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14 Jul 07

Coyle & Caron, LLC
99 First Parish Road
Scituate MA 02066

Environmental Letter Report
33 Tichnor Place, Scituate

1. Introduction

This letter report is written to summarize wetland resources on the parcel at 33 Tichnor Place in Scituate in support of the construction of a single-family residence. Figures are included that show the Site Locus (Fig. 1), a MassGIS 0.5-m 2001 Orthophoto of the site (Fig 2), and the Draft 2003 Plymouth County Soils Map of the site (Fig. 3). Figure 4 shows the site on the 1940 USGS Topographic Quadrangle.

2. General Site Description

The subject site is a collection of four lots, identified by the Town of Scituate Assessors as 39-027-006, 045-002-001C, 020, and 022 between Tilden Road and Tichnor Place in Scituate.

The topography on site falls off both from Tilden Road and Tichnor Place. Tichnor Place ends at the top of a drumlin that drops in elevation to the east, north, and west. A driveway accesses the site from Tilden Road, and there are open fields adjacent to a large wetland area.

A small brook shown on the 1940 USGS Topographic Quadrangle appears on the current Scituate Assessor's Plan 45 as "Granny's Brook" It is a very short stream that begins at the just east of Tichnor Road Extension, a few hundred feet to the north and east, and appears to have been re-routed, ditched, and culverted into Scituate Harbor under the parking lot adjacent to the Restaurant known as "Pier 44." site. It is about two to three feet wide and about six inches deep under low tide conditions west of Jericho Road. This Brook appears to be on the subject property at the low point to the north of the site, and is about three feet wide and about three to six inches deep when observed in December of 2006. Please note that the Brook is only on the Scituate Assessors Plan just west of Jericho Road, and does not extend into the subject site on that plan. Please review Figure 4, Site Locus on the 1940 USGS Topographic Quadrangle to observe that the stream does not extend onto the subject parcel. It is therefore assumed to be an Intermittent Stream wetland resource.

The surrounding land use is either residential or undeveloped due to wetlands.

3. Wetland Boundary Determination Methodology

The extent of Bordering Vegetated Wetland (BVW) was determined through observations of the existing plant communities in accordance with 310 CMR 10.55 (2) and the Handbook prepared by Massachusetts Department of Environmental Protection entitled *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act* (March 1995).

Specifically, the methodology utilized the "fifty percent criteria" to determine whether the area is dominated by wetland indicator plants or upland plant species. Notes were taken of overstory, shrub story, herbaceous story, and vine story at each flag location. The upland/wetland boundary of Bordering Vegetated Wetland (BVW) is demarcated with bright blue surveyor's flagging tape with an alpha-numeric beginning with IE (for Ivas Environmental), and then a sequential number, e.g, IE A41 is the last flag in the series.

3.1 Measurement of Floristic Characteristics

3.1.1. Plant Species Identification

Ivas Environmental identified plant species comprising 5% or greater of the vegetative cover in the existing BVW. Identifications were made to the species level when morphologically possible and were used in conjunction with topography to define the boundary of BVW in accordance with definitions and criteria in 310 CMR 10.00.

3.1.2 Identification of Wetland Indicator Species

The regional wetland indicator status of all identified plant species were obtained from the classification system described in the *National List of Plant Species that Occur in Wetlands: Massachusetts* (Reed 1988). This classification system divides plant species into six categories ("wetland indicator status") based on the frequency of their occurrence in wetland habitat, and has been adopted by the Department of Environmental Protection (DEP) as the definitive source regarding the indicator status of wetland plants.

The indicators address the range of estimated probabilities of a species occurring in wetlands versus non-wetlands. These probabilities are expressed as percentages, and called a frequency of occurrence. There are five major categories: **Obligate (OBL)**, for those plants that almost always occur in wetlands (estimated probability of >99%) under natural conditions; **Facultative Wetland (FACW)**, for those plants that usually occur in wetlands (67 - 99%); **Facultative (FAC)**, for those plants that are equally likely to occur in non-wetlands or wetlands (estimated probability of 34-66%); **Facultative Upland (FACU)**, those that usually occur in non-wetlands (estimated probability of 67-99%), but sometimes found in wetlands (estimated probability of 1 - 33%); and **Obligate Upland (UPL)** plants that may occur in wetlands in another region, but occur almost always in non-wetlands (estimated probability of 99%) under natural conditions in this State.

A positive (+) or negative (-) sign is used with the Facultative indicator categories-to more specifically define the frequency of occurrence in wetlands. The positive sign indicates a frequency toward the higher end of the category (more frequently found in wetlands), and a negative sign indicates a frequency toward the lower end of the category (less frequently found in wetlands).

The symbol **NI (No Indicator)** indicates that no indicator has been recorded for the species, due to insufficient information. Some of the NI plants are horticulturally-introduced species.

Additional information that assists in forming a delineation line are the conditions regarding the presence or absence of hydric soils and/or obvious hydrology near the surface of the ground.

3.1.3. Wetlands Resource Area Delineation On Site

The wetlands resource area delineation took place on site on 21 December 2006. The sky conditions were overcast, with a very slight breeze, and temperatures in the upper 30s to low 40s. The ground was not frozen, and there was no snow present. Please review the Site Plan for the locations of the Ivas Environmental wetland delineation line, 41 flags labeled from IE A1 through IE A41. This line begins at a stone wall that appears to be a boundary perpendicular to Tilden Road, moves southerly, easterly, then northeasterly adjacent to an open field, then easterly again at the edge of the field to end at what appears to be another boundary at a stone wall.

4. Wetland Resource Areas

The wetland resource area located on and off-site is a Bordering Vegetated Wetland (BVW) under the Commonwealth's Wetlands Protection Act and the Town of Scituate Wetlands Protection Bylaws. The BVW is adjacent to an Intermittent Stream resource, Granny's Brook, which is over 200 feet from the stone wall at the northerly end of the open field. The stream and its associated resources (Land Under Water, and Banks) will be noted below, for completeness, however please note that the Intermittent Stream and its associated wetland resources are more than 100 feet offsite.

