

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

**Revised Report**


**February 24, 2020**

**Project No. JE 19-16**

Prepared for:

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**Attachment No. 1 - Recommended Strategies for Turtles, CT DEEP**

## 1. Introduction

The applicant is proposing to construct a single driveway access leading to a proposed three-home residential development, on a 14.77-acre parcel known as #11 Cone Road, East Hampton, CT (Parcel ID: 06-37-6A). The proposed residential development is shown on the Site Development & Erosion Control Plan, 11 Cone Road, East Hampton CT, prepared by Frank C. Magnotta, P.E. PC, February 24, 2020 (Scale: 1" = 40'). The subject parcel has an R-2 zoning designation.

Jackson Environmental, LLC has assessed two proposed watercourse crossings to support the location of a driveway access to the proposed residences. Per Section 7 – Application Requirements, Town of East Hampton, Inland Wetlands & Watercourses Regulations, this report provides information regarding:

- a “description of the ecological communities and function of the wetlands or watercourses involved with the application and the effects of the proposed activity on the communities and wetland functions”;
- a description of how the applicant will change, diminish, or enhance the ecological communities and functions of the wetlands or watercourses involved in the application; and,
- measures which mitigate the impact of the proposed activity.

### 1.1 Existing Conditions

#### 1.1.1 Description of Landform & Topography

The subject property is located on the west side of Cone Road in the Town of East Hampton, CT. Figure 1 is a site location map. The subject property is situated on the eastern side-slope of a drumlin. A drumlin is a north-south orientated hill or ridge composed of compact glacial till sediments. Site topography drains in a southeasterly direction; the Site Development & Erosion Control Plan shows elevation 508-feet at the northwestern property corner and elevation 410-feet at the southeastern property corner.

The subject property is located within the Salmon River regional drainage basin, the Pine Brook (4709) subregional basin, and the Pine Brook above Pocotopaug Creek 4709-04 (4709-00-2-R1) local basin. The R1 designation refers to a headwater reach, the subject property is located immediately east (down-slope) from the north-south divide between the Connecticut Main Stem and the Salmon River Regional Basins. The crest of the drumlin constitutes the drainage divide.

The 1934 aerial photograph for the area shows a historical agricultural land use. The subject property was formerly clear-cut and divided into cultivated plots and pasture lands. Stone walls were apparently constructed at the boundaries between various fields depicted in the aerial photograph.

### 1.1.2 Description of Vegetation

Vegetative cover within the southeastern and western sections of the subject property may be characterized as predominately second-growth northern deciduous hardwood forest. Various species of mature trees noted included: sugar maple, red maple, shagbark hickory, tulip-tree, cherry, ash and yellow-birch. Sadly, the ash trees were standing life-less, due to the infestation by the emerald ash-borer. An approximately two-acre meadow was noted in the north-central section of the subject property, immediately west of the 15 Cone Road parcel. The area was previously clear-cut.

### 1.1.3 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 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. The February 18, 2020 letter from CT DEEP, regarding NDDDB Determination Number: 202001416, identified the eastern box turtle (*Terrapene carolina carolina*) as a species of concern.

### 1.1.4 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.

## 1.2 Wetland / Watercourse Delineation

### 1.2.1 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:

#### *1.2.1.1 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.

#### *1.2.1.2 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. The watercourse exhibits a continual flow that is apparently interrupted in late summer / early autumn. The watercourse was not flowing during the site visit on October 8, 2019. 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 unpaved north-south orientated were observed along a terrace bordering the western side of the watercourse.

#### *1.2.1.3 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 two-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.

#### *1.2.1.4 Wetland Flag Series WL 2B-1 through WL 2B-31*

The northern section of the parcel contained an open area, approximately two-acres in area that was previously cleared. A rectangular wet meadow, approximately 0.5-acres in area, and delineated by Wetland flags 2B-4 through 2B-22, exhibited poorly-drained and very-poorly-drained soil conditions. Dominant herbaceous emergent vegetation observed within the wet meadow included: golden rod, sedge (e.g., sallow sedge), soft rush, cardinal flower and boneset. Red maple shrubs and skunk cabbage were observed in the western section bordering the tree-line at the toe-of-slope. 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 two-acre cleared area.

### **1.3 Additional Watercourse Delineation, October 2019**

Jackson Environmental returned to the subject property on October 8, 2019 to flag watercourse channel limits in the vicinity of the two proposed driveway access crossings identified by the Engineer 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.

## **2. Overview of Regulated Activities and Potential Impacts**

### **2.1 Proposed Driveway Access**

The Proposed Driveway Access is shown on the Site Development & Erosion Control Plan prepared by Frank C. Magnotta, P.E. PC (the Engineer). The Proposed Driveway Access is shown 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. Table 1 presents a Summary of Access Driveway Areas prepared by the Engineer. The Proposed Driveway Access would entail: 16,864 square feet (s.f.) of permanent disturbance within upland review areas (URA); 893 s.f. of direct impact to an area of forested wetlands, by the placement of fill to support construction of a culvert to span the continuous-flow watercourse; and, 780 s.f. of fill along the intermittent watercourse located adjacent to Cone Road. The Engineer has minimized the area of permanent disturbance by the Proposed Driveway Access by specifying 1:1 riprap-reinforced side slopes between Cone Road and the proposed watercourse crossing.

#### **2.1.1 Proposed Watercourse Crossing**

The Proposed Driveway Access would cross the continuous flowing watercourse in the southern section of the property, in the vicinity of wetland / watercourse delineation flags B-5, B-6 and B-7, as shown on the Site Development and Erosion Control Plan.

##### *2.1.1.1 Wetland / Watercourse Function, Ecological Community*

The watercourse is incised within a narrow channel; the channel gradient is at the proposed crossing is approximately 9-percent. The banks are composed of coarse sandy soils, cobbles and boulders. The primary functions of the watercourses are: groundwater recharge/discharge, the conveyance of surface water down-slope, and wildlife habitat. The watercourse was not flowing during the site visit on October 8, 2019. The watercourse has a narrow band (approximately 20-foot wide) of poorly-drained and/or alluvial soils immediately east of the channel. Dominant native forest vegetation observed in the vicinity of the proposed crossing 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 also dominant: Japanese barberry, multi-flora rose and burning bush. Dense thickets of Japanese barberry were noted adjacent to the watercourse. The wetland soils bordering the watercourse likely serve to slow surface water runoff and provide habitat and a corridor for wildlife.

### 2.1.1.2 *Potential Impacts and Mitigation Measures*

The proposed watercourse crossing structure for the Proposed 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 the Engineer, 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 Site Development & Erosion Control Plan shows multiple locations for sediment detention basins that serve as erosion and sedimentation control measures located up-slope to the west of the watercourse. The Engineer has indicated that stormwater detention basins #2, #3, #4, #5, #6 will function as sediment traps to protect wetlands and watercourses. during construction. The detention basins are designed to retain the stormwater runoff volume generated by the increase in development for the 100-year storm.

As noted above, the alignment for the Proposed Access Driveway would require the filling of an approx. 893 s.f. of forested wetland area located adjacent to the watercourse channel.

Short-term Impacts – Potential short-term impacts to the watercourse during construction include: disturbance of wildlife habitat; disturbance of soils and channel bank during construction of wingwalls resulting in possible sedimentation; and, possible erosion and runoff of fill material prior to stabilization.

Long-term Impact – Potential long-term impacts include a permanent access driveway across a potential wildlife corridor adjacent to a watercourse within a forested environment.

Mitigation Measures – Attachment No. 1 contains CT DEEP Recommended Protection Strategies for Turtles; these strategies may be implemented to protect wildlife during construction. The wingwalls for the proposed box culvert will be constructed in late summer / early autumn, during the low-flow period, and prior to September 30<sup>th</sup>. The Site Development & Erosion Control Plan shows silt fencing bordering the limits of construction and staked haybales down-stream from the proposed crossing.

### 2.1.2 **Proposed Detention Basin #1, Stations 1+00/2+00**

Stormwater runoff from impervious surfaces has the potential to degrade water quality with sensitive receptors such as wetlands and watercourses. Stormwater run-off from the 21,299 s.f. impervious area within the Proposed Access Driveway, and an additional 4,320 s.f. of stormwater run-off from a 240 linear-foot (l.f.) section of shared, paved, driveway to the west of the circular turnaround, would flow to two proposed catch basins located at Station 1+40 and ultimately to a detention basin (Detention Basin #1) designed by the Engineer. This detention basin is shown adjacent to the south side of the Proposed Access Driveway. The detention basin was designed to reduce the peak runoff rate from the proposed driveway to a flow rate less than that generated by the 100-year storm event from the undeveloped watershed.

