Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Proposal Summary for Public Comment

Location, goals, and summary of proposed forest management.

Proposal Summary Item	Item Information/Description
Lot Proposal ID	**WR-25-44**
Fiscal Year	2025
Watershed	**Ware River**
Town(s)	**Hubbardston**
Forester	Russ Wilmot
Total Acres	60
Block	Cunningham
Compartment and/or Working Unit	44
Location and Boundary Description	Starting at gate HB-1 on High Bridge Rd in Hubbardston. Head south on HB-1 Rd. for 1600' then connecting into a hiking trail southerly for another 3300' to Old Westminster Rd. The proposed boundary then heads northeasterly along Old Westminster Rd and abutters for 4500' until it reaches High Bridge Rd. Which the boundary then follows for another 1700' to the POB.
Previous Proposal?	No
Project Goals and Summary Description	This site can be described as a dry oak hillside and hilltop. This harvest will be accessed at gate HB-1 on High Bridge Rd and another access point on Old Westminster Rd. The activity will focus on the oak hillside East of the HB-1 Rd and the stream that runs along it down to Cunningham pond. The main focus of the proposed project is to prep the overcrowded monoculture and stagnant overstory and provide some ground disturbance and sunlight to generate some needed tree seedlings and species diversity on the site. The thinning will also provide some space for the healthier overstory trees to grow more vigorously making the stand healthier to better withstand environmental threats. A secondary focus will be to release advanced regeneration in the localized areas it exists. There are some unauthorized trails in the project area which will be impacted during operations.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
Red oak	53
White pine – hardwood	7

Understory Cover Types and Relative Importance

Understory Cover Type	**Relative area covered** (Dominant, Secondary, Minor, None)
Tree seedlings and saplings	Secondary
Mountain laurel	
Mesic site - witch hazel, highbush blueberry	
Dry site -Huckleberry, blueberry	

Understory Cover Type	Relative area covered (Dominant, Secondary, Minor, None)
Mesic site - cinnamon fern, mixed hardwood	
Hayscented fern	
Invasive shrubs/vines	
Other	Dominant- Little understory, Wintergreen

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	This area of compartment 44 was part of the Cunningham reserve which was taken out of reserves and noted on page 303 in the 2017 Land Management Plan Microsoft Word - 2017 Land Management Plan Final compressed.docx (mass.gov). There were no recorded harvests found in this project area, although it appears a small red pine plantation salvage occurred in the southern end of the proposed area about 15-20 years ago based on stumps and regeneration aging. The project is primarily composed of red oak with lesser amounts of white pine, red maple, beech, black birch, grey birch, white oak, black cherry, paper birch and bigtooth aspen.
Advance Regeneration description	Regeneration sampling on 205 plots found no regen or marginal regeneration on 73% of the plots taken. 24% were classified as regenerated and were in the northern and southern portions of the project area. 8% of the plots had oak and were found at the lower elevations. There is sugar maple regeneration associated with the sugar maples next to the old cellar holes in the southern end of the project area.
Terrestrial Invasive Plants description	There were no invasives found in the 205 plots taken. A dry oak hillside for the most part.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	Yes
Streams	Yes
Vernal pools	Yes. Three verified pools are within the lot boundaries.
Seeps	None found

Description of Soils by Hydric Class

Soil Hydric Classes	% of area	Soil series and any further comments
Excessively Drained	0	
Well-drained Thin	0	
Well-drained thick	94	Becket-Monadnock, Becket-Skerry associations
Moderately well-drained	0	
Poorly to very poorly drained	5	Pillsbury-Peacham association, Bucksport and Wonsqueak muck

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	A main watershed goal is having the healthiest forest possible, which is defined as being diverse and vigorously growing. This project was selected because of its lack of diversity in the overstory and understory. This areas tree growth has also stagnated as evidenced by the branch/crown dieback and tree health. The main objective will be to thin about a third to half of the overstory in places while retaining the healthiest trees and creating some ground disturbance and sunlight on the forest floor to help bring in a diverse understory of tree seedlings. This thinning will also provide more sun and soil resources for the retained trees to help boost their growth, seed production and health. A second goal will be to create some openings in areas that currently have adequate advance regeneration.
Silviculture Prescription	Prep cut in areas with no regeneration or marginal regeneration, removing about a third to half of the overstory covering about 30 acres. This will improve seed production of the remaining overstory and encourage natural regeneration. Create regeneration openings on about 10 acres in areas with adequate advanced regeneration. Openings will average about an acre with a maximum of 2 acres in size.

