

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 | PR-25-13 |
| Fiscal Year | 2025 |
| Watershed | Quabbin |
| Town(s) | New Salem |
| Forester | Derek Beard |
| Total Acres | 144 |
| Block | Prescott |
| Compartment and/or Working Unit | 13 |
| Location and Boundary Description | Generally, the proposal area bisects the north ridge of Lighthouse Hill. Specifically, it is bounded to the north by Pelham Road, to the east by intermittent brooks and stone walls, to the south by intermittent brook that intersects with an old road and to the west by steep slope. |
| Previous Proposal? | No |
| Project Goals and Summary Description | The project's primary objective is diversifying forest structure. Structurally, much of the forest is homogenous high canopy (between 60 and 100 feet tall). While past management focused on overstory improvement; this project focuses on understory development. Vigorous regeneration is triggered by harvesting groups of overstory trees, bathing the forest floor in sunlight. The canopy gaps will be positioned such that they fit the landscape and represent the area's varied site conditions. Many gaps with have remaining overstory trees that represent current forest composition and/or have high wildlife value. Diversifying structure builds forest resilience in the face of intense weather associated with climate change. |

Forest Cover Types and Acreages

| Overstory Forest Types | Acres |
|-------------------------|-------|
| White Pine - Hardwood | 105 |
| Red Maple | 13 |
| Hemlock - Hardwood | 10 |
| Oak - Northern Hardwood | 9 |
| Mixed Oak | 7 |

Understory Cover Types and Relative Importance

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

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

Forest Vegetation Description

| Vegetation Topic | Description |
|--|--|
| General Description, Forest Composition, Stand History, and Harvest History | High canopy white pine/hardwood is the dominant forest cover. Primary hardwoods amongst the pine are black birch, red maple, ash and the oaks (red, black and white). From the ridgetop east, pine/hardwood transitions to red maple/northern hardwood. Traversing west from the ridgetop, hemlock infiltrates the pine/hardwood component. Myriad stone walls are a beacon to the land's agrarian past. Narrow scout roads along the rock outcrops that bound the southwest end of the area are indicative of small-scale quarrying. In the same vicinity, basal scarred oak suggests fire moved across the landscape many decades ago. Past management includes thinning in 1973, 1982 and 1990. The '73 and '82 harvests overlapped a fair bit, while the '90 harvest was autonomous. Prep shelterwood harvests were completed in 2002 and 2004 along the northern and central portions of the area's east slope. A small sugarbush improvement thinning was completed in the northeastern corner (along gate 17 road) in 2005. |
| Advance Regeneration description | Regeneration is sparse to absent in western portions of the area that were thinned in the 70s and 80s. The 2000s prep harvests are dominated by black birch sapling/poles. Sugar maple and ash seedlings abound in the 2005 sugarbush improvement area. |
| Terrestrial Invasive Plants description | Generally, the area is not significantly afflicted with invasive plants. That said, portions do overlap pockets of abundant barberry (mainly along the project's eastern edge). These pockets are concentrated around old farmsteads and riparian areas. Accompanying the barberry to a lesser extent is multiflora rose, honeysuckle and bittersweet. |

Description of Wetland Resources Present

| Resource Type | Description of resources present |
|----------------------|---|
| Wetlands | No |
| Streams | Yes, intermittent |
| Vernal pools | Yes. One Verified pool (VVP 993) is in the southwestern section of the proposal. VVP 993 appears to be an old cistern now functioning as a vernal pool. |
| Seeps | None known |

Description of Soils by Hydric Class

| Soil Hydric Classes | % of area | Soil series and any further comments |
|--------------------------------------|------------------|---|
| Excessively Drained | 0 | |
| Well-drained Thin | 23 | Chatfield Hollis Complex |
| Well-drained thick | 70 | Canton-Chatfield-Hollis Fine Sandy Loam |
| Moderately well-drained | 5 | Newfields and Scituate Fine Sandy Loam |
| Poorly to very poorly drained | 2 | Swansea Peat |

Proposed Silvicultural Activities

| Topic | Description |
|---|---|
| Site Selection and Silvicultural Objectives | The forest project area lacks structural diversity. The goal of the proposed silviculture is to foster forest understory development. |
| Silviculture Prescription | The long-term process of structural diversification will begin by siting canopy opens across approximately 1/3 of the project area. Openings will range between one acre and less than five acres to ensure the forest floor receives ample sustained sunlight. The openings' spatial arrangement will mesh with the landscape and given appropriate spacing, have no discernible pattern. Openings will have retained trees that may have historic/cultural value, be representative of the current forest composition or possess high wildlife value. |