4.1 Bordering Vegetated Wetland (BVW)

BVWs are *freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes* and *where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants*[310 CMR 10.55(2)(a)]. The boundary of BVW is defined at 310 CMR 10.55 (2) (c) as *the line within 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist.*

The down-gradient overstory is mainly red maple (*Acer rubrum*, FAC) and tupelo (*Nyssa sylvatica*, FACW), with scattered northern red oak (*Quercus rubra*, FACU-), green ash (*Fraxinus pennsylvanica*, FACW), and black cherry (*Prunus serotina*, FACU).

The shrub story is a mix of northern spicebush (*Lindera benzoin*, FACW), European privet (*Ligustrum vulgare*, FACU), common winterberry (*Ilex verticillata*, FACW), sweet or coast pepperbush (*Clethra alnifolia*, FAC+), northern arrowwood (*Viburnum recognitum*, FACW-), highbush blueberry (*Vaccinium corymbosum*, FACW-), and Japanese knotweed (*Polygonum cuspidatum*, FACU, in one location at flag IE A28).

The herbaceous or ground cover story is a mix of northern spicebush, sweet or coast pepperbush, sparse European privet, northern arrowwood, common winterberry, sparse raspberries (*Rubus* sp.), highbush blueberries, cinnamon fern (*Osmunda cinnamomea*, FACW), and sparse soft rush (*Juncus effusus*, FACW) where the delineation line cuts across the corner of an open field.

The down-gradient vine story is quite variable: in some places it is quite thick, and in some locations is absent. It is composed of common greenbrier (*Smilax rotundifolia*, FAC), grapevines (*Vitis* sp.)one of the climbing Euonymus species, and poison ivy (*Toxicodendron radicans*, FAC).

The up-gradient overstory, where extant, is black cherry, black or sweet birch (*Betula lenta*, FACU), green ash, red maple, and occasional northern red oak.

The up-gradient shrub story, also where extant, is a mix of European privet, black cherry, some northern arrowwood, sparse northern spicebush, highbush blueberry, and a number of planted landscape species that were installed during the construction of a driveway access from Tilden Road.

The up-gradient herbaceous story is European privet, black cherry, northern spicebush (sparse), northern arrowwood (also sparse), raspberries, grasses, (both lawn and species that have been allowed to grow into a meadow), and goldenrods (*Solidago* sp.).

The up-gradient vine story, again where extant, is some common greenbrier.

The BVW is a red maple swamp, a deciduous forested swamp, adjacent to the Intermittent Stream Granny's Brook.

4.2 Intermittent Stream Reaches

Intermittent Streams are defined at 310 CMR 10.58(a)(1) as areas where..."surface water does not flow within them throughout the year. When surface water is not flowing in an intermittent stream, it may remain in isolated pools or it may be absent." Additional criteria include the stream on the current USGS Topographic Quadrangle as intermittent, having a watershed of at less one-half square mile, and the surficial geology of the contributing drainage area to the stream at the project site contains 75% or less stratified drift.

Granny's Brook, found on the Town of Scituate Assessor's Plans, does not appear on the current Scituate USGS Topographic Quadrangle. It does show on the 1940 USGS Topographic Quadrangle as a very short stream that begins at the 20-foot contour a few hundred feet south and east of the subject site.

The 1965 Geologic Map of the Scituate Quadrangle also shows the stream, within a Qgm, or Ground moraine deposits, which is defined as "Till, non-sorted unstratified mixture of material that ranges in size from clay to boulders; generally one to 20 feet thick. In many places loose gravelly till a few feet thick, probably an ablation deposit, is underlain by a hard compact till, probably lodgement till. Appears to overlie, and partly incorporate, unconsolidated glauconite-bearing sand and fine gravel of the Coastal Plain deposits" This means that the area is not stratified drift, which is also noted in the regulations as having a higher probability of providing support for a Perennial Stream resource.

The stream has a very small watershed area, much less than the one-half square mile referenced in the regulations.

The Brook was about two to three feet wide and three to six inches deep when observed on 21 Dec 07, with a gravelly and cobble substrate, with some boulders, and no submerged or emergent vegetation noted. No fish or macro-invertebrates were noted.

The stream is more than 200 feet away and down-gradient from the stone wall at the northerly end of the open field system on site. Therefore, while the Intermittent Stream is extant on the general property, it is within the BVW so far that any work outside the BVW would not have impacts on the stream.

My conclusion is that the Brook is an Intermittent Stream that is well within the BVW.

4.3 Banks

Banks are defined at 310 CMR 10.54 (2)(a) as "the portion of the land surface which normally abuts and confines a water body. It normally occurs between a water body and a vegetated bordering wetland and adjacent flood plain or, in the absence of these, it occurs between a water body and an upland. A Bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, or stone." The definition continues in 310 CMR 10.54(2)(c) as "the upper boundary of a bank is the first observable break in slope or the mean annual flood level, whichever is lower. The lower boundary of the bank is the mean annual low flow level."

The wetland resources here are the Banks of the Intermittent Stream, Granny's Brook.

4.4 Land Under Waterbodies and Waterways (LUW) (Under any Creek, River, Stream, Pond or Lake)

Land Under Waterbodies and Waterways is defined at 10.56 (2)(a) as "the land beneath any creek, river, stream, pond or lake. Said land may be composed or organic muck or peat, fine sediments, rocks or bedrock." The definition continues at 10.56(2)c) as "The boundary of Land Under Water Bodies and Waterways is the mean annual low water level."

The Land Under Water Resource is the land beneath the Intermittent Stream, Granny's Brook.