Climate Change Considerations: DWSP has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. Carbon and climate change considerations specific to the activities proposed for this project are discussed below.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Full overstory removal, partial stand, patch regeneration cut. **(*see page 3, Silvicultural Prescription, regeneration openings on 10 acres*)**	Patch cutting is a regeneration technique that straddles the boundary between classic even-aged and uneven-aged forest management systems. Foresters select appropriate areas ('patches' or 'groups') covering a portion of the stand to harvest rather than removing the entire stand and then return periodically to repeat the process in other portions of the stand. In using patch cutting there is no final regeneration cut. Patch size and shape are determined by many different factors including overstory condition, desired species composition in the regeneration layer, other desirable herbaceous and woody vegetation, location, stand re-entry period, etc. Harvesting in patches aligns with many **climate-smart forestry practices**: • Increasing **structural diversity** improves resiliency by reducing the impact of age/size related disturbances. • Extending regeneration periods minimizes short term impacts to groundwater and nutrient cycling. • Partial stand overstory removals more closely align with **natural disturbance patterns**. • More **carbon is left on the landscape** for longer periods, and within-patch live tree, snag, and coarse debris retention allow for development of old forest characteristics. • Can also be used as opportunities to increase the stocking of **future climate adapted species, current climate imperiled species**, or other types of desirable vegetation.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Diffuse overstory removal, partial cut, late rotation regeneration related. **(*see page 3, Silvicultural Prescription, 30 acres of preparatory cutting*)**	Partial cutting via single trees or small groups in a mature stand can advance a variety of management objectives as well as **climate-smart practices**. Single tree or very small group removals, if used exclusively and repeatedly, will perpetuate an **uneven-aged stand condition** with a species mix shifted towards higher shade tolerance. However, this type of harvest can also serve within an even-aged system to establish regeneration of species of lower shade tolerance under a partial canopy for subsequent release using larger group or patch cuts (irregular shelterwood) or complete-stand overstory removals. Advantages of partial overstory removals include, but not limited to: • Partial cutting **retains carbon on the landscape** for extended periods while regeneration develops. • Reducing competition for resources improves growth and **carbon sequestration** rates on residual trees. • Promotion of a diversity of age classes enhances overall forest **resiliency**. • Maintenance of continuous forest corridors provides for wildlife habitat. • As part of a regeneration system this method can be used to help guide species diversity towards more **future-adapted mixes**.
General/other Climate Change Considerations	This project will create a more species and age diverse forest that will be vigorously growing. Post harvest, this forest will be better able to handle the challenges of climate change.

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	Forwarder and processor will be utilized on this project to protect the adequate regeneration areas for release and to protect the retained trees.
Proposed wetland or stream crossings	One pre existing roadside drainage crossing on the HB-1 gravel road with a culvert.
Further wetland comments	Wetlands form the boundary of this project in the Northeast portion and along the western boundary.
Vernal Pools	There are two potential Vernal pools. One to the North and one to the South.
Access improvements needed	Gravel will be brought in to grade out the pre exsiting HB-1 road, The culvert needs to be cleaned out.
Other EQ issues	No
In-kind Services	No
Other Access Concerns (parking, trails, etc.)	There are several unauthorized hiking trails that will be impacted during the project.

Subwatershed Analysis

Sub-Watershed number/name	Total DCR-owned acres in this sub-watershed	Acres regenerated on DCR land in the last 10 years in this sub-watershed	Total DCR-owned acres remaining for regenerating up to the 25% per 10 year limit for this sub-watershed	Acres in this sub-watershed that are part of this proposed lot
8025/Cunningham	549	0	137.3	60

Additional comments on Subwatershed analysis: No comments.

