# INVENTORY OF VERNAL POOLS ALONG THE CONNECTICUT AND MASSACHUSETTS PORTIONS OF THE CONNECTICUT EXPANSION PROJECT

### **Prepared For:**

Tennessee Gas Pipeline Company, L.L.C. 1001 Louisiana Street Houston, Texas 77002

Prepared By:

AECOM Environment 10 Orms Street, Suite 405 Providence, Rhode Island 02904

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### 1.0 Introduction

Tennessee Gas Pipeline Company ("TGP"), a subsidiary of Kinder Morgan ("KM") and a major supplier of natural gas to utilities, distribution companies and power generators in the northeast, plans to construct, install, and operate the Connecticut Expansion Project ("the Project") to increase pipeline capacity and provide additional firm natural gas transportation service into northeast markets. The Project includes the construction, installation, and operation of three pipeline looping segments, one Mainline Valve ("MLV"), minor tie-in piping, and relocating certain pigging facilities and includes components in Connecticut, Massachusetts and New York. TGP will construct, own, and operate the proposed Project facilities.

This report provides a summary of vernal pool habitat investigations conducted along the Connecticut and Massachusetts portions of the Project. These investigations provide data in support of TGP's New England Division's U.S. Army Corps of Engineers (USACE) Section 404 permit application, the Connecticut Department of Energy and Environmental Protection (CT DEEP) Section 401 Water Quality Certification application, the Massachusetts Department of Environmental Protection (MA DEP) Section 401 Water Quality Certification Application, as well as local wetland filings and other required permits.

The Massachusetts Loop is located in Sandisfield, Massachusetts and consists of approximately 3.8 miles of new 36-inch outside diameter ("OD") pipe co-located within or adjacent to TGP's existing 200 Line Mainline right-of-way ("ROW"). The loop segment commences near TGP's existing Mainline Valve ("MLV") 258 adjacent to Town Hill Road and extends southeast to an area southeast of South Beech Plain Road. The Connecticut Loop commences in Agawam, MA, in the yard of Compressor Station 261 and extends southward approximately 8.1 miles to the terminus in Suffield, CT. The relatively short segment of pipeline (0.11 miles) located in Agawam consists of 24-inch OD pipe co-located within or adjacent to TGP's existing ROW, terminating at the Massachusetts and Connecticut state line.

On behalf of TGP, AECOM Environment (AECOM) conducted vernal habitat surveys on the subject ROWs, along which the proposed Project would be located. As part of the surveys, AECOM surveyed the entire width of the ROWs, including the areas proposed for the location of the new pipeline facilities and the areas in the vicinity of the existing pipeline, where TGP performs routine vegetation management to promote herbaceous and scrub/shrub/sapling habitats consistent with natural gas pipeline operation.

The vernal pool field investigations were conducted in the spring of 2014. This report discusses the field methods used to identify vernal pool habitats and summarizes the findings of the surveys. Vernal Pool Habitat Data Forms for all pools, documenting the biological evidence which supports these determinations, are included in Attachment A. Representative photographs of vernal pool habitats are included in Attachment B. Mapping showing the locations for confirmed vernal pool habitats is included in Attachment C.

### 2.0 Vernal Pool Habitat Definitions

State and federal agencies apply slightly different definitions to describe vernal pools. The following summarizes the definitions used by Connecticut, Massachusetts and the USACE.

The CT DEEP defines vernal pools as small bodies of standing fresh water found throughout the spring that typically result from various combinations of snowmelt, precipitation, and high water tables associated with the spring season. These depressions can be natural or man-made (CTDEEP, 2011). In most years, these areas become completely dry, losing water through infiltration and evapotranspiration. Vernal pools vary in many aspects including appearance, water source, hydroperiod, water quality and surrounding habitats. Field investigations must coincide with the amphibian breeding and/or larval development time periods to determine if an area is functioning as a vernal pool.

In Connecticut, to meet the definition of a vernal pool, the following four criteria must be met:

- Contains water for approximately two months during the growing season;
- Occurs within a confined depression or basin that lacks a permanent outlet stream;
- Lacks any fish populations; and
- Dries out most years, usually by late summer.

The Massachusetts Wetlands Protection Act (310 CMR 10.00) defines vernal pool habitat as "confined basin depressions, which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and which are free of adult fish populations. These areas are essential breeding habitat, and provide other extremely important wildlife habitat functions during the non-breeding season as well, for a variety of amphibian species such as wood frogs (*Lithobates sylvatica*) and the spotted salamander (*Ambystoma maculatum*) and are important habitat for other wildlife species."

Many organisms critically rely upon vernal pool habitat for reproductive success. These species are referred to as obligate vernal pool species. According to the CT DEEP (2011), obligate vernal pool species that may have ranges within the Project area include the following:

- wood frog (Lithobates sylvatica)
- Eastern spadefoot toad (Scaphiopus holbrookii)
- spotted salamander (Ambystoma maculatum)
- Jefferson salamander (Ambystoma jeffersonianum)
- marbled salamander (Ambystoma opacum)
- fairy shrimp (Branchiopoda anostraca)

The Eastern spadefoot toad and Jefferson salamander are listed by Connecticut as State-endangered and Species of Special Concern, respectively. During the vernal pool

surveys, neither of these species were observed on the Project ROWs. In addition, Project specific consultations with the Connecticut Natural Diversity Database (CT NDDB) did not result in the identification of the potential occurrence of any rare amphibians in relation to the Project.

Facultative vernal pool species are fauna that utilize, but do not necessarily require, vernal pools for reproductive success. Examples of facultative species include spring peeper (*Pseudacris crucifer*), spotted turtle (*Clemmys guttata*), red-spotted newt (*Notophthalmus viridescens viridescens*), green frog (*Rana clamitans*) and bull frog (*Rana catesbeiana*). Facultative species such as those mentioned above can utilize vernal pool habitats. However, these species can also breed successfully in the margins of permanent water bodies including streams, rivers, and lakes.

The USACE's Programmatic General Permit (PGP) for the State of Connecticut defines vernal pools as: an often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* sp.), fairy shrimp, fingernail clams (*Sphaeriidae*), and other amphibians, reptiles and invertebrates. Vernal pools lack breeding populations of fish. It is noted in the PGP that the USACE will determine on a case-by-case basis which vernal pools are within their jurisdiction and that all vernal pools are subject to the jurisdiction of the CT DEEP under Connecticut Water Quality Standards.

Wetland areas associated with the Project ROWs were surveyed to identify the presence or absence of obligate vernal pool species (presence/absence surveys). Where obligate species were observed, the area was further investigated to identify whether the state and federal vernal pool criteria had been satisfied. Observed facultative species were noted on the Vernal Pool Data Forms (Attachment A), but these species were not used to identify an area as a vernal pool.

For the purposes of the ROW investigations and this report, a vernal pool was defined as an area that held obligate species in the 2014 breeding season and that met the majority of the state and federal vernal pool criteria discussed above. Given access

constraints to off ROW areas and the temporally limited nature of the observations, it was not possible to be sure every aspect of the criteria was being met in all cases.

In addition, obligate vernal pool species were sometimes observed breeding in perennial water bodies. Areas where this occurred were not identified as a vernal pool due to the presence of a fish population. In cases where large wetland systems exhibited expansive flooded areas within which obligate vernal pool species were documented as breeding, the breeding evidence was recorded and, if appropriate based upon the observed vernal pool criteria, the areas were identified as a vernal pool. These types of areas are typically referred to as "cryptic vernal pools" and, as their name suggests, may be easily overlooked. Such determinations were made by field biologists during the 2014 surveys.

### 3.0 Field Investigations

AECOM conducted the vernal pool surveys in April and early May of 2014. These survey periods correspond to the appropriate times of the year to identify areas that may function as vernal pools based on the presence of egg masses and developing larvae.

All wetland areas associated with the Project corridor were investigated to determine if breeding amphibians, both obligate and facultative, were present in an effort to identify vernal pools. To facilitate the surveys, biologists were provided with Project specific wetland mapping, dip nets and digital cameras.

The surveys were done after the first significant rainfall events in the spring, when evening low temperatures remained in the 40s (° Fahrenheit). These weather conditions facilitate inward migration of amphibians to the pools for the purpose of breeding. Biologists conducted visual surveys and used dip nets to sweep the water column to assist in determining the presence or absence of amphibians and other vernal pool species. Choruses of breeding frogs were noted when audible.

Representative photographs of the wetlands and observed species were taken at the majority of the identified vernal pool habitats (Attachment B). Evidence of amphibian breeding, including but not limited to wood frog chorusing, mole salamander

spermatophores, egg masses and amphibian larvae, was recorded on Vernal Pool Data Forms that are included in this report as Attachment A. Additional data recorded on the data forms included the approximate size and depth of the observed breeding pool(s), substrate type and general comments, if any.

Lastly, the biologists then sketched the extent of the documented vernal pool habitat onto field mapping and/or used a global positioning system (GPS) data collection device to locate the boundaries or center of pool where possible. Field sketches and GPS data were then digitized onto updated Project mapping. Identified vernal pools are presented on mapping in Attachment C.

Life history information for amphibian and reptile species observed during the course of the surveys is presented below.

### Wood Frog

In New England, the wood frog is among the first species to arrive at the breeding pools and begin their loud, duck like mating call. Wood frogs have been documented as breeding in open and closed canopy wetlands (Werner and Glennemeier, 1999). The timing of their movement varies annually, depending on climatic conditions but in general terms they immigrate to breeding sites in most years during late February to early April. The large scale migration to the breeding pools generally occurs at night during the first few heavy downpours which are accompanied by warmer air temperatures.

Except for the brief period spent at breeding habitats, wood frogs are mainly terrestrial. They utilize all types of forests and woodlands, including maritime, deciduous, and coniferous (Klemens, 1993); as well as a variety of other types of habitats. During the coldest months wood frogs hibernate under leaf litter, rotting logs, stumps, rocks, and moss. Wood frogs have perfected the cryogenic freezing process. In the winter, as much as 35-45% of the frog's body may freeze, and turn to ice. Ice crystals form beneath the skin and become interspersed among the body's skeletal muscles. During the freeze the frog's breathing, blood flow, and heartbeat cease. Freezing is made possible by specialized proteins and glucose, which prevent intracellular freezing and dehydration.

Compared to other amphibian species that utilize vernal pools for breeding in southern New England, the wood frog is one of the only species that truly can be considered obligate to vernal pools. Wood frogs successfully breed in pools with shorter hydroperiods than any other amphibian in this region, with tadpole metamorphosis often complete by mid-July. Therefore, ponds that dry by August still provide perfectly suitable breeding habitat, whereas it takes much longer for the young of most other species to complete metamorphosis.

Wood frog egg masses are often deposited near the edge of a breeding pool on the water's surface where water temperatures are typically highest. They are usually attached to submerged woody debris and/or herbaceous vegetation. Wood frog egg masses can easily be distinguished from those of the spotted salamander by the lack of an outer gelatinous sheath.