5.0 FEMA 100-year Floodplain Description

According to the *Federal Emergency Management Agency Flood Insurance Rate Map* for the Town of Scituate (Community Panel Number 2502820002D), the entire site is located in the "X" Flood Zone. The X Zone is defined as the area outside the 100- and 500- year flood zones.

6. MA NHESP Program Designation - Habitats and Vernal Pools

According to the 01 October 2006 Massachusetts Natural Heritage Atlas, 12th Edition, from the Massachusetts Natural Heritage and Endangered Species Program (MA NHESP), there are neither Estimated Habitats of Rare Wildlife or Priority Habitats of Rare Species on or adjacent to the subject site. There are two habitats ((Nos. EH 766 and PH 350) that are associated with Scituate Harbor, about 560 meters to the northeast.

Therefore, there are no Commonwealth-listed species issues associated with the subject site.

7. Area Soils Description

The 2003 Draft Plymouth County Soils Plans (tile 70-43.jpg, Fig. 3) shows four types of soils on or slightly off the subject site. The area along Tilden Road is soil Map Unit 311B, Woodbridge fine sandy loam, very stony, while the top of the plateau where the single-family house is located is 316A, Scituate fine sandy loam, very stony. The two lower areas are soil map units 49A, Norwell sandy

loam, extremely stony, on the higher elevations, and 48, Brockton sandy loam, extremely stony, in the lowest portion of the site, centered on Granny's Brook. The four soil types are described below.

7.1 048 Brockton sandy loam, extremely stony

Brockton soils are defined as very deep, nearly level, very poorly drained soil formed in dense glacial till. Brockton soils are in depressions and drainageways in upland areas and ice-contact deposits. Stones and boulders cover 3 to 15 percent of the surface.

The Taxonomic Classification is Sandy, mixed, mesic, Typic Humaquepts, very poorly drained of dense till parent material. The permeability is moderately rapid in the solum, slow in the substratum. The depth to bedrock is greater than 65 inches, and the seasonal high water table depth is from +1.0 to 0.5 feet below the surface, and is perched from September to June.

The soil is in Hydrologic Group D, it is a hydric soil, and it is frequently ponded for long periods, December to March.

Potential inclusions include: Whitman soils are a similar inclusion. Poorly drained Ridgebury, Norwell, and Mattapoisett soils are on higher elevations. Moderately well drained Scituate and Birchwood soils are on upland landscapes.

The Brockton stony loam is poorly suited for most agricultural and woodland uses due to wetness. It is also poorly suited for development due to seasonal high watertables at or near the surface for prolonged periods of time.

7.2 049A Norwell extremely stony sandy loam, 0 to 3 percent slopes.

Norwell soils are defined as very deep, nearly level, poorly drained soil formed in compact glacial till derived mainly from granite, gneiss and schist. Norwell soils are on upland depressions and drainageways. The taxonomic classification of the Norwell map unit is Sandy, mixed, mesic, Aeric Epiaquents, poorly drained soils of parent material that is dense till.

The permeability is moderately rapid to rapid in the solum and slow in the substratum, with a low available water-holding capacity. The depth to bedrock is greater than 65 inches, with a perched seasonal water table, 0.0 to 1.5 feet below the surface from November to May. The soil is in Hydrologic Group C, and is a hydric soil. The soil is commonly ponded from December to March, for brief to long periods.

Potential inclusions are Ridgebury and Mattapoisett soils. Very poorly drained Whitman and Brockton soils are on lower elevations. Moderately well drained Scituate and Birchwood soils are on higher elevations.

The soil is poorly suited for most agricultural and woodland uses mainly due to wetness. It is also poorly suited for development due to seasonal high watertables at or near the surface for prolonged periods of time.

7.3 311A Woodbridge fine sandy loam, very stony, 0 to 3 percent slopes

Woodbridge soils are defined as coarse-loamy mixed mesic, Aquic Dystrochrepts. They are moderately well-drained, and formed in dense glacial till. The permeability of this soil is moderate in the solum, or in the A and B horizons, where the living roots and other plant and animal life are extant. The permeability is slow or very slow in the dense substratum, below the A and B horizons. The available water-holding capacity is described as moderate and the depth to bedrock is greater than 65 inches. The seasonal water table is 1.5 to 3 feet below the surface, perched, November to May. The soil is in Hydrologic Group C, and is not a hydric soil but may have hydric inclusions. Its flooding and ponding potential is described as none.

Potential inclusions are Scituate, Birchwood and Newfields. Poorly drained Norwell, Sippican, and Ridgebury are along drainageways. Well-drained Paxton, Poquonock, and Montaulk soils are on convex slopes.

This is an important farmland soil, and is also well-suited for woodlands. Limitations for development are associated with the slow permeability in the substratum and seasonal high water tables. Large surface and subsurface stones and boulders may interfere with excavation.

7.4 316A Scituate fine sandy loam, 0 to 3 percent slopes, very stony

Scituate soils are defined as very deep, moderately well drained soil formed in glacial till. Scituate soils are on summits, topslopes and depressions of drumlins and ground moraines. The taxonomic classification is coarse-loamy, mixed, mesic, Oxyaquic Dystrochrepts, in the moderately well-drained drainage class of parent material of dense glacial till. The permeability of Scituate soils is moderate in the solum, slow in the dense substratum, with a moderate available water holding capacity.

The depth to bedrock in Scituate soils is greater than 65 inches, with a seasonal high watertable depth of 1.5 to 3 feet, perched, November to May. The soil is hydrologic group C, and is not a hydric soil, while it may have hydric inclusions. The Scituate soil has no flooding/ponding potential.

Potential inclusions are the similar Woodbridge, Birchwood, and Newfields soils. Poorly drained Norwell, Ridgebury, and Mattapoisett soils are along drainageways. Well drained Paxton, Poquonock and Montauk soils are on higher elevations.

Map units 316A is an important farmland soil, which is also well-suited for woodland. Other map units 315A and 315B are prime farmland soils. Map units 315C, 316C and 316B are important farmland soils in the same soil series.

Major limitations related to slow permeability in the dense till substratum and seasonal high watertables. Large surface and subsurface stones and boulders may interfere with excavation. Erosion hazards are likely during development, measures should be taken to prevent erosion.

8. MassGIS Ortho-photo (Fig. 2) Description

Fig. 2 uses the MassGIS 2001 0.5-meter Color Orthophoto (ne5.sid) as a base, and adds data layers. The MassGIS wetlands data layer (w2603.exe) is shown in light green, the MassGIS Streams (s2603.exe) in light blue, and the MassGIS elevations (hp2603.exe) in light brown, with elevations in feet in yellow. NHESP Certified (cvp03.exe, in red) Vernal Pools is on the data layer, but is not shown due to scale, while Potential Vernal Pools (pvpx1.exe, a yellow dot) is shown. The FEMA Flood Zones are shown as AE and X at the southwesterly and easterly portion of the figure.

The 2006 NHESP Estimated Habitat of Rare Species (whab_poly.shp) and the 2006 NHESP Priority Habitats of Rare Species (phab_poly.shp) are also provided, and are just offsite due to scale. The site locus is shown at the bottom center of the figure at the top of the plateau with elevations falling off to the northerly, westerly, and easterly. The approximate wetlands delineation is shown as a magenta line.

9. Summary

The site appears to be a drumlin above a Bordering Vegetated Wetland, a Deciduous Forested Swamp that has red maple as its dominant overstory, with a northern spicebush and sweet or coast pepperbush shrub story, typical of freshwater BVWs in the area. The large BVW is the headwaters of Granny's Brook, an Intermittent Stream that becomes tidal before it flows into Scituate Harbor.

10. Wetlands and Uplands Conclusions and Recommendations

10.1 There is a freshwater BVW, a deciduous forested red maple swamp, adjacent to an Intermittent Stream on site.

10.2 The entire site is in the X Flood Zone, outside the 100- (AE, Elevation 11) and 500-year flood zones.

10.3 Granny's Brook appears to be an Intermittent Stream resource.

10.4 There are no Certified Vernal Pools on or near the subject locus. There is a potential Vernal Pool at the far northwesterly portion of the subject site, over 300 meters from any upland on the site.

10.5 There are neither Estimated Habitats nor Priority Habitats of Rare Species on or adjacent to the subject ste.

10.6 No direct or indirect impacts to any wetland resource or any rare species is anticipated from any proposed project on this site that uses using typical erosion controls.

10.7 The request is made that the Town of Scituate Conservation Commission review this report and attached figure, the Notice of Intent filing package, the wetlands line on site, and issue an Order of Conditions for the project.

If you have any questions regarding the above or attached information, please contact me. Thank you kindly for your attention to this report.

Sincerely,

Steve Ivas, Principal

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Encl. Figure 1- Site Locus, 33 Tichnor Place, Scituate - 14 Jul 07
Figure 2 - MassGIS Orthophoto and Data Layers - 33 Tichnor Place, Scituate - 14 Jul 07
Figure 3 - Draft 2003 Plymouth Co. Soils Map - 14 Jul 07
Figure 4 - Site Locus - 1940 USGS Topo Quad -14 Jul 07

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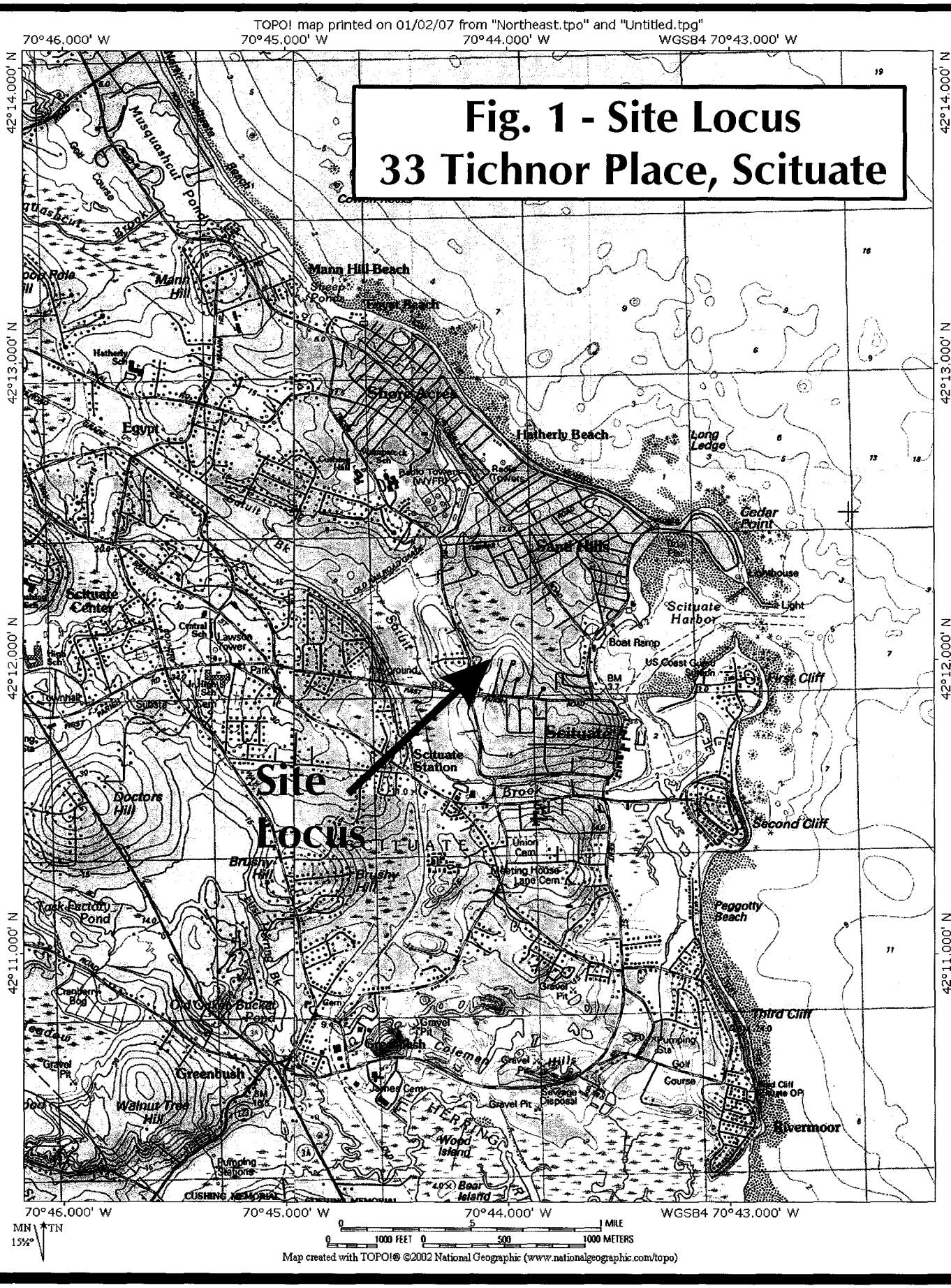

