be composed of medium to large trees (16-26" diameter). Smaller trees, seedlings and saplings will be found throughout the area and in scattered small patches and will provide a varied level of vertical structure. The desired species mix is one with a lesser percentage of beech.

Future silvicultural treatments:
It is anticipated that future management will continue these types of harvesting methods (multiage regeneration systems) with the possible addition of small shelterwood removal harvests to help restore the missing component of blocks of young forest habitat.

District Forester: _____ **Date:** 11/1/12

Field Operations Team Leader Or Park Supervisor: Adam Min **Date:** 11/2/12

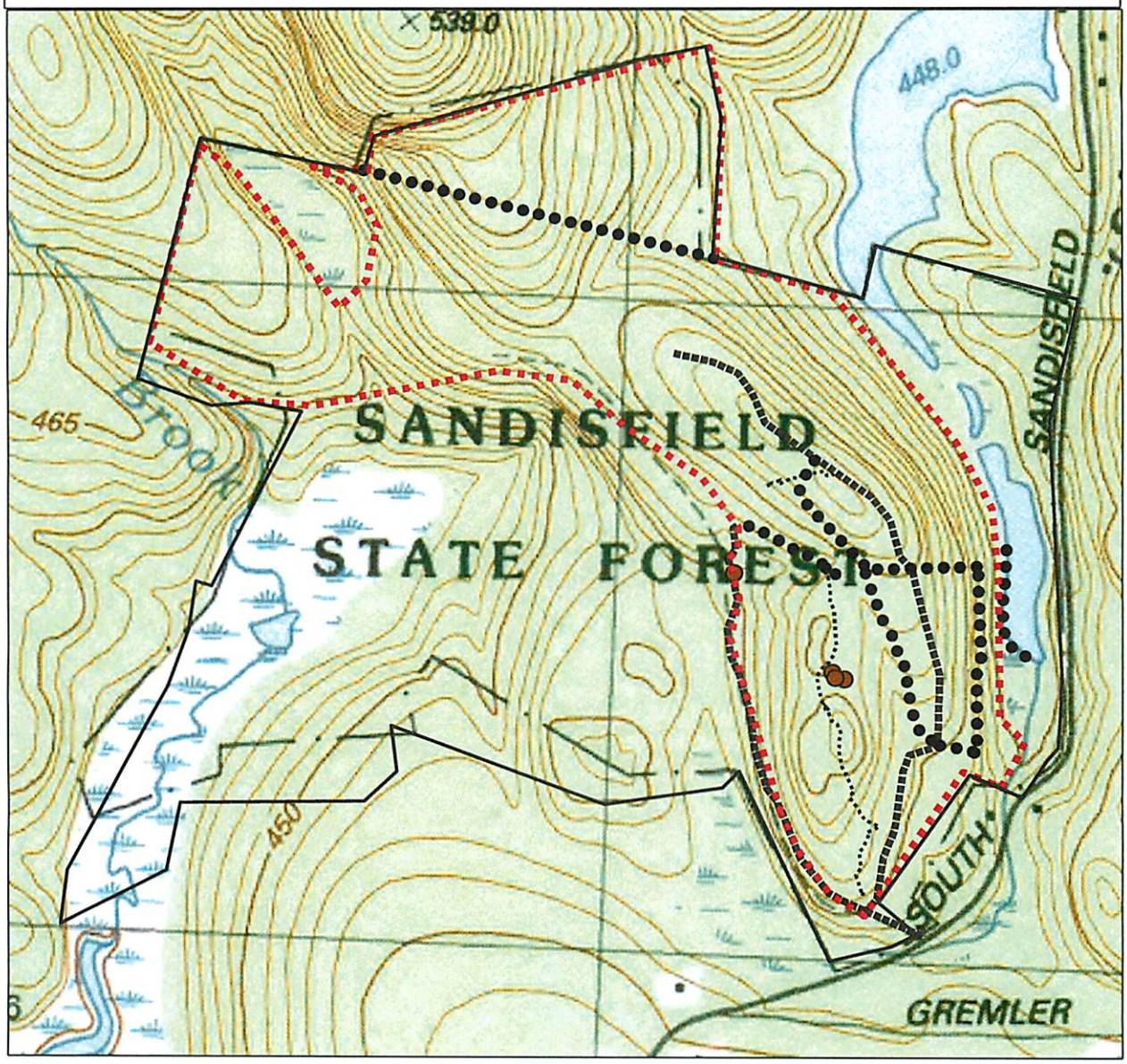
Regional Director: Robert S. Wallace **Date:** 11/1/12