Newly hatched larvae feed on their egg masses and associated algae, as wood frog tadpoles are microphagous filter-feeders with a largely herbivorous diet. Larger tadpoles use their specialized mouth parts to feed on algae and various microorganisms scraped from aquatic vegetation, decaying plants and some animal matter. Adult wood frogs feed on a variety of invertebrates including flies, beetles, spiders, earthworms, moth larva, slugs, snails, and annelids (Klemens, 1993).

### Spotted Salamander

In New England, the spotted salamander is a very common and widespread mole salamander. Collectively, the mole salamanders are a secretive group of salamanders that are primarily active at night. These animals are rarely seen except during their nocturnal migrations to and from their breeding pools during their brief early spring breeding season. Often, spotted salamanders can be observed migrating to vernal pools in conjunction with wood frogs. Within a few days after mating, eggs are deposited in firm spherical or kidney-shaped masses and in most cases are attached to submerged objects such as woody debris or other organic material.

Once hatched, larvae feed predominantly on very small aquatic invertebrates. Larger individuals feed on snails, clams, oligochaete worms, small aquatic insects and their

larvae and other invertebrates (Kenney and Burne, 2001). In general, zooplankton is the dietary staple of larvae of all size classes. As adults, spotted salamanders are generalized carnivores that forage in upland habitats for a variety of invertebrates including earthworms, snails, slugs, insects and larvae, spiders, and beetles (Degraaf and Yamasaki, 2001).

While breeding and larval development takes place in aquatic habitats, during most of the year, spotted salamanders reside in upland forests away from breeding pools. Adults typically reside up to 200 meters from breeding pools but have been documented moving greater distances. Spotted salamanders typically live in burrows created by small mammals such as the short-tail shrew (*Blarina brevicauda*). They appear to be habitat generalists, and have been documented in forest habitats including deciduous, coniferous and mixed forest. However, they are most abundant in mature deciduous or mixed deciduous woodlands.

### **Marbled Salamander**

The marbled salamander is an unusual mole salamander in that in Connecticut, it is the only species that breeds in the late summer and early fall, has eggs that hatch in November after pools fill with water, and has larvae that overwinter in vernal pools. All other species breed in the spring (Klemens, 1993). Marbled salamanders tend to prefer large, undisturbed tracts of forest, although they can also occur in distinct, large forested tracts of land (Paton and Egan, 2001). Klemens (1993) also found marbled salamanders were more prevalent in rural areas of Connecticut. However, he also collected some individuals in suburban and urban areas.

In Connecticut, marbled salamanders typically breed in pools found in mixed deciduous or coniferous forest stands. This species appears to prefer dry, friable soils including sand and gravel deposits, as well as rocky slopes, although they are sometimes found in low-lying swampy areas (Klemens, 1993). Marbled salamanders are thought to inhabit somewhat drier areas than other species of *Ambystoma* (DeGraaf and Yamasaki, 2001).

In New England, adults start to immigrate to breeding ponds around the 1<sup>st</sup> of August. Adults are generally only active on rainy nights. The majority of adults are at breeding

pools by the 26<sup>th</sup> of August, with some stragglers arriving as late as the 10<sup>th</sup> of September (Paton and Crouch, 2002). Klemens (1993) documented peak breeding in Connecticut from mid-September to early October. Eggs are oviposited in a dry pool area, singly, in small depressions usually beneath a sheltering object such as logs, bark, leaf mold, or other organic debris. Eggs hatch in early November as ponds refill and eggs are flooded. The larvae then overwinter in the pools.

Marbled salamander larvae eat small aquatic insects, crustaceans, and other small invertebrates. They are also cannibalistic. Once wood frog eggs hatch in the spring, marbled salamander larvae readily feed on larval wood frogs and spotted salamanders (Klemens, 1993). Adult marbled salamanders feed on adult and larval insects and crustaceans. They also take earthworms and mollusks (DeGraaf and Yamasaki, 2001).

### **Spring Peeper**

Spring peepers are among the most common frog species in southern New England. However, their diminutive size and cryptic coloration prevent most people from ever noticing them. Ironically, almost everyone has heard their springtime mating calls but fail to recognize the source. When not at breeding pools/ponds, peepers are habitat generalists and utilize habitats which range from mature forests to old field habitats. Although they are most commonly found in or near moist deciduous woodlands they also can be found in coniferous forests, grassy meadows, shrubby fields, gardens, sandy coastal dune habitats, as well as pine barrens (Klemens, 1993).

In southern New England (Rhode Island), spring peepers are found at breeding pools/ponds from mid-March through May (Paton et al., 2000). Once there, males establish territories from which they actively call to attract females. After pairing up, females deposit eggs on the pool/pond bottom under organic debris such as dead leaves. Upon hatching, larvae tend to congregate in the warm shallows of ponds, in areas with dense vegetation where they are usually "inactive and benthic" - a strategy used as an anti-predator defense (Lawler, 1989).

Spring peeper larvae feed on small aquatic organisms such as diatoms and algae found on submerged organic debris. Adult peepers feed on a variety of small invertebrates,

and thus, are beneficial to the environment by acting as natural pest control agents. Spiders account for the bulk of their diet (48%), although they also gorge themselves on mites, sowbugs, leafhoppers, ants, harvestmen, nematode worms, and lepidoptera (moth and butterfly) larvae (Gilhen, 1984).

### **Spotted Turtle**

The spotted turtle is a small turtle (3.5 to 5.5 inch carapace) which favors clean, shallow, slow moving bodies of water with muddy or mucky bottoms. They reside in marshy meadows, forested wetlands, boggy areas and beaver ponds. This turtle has yellow spots on the head, neck, legs, and upper shell or carapace. Background coloration is black. The number and arrangement of spots is extremely variable and changes with age. Hatchling turtles usually have one spot on each plate. Older individuals can be well sprinkled with 100 or more spots but occasionally all black specimens are observed.

Spotted turtles are active from March to October and may be seen singly or in groups basking in the sun. Diet consists of amphibian eggs and larvae, snails, leeches, worms, slugs, spiders and carrion. Diurnal activity is dependent on the time of year and temperature. Early and late in their activity period, daylight activities are spent hunting and basking in the sun. In the evening, spotted turtles submerge and spend the night in the substrate of their wetland habitats or spend the night under vegetation. In summer, when surface waters are limited, spotted turtles may aestivate (be dormant) for extended periods.

Spotted turtles reach sexual maturity at about 7-10 years of age. Mating occurs from March to May and usually takes place in the water. An open site with good sun exposure, such as a field or the edges of roads is most often chosen for nesting. However, spotted turtles may also deposit their eggs in vegetation such as tussock sedge (*Carex stricta*). The female uses her hind legs and feet to dig a hole that is about 2 to 2.5 inches deep and 2 inches wide. She then lays 3-6 oval shaped eggs that have thin, flexible shells and then covers the eggs.

### 4.0 Results

As summarized in Table 1, based on the 2014 breeding season field surveys, 32 wetlands located along the Project corridor were determined to contain vernal pools for obligate species. Several larger wetlands were found to contain multiple vernal pools. As a result, a total of 50 vernal pools were identified along the Project corridor and ROWs.

Digital aerial mapping, provided in 1"=200' Mapsheets in Attachment C, identifies the delineated wetlands and vernal pools along the ROWs for Massachusetts and Connecticut. For wetlands that encompass vernal pools, the vernal pools depicted represent the areas that could be successfully utilized by obligate vernal pool species. Distinct areas within the overall vernal pool where specific data was collected are known as the data collection areas. The size of the data collection areas, as well as the overall vernal pool dimensions, represent data collected during the spring season of 2014 and can be expected to vary from year-to-year based upon seasonal fluctuations in the water table caused by annual variations in the amount and timing of precipitation. These hydrologic variations could in turn affect where exactly amphibians would deposit egg masses in a given year.

Table 1: Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Vernal Pool Number <sup>1</sup>	Associated Wetland <sup>2</sup>	Adjacent Milepost <sup>3</sup>	Mapsheet Number <sup>4</sup>	Species Observed and/or Heard	Existing Cover Type						
Connecticut 8.1 Mile Loop Mapsheets 1 through 8												
Agawam, MA	VP WMA01A	WMA-01A	0.0	1 of 8	>1,000 wood frog tadpoles	PFO						
Suffield	VP WCT5	WCT-5	1.0-1.5	2 of 8	2 spotted salamander egg masses	PFO						
Suffield	VP WCT6-1	WCT-6	1.0-1.5	2 of 8	>200 wood frog tadpoles, 6 spotted salamander egg masses	PFO						
Suffield	VP WCT6-2	WCT-6	1.0-1.5	2 of 8	50-100 wood frog tadpoles	PFO						
Suffield	VP WCT7	WCT-7	1.0-1.5	2 of 8	7 spotted salamander egg masses	PEM						
Suffield	WCTVP-2	Unidentified	1.0-1.5	2 of 8	3 spotted salamander egg masses	PFO						
Suffield	VP WCT9	WCT-09	1.0-1.5	2 of 8	2 spotted salamander egg masses	PFO						
Suffield	VP WCT11	WCT-11	1.5	2 of 8	>100 wood frog tadpoles, 5 spotted salamander egg masses	PFO/PSS						
Suffield	WCT13-VP1	WCT-13	2.0	3 of 8	Numerous wood frog tadpoles	PFO						
Suffield	WCT18-VP1	WCT-18	2.5-3.0	4 of 8	Numerous wood frog tadpoles, 2 spotted salamander egg masses	PFO						
Suffield	WCT32-VP1	WCT-32	4.5-5.0	5 of 8	Numerous wood frog tadpoles, 7 spotted salamander egg masses, numerous fairy shrimp	PFO						
Suffield	WCT32-VP2	WCT-32	4.5-5.0	5 of 8	Many wood frog tadpoles, 5 wood frog egg masses	PFO						
Suffield	WCT-VP1	unidentified	4.5-5.0	5 of 8	Many wood frog tadpoles, 5 wood frog egg masses	PFO						
Suffield	WCT33-VP1	WCT-33	5.0-5.5	5 of 8	85 wood frog egg masses, 9 spotted salamander egg masses	PFO						