### *2.1.2.1 Wetland / Watercourse Function, Ecological Community*

The proposed detention basin is located up-slope from seasonally-flooded, deciduous-forested, wetlands. The primary functions of the wetlands are: groundwater recharge/discharge, the conveyance of surface water down-slope, and wildlife habitat.

### *2.1.2.2 Potential Impacts and Mitigation Measures*

Short-term Impacts – Potential short-term impacts to the watercourse during construction include: disturbance of wildlife habitat; disturbance of soils during construction resulting in possible sedimentation; and, possible erosion and run-off of fill materials prior to stabilization.

Long-term Impact – Potential long-term impacts include a permanent detention basin location adjacent to a forested wetland.

Mitigation Measures – The Engineer has minimized the area of permanent disturbance by the detention basin by specifying 1:1 riprap-reinforced side slopes for the berms. As noted in Attachment No. 1, strategies may be implemented to protect wildlife during construction. The Site Development & Erosion Control Plan shows a double-row of silt fencing bordering the limits of construction.

## **2.1.3 Intermittent Watercourse Crossing Adjacent to Cone Road**

The intermittent watercourse emanates from a stormwater drainage system outfall within Cone Road. An existing riprap-lined basin was constructed by the Town on 11 Cone Road immediately down-stream from the outfall. The alignment for the Proposed Access Driveway would require an approx. 780 square foot area of disturbance along 60 l.f. of the intermittent watercourse, adjacent to Cone Road, in order to construct the Proposed Access Driveway, associated drainage culvert, and a stilling basin south of a Access Driveway. A stilling basin is necessary to retain sediment-laden stormwater discharge from the stormwater drainage outfall in Cone Road. The existing riprap lined basin constructed immediately down-stream of the outfall has not been effective in preventing sedimentation within the intermittent watercourse located on the 11 Cone Road property.

### *2.1.3.1 Wetland / Watercourse Function, Ecological Community*

The proposed stilling basin is located up-slope from seasonally-flooded, deciduous-forested, wetlands. The primary functions of the wetlands are: groundwater recharge/discharge, the conveyance of surface water down-slope, and wildlife habitat.

### *2.1.3.2 Potential Impacts and Mitigation Measures*

Short-term Impacts – Potential short-term impacts to the intermittent watercourse during construction include: disturbance of soils and possible sedimentation.



Long-term Impact – Potential long-term impacts include a driveway crossing, an associated culvert, and the location of a permanent stilling basin.

Mitigation Measures – The proposed settling basin has been specified by the Engineer to retain sediment within stormwater the Cone Road drainage outfall. The Site Development & Erosion Control Plan shows a permanent scour-control structure and staked haybales downstream of the stilling basin location and a double-row of silt fencing bordering the limits of construction. The proposed stilling basin would enhance the intermittent watercourse by providing sediment retention and decreases in stormwater flow velocities down-stream.

## **2.2 Alternate Driveway Access**

An Alternate Driveway Access is shown in the northern section of the property on the February 24, 2020 Access Driveway Alternatives Plan (1" =40') prepared by the Engineer. The Alternate Driveway Access would be located within a forested strip of land located between the 15 and 17 Cone Road parcels and would extend within an area of the property that was previously disturbed by clear cutting and grading.

The Alternate Driveway Access is approx. 755 feet in length from Cone Road to the center of a circular turn-around. Table 1 presents a Summary of Access Driveway Areas prepared by the Engineer. The Alternate Driveway Access would entail: 20,038 square feet (s.f.) of permanent disturbance within the URA and 300 s.f. of direct impact to wetlands by placement of fill to support construction of a culvert. The Alternate Driveway Access would cross the continuously flowing watercourse within a previously disturbed area near the property boundary with 15 Cone Road. The 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.

According to the Engineer, the Alternate Driveway Access would extend within a south-southeasterly sloping sub-watershed with an approx. 8-acre area of contribution up-slope. Three cross-culverts would be necessary to convey surface water runoff beneath the Alternate Driveway Access. The location and design of three detention basins would be required to manage stormwater runoff from areas of impervious surfaces associated with an Alternate Access Driveway.