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Sources: 1984 Scituate and Weymouth 7.5 x 15-Minute USGS Topographic Quadrangles

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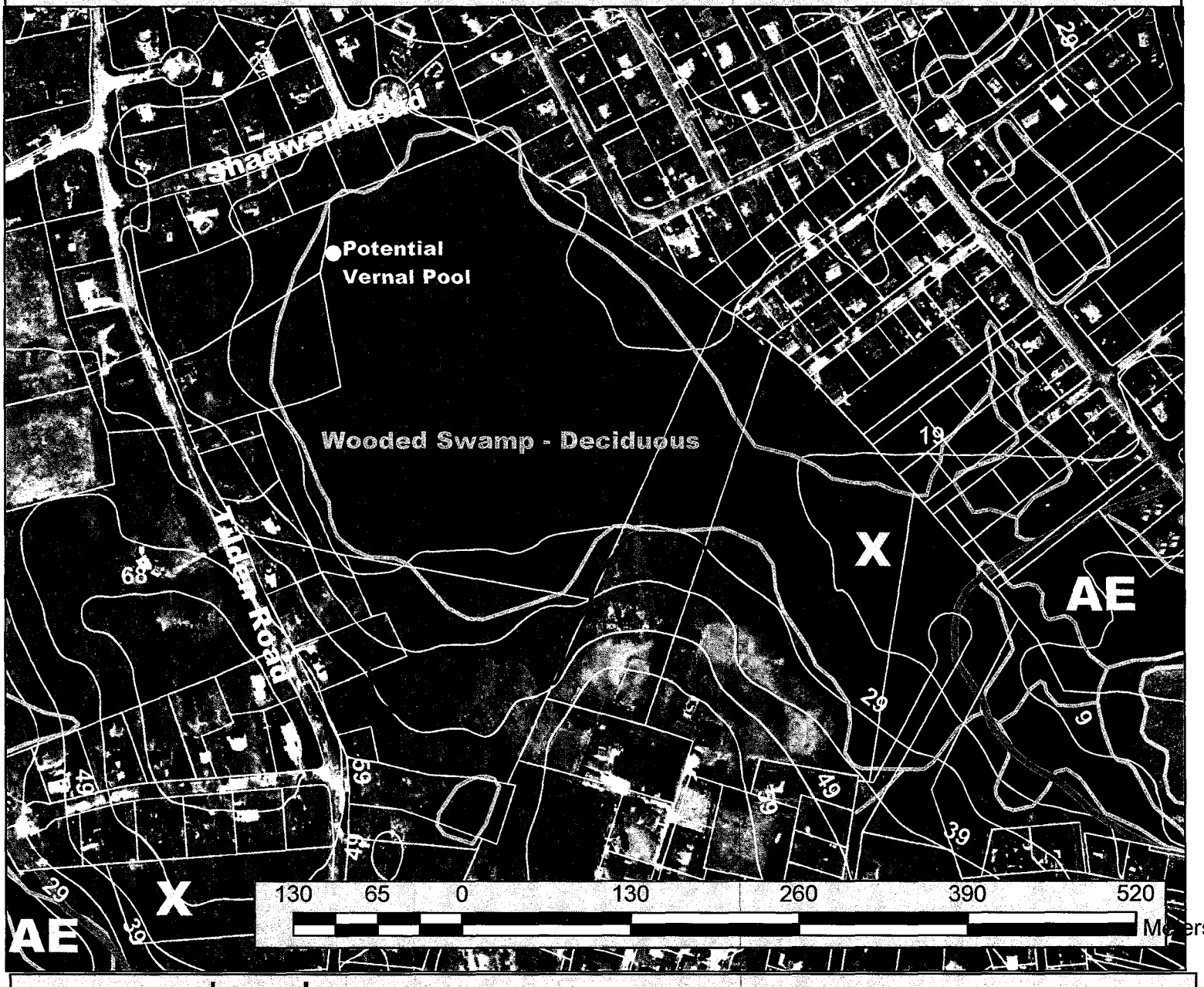
Fig. 2 - MassGIS Orthophoto & Data Layers
Area Around 33 Tichnor Place, Scituate



Legend

- Scituate - PARCELS
- NHESP Certified Vernal Pools
- NHESP Potential Vernal Pools
- FEMA Flood Zones -Q3151 & Q3160
- MassGIS Wetlands - 2603
- MassGIS Elevations - 2603
- NHESP 2006 Estimated Habitats of Rare Species
- NHESP 2006 Priority Habitats of Rare Species
- IE Wetland Delineation (Approx.)