Table 1: Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Vernal Pool Number <sup>1</sup>	Associated Wetland <sup>2</sup>	Adjacent Milepost <sup>3</sup>	Mapsheet Number⁴	Species Observed and/or Heard	Existing Cover Type
Suffield	WCT33-VP2	WCT-33	5.0-5.5	5 of 8	5 wood frog egg masses	PSS
Suffield	WCT33-VP3	WCT-33	5.0	5 of 8	2 wood frog egg masses	PSS
Suffield	WCT33-VP4	WCT-33	5.0	5 of 8	1 spotted salamander egg mass	PFO
Suffield	WCT33-VP5	WCT-33	5.0	5 of 8	1 wood frog egg mass, many wood frog tadpoles	PFO
Suffield	WCT33-VP6	WCT-33	5.0	5 of 8	2 wood frog egg masses, many wood frog tadpoles, 1 spotted salamander egg masses	PFO
Suffield	WCT34-VP1	WCT-34	5.0-5.5	5 of 8	3 wood frog egg masses, 2 spotted salamander egg masses	PFO
Suffield	WCT34-VP2	WCT-34	5.0-5.5	5 of 8	Many wood frog tadpoles, 34 spotted salamander egg masses	PFO
Suffield	WCT36-VP1	WCT-36	5.0-5.5	5 of 8	14 wood frog egg masses	PFO
Suffield	WCT39-VP1	WCT-39	6.0	6 of 8	20+ wood frog tadpoles	PEM
Suffield	WCT41-VP1	WCT-41	6.0-6.5	6 of 8	20+ wood frog tadpoles, 1 spotted salamander egg mass	PEM
Suffield	WCT41-VP2	WCT-41	6.0-6.5	6 of 8	1 wood frog egg mass	PFO
Suffield	WCT45-VP1	WCT-45	6.5	7 of 8	1 wood frog egg mass, many wood frog tadpoles, 7 spotted salamander egg masses	PFO
Suffield	WCT45-VP2	WCT-45	6.5	7 of 8	26+ spotted salamander egg masses	PFO
Suffield	WCT46-VP1	WCT-46	6.5-7.0	7 of 8	Many wood frog tadpoles, 3 spotted salamander egg masses	PFO
East Granby	WCT46-VP2	WCT-46	7.0	8 of 8	20+ spotted salamander egg masses	PFO

Table 1: Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Vernal Pool Number <sup>1</sup>	Associated Wetland <sup>2</sup>	Adjacent Milepost <sup>3</sup>	Mapsheet Number <sup>4</sup>	Species Observed and/or Heard	Existing Cover Type
East Granby	WCT49-VP1	WCT-49	7.0-7.5	8 of 8	12+ spotted salamander egg masses	PSS
East Granby	WCT50B- VP1	WCT-50B	7.0-7.5	8 of 8	20+ wood frog tadpoles, 1 spotted salamander egg mass	PFO
East Granby	WCT50D- VP1	WCT-50D	7.0-7.5	8 of 8	Many wood frog tadpoles	PFO
East Granby	WCT51-VP1	WCT-51	7.0-7.5	8 of 8	9 spotted salamander egg masses	PFO
	M	assachusetts	3.8 Mile Loop	Mapsheets 1	through 5	
Sandisfield	VP WMA-3-1	WMA-3	0.0	1 of 5	4 spotted salamander egg masses	PFO
Sandisfield	VP WMA-3-2	WMA-3	0.0	1 of 5	4 spotted salamander egg masses	PFO/PEM
Sandisfield	VP WMA-5-1	WMA-5	0.0-0.5	1 of 5	3 spotted salamander egg masses	PFO
Sandisfield	VP WMA-6-1	WMA-6	0.5	1 of 5	2 wood frog egg masses, 3 spotted salamander egg masses	PEM
Sandisfield	VP WMA-7-1	WMA-7	0.5-1.0	2 of 5	6 wood frog egg masses, 1 spotted salamander egg mass	PEM
Sandisfield	VP WMA-7-2	WMA-7	0.5-1.0	2 of 5	450-500 wood frog egg masses, 4 spotted salamander egg masses	PEM
Sandisfield	VP WMA-7-3	WMA-7	0.5-1.0	2 of 5	3 wood frog egg masses, 6 spotted salamander egg masses	PFO/PEM
Sandisfield	VP WMA-7-4	WMA-7	1.0	2 of 5	12 wood frog egg masses, 3 spotted salamander egg masses	PEM
Sandisfield	VP WMA-7-5	WMA-7	1.0-1.5	2 of 5	30-35 wood frog egg masses, 3 spotted salamander egg masses, 1 adult spotted salamander	PEM
Sandisfield	VP WMA-7-6	WMA-7	1.0-1.5	2 of 5	7 wood frog egg masses, 6 spotted salamander egg masses	PSS/PEM

Table 1: Vernal Pool Habitat Identified Along the Proposed Project ROWs

Municipality	Vernal Pool Number <sup>1</sup>	Associated Wetland <sup>2</sup>	Adjacent Milepost <sup>3</sup>	Mapsheet Number <sup>4</sup>	Species Observed and/or Heard	Existing Cover Type
Sandisfield	MA-CVP-1	None	1.0-1.5	3 of 5	1 wood frog egg mass, 4 spotted salamander egg masses	PFO
Sandisfield	VP WMA-12- 1	WMA-12	1.5	3 of 5	6 wood frog egg masses, 2 spotted salamander egg masses	PEM
Sandisfield	VP WMA-13-	WMA-13	1.5-2.0	3 of 5	40-45 wood frog egg masses, 3 spotted salamander egg masses	PEM
Sandisfield	VP WMA-18- 1	WMA-18	2.5	4 of 5	10 wood frog egg masses	PEM
Sandisfield	VP WMA-16- 1	WMA-16	2.5-3.0	4 of 5	200-250 wood frog egg masses	PFO
Sandisfield	VP WMA-23	WMA-23	3.5-3.8	5 of 5	50-60 wood frog egg masses	PEM
Sandisfield	VP WMA-24	WMA-24	3.8	5 of 5	80-1000 wood frog egg masses	PEM

<sup>1 –</sup> Vernal pool habitat number generated by AECOM for identification purposes.
2 – Associated wetland number corresponds to the Project Wetland Identification number.
3 – Refers to mileposts along the existing pipelines for Connecticut and Massachusetts.

<sup>4 –</sup> See 1"=200' Vernal Pools Mapsheets for Connecticut and Massachusetts.

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# Attachment A 2014 Vernal Pool Habitat Data Forms

<b>PROJECT</b> Co		t Expansion	<u> </u>						
DATE	4/23/14		WEATHER		60° F				
OBSERVERS	O'Sulli	van/Stearns	ns <b>CONDITIONS</b> Partly		Partly Clo	tly Cloudy			
	CHARACTERISTICS								
WETLAND #		VP WMA01A		LENGTH 8		40x6	30'		
TOWN		Agawam, MA		CLOSEST	WETLAND	304			
				FLAG					
AVERAGE WATER	DEPTH		6-14"	COVER TY	/PE	F	PFO		
SUBSTRATE:    Peat									
Breeding Criteria C	odos		OBLIGATE S	PECIES		CODE	QUANTITY		
1 Breeding chor			Wood frog 3			>1,000			
2 Egg masses	us		Spotted salamander						
3 Frog tadpoles			Jefferson sal	amander					
4 Salamander la			Blue-spotted	salamande	r				
5 Presence of a			Spadefoot to						
- 110001100 01 a	<u> </u>		Fingernail cla						
FACULTATIVE SPE	CIES:		Marbled salar						
Red-spotted nev		6	Unidentified	mole					
☐ Spotted turtles			salamander						
☐ Blanding's turtle	es		Fairy shrimp						
☐ Painted turtles ☐ Snapping turtles ☐ Predacious divided Dragonfly nymp ☐ Amphibious sna	ng beetle hs	es		<u>Additio</u>	nal Specie	s Obsei	<u>'ved:</u>		
	American toads Photo Documentation: Yes								

**Conclusions / Comments:** 

☐ Amphibian Breeding Habitat

% PEM

\_\_\_\_% OFS

∨ Vernal Pool

<u>40</u>% PFO

% ROW

20 % Other / define: Agricultural field

**CHARACTERISTICS OF ADJACENT VEGETATION:** 

Caddis fly case/larvae
Dragonfly nymphs
Damselfly nymphs
Leeches

(within 100-feet of pool edge)

☐ Pickerel Frog

\_\_\_\_% PSS

40 % UF

PROJECT	Connecticu	t Expansion							
DATE	5/5/14	•		WEATHER		60° F			
OBSERVERS	O'Sulli	van		CONDITIONS Partly		Partly (	rtly Cloudy		
			CH	IARACTERISTI	CS				
WETLAND #		VP WCT5			LENGTH 8	WIDTH	ł	70x2	20'
TOWN		Suffield, C	Т		CLOSEST	WETLA	ND	302	
					FLAG				
<b>AVERAGE WAT</b>	ER DEPTH			6-24"	COVER TY	PE		F	PFO
SUBSTRATE:    Peat									
Breeding Criteri	a Codos			OBLIGATE S	PECIES		CO	DE	QUANTITY
1 Breeding chief				Wood frog					
2 Egg masse				Spotted salamander			2	)	2
3 Frog tadpo				Jefferson salamander					
4 Salamande				Blue-spotted salamander					
5 Presence of				Spadefoot toad					
J Fleselice 0	aduits			Fingernail cla					
FACULTATIVE S	SDECIES.	Ī		Marbled salamander					
Red-spotted			Unidentified mole						
Spotted turtle		'		salamander					
☐ Blanding's tu				Fairy shrimp					
☐ Painted turtle ☐ Snapping tur ☐ Predacious d ☐ Dragonfly ny ☐ Amphibious d ☐ Spring peeped ☐ American toad ☐ Fowler's Toad ☐ Caddis fly ca	es tles living beetle mphs snails ers ers dds d se/larvae	es			Species Ob umentation:		None	•	
☐ Dragonfly ny☐ Damselfly ny☐ Leeches			Cor	clusions / Com	nments:				

<u>10</u>% PFO

\_\_\_\_% ROW

\_\_\_\_\_% PEM

\_\_\_\_% OFS

☐ Pickerel Frog

\_\_\_\_% PSS

90 % UF

(within 100-feet of pool edge)

\_\_\_\_\_% Other / define:

CHARACTERISTICS OF ADJACENT VEGETATION:

PROJECT	Connecticut Expansion		
DATE	5/5/14	WEATHER	65° F
OBSERVERS	O'Sullivan	CONDITIONS	Partly Cloudy

CHARACTERISTICS							
WETLAND #	VP WCT6-1		LENGTH & WIDTH		110x40'		
TOWN	Suffield, CT		CLOSEST WETLAND		200		
			FLAG				
AVERAGE WATER DEPTH		1' to > 4'	COVER TYPE		PFO		

			FLAG					
<b>AVERAGE WATER DEPTH</b>		1' to > 4'	COVER TYPE	l i	PFO			
SUBSTRATE:    Peat								
Breeding Criteria Codes		OBLIGATE S	PECIES	CODE	QUANTITY			
1 Breeding chorus		Wood frog		3	>200			
2 Egg masses		Spotted salar		2	6			
3 Frog tadpoles		Jefferson sal	amander					
4 Salamander larvae		Blue-spotted						
5 Presence of adults		Spadefoot to						
		Fingernail cla						
FACULTATIVE SPECIES:		Marbled sala						
Red-spotted newt adults	s	Unidentified	mole					
Spotted turtles		salamander						
☐ Blanding's turtles		Fairy shrimp						
□ Blanding's turtles □ Painted turtles □ Snapping turtles □ Predacious diving beetles □ Dragonfly nymphs □ Amphibious snails □ Spring peepers □ American toads □ Fowler's Toad □ Caddis fly case/larvae □ Dragonfly nymphs								
<ul><li>☐ Damselfly nymphs</li><li>☐ Leeches</li></ul>	<u>50.</u>	nclusions / Com	monto.					
☐ Pickerel Frog		✓ Vernal Poo	I 🗌 Amphibian	Breeding I	Habitat			
CHARACTERISTICS OF AD (within 100-feet of pool edg	je)							
% PSS		<u>)  </u> % PFO	<u>20</u> % l	PEM				
<u>20</u> % UF		% ROW	%(	OFS				
% Other / define:								