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	No
State Listed species present:	No
Rare Natural Communities:	No
General Wildlife Comments	The project area had a decent amount of deer droppings for an area with no real understory and you can see for quite a distance. There are beaver floods and dams to the immediate West of this project.

Cultural Resources Description and proposed protection measures

Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	There is an interesting old foundation with associated cellar hole, well, and stonewalls with large diameter oaks along them. These features will be protected during operations. Some stonewalls will be crossed where they already have an opening and/or are already broken down to the ground.
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	Surface stone is prevalent. Microtopography is not notable. Slope is gradual up to 30% in places on this western facing hillside. If applicable, DWSP will follow the recommendations of DCR's Archeologist regarding protection of sensitive sites.

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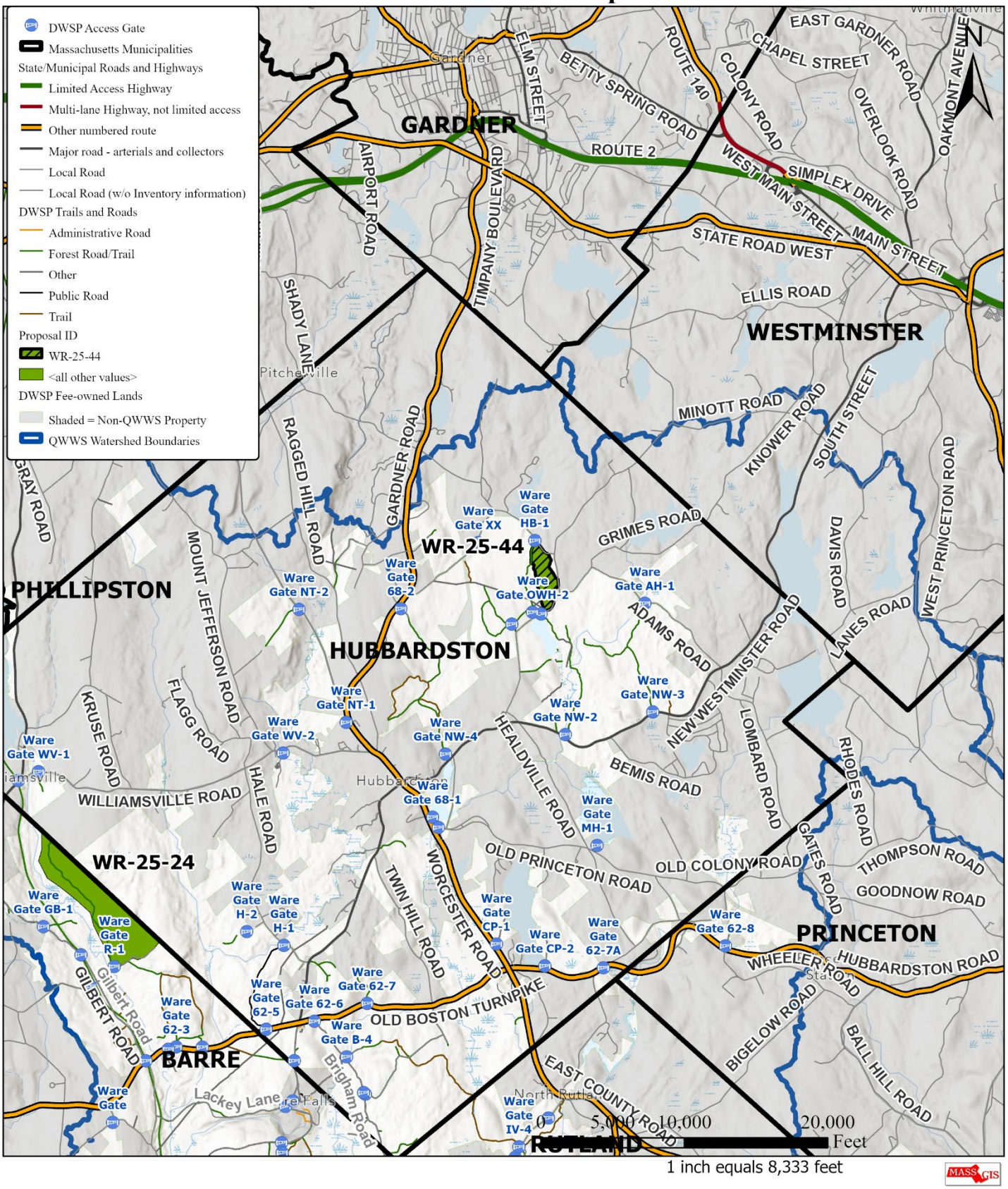
WR-25-44 -- Locus Map



