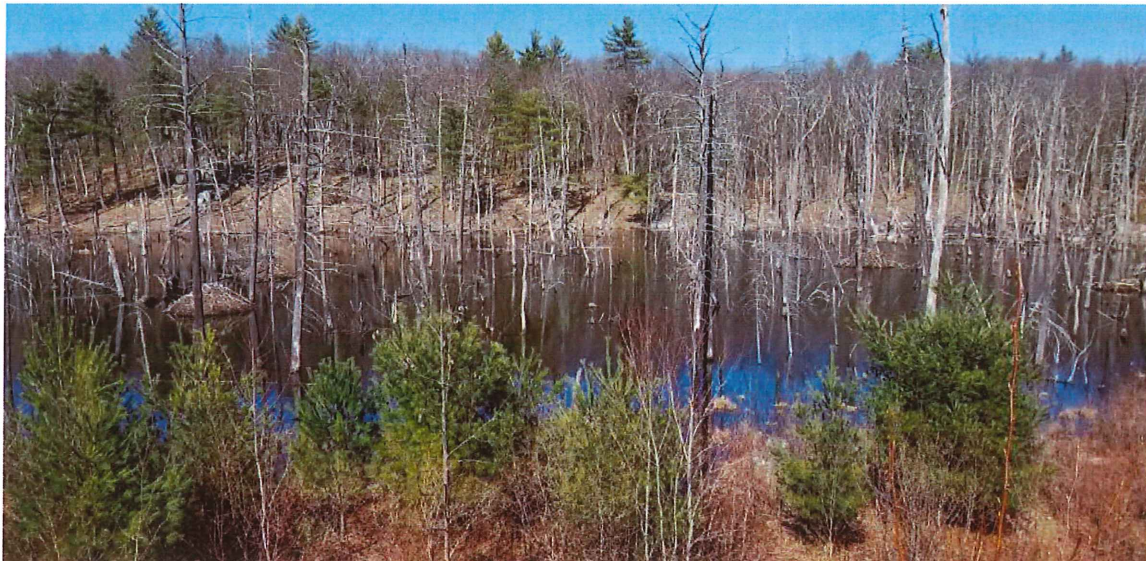


CONSERVATION ANALYSIS
PURSUANT TO 10.1 OF THE AYER ZONING BYLAW

STRATTON HILL



STRATTON HILL ROAD
MAP 6, PARCELS 1, 2, 3, 7, 8 & 11 THROUGH 55

IN

AYER,
MASSACHUSETTS



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This Conservation Analysis has been prepared to supplement an Open Space Residential Development (OSRD) in accordance with section 10.1 of the Ayer Zoning Bylaw. This Conservation Analysis is based upon site inspections undertaken during the completion of survey and wetland delineation field work completed at various times throughout 2020 and 2021. A final site inspection was completed on June 25, 2021. Please refer to the previously submitted Development Impact Statement for details regarding prior assessments of the site.

As noted in the Site Location & Regional Setting, below, the area associated with the subdivision of the property has previously been cleared with roadway and utilities, and stormwater infrastructure partially installed.

1.0 Site Location & Regional Setting

The property (referred to herein as “the site”) is located on the northerly side of Wright Road with access approximately 2000-feet east of Snake Hill Road. The site extends from Wright Road to the Groton Town Line at the northerly boundary of the property. The site contains Stratton Hill Road with the lots created by the subdivision (see Middlesex Registry of Deeds plan 829 of 2005). The subdivision was partially completed, and the site can be accessed through the graded roadway associated with the subdivision. Utilities for the subdivision were also partially installed with the development area cleared of trees and portions of the stormwater and sewer infrastructure installed. The site is identified as Ayer Assessor’s Map 6, Parcels 1, 2, 3, 7, 8, and 11 through 55.