PROJECT	Cor	nnecticut Expansion				
DATE		5/5/14	WEATHER	65° F		
OBSERVERS		O'Sullivan	CONDITIONS	Partly Cloudy		
CHARACTERISTICS						

CHARACTERISTICS							
WETLAND #	VP WCT6-2		LENGTH & WIDTI	Н	100x	:30'	
TOWN	Suffield, CT		CLOSEST WETLA		205		
	,		FLAG				
AVERAGE WATER DEPTH		6-20"	COVER TYPE		PFC	) PEM	
SUBSTRATE: DOM	IINANT VEGET	<b>ATION WITHIN</b>	POOL:				
☐ Peat Ace	er rubrum, Beti	ula alleghanien	sis, Sambucus car	adens	sis,		
☐ Leaf Litter Ros	sa multiflora, P	halaris arundin	acea, Symplocarp	us foe	tidus,	Ī	
☐ Sand Phi	agmites austra	alis					
☐ Gravel							
Cobble 0	_% of pool w/i	n maintained R	OW <u>100</u> % of po	ool wit	hin fo	rested area	
⊠ Mud/Muck							
Breeding Criteria Codes		OBLIGATE S	PECIES	СО	DE	QUANTITY	
1 Breeding chorus		Wood frog		3	3	50-100	
2 Egg masses		Spotted salar	mander				
3 Frog tadpoles		Jefferson sal	amander				
4 Salamander larvae		Blue-spotted	salamander				
5 Presence of adults		Spadefoot to	ad				
3 Tresence of addits		Fingernail cla	ams				
FACULTATIVE SPECIES:		Marbled salamander					
Red-spotted newt adults		Unidentified mole					
☐ Spotted turtles	•	salamander					
☐ Blanding's turtles		Fairy shrimp					
☐ Painted turtles							
☐ Snapping turtles							
Predacious diving beetle	es	Additional	Species Observed	: Gree	n frog	ıs	
☐ Dragonfly nymphs				_			
☐ Amphibious snails							
☐ Spring peepers							
American toads		Photo Doci	umentation: Yes				
☐ Fowler's Toad							
Caddis fly case/larvae							
Dragonfly nymphs							
☐ Damselfly nymphs			<u>ns / Comments:</u> Sig	gnifica	nt acc	cumulation	
□	of old solid	waste dumped	l over many years.				
Leeches		N 15		_		1-1-4-4	
☐ Pickerel Frog		∨ Vernal Poo	I Amphibian	Bree	aing F	labitat	
CHARACTERISTICS OF AD (within 100-feet of pool edg		ETATION:					
% PSS		_% PFO	%	PEM			
<u>60</u> % UF		% ROW	%	OFS			

\_\_\_\_% Other / define:

PROJECT	Connec	ticut Expansion					
DATE	5/5	/14	WEATHER		65° F		
OBSERVERS	0'3	Sullivan	CONDITIONS		Partly Cloudy		
CHARACTERISTICS							
WETLAND #		VP WCT7		LENGTH &	WIDTH	100x50'	

TOWN	Suffield, C	CT		CLOSEST WETLA FLAG	AND 3	301	
<b>AVERAGE WATER DEPTH</b>		6-12"		COVER TYPE		PEM	
SUBSTRATE:    Peat							
Breeding Criteria Codes			IGATE SF	PECIES	CODE	QUANTITY	
1 Breeding chorus			d frog				
2 Egg masses			tted salan		2	7	
3 Frog tadpoles			erson sala				
4 Salamander larvae				salamander			
5 Presence of adults			defoot toa				
•			ernail cla				
<b>FACULTATIVE SPECIES:</b>			bled salan				
☐ Red-spotted newt adults	6		lentified n	nole			
Spotted turtles			mander				
Blanding's turtles		Fair	y shrimp				
Painted turtles   Snapping turtles   Predacious diving beetles   Additional Species Observed:     Dragonfly nymphs   Amphibious snails   Spring peepers   American toads   Photo Documentation: Yes   Photo Documentation: Yes   Dragonfly nymphs   Damselfly nymphs   Conclusions / Comments: Series of small						mall	
Leeches	IIILEICO	nnected p	JUIS				
☐ Pickerel Frog		⊠ Ve	rnal Pool	Amphibian	Breedi	ng Habitat	
CHARACTERISTICS OF AD (within 100-feet of pool edg		EGETATIO	ON:				
% PSS		<u>30</u> % P	FO	<u></u> %	PEM		
<u>70</u> % UF		% R	ow	%(	OFS		
% Other / define:							

PROJECT	Connecticut Expansion		
DATE	5/5/14	WEATHER	65° F
OBSERVERS	O'Sullivan	CONDITIONS	Partly Cloudy

	CHARACTERISTICS						
WETLAND #	WCTVP-2		LENGTH & WIDT		100x50'		
TOWN	Suffield, C	ST .	CLOSEST WETL	AND	No flags in field		
AVERAGE WATER DEPTH		6-12"	COVER TYPE		PFO		
SUBSTRATE:    Peat							
Breeding Criteria Codes		OBLIGATE	SPECIES	COI	DE QUANTITY		
1 Breeding chorus		Wood frog					
2 Egg masses		Spotted sal	amander	2	3		
3 Frog tadpoles		Jefferson sa					
4 Salamander larvae		Blue-spotte	Blue-spotted salamander				
5 Presence of adults			Spadefoot toad				
		Fingernail c					
<b>FACULTATIVE SPECIES:</b>		Marbled sal					
Red-spotted newt adults	<b>;</b>	Unidentified					
Spotted turtles		salamander					
☐ Blanding's turtles		Fairy shrim	0				
□ Blanding's turtles Fairy shrimp   □ Painted turtles Snapping turtles   □ Predacious diving beetles Additional Species Observed:   □ Dragonfly nymphs Amphibious snails   □ Spring peepers American toads   □ Fowler's Toad Photo Documentation:   □ Caddis fly case/larvae							
☐ Dragonny nymphs	☐ Dragonfly nymphs Conclusions / Comments: VB outside of original						
☐ Damselfly nymphs <u>Conclusions / Comments:</u> VP outside of original wetland survey area.							
☐ Leeches	Woulding	. ca. voy alca.					
☐ Pickerel Frog		∨ Vernal Po	ol 🗌 Amphibiar	Breed	ding Habitat		

<u>60</u>% PFO

\_\_\_\_% ROW

% PEM

\_\_<u>10\_</u>% OFS

\_\_\_\_\_% Other / define:

\_\_\_\_% PSS

\_\_\_<u>30\_</u>% UF

(within 100-feet of pool edge)

**CHARACTERISTICS OF ADJACENT VEGETATION:** 

PROJECT	Connecticut Expansion		
DATE	5/5/14	WEATHER	70° F
OBSERVERS	O'Sullivan	CONDITIONS	Partly Cloudy

CHARACTERISTICS							
WETLAND #	VPWCT9		LENGTH & WIDT	Н	15' in dia	meter	
TOWN	Suffield, C7	Γ	CLOSEST WETL	AND	202		
			FLAG				
AVERAGE WATER DEPTH		6-16"	COVER TYPE		PFO		
SUBSTRATE:    Peat							
Breeding Criteria Codes		OBLIGATE S	SPECIES	CO	DE Q	UANTITY	
1 Breeding chorus		Wood frog					
2 Egg masses		Spotted sala		2	)	2	
3 Frog tadpoles		Jefferson sa					
4 Salamander larvae		Blue-spotted salamander					
5 Presence of adults		Spadefoot toad					
		Fingernail clams					
<b>FACULTATIVE SPECIES:</b>		Marbled sala					
Red-spotted newt adults	S	Unidentified	mole				
Spotted turtles		salamander					
Blanding's turtles		Fairy shrimp	)				
<ul><li>☐ Painted turtles</li><li>☐ Snapping turtles</li><li>☐ Predacious diving beetle</li></ul>			ditional Species Ol	bserve	<u>:d:</u> Green	frog,	
	F	Red eft, Isopods, f	inger nail clams				
<ul> <li>□ Dragonfly nymphs</li> <li>□ Amphibious snails</li> <li>□ Spring peepers</li> <li>□ American toads</li> <li>□ Fowler's Toad</li> <li>□ Caddis fly case/larvae</li> </ul>	Photo Doc	umentation: Yes					
<ul><li>☐ Dragonfly nymphs</li><li>☐ Damselfly nymphs</li><li>☐ Leeches</li></ul>			ns / Comments:				
☐ Pickerel Frog		∨ Vernal Poor	ol 🗌 Amphibiar	Bree	ding Habi	tat	

CHARACTERISTICS OF ADJACENT VEGETATION:

(within 100-feet of pool edge)

% PSS 60 % PFO 10 % PEM

\_\_\_<u>20\_</u>% UF \_\_<u>10\_</u>% OFS \_\_\_\_% ROW

\_\_\_\_% Other / define:

PROJECT	Cor	necticut Expansion		
DATE		5/5/14	WEATHER	70° F
OBSERVERS		O'Sullivan	CONDITIONS	Partly Cloudy

CHARACTERISTICS								
WETLAND #	VPWCT11		<b>LENGTH &amp; WIDTH</b>		75x100'			
TOWN	Suffield, CT		CLOSEST WETLAND		100			
			FLAG					
AVERAGE WATER DEPTH		6-18"	COVER TYPE		PFO PSS			

		FLAG		
AVERAGE WATER DEPTH	6-18"	COVER TYPE	PF	D PSS
	NT VEGETATION WITHIN		_	
	brum, Cephalanthus occi		cinnamom	ea
<u> </u>	carpus foetidus,Onoclea	sensibilis		
☐ Sand				
☐ Gravel	of mool/in mointained D	00 W of month		
☐ Cobble <u>10</u> % ( ☐ Mud/Muck	of pool w/in maintained R	10 w <u>90</u> % of pool	within for	ested area
Mud/wuck				
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog		3	>100
2 Egg masses	Spotted sala		2	5
3 Frog tadpoles	Jefferson sa			
4 Salamander larvae		d salamander		
5 Presence of adults	Spadefoot to			
	Fingernail cl			
FACULTATIVE SPECIES:	Marbled sala			
Red-spotted newt adults	Unidentified	mole		
Spotted turtles	salamander			
Blanding's turtles	Fairy shrimp	)		
Painted turtles				
Snapping turtles				
Predacious diving beetles	Adı	ditional Species Obs	<u>served:</u>	
☐ Dragonfly nymphs				
Amphibious snails				
<ul><li>☐ Spring peepers</li><li>☐ American toads</li></ul>	Photo Doo	umantation. Vac		
☐ Fowler's Toad	Photo Doc	<u>sumentation:</u> Yes		
☐ Caddis fly case/larvae				
☐ Dragonfly nymphs				
☐ Damselfly nymphs	Conclusio	ns / Comments:		
	<u> </u>	no r commonto.		
☐ Pickerel Frog	∨ Vernal Poor     ✓ V	ol 🗌 Amphibian 🛭	Breedina l	labitat
		_ ,	•	
CHARACTERISTICS OF ADJAC	ENT VEGETATION:			
(within 100-feet of pool edge) % PSS	50 % DEO	40 0/ D	EM	
% F33	_ <u>50_</u> % PFO	<u>10</u> % P	⊏IVI	
% UF	% ROW	<u>10</u> % O	FS	
% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 5, 2014	WEATHER	Clear and Sunny, 67°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS							
WETLAND #	WCT13		LENGTH & WIDTH	ł	130	O'X50'	
TOWN	Suffield, CT		CLOSEST WETLA	ND	#30	04	
			FLAG				
AVERAGE WATER DEPTH		18" (Max 3')	COVER TYPE	PE	EM(	(PSS)	PFO