Management Forestry Program Supervisor: _____ **Date:** 11/2/12

Attached: Topographic maps and Locus Map showing location of Forest Products Sale Area

EGGSHELL TIMBER SALE PROPOSAL

Sandisfield State Forest



Legend

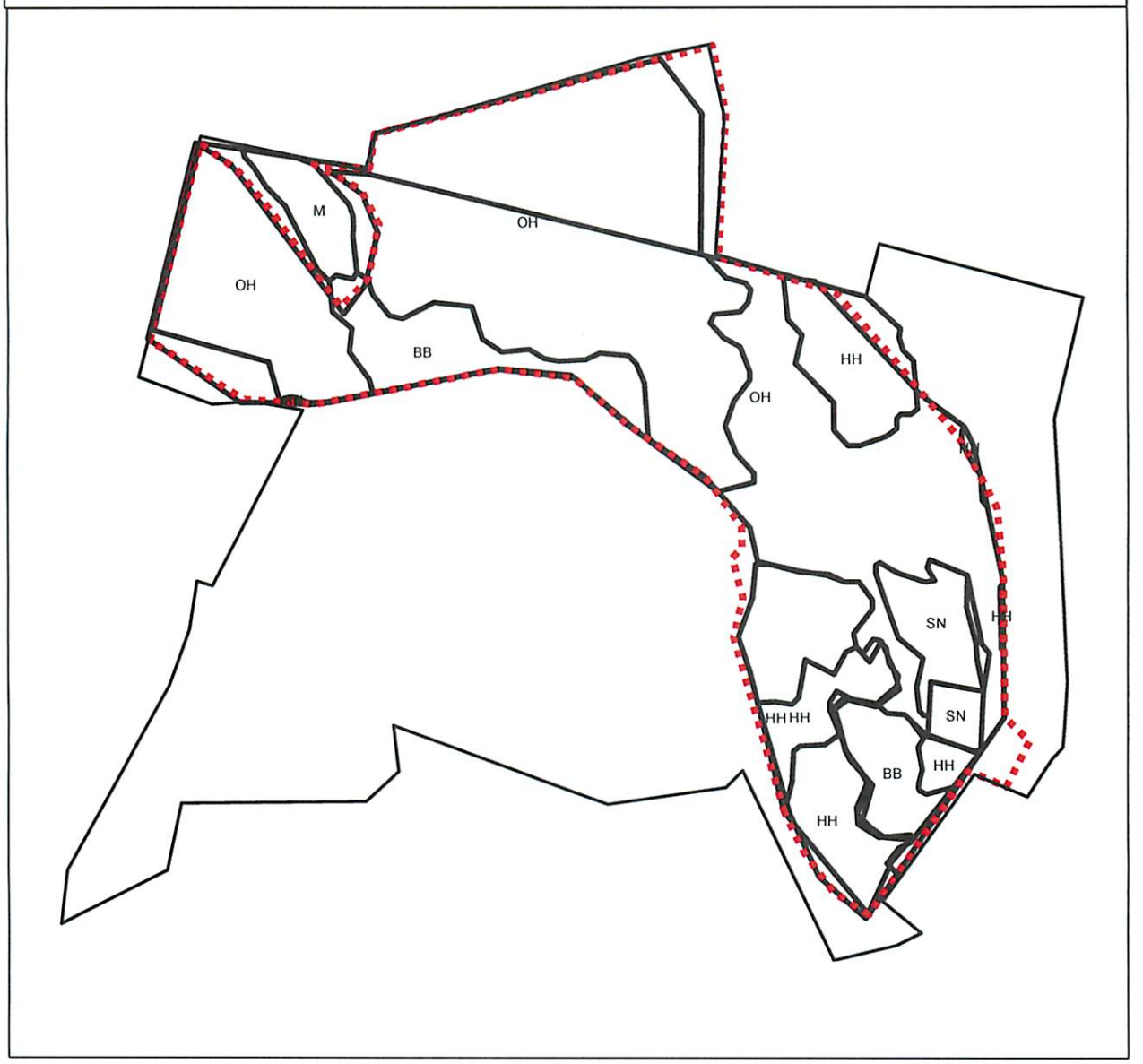
- forest boundary
- proposal boundary
- stone walls
- potential vernal pools
- main skid rd
- other skid rds