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. <i>(see page 4, Silvicultural Prescription, patch openings)</i> | <p>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:</p> <ul style="list-style-type: none"> • 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. |
| Additional Carbon and Climate Considerations | |

Equipment and Access Constraints and Considerations

| Constraint Topic | Description and Considerations |
|---------------------------------|--------------------------------|
| Proposed Equipment requirements | |

| Constraint Topic | Description and Considerations |
|---|--|
| Proposed wetland or stream crossings | One stream crossing with a temporary bridge over an intermittent brook located in the southwesterly part of the project. |
| Further wetland comments | |
| Vernal Pools | |
| Access improvements needed | Construct trailer accessible landing adjacent to south part of project. Repair culvert 17-06-C1 which is in the vicinity of the north landing. |
| Other EQ issues | Address invasives around north landing location. |
| 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 |
|---------------------------|---|--|---|--|
| 27 West Prescott North | 1054 | 19 | 244 | 101 |
| 57 Dickey Brook | 2717 | 19 | 61 | 43 |

Additional comments on Subwatershed analysis: No comments.

Wildlife and Habitat Observations and Considerations

| Wildlife/Habitat | Observations and Considerations |
|-------------------------------------|--|
| Natural Heritage Priority Habitats? | Yes. The entire lot is within a priority habitat polygon. |
| State Listed species present: | NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity. |
| Rare Natural Communities: | None known |
| General Wildlife Comments | High wildlife value trees will be retained. |

Cultural Resources Description and proposed protection measures

| Cultural Resource | Description and proposed protection measures |
|---|--|
| Historical features present; comments regarding protection | Cellar hole remnants and an old livestock water hole will be flagged prior to harvest. CFI plot 341 is amid the proposal project. If necessary, the plot center (pvc pipe) will be removed and marked with iron re-bar set flush to ground or below. Furthermore, if any plot trees are selected for harvest, their number will be recorded and forwarded to personnel who hold/monitor cfi data. |
| Description of site characteristics in relation to Ancient sites modeling or other verified evidence | <p><u>Surface stone</u> is moderate.</p> <p><u>Microtopography</u> is present along the western and southern parts of the area.</p> <p><u>Slope</u> is mild to moderate. Approximately 25% of the area has 7% slope or less.</p> <p>Any cultural resource features located before or during the forestry project will be protected according to guidelines set forth in the current DWSP Land Management Plan and indicated on harvest maps accordingly. If applicable, DWSP will follow any additional recommendations from DCR's Archeologist regarding protection of sensitive sites.</p> |

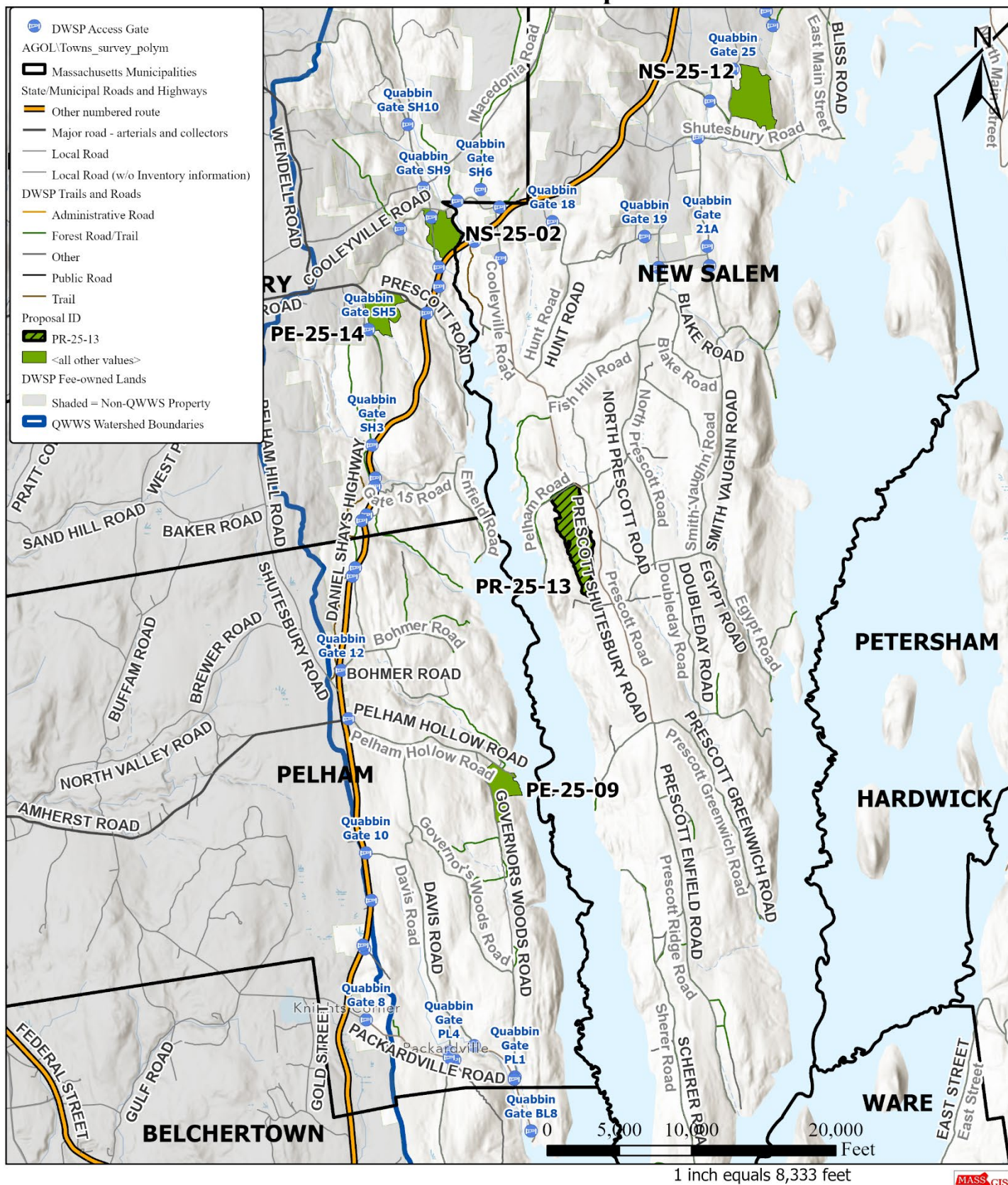


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PR-25-13 -- Locus Map



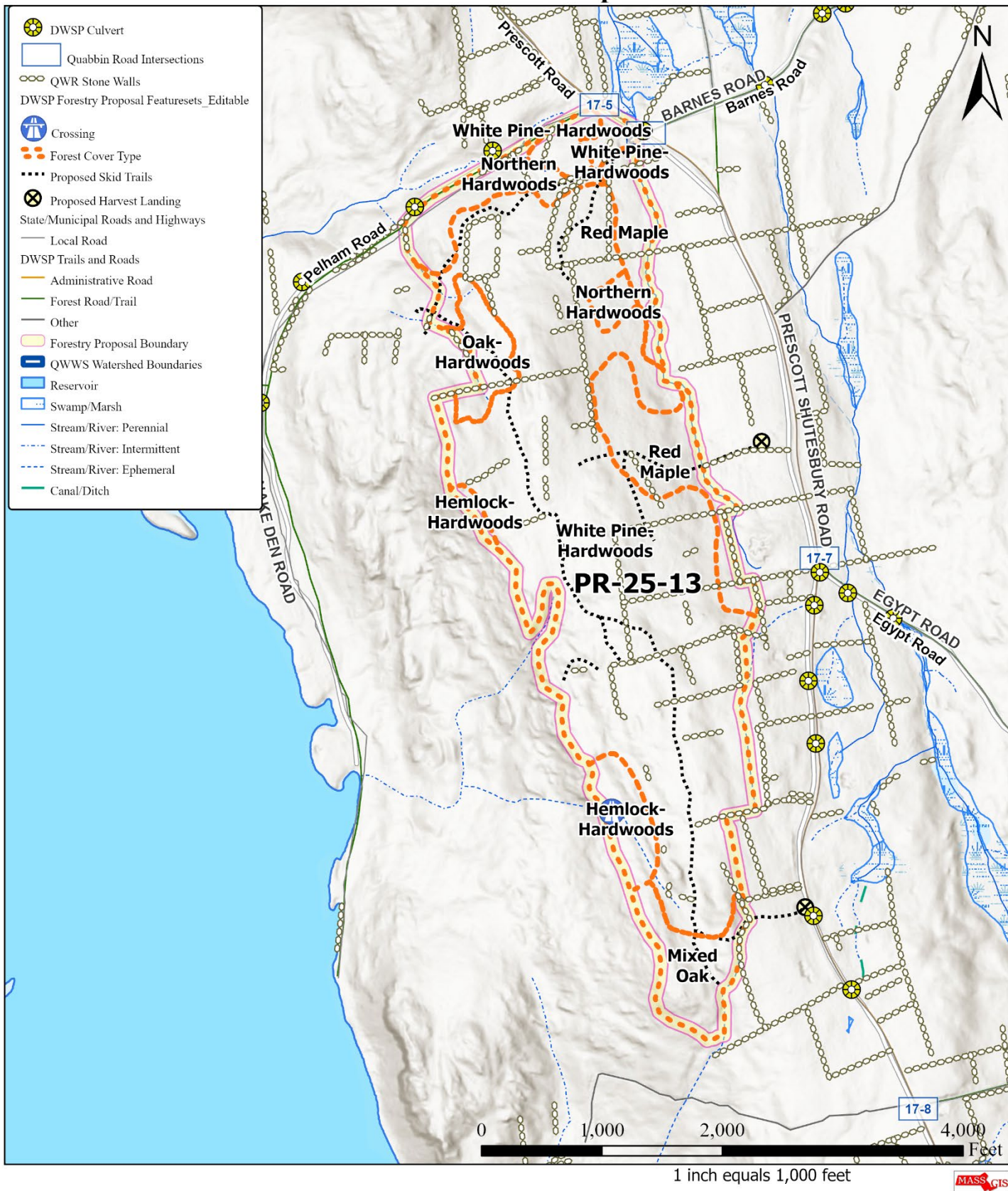


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PR-25-13 -- Stand Map



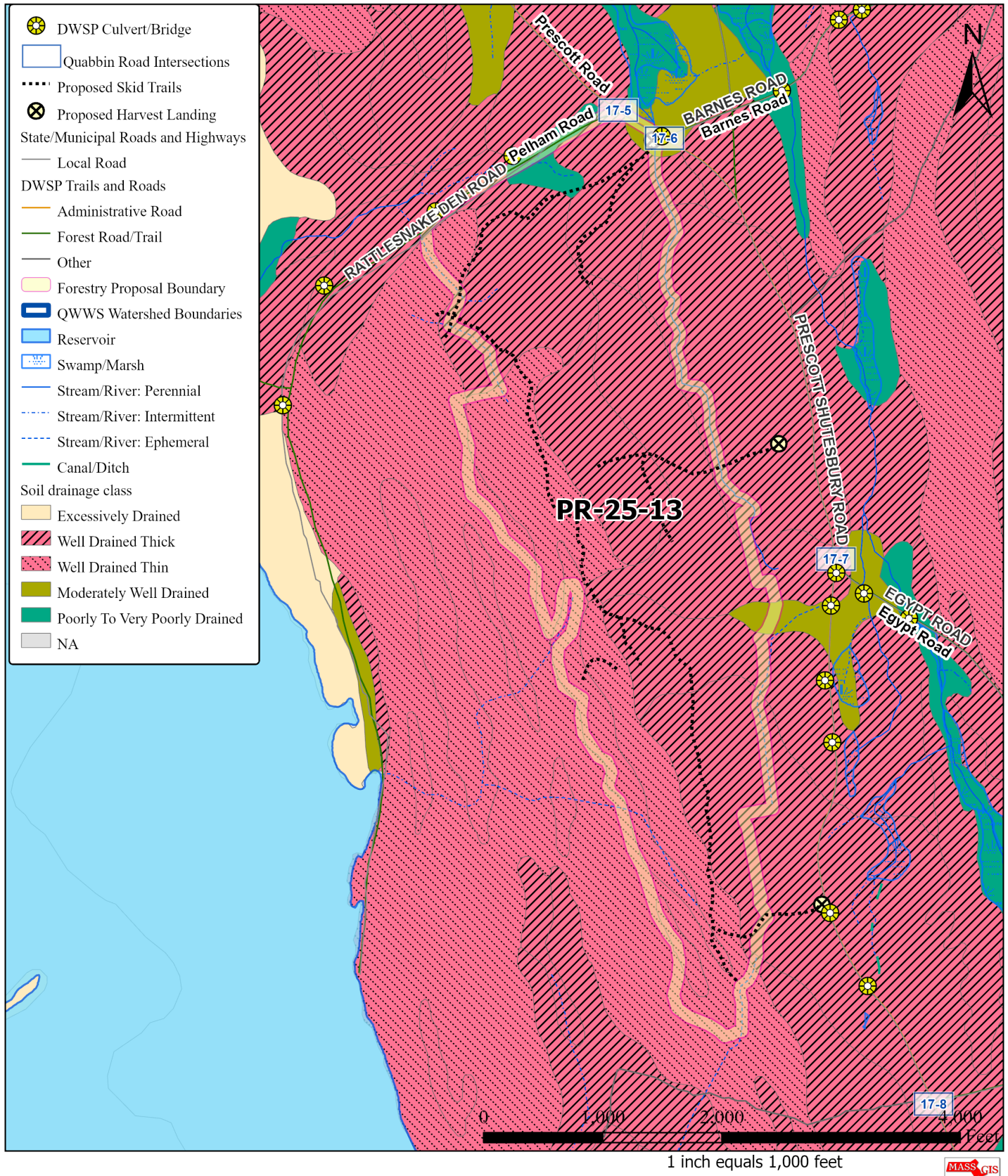


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PR-25-13 -- Soil Drainage Class



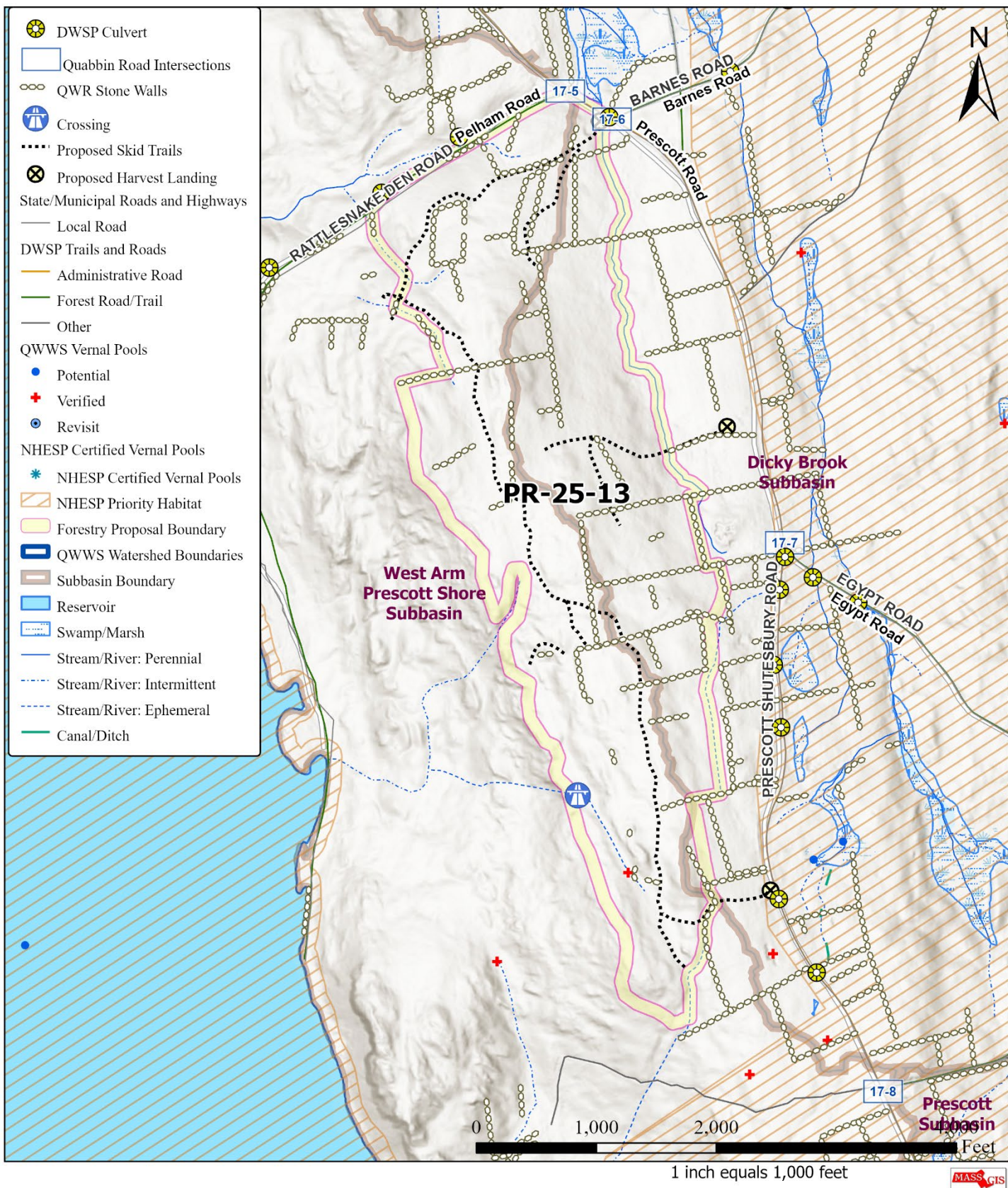


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PR-25-13 -- Wetlands and Wildlife Resources





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PR-25-13 -- Cultural Resources and Landscape Characteristics