			FLAG		$\overline{}$
AVERAGE WATER DEPTH		18" (Max 3')	COVER TYPE	PEM (	PSS) PFO
		TATION WITHIN			
	ohalanthus occi		Acer rubrum		
	ccinium corymb	osum	Nyssa sylvatica		
	oclea sensibilis		Carex stricta		
Gravel					
	_% of pool w/i	n maintained Re	OW <u>100</u> % of po	ool within f	orested area
⊠ Mud/Muck					
Daniel China		OBLIGATE S	PECIES	CODE	QUANTITY
Breeding Criteria Codes		Wood frog	00	3	(numerous)
1 Breeding chorus	<del> </del>	Spotted salar	nander		(Harrierous)
2 Egg masses	<del> </del>	Jefferson sala			
3 Frog tadpoles		Blue-spotted			
4 Salamander larvae		Spadefoot to			
5 Presence of adults		Fingernail cla			
EACH TATIVE ODEOUS	-	Marbled salar			
FACULTATIVE SPECIES:	, <del> </del>	Unidentified i			
<ul><li>☐ Red-spotted newt adults</li><li>☐ Spotted turtles</li></ul>	<b>'</b>	salamander			
☐ Spotted turtles		Fairy shrimp	+		
☐ Painted turtles					I
☐ Snapping turtles					
☐ Snapping turnes ☐ Predacious diving beetle	35	Additional 9	Species Observed:		
☐ Dragonfly nymphs		None	CHOOLOG ONGGI VCU.	1	
☐ Dragothly Hymphs ☐ Amphibious snails		110110			
Spring peepers					
☐ American toads		Photo Doci	umentation:		
Fowler's Toad		None			
☐ Caddis fly case/larvae		- <del>-</del>			
Dragonfly nymphs					
Damselfly nymphs	Cor	nclusions / Com	ments:		
☐ Leeches			<del></del>		
☐ Pickerel Frog		✓ Vernal Pool	I 🗌 Amphibian	Breeding I	Habitat
				_	
CHARACTERISTICS OF AD		ETATION:			
(within 100-feet of pool edg	e)				
% PSS	_10	0_% PFO	% F	PEM	
 <u>35_</u> % UF		 0_% ROW	 25 % C	)FS	
		<u></u> ,,,		<del>-</del>	
10% Other / define: Ope	en Water				

PROJECT	Connecticut Expansion		
DATE	May 5, 2014	WEATHER	Clear and Sunny, 67°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS						
WETLAND #	WCT18		LENGTH & WIDTH	ł	90'X75'	
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#307	
			FLAG			
AVERAGE WATER DEPTH		12" (Max 2')	COVER TYPE	PE	EM PSS	(PFO)
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:  Salix alba Acer rubrum						

☐ Peat Salix alba   ☐ Leaf Litter Vaccinium   ☐ Sand Rosa mult   ☐ Gravel	T VEGETATION WITHIN POOL:  Acer rubrum Corymbosum Cuercus palus Ciflora  pool w/in maintained ROW 100 % of p		orested area
Prooding Critoria Codes	OBLIGATE SPECIES	CODE	QUANTITY
Breeding Criteria Codes  1 Breeding chorus	Wood frog	3	(numerous)
2 Egg masses	Spotted salamander	2	2
3 Frog tadpoles	Jefferson salamander		
4 Salamander larvae	Blue-spotted salamander		
5 Presence of adults	Spadefoot toad		
5 Presence of addits	Fingernail clams		
FACULTATIVE SPECIES:	Marbled salamander		
Red-spotted newt adults	Unidentified mole		
Spotted turtles	salamander		
☐ Blanding's turtles	Fairy shrimp		
Painted turtles			
☐ Snapping turtles			
□ Predacious diving beetles	Additional Species Observed	l <b>:</b>	
☐ Dragonfly nymphs	None	<b>-</b>	
Amphibious snails			
☐ Spring peepers			
American toads	<b>Photo Documentation:</b>		
Fowler's Toad	None		
□ Caddis fly case/larvae			
□ Dragonfly nymphs			
☐ Damselfly nymphs	<b>Conclusions / Comments:</b>		
Leeches			
☐ Pickerel Frog	🛛 Vernal Pool 🔲 Amphibiar	n Breeding	Habitat
CHARACTERISTICS OF ADJACE (within 100-feet of pool edge)	NT VEGETATION:		
% PSS	% PFO%	PEM	
<u>15</u> % UF	% ROW <u>65</u> %	OFS	
% Other / define:			

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

	C	HARACTERISTI	CS				
WETLAND #	WCT32-VP1		LENGTH & WIDTH	1	60'X54'		
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#314-319		
			FLAG				
AVERAGE WATER DEPTI	l	24" (Max >3')	COVER TYPE	PEI	M PSS (PFO)		
SUBSTRATE: DO	<b>MINANT VEGE</b>	TATION WITHIN	POOL:				
☐ Peat N	/ssa sylvatica		Acer rubrum				
	accinium corymb	bosum Betula allaghaniensis					
Sand     San	•		J				
☐ Gravel							
☐ Cobble	% of pool w/	in maintained R	OW <u>100</u> % of po	ool witl	hin forested area		
Mud/Muck							
		ODLIGATE	DEOLEO	000	C. C. LANTITY		
<b>Breeding Criteria Codes</b>		OBLIGATE S	PECIES	<b>COD</b>	DE QUANTITY		
1 Breeding chorus		Wood frog			numerous		
2 Egg masses		Spotted sala		2	7		
3 Frog tadpoles		Jefferson sa	lamander				
4 Salamander larvae	Blue-spotted salamander						
4   Salamanuci iai vac							

Bre	eding Criteria Codes	OBLIGATE SPECIES	CODE	QUANTITI
1	Breeding chorus	Wood frog	3	numerous
2	Egg masses	Spotted salamander	2	7
3	Frog tadpoles	Jefferson salamander		
4	Salamander larvae	Blue-spotted salamander		
5	Presence of adults	Spadefoot toad		
		Fingernail clams		
FAC	CULTATIVE SPECIES:	Marbled salamander		
	Red-spotted newt adults	Unidentified mole		
	Spotted turtles	salamander		
	Blanding's turtles	Fairy shrimp	5	numerous
	Painted turtles			
	Snapping turtles			
$\boxtimes$ F	Predacious diving beetles	Additional Species Observed	<u>:</u>	
	Dragonfly nymphs	None		
	Amphibious snails			
	Spring peepers			
	American toads	Photo Documentation:		
	Fowler's Toad	View Looking E of Pool		
	Caddis fly case/larvae	Spotted salamander egg mass		
	Dragonfly nymphs			
_	Damselfly nymphs	Conclusions / Comments:		
	eeches			
F	Pickerel Frog	🛛 Vernal Pool 🔲 Amphibian	Breeding I	-labitat

 CHARACTERISTICS OF ADJACENT VEGETATION:

 (within 100-feet of pool edge)

 \_\_\_\_\_\_% PSS
 \_\_\_\_\_\_60\_\_% PFO
 \_\_\_\_\_\_% PEM

 \_\_\_\_\_\_5 W UF
 \_\_\_\_\_\_0 ROW
 \_\_\_\_\_\_% OFS

 \_\_\_\_\_\_5 W Other / define: Another vernal pool

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS						
WETLAND #	WCT32-VF	2	LENGTH & WIDTH	1	60'X54'	
TOWN	Suffield, C7	Γ	CLOSEST WETLAND		#308-312	
			FLAG			
AVERAGE WATER DEPTH 30		30" (Max 3')	COVER TYPE	PE	EM PSS (	PFO)
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:    Peat						

SUBSTRATE: DOMINANT VI	EGETATION WITHIN POOL:		
☐ Peat Nyssa sylvatio		brum	
☐ Leaf Litter Vaccinium col		s bicolor	
Sand	ymsocam quorea	0 2/00/01	
☐ Gravel			
	ol w/in maintained ROW <u>100</u>	% of pool within t	orested area
✓ Mud/Muck	<u> </u>	_,, o., poo	0.00104 4.04
_	OBLIGATE SPECIES	CODE	QUANTITY
Breeding Criteria Codes	Wood frog	2/3	5/many
1 Breeding chorus	Spotted salamander	2/3	5/IIIally
2 Egg masses	Jefferson salamander		
3 Frog tadpoles	Blue-spotted salamande		
4 Salamander larvae	Spadefoot toad	;I	
5 Presence of adults	Fingernail clams		
	Marbled salamander		
FACULTATIVE SPECIES:	Unidentified mole		
Red-spotted newt adults	salamander		
Spotted turtles	Fairy shrimp		
☐ Blanding's turtles ☐ Painted turtles	I ally Sillinp		
<ul><li>☐ Snapping turtles</li><li>☐ Predacious diving beetles</li></ul>	Additional Species Ob	corvodi	
☐ Dragonfly nymphs	Additional Species Ob None	servea:	
☐ Amphibious snails	None		
Spring peepers			
American toads	Photo Documentation:		
Fowler's Toad	View Looking NE of Pool		
☐ I owler's Todu ☐ Caddis fly case/larvae	Wood frog egg mass and tadpoles		
☐ Dragonfly nymphs	Wood flog egg fliass an	iu taupoles	
☐ Damselfly nymphs	Conclusions / Comments:		
Leeches	Ochelusions / Comments.		
☐ Pickerel Frog	∇ernal Pool	phibian Breeding	Habitat
_ : ionoror : rog		pinionan Erooanig	····
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)	VEGETATION:		
% PSS	<u>60</u> % PFO	% PEM	
<u>20</u> % UF	<u>15</u> % ROW	% OFS	
	al pool		

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS								
WETLAND #	WCT33-VP1		LENGTH & WIDTH	l	90'X40'			
TOWN	Suffield, CT	Suffield, CT		CLOSEST WETLAND				
			FLAG					
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PE	EM PSS (	(PFO)		
		_		<u> </u>				
SUBSTRATE:	DOMINANT VEGE	TATION WITHIN	POOL:					
☐ Peat	Tsuga canadensis	3	Acer rubrum					
M Loof Littor	1/0001010000000000	2001100	Focus outvotice					

SUBS	STRATE:	DOMINANT VEGETATION WITHIN POOL:						
□ F	Peat	Tsuga canadensis		Acer rubrum				
$\boxtimes$ L	_eaf Litter	Vaccinium corymbosum		Fagus sylvation	Fagus sylvatica			
	Sand	Pinus strobus						
	Gravel							
	Cobble	0_% of pool w/in maintained ROW100% of pool within forested area						
	Mud/Muck							
Bree	ding Criteria Cod	<b>AS</b>	OBLIGATE SI	PECIES	CODE	QUANTITY		
	Breeding chorus		Wood frog		2	85		
	Egg masses		Spotted salar	nander	2	9		
	Frog tadpoles		Jefferson sala	amander				
	Salamander larva	ne	Blue-spotted	salamander				

•	_: • • • • • • • • • • • • • • • • • • •	0	_	•
2	Egg masses	Spotted salamander	2	9
3	Frog tadpoles	Jefferson salamander		
4	Salamander larvae	Blue-spotted salamander		
<u>.</u> 5	Presence of adults	Spadefoot toad		
	r reserioe or addits	Fingernail clams		
FΔ(	CULTATIVE SPECIES:	Marbled salamander		
	Red-spotted newt adults	Unidentified mole		
	Spotted turtles	salamander		
☐ Blanding's turtles		Fairy shrimp		
	Painted turtles			
=	Snapping turtles			
	Predacious diving beetles	Additional Species Observe	ed:	
♬.		Nama		

☐ Blanding's turtles	Fairy shrimp	
☐ Painted turtles		
☐ Snapping turtles		
☐ Predacious diving beetles	Additional Species Observed:	1
⊠ Fingernail clams	None	
☐ Amphibious snails		
☐ Spring peepers		
☐ American toads	Photo Documentation:	
☐ Fowler's Toad	View Looking E of Pool	
□ Caddis fly case/larvae	Wood frog and spotted salaman	der egg mass
☐ Dragonfly nymphs		
☐ Damselfly nymphs	Conclusions / Comments:	
Leeches		
☐ Pickerel Frog		<b>Breeding Habitat</b>

CHARACTERISTICS OF ADJACENT VEGETATION: (within 100-feet of pool edge)						
% PSS	<u>25</u> % PFO	% PEM				
<u>60</u> % UF	<u>10</u> % ROW	% OFS				

5 % Other / define: WCT33-VP2

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS							
WETLAND #	WCT33-VP2		LENGTH & WIDTH	-	90'	X40'	
TOWN	Suffield, CT		CLOSEST WETLAND		#215-219		)
			FLAG				
AVERAGE WATER DEPTH		14" (Max 2')	COVER TYPE	PE	EМ (	PSS	) PFO

		FLAG		$\frown$	
AVERAGE WATER DEPTH	14" (Max 2')	COVER TYPE	PEM (F	PSS) PFO	
☐ Peat       Tsuga canade.         ☑ Leaf Litter       Vaccinium corg.         ☐ Sand       Pinus strobus		POOL: Acer rubrum Fraxinus americ Ilex verticillata	cana		
☐ Cobble 0% of poo ☑ Mud/Muck	I w/in maintained R	,			
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY	
1 Breeding chorus	Wood frog		2	5	
2 Egg masses	Spotted salar				
3 Frog tadpoles	Jefferson sal				
4 Salamander larvae	Blue-spotted				
5 Presence of adults	Spadefoot to				
	Fingernail cla				
FACULTATIVE SPECIES:	Marbled sala				
Red-spotted newt adults	Unidentified	mole			
☐ Spotted turtles	salamander				
☐ Blanding's turtles	Fairy shrimp				
Painted turtles					
☐ Snapping turtles					
☐ Predacious diving beetles	<u>Additional</u>	Species Observed:			
	None				
Amphibious snails					
Spring peepers					
American toads		umentation:			
Fowler's Toad		ng N of Pool			
Caddis fly case/larvae	Wood frog e	egg mass			
Dragonfly nymphs					
Damselfly nymphs	Conclusions / Com	<u>nments:</u>			
Leeches	N		D	1-1-24-4	
☐ Pickerel Frog	∨ernal Pool	I 🗌 Amphibian	Breeding F	iapitat	
CHARACTERISTICS OF ADJACENT VEGETATION: (within 100-feet of pool edge)					
% PSS	<u>60</u> % PFO	% F	PEM		
% UF	<u>10</u> % ROW	% (	OFS		
<b>5</b> % Other / define: WCT33-VP1					

PROJECT	Coi	nnecticut Expansion		
DATE		April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS		S. Egan, B. Morrill	CONDITIONS	
		<b>^</b> 1	LADAOTEDIOTIOO	

METI AND "	MOTO : :		ARACTERISTI				001
WETLAND #	WCT33-VF			LENGTH & WIDTH		50'X60'	
TOWN	Suffield, C	T		CLOSEST WETLAND #415		5	
				FLAG			$\overline{}$
AVERAGE WATER DEPTH			24" (Max >3')	COVER TYPE	PE	<u>EM (</u> F	PSS) PFO
		GET/	ATION WITHIN				
	us rugosa			Acer rubrum			
	cinium cory	mbo	sum	Cephalanthus		ntalis	
	nna minor			llex verticillata			
☐ Gravel							
	_% of pool	w/in	n maintained R	OW <u>100</u> % of p	ool wi	thin fo	orested area
Mud/Muck							
Breeding Criteria Codes			OBLIGATE S	PECIES	СО	DE	QUANTITY
1 Breeding chorus	<del></del>		Wood frog		2	2	2
2 Egg masses			Spotted salar	mander			
3 Frog tadpoles			Jefferson sal				
4 Salamander larvae			Blue-spotted	salamander			
5 Presence of adults		Spadefoot to					
3   Treserice of addits			Fingernail cla	ams			
FACULTATIVE SPECIES:			Marbled sala				
Red-spotted newt adults		Unidentified mole					
☐ Spotted turtles			salamander				
☐ Blanding's turtles			Fairy shrimp				
☐ Painted turtles	_				-		
☐ Snapping turtles							
Predacious diving beetle	es		Additional	Species Observed	d:		
☐ Dragonfly nymphs			None		<del>_</del>		
☐ Spring peepers							
American toads				umentation:			
☐ Fowler's Toad		View Looking E of Pool					
			Wood frog e	egg mass			
Dragonfly nymphs							
Damselfly nymphs	<u>.</u>	Con	<u>clusions / Com</u>	<u>nments:</u>			
Leeches			_				
☐ Pickerel Frog			✓ Vernal Pool	I Amphibia	n Bree	ding l	Habitat
CHARACTERISTICS OF AD (within 100-feet of pool edg		EGE	TATION:				
% PSS		95	_% PFO	%	PEM		

\_\_\_% ROW

\_\_\_\_% OFS

\_\_\_\_**5**\_\_% Other / define: WCT33-VP4

\_\_\_\_% UF

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS							
WETLAND #	WCT33-VP4	1	LENGTH & WIDTH	-	100'X25'		
TOWN	Suffield, CT	Suffield, CT		ND	#415		
			FLAG				
AVERAGE WATER DEPTH		24" (Max 3')	COVER TYPE	PE	M PSS	(PFO)	
SUBSTRATE:	DOMINANT VEG	ETATION WITHIN	I POOL:				
☐ Peat	Nyssa sylvatica		Acer rubrum				
M 1 ( 1 :44	1/		<b>T</b>				

SOF	SSIRAIE:	DOMINANT VEGETATION WITHIN POOL:						
	Peat	Nyssa sylvatica		Acer rubrum				
$\boxtimes$	Leaf Litter	Vaccinium coryn	nbosum	Tsuga canadensis				
	Sand	Betula allaghaniensis		llex verticillata				
	Gravel	_						
	Cobble	obble0% of pool w/in maintained ROW100% of pool within forested area						
$\boxtimes$	Mud/Muck							
Bree	eding Criteria Code	26	OBLIGATE SPE	CIES	CODE	QUANTIT		
1	Breeding chorus		Wood frog					
2	Egg masses		Spotted salama	nder	2	1		
Lyg masses		1 66						

1	Breeding chorus					
2	Egg masses					
3	Frog tadpoles					
4	Salamander larvae					
5	Presence of adults					
<u> </u>	1					
FACULTATIVE SPECIES:						
I ACCETATIVE SPECIES.						

3	Frog tadpoles	Jenerson Salamander	
4	Salamander larvae	Blue-spotted salamander	
5	Presence of adults	Spadefoot toad	
	1 reserve of dudies	Fingernail clams	
FΔ(	CULTATIVE SPECIES:	Marbled salamander	
_	Red-spotted newt adults	Unidentified mole	
=	Spotted turtles	salamander	
	Blanding's turtles	Fairy shrimp	
	Painted turtles		
_	Snapping turtles		
	Predacious diving beetles	Additional Species Observed:	
=	Dragonfly nymphs	None	
	Amphibious snails		
_	Spring peepers		
	American toads	Photo Documentation:	
	Familiania Tanal	View Lealing Flot Deal	

American toads	Photo Documentation:						
	View Looking E of Pool						
☐ Caddis fly case/larvae	Spotted Salarr	nander egg mass					
☐ Dragonfly nymphs							
□ Damselfly nymphs	<b>Conclusions / Comm</b>	ents:					
Leeches							
☐ Pickerel Frog	∨ Vernal Pool	Amphibian Breeding Habitat					
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)	VEGETATION:						
% PSS	<u>95</u> % PFO	% PEM					

\_\_% ROW

\_\_\_\_% OFS

5 % Other / define: WCT33-VP3

\_\_% UF

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

		СН	IARACTERISTI	CS			
WETLAND #	WCT33-\	/P5		LENGTH & WIDTH		30'X40'	
TOWN	Suffield, 0	CT		CLOSEST WETLAND		#403	
				FLAG			
AVERAGE WATER DEPTH			24" (Max >3')	COVER TYPE	PE	EM F	PSS (PFO)
☐ Peat Nys   ☐ Leaf Litter Vac   ☐ Sand Cep   ☐ Gravel Cobble	Vaccinium corymbosum Ts			Acer rubrum Tsuga canadei Ilex verticillata		thin fo	prested area
Mud/Muck     Mud/Muck			ODLIGATE	DE OIE O	00	DE	OHANITITY
Breeding Criteria Codes			OBLIGATE S	PECIES	CO		QUANTITY
1 Breeding chorus			Wood frog		2/	'3	1/many
2 Egg masses			Spotted salamander				
3 Frog tadpoles			Jefferson salamander				
4 Salamander larvae			Blue-spotted salamander				
5 Presence of adults			Spadefoot toad				
			Fingernail clams				
FACULTATIVE SPECIES:			Marbled salamander				
Red-spotted newt adults	3	Unidentified mole					
Spotted turtles			salamander				
Blanding's turtles			Fairy shrimp				
☐ Painted turtles ☐ Snapping turtles ☐ Productions diving heath			A ddisional	Creation Observed	1_		
Predactions diving beetle	28		None	Species Observed	<u> </u>		
<ul><li>☐ Dragonfly nymphs</li><li>☒ Amphibious snails</li><li>☐ Spring peepers</li></ul>			None				
American toads Photo Documentation:							
Fowler's Toad							
<ul><li>☐ Caddis fly case/larvae</li><li>☐ Dragonfly nymphs</li></ul>			Wood frog t	adpoles			
☐ Damselfly nymphs ☐ Leeches		Con	clusions / Con	nments:			
Dielegal From			M				1-1-1-14-4

 (within 100-feet of pool edge)

 \_\_\_\_% PSS
 \_\_\_\_% PFO
 \_\_\_\_% PEM

 \_\_\_\_\_% UF
 \_\_\_\_\_% ROW
 \_\_\_\_\_% OFS

 \_\_\_\_\_% Other / define:

**CHARACTERISTICS OF ADJACENT VEGETATION:** 

☐ Pickerel Frog

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

		CH	IARACTERISTI	CS			
WETLAND #	WCT33-\	/P6		LENGTH & WIDTH		30'X40'	
TOWN	Suffield,	СТ		CLOSEST WETL FLAG	AND	#405	5
AVERAGE WATER DEPTH			24" (Max >3')	COVER TYPE	PE	EM F	PSS (PFO)
<ul><li>☐ Peat Nys</li><li>☐ Leaf Litter Vac</li><li>☐ Sand</li><li>☐ Gravel</li></ul>	ssa sylvatio ccinium col	ca rymbo		POOL: Acer rubrum Betula allagha  OW 100 % of p			orested area
Breeding Criteria Codes			OBLIGATE S	PECIES	CO	DE	QUANTITY
1 Breeding chorus			Wood frog		2/	/3	2/many
2 Egg masses			Spotted sala	mander	2	2	1
3 Frog tadpoles			Jefferson sal	lamander			
4 Salamander larvae			Blue-spotted	salamander			
5 Presence of adults		Spadefoot toad					
o Troconco or addito			Fingernail cla				
FACULTATIVE SPECIES:			Marbled salamander				
Red-spotted newt adults	3		Unidentified mole				
Spotted turtles			salamander				
☐ Blanding's turtles			Fairy shrimp				
☐ Painted turtles ☐ Snapping turtles ☐ Predacious diving beetles ☐ Dragonfly nymphs ☐ Amphibious snails ☐ Spring peepers ☐ Spring peepers							
☐ American toads ☐ Fowler's Toad ☐ Caddis fly case/larvae ☐ Dragonfly nymphs ☐ Dragonfly nymphs ☐ Photo Documentation: View Looking NE of Pool Spotted Salamander egg mass							
☐ Damselfly nymphs ☐ Leeches ☐ Pickerel Frog			clusions / Com  Vernal Poo		n Bree	ding l	-labitat

<u>90</u>% PFO

\_\_\_\_% ROW

% PEM

\_\_\_\_% OFS

(within 100-feet of pool edge)

\_\_\_\_\_% Other / define:

<u>10</u>% PSS

\_\_\_\_% UF

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS								
WETLAND #	WCT34-VP1		<b>LENGTH &amp; WIDTH</b>	1	40'X35'			
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#102 & 2	05-206		
			FLAG					
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PE	M PSS	(PFO)		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:								

AVERAGE WATER DEPTH	24" (Max >3')	COVER TYPE	PEM F	PSS (PFO)		
	GETATION WITHIN					
☐ Peat Tsuga canade		Acer rubrum				
☐ Leaf Litter Vaccinium cor	ymbosum	Betula allaghan	iensis			
☐ Sand ☐ Gravel		Sphagnum				
	l w/in maintained P	OW <u>100</u> % of po	ol within f	oractad area		
☐ Cobble	i w/iii iiiaiiitaiiieu N	.Ο <b>νν <u>100</u> /</b> 8 οι ρο	OI WILIIIII I	oresteu area		
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY		
1 Breeding chorus	Wood frog		2	3		
2 Egg masses	Spotted sala		2	2		
3 Frog tadpoles	Jefferson sal					
4 Salamander larvae	Blue-spotted					
5 Presence of adults	Spadefoot to					
_	Fingernail cla					
FACULTATIVE SPECIES:	Marbled sala					
Red-spotted newt adults	Unidentified	mole				
Spotted turtles	salamander					
Blanding's turtles	Fairy shrimp					
Painted turtles						
☐ Snapping turtles	A 1 11/41 1					
Predacious diving beetles		Species Observed:				
Fingernail clams	None					
Amphibious snails						
☐ Spring peepers ☐ American toads	Photo Door	umantation				
Fowler's Toad		umentation:				
☐ Caddis fly case/larvae		View Looking E of Pool Spotted salamander egg mass				
☐ Dragonfly nymphs	Spotted Said	amanuer egg mass				
☐ Damselfly nymphs	Conclusions / Con	ments:				
Leeches	OOHOIUSIOHS / OOH	inionto.				
☐ Pickerel Frog	∨ Vernal Poo	I 🔲 Amphibian	Breeding I	-labitat		
_ 0	_	<b>–</b> .	J			
CHARACTERISTICS OF ADJACENT VEGETATION: (within 100-feet of pool edge)						
% PSS	<u>35</u> % PFO	% F	PEM			
<u>60</u> % UF	% ROW	% C	)FS			
<b>5% Other / define:</b> WCT34-VP2						

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS							
WETLAND #	WCT34-VP2		<b>LENGTH &amp; WIDTH</b>	l	90'X45'		
TOWN	Suffield, CT		CLOSEST WETLAND		#104-110		
			FLAG				
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PE	M PSS (	(PFO)	
		•					

			FLAG		
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PEM	1 PSS (PFO)
SUBSTRATE: DOMI	NANT VEGET	<b>TATION WITHIN</b>	POOL:		
	a canadensis		Acer rubrum		
	inium corymbo	osum	Nyssa sylvatica	э	
Sand					
☐ Gravel					
	% of pool w/i	n maintained R	OW <u>100</u> % of p	ool with	in forested area
Mud/Muck					
5 " 6" . 6 .		OBLIGATE S	PECIES	CODI	E QUANTITY
Breeding Criteria Codes		Wood frog		3	many
1 Breeding chorus		Spotted salar	mander	2	34
2 Egg masses		Jefferson sal			
3 Frog tadpoles		Blue-spotted			
4 Salamander larvae		Spadefoot to			
5 Presence of adults		Fingernail cla			
EACHI TATIVE SPECIES		Marbled sala			
FACULTATIVE SPECIES:  Red-spotted newt adults		Unidentified			
Spotted turtles		salamander	-		
☐ Blanding's turtles		Fairy shrimp			
Painted turtles				ı	1
☐ Snapping turtles					
☐ Predacious diving beetles	6	Additional	Species Observed	:	
⊠ Fingernail clams ⊂		None		_	
Amphibious snails					
Spring peepers					
American toads			<u>ımentation:</u>		
Fowler's Toad			g NW of Pool		
☐ Caddis fly case/larvae		Spotted sala	amander egg mass		
Dragonfly nymphs	_				
☐ Damselfly nymphs	<u>Cor</u>	nclusions / Com	<u>iments:</u>		
☐ Leeches		Maria Dasi		. Ducas!!	na Uabitat
☐ Pickerel Frog		∨ Vernal Pool	│	ı Breedi	ng nabitat
CHARACTERISTICS OF ADJ (within 100-feet of pool edge		ETATION:			
(	,				
% PSS	_ 25	5_% PFO	%	PEM	
<u>60</u> % UF	10	<u>%</u> ROW	%	OFS	
5% Other / define: WC7	34-VP1				

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS							
WETLAND#	/CT36-VP1		<b>LENGTH &amp; WIDTH</b>	ł	30'X45'		
TOWN St	uffield, CT		<b>CLOSEST WETLA</b>	ND	#108		
			FLAG				
AVERAGE WATER DEPTH		18" (Max 3')	COVER TYPE	PE	M PSS (PFO)		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:							
	nda cinnamo		Acer rubrum				
	nium corymbo	osum	Betula allaghan	iensis			
☐ Sand							
☐ Gravel	, , , ,		0111 400 0/ 6				
	6 of pool w/i	n maintained R	OW <u>100</u> % of po	ol wi	thin forested area		
■ Mud/Muck							
Breeding Criteria Codes		OBLIGATE S	PECIES	CO	DE QUANTITY		
1 Breeding chorus		Wood frog		2	14		
2 Egg masses		Spotted sala	mander				
3 Frog tadpoles		Jefferson sa	lamander				
4 Salamander larvae		Blue-spotted	salamander				
5 Presence of adults		Spadefoot to					
J   1 leselice of addits		Fingernail cla					
FACULTATIVE SPECIES:		Marbled sala					
Red-spotted newt adults		Unidentified					
Spotted turtles		salamander					
Shorten truttes		Fairy chrimn					

Bre	eding Criteria Codes	OBLIGATE OF E	.0120	OODL	QUAIT!
1	Breeding chorus	Wood frog		2	14
2	Egg masses	Spotted salama			
3	Frog tadpoles	Jefferson salan	nander		
4	Salamander larvae	Blue-spotted sa			
5	Presence of adults	Spadefoot toad			
	1 received the during	Fingernail clam			
FAC	CULTATIVE SPECIES:	Marbled salama	ander		
	Red-spotted newt adults	Unidentified mo	ole		
_	Spotted turtles	salamander			
	Blanding's turtles	Fairy shrimp			
	Painted turtles				
⊟∶	Snapping turtles				
	Predacious diving beetles	Additional Sp	ecies Observed	:	
□ F	ingernail clams	None		_	
	Amphibious snails				
	Spring peepers				
	American toads	Photo Docum	entation:		
_ <b>□</b> F	owler's Toad	View Looking	E of Pool		
$\boxtimes$ (	Caddis fly case/larvae	Wood frog egg	mass		
	Dragonfly nymphs				
	Damselfly nymphs	<b>Conclusions / Comm</b>	ents:		
	eeches .				
☐ F	Pickerel Frog	⊠ Vernal Pool	Amphibian	Breeding	Habitat
•	ARACTERISTICS OF ADJACEN hin 100-feet of pool edge)	T VEGETATION:			
	% PSS	<u>99</u> % PFO	%	PEM	
	% UF	1% ROW	%	OFS	

\_\_\_\_% Other / define:

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT39-VP1		LENGTH & WIDTH		100	)'X40'	
TOWN	Suffield, CT		CLOSEST WETLAND		#106-110		
			FLAG	_			
AVERAGE WATER DEPTH 18" (Max 3')		COVER TYPE	(PE	EM)	PSS	PFO	

- 12=111	- ( )			
SUBSTRATE: DOMINANT VE	GETATION WITHIN P	200I ·	_	
Peat Onoclea sensi		Acer rubrum		
☐ Feat Choclea sensii		Scirpus cyperir	2110	
	ymbosum			
		Cornus amomu	um	
☐ Gravel		M 0 0/ - f I		-41
	I w/in maintained RO	W <u>0</u> % of pool	within fore	sted area
Mud/Muck				
Breeding Criteria Codes	OBLIGATE SP	ECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog		3	20+
2 Egg masses	Spotted salam	ander		
3 Frog tadpoles	Jefferson salar	mander		
4 Salamander larvae	Blue-spotted s	alamander		
5 Presence of adults	Spadefoot toad			
5 Fresence of addits	Fingernail clan			
FACULTATIVE SPECIES:	Marbled salam			
Red-spotted newt adults	Unidentified m	ole		
Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
Painted turtles				
☐ Snapping turtles				
☐ Predacious diving beetles	Additional Si	pecies Observed	:	
☐ Fingernail clams	None		<del>-</del>	
Amphibious snails				
Spring peepers				
☐ American toads	Photo Docum	nentation:		
☐ Fowler's Toad	View Looking			
☐ Caddis fly case/larvae	<b>J</b>			
☐ Dragonfly nymphs				
☐ Damselfly nymphs	Conclusions / Comm	nents:		
Leeches				
☐ Pickerel Frog	∨ Vernal Pool	Amphibiar	Breeding I	Habitat
_			•	
CHARACTERISTICS OF ADJACENT V (within 100-feet of pool edge)	/EGETATION:			
% PSS	% PFO	%	PEM	
<u>63</u> % UF	<u>10</u> % ROW	<u>25</u> %	OFS	
% Other / define:				

PROJECT		t Expansion					
DATE	May 1		WEATHER		Raining, (0.	89"), O	vercast,
OBSERVERS	S. Ega	ın, B. Morrill	CONDITIONS		69°F	'F	
			HARACTERISTI	CS			
WETLAND #		WCT41-VP1		LENGTH 8	& WIDTH	70'X4	10'
TOWN		Suffield, CT		CLOSEST	WETLAND	#201	
		,		FLAG	_		
<b>AVERAGE WA</b>	TER DEPTH		12" (Max 2')	COVER TY	<b>YPE</b> (P	EM) P	SS PFO
SUBSTRATE:	_	_	TATION WITHIN		,		
Peat	_	oclea sensibili:	5	Acer ru			
Leaf Litter		us rugosa <sub>.</sub>		Juncus	effusus		
Sand	Sci	rpus cyperinus	•				
☐ Gravel	_	a					
Cobble		_% of pool w	/in maintained R	OW <u>100</u>	_% of pool w	ithin fo	rested area
⊠ Mud/Muck							
Dungalina Cuito	nia Cadaa		OBLIGATE S	PECIES	CC	DE	QUANTITY
Breeding Crite  1 Breeding			Wood frog			3	20+
			Spotted sala	mander		2	1
			Jefferson sa				<u> </u>
			Blue-spotted		r		
4 Salamand			Spadefoot toad		-		
5 Presence	or adults		Fingernail clams				
	ODEOLEO.		Marbled sala				
FACULTATIVE		_	Unidentified				
	d newt adults	5	salamander				
☐ Spotted turi			Fairy shrimp				
☐ Blanding's ☐ Painted turt			Tuny Siminp	'			
☐ Snapping to	diving beetl	00	Additional	Species Ob	sorvod:		
Fingernail of		<b>62</b>	None	Species On	<u>serveu.</u>		
☐ Fingernan d			None				
Spring peer							
American to	oeis Sade		Photo Doc	umentation			
Fowler's To				ng NE of Poo			
☐ Towler's To					l spotted sala	mandar	and mass
☐ Dragonfly n			vvood nog i	laupoles allu	i spotted sala	manuei	egg mass
☐ Damselfly n		C	onclusions / Con	nmente:			
Leeches	iyiiipiis	<u>C(</u>	/HOIGIGHO / GUII	mienta.			
☐ Pickerel Fro	oa.		∀ Vernal Poo	l □ Δm	phibian Bree	dina H	lahitat
	<b>'</b> 9		∠ Volliai i 00		Pilibiali Diec	anig II	aditat
CHARACTERIS (within 100-fee		je)	GETATION:		% PEM		
% P33			<u>70</u>		70 PEIVI		

<u>10</u>% ROW

\_\_\_\_% OFS

\_\_\_\_% UF

\_\_\_\_% Other / define:

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT41-VP2		LENGTH & WIDTH	l	60'X50'		
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#193-196		
			FLAG				
AVERAGE WATER DEPTH		14" (Max 3')	COVER TYPE	PE	M PSS (	PFO)	

			FLAG			
AVERAGE WATER DEPTH		14" (Max 3')	COVER TYPE	PĖM	PSS (PFO)	
		, ,		•		
SUBSTRATE: DOM	INANT VEGET	TATION WITHIN	POOL:			
	clea sensibilis		Acer rubrum			
	verticillata		Equisetum sp.			
Sand Que	rcus palustris		Carex sp.			
☐ Gravel						
	_% of pool w/i	n maintained R	OW <u>100</u> % of p	ool withir	n forested area	
Mud/Muck						
5 " 6" · 6 ·		OBLIGATE S	PECIES	CODE	QUANTITY	
Breeding Criteria Codes		Wood frog	0:20	2	1	
1 Breeding chorus	<del> </del>	Spotted sala	mander		<del>'</del>	
2 Egg masses	<del> </del>	Jefferson sal				
3 Frog tadpoles	<del> </del>	Blue-spotted				
4 Salamander larvae		Spadefoot to				
5 Presence of adults		Fingernail cla				
EACHI TATIVE SPECIES.	Marbled salamander					
FACULTATIVE SPECIES:  Red-spotted newt adults		Unidentified				
Spotted turtles		salamander	-			
☐ Blanding's turtles		Fairy shrimp				
Painted turtles					1	
☐ Snapping turtles						
☐ Predacious diving beetle	s	Additional	Species Observed	:		
Fingernail clams		None		_		
Amphibious snails						
☐ Spring peepers						
American toads			umentation:			
Fowler's Toad		View Lookir	ng E of Pool			
Caddis fly case/larvae						
Dragonfly nymphs	_					
Damselfly nymphs	<u>Coı</u>	nclusions / Com	<u>nments:</u>			
Leeches		Name - LB	I	D		
☐ Pickerel Frog		∨ Vernal Poo	I 🗌 Amphibian	Breedin	g Habitat	
CHARACTERISTICS OF AD. (within 100-feet of pool edge		ETATION:				
(within 100-leet of poor edge	7)					
% PSS	_ 80	<u>)   </u> % PFO	%	PEM		
% UF	0	% ROW	10%(	OFS		
10 % Other / define: Dirt	access/farm ro	oad				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT45-VP1		<b>LENGTH &amp; WIDTH</b>	l	175'X30'		
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#402-405	•	
			FLAG				
AVERAGE WATER DEPTH		12" (Max 2')	COVER TYPE	PE	M PSS	(PFO)	
SUBSTRATE: DOM	IINANT VEGET	ATION WITHIN	POOL:				

AVERAGE WATER DEPTH	12" (Max 2')	COVER TYPE	PEM I	PSS (PFO)
				<u> </u>
	GETATION WITHIN			
Peat Symplocarpus	foetidus	Acer rubrum		
Leaf Litter Carex stricta				
Sand Rhododendror	n viscosum			
☐ Gravel	Landon and the Calabara A. B.	014 400 0/ - (		
	i w/in maintained R	OW <u>100</u> % of po	ool within t	orested area
Mud/Muck				
Breeding Criteria Codes	OBLIGATE S	SPECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog		2/3	1/many
2 Egg masses	Spotted sala		2	7
3 Frog tadpoles	Jefferson sa			
4 Salamander larvae		l salamander		
5 Presence of adults	Spadefoot to	oad		
o i i i o o o i a a a i o	Fingernail cl			
FACULTATIVE SPECIES:	Marbled sala			
Red-spotted newt adults	Unidentified	mole		
☐ Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
Painted turtles				
☐ Snapping turtles				
☐ Predacious diving beetles	<u>Additional</u>	<b>Species Observed:</b>		
☐ Fingernail clams	None			
☐ Spring peepers				
American toads		<u>umentation:</u>		
☐ Fowler's Toad		ng NW of Pool		
Caddis fly case/larvae	Spotted sal	lamander egg masse	S	
Dragonfly nymphs				
Damselfly nymphs	Conclusions / Con	nments:		
Leeches	<u> </u>			
☐ Pickerel Frog	∨ Vernal Poor     ✓ V	I 🗌 Amphibian	Breeding I	Habitat
CHARACTERISTICS OF ADJACENT V	ECETATION.			
(within 100-feet of pool edge)	EGETATION:			
(within 100-leet of pool eage)				
% PSS	<u>85</u> % PFO	% F	PEM	
<u>15</u> % UF	<u>0</u> % ROW	% C	OFS	
% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT45-VP2		LENGTH & WIDTH	ł	100'X55'		
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#202-214		
			FLAG				
AVERAGE WATER DEPTH		18" (Max >3')	COVER TYPE	PE	EM PSS (	(PFO)	

		FLAG		
AVERAGE WATER DEPTH	18" (Max >3')	COVER TYPE	PEM	PSS (PFO)
SUBSTRATE: DOMINANT VEC	SETATION WITHIN	POOL:		
Peat Symplocarpus f		Acer rubrum		
Leaf Litter Carex stricta	Octions	Vaccinium cory	mhooum	
Sand Rhododendron	vicecum	vaccinium cory	HIDOSUITI	
	VISCOSUITI			
Gravel	/in maintainad D	OW 400 0/ of ma	ع ما ما الما الما	anaatad anaa
	w/in maintained R	OW <u>100</u> % of po	ooi witnin i	orested area
Mud/Muck				
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog			
2 Egg masses	Spotted salar		2	26+
3 Frog tadpoles	Jefferson sal	amander		
4 Salamander larvae	Blue-spotted	salamander		
5 Presence of adults	Spadefoot to	ad		
- I reserve or addits	Fingernail cla	ams		
FACULTATIVE SPECIES:	Marbled sala	mander		
Red-spotted newt adults	Unidentified	mole		
☐ Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
Painted turtles		•		
☐ Snapping turtles				
☐ Predacious diving beetles	Additional	Species Observed:		
⊠ Fingernail clams	None	<u>- pooteo o toot rout</u>	•	
Amphibious snails				
☐ Spring peepers				
American toads	Photo Docu	umentation:		
Fowler's Toad		ng W of Pool		
☐ Caddis fly case/larvae		amander egg masse	s	
☐ Dragonfly nymphs	Opoliou ouit	amanaor ogg macco		
	Conclusions / Com	ments:		
Leeches				
☐ Pickerel Frog	∇ernal Pool	I 🗌 Amphibian	Breeding	Habitat
_			. 9	
<b>CHARACTERISTICS OF ADJACENT VI</b>	EGETATION:			
(within 100-feet of pool edge)				
% PSS	<u>40</u> % PFO	% F	PEM	
<u>57</u> % UF	3_% ROW	% (	OFS	
% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT46-VP1		LENGTH & WIDTH	ł	100'X55'		
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#404-405		
			FLAG				
AVERAGE WATER DEPTH		12" (Max 30")	COVER TYPE	PE	EM PSS (	(PFO)	

	1	1 LAG		
AVERAGE WATER DEPTH	12" (Max 30")	COVER TYPE	PEM I	PSS (PFO)
SUBSTRATE:  Peat Symplocarpus foe Quercus palustris Sand Gravel Cobble Mud/Muck  DOMINANT VEGE Symