

# NATURAL RESOURCES INVENTORY

Cape Cod Commission Regional Policy Plan  
Technical Bulletin 92-002  
Developments of Regional Impact

Assessor's Map 27 Parcel 152  
Bourne, Massachusetts

June 2016

*Prepared for:*

Levon Semerjian  
Atlantic Subaru  
124 Waterhouse Road  
Bourne, MA 02532

*Prepared by:*

Horsley Witten Group, Inc.



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90 Route 6A  
Sandwich, MA 02563



# NATURAL RESOURCES INVENTORY

## Atlantic Subaru

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McArthur Boulevard, Bourne, MA

Assessor's Map 27 Parcel 152

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# NATURAL RESOURCES INVENTORY

## Atlantic Subaru

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McArthur Boulevard, Bourne, MA

Assessor's Map 27, Parcel 152

### 1.0 INTRODUCTION

The Applicant, Atlantic Subaru, proposes to construct an addition to its existing auto dealership and repair facilities. The proposed addition will result in a loss of parking spaces on the current site, which is located at 124 Waterhouse Road in Bourne. In order to regain vehicle parking and display spaces, the Applicant proposes to construct a paved vehicle display area with associated utilities for an additional 111 vehicles. The site upon which the additional spaces are proposed is adjacent to the current Atlantic Subaru dealership. This parcel, located at 122 Waterhouse Road, is located within the Zoning District Business 4 under the Bourne Zoning Bylaw. Parcel 152 is currently an undeveloped vacant lot totally 40,729 square feet. The proposed paved area will be approximately 23,500 square feet, or 58% of the parcel area.

As part of the Cape Cod Commission Development of Regional Impact (DRI) minor modification review process, Horsley Witten Group, Inc. (HW) was retained by the Applicant to conduct an inventory of the natural resources within undeveloped portions of this site. The vegetation and wildlife components of this NRI have been completed in accordance with the guidelines developed by the Commission in Technical Bulletin 92-002 entitled *Development of Regional Impact Guidelines for Natural Resources Inventory (Plant and Wildlife Habitat Assessment)*.

This report provides a brief site overview; details the methodology used in the inventory; describes the soils, plant communities, and wildlife habitat present within the site; and discusses potential impacts associated with the proposed development.

### 2.0 GENERAL SITE DESCRIPTION

The project area at 122 Waterhouse Road is on a 0.92 acre lot located along the west side of Waterhouse Road (latitude: 41° 43' 35.64"N, longitude: -70° 35' 8.70"W) (Figure 1). The property is defined by the Bourne Assessors Department as Map 27 Parcel 152 and is within the Business 4 zoning district under the Bourne Zoning Bylaw. The parcel is an undeveloped wooded parcel with a plant community indicative of a typical Cape Cod pine/oak forest habitat. The tree canopy is primarily composed of pitch pine (*Pinus rigida*) and mixed oak species (*Quercus* spp.), with a patchy understory that ranges from densely vegetated to sparse with very little groundcover. The terrain has slight, gently rolling hills, a few depressions, standing snags, fallen dead trees, and occasional boulders, with some evidence of past land-use activity.

The project locus abuts a vacant forested lots to the west and north (parcels 154 and 151, respectively); a developed lot (Atlantic Subaru) to the south (parcel 153); and a major paved road (Waterhouse Road) to the east. There is a 20-foot utility easement off the southern boundary, which includes gas and water service to Dornick Road. The general topography of the site slopes from south to north with the steepest grades along the southern and western boundaries. The elevation across the property project area varies from 119 to 103 feet above mean sea level (Figure 2).

The site is located within the Bourne Back River Area of Critical Concern (ACEC) (see Figure 2) and the project area is located entirely within the X-Zone as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel Number 255210 0008F revised August 9, 1999 (Figure 3).

### 3.0 METHODOLOGY

Prior to conducting field assessments, HW reviewed existing source data, including the USGS topographic map, Massachusetts Natural Heritage and Endangered Species Program (NHESP) Natural Heritage Atlas and common and rare species lists, the USDA Natural Resources Conservation Service (NRCS) Soils Survey for Barnstable County, MA, and available source data from the Massachusetts Geographic Information Service (MassGIS) to identify the presence of natural resources within the project area.

For the purpose of wildlife use assessment, two site observations were conducted “within one hour of sunrise and within one hour of sunset during good weather,” in accordance with Technical Bulletin 92-002. One site assessment was conducted at dawn (5:30-6:30 am) on April 21, 2016. A second assessment was conducted at dusk (7:00-8:00 pm) on April 22, 2016. Weather conditions were partly sunny and seasonably warm with low winds.

Field investigations were conducted by qualified individuals with academic backgrounds in related disciplines, including botany, soil science, and wildlife biology, and with prior professional experience in conducting natural resources inventories on Cape Cod. The credentials of personnel involved are provided in Appendix A.

#### 3.1 Wildlife Assessment

All site evaluations focused upon the documentation of the following with respect to wildlife habitat:

- Avifauna, both migratory and resident species;
- Mammals;
- Herpetofauna (reptiles and amphibians); and
- Rare Species.

According to the Massachusetts Natural Heritage Atlas (13<sup>th</sup> Edition, October 1, 2008), this site is mapped within an area of *Priority Habitats of Rare Species* (PH 951) and *Estimated Habitats of*

*Rare Wildlife* (EH 782) (Figure 3). According to the NHESP (Tracking No. 14-33390) this designation is due to the presence of the state-listed species, Eastern Box Turtle (*Terrapene carolina*) (see Figure 2). This species is protected, and its habitat regulated under the Massachusetts *Endangered Species Act* (M.G.L. Ch. 131A; MESA) and its implementing regulations (321 CMR 10.00). NHESP has reviewed and approved this project under MESA.

### 3.2 Vegetation Communities Inventory

HW staff conducted two site assessments to take inventory of the natural resources located on the site. Plant species and their relative abundance were observed within the canopy, shrub, and groundcover/herbaceous layers.

