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	**NS-26-06**
Fiscal Year	2026
Watershed	Quabbin
Town(s)	New Salem
Forester	Richard G MacLean
Estimated Acres by Treatment Type	18 acres in regeneration openings, 12 acres in thinning/single tree selection
Total Proposal Acres	88
Block	New Salem
Compartment and/or Working Unit	06
Location and Boundary Description	The proposed area is located at the intersection of Rockwell Hill Road and Macedonia Road southwest to a change in forest type and a buried cable right of way.
Previous Proposal?	None
Project Goals and Summary Description	This project seeks to increase forest resiliency by addressing forest regeneration interference by mountain laurel and by creating the conditions to allow establishment of new regeneration.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
White pine - Oak	32
Oak - Hardwoods	31
Hemlock - Hardwoods	24

Understory Cover Types and Relative Importance

Understory Cover Type	**Relative area covered** (Dominant, Secondary, Minor, None)
Tree seedlings and saplings	Secondary
Mountain laurel	Dominant
Mesic site - witch hazel, highbush blueberry	Minor
Dry site -Huckleberry, blueberry	None
Mesic site - cinnamon fern, mixed hardwood	None
Hayscented fern	None
Invasive shrubs/vines	None
Other	

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	The proposed area can be delineated into four stands. Stands 1, 2, and 3 are being proposed for management, while stand 4 is a wooded wetland and will not be managed at this time. Stand 1 is a 32-acre white pine/oak stand. The composition of the overstory is 49 % northern red oak, 22 % eastern white pine, 5 % eastern hemlock, with minor amounts of red maple, white and black oak, and American beech. Most of the beech in this stand was badly damaged by beech bark disease. Beech leaf disease is prevalent here and the stand will likely lose overstory beech to the disease. This stand averages 121 (90-17) square feet per acre basal area and is dominated by overstory oak and alternating areas of distributed and dense overstory eastern white pine. There is an average of one standing snag every two acres. The eastern side of this stand was thinned in 1982, and the south and southwest of the stand received shelterwood prep cuts in 1973 and 1989 that did not receive follow up treatment. There are a few tenth to quarter acre gaps from these treatments which have regenerated to large sapling sized black birch and red maple. Stand 2 is a 31-acre oak – hardwoods stand. Composition of the overstory in Stand 2 is 56 % northern red oak, 16 % black birch, 10 % yellow birch, 6 % red maple, with minor amounts of American beech, white oak, black cherry, paper birch, and eastern hemlock. Most of the beech in this stand was badly damaged by beech bark disease. Beech leaf disease is prevalent here and the stand will likely lose overstory beech to the disease. The stand averages 116 (80-180) square ft per acre basal area and is dominated by large spreading oak crowns. There is an average of 1.4 standing snags per acre. This stand received thinning in 1981, a salvage harvest on a small portion in the middle in 1989, and then a four-acre opening in the south in 1992. Where these treatments resulted in regeneration it is dominated by large sapling/small pole sized red maple and black birch, except in the four-acre opening where there are scattered northern red oak saplings, and some yellow birch around drainages. Stand 3 is a 24-acre hemlock – hardwoods stand. The overstory composition in Stand 3 is 46 % northern red oak, 41 % eastern hemlock, 5 % black birch, with minor amounts of eastern white pine, red maple, black and white oak, and paper and yellow birch. This stand averages 138 (80 – 200) square feet per acre basal area and is dominated by overstory hemlock and northern red oak canopies. The majority of this stand was treated in the same 1982 thinning that Stand 1 received. The canopy is still mostly intact in this stand. Stand 4 is a 0.8-acre wooded wetland. The overstory here is dominated by northern red oak, but also contains white ash (in rapid decline from emerald ash borer), yellow birch, and red maple.