## **2.3 Existing Watercourse Crossing Located West of #15 Cone Road**

### **2.3.1 Removal of Watercourse Crossing**

And existing watercourse crossing has earthen fill and associated 12-in drainage pipe. The area of the existing crossing shown on the Site Plan is 1,025 s.f. The Town has requested the removal of this crossing and the restoration of the watercourse channel. This section of the watercourse was historically re-aligned and the channel in the area of the existing crossing was previously excavated.

### 2.3.1.1 *Wetland / Watercourse Function, Ecological Community*

The watercourse is incised approx. six vertical feet within a narrow channel. The banks are composed of sandy and loamy disturbed soils with boulder riprap. Vegetation includes red maple trees, yellow birch and staghorn sumac samplings, goldenrod and burning bush. The stream channel bottom contains a dense thicket composed of Japanese barberry and multiflora rose. The primary functions of the watercourses are: groundwater recharge/discharge, the conveyance of surface water down-slope, and wildlife habitat.

### 2.3.1.2 *Potential Impacts and Mitigation Measures*

The Engineer proposes to remove the earthen fill and piping associated with the existing crossing and to stabilize the channel and side slopes with riprap.

Short-term Impacts – Potential short-term impacts to the watercourse during construction include: disturbance of wildlife habitat; disturbance of soils and channel bank during excavation resulting possible sedimentation down-slope; and, possible erosion and run-off prior to stabilization.

Mitigation Measures – Attachment No. 1 contains CT DEEP Recommended Protection Strategies for Turtles; these strategies may be implemented to protect wildlife during construction. The excavation and reinforcement of the channel will be conducted in late summer / early autumn, during the low-flow period, and prior to September 30<sup>th</sup>. The Site Development & Erosion Control Plan shows silt fencing bordering the limits of construction and staked haybales down-stream from the proposed crossing.

## 2.4 **Proposed Driveway to Lot #6-1**

A proposed paved driveway to Lot #6-1 is shown on the on the Site Development & Erosion Control Plan. The proposed driveway extends up-slope from the turnaround for the Proposed Driveway Access to Lot #6-1. The proposed driveway extends within a section of the URA above the emergent wet meadow delineated within a previously cleared area near the northern property boundary. Approximately 320 linear feet of driveway is shown within the URA; the driveway would entail approx. 4,680 square feet (s.f.) of permanent impervious surface are within the URA.

Stormwater run-off from an approximate 3-acre area up-slope from the emergent wet meadow is conveyed to three detention basins (i.e., Detention Basins #4, #5 and #6) shown in the western section of the property on the Site Development & Erosion Control Plan. A grass swale is proposed to be constructed along the existing toe-of-slope adjacent to the emergent wet meadow. The grass swale will extend from Detention Basins #6 to Detention Basin #5. The detention basins are designed to retain the stormwater runoff volume generated by the increase in development for the 100-year storm.

#### 2.4.1.1 *Wetland / Watercourse Function, Ecological Community*

The proposed detention basins and grass swale are located up-slope from an approximately 0.5-acre emergent wet meadow located in a previously cleared area of the property. The primary functions of the wet meadow are: groundwater recharge/discharge and wildlife habitat.

#### 2.4.1.2 *Potential Impacts and Mitigation Measures*

Short-term Impacts – Potential short-term impacts to the wetlands and watercourse during construction include: disturbance of wildlife habitat; disturbance of soils during construction within the URA resulting in possible sedimentation; and, possible erosion and run-off of fill materials prior to stabilization.

Long-term Impact – Potential long-term impacts include loss of forest area up-slope and loss of wildlife habitat. Detention Basins require maintenance to manage long-term stormwater runoff from residential developments in the western section of the property.

Mitigation Measures – The Engineer has specified the location of detention basins and silt fencing up-slope to function as sediment traps to protect wetlands and watercourses during construction and long-term. As noted in Attachment No. 1, strategies may be implemented to protect wildlife during construction.

### **3. Mitigation**

Jackson Environmental understands that the property owner has agreed to set aside an area of land within a previously cleared area located adjacent to the northern property boundary and immediately west of 15 Cone Road. As noted in Table 2, the Proposed Driveway Access would allow approximately two-acres of previously cleared area for conservation and to protect an emergent wet meadow. As noted above in Section 1.2.1.4, the wet meadow contains herbaceous emergent vegetation. There is no direct activity (e.g., excavation or filling) proposed within this wetland area. A formal wetland/watercourse enhance plan that would include provision for inspections and management of invasive plant species (e.g., multiflora rose) and removal of woody debris within a conservation easement.