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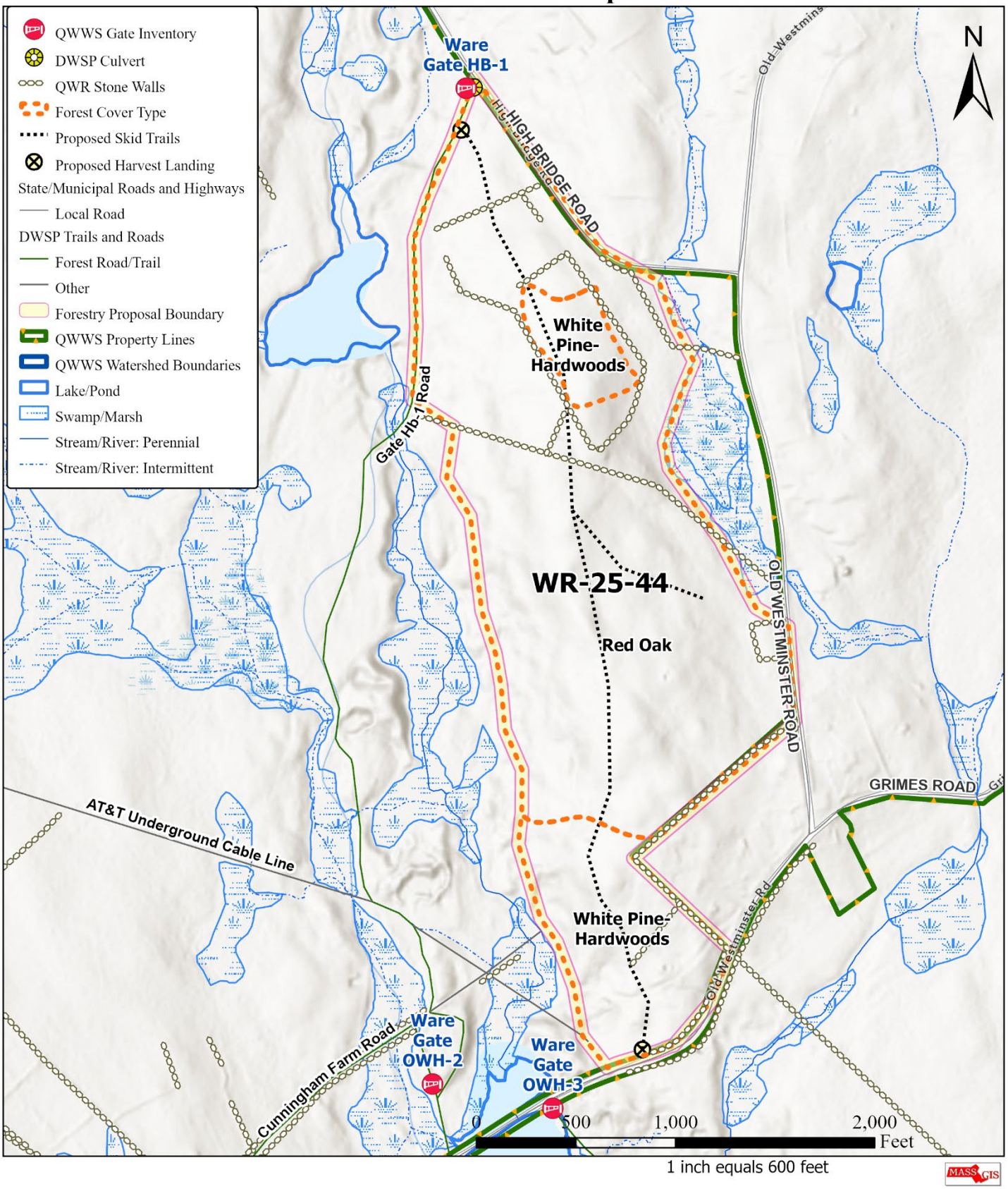
WR-25-44 -- Stand Map