N
W E
S

840 420 0 840 Feet

Map 2 EGGSHELL PROPOSAL

FOREST TYPES



Legend

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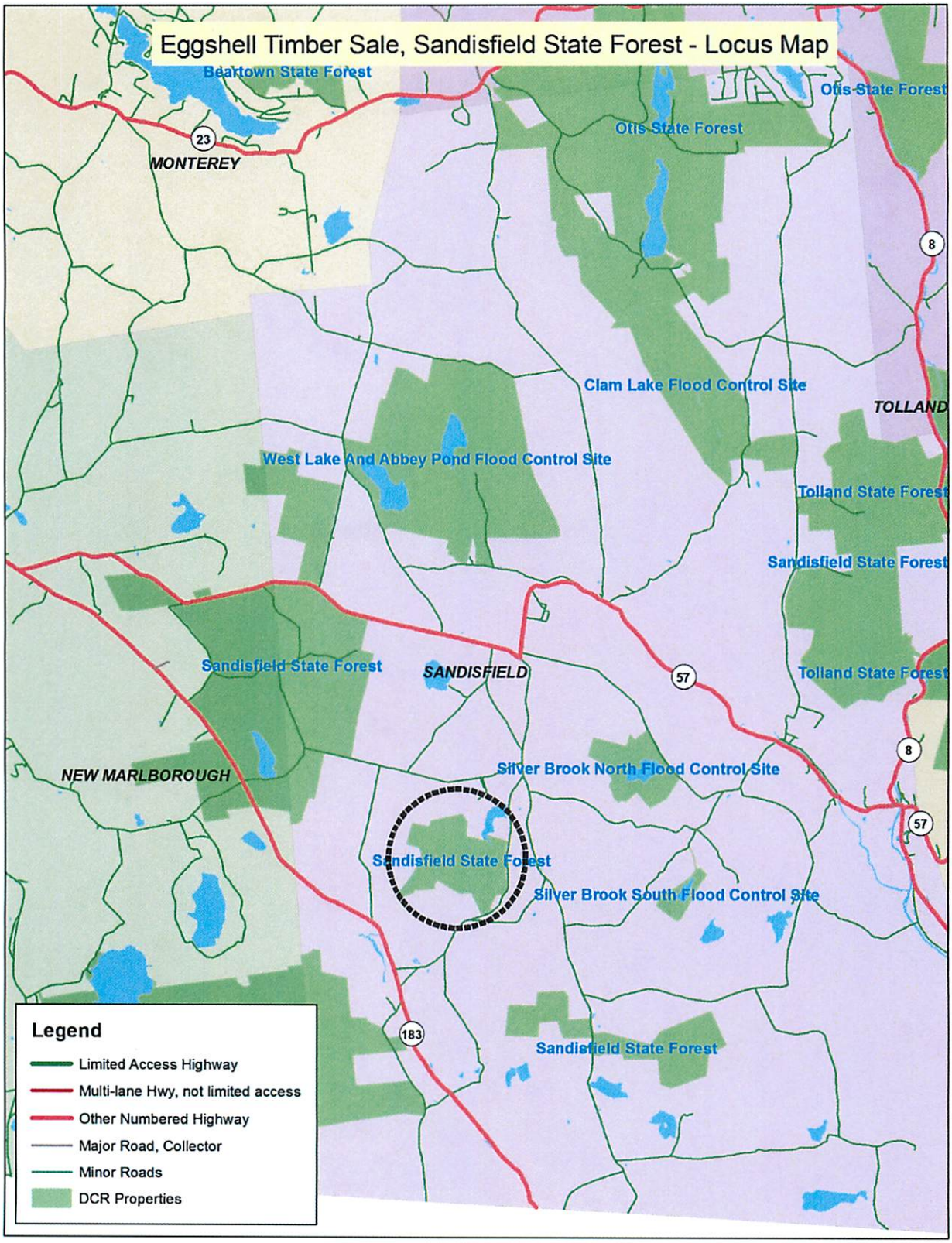
Eggshell Timber Sale, Sandisfield State Forest - Locus Map
Beartown State Forest
Otis State Forest
Otis State Forest
23
MONTEREY
8
Clam Lake Flood Control Site
TOLLAND
West Lake And Abbey Pond Flood Control Site
Tolland State Forest
Sandisfield State Forest
Sandisfield State Forest
SANDISFIELD
57
Tolland State Forest
8
NEW MARLBOROUGH
Silver Brook North Flood Control Site
57
Sandisfield State Forest
Silver Brook South Flood Control Site
183
Sandisfield State Forest
Legend
Limited Access Highway
Multi-lane Hwy, not limited access
Other Numbered Highway
Major Road, Collector
Minor Roads
DCR Properties