

RECEIVED  
JAN 28 2020  
TIME \_\_\_\_\_

**Wetlands / Watercourse Assessment  
Proposed and Alternate Driveway Access Crossings  
11 Cone Road  
East Hampton, Connecticut**

**January 28, 2020**

**Project No. JE 19-16**

Prepared for:

Mr. Stanislaw J. Oleksenko  
84 Churchill Drive  
Newington, CT 06111

Prepared By:



---

William A. Jackson, R.S., L.E.P.

**JACKSON ENVIRONMENTAL, LLC**  
289 High Road  
Kensington, Connecticut 06037  
Telephone: (860) 213-3152

# TABLE OF CONTENTS

- I. Introduction ..... 1**
  - A. Existing Conditions ..... 1**
    - 1. Description of Landform & Topography ..... 1
    - 2. Description of Vegetation ..... 1
    - 3. Habitat ..... 2
    - 4. Published Soil Mapping Units ..... 2
  - B. Wetland / Watercourse Delineation ..... 2**
    - 1. Wetland / Watercourse Delineation, August 2018 ..... 2
    - 2. Additional Watercourse Delineation, September Description of Landform & Topography ..... 3
  - C. Wetland / Watercourse Function and Value ..... 3**
- II. Overview of Proposed Driveway Access Crossings and Regulated Area Impacts..... 4**
  - A. Direct Wetland / Watercourse Impacts ..... 4**
  - B. Indirect Wetland / Watercourse Impacts ..... 5**
    - 1. Erosion and Sedimentation ..... 5
    - 2. Removal of Native Vegetation and Habitat Loss ..... 5
    - 3. Potential Water Quality Impacts ..... 5
- III. Mitigation ..... 6**
- IV. Conclusions ..... 6**
- V. Published References..... 7**

## Figure

Figure 1: Site Location Map

## Attachment

- 1. Photographs

### 3. Habitat

The predominate land uses surrounding the subject property are existing single-family residences located on individual parcels. The subject property is within the southern extent of large shaded area shown on the Connecticut Department of Energy and Environmental Protection (CT DEEP) Natural Diversity Data Base (NDDDB) map. The shaded areas on the NDDDB maps depict potential locations for specific State and/or Federal listed species and significant natural communities. This particular shaded area extends into sections of Portland, Glastonbury and Marlborough and shows a corridor to the Connecticut River along the boundary-line between the towns of East Hampton and Portland.

### 4. Published Soil Mapping Units

The Web Soil Survey identifies the following map unit on the subject parcel:

- Charlton-Chatfield Complex, 0 to 15 percent slopes, very rocky (73C)
- Paxton and Montauk fine sandy loams, 3 to 8 percent slopes (84B)
- Ridgebury, Leicester and Whitman soils, 0 to 8 percent slopes, extremely stony (3)

The above soil series are described as well-drained to very-poorly-drained loamy soils formed within glacial-till parent materials. The Paxton, Montauk, Ridgebury and Whitman soil profiles commonly exhibit a dense C-horizon within 30-inches of surface grade. These soil series are nearly level to very steep soils on bedrock-controlled ridges and hills.

## B. Wetland / Watercourse Delineation

### 1. Wetland / Watercourse Delineation, August 2018

Jackson Environmental visited the subject property during the first week in August 2018 to delineate the following wetland/watercourse boundaries. The wetland flag series are shown on the Site Layout Plan:

#### a) *Wetland/Watercourse Flag Series WL-A-1 through WL-A-13*

This series delineated a red maple-spicebush deciduous forested wetland (seasonally flooded) located in the southeastern section of the property. The forested wetland exhibited poorly-drained soils and a southerly flowing intermittent watercourse. Dominant native herbaceous vegetation observed included jack-in-pulpit, smartweed and skunk cabbage. Dominant invasive species observed included Japanese barberry and multiflora rose. The wetland and watercourse extended beyond the southern property boundary.

#### b) *Wetland Flag Series WL B-1 through WL B-50*

This series delineated and a section of an un-named perennial watercourse, and associated alluvial and poorly-drained soils, located within a forested area of the subject property south of 15 Cone Road. The un-named watercourse is a tributary to Pine Brook. There were stone walls bordering and intersecting the watercourse. The watercourse channel was incised and there was evidence of historical filling and reinforcement of the stream banks with boulders. Sections of a former un-paved north-south orientated were observed along a terrace bordering the western side of the watercourse.

c) *Wetland Flag Series WL 1B-1 through WL 1B-17*

Wetland/watercourse flags 1B-1 through 1B-15 were placed along the eastern side of a southerly flowing watercourse located in the north-central portion of the subject property near the property boundary with 15 Cone Road. This section of the watercourse borders an approximately 2.5-acre cleared area and was apparently re-aligned. Flags 1B-15 through 1B-17 were placed along a forested wetland boundary at the northern property boundary.

d) *Wetland Flag Series WL 2B-1 through WL 2B-31*

The northern section of the parcel contained an open area, approximately 2.5-acres in area that was previously cleared. A rectangular wet meadow, approximately 1,600 square feet in area, exhibited poorly-drained and very-poorly-drained soil conditions. Dominant herbaceous vegetation observed within the wet meadow included: golden rod, sedge, soft rush, cardinal flower and skunk cabbage. Red maple shrubs were also noted. Wetland flags 2B-4 through 2B-22 delineated the rectangular emergent wet meadow. Flags 2B-22 through 2B-31 delineated the western side of the previously re-aligned southerly flowing watercourse in the northeastern and eastern section of approximately 2.5-acre cleared area.

## **2. Additional Watercourse Delineation, September Description of Landform & Topography**

Jackson Environmental returned to the subject property in October 2019 to flag watercourse channel limits in the vicinity of the two proposed driveway access crossings identified by Frank C. Magnotta, P.E. and to record dominant vegetation. Jackson Environmental also delineated an intermittent watercourse located adjacent to Cone Road in the southeastern section of the parcel. The source for the intermittent watercourse was a stormwater drainage system outfall located within Cone Road. Flags IWC-1 through IWC-8 were placed along the primary watercourse channel. Flags IWC-S-1 through IWC-S-4 were placed to delineate a secondary channel.

## **C. Wetland / Watercourse Function and Value**

The intermittent and perennial watercourses within the subject property exhibit steep gradients; a primary function of these watercourses is the conveyance of surface water down-slope. The perennial watercourse had narrow bands of poorly-drained or alluvial soils adjacent to the channel.

The seasonally-flooded, deciduous-forested, wetland retains surface-water and ground-water within poorly-drained and very-poorly-drained soils. The wetland is valuable as habitat for wildlife. As noted

above, CT DEEP's Natural Diversity Data Base Map indicated a potential for State and Federal Listed Species or Significant Natural Communities within the project area.

## **II. Overview of Proposed Driveway Access Crossings and Regulated Area Impacts**

Two proposed driveway access roads are shown on the Site Development & Erosion Control Plan prepared by Frank C. Magnotta, P.E. PC.

The Proposed Driveway Access would be located within a forested area located south of the existing residence on Lot #6-2; this forested area extends further south beyond the property line. The Proposed Driveway Access is approx. 425 feet in length from Cone Road to the center of the proposed circular turn-around, and would cross the watercourse within a forested section of the property.

The Proposed Driveway Access would cross the perennial watercourse in the vicinity of wetland / watercourse delineation flags B-5, B-6 and B-7. A photograph of area of Proposed Driveway Access crossing (Photograph #1) is attached. Dominant native forest vegetation observed included: sugar maple trees and saplings, shagbark hickory trees and saplings, American beech saplings, spice-bush shrubs, sassafras shrubs, spinulose wood fern, cinnamon fern, Christmas fern, Massachusetts fern, sensitive fern, smartweed and aster. The following invasive shrub species were dominant: Japanese barberry, multi-flora rose and burning bush.

The Alternate Driveway Access would be located within a forested strip of land located between 15 and 17 Cone Road parcels and would extend within area of the property that was apparently disturbed by clear cutting and re-grading. The Alternate Driveway Access is approx. 755 feet in length from Cone Road to the center of the proposed circular turn-around, The Alternate Driveway Access would cross the watercourse within a recently disturbed area near the property boundary with 15 Cone Road.

The Alternate Driveway Access would cross the watercourse in the vicinity of wetland / watercourse delineation flags 1B-8, 1B-9 and 1B-10. A photograph of area of Alternate Driveway Access crossing (Photograph #2) is attached. Dominant native vegetation observed included: shagbark hickory, red-maple saplings and goldenrod. The following invasive shrub species were noted: multi-flora rose and burning bush.

### **A. Direct Wetland / Watercourse Impacts**

According to the submitted specifications, the proposed watercourse crossing structure for both the Proposed and Alternate Driveway Access alignments would be a 13-foot wide by 3-foot high "Aluminum Box Culvert, Structure #21" manufactured by Contech Construction Products, Inc. According to Mr. Magnotta, this is a "bottomless arch culvert" design and will not directly impact the existing stream-bed within the watercourse channel at the proposed crossing. This is one of the preferred crossing structures identified in CT DEEP's Stream Crossing Guidelines.

The alignment for the Proposed Access Driveway would require two areas of fill:

- an approx. 400 square foot area of wetland located between the watercourse channel and wetland delineation flag B-6; and,
- an approx. 180 square foot area within the intermittent watercourse, adjacent to Cone Road, in order to construct a stilling basin south of a proposed culvert beneath the access driveway.

## **B. Indirect Wetland / Watercourse Impacts**

Indirect impacts to a wetland or watercourse may occur due to site activities within the uplands. Such impacts may include erosion and sedimentation, particularly during a construction period, and removal or disturbance to vegetation adjacent to wetlands or watercourses.

### **1. Erosion and Sedimentation**

The potential for soil erosion, transportation and deposition within wetland or watercourses exists during any construction involving excavation and/or regrading. The Proposed Driveway Access is significantly shorter than the Alternate Driveway Access and, therefore, the Proposed Access will result in less soil disturbance. The risk for potential adverse impacts to wetlands or watercourses is considered to be minimal if an erosion and sedimentation control plan is prepared in conformance with 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (DEP Bulletin 34).

The Site Development & Erosion Control Plan shows multiple locations for sediment detention basins that serve as erosion and sedimentation control measures. Mr. Magnotta has indicated that sediment detention basins #2, #3, #4, #5, #6 will function as sediment traps during to protect wetlands and watercourses during construction.

### **2. Removal of Native Vegetation and Habitat Loss**

The Proposed and Alternate Driveway Access Roads, and the proposed residential subdivision, potentially affect habitat. According to Mr. Magnotta, the area of impervious surface for the proposed access driveway to the end of the turn-around is 0.376 acres (16,375 SF) and the area of impervious surface for the alternate access driveway to the end of the turn-around is 0.550 acres (23,966 SF). Jackson Environmental understands that the applicant will consult with Connecticut's NDDDB as part of the permit process.

### **3. Potential Water Quality Impacts**

Stormwater runoff from impervious surfaces has the potential to degrade water quality with sensitive receptors such as wetlands and watercourses. The Proposed Driveway Access will have a pair of catch basins east of the watercourse at Sta. 1+50. A small stormwater detention basin (sediment detention basin #1) is proposed to be designed and located adjacent to the south side of the driveway access to renovate stormwater runoff

Proposed stormwater quality management of runoff from the Alternate Driveway Access would entail a minimum of two (2) detention basins or infiltration trenches along the alignment. These detention basing would be larger in area than the one proposed within the Propose Driveway Access.

### **III. Mitigation**

Jackson Environmental understands that the property owner has agreed to set aside the approx. 2.5-acre cleared area located adjacent to the northern property boundary and west of 15 Cone Road and to consider a conservation easement to protect the meadow. A formal wetland/watercourse mitigation plan would be prepared for the emergent wet meadow in this area.

### **IV. Conclusions**

It is Jackson Environmental's professional opinion that the proposed driveway access shown on the Site Development & Erosion Control Plan represents a feasible and prudent alternative in regards to indirect, short-term and long-term impacts to wetlands and watercourses for the proposed development.

## V. Published References

Connecticut Department of Energy and Environmental Protection, February 26, 2008. Stream Crossing Guidelines, Inland Fisheries Division, Habitat Conservation and Enhancement Program.

Connecticut Department of Energy and Environmental Protection, May 2011. Natural Drainage Basins Map for East Hampton, Connecticut.

Connecticut Department of Energy and Environmental Protection, December 2019. Natural Diversity Database (NDDDB) Digital Data Map – East Hampton. State and Federal Listed Species and Significant Natural Communities.

Nosal, Tomas. 1997. GAZETTEER of Drainage Areas of Connecticut, Water Resources Bulletin No. 45. Published by the DEP Technical Publication Program 79 Elm Street, Hartford, Connecticut 06106-5127

Rogers, J. 1985. Bedrock Geological Map of Connecticut, Connecticut Geological and Natural History Survey, Natural Resources Center, CT DEP, in cooperation with U.S. Geological Survey, Department of the Interior, Scale 1:125,000

U.S. Geological Survey's 7.5 Minute Series Topographic Maps. Photorevised 1984.