1 inch equals 600 feet

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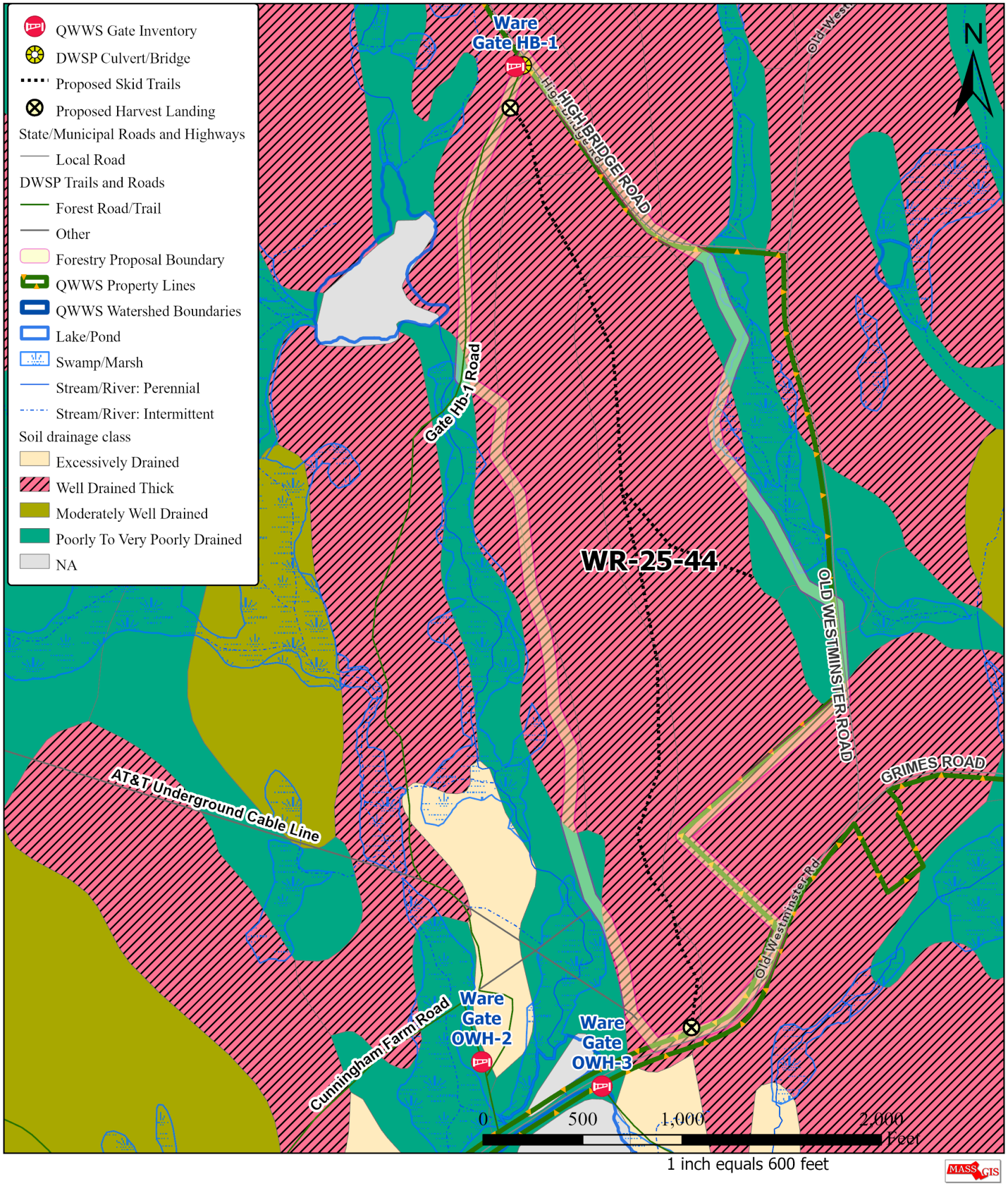
WR-25-44 -- Soil Drainage Class



