Quabbin Harvest Proposal HA-23-08

Proposal Update, May 2024:

*This forestry proposal was originally approved through the public process in 2022. At that time, salvage of the dead and dying oak was a component of the proposed management. However, salvage was not the primary objective driving the decision to implement forest management in this area and **salvage of the dead and dying oak will no longer be part of this proposal**. 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 remaining 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, but **the reader should ignore references to salvage**.*

Proposal Goals

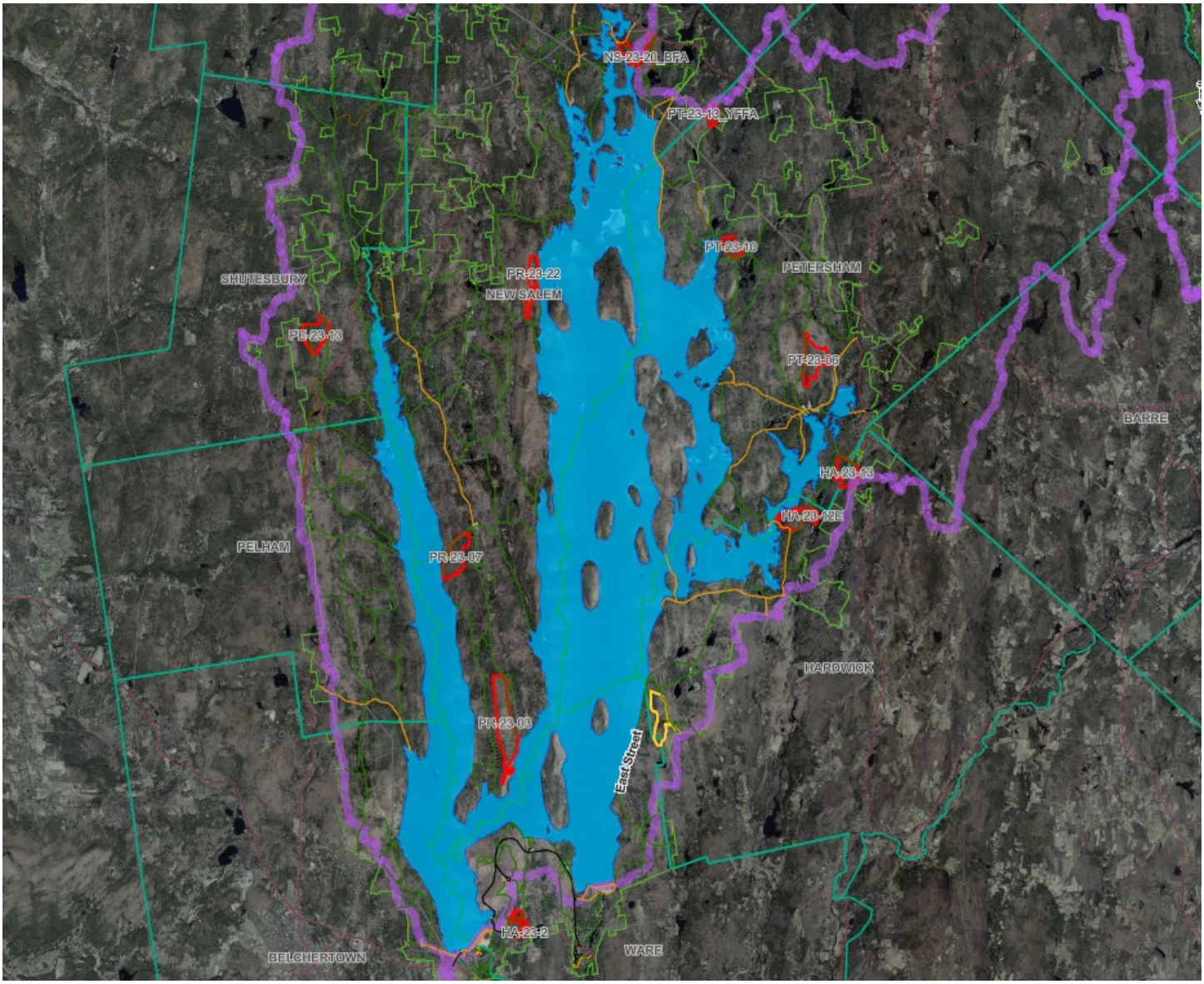
This proposal is to continue the development of new age classes in these white pine and oak stands by enlarging existing openings with new ¼-4 acre openings. Area was impacted by spongy moth defoliation from 2016-2020, and some of the dead and dying oak stems will be salvaged if they are still merchantable.

Proposal Location

(Yellow highlighted polygon in the map) From permanent landing at Gate 46 follow "timber harvest boundary" flags westerly along recent cutting boundary to county line marker; thence northerly along toe of slope to top of hemlock ravine; thence easterly along top of ravine to Gate 46 road.

Total Acres: 130

Figure 1. Watershed Locus, HA-23-08.



General Description

Overstory Type(s)	Acres
Oak - hardwoods	32
Northern red oak	31
White pine – oak	29
White pine	23
White pine - hardwoods	8

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site

Description of forest composition/condition:

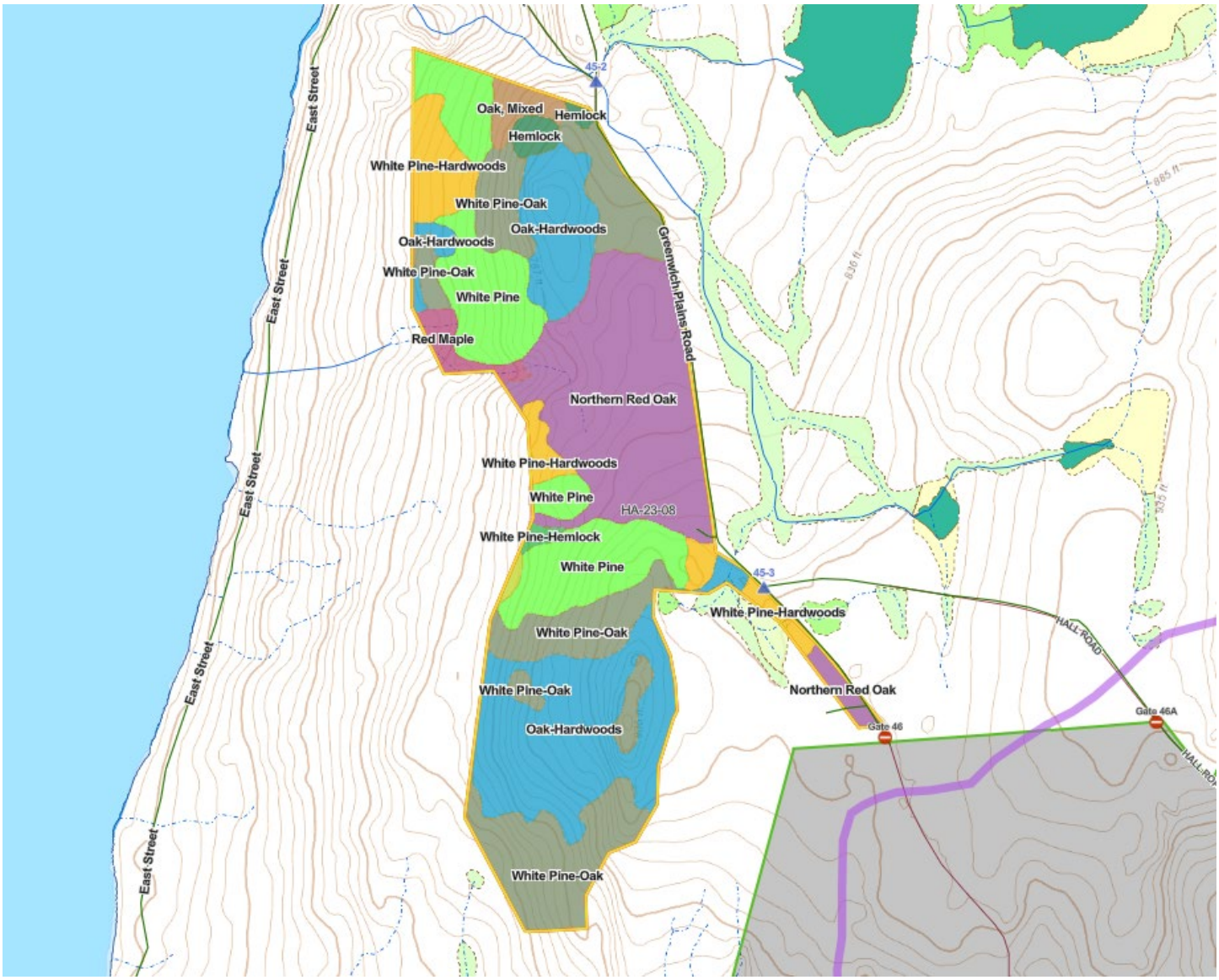
This is a white pine/mixed-oak lot on a former chestnut site, with concentrations of pine on the northwest slope and west of the existing landing opposite the Gate 46A road. The central part of the lot on the flat along Gate 46 road is mixed-oak with occasional overstory pine. The principal species are white pine, and red, black and white oak. Other species present include red maple, hickory, cherry, red pine, hemlock, beech, and yellow, black and white birch. Three separate sales covering most of the lot were conducted during the 1990's. Lot #734 treated the south end of the lot in 1995, lot #704 the north end in 1995, and lot #622A treated the main body of the lot along G46 road in 1993. Each sale established regeneration through prep cutting and small group selections. Residual basal area averages 110 for mixed-oak and 150 for white pine. Oak averages 70'+ in total height and white pine 80'+. A codominant black oak cored for analysis measured 15" and 87 years (2015?) at breast height and showed declining growth for the past 45 years. Overall stand quality and vigor are fair for oak and good for white pine, with occasional superior phenotypes.

Regeneration response following past treatment was good, with adequate to high levels of well distributed 10-20 year-old white pine and mixed hardwoods in most locations. Huckleberry is common in the understory above a herbaceous layer of several species of ferns and club mosses. Note stand was impacted by spongy moth infestation from 2016-2020 but appears there was limited mortality. Emerald ash borer entered the area in 2020 and has killed many ash in surrounding stands. There is not a lot of ash present here but ash over 6" are at risk. Infested trees will be cut and salvaged were possible.

Assessment of Terrestrial Invasive Species:

Multiflora rose, Japanese Barberry and honeysuckle are locally thick around the cellar hole in the old red pine plantation.

Figure 2. Forest cover types, HA-23-08.



Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	0
Well Drained Thick	60
Moderately Well Drained	39
Poorly to Very Poorly Drained	1

Extremely stony glacial tills with surface boulders on steep west slopes. Moderate rating on Web Soil Survey for harvest equipment operability. Hydric inclusion and small forested wetland in center of the lot. Shrub swamp on muck soils opposite G46A road. Soils present are Montauk-Canton association, Montauk-Scituate-Canton association and small area of Bucksport and Wonsqueak mucks.

Figure 3. Soil classes, HA-23-08.

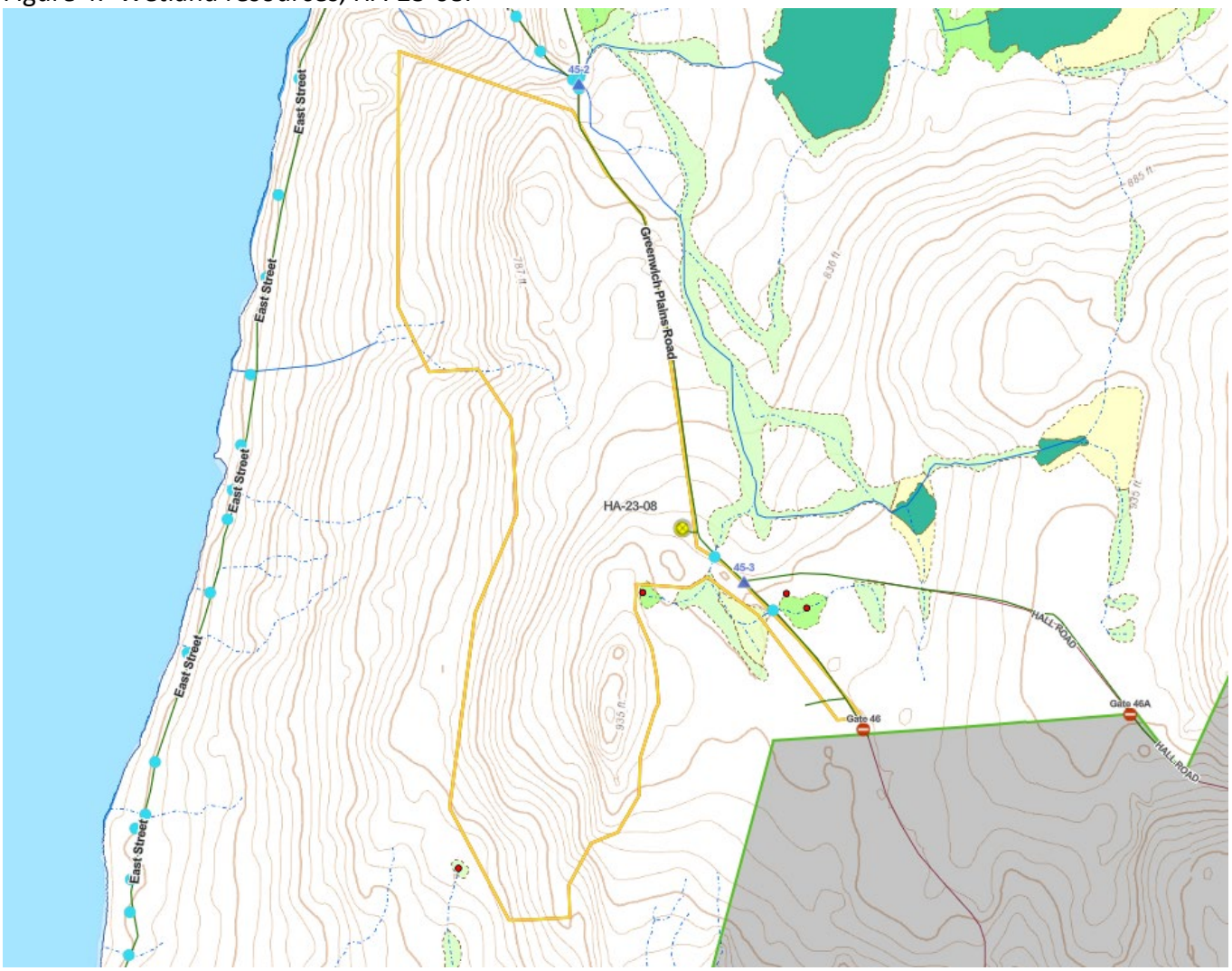
Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- Seeps present? – **Yes**
- Are stream crossings required? - **No**
- Are wetland crossings required? - **No**
- Is logging in filter strips planned? - **Yes** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

Small saddle-like depression with seep on flat in center of lot; forested, with spicebush and fern understory. The shrub swamp has an inlet and an outlet that are seasonal and culverted under G46 road.

There are 4 Verified Vernal Pools (VVP) (304, 305, 306 and 789) all <200’ from the lot boundary.

Figure 4. Wetland resources, HA-23-08.



Silviculture

Acres in Intermediate cuts: **20**
Acres in prep/establishment cuts: **15**
Acres in Regeneration cuts: **35**
Average regen opening size: **1**
Maximum regen opening size: **4**

Description of advance regeneration in proposal area:

Regeneration response following past treatment was good, with adequate to high levels of well distributed 10-20 year-old white pine and mixed hardwoods (mainly BB, RM) in most locations. Huckleberry is common in the understory above a herbaceous layer of several species of ferns and club mosses. Light to moderate deer and moose browse present, browse levels not expected to be excessive but may limit diversity.

General comments on silviculture proposed:

Continue the development of uneven-aged structure started during previous entries by enlarging existing small openings and establishing new group selections from 1/4-4 acres. Opening sizes and retention will be as directed by current guidelines in place at the time the lot is marked. Opening sizes and retention cited are from current guidelines. Trees of poor quality and low vigor will be selected for removal first and will determine the placement of group openings. Additional large higher quality trees will then be included in the harvest to create the desired condition. Most of the poorly formed or storm damaged stems and most of the red maple will be cut. Retained trees, other than wildlife trees mentioned below, will generally be the better formed, vigorous individuals, retaining some of all the species that are currently present. Attempt will be made to retain structure and select well rooted, wind-firm trees particularly in retained exposed groups in openings.

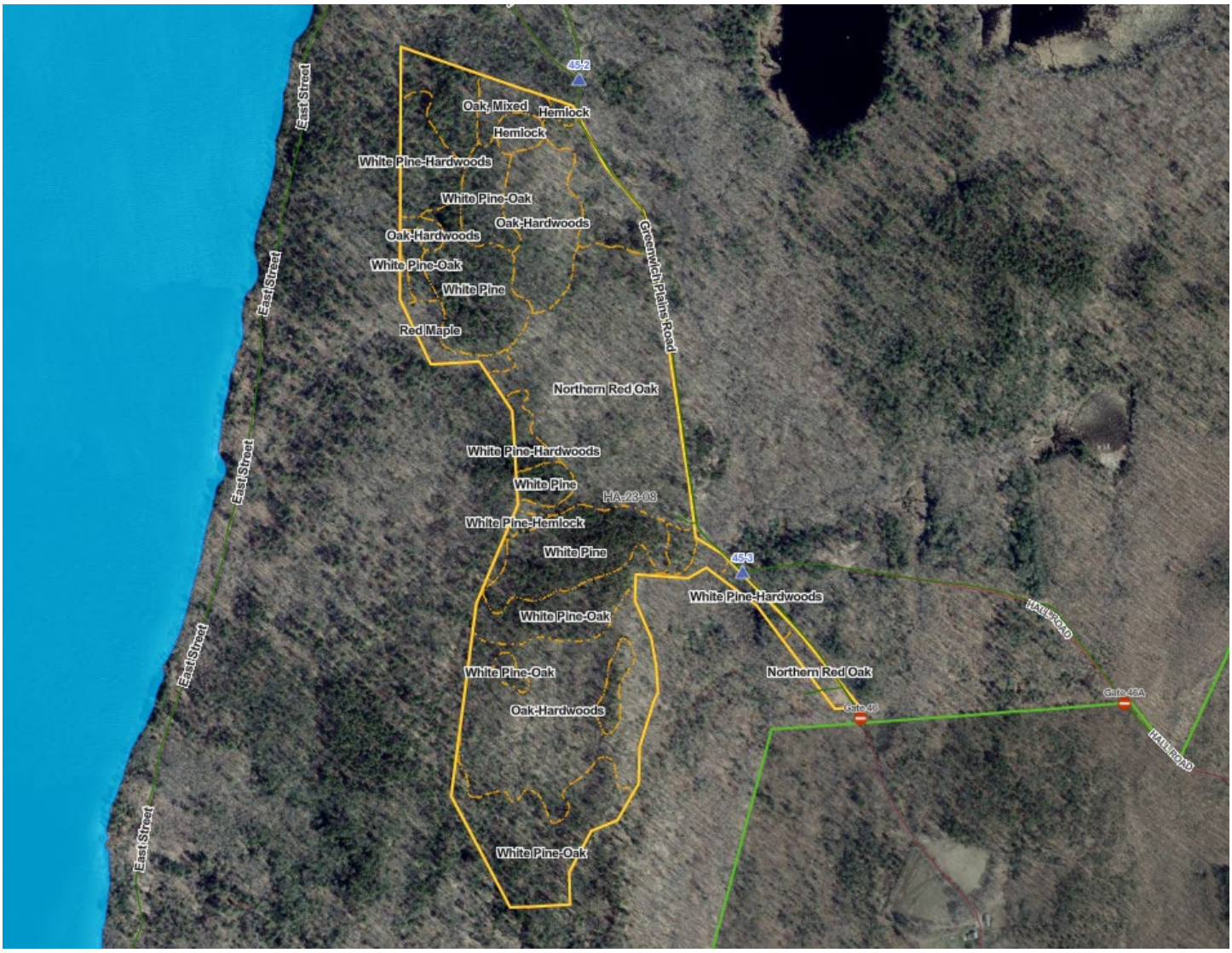
Scattered wildlife trees with stick nests, dens, or unusual habitat characteristics, will be retained, as will standing dead and healthy individuals of all species present and individuals with superior form and vigor. Goal is to preserve habitat, maintain or increase diversity, improve overall stand health and vigor, and retain some carbon storage and increase the growth rate (carbon sequestration) of the retained trees. One of the main silvicultural goals across the proposal is to diversify species and age structure by regenerating openings with free to grow regeneration, that should stay vigorous for at least 10 years. These openings should also encourage species that are better adapted to our changing climate to become established.

Intermediate cuts will occur along forest transit roads and around opening edges. Sections of pine type that have smaller, better quality evenly spaced stems will have a prep cut. Target the removal of 30%-35% of the overstory.

Climate Change considerations:

Typical silviculture in this proposal designed to sustain fundamental ecological processes, reduce the risks of impacts from severe disturbances, and enhance species and structural/habitat diversity.

Figure 5. Orthophoto and cover types, HA-23-08.

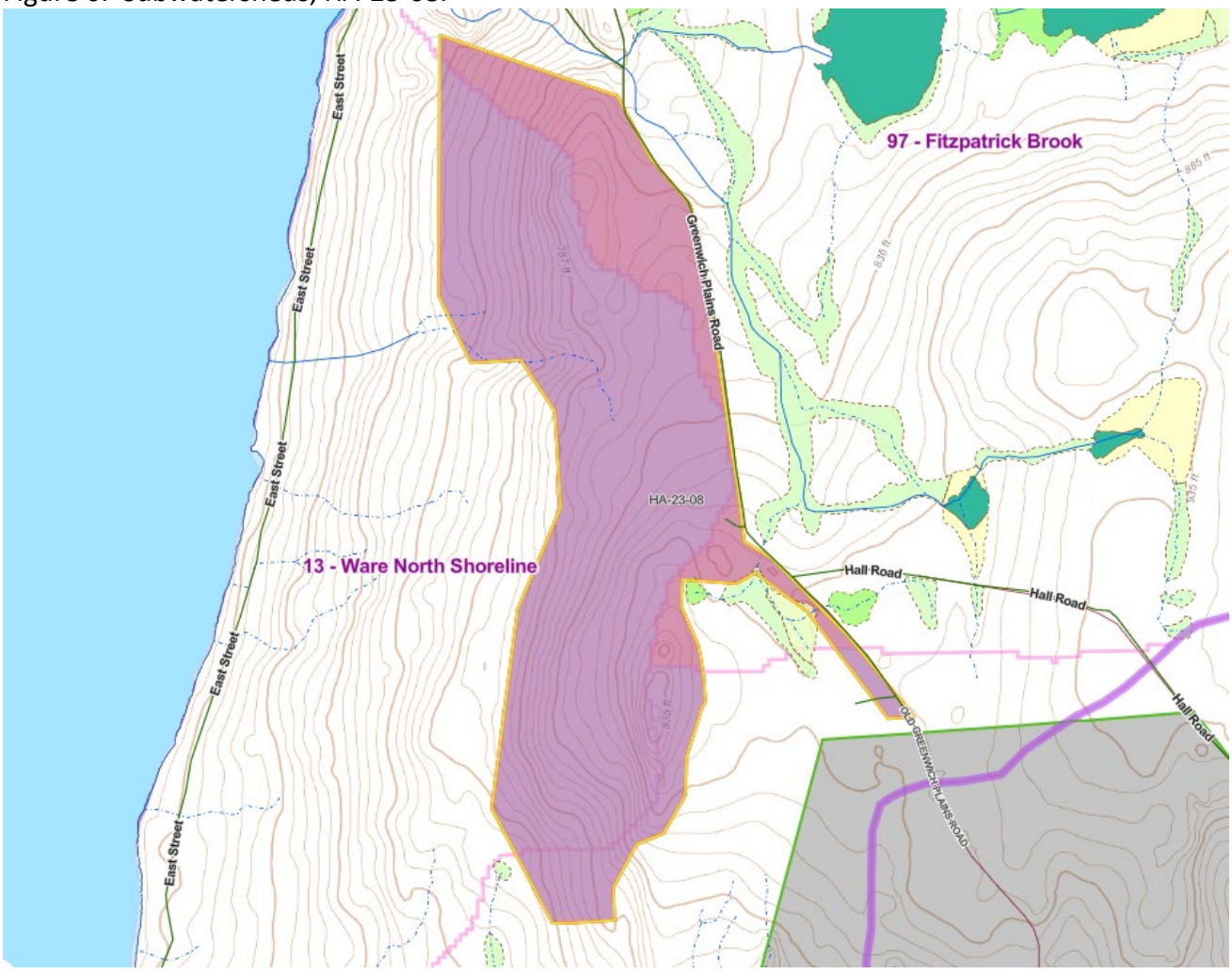


Subwatershed Analysis

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
13 (Ware North Shoreline)	293	0	73	78
97 (Fitzpatrick Brook)	604	0	151	28
88 (Bear Hill North Shoreline)	316	0	79	12

Note that most of proposal is in 13 which is the subwatershed along the eastern shore along East Street which has had numerous harvests over last 20 years but all are fully regenerated and stable now. The proposed 35 acres of regeneration cuts falls below the 25% threshold.

Figure 6. Subwatersheds, HA-23-08.



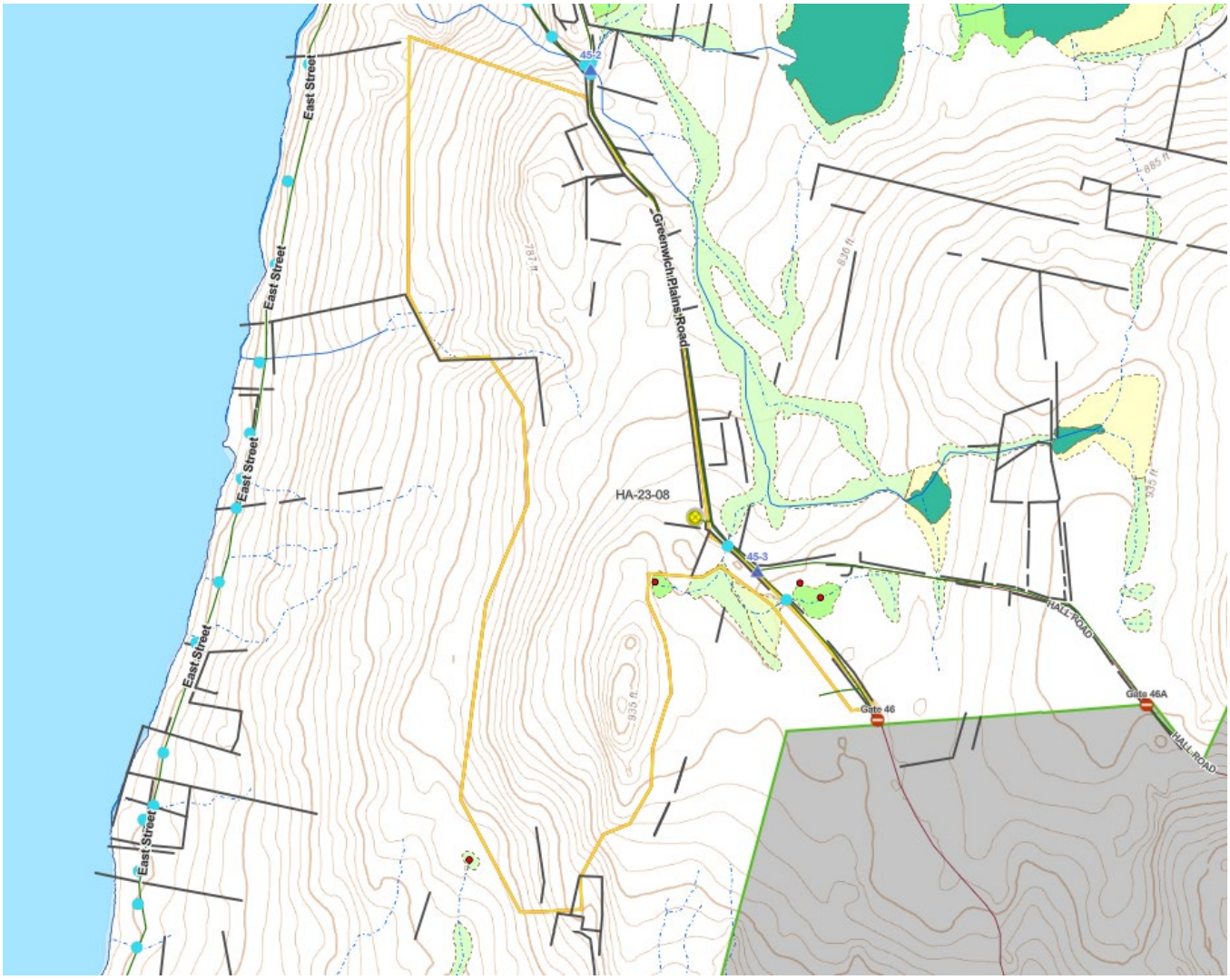
Equipment

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

Comments on harvesting limitations:

Existing landings and established forwarder/skid roads allow access throughout, but steep slopes with surface boulders will limit the use of processors. May require a forwarder depending on how openings and skid trails are laid out.

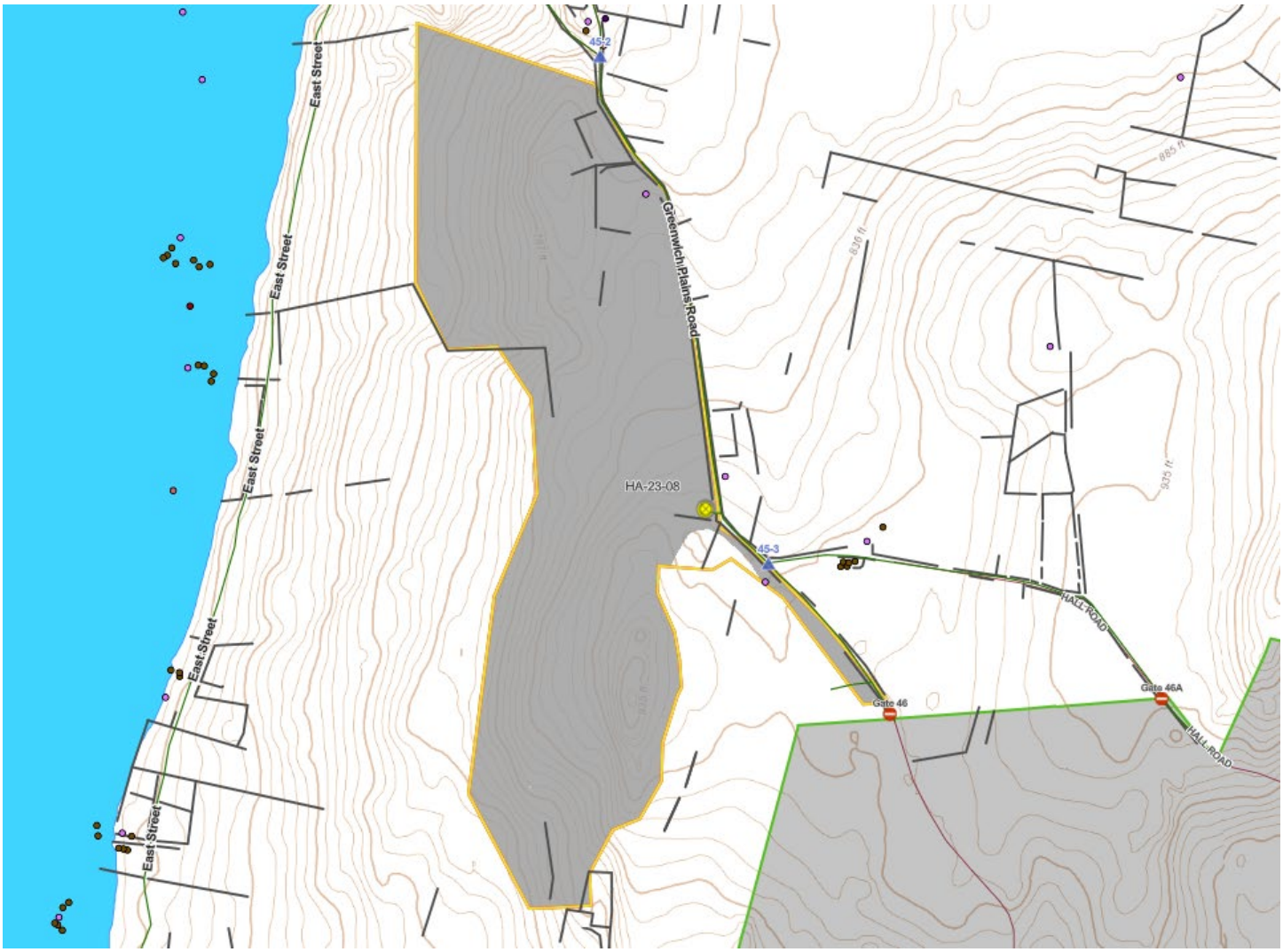
Figure 7. Harvesting limitations, HA-23-08.



Cultural Resources

Comments on Cultural Resources:
Historic features such as stone walls and cellar holes will be avoided and/or protected as per current DWSP policy. 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-23-08.



Wildlife Resources & Rare and Endangered Species

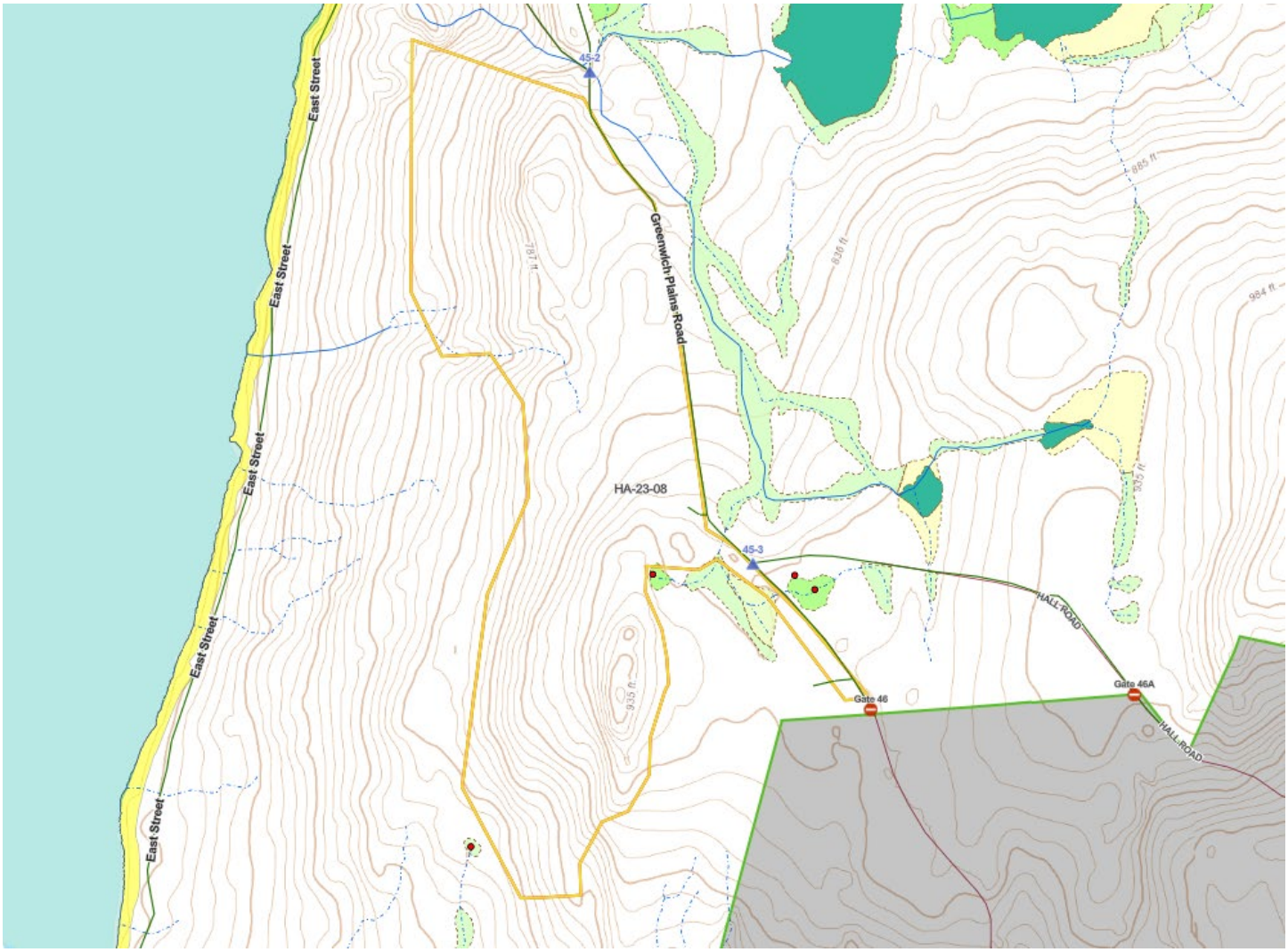
General Wildlife Comments:

Have seen moose and bear in this compartment. Good regeneration response to previous prep cutting with sustainable level of browse.

Comments on Rare Species/Habitats:

There are verified vernal pools near the lot proposal area.

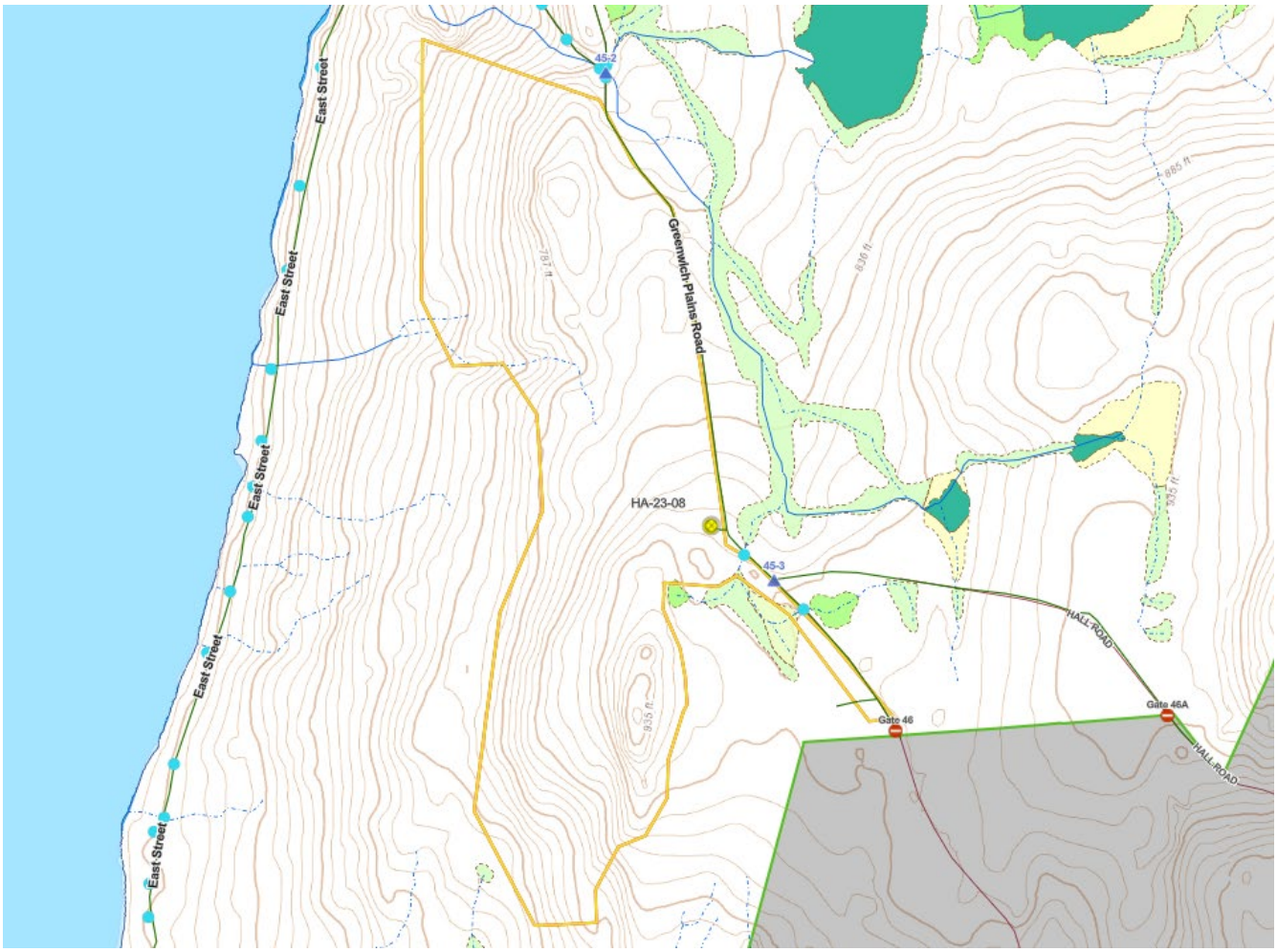
Figure 9. NHESP Priority habitat overlay, HA-23-08.



Environmental Quality Engineering

Comments on EQ Issues:
There are no stream crossings on this lot.

Figure 10. Access planning, HA-23-08.



Forest Access Engineering

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

Further comment on access needs:
Would like to have 4" PVC pipe on Gate 46 road replaced with 12" culvert (which may have been done by the time public comment period commences). End of Greenwich Plains Road (the town road) from Wright's to the gate is rough. Gate 46 Road needs grading with water bars especially at the north end. Landing may need additional bank run gravel or stone.

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