### **4. Conclusion**

The Proposed Driveway Access is significantly shorter than the Alternate Driveway Access and, therefore, the Proposed Access will result in less soil disturbance. Table 1 contains a summary of Total Impervious Area and Permanent Disturbance for both the Proposed Driveway Access and the Alternate Driveway Access. The Proposed Access Driveway would allow a larger area of land in the northern section of the property to be placed in conservation

It is Jackson Environmental's professional opinion that the Proposed Driveway Access shown on the Site Development & Erosion Control Plan represents the most feasible and prudent design in regard to areas of direct and indirect disturbance as well as short-term and long-term impacts to wetlands and watercourses for the proposed development.

## 5. 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 (NDDB) Digital Data Map – East Hampton. State and Federal Listed Species and Significant Natural Communities.

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. FWS/OBS-79/31. Washington, D.C.

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**

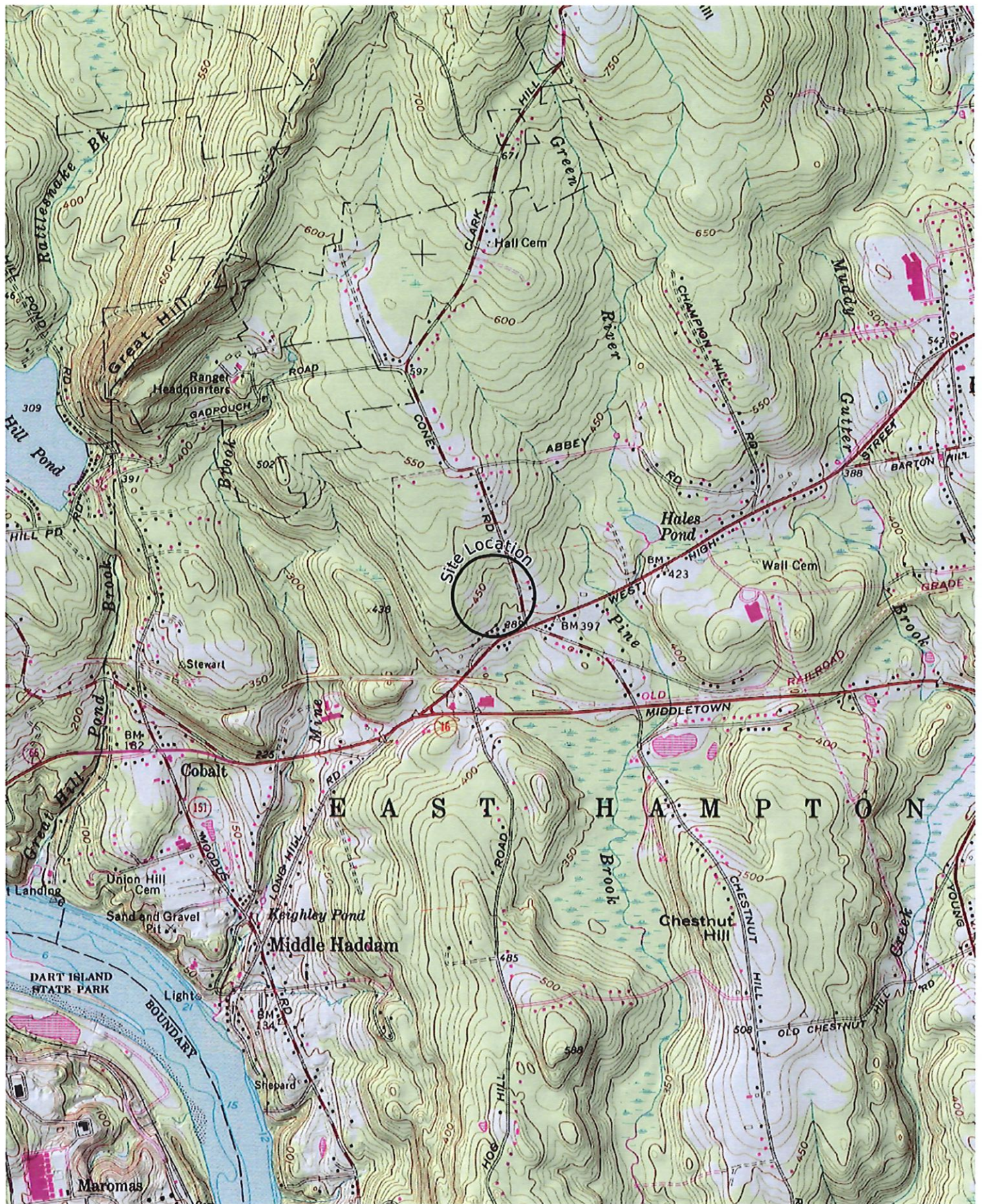


Figure 1: Site Location Map  
 WGS84  
 USNG Zone 18TYM  
 CalTopo

0.5 1.0 1.5 2.0 2.5 km  
 0.5 1.0 1.5 mi  
 Scale 1:24000 1 inch = 2000 feet



# **TABLES**

## **Table 1**

**Summary of Access Driveway Areas**

## **Table 2**

**Total Wetland Area Conserved / Restored**

**TABLE 1**  
**SUMMARY OF ACCESS DRIVEWAY AREAS**

Access	Total Impervious Area*	Permanent Disturbance Total Site Area	Permanent Disturbance Upland Review Area	Total Area of Fill Wetlands	Total Area of Fill Along Intermittent Watercourse
<b>Proposed</b>	21, 299 s.f. (0.489 acres)	25,299 s.f. (0.581 acres)	16,864 s.f. (0.387 acres)	893 s.f. (@ Culvert)	780 s.f. (60 l.f. IWC)
<b>Alternate</b>	24, 205 s.f. (0.556 acres)	29,155 s.f. (0.669 acres)	20,038 s.f. (0.460 acres)	300 s.f. (@ Culvert)	N/A

\*Note: The Total Impervious Areas include 240 linear feet of 18-foot wide, shared, paved driveway beyond the circular turnaround

**TABLE 2**  
**TOTAL WETLAND AREA CONSERVED / RESTORED**

<b>Proposed Access Driveway</b>	Existing Brook Crossing: 1,025 s.f. Area to be Conserved / Restored: 88,000 s.f. (2.0 acres)
<b>Alternate Access Driveway</b>	Existing Brook Crossing: 0 s.f. Area to be Conserved / Restored: 56,635 s.f. (1.3 acres)



**ANNOTATED PHOTOGRAPHS**



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



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



**Photo 3:** Stormwater Outfall & Associated Basin adjacent to Cone Road



**Photo 4:** Sedimentation within Intermittent Watercourse adjacent to Cone Road



**Photo 5:** Watercourse Channel, East bank, at Existing Crossing from 15 Cone Road



**Photo 6:** Watercourse Channel at Existing Crossing from 15 Cone Road, View North



**Photo 7:** Emergent Wet Meadow, West Side of Proposed Conservation Easement, View South



**Photo 8:** Woody Debris at Wetland Boundary, West Side of Proposed Conservation Easement

**ATTACHMENT No. 1**

**CT DEEP Recommended Strategies for Turtles**

### **CT DEEP Recommended Protection Strategies for turtles:**

Work should occur when these turtles are active (April 1st to September 30th) and I (Dawn M. McKay, Environmental Analyst 3) recommend the additional strategies in order to protect these turtles:

- Silt fencing should be installed around the work area prior to construction, please avoid erosion control products that are embedded with plastic netting as these can be fatal to wildlife;
- Where possible, AVOID installing sediment and erosion control materials from late August through September and from March through mid-May. These two time periods are when amphibians and reptiles are most active, moving to and from wetlands to breed;
- After silt fencing is installed and prior to construction, a sweep of the work area should be conducted to look for turtles;
- Workers should be apprised of the possible presence of turtles, and provided a description of the species;
- Any turtles that are discovered should be moved, unharmed, to an area immediately outside of the fenced area, and position in the same direction that it was walking;
- No vehicles or heavy machinery should be parked in any turtle habitat;
- Work conducted during early morning and evening hours should occur with special care not to harm basking or foraging individuals;
- All silt fencing should be removed after work is completed and soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted;
- Stockpiles of soil should be cordoned off with silt fencing so turtles do not attempt to try and nest in them; and
- Use native plantings if possible. Any plantings should be composed of species native to northeastern United States and appropriate for use in riparian/wetland habitat.