Scale 1:1,4500

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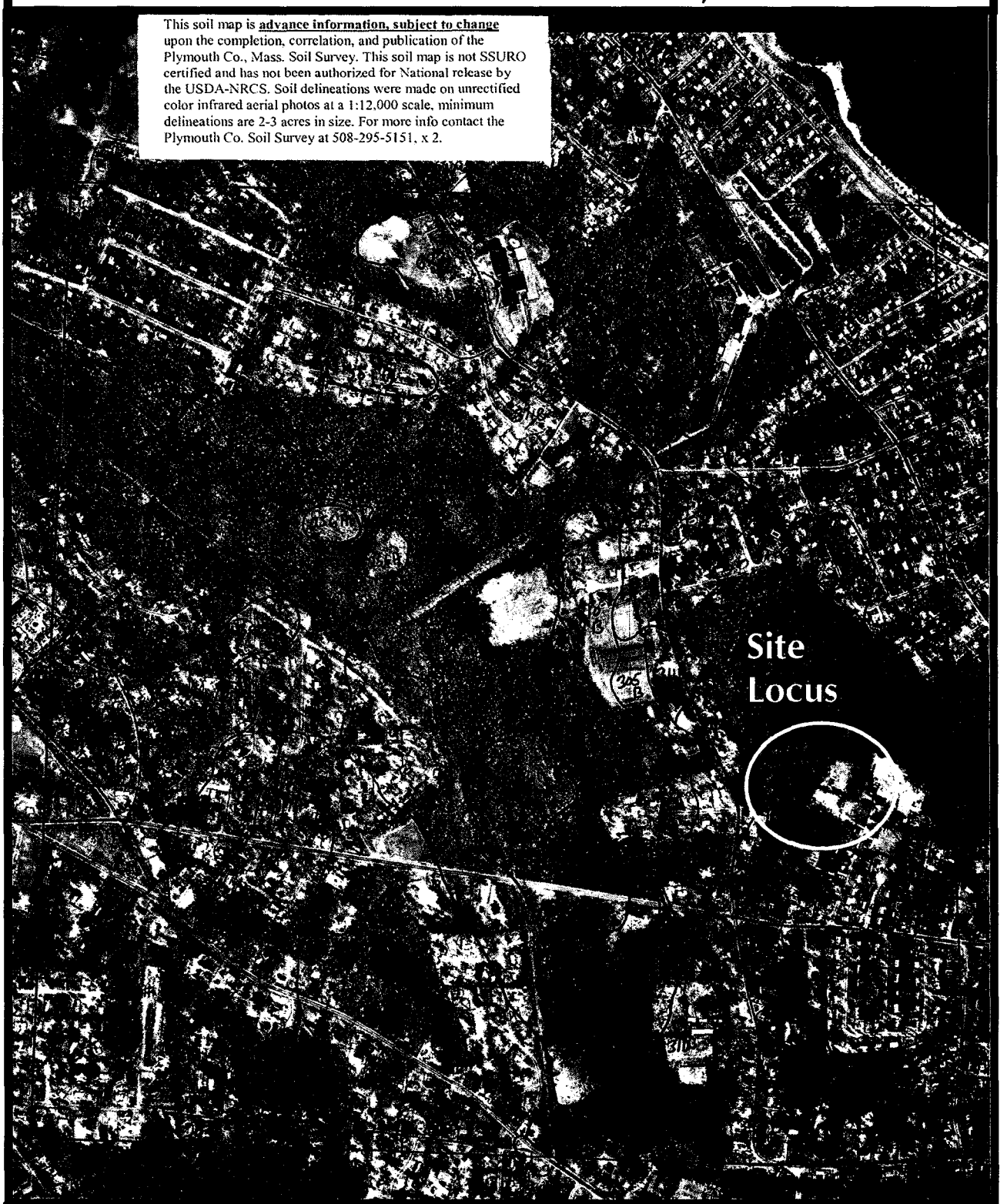
Sources:

- **MassGIS 2001 0.5-m Color Orthophoto (ne5.sid)**
- **NHESP 2003 Certified Vernal Pools (cvp03.exe)**
- **NHESP 2001 Potential Vernal Pools (pvp01.exe)**
- **NHESP 2006 Wetlands Habitats of Rare Species (whab_poly.shp)**
- **NHESP 2006 Priority Habitats of Rare Species (phab_poly.shp)**
- **MassGIS 1995-96 Wetlands (w2603.exe)**
- **MassGIS 1995-96 Elevations (hp2603.exe)**
- **FEMA Flood Zones (q3151.exe, q3160.exe)**
- **Town of Scituate Parcels (Parcels.shp)**

Projection: Massachusetts State Plane NAD83M

Fig. 3 - Draft 2003 Plymouth Co. Soils Map
Area Near 33 Tichnor Place, Scituate



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Source: Tile 70-43.jpg, 2003 Plymouth Co. Draft Soil Maps, provided by NRCS former staff J. Turenne, now Soils Scientist, RI

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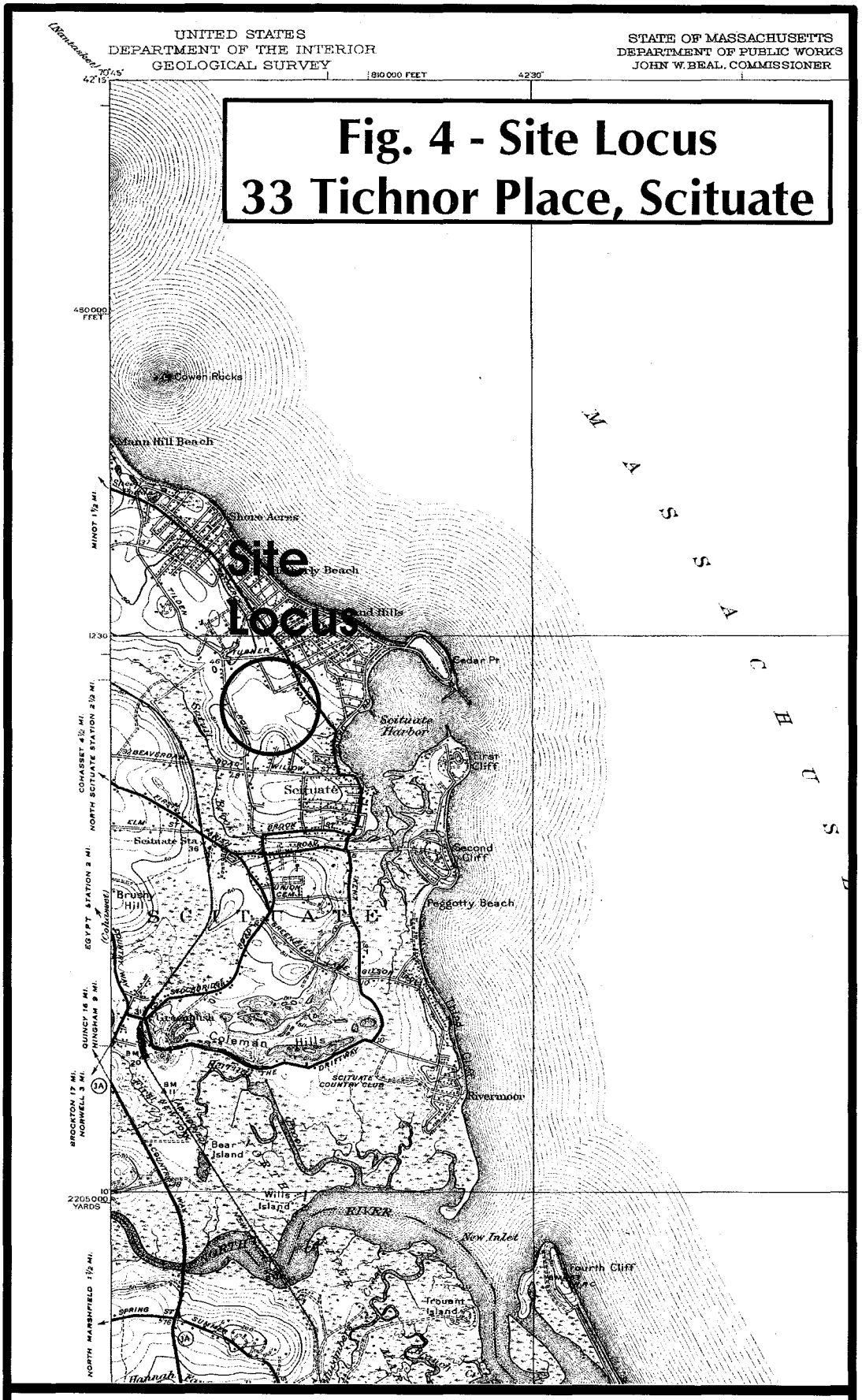

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Source: 1940 USGS Scituate Topographic Quadrangle Northwest Portion

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Exhibit A
Proposed Project Description
33 Tichnor Place, Scituate

The proposed project at 33 Tichnor Place includes two elements: a driveway within the 50-to-100 foot Buffer Zone of a Bordering Vegetated Wetland (BVW) and a resource improvement project directly adjacent to the same BVW.

The driveway is proposed to provide access to another single-family residence on the site. Both the proposed residence and its wastewater disposal system are outside the Conservation Commission's jurisdiction. Please review the attached plan, Kochman Residence, by Coyle and Caron, LLC, dated 03 Jul 07 for the locations of the proposed residence and wastewater disposal system. The driveway is proposed as 12 feet wide, with a crushed stone surface. A total of 1,300 sf of the driveway is proposed within the 100-foot buffer zone to the BVW. The closest portion of the driveway to the BVW is about 75 feet.

The resource improvement project includes the development a 3,050 meadow along the BVW. This area would continue the previous successful meadow creation further to the north. The previous resource improvement work was the subject of another filing in 2002. That filing included the construction of a driveway access from Tilden Road to the existing single-family residence, with the planting of additional wildlife habitat in the form of a number of groupings of native shrubs and buffer zone meadow planting and management.

The resource improvement project would include the planting of 80% New England Wetmix and 20% wildflower mix from New England Wetland Plants, Inc., of Amherst, Massachusetts. It would also include the relocation of 90 feet of stone wall, southerly of wetland delineation flag # IE A30. The stone wall shall be relocated to the boundary between the existing and proposed single-family residences, and is shown on the plan.

The resource improvement project would also include the planting of a dozen red maple trees, including two within the 50-foot Buffer Zone to the BVW, six within the 50-to-100 foot Buffer Zone, and four outside the buffer zone to the BVW, to provide for a wildlife habitat overstory connection to other site trees that are now in an isolated grouping.

The BVW on and adjacent to the site is part of a large complex that is associated with an Intermittent Stream, Granny's Brook, that flows into a tidal estuary at the intersection of Jericho and Hatherly Roads.

No impacts to the BVW are anticipated with the appropriate staging of crushed stone for the proposed driveway. The project is designed to improve wildlife habitat values and functions of cover, food, breeding, and nesting on site.

Alternatives:

The driveway alignment was chosen to conserve two on-site mature trees. Another alignment would result in the cutting of at least one of these mature trees.

