Quabbin Harvest Proposal HA-23-02

Proposal Update, May 2024:

This forestry proposal was originally approved through the public process in 2022. At that time reference was made to salvaging or pre-salvaging planted red pines that were in decline due to fungal pathogens and/or red pine scale. DWSP wishes to clarify that all red pine plantation removals on Division lands comply with long standing DWSP management objectives to convert monoculture conifer plantations to diverse mixes of native tree species. The project was 'paused' along with most other state lands forestry projects as part of the EEA Forests as Climate Solutions Initiative. Following the close of the work of the Climate Forestry Committee, DWSP determined the activities in this proposal align with EEA climate considerations developed from the recommendations in the report issued from the CFC. The proposal language and mapping below are preserved unchanged from that presented to the public in 2022 in ArcGIS Online story map format.

Proposal Goals

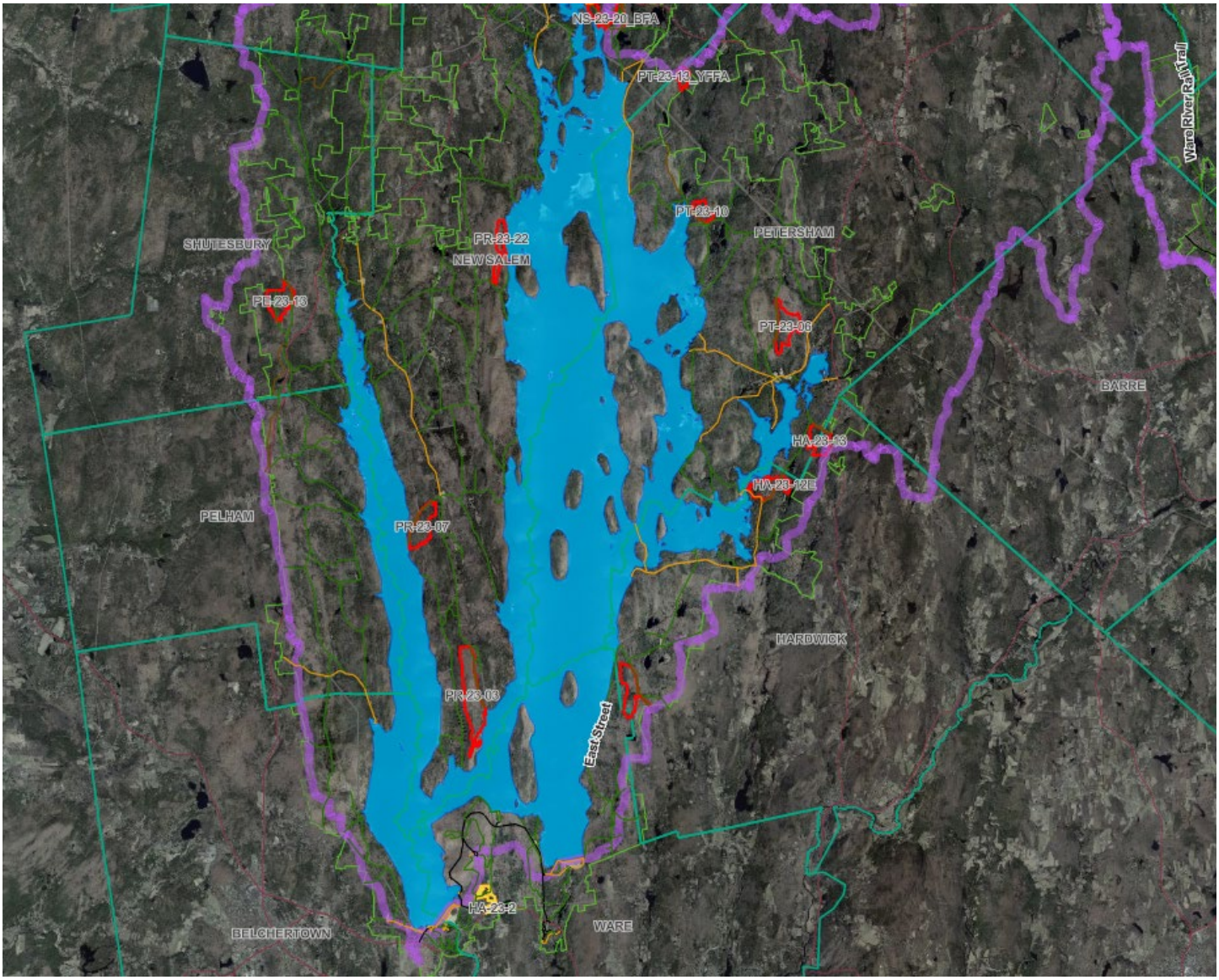
The primary silvicultural goals of this harvest are to salvage/pre-salvage the remaining red pine plantation, diversify the age structure of the proposed area and to maintain or improve species diversity and residual vigor.

Proposal Location

(Yellow highlighted polygon in the map) This proposal covers most of remaining red pine stands at the south end of Webster road on the west side.

Total Acres: 49

Figure 1. Watershed Locus, HA-23-02.



General Description

Overstory Type(s)	Acres
Red pine	25
White pine	12
Larch	4

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site
Secondary	Dry site - blueberry/huckleberry

Description of forest composition/condition:

These stands are mainly red pine plantations and all have been cut before, most of them multiple times. This has resulted in most being two-aged stands with an unevenly stocked overstory of red and white pine mainly. Some larch is present in the stand at the south end and throughout some hardwoods have emerged over the years. The red pine is all in various stages of decline due mainly to the red pine scale and root rot. Southern pine beetle has been discovered in several locations in CT. This insect attacks hard pines and red pine is a preferred host. The outlook for red pine surviving in this area is very poor and the species no longer helps to meet our objectives of having "a diverse mix of healthy trees that are long-lived, well-suited to their location, and vigorously growing and assimilating nutrients".

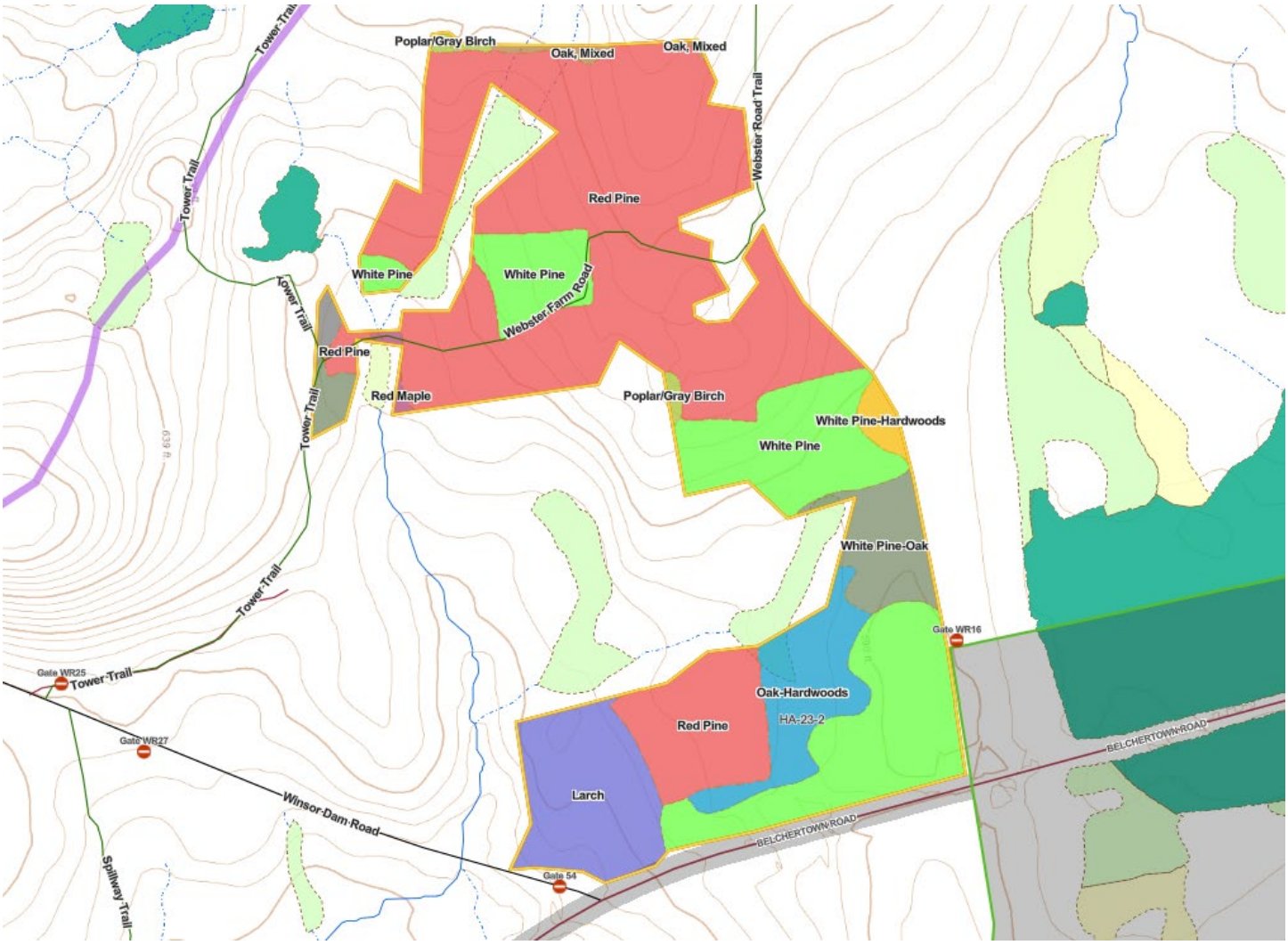
The understory is well stocked with white pine (many over 15' tall) and some hardwoods and hemlock in areas that haven't been heavily browsed. Due to the high deer population the understory has low species diversity.

There are several stands of white pine, white pine/oak and white pine/hardwood which have overstories of varying proportions of white pine, oak, and some hardwoods. The form is generally average and they have a fairly dense mixed understory.

Assessment of Terrestrial Invasive Species:

Invasives are present, mainly around old home sites and landings. Species present include Asiatic bittersweet, honeysuckle, Japanese barberry and Japanese knotweed. Left untreated the red pine overstory will gradually die over the next 5-10 years which would create ideal conditions for the invasives to dominate the site. Our hope is to initiate control efforts to knock the invasives back and at least give the native vegetation an even start. An attempt will be made to cut areas with the most invasives last to limit spreading them to new areas.

Figure 2. Forest cover types, HA-23-02.

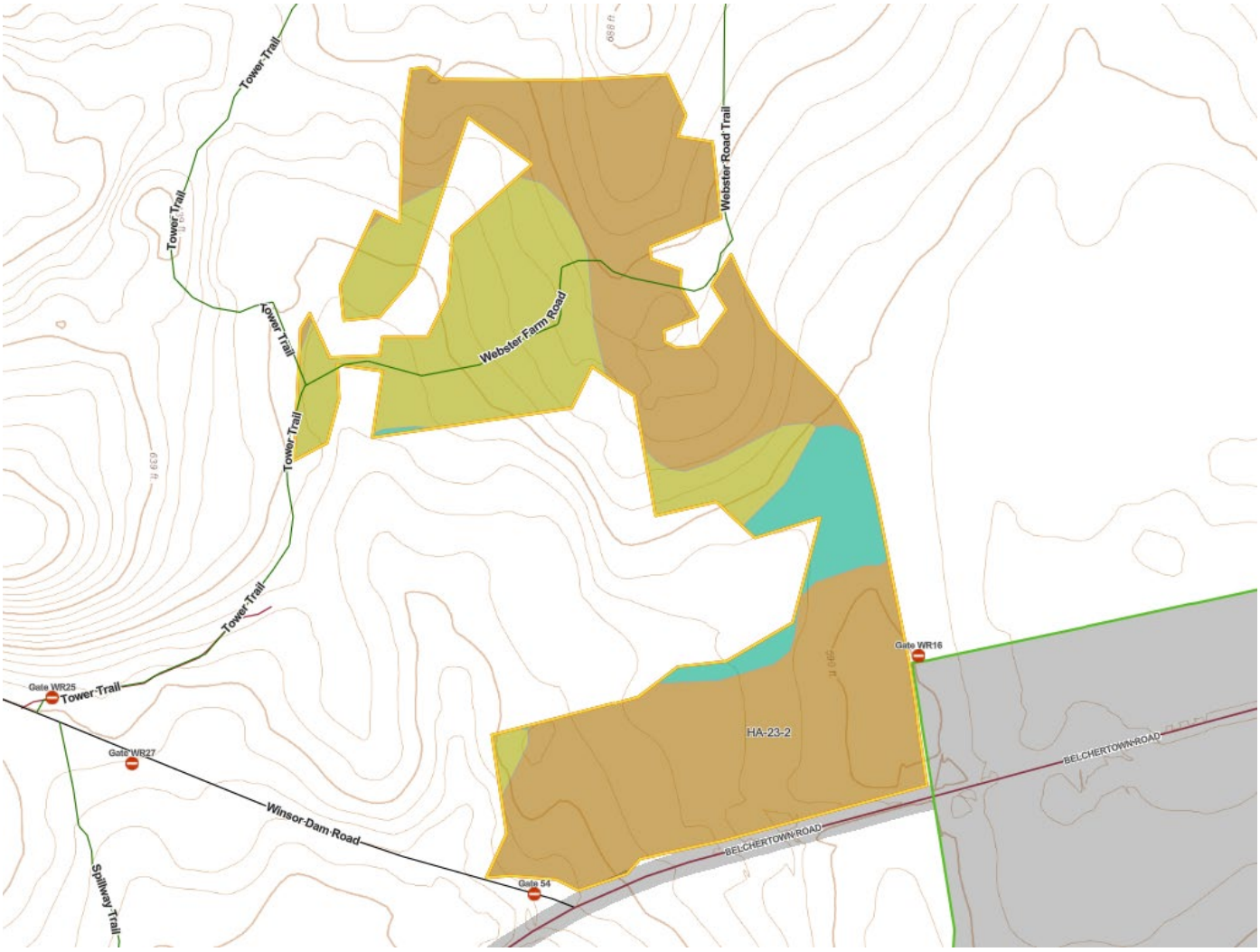

Poplar/Gray Birch
Oak, Mixed
Oak, Mixed
Webster Road Trail
Red Pine
White Pine
White Pine
Webster Farm Road
Red Pine
Red Maple
Poplar/Gray Birch
White Pine-Hardwoods
White Pine
White Pine-Oak
Oak-Hardwoods
HA-23-2
Red Pine
Larch
Tower Trail
Lower Trail
Tower Trail
Tower Trail
Tower Trail
Gate WR25
Gate WB27
Gate WR16
Gate 54
Winsor Dam Road
Spillway Trail
BELCHERTOWN ROAD
BELCHERTOWN ROAD

Soils

Drainage Class	%
Excessively Drained	8
Well Drained Thin	0
Well Drained Thick	66
Moderately Well Drained	27
Poorly to Very Poorly Drained	7

Canton fine sandy loam (38.5 acres) and 317 Scituate fine sandy loam (13.2 acres). There is 3.4 acres of muck and poorer drained soils along Webster Road but these are going to be mostly avoided.

Figure 3. Soil classes, HA-23-02.

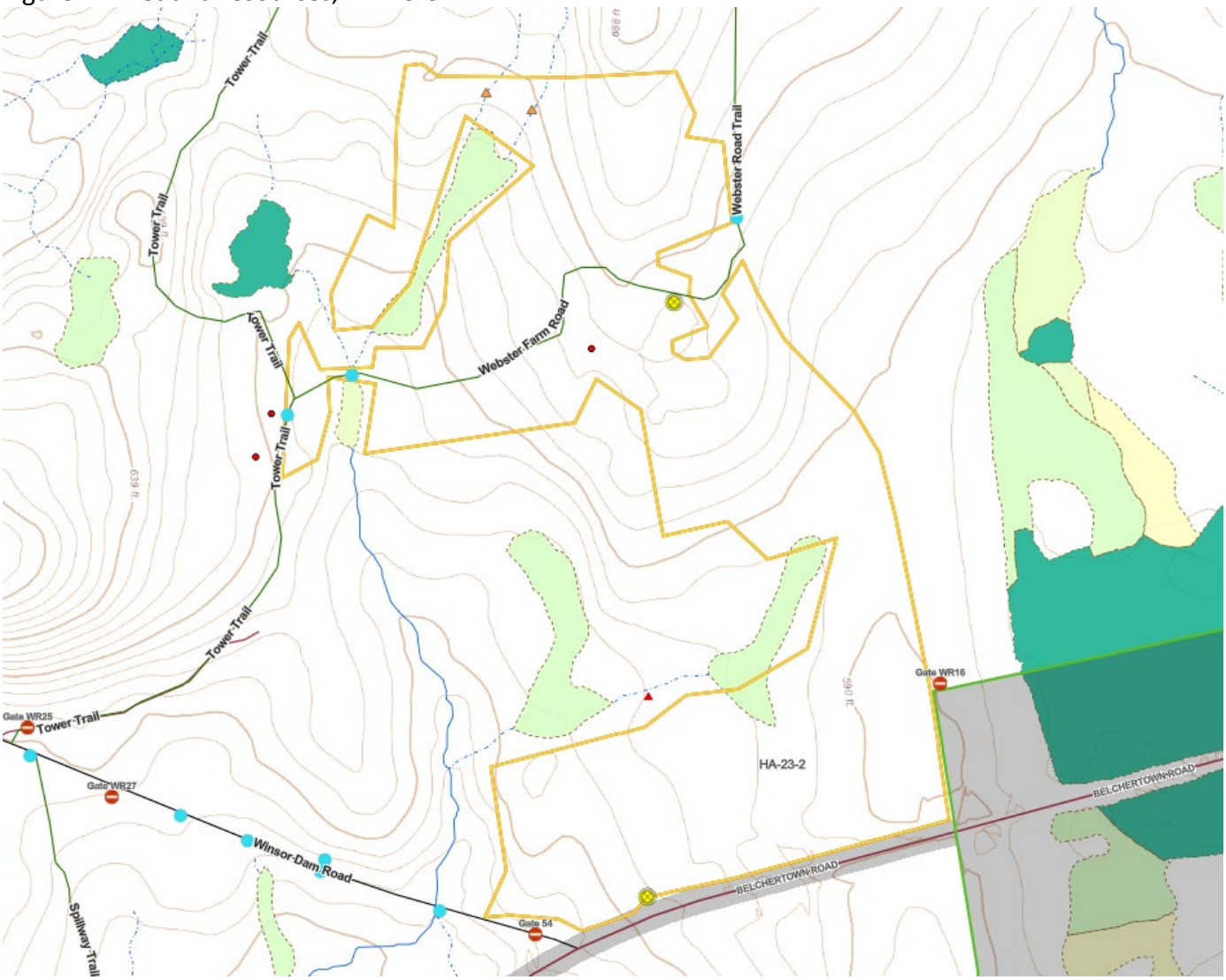


Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- Seeps present? – **None known**
- Are stream crossings required? - **Yes**
- Are wetland crossings required? - **No**
- Is logging in filter strips planned? - **Yes** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

Previously established crossings will be reused unless a more stable location is found. There is 1 Verified Vernal Pool (VVP) 879 located in the northern half of the lot. There are 2 VVPs (658 and 707) just outside of the northwest boundary of the lot.

Figure 4. Wetland resources, HA-23-02.



Silviculture

Acres in Intermediate cuts: **10**
Acres in prep/establishment cuts: **5**
Acres in Regeneration cuts: **17**
Average regen opening size: **1**
Maximum regen opening size: **5**

Description of advance regeneration in proposal area:

Advance regeneration is established on most of the proposal but is not very diverse, mainly black birch, red maple and white pine. Oak, hickory, black cherry, and sugar maple are scattered on uplands and some yellow birch, ash and hemlock are present along the wetlands. Regeneration is mostly sapling sized with some pole sized particularly where there were larger openings created from past harvests. Seedlings are present throughout but are mainly non-vigorous due to being suppressed for so long. Deer are numerous here and moose visit occasionally and are one of the reasons for the lack of diversity and prevalence of white pine and black birch, which are not preferred browse. There are some oak and red maple seedlings and saplings surviving without too much browse so there is still hope for some to get past the browse height of moose. Most areas have over 1000 seedlings/acre.

General comments on silviculture proposed:

Treatment is a salvage/pre-salvage of red pine. Basal area to be removed is quite variable since the stands range from uncut to having had multiple cuts and mortality due to scale and wind throw. Cutting intensity will range from single tree to patch cuts up to 5 acres in size. Treatment to some of the more evenly cut stands will more closely resemble a shelterwood overstory removal. Intent is to remove as much of the red pine as possible (capture the value) in areas outside of required filter and buffer strips. Some areas will be skipped due to poor access and/or scattered merchantable stems. Additional stems other than red pine will be cut if needed for access, if poor quality or vigor or to release established regeneration. Many of the cuts will be patch cuts with openings between 0.1-2 acres. Most of the larch plantation in the southwest corner of the lot will be retained at this time, although some poor quality and unhealthy stems will be removed along with the scattered red pine in this stand.

Along Webster Road the stands have been cut multiple times and the RP BA is generally below 60. WP regeneration is present throughout though is variable in density and acceptability. Harvest in this area is probably best described as the final overstory removal on a group shelterwood. Some of these will be over 5 acres in size but will be interspersed with groups of WP and hardwoods and patches of (currently) free to grow regeneration to 20' tall.

The white pine-oak stand east of the middle entrance will have openings between 0.25-2 acres created concentrating on cutting areas with the poorest form or vigor. 5-10 sq ft of basal area of vigorous, well formed trees will be left in openings over 0.5 ac here.

Climate Change considerations:

This is a salvage/sanitation cut to remove dying red pine and thus improve overall forest health and resiliency. Control efforts in heavy invasive plant infestations will help reduce the impact of these biological

stressors. Releasing advance regeneration to develop a mosaic of diverse age groups reduces impact from anticipated natural wind disturbances.

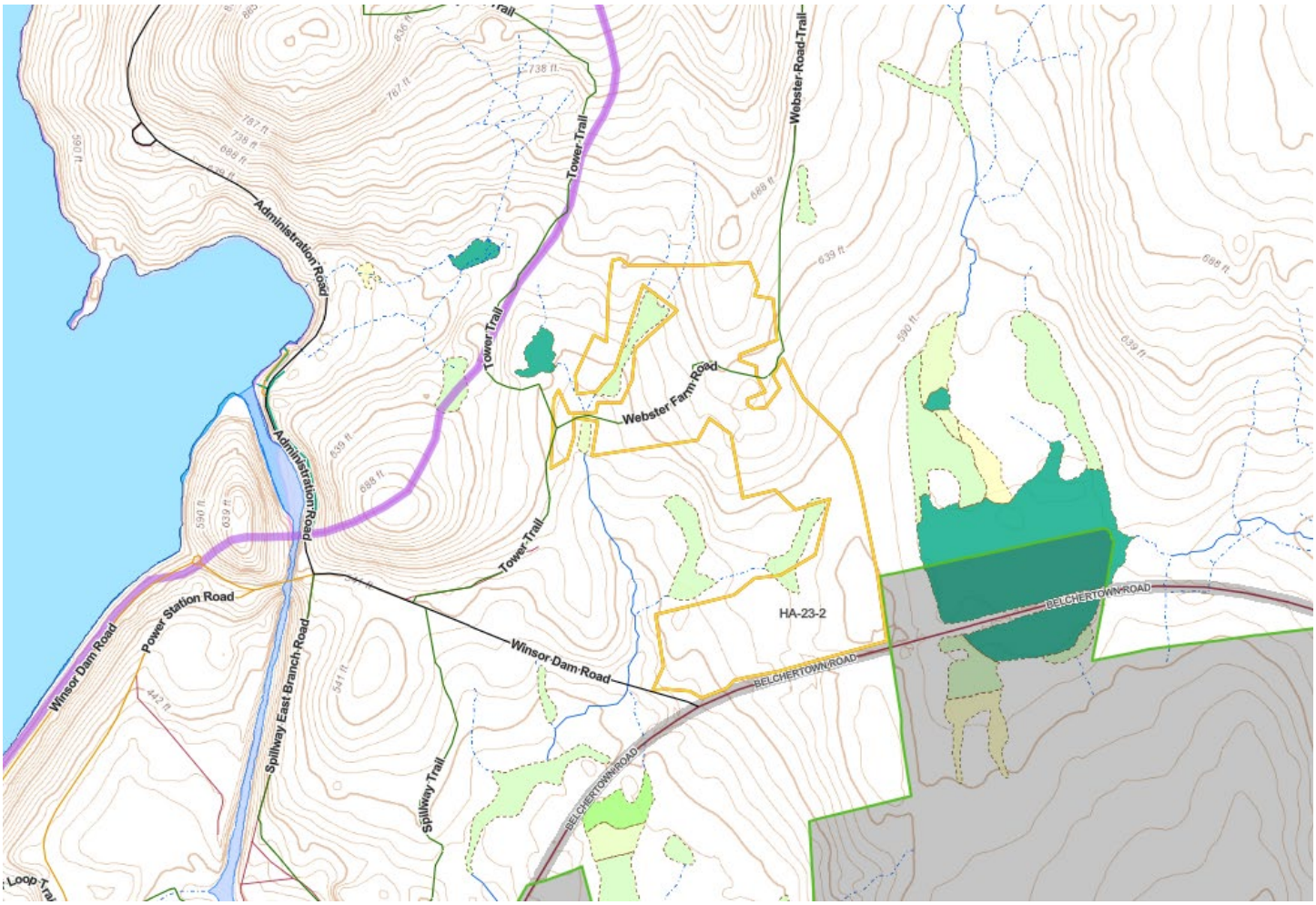
Figure 5. Orthophoto and cover types, HA-23-02.

Subwatershed Analysis

Sub-watershed number	Total DCR-owned Acres	Acres Regenerated on DCR Land in the last 10 years	Acres Remaining for Regenerating Up to the 25% / 10 Year	Acres part of this proposal
N/A				

All of this area is off-watershed and no determination was made concerning stocking or basal area removals.

Figure 6. Subwatersheds, HA-23-02.



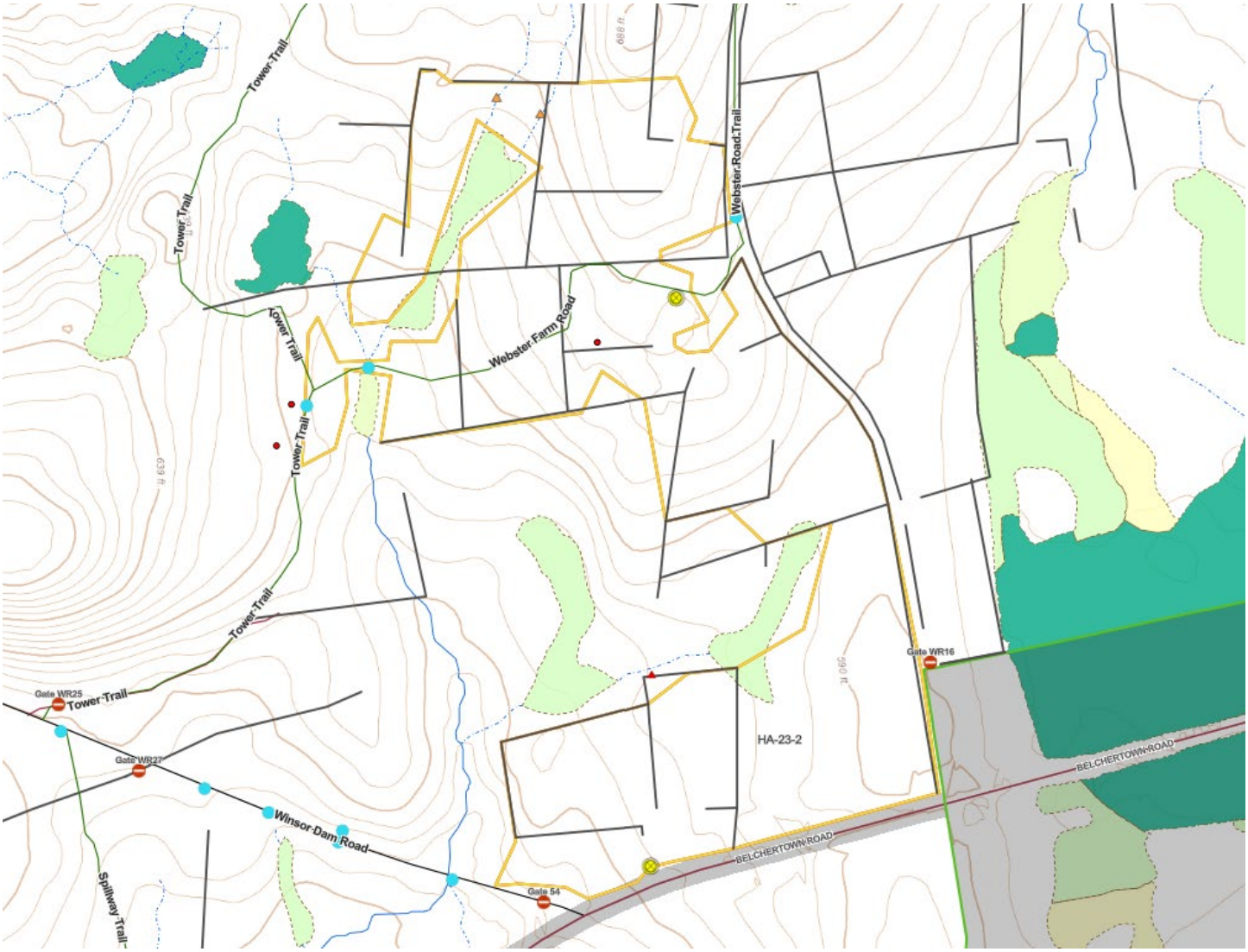
Equipment

Forwarder required: **No**
Feller/processor required: **No**
Steep slopes present: **No**

Comments on harvesting limitations:

Rubber tired forwarder (no tracks or chains) will be required only where forwarding on access roads is going to be necessary to access timber or where that would be advantageous to protect regeneration and/or cultural features.

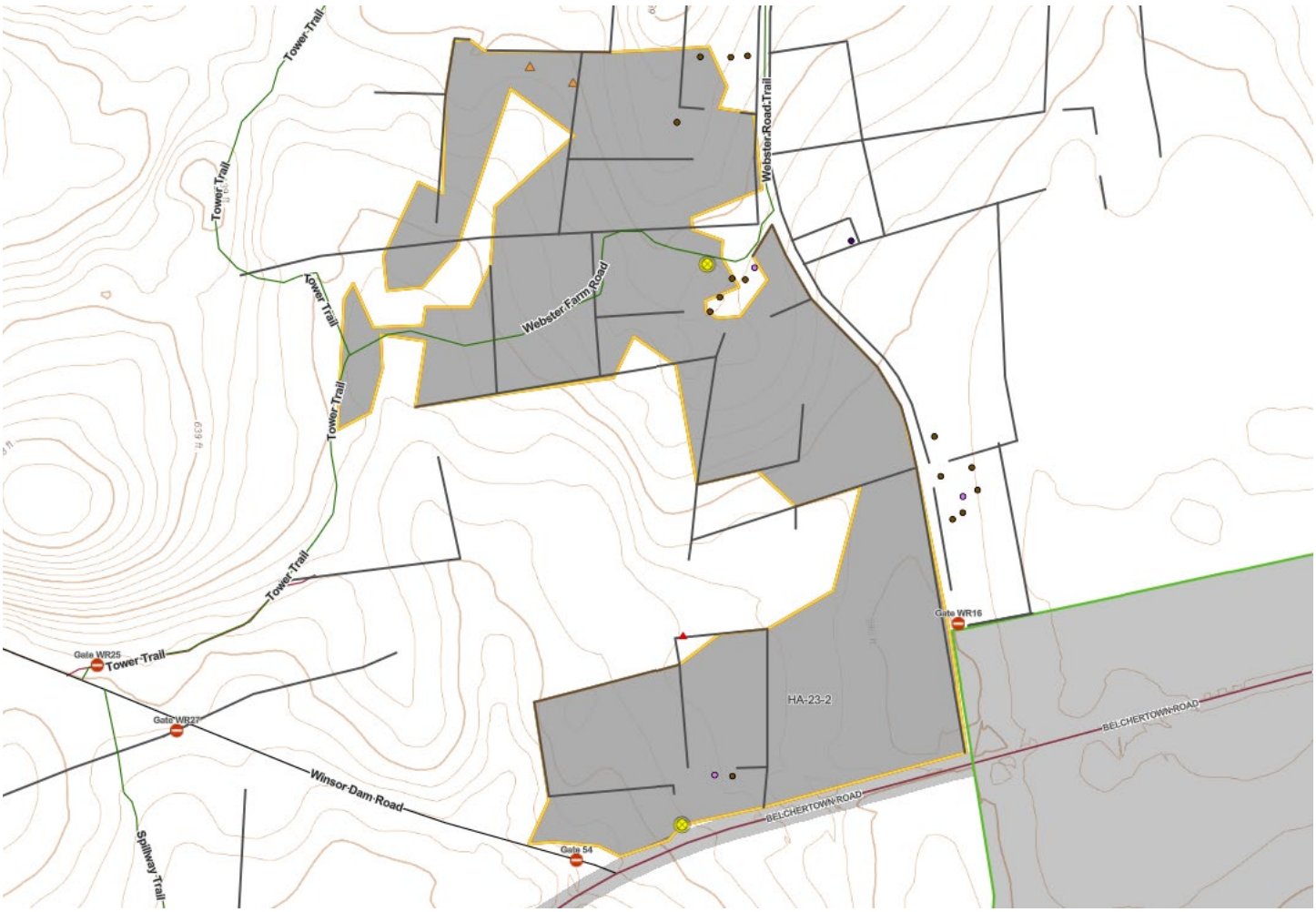
Figure 7. Harvesting limitations, HA-23-02.



Cultural Resources

Comments on Cultural Resources:
Most of these stands are red pine plantations and most were likely tilled or pasture previously so have a history of soil disturbance and are not considered archaeologically sensitive. Historic features such as stone walls and cellar holes will be avoided and/or protected as per current DWSP policy. Almost all the proposed area has been logged at least once during last 30 years and there are barways sufficiently wide to allow modern equipment access with minimal disturbance to them. Features that may get obscured by snow or vegetation will be flagged. Main skid trails with unstable soils will be armored with slash to avoid excessive rutting. If applicable, DWSP will follow any additional recommendations from DCR's Archaeologist regarding protection of sensitive sites.

Figure 8. Stony and Extremely stony soils, HA-23-02.



Wildlife Resources & Rare and Endangered Species

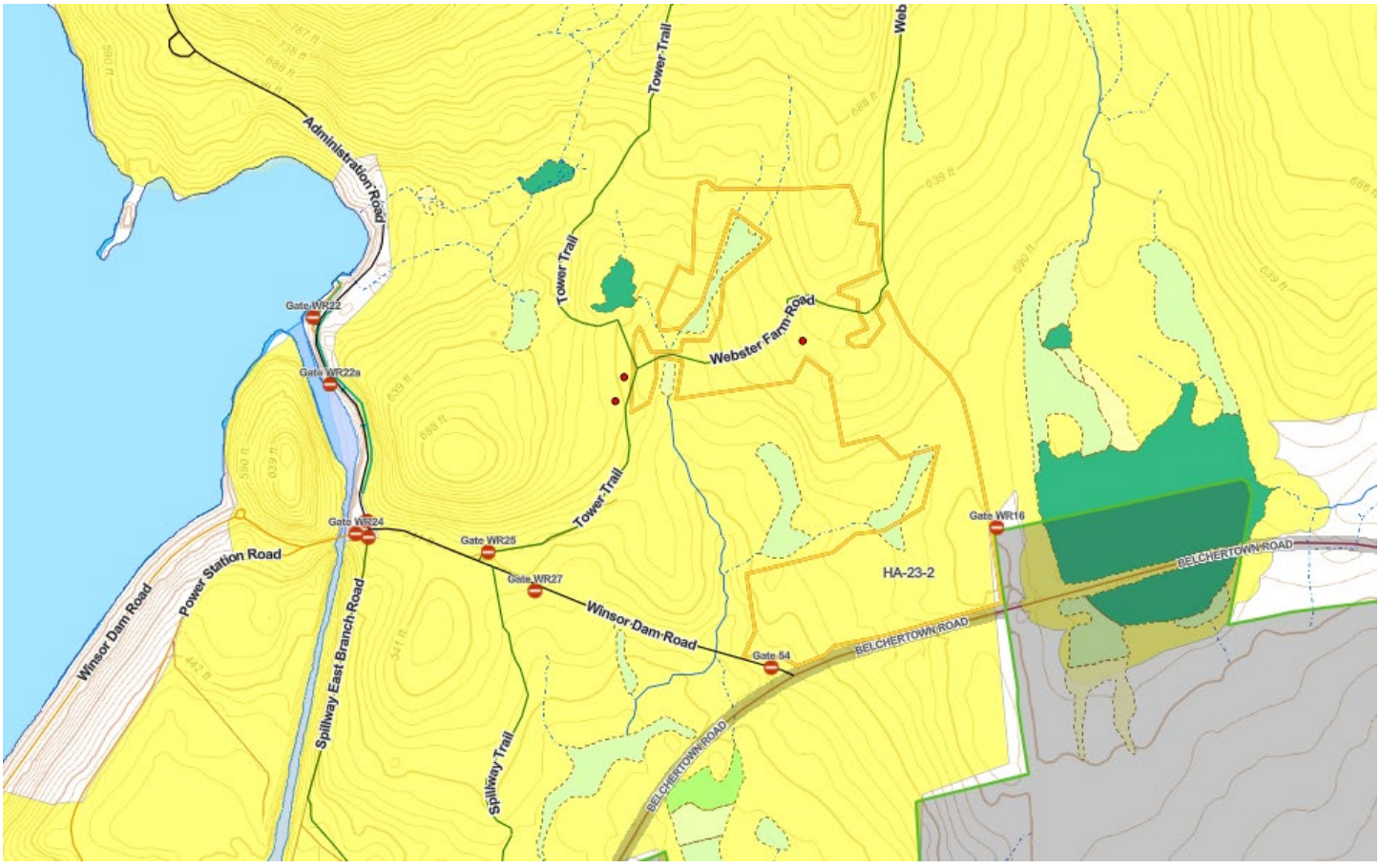
General Wildlife Comments:

Coyote, bear, bobcat, deer, raccoon, turkey, grouse, and moose are some of the larger species known to inhabit this area. No large stick nests were noted but if any are found the trees they are in, will be retained. Only very limited hunting has taken place on this whole area so the deer population is high as are browse impacts to vegetation.

Comments on Rare Species/Habitats:

There are verified vernal pools within and near the lot proposal area. 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.

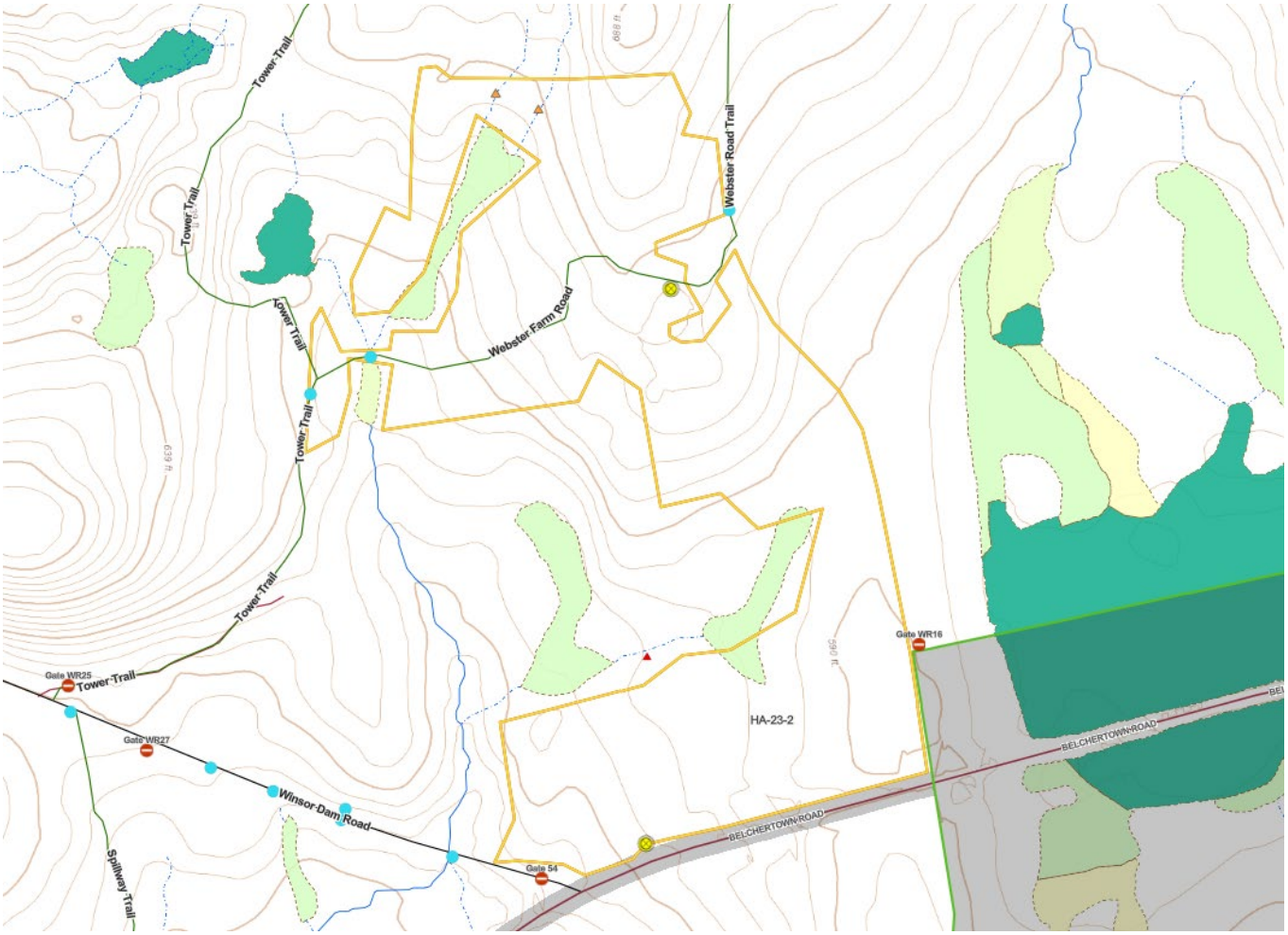
Figure 9. NHESP Priority habitat overlay, HA-23-02.



Environmental Quality Engineering

Comments on EQ Issues:
Three stream crossings on this lot, all intermittent and one is an existing culvert. The other two are small intermittent/ephemeral streams at the north end of the lot.

Figure 10. Access planning, HA-23-02.



Forest Access Engineering

Gravel needed: Yes
Landing work needed: Yes
Culverts needed: No
Work needed on permanent bridges: No
Beaver issue: No

Further comment on access needs:
The main landing on Webster Farm Road might need some additional bank run gravel or stone. There is a pile of material of unknown origin there now. Webster Road could use some grading.

Figure 11. DWSP FY 2023 Forestry Proposals – Master Legend for story maps