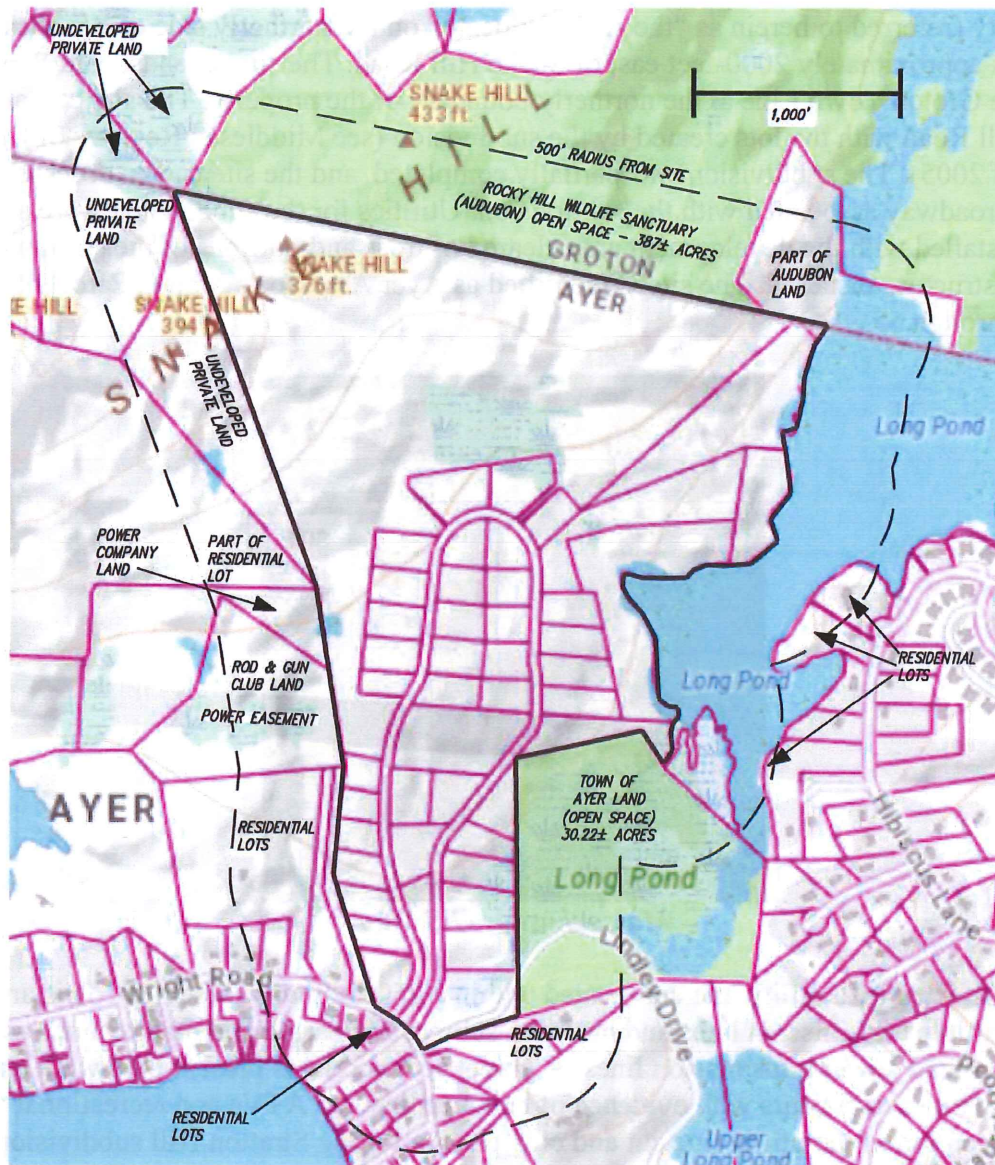


Massachusetts GIS Map

The site is bisected by a utility line cut located within a 350-foot wide easement. This area contains multiple transmission lines and has been subject to clearing and maintenance associated with the overhead power transmission lines. A gravel access road is present below the utility lines along with several spurs with evidence of being utilized by ATVs and recreational vehicles. With the exception of the utility line cut and cleared area for the Stratton Hill subdivision, the site is vacant woodland.

The site consists of wooded, hilly terrain. 40.0% of the site has slopes less than 10%, 35.3% is between 10 and 20% and 23.7% of the site has slopes greater than 20%. A slope analysis of the site is depicted on the Topographic Exhibit Plan included within the appendix of this report. The site contains numerous ledge outcrops with much of the topography at the site controlled by bedrock. The high point of the site is in the northwest corner near Snake Hill at the Ayer/Groton Town Line.

The site falls within the Zoning District Residence A-1. The abutting properties to the East and West are in the same district and consist of undeveloped woodlands and single-family homes on Wright Road. Directly South of the site is the Zoning District A-2 where there are numerous single-family homes. The North side of the property abuts the Groton town line which contains undeveloped woodland and the Rocky Hill Wildlife Sanctuary. A site context map indicating uses within 500-feet of the site is below:



MassGIS Statewide Basemap with abutting parcel information per Town of Ayer & Groton GIS

The site does not contain any Zone I's, IWPA's or Zone II's. The site is not located within the Town of Ayer Aquifer Protection Overlay District.

The entirety of the site is located within the Petapawag ACEC. This ACEC extends from the New Hampshire state line to Sandy Pond Road, south of the site. NHESP data shows The entirety of the site is located within BioMap2 Core Habitat with a portion of the site being located within BioMap2 Critical Natural Landscape. A figure detailing this is below:



BioMap2 Critical Natural Landscape



BioMap2 Core Habitat



BioMap2 Habitat per MassGIS Oliver

The site abuts three (3) separate open space areas. Specifically, the Ayer Rod and Gun property west of the site, the Rocky Hill Wildlife Sanctuary (387 acres) north of the site, and Town of Ayer land (30.2 acres) at the southerly end of Long Pond.

2.0 Water Resources

Dillis and Roy Civil Design Group (formerly known as Ducharme & Dillis Civil Design Group) field delineated the edge of wetland resource areas at the site through the analysis of soil, vegetation, and hydrology. Wetland Resource areas west, north, and east of Stratton Hill Road are subject to an Order of Resource Area Delineation (ORAD) issued by the Ayer Conservation Commission under Mass DEP file number 100-445. This includes the southern side of a large

beaver pond north of Stratton Hill Road and wetlands along the edge of Long Pond, east of the site along with Bordering Vegetated Wetlands (BVW) west of the partially constructed subdivision road. Please refer to the Abbreviated Notice of Resource Area Delineation (ANRAD) and associated ORAD for details regarding this area.