Exhibit B

Abutters List

33 Tichnor Place, Scituate

Map, Block & Lot	Address	Mailing Address of Abutter(s)
45 - 7 - 1	Richfield Rd.	Mary T. Martinello 45 Ware Street, Mansfield MA 02048
45 - 7 - 2	Richfield Rd.	Estelle & Richard Passeri 160 Elm St. RFD, Byfield MA 01969
45 - 6 - 9F	2 Richfield Rd.	Kevin R. Shea 2 Richfield Road, Scituate MA 02066
45 - 6 - 7	7 Richfield Rd.	Walter E. & Lori J. McGinley 1 Seamore Road, Scituate MA 02066
45 - 6 - 8	8 Richfield Rd.	Rita W. Blanchard 8 Richfield Road, Scituate MA 02066
45 - 6 - 1A	1 Seamore Rd.	Walter E. & Lori J. McGinley 1 Seamore Road, Scituate MA 02066
45 - 6 - 1	1 Seamore Rd.	Walter E. & Lori J. McGinley 1 Seamore Road, Scituate MA 02066
45 - 2 - 21 45 - 2 - 23 45 - 2 - 36	Tichnor Place	Deborah Pike and Steven W. Emmett 36 Tichnor Place, Scituate MA 02066
45 - 2 - 24	Tichnor Place	Gregg A. Phinney & Alyson J. Hall 29 Tichnor Place, Scituate MA 02061
45 - 2 - 25	26 Tichnor Place	Daniel F. and Pamela Jean Sullivan 26 Tichnor Place, Scituate MA 02066
45 - 2 - 18	21 Tichnor Place	Joseph W. & Diane J. Cirillo 21 Tichnor Place, Scituate MA 02066
45 - 2 - 17	17 Tichnor Place	Samuel A. II and Roberta Villani C/o 1st American Tax Service 8435 Stemons Freeway, Dallas TX 75847
45 - 2 - 16	15 Tichnor Place	Richard C. Clay 15 Tichnor Place, Scituate MA 02066
45 - 2 - 17R	Tichnor Place	Gary Culkins & Hillary Williams 96 Beaver Dam Road, Scituate MA 02066

45 - 2 - 5A	94 Tilden Road	Kimberly A. Carvelli-Marcia 1517 West Ave, Richmond, VA 23220
45 - 2 - 4	100 Tilden Road	Thomas J. Flaherty 100 Tilden Road, Scituate MA 02066
45 - 2 - 2	104 Tilden Road	Thomas M. & Deborah A. Kilduff 108 Tilden Road, Scituate MA 02066
45 - 1- 4B	111 Tilden Road	George N. & Marie Trafton 111 Tilden Road, Scituate MA 02066
45 - 1 - 4A	117 Tilden Road	Kathryn Ann Coscia, Trs. 117 Tilden Road, Scituate MA 02066
45 - 2 - 1B	118 Tilden Road	Mary A. Whitcomb 118 Tilden Road, Scituate MA 02066
45 - 2 - 1	122 Tilden Road	Matthew & Rosemary Brown 122 Tilden Road, Scituate MA 02066
45 - 2 - 1A	126 Tilden Road	Mary E. Graham 126 Tilden Road, Scituate MA 02066
39 - 26 - 33G	132 Tilden Road	Sean & Tamara O'Connor 132 Tilden Road, Scituate MA 02066
45 - 2 - 1R	Tilden Road	**Wm. & James Kochman, Trs.** **33 Tichnor Place, Scituate MA [APPLICANT]**
39 - 26 - 32R 45 - 1 - 8F 39 - 27 - 6	8 Ava's Lane	Sam Tilden Farm LLC 189 Front Street, Scituate MA 02066

Exhibit C
Performance Standards Discussion
33 Tichnor Place, Scituate

1. **Public Water Supply**. There are not Public Water Supply wells down-gradient of the subject site: instead, the site drains to the Intermittent Stream, Granny's Brook, which flows into a tidal estuary at the corner of Jericho and Hatherly Roads.

2. **Private Water Supply.** There are no private drinking water supply wells known in the vicinity of the subject lot. There may be lawn irrigation well(s) in the surrounding area.

3. **Groundwater.** The two elements of the proposed project are a resource improvement and a driveway construction, neither of which has the capacity to affect the groundwater.

4. **Groundwater Quality.** *Ibid.*

5. **Flood Control.** No impacts to flood control are anticipated due to the transmissivity of the soils in the area. The resource improvement and driveway shall both continue to allow infiltration into the ground, and not affect the interest of flood control.

6. **Storm Damage Prevention.** *Ibid.*

7. **Water Pollution Prevention.** No impacts to the Intermittent Stream (Granny's Brook) that is well within the the Bordering Vegetated Wetland are anticipated from the construction of the single-family residence addition.

6. **Sedimentation and Erosion Control.** The proposed silt fence (only) at the edge of the resource improvement area, and proper staging of soils for the construction of the driveway within the Bordering Vegetated Wetland Buffer Zone should obviate any impacts on sedimentation and erosion control.

7. **Fisheries.** There are no known fisheries known on or adjacent to the site. The stream, Granny's Brook) within the BVW to the northwest of the site is an Intermittent Stream. Furthermore, the proposed project shall have no impact to the Intermittent Stream, so that when it joins the tidal estuary, down-gradient, in which there are fish, there shall be no impacts. Granny's Brook appears to be tidal, as it flows through a pipe under the now or former Pier 44 Parking Lot from an area near the southwest corner of the now or former Satuit Tavern.

8. **Shellfish.** There are no known shellfish on or adjacent to the subject site: the nearest are downstream, associated with the tidal estuary portion of Granny's Brook, as above. The proposed project shall have no impact on the shellfish in the tidal estuary.

9. **Wildlife and Wildlife Habitats.** The proposed project is planned to improve wildlife habitat by two methods. First, the development of an increased area of meadow, and second, by an increased overstory that connects the isolated overstory on site to the southwesterly to the Bordering Vegetated Wetland.

Other Interests that are brought up by the Commission include the following:

10. **Recreation.** The parcel is under private ownership, therefore there are no public recreational interests involved in the proposed project.