### 3.3 Soil Survey

The Natural Resources Conservation Service identifies this site as falling within one soil type, as described in the Soil Survey of Barnstable County, Massachusetts (March 1993). The soils underlying the site are classified as Barnstable sandy loam, Barnstable sandy loam, 3 to 8 percent slopes (431B), which are described as “very stony, moderately well drained soils formed in glacial fluvial deposits on outwash plains, delta, kames, and ice contact deposits” (Figure 4). HW’s site observations are consistent with the wide range of slopes, as topography at this site is somewhat undulating from nearly flat to more steeply sloped.

The hydrologic soil group for this soil is in hydrologic soil group A. Soil test pits were excavated on July 1, 2015 near the proposed bioretention and underground recharge chamber area. Soil tests results showed parent materials of very coarse to gravelly sands (HSG A). Double-ring infiltrometer tests were performed within the excavated test pit areas. The double-ring infiltrometer test is a MassDEP approved method for determining soil infiltration rates; the method used for the measurement process followed ASTM Standard Test Method D3385-03 (2003). Soil infiltration rates were measured as high 35.0 inches/hour; however, a rate of 17 in/hr rate was assumed. Based upon the Cape Cod Commission GIS department groundwater contours (August 1998) the depth to water is estimated at an approximate elevation of 40 feet, which is 80 to 100 feet below existing grade depending upon the specific location at the site.

## 4.0 RESULTS

### 4.1 Existing Vegetation Communities

The *Classification of the Natural Communities of Massachusetts* (NHESP 2001; “CNC”) was used to classify the existing terrestrial (i.e., upland) habitats observed at the site.

#### 4.1.1 Pitch Pine – Oak Forest

The predominant terrestrial plant community type for this site is pitch pine – oak forest. Canopy species commonly occurring within these upland habitats are typical and include pitch pine, eastern white pine (*Pinus strobus*), white oak (*Quercus alba*), and to a lesser extent a mix

of other oak species including black oak (*Quercus velutina*) and scarlet oak (*Quercus coccinea*). Less commonly observed upland canopy species include red maple (*Acer rubrum*), American holly (*Ilex opaca*), eastern red cedar (*Juniperus virginiana*), and tupelo (*Nyssa sylvatica*). Live trees are generally between seven and twelve inches in diameter at breast height (DBH). The tree canopy provides nearly complete cover across the site. Occasional standing dead trees (snags) and trees of poor health are located throughout the parcel. No standing specimen trees were observed during the field assessments.

The understory plant community is shrub-dominated with sparse herbaceous cover. Commonly observed species include black huckleberry (*Gaylussacia baccata*), highbush blueberry (*Vaccinium corymbosum*), ink berry (*Ilex glabra*), patches of sheep laurel (*Kalmia angustifolia*), low bush blueberry (lowbush blueberry (*Vaccinium angustifolium*), and oak and sassafras seedlings. To a lesser extent, there are clumps and patches of nannyberry (*Viburnum lentago*). The invasive European buckthorn (*Frangula alnus*) was also present in small amounts.

Groundcover consists of carpets of wintergreen (*Gaultheria procumbens*), tree-clubmoss (*Dendrolycopodium obscurum*), pipsissewa (*Chimaphila maculata*), bracken fern (*Pteridium aquilinum*), and mayflower (*Maianthemum canadense*). The understory is fairly consistent throughout the site. The floor of the forested upland habitats is a relatively thick (i.e., three to four-inch) layer consisting of oak leaf, pine needle, twig, and fibric organic matter.

#### 4.1.2 Presence of Invasive Species

One non-native, invasive species was observed on location. A few shrubs of European buckthorn occur within interior portions of the site, although not in large numbers.

## 4.2 Wildlife Habitat

As required in the Regional Policy Plan (RPP) and Technical Bulletin 92-002, the NRI is designed to survey and document significant wildlife habitat, including physical evidence of wildlife use such as the presence of nests; burrows; dens; active snags in standing dead timber; feeding, migratory or breeding activities; presence of scat; browse or antler rubs; scent posts; or game rails; and identification of migration corridors used along unfragmented or contiguous landscapes. Following the literature review and identification of vegetation communities, each of the cover types was inspected for the presence of significant wildlife features.

In an inventory of wildlife habitat, it is the physical structure of the landscape and associated features that are observed and assessed for relative habitat quality, rather than the presence of individual animal species. However, direct sightings of mammals, avifauna, and herpetofauna (reptiles and amphibians), as well as other indirect evidence of wildlife use of this site, were recorded during the course of the field visits. Potential species utilizing this habitat, given the species' range, documented occurrences on Cape Cod, and the likelihood of a given habitat to provide food, cover, breeding, over-wintering, dispersal or migratory habitat, are listed in Appendix B.

#### 4.2.1 Avifauna

Various bird species were noted, most being edge or woodland species. During the site visits, common bird species were observed including black-capped chickadee, tufted titmouse, American goldfinch, American robin, song sparrow, and American crow.

#### 4.2.2 Mammals

The vegetation community offers suitable habitat for food and cover for mammalian species common to Cape Cod. Indications of wildlife use were observed throughout the property, including wildlife trails traversing the property and mammalian scat.

#### 4.2.3 Rare Species

No federally or state-listed species were observed during HW's site visits. As noted above, the site is mapped for habitat for the Eastern Box Turtle. NHESP issued a "no take" letter dated July 22, 2015. A copy of this letter and the referenced plan are attached.

#### 4.2.4 Herpetofauna

##### Amphibians

This parcel does not support breeding habitat for amphibian species due to the absence of wetlands; and no certified or potential vernal pools are documented within the general surrounding area. The closest pond is approximately 2,000 feet away; while onsite for the NRI, spring peepers were heard in the far distance.

##### Reptiles

Suitable habitat exists on and adjacent to the site for a number of reptiles, including snakes and turtles, potentially including the Eastern Box Turtle. This forested habitat is characteristic of upland habitat favored by the box turtle and the exposed sandy soils along the unimproved dirt access road to the west may provide suitable nesting habitat within close proximity to the site.