### Internet On-Line Resources:

CT ECO 2019. Connecticut Environmental Conditions Online. Connecticut Department of Environmental Protection and the University of Connecticut. [cteco@uconn.com](mailto:cteco@uconn.com)

The Web Soil Survey, USDA, Natural Resources Conservation Service.  
<http://websoilsurvey.nrcs.usda.gov>



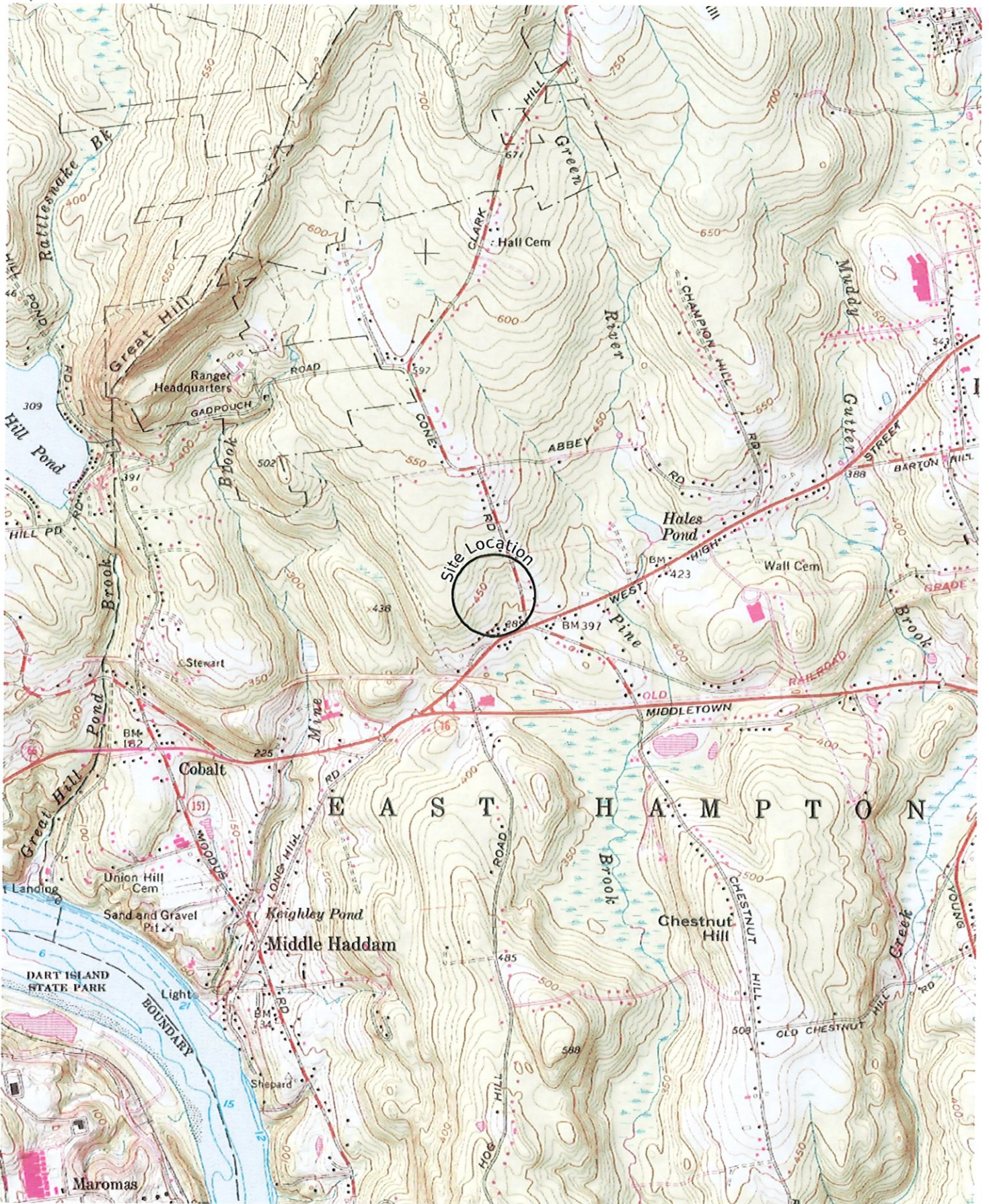
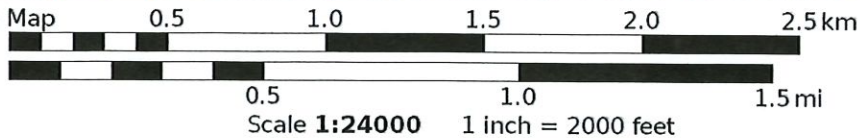


Figure 1: Site Location Map  
 WGS84  
 USNG Zone 18TYM  
 CalTopo





**Photo 1:** Watercourse in area of Crossing, Proposed Driveway Access



**Photo 2:** Watercourse in area of Crossing, Alternate Driveway Access