Long Pond is located east of the site. The eastern shore of the pond has been subject to residential development. The western side of the pond, adjacent to the site, is largely undeveloped. Woodland with both the bank of the pond and BVW located above the bank exists throughout much of the eastern side of the site. The forested wetland throughout much of this area is dominated by red maple (*Acer rubrum*), northern arrowwood (*Viburnum recognitum*), high-bush blueberry (*Vaccinium corymbosum*), cinnamon fern (*Osmunda cinnamomea*), and sensitive fern (*Onoclea sensibilis*). As the area transitions to upland a variety of oaks and white pine become abundant with Canada mayflower (*Maianthemum canadense*).

North of the partially constructed subdivision road is a large beaver pond with several beaver lodges located within it. A beaver dam is present on the eastern side of the pond with an intermittent stream flowing east, to Long Pond. The limits of resource areas associated with this are also subject to an ORAD under DEP file number 100-455.

A cart road is present west of the beaver pond. The cart road generally divides the drainage areas on the site with this area with flowing to the southwest, towards the utility line cut and Wright Road. A BVW was field delineated within this area with much of the limits of wetland resource areas confined by ledge outcrops. Four (4) unmapped potential vernal pools were identified within this series of wetlands and are identified by the ORAD issued for the site.

The western series of wetlands also extends northwest, towards the Groton Town Line, within this area. Similar to the western BVW near the partially constructed subdivision road, much of this resource area is also confined by ledge outcrops.

The limits of BVW on the site and associated buffer zone have been depicted on the Primary Conservation Area Plan contained within the appendix.

3.0 Anthropogenic Features

As noted within the site and regional settings, the site is bisected by a 350-foot wide utility easement with numerous utility poles and transmission lines. This area runs perpendicular to and through the partially constructed subdivision road. With the exception of the area associated with the previously approved subdivision for the site, the area is wooded with no remnant foundations observed during site inspections.

4.0 Soil Types

NRCS soil survey shows the site contains several soil types due to bedrock and glacial action. Notably combinations of Charlton series, Hollis series, and rock outcrop are present.

Charlton series consists of gently sloping to steep, deep (5+ feet), well drained soils on uplands where the relief is affected by the underlying bedrock. The surface is very stony or extremely stony, except where stones have been removed; and there are stones below the surface.

Hollis series consists of gently sloping to very steep, shallow (<20"), somewhat excessively drained soils on bedrock controlled upland. Hollis soils have friable fine sandy loam surface soils and subsoil with moderate or moderately rapid permeability. Rock outcrops are common, and many areas have stones and boulder on the surface.

With most of the site consisting of well drained soils, the wetland areas consist more of the Freetown series soils with deep, very poorly drained organic soils. Charlton and Hollis series soils are generally suitable for development whereas Freetown soils are generally in wetlands, and because of wetness and low strength they are not suitable for development.

The soil map and soil type descriptions have been included within the appendix of this analysis.

5.0 Environmentally Protected Areas

The proposed project site falls within a few environmentally protected areas. The site contains some wetland areas which all have an associated buffer zone. The entire site falls within the Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species and is sited as and Area of Critical Environmental Concern (ACEC). Lastly, a portion of the site falls within a FEMA Zone A from Long Pond.