##### Invertebrates

It is anticipated that the subject site would support invertebrate species common to Cape Cod pitch-pine oak forest communities. Off-site water features associated with the adjacent golf course would also likely support aquatic invertebrate species that are dependent on an aquatic environment for a portion of or their life cycle include dragonflies and damselflies (Order *Odonata*), caddisflies (Order *Trichoptera*), and mayflies (Order *Ephemeroptera*).

## 5.0 PROPOSED PROJECT

### 5.1 Project Description

- As part of the building expansion at the existing facilities at 124 Waterhouse Road, 20 customer parking spaces and 18 display spaces will be eliminated from the existing facilities located on Lot 153. To offset the loss of spaces and provide additional display area, an additional parking and vehicle display area will be constructed on Lot 152 to provide Construction of new 23,500 sf paved display area on Lot 152 for 111 vehicles; and
- Relocation of the existing wastewater treatment from lot 153. A new 2,000 gallon septic tank with FAST 1.5 advanced treatment system, distribution box, and leaching field are proposed under the paved display area.

The additional impervious area for Lot 152 is 23,500 SF.

### 5.2 Landscaping

The project will also include improvements to the landscape to minimize the impacts of the proposed expansion. The overall design will emphasize the use of native plantings and strive to integrate the proposed development's needs into the site's surrounding environment.

Landscape buffers have been provided along Waterhouse Road on both properties. The proposed buffer on Lot 153 provides additional screening to the existing formal landscape while maintaining selective views and site lines of the facility. The proposed buffer enhancement will include a mix of trees, shrubs, perennials, and grasses. Proposed plant species include: red maple, gray birch (*Betula populifolia*), flowering dogwood (*Cornus florida*), tupelo (*Nyssa sylvatica*), chokeberry (*Aronia* sp.), sweet pepperbush (*Clethra alnifolia*), sweet fern (*Comptonia peregrina*), inkberry (*Ilex glabra*), winterberry (*Ilex verticillata*), northern bayberry (*Morella pensylvanica*), lowbush blueberry, blazing star (*Liatris* sp.), switch grass (*Panicum virgatum*), little bluestem (*Schizachyrium scoparius*), and various goldenrods (*Solidago* spp.)

The proposed buffer on Lot 152 will maintain the existing vegetation between the proposed vehicle display lot and the road to the greatest extent practicable. The existing vegetated buffer width will range from 30 feet to 40 feet and will be supplemented with additional plantings along the interior edge. Supplemental buffer planting will include the native evergreen trees and a mix of native shrubs currently present on the vacant lot including eastern white pine (*Pinus strobes*), American holly (*Ilex opaca*), chokeberry (*Aronia arbutifolia*), and bayberry (*Myrica pensylvanica*). Due to concerns with tree falling hazards, selective thinning is proposed within the buffer. Trees determined to be unhealthy or damaged are proposed to be removed from the buffer. The selected trees will be identified and assessed by a certified arborist prior to any tree removal. The arborists report will be provided as part of the applicant's submission.

A portion of the site will remain as undisturbed forest along the perimeter of the parcel. This forested area will be adjacent to the surrounding undeveloped wooded parcels to the north and west and will likely continue to serve as wildlife habitat.

### 5.3 Stormwater Management

The proposed Stormwater Management System is designed to meet the Town of Bourne stormwater management requirements. Although this site does not fall within Massachusetts Department of Environmental Protection (MassDEP) wetland jurisdiction, the Massachusetts Stormwater Standards were applied to the stormwater management design to the greatest extent practicable. The stormwater management design includes a bioretention area to treat and infiltrate the first 1-inch of runoff from the proposed new vehicle display area on Lot 152. Overflow for the bioretention area will discharge via a 24-inch diameter overflow structure, to an underground recharge chamber field located under the proposed new 23,500 sf paved vehicle display area.

Additional design details are included on the Grading and Drainage Plans and Stormwater Analysis and Drainage Report.

### 5.4 Lighting

Exterior site and parking lighting will be kept to a minimum and include the following;

- Relocation of three existing light poles as indicated on the plans; and
- Six new lights in the proposed display area on Lot 152.

## 6.0 DEVELOPMENT IMPACT

The proposed development will result in both short term and long-term alterations to the existing vegetation and wildlife habitat. However, no unique features or vegetation communities were observed within this parcel, and as such, the loss of the vegetation is less likely to have an adverse effect on the existing populations of wildlife or on the species diversity. Further, the proximity of this parcel to Waterhouse Road, Route 28, the existing dealership, and other commercial buildings and business parks may render this site less valuable to the preservation of local wildlife habitat. There is no proposed fencing associated with the proposed project.

### 6.1 Minimum Performance Standards

As this project was first approved under the previous RPP, the applicable Minimum Performance Standards (MPS) for wildlife and plant habitat under the 1996 RPP are as follows:

*2.4.1.1 Applications for Developments of Regional Impact that propose to alter undeveloped areas shall contain a natural resources inventory. Such inventory shall identify the presence and location of wildlife and plant habitat, including*

*vernal pools, and serve as a guide for the layout of the development.  
Developments shall be planned to minimize impacts to wildlife and plant habitat.  
Natural resource inventories shall be prepared in accordance with the Plant and  
Wildlife Habitat Assessment Guidelines, Technical Bulletin 92-002.*

An NRI has been provided.

## **6.2 Minimizing Project Impacts**

The proposed development of this site is positioned toward the southwestern portion of the site to provide separation and screening from Waterhouse Road and access to the existing car dealership. An undisturbed vegetated buffer (30'-40' wide) will remain along the road. The proposed landscaping will include native vegetation that is similar to shrub and tree species observed within the parcel. No fencing is proposed.

## **6.3 Rare Species and Vernal Pools**

The project site is mapped for Eastern Box Turtle habitat. The Applicant has already undergone review with NHESP; NHESP has issued a letter of determination indicating that the proposed project will not result in a prohibited "take" of the state-listed rare species. As noted, a copy of the NHESP letter is attached.