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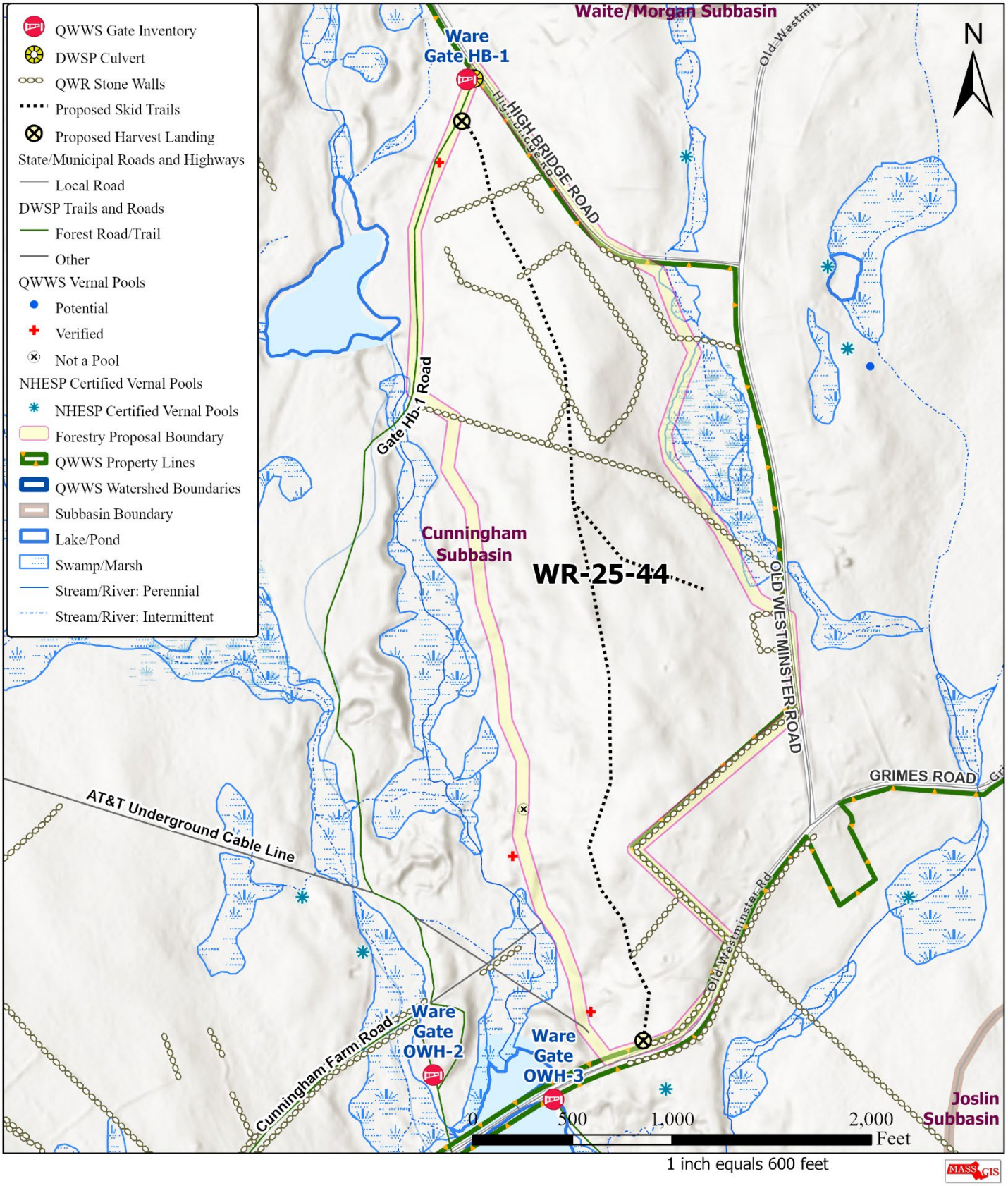
WR-25-44 -- Wetlands and Wildlife Resources



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WR-25-44 -- Cultural Resources and Landscape Characteristics