6.0 Wildlife Habitat

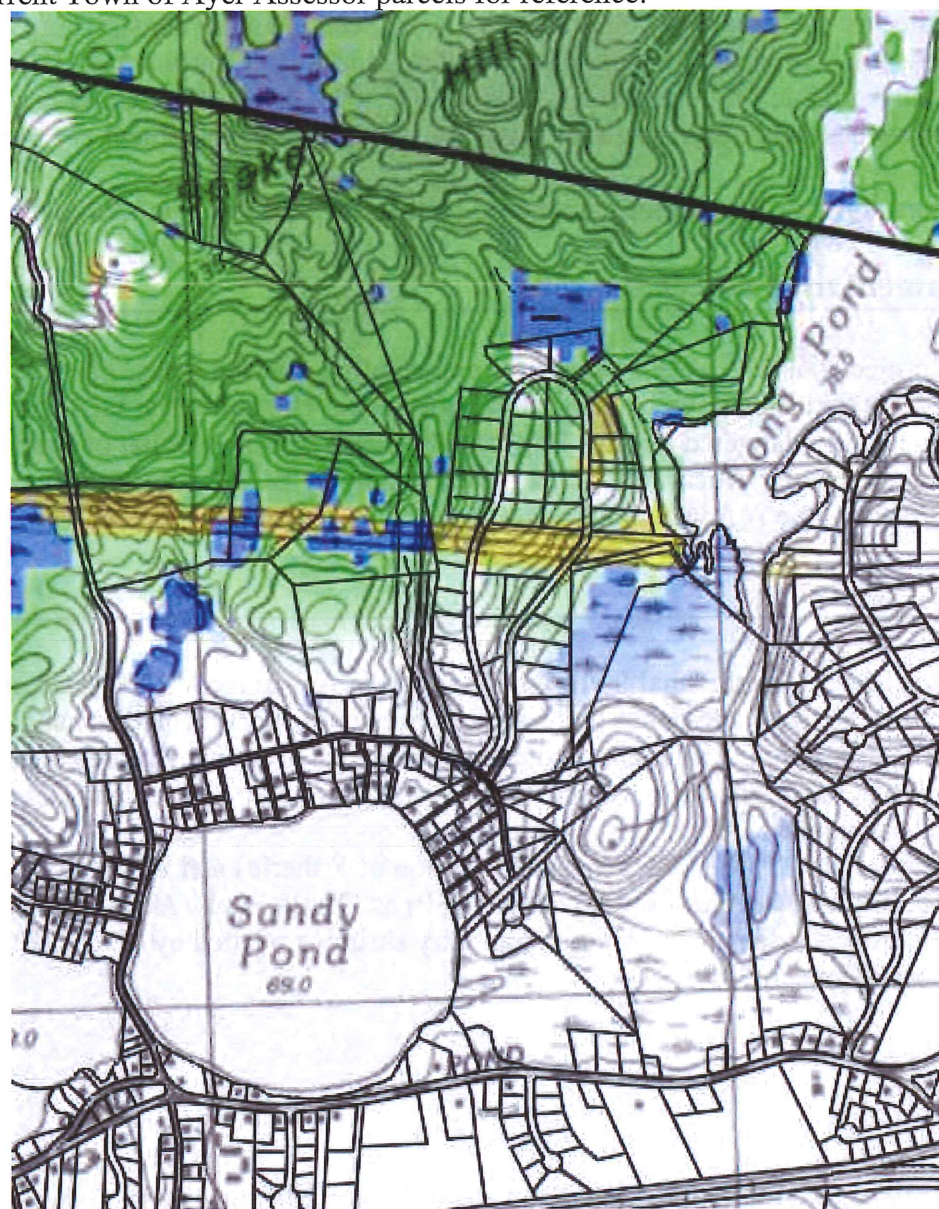
According to the Rare Herpetofaunal Investigation found in Appendix A, "The subject property contains numerous wetlands and ponds that had been previously documented as habitat for Blanding's turtle."¹ The study group also "noted and investigated habitat features present on the subject property that suggested the presence of other state listed rare species including spotted turtle, four-toed salamander..."¹

Blanding's turtle is listed by the Massachusetts Division of Fisheries and Wildlife's Natural Heritage and Endangered Species Program (MNHESP) as 'Threatened' (Anon. 1992). Similarly, spotted turtle, four-toed salamander, and intricate fairy shrimp are listed by MNHESP as 'Species of Special Concern'.¹

References:

1. Rare Herpetofaunal Investigation, Sand Pond Road, Groton Massachusetts. Oxbox Associates. January 30, 2004 (Appendix A)

A portion of the site has been mapped by the University of Massachusetts Conservation Assessment and Prioritization System (CAPS) as an area with higher ecological integrity. The existing wetland system provides a primary environmental corridor through the site and connection to areas mapped as higher ecological integrity. Specifically, the northwest corner of the site indicated in a darker green color on the CAPS map. Below is an image of the CAPS map with the current Town of Ayer Assessor parcels for reference:



IEI, Index of Ecological Integrity
Top 50% of the Landscape



UMASS CAPS Index of Ecological Integrity (IEI) Town of Ayer, MA with Town of Ayer Assessor Parcels

7.0 Areas for Conservation

High Priority Areas for Conservation:

Areas deemed to be of high priority for conservation include the northwest corner of the site as this area has been subject to minimal human activity. The area contains second growth deciduous forest with a BVW confined by ledge outcrops and rising topography towards Snake Hill. Trail access to this area appears feasible through the use of existing cart roads along with extensions of existing cart roads. The potential for connection to undeveloped land to the north of the site also exists.

Also deemed to high priority are the BVW and associated buffer zone along the western boundary of the site. As noted in the Water Resources section of this report, four (4) unmapped potential vernal pools exists within the BVW on this portion of the site and this could form an extension of the high priority area noted on the northwest corner of the site.

Medium Areas for Conservation:

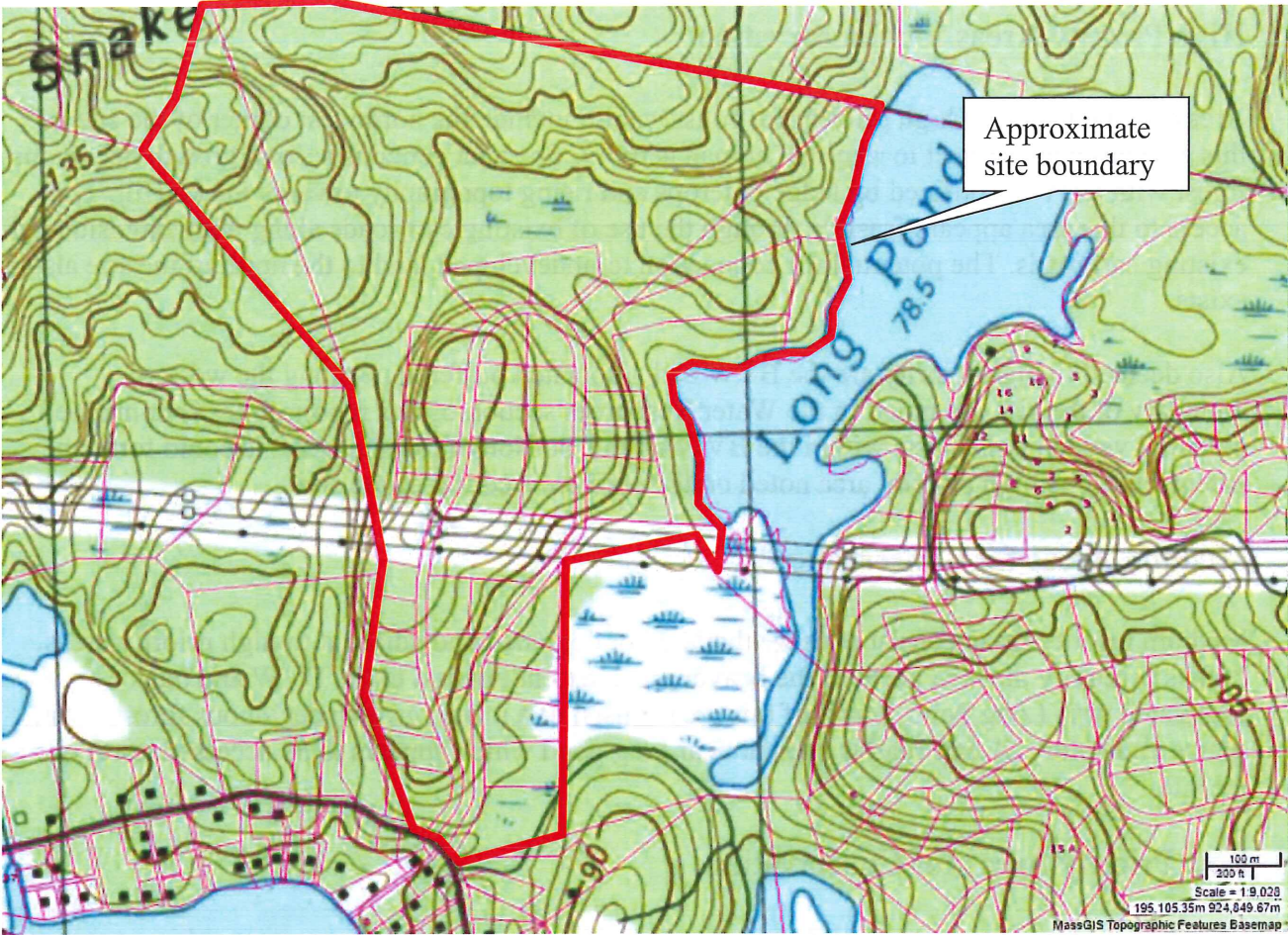
Medium priority areas consist of those that are not degraded and adjacent to high priority areas. This is primarily the area north of the beaver pond, extending east to the BVW and bank associated with Long Pond. Much of this area consist of a mixed growth deciduous forest with sparse understory. A cart road is present near long pond which appears to be accessed north of the site.

Low Priority Areas for Conservation:

Low priority areas for conservation comprise the currently degraded areas, areas subject to recent human alteration, and the utility line cut. This area consists of the partially constructed subdivision road along with the previously cleared lots. Earth moving activities have previously removed topsoil within portions of this area.

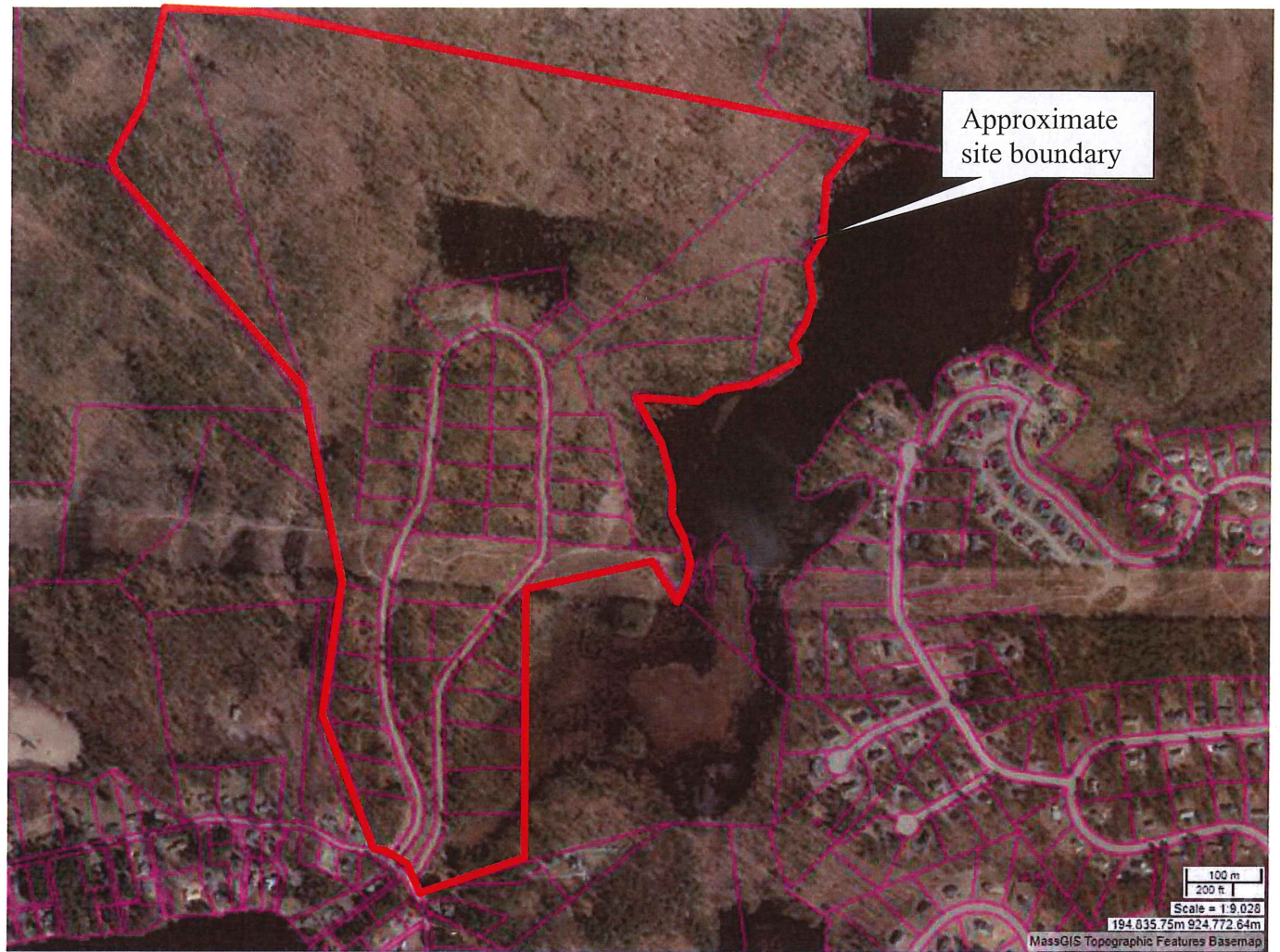
The utility cut bisecting the site and area immediately surrounding it was also identified as a low priority. While it does provide a potential east to west corridor through the site, it is occupied by several transmission lines with evidence of routine clearing of vegetation and maintenance.

USGS Map



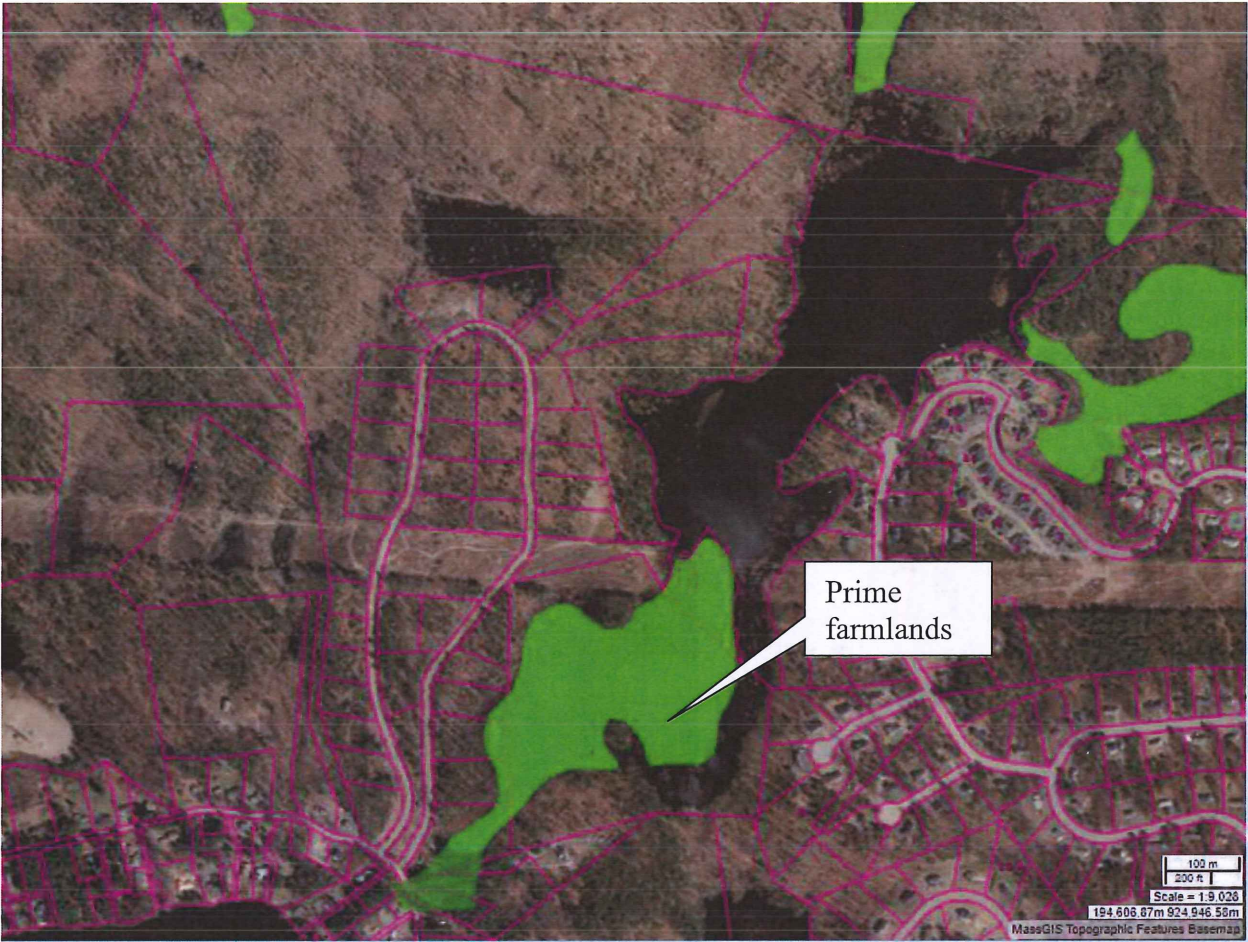
1988 USGS Ayer Quadrangle with tax parcel overlay
Source: MassGIS

2019 Orthophoto



2019 USGS orthophoto with tax parcel overlay
Source: MassGIS

Prime Farmlands Map



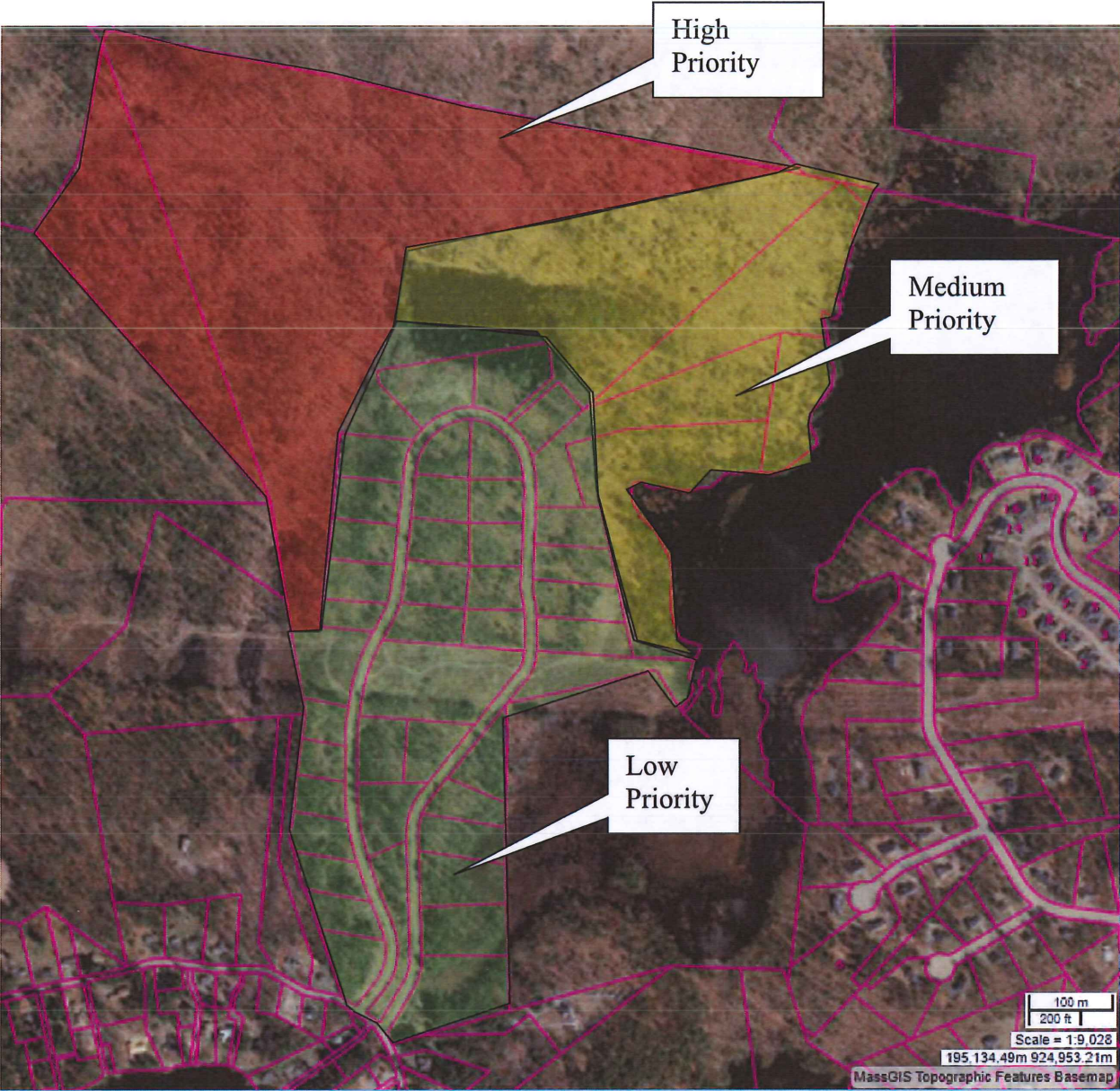
2019 USGS orthophoto with prime farmland indicated in green
Source: MassGIS

Open Space Map

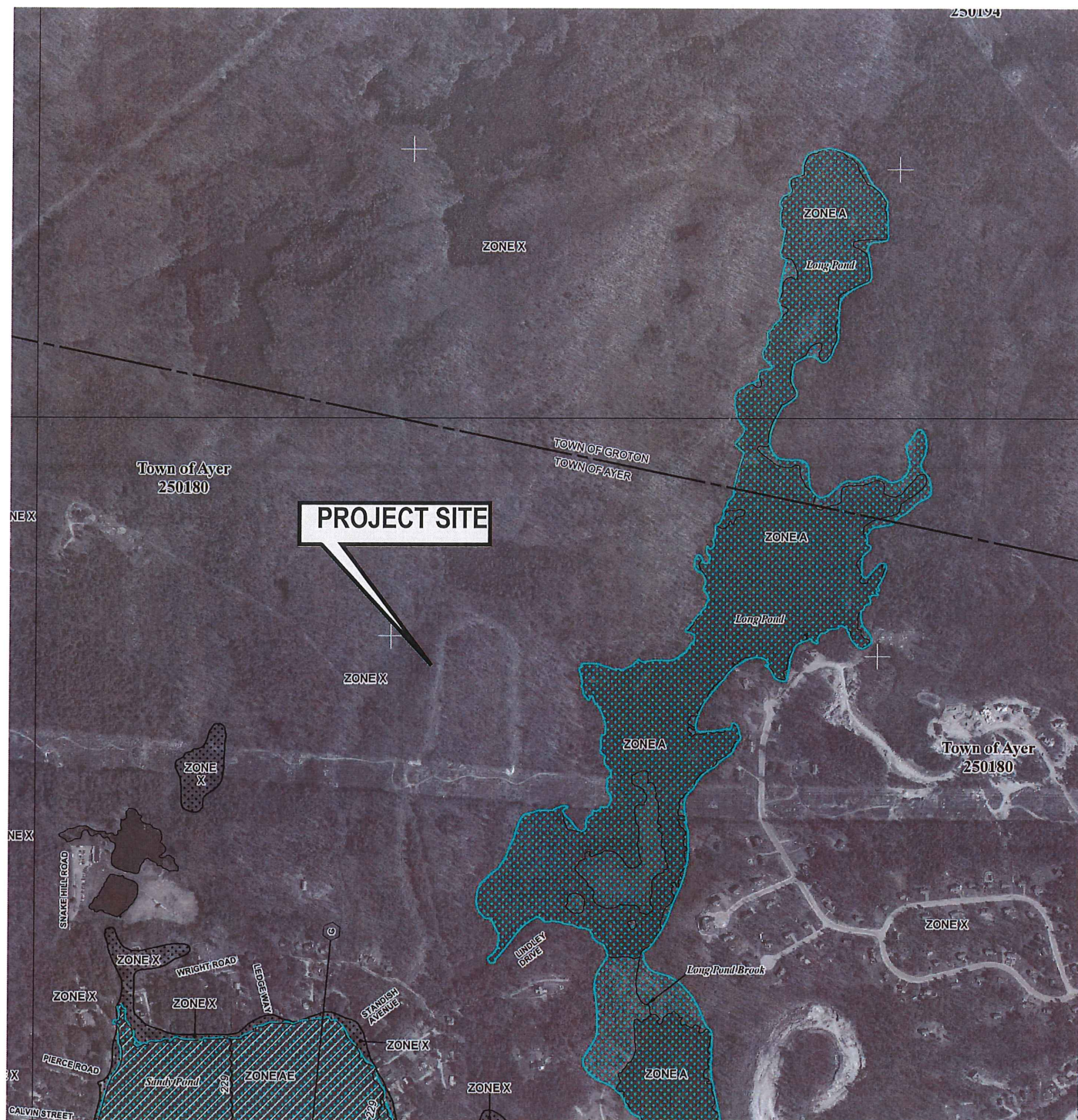


2019 USGS orthophoto with existing open space
Source: MassGIS

Priority Conservation Areas Map



2019 USGS orthophoto with Priority Conservation Areas
Source: MassGIS



FLOOD MAP

1"=1,000' ±

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References: FIRM - Flood Insurance Rate Map
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