There are no vernal pools at or adjacent to the site.

## **6.4 Invasive Species**

One invasive plant species was documented during the NRI, observed as a few scattered clumps in the interior portions of the site. The location of the invasive species is within the proposed limit of work and will be removed as part of the site development and disposed of properly to avoid the potential spread of this species to other locations.

## **7.0 SUMMARY**

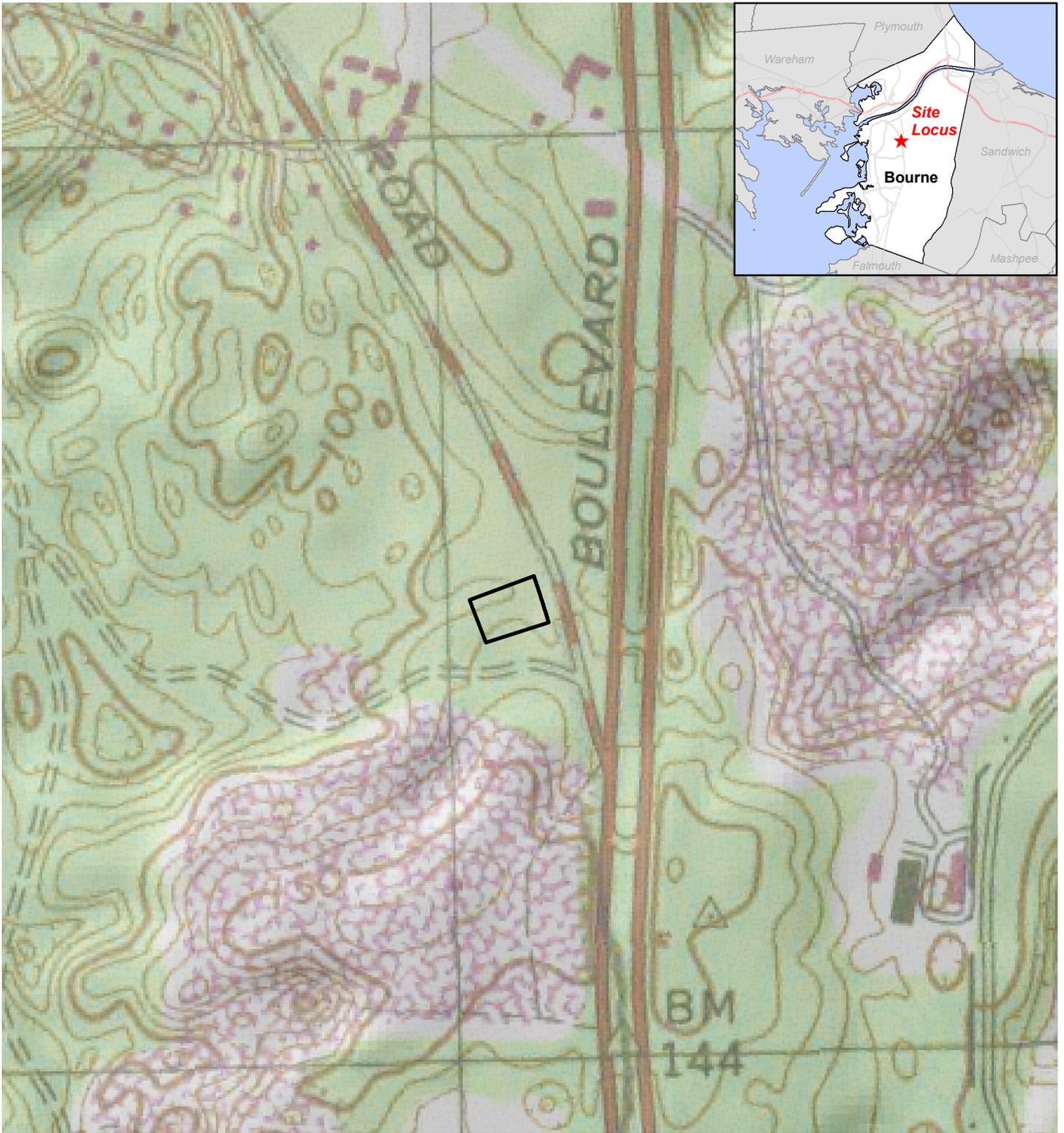
The site consists of approximately 0.92 acres of undeveloped forested land that supports a pitch pine-mixed oak community typical of Cape Cod. No wetland resource areas are located at the site or within close proximity, and no unique features or specimen trees were encountered. Overall, the undeveloped condition represents a plant community that is typical of a pitch pine-mixed oak plant community found on Cape Cod. The site context with close proximity to a well-use road, commercial development, and a nearby golf course reduces the ability of this parcel to provide habitat for species other than commonly-occurring wildlife species that have become adapted to more urban-type settings. While the subject site is located within an area designated as SNRA for rare species habitat, NHESP has determined that the proposed project will not result in a prohibited "take." As such we believe that the proposed project is consistent with the MPS under the RPP for wildlife and plant habitat

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## 8.0 REFERENCES

- DeGraaf, R.M., Rudis, D.D. September 1983. New England Wildlife: Habitat, Natural History, and Distribution. United States Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. General Technical Report NE-108.
- DeGraaf, R.M., and D.A. Richard. Forest Wildlife of Massachusetts: Cover Type, Size Class, and Special Habitat Relationships. Cooperative Extension, University of Massachusetts, Amherst, Massachusetts.
- Development of Regional Impact Guidelines for Natural Resources Inventory (Plant and Wildlife Habitat Assessment), Technical Bulletin 92-002, Cape Cod Commission (Revised 4/24/03)
- Swain, P.C. and J.B. Kearsley. 2011. Classification of the Natural Communities of Massachusetts. Version 1.4. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife. Westborough, MA. URL: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/natural-communities/classification-of-natural-communities.html#>
- Tekiela, S. 2000. Birds of Massachusetts, Field Guide. Adventure Publications, Cambridge, Massachusetts.





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\*Pocasset Topographic Quadrangle

**Legend**

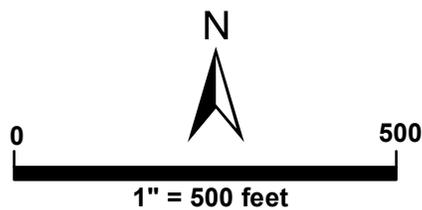
 Site Parcel (Parcel ID - 27.0-152-0)

**Horsley Witten Group**  
Sustainable Environmental Solutions

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Tel: 508-833-8800 • Fax: 508-833-3150 • www.horsleywitten.com

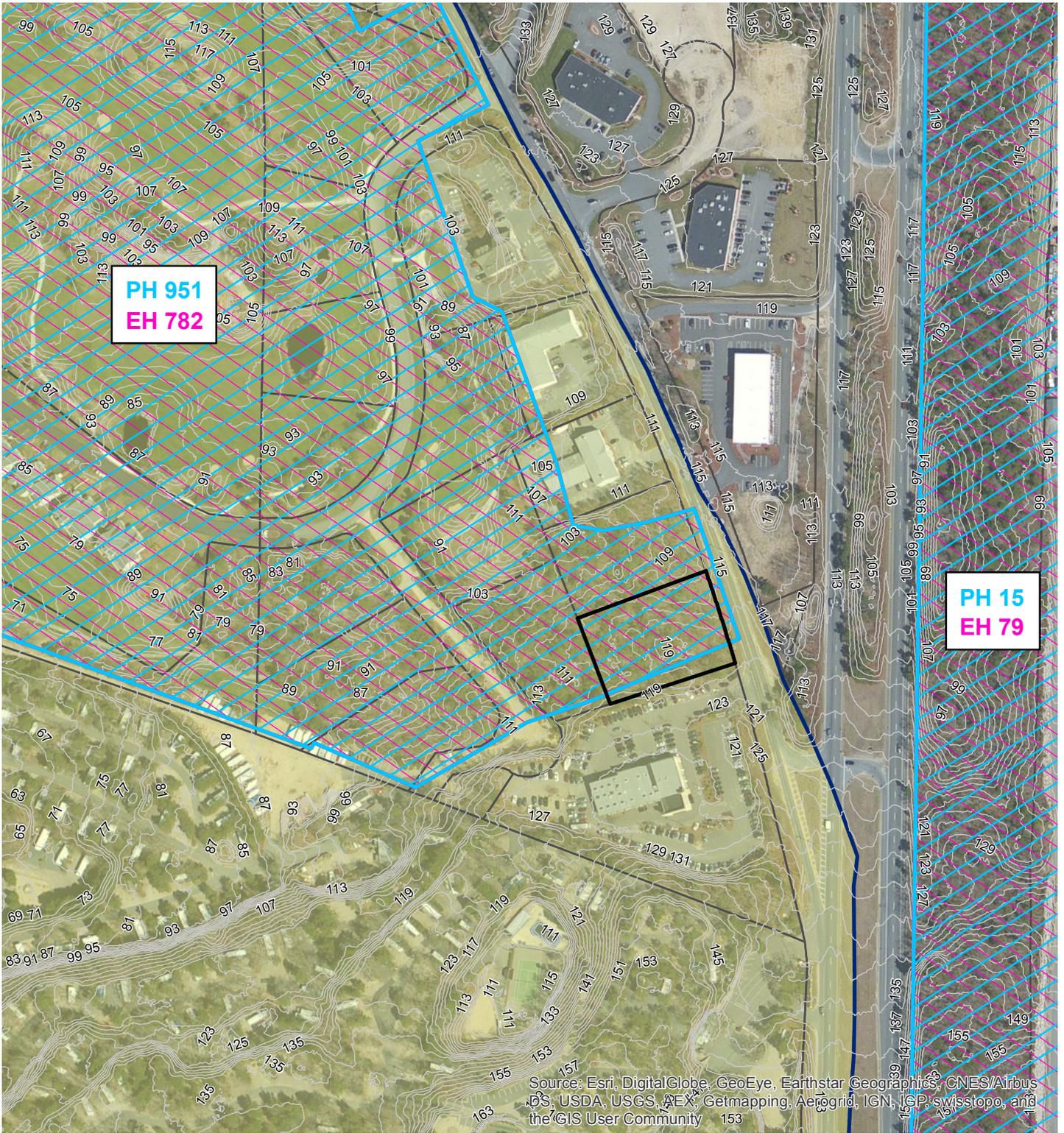


USGS Topographic  
Quadrangle  
122 Waterhouse Road  
Bourne, MA



Date: 4/26/2016

Figure 1

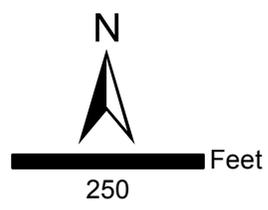


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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**Legend**

-  Site Parcels
-  ACECs - Bourne Back River
-  Parcels
-  2ft. Contours
-  NHESP Priority Habitats of Rare Species
-  NHESP Estimated Habitats of Rare Wildlife



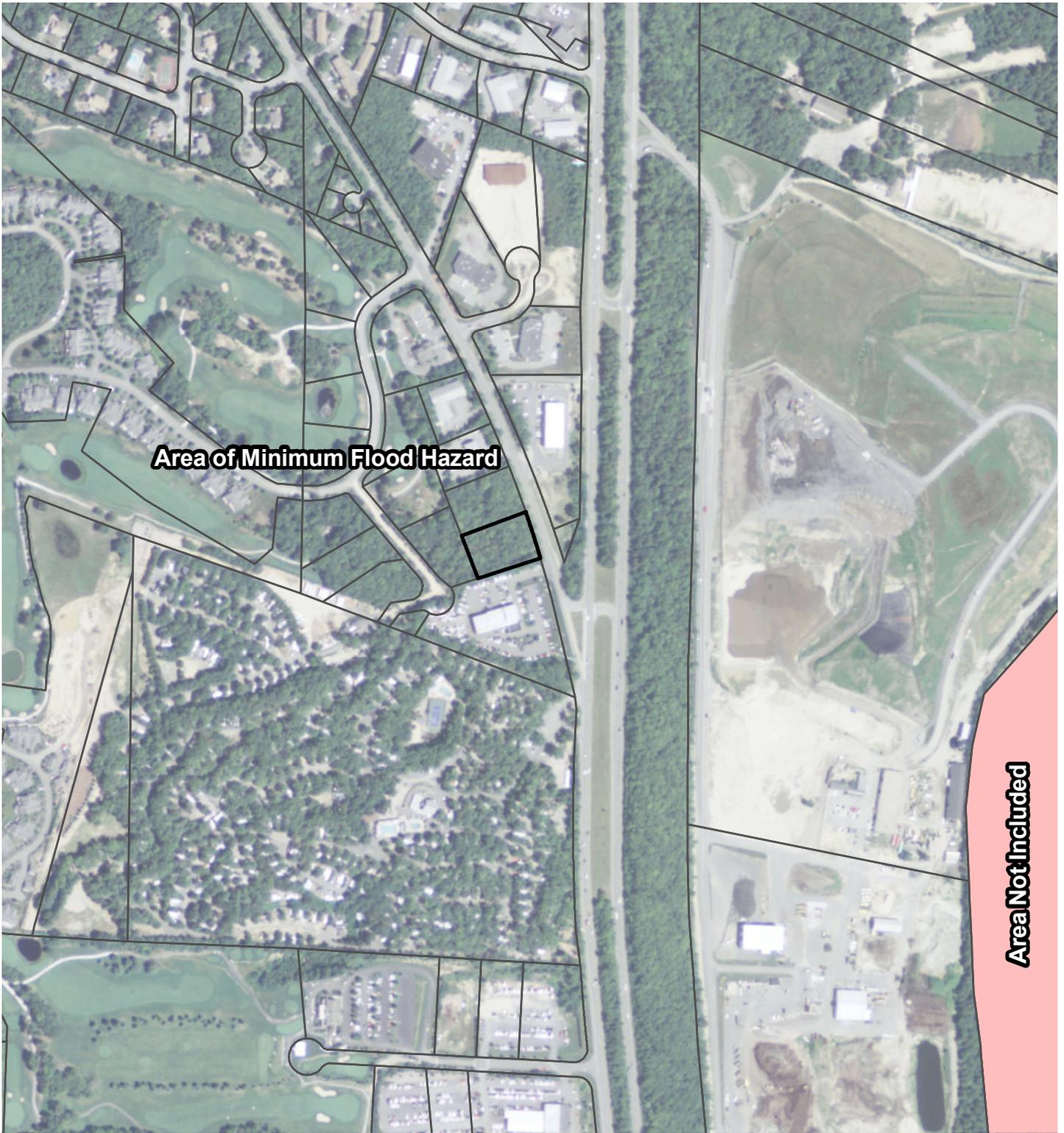
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**Existing Constraints**  
 122 Waterhouse Road  
 Bourne, MA

Date: 4/26/2016

Figure 2

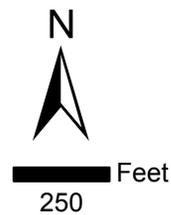


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**Legend**

-  Site Parcels
-  Parcels

FEMA - July 2014



Horsley Witten Group  
Sustainable Environmental Solutions

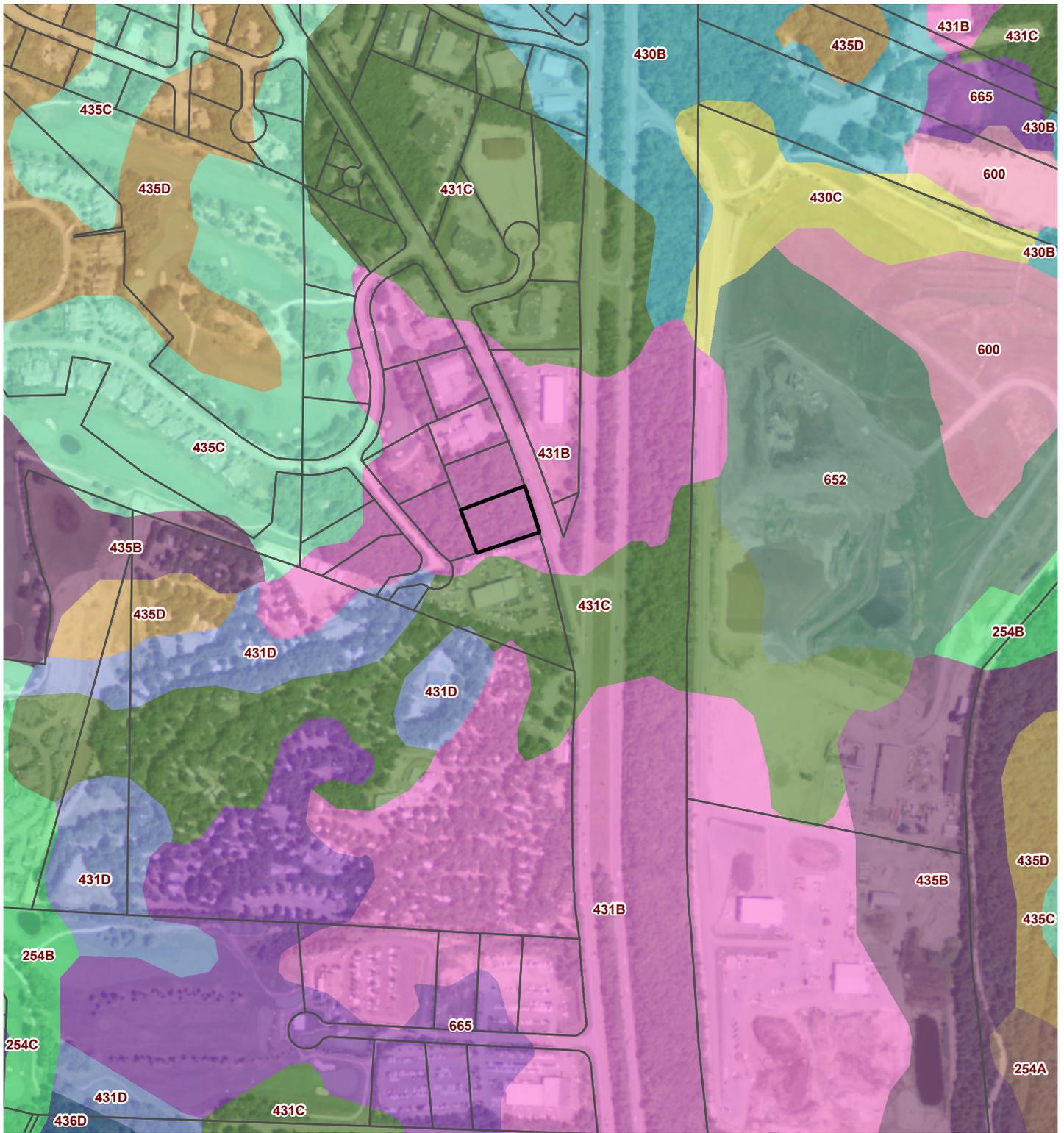
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FEMA's National Flood Hazard Layer  
122 Waterhouse Road  
Bourne, MA

Date: 4/26/2016

Figure 3

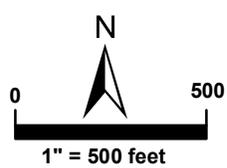


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**Legend**

-  Site Parcel
-  Parcels
-  254A, Merrimac
-  254B, Merrimac
-  254C, Merrimac
-  430B, Barnstable
-  430C, Barnstable
-  431B, Barnstable
-  431C, Barnstable
-  431D, Barnstable
-  435B, Plymouth
-  435C, Plymouth
-  435D, Plymouth

-  436D, Plymouth
-  600, Pits
-  652, Dumps
-  665, Udipsamments



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Barnstable County Soils  
122 Waterhouse Rd  
Bourne, MA 02532

## Photos of Existing Site Conditions

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**Photo 1. Tree canopy of project site, looking northwest.**



**Photo 2. Tree canopy of project site, looking west (Cars parked at Atlantic Subaru just visible on left).**



Photo 3. Understory plant species, looking northwest.



Photo 4. Ground cover of inkberry, lowbush blueberry, and leaf cover.

## Appendix A QUALIFICATIONS

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Personnel involved in conducting the natural resources inventory have academic backgrounds in disciplines related to the specific components of the investigation including botany, soil science, and wildlife biology. Each of these professionals has experience in conducting related investigations on Cape Cod.

### **Amy M. Ball, PWS, CWS**

Amy Ball has more than 20 years of professional experience as a wetlands scientist and ecologist specializing in wetland botany and ecology, rare species and wildlife habitat assessments, wetland restoration and mitigation, environmental assessment and monitoring, and environmental policy evaluation. As a Project Manager and Senior Ecologist with the Horsley Witten Group, she served as the project manager for the natural resources investigation. Ms. Ball manages projects requiring inland and coastal wetland resource area determinations, wildlife habitat assessments, impact mitigation, and regulatory compliance. Ms. Ball has directed and participated in several large and small scale natural resources inventories on Cape Cod, including a substantial vegetative community assessment in the Pleasant Bay Area of Critical Environmental Concern and at the Provincetown Municipal Airport, each of which included rare plant and habitat assessments. Ms. Ball also manages project permitting for projects requiring federal, state, regional, and local permits pursuant to laws, regulations, and policies governing water resource and rare species protection. Ms. Ball frequently appears before local conservation commissions and state and federal regulatory authorities as a project representative or reviewing consultant, and has served as an expert witness on several occasions.

### **Tara L. Nye**

Tara Nye has more than 19 years of professional experience as a coastal wetlands scientist and ecologist specializing in coastal ecology, rare species and wildlife habitat assessments, environmental assessment and monitoring, coastal resiliency and invasive species management. Over the course of her career, Ms. Nye has worked with public, private, academic, and government agencies. As an Environmental Scientist with the Horsley Witten Group, Ms. Nye conducts inland and coastal wetland resource area determinations, wildlife habitat assessments, impact mitigation, and assists with regulatory compliance. Prior to starting with Horsley Witten Group, she worked for thirteen years at the Association to Preserve Cape Cod where she single handedly ran the salt marsh monitoring program that supported several coastal restoration projects on Cape Cod. Additionally, she serves on the Joint Base Cape Cod Science Advisory Board. Ms. Nye's broad areas of expertise include water resources, salt marsh ecosystems, marsh migration, and coastal resiliency. She frequently facilitates discussions with stakeholders, identifying issue areas and researches solutions, and provides material for outreach and education. Ms. Nye is also proficient in GIS.