Vegetation Topic	Description
Advance Regeneration description	The understory character of Stand 1 was categorized as either little to no regeneration (53 %) or interfered (47 %). In the areas characterized by little to no regeneration a third of that condition was in scattered mountain laurel patches, followed by small amounts of American beech, eastern white pine, or red maple. The remainder of the stand is covered in dense tall mountain laurel thickets which are impeding tree regeneration from establishing. In the northwest corner there is a 3 acre thicket of dense mountain laurel beneath the canopy. In Stand 2 the understory was characterized as either in monoculture regen (31 %), without tree regeneration (23 %), established saplings (15 %), interfered (8 %), marginally containing tree regeneration, unmanageable (8 %), or heavily browsed (8 %). The areas of monoculture regeneration were half in black birch or split between red maple and American beech. Areas without regeneration all contained small mountain laurel thickets. Established sapling areas were dominated by black birch regeneration. In interfered plots, mountain laurel was the interfering vegetation except furthest to the west were witch hazel picked up with the more enriched soils. The unmanageable plots fell in small seasonally inundated wetlands. Areas which were heavily browsed contained browsed red and striped maple regeneration. In Stand 3, 83 % of the area had little to no regeneration. When regeneration was present it was American beech with browse damage. The remaining area is evenly split between areas of heavy browse damage containing damage striped maple, and areas where mountain laurel is growing thick enough to interfere with regeneration. There was little to no hemlock regeneration observed, and what was found was heavily browsed down. Approximately a third of the stand is a forested seasonally inundated wetland.
Terrestrial Invasive Plants description	North Macedonia Road has known recent populations of Japanese stiltgrass (*Microstegium vimineum*), but invasive species were not observed in the interior of the proposed area. Before harvesting coordination with DWSP Natural Resources will be pursued to reduce the potential for spreading stiltgrass.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	There is an acre of wooded wetland in the eastern corner of the area. There are small streamside wetlands in the east to southeast as the slope increases. Management is not planned in wetlands.
Streams	There are a series of intermittent streams in the east and southeast of the proposed area. To the north the proposal is bounded by a perennial stream, and much of the cable right of way at the southern/eastern boundary is now an intermittent stream. No stream crossings will be necessary.
Vernal pools	There aren't any known vernal pools within or adjacent to the proposed area and no potential vernal pools were observed while sampling.
Seeps	One seep was observed in the eastern portion of the proposed area, it drains into the intermittent stream complex and wooded wetland.

Description of Soils by Hydric Class

Soil Hydric Classes	% of area	Soil series and any further comments
Excessively Drained	0	

Soil Hydric Classes	% of area	Soil series and any further comments
Well-drained Thin	0	
Well-drained thick	82	Well-drained thick soils are split between Henniker sandy loam and Chichester fine sandy loam
Moderately well-drained	4	Metacomet fine sandy loam, located at the corner of Rockwell and Macedonia Roads
Poorly to very poorly drained	3	Pillsbury stony sandy loam, located at and around the wooded wetland in the eastern corner.

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	This area was selected for silvicultural treatment because of a combination of largely even aged overstory, little tree regeneration, little regeneration diversity, large areas of interfering vegetation. In the event of a large-scale wind disturbance of the forest canopy, much of the area would see long delays in regenerating.

Topic	Description
Silviculture Prescription	Stand 1. The desired future condition is a stand with increased age diversity, and a decrease in areas of dense mountain laurel. To accomplish this, ten acres of regeneration openings (ranging from one to two) will be created. Retention trees inside the openings will favor healthy seed producing trees and their location will be focused on areas of dense mountain laurel. Harvesters will be required to mechanically treat the mountain laurel. By opening the overstory after knocking back the mountain laurel a window of opportunity will be created for tree regeneration while the slow growing mountain laurel recovers. If staff time and resources allow it, the mountain laurel within the slash wall area will be precut to force resprouting under a closed canopy and further exhaust mountain laurel resources prior to harvest. A third of the stand will be retained as a third age class. While the intention will be to preserve this existing age class long term, future changes to the stand due to pests, pathogens, disturbance, or climate change may necessitate the reevaluation for management. Stand 2. With the existing age diversity of this stand the desired future condition of the stand is to further expand on this diversity and establish a third age class. To accomplish that goal, group regeneration silviculture will be applied. Eight acres of regeneration openings will range one half to two acres in size and be collocated with previous openings to either further release those openings or take advantage of their shorter heights to maximize light in the new openings. Where possible, some thinning/tending of the sapling sized past openings will be done during this treatment. Stand 3. Given the relatively healthy overstory hemlock, the desired future condition of this stand is relatively similar to its current composition, but with more opportunities for shade tolerant regeneration, slightly more growing space for healthy overstory hemlock, and reduced mountain laurel thickets. To accomplish this condition the stand will be treated with single-tree selection/intermediate thinning. This lower intensity of harvest will create regeneration opportunities with enough light for shade tolerant hemlock. The healthiest hemlock will receive light tending/release to provide more light and resources for resisting hemlock woolly adelgid. Where harvesting allows, mechanical treatment of dense mountain laurel thickets will be required. The seasonally inundated wetland areas will not be harvested. Stand 4, the wooded wetland, is not proposed for treatment at this time. The density of intermittent streams and wetland make harvest too challenging. As the dying ash creates gaps in the forest canopy opportunities for new regeneration to establish will be created. The resulting regeneration will likely favor mid to shade tolerant and browse resistant/resilient species. The result will likely be low in diversity and not regenerate the existing canopy but will at least create a new age cohort available to grow into the forest canopy.

General Climate Change Considerations:

The proposed approach aims to enhance long-term forest resilience by increasing regeneration potential and structural diversity while reducing regeneration interference from mountain laurel. The abundant mountain laurel in the proposed area is a barrier to regeneration. In the event of a large-scale natural disturbance to the overstory tree regrowth at the site would be significantly delayed by the shading mountain laurel. This would delay return of the ecosystem benefits provided by forest cover, including depressing the carbon sequestration rate at the site. The proposed silviculture methods align with principles of climate-smart forestry, ensuring the forest maintains productive capacity, biodiversity, and ecosystem functions.

DWSP has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. 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.	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**:

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Diffuse overstory removal, partial cut, late rotation regeneration related.	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**.
Invasive plant control, including pre- and/or post-harvest and follow up treatments.	Strong consensus exists among land managers and climate science experts regarding the **threat to future forest health** posed by the introduction and spread of invasive plants. **Invasive plants** can: • aggressively **outcompete native plant species,** • dominate understory communities, and even climb, kill, and topple mature trees, • threaten overall **biodiversity**. • threaten **soil health** and long-term **carbon storage**. **Monitoring and controlling** invasive and interfering plant populations prior to and following forestry operations is a critical practice for **minimizing the risk of further impacts** inadvertently (though not unexpectedly) spread by harvesting-related activities.
Additional Comments	

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	None.

Constraint Topic	Description and Considerations
Proposed wetland or stream crossings	No wetland or stream crossings are proposed.
Further wetland comments	
Vernal Pools	There are no known vernal pools, and no potential pools were observed during sampling.
Access improvements needed	Road work is needed on West Main Street inside the DCR gate to improve drainage.
Other EQ issues	
In-kind Services	
Other Access Concerns (parking, trails, etc.)	

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
Upper Hop Brook	642	0	161	85
Sibley	1082	0	271	3

Additional comments on Subwatershed analysis:

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	No
State Listed species present:	None known
Rare Natural Communities:	None known
General Wildlife Comments	No unusual wildlife sightings were recorded during the lot visit. No stick nests were observed. The abundant mountain laurel is likely a sign of past browse pressure. Since those areas are devoid of tree regeneration, it's hard to assess current browse pressure. In the eastern portion of the proposed area there is abundant evidence of more recent browse pressure as striped maple becomes more present in the lower slopes.

Cultural Resources Description and proposed protection measures

Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	Stone walls are present in the southwest portion of the proposed area. There is a wide barway allowing access that will be utilized during operations. Walls will be mapped, flagged, and protected during harvesting. At the time of the taking, the area was owned by the New England Box Company and the heirs of William Spooner. No foundations or wells are known to be present within the proposed area. The 1938 aerial photos show the proposed area was heavily forested at the time of the taking.
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	The proposed area is very stony and in proximity to perennial streams. The western edge hear the road is a bench of < 7 % slope and stone walls there suggest at least colonial agricultural use. Moving eastward there are benches of < 7 % slope.

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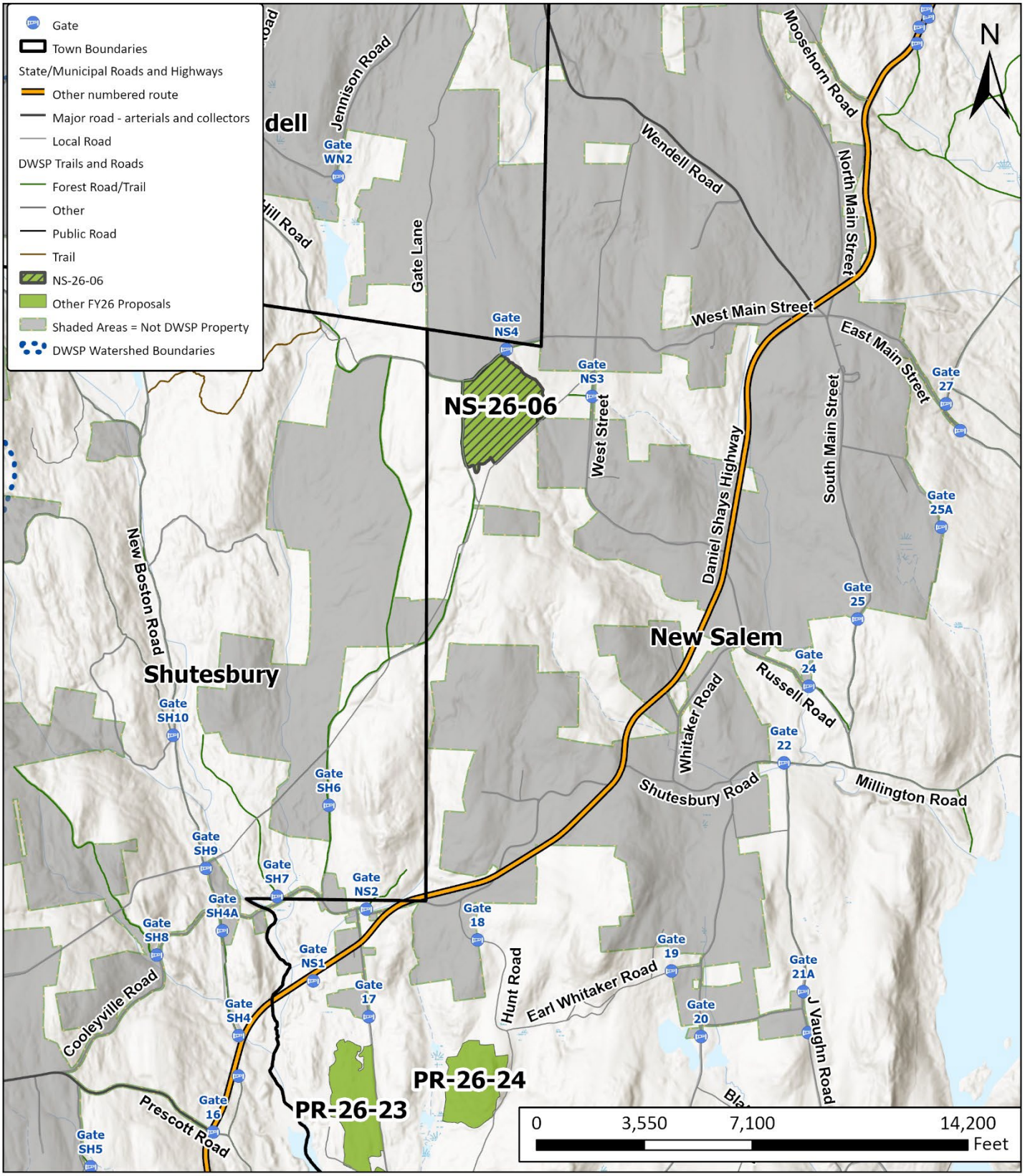
NS-26-06 -- Locus Map



1 inch equals 4,000 feet

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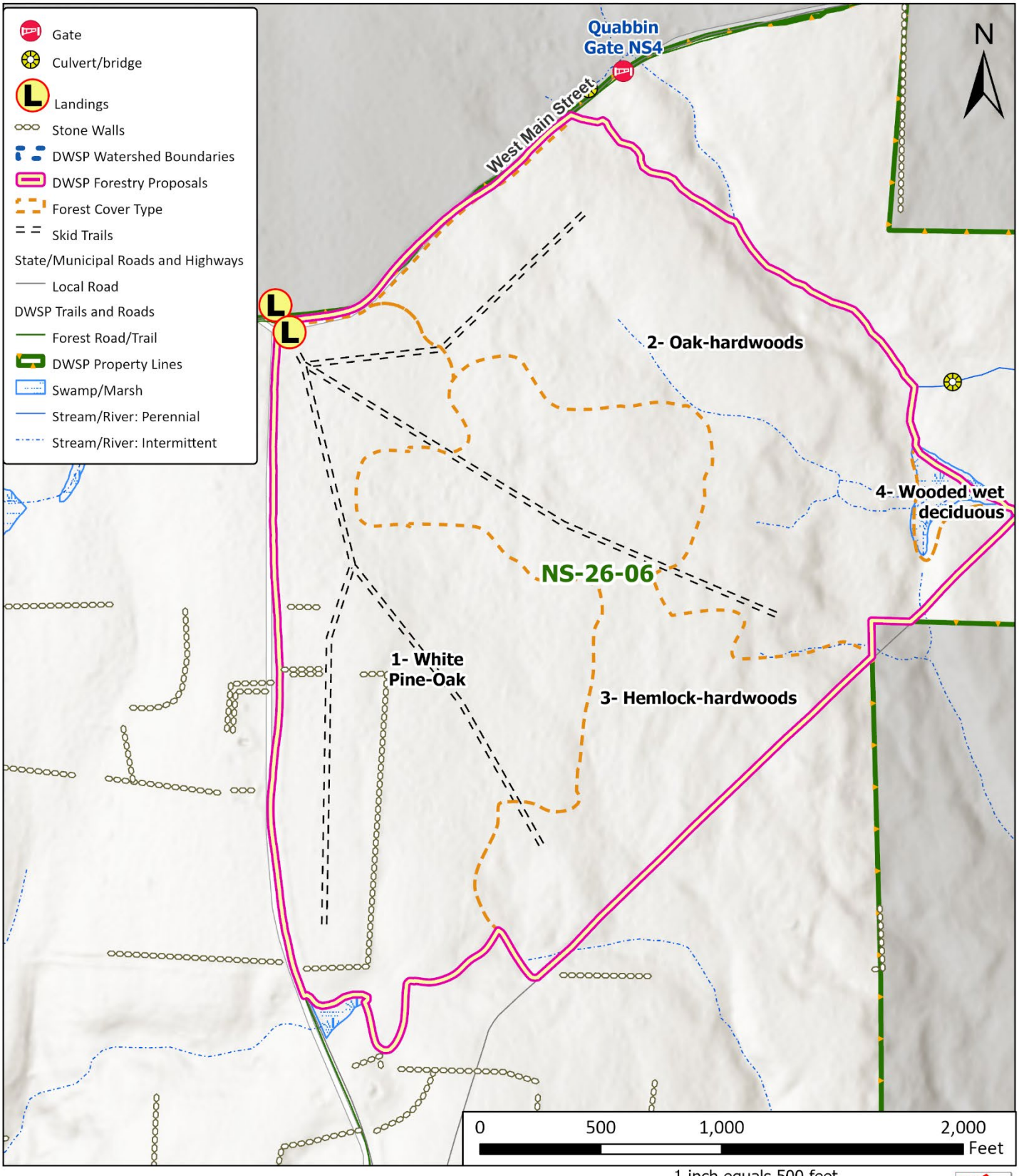
NS-26-06 -- Stand Map



1 inch equals 500 feet

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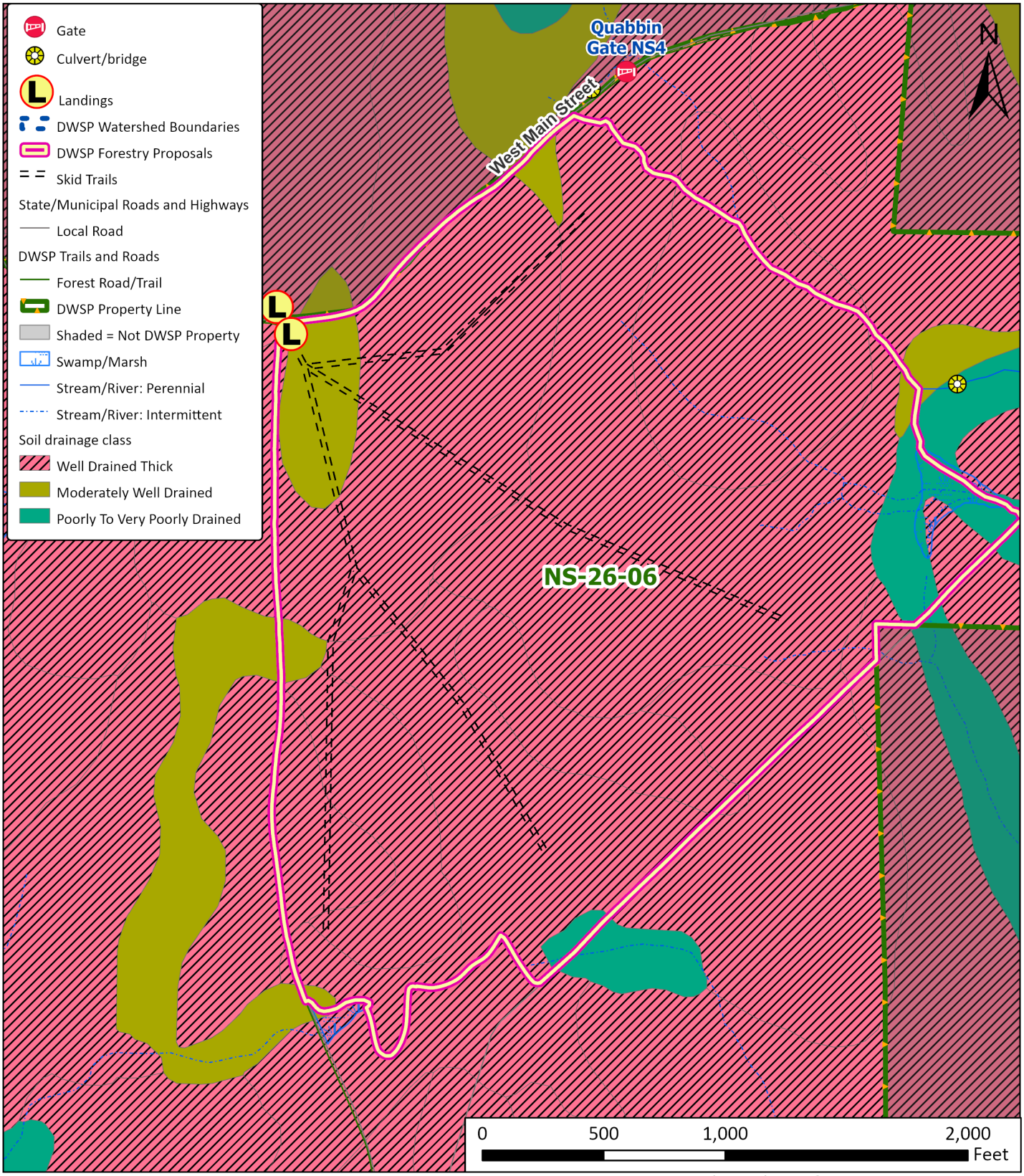
NS-26-06 -- Soil Drainage Classes



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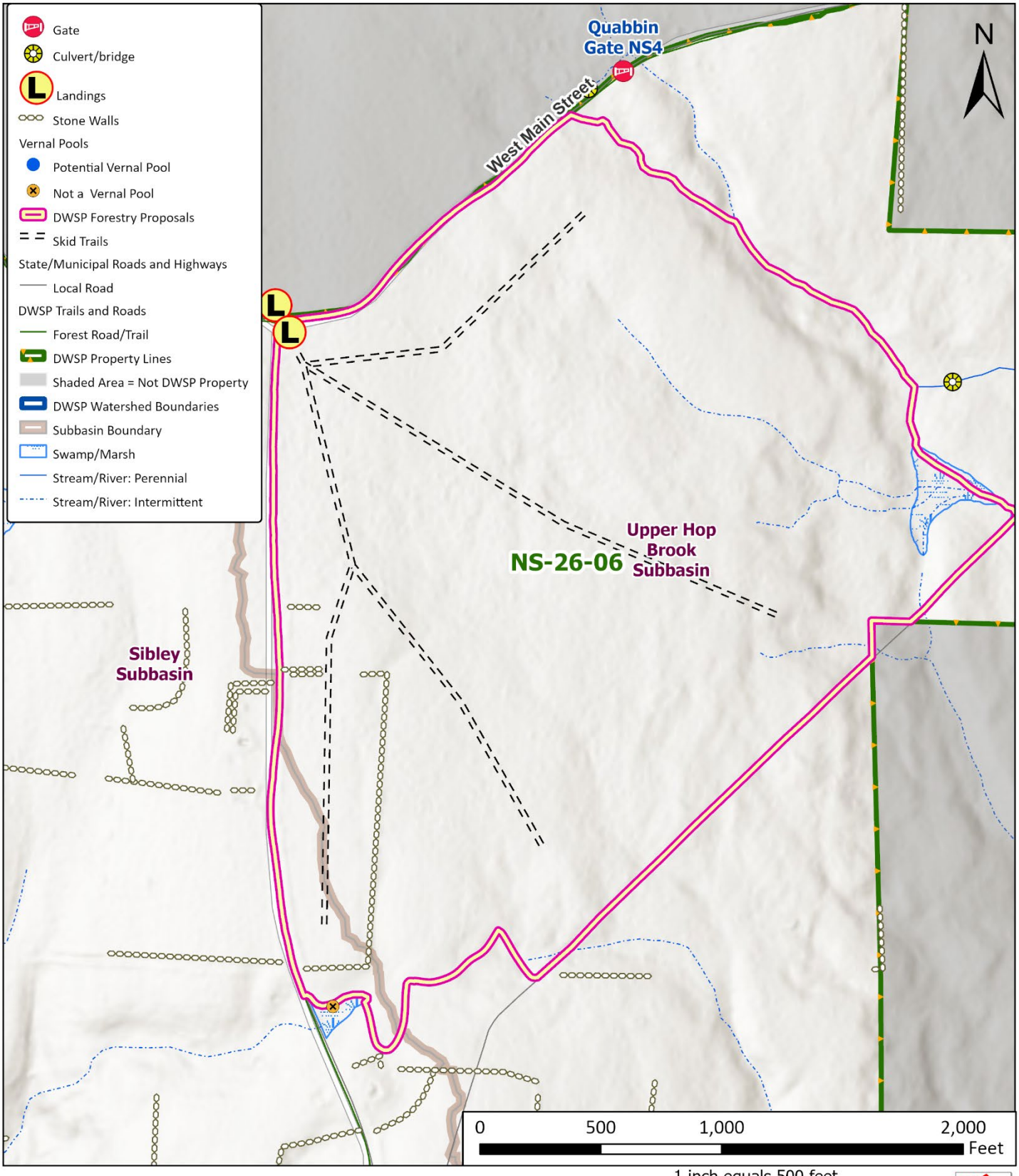
NS-26-06 -- Wetlands and Wildlife Resources



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NS-26-06 -- Cultural Resources and Landscape Characteristics