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	**PT-26-08**
Fiscal Year	2026
Watershed	Quabbin
Town(s)	Petersham
Forester	Helen Johnson
Estimated Acres by Treatment Type	5 to 7 total acres in regeneration openings and 13 to 15 acres of thinning. Regeneration openings will range from 1/5 to 2 acres each, with an average size of around 1/2 acre.
Total Proposal Acres	20.4
Block	Petersham
Compartment and/or Working Unit	8
Location and Boundary Description	The proposal is east of **Whit Meadow Pond** in Petersham, MA. It's bordered to the west by Whit Meadow Pond, to the north by a DCR access road (Dugway Road), to the east by a small (0.6 acre) wetland, and to the south by an intermittent stream. A secondary DCR access road runs south through the area, 100 feet from the west boundary of the proposal.
Previous Proposal?	No
Project Goals and Summary Description	This site was chosen because of the dominance and variable condition of white pine, a species that is highly vulnerable to breakage in high winds. The primary goals of this project are: 1. Maintain and enhance watershed forest resilience by initiating a new cohort of young trees, thereby increasing age class diversity while maintaining or increasing species diversity. 2. Release advance oak regeneration. 3. Improve overall forest health and vigor. This will be accomplished by creating openings of up to two acres where there are clusters of trees that are diseased, declining, or have poor stem structure, and by thinning between openings, with particular attention improving the vigor and seed bearing potential of oaks and releasing existing oak seedlings or saplings.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
White Pine – Oak	9.3
White Pine - Hardwoods	6.9
White Pine	4.2

Understory Cover Types and Relative Importance

Understory Cover Type	Relative area covered (Dominant, Secondary, Minor, None)
Tree seedlings and saplings	Dominant
Mountain laurel	Minor
Mesic site - witch hazel, highbush blueberry	Secondary (witch hazel is common; highbush blueberry is not)
Dry site -Huckleberry, blueberry	Minor
Mesic site - cinnamon fern, mixed hardwood	Minor
Hayscented fern	Minor
Invasive shrubs/vines	None
Other	n/a

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	White pine is the dominant overstory species on most of the proposal, either by itself or with a lower canopy of red oak. Red maple, hemlock, black birch and white oak sawlogs and poles are also present, with some sugar maple and white ash near the intermittent stream, and occasional black oak and pignut hickory near the roads. Live basal area ranges from 80 to 160 ft^2/ac in the Oak-Hardwoods type, 70 to 190 in White Pine-Hardwoods and 70 to 230 in White Pine-Oak, to 110 to 230 in White Pine-Oak. Forest health concerns at this site include emerald ash borer; hemlock wooly adelgid; white pine weevil damage (sweep, forks and multiple stems); reduced vigor and mortality due to competition, particularly of white pine; and a small amount of spongy moth mortality. Some of the white pines have thinning crowns despite having plenty of growing space, raising the possibility of white pine needle drop fungi. Past harvests include 19.7 acres of shelterwood prep completed in 1964 (Lot 0010), 19.2 acres of thinning/improvement completed in 1983 (Lot 0356), and 2.4 acres of single tree selection to the west of the secondary DCR access road, completed in 2002 (Lot 3015).
Advance Regeneration description	The majority of the proposal area has either sparse or marginal regeneration (29% and 63% of area, respectively). Only 8% of the area has adequate regeneration, but with species limited to white pine and hemlock. Oak seedlings and saplings are present at low density on 18% of the proposal area. Interfering agents include witch hazel, which is present on 62% of the area and ferns on 3% of the area.
Terrestrial Invasive Plants description	No invasive plants were observed within the proposal boundaries. A small patch (~0.05 acre) of Japanese knotweed is located in the pullout on the far side of the DCR access road just northwest of the proposal. A small patch (also ~0.05 acre) of phragmites is located in an intermittent stream that borders the proposal to the south. Both infestations have been mapped and will be avoided in order to prevent their spread. If possible, treatment prior to harvest is recommended, particularly of the Japanese knotweed due to its proximity to the access road.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	Witt Meadow Pond and associated wetlands border the proposal area to the west.
Streams	A small wetland (0.6 acre) borders the proposal area to the east. Another intermittent stream flowing from the east wetland into a wetland adjacent to Witt Meadow Pond borders the proposal area to the south.
Vernal pools	Verified Vernal Pool #13 is outside the proposal, across Dugway Road to the northeast, and will be protected according to the requirements in the 2017 DWSP Land Management Plan.
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	0	
Well-drained thick	100	Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony, and Montauk-Canton association, 15 to 45 percent slopes, extremely stony.
Moderately well-drained	0	
Poorly to very poorly drained	0	

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	This site was chosen because of the dominance and variable condition of white pine, a species that is highly vulnerable to breakage in high winds (see Hurricane Damage and Forests and One for the Ages: The Hurricane of 1938 Battered New England's Woods 75 Years Ago). The primary silvicultural objectives for this project are: 1. Maintain and enhance watershed forest resilience by initiating a new cohort of young trees, thereby increasing age class diversity while maintaining or increasing species diversity. 2. Release advance oak regeneration. Improve overall forest health and vigor.

Topic	Description
Silviculture Prescription	Regeneration openings 1/5 to 2 acres in size, totaling 5 to 7 acres and averaging around 1/2 acre, will be located where there are clusters of trees that are diseased, declining, or have poor stem structure, and/or where there are oak seedlings or saplings in need of release. Trees on the perimeter of openings will be healthy and vigorous with stable stem structure, and will be either vertical or leaning away from the adjacent opening in order to minimize damage to regeneration if they fall or are cut in the future. Witch hazel and trees ≥5 feet tall within openings will be cut, except for healthy oak saplings, which will be flagged for retention. In 90% of openings over 1/2 acre, 5-10 ft^2/acre of basal area will be retained, with healthy oaks and regionally uncommon native species such as sugar maple and pignut hickory being favored for retention. Areas between and around openings will be thinned, with particular attention to improving the vigor and seed bearing potential of oaks, and making perimeter trees around openings more windfirm. Declining white pine and hemlock will be particularly targeted for removal in order improve forest health and increase biodiversity.

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
Regeneration patch cuts (full overstory removal, partial stand)	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.
Thinning (diffuse overstory removal, partial cut, 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**.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Protection of soil carbon a. Careful routing of skid trails to avoid steep areas and sensitive soils, and reinforcement of soft ground with slash. b. Installation of water bars in accordance with Massachusetts Best Management Practices. Stabilize the soil at the landing with conservation mix or equivalent seed source.	Routing skid trails to avoid steep slopes and sensitive soils and reinforcement of soft ground with slash (tops and branches from cut trees) prevent soil erosion and compaction. Water bars help stabilize skid trails and ensure that **excessive erosion** is avoided while maintaining the site for future forestry operations. Properly stabilized skid trails will **revegetate** naturally while being discernable enough to use in future operations. Beyond compliance with the BMP manual standards, the size and frequency of water bar installation, and degree of stabilization, should be determined by: • **Other uses** that may occur between operations, e.g. hiking trails, snowmobiles trails, use as firebreaks, or unauthorized uses (OHV/ATV) • The **impacts of future climate conditions**, especially more frequent storms. If the area is already known to be wet, and in the future **more frequent storms are expected**, more water bars than what may be normally installed are encouraged. **Soil type**. Land managers may consider seeding and mulching water bars on highly erodible soils, steep slopes, or excessively wet areas to ensure longevity and prevent water bar degradation.
Invasive plant control, including pre- and/or post-harvest and follow up treatments. Treatment/removal of non-native invasive plants prior to or following a forestry operation in accordance with an approved DWSP Invasive Terrestrial Plant Management Plan.	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.
General/other Climate Change Considerations	This silvicultural approach enhances watershed forest resilience by addressing structural vulnerability, species composition, and regeneration challenges in a stand dominated by white pine. White pine's susceptibility to windthrow and climate-related stressors makes it an increasingly risky overstory species under future conditions. The proposed prescription supports a transition from a vulnerable overstory to a more structurally and compositionally diverse forest. By enhancing oak regeneration, reducing competing/interfering vegetation (e.g., witch hazel) and prioritizing retention of healthy, regionally uncommon species like sugar maple and pignut hickory the harvest builds ecological resilience.

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	Forwarder required if operated with a single landing in conjunction with PT-26-08, in order to protect the DCR access road.
Proposed wetland or stream crossings	none
Further wetland comments	n/a
Vernal Pools	Verified Vernal Pool #13 will be protected by a 200 foot low ground disturbance zone, as required in the 2017 DWSP Land Management Plan.
Access improvements needed	none
Other EQ issues	none
In-kind Services	Roadside tree removal for road maintenance will be required if needed. Treatment of Japanese knotweed and phragmites may be desirable, but would be better started a few years before the harvest if it is to be done at all.
Other Access Concerns (parking, trails, etc.)	In order to avoid transporting Japanese knotweed, the landing must not be located in the road pullout to the northwest of the proposal, and contractors should take care not to transport any part of the plant of any size if they park in that area.

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
Lower East Fever Brook	845	0	211	20

Additional comments on Subwatershed analysis: None

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	There are 4.6 acres of NHESP Priority Habitat along the west boundary of the proposal.
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.

Wildlife/Habitat	Observations and Considerations
General Wildlife Comments	Verified Vernal Pool #13 will be protected by a 200 foot low ground disturbance zone, as required by the 2017 DWSP Land Management Plan; the proposal boundary has been drawn to exclude the 15 foot no cut buffer and the 100 foot shade zone. Dead and dying trees (snags) will be retained and protected whenever possible for wildlife habitat. Large diameter snags and logs, which provide habitat for broad suites of species and are relatively uncommon in the general landscape, will be prioritized for protection.

Cultural Resources Description and proposed protection measures

Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	Stone walls border portions of the DCR access roads both within and outside the proposal, and will be avoided and protected. Any additional cultural features that are located before or during the harvest will be mapped, photographed, flagged, avoided and protected, consistent with the guidelines in the 2017 DWSP Land Management Plan.
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	Slopes are generally around 10% with westerly aspect. Microtopography is not pronounced.

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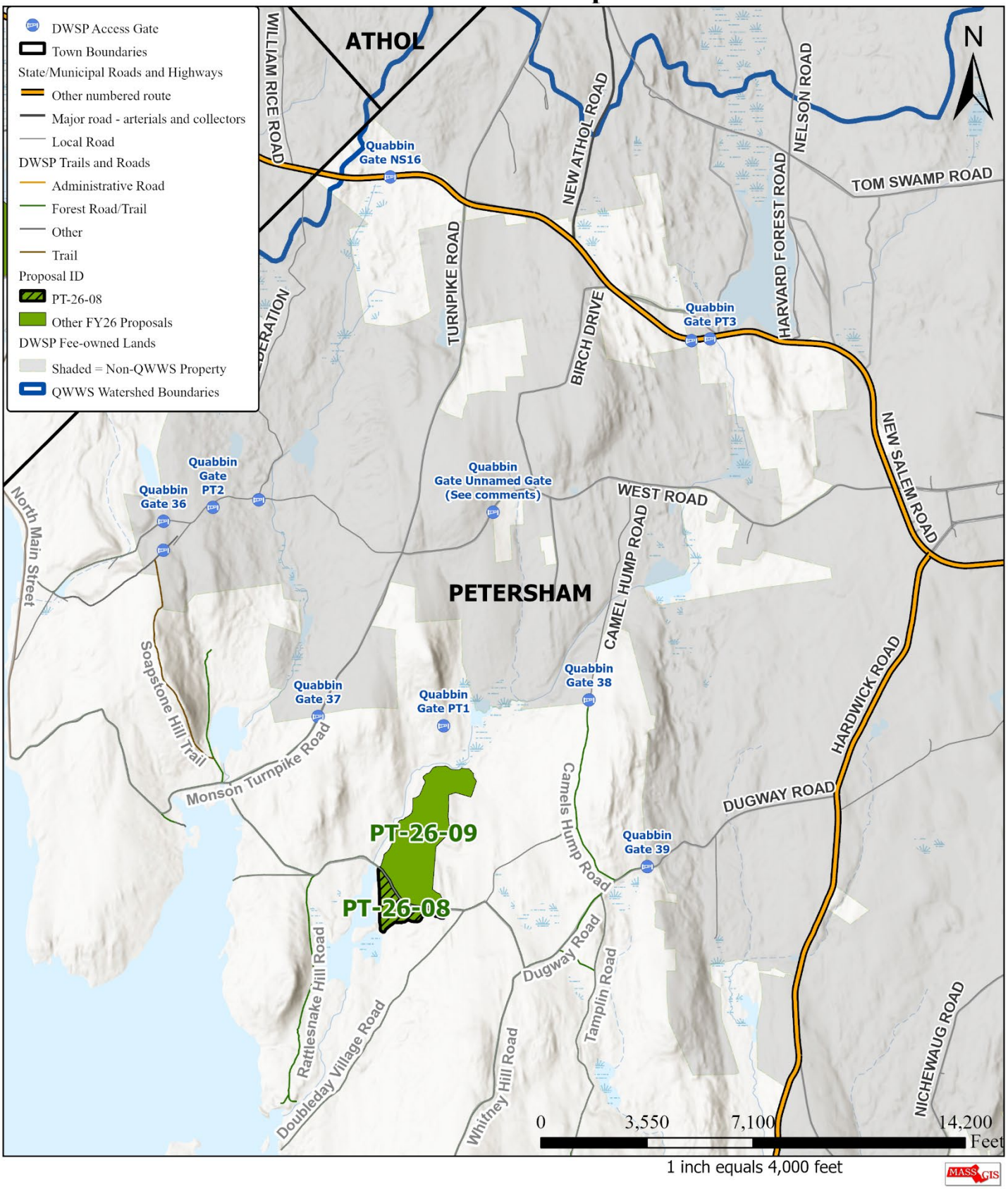
PT-26-08 -- Locus Map



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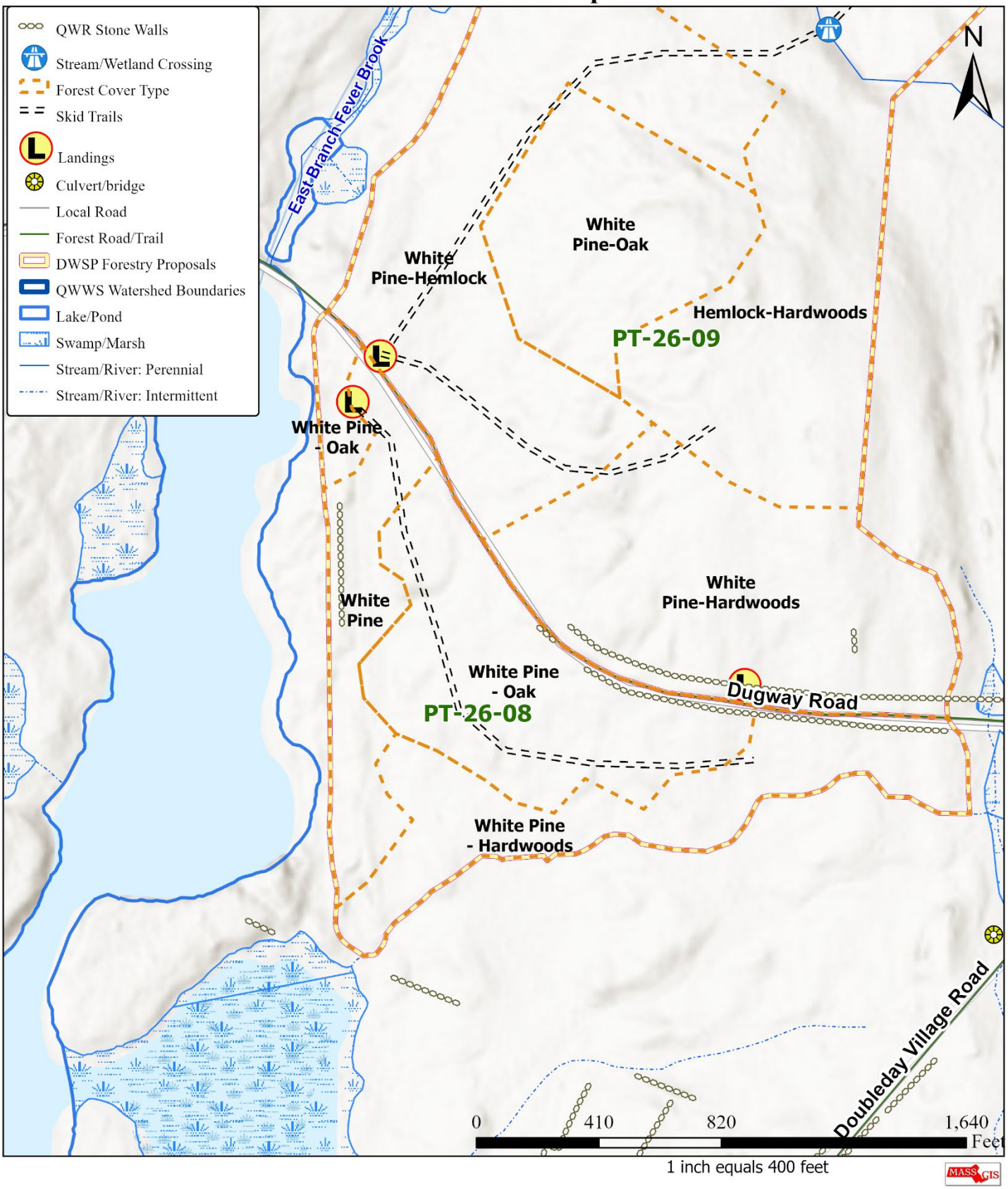
PT-26-08 -- Stand Map



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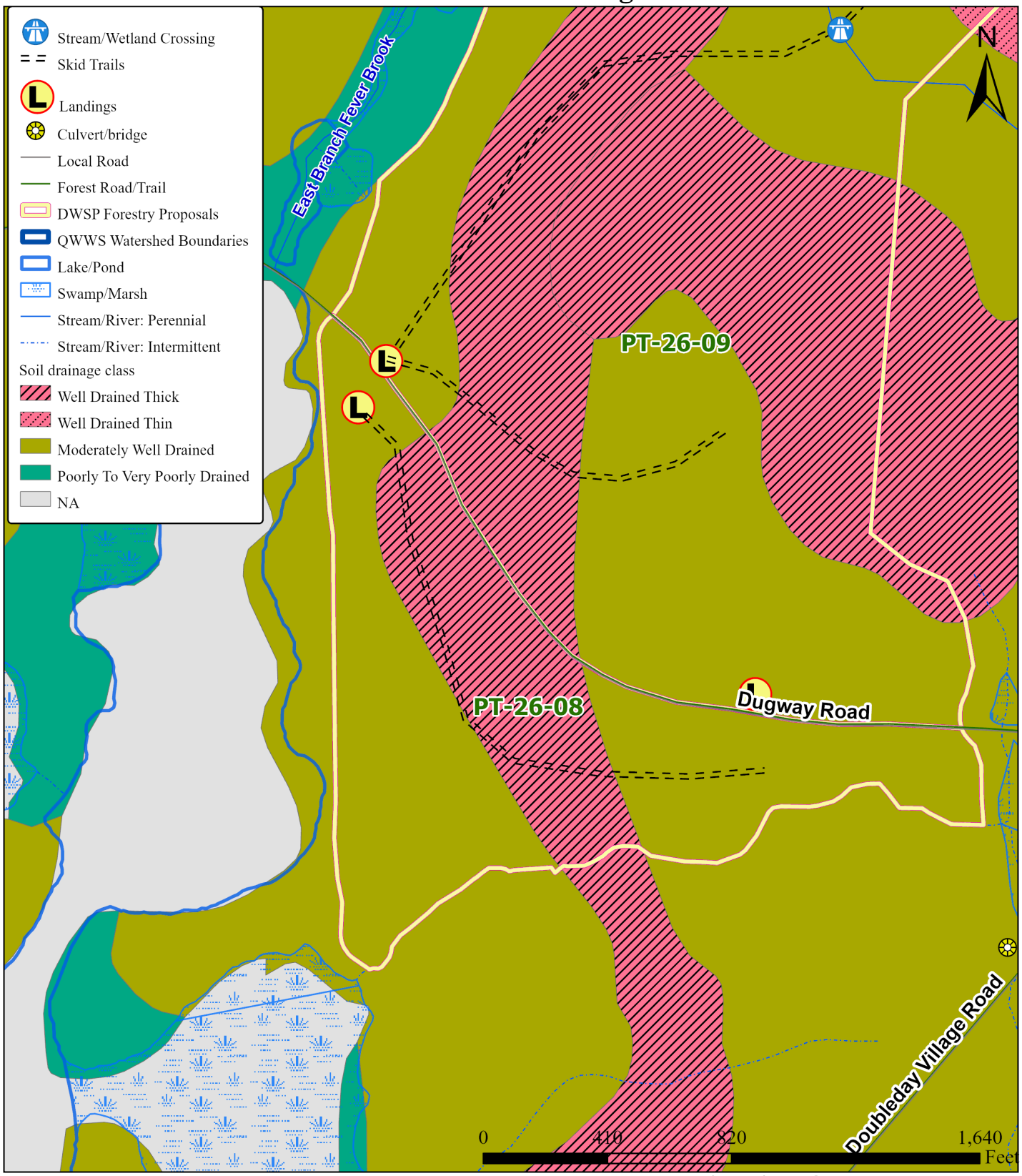
PT-26-08 -- Soil Drainage Classes



1 inch equals 400 feet

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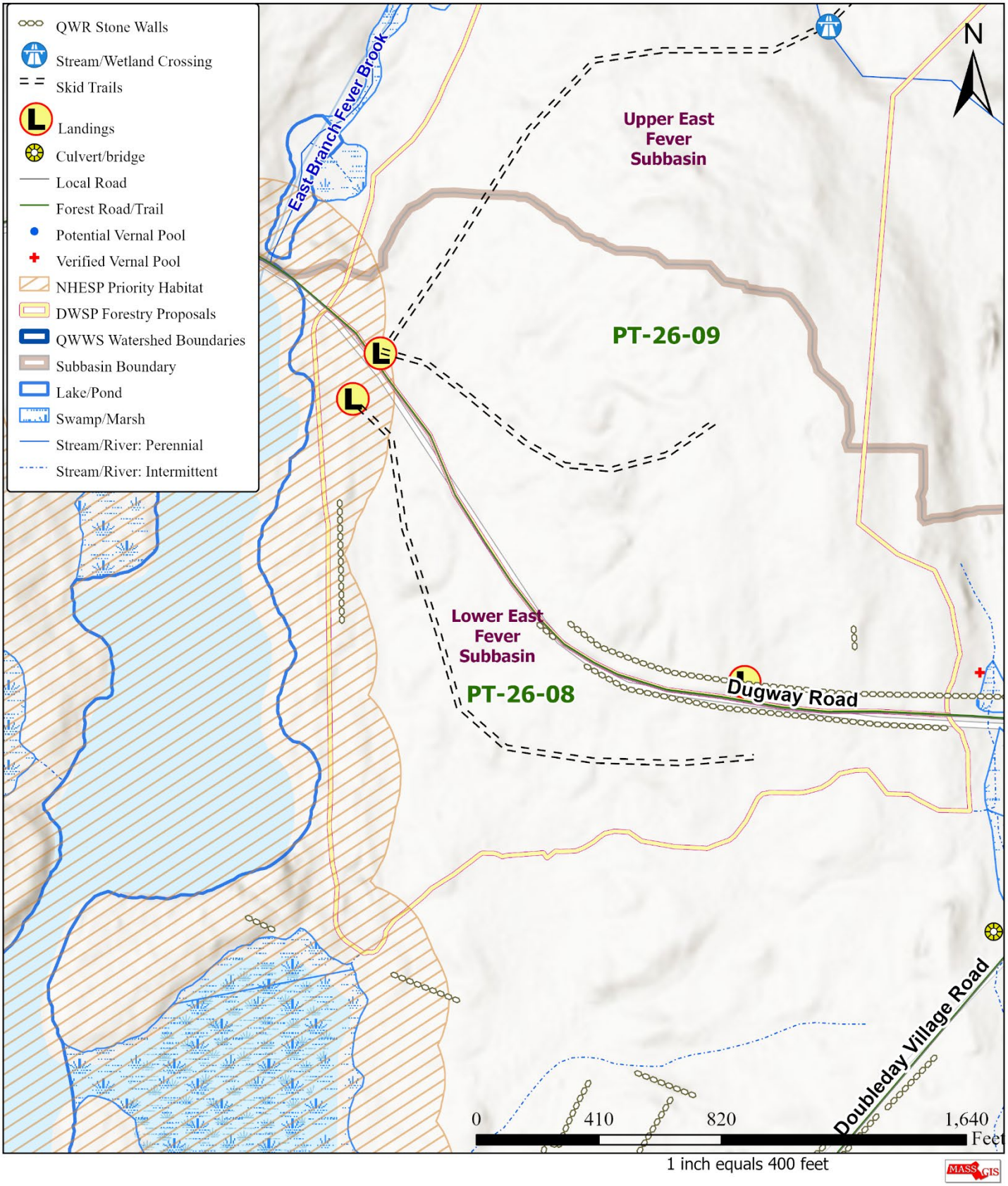
PT-26-08 -- Wetlands and Wildlife Resources



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PT-26-08 -- Cultural Resources and Landscape Characteristics