**Appendix B - Wildlife Observations**  
Atlantic Subaru Abutting Parcel, Bourne, MA

Common Name	Scientific Name	HABITAT TYPE
		Pitch Pine/ Mixed Oak Forest
<b><u>Birds</u></b>		
American crow	<i>Corvus brachyrhynchos</i>	x
American goldfinch	<i>Carduelis tristis</i>	x
American robin	<i>Turdus migratorius</i>	x
Black-capped chickadee	<i>Cyanocitta cristata</i>	x
Blue Jay	<i>Parus atricapillus</i>	o
Canada goose	<i>Branta canadensis</i>	x (overhead)
Carolina wren	<i>Thryothorus ludovicianus</i>	o
Catbird	<i>Dumetella carolinensis</i>	o
Chipping sparrow	<i>Spizella passerina</i>	x
Eastern towhee	<i>Pipilo erythrophthalmus</i>	o
Hairy woodpecker	<i>Picoides villosus</i>	o
Herring Gull	<i>Larus argentatus</i>	o
Grackle	<i>Quiscalus quiscula</i>	x
Morning dove	<i>Zenaida macroura</i>	o
Northern cardinal	<i>Cardinalis cardinalis</i>	x
Northern flicker	<i>Colaptes auratus</i>	o
Pine warbler	<i>Dendroica pinus</i>	x
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	o
Red-winged blackbird	<i>Agelaius phoeniceus</i>	x
Song sparrow	<i>Melospiza melodia</i>	x
Tufted titmouse	<i>Parus bicolor</i>	x
White-breasted nuthatch	<i>Sitta carolinensis</i>	o
<b><u>Mammals</u></b>		
White-tailed deer	<i>Odocoileus virginianus</i>	x
Common raccoon	<i>Procyon lotor</i>	o
Eastern gray squirrel	<i>Sciurus carolinensis</i>	x
Northern short-tailed Shrew	<i>Blarina brevicauda</i>	o
Eastern Chipmunk	<i>Tamias striatus</i>	o
Virginia Opossum	<i>Didelphis virginiana</i>	o
Woodland Vole	<i>Microtus pinetorum</i>	o
Grey Fox	<i>Urocyon cinereoargenteus</i>	o
Striped skunk	<i>Mephitis mephitis</i>	o
Fisher	<i>Martes pennanti</i>	o
Coyote	<i>Canis latrans</i>	x

Common Name	Scientific Name	HABITAT TYPE
		Pitch Pine/ Mixed Oak Forest
<b><u>Reptiles/Amphibians</u></b>		
Eastern Box Turtle	<i>Terrapene carolina</i>	o
Eastern Red-backed Salamander	<i>Plethodon cinereus</i>	o
Eastern Racer	<i>Coluber constrictor</i>	o
Eastern Ribbon Snake	<i>Thamnophis sauritus</i>	o
Common Garter Snake	<i>Thamnophis sirtalis</i>	o
<u>Key</u> x = species observed, heard, or evidence of presence o = species anticipated to occur in habitat		



**MassWildlife**

Commonwealth of Massachusetts

# Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

July 16, 2014

Amy Ball  
Horsley Witten Group, Inc  
90 Route 6A  
Sandwich MA 02563

RE: Project Location: 120 & 122 Waterhouse Road and 3, 4 & 6 Dornick Road  
Town: BOURNE  
NHESP Tracking No.: 14-33390

To Whom It May Concern:

Thank you for contacting the Natural Heritage and Endangered Species Program of the MA Division of Fisheries & Wildlife (the "Division") for information regarding state-listed rare species in the vicinity of the above referenced site. Based on the information provided, this project site, or a portion thereof, is located **within** *Priority Habitat 951* (PH 951) and *Estimated Habitat 782* (EH 782) as indicated in the *Massachusetts Natural Heritage Atlas* (13<sup>th</sup> Edition). Our database indicates that the following state-listed rare species have been found in the vicinity of the site:

<u>Scientific name</u>	<u>Common Name</u>	<u>Taxonomic Group</u>	<u>State Status</u>
<i>Terrapene carolina</i>	Eastern Box Turtle	Reptile	Special Concern

The species listed above is protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). State-listed wildlife are also protected under the state's Wetlands Protection Act (WPA) (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.00). Fact sheets for most state-listed rare species can be found on our website ([www.mass.gov/nhesp](http://www.mass.gov/nhesp)).

Please note that projects and activities located within Priority and/or Estimated Habitat **must** be reviewed by the Division for compliance with the state-listed rare species protection provisions of MESA (321 CMR 10.00) and/or the WPA (310 CMR 10.00).

### **Wetlands Protection Act (WPA)**

If the project site is within Estimated Habitat and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the Division so that it is received at the same time as the local conservation commission. If the Division determines that the proposed project will adversely affect the actual Resource Area habitat of state-protected wildlife, then the proposed project may not be permitted (310 CMR 10.37, 10.58(4)(b) & 10.59). In such a case, the project proponent may request a consultation with the Division to discuss potential project design modifications that would avoid adverse effects to rare wildlife habitat.

A streamlined joint MESA/WPA review process is available. When filing a Notice of Intent (NOI), the applicant may file concurrently under the MESA on the same NOI form and qualify for a 30-day  
[www.mass.gov](http://www.mass.gov)

Division of Fisheries and Wildlife

*Temporary Correspondence:* 100 Hartwell Street, Suite 230, West Boylston, MA 01583

*Permanent:* Field Headquarters, North Drive, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7890

*An Agency of the Department of Fish and Game*

streamlined joint review. For a copy of the NOI form, please visit the MA Department of Environmental Protection's website: <http://www.mass.gov/dep/water/approvals/wpaform3.doc>.

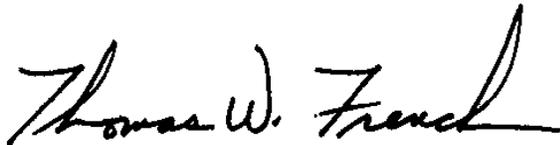
**MA Endangered Species Act (MESA)**

If the proposed project is located within Priority Habitat and is not exempt from review (see 321 CMR 10.14), then project plans, a fee, and other required materials must be sent to Natural Heritage Regulatory Review to determine whether a probable "take" under the MA Endangered Species Act would occur (321 CMR 10.18). Please note that all proposed and anticipated development must be disclosed, as MESA does not allow project segmentation (321 CMR 10.16). For a MESA filing checklist and additional information please see our website: [www.mass.gov/nhesp](http://www.mass.gov/nhesp) ("Regulatory Review" tab).

We recommend that rare species habitat concerns be addressed during the project design phase prior to submission of a formal MESA filing, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review.

This evaluation is based on the most recent information available in the Natural Heritage database, which is constantly being expanded and updated through ongoing research and inventory. If you have any questions regarding this letter please contact Emily Holt, Endangered Species Review Assistant, at (508) 389-6385.

Sincerely,

A handwritten signature in black ink that reads "Thomas W. French". The signature is written in a cursive, flowing style with a large, sweeping flourish at the end of the name.

Thomas W. French, Ph.D.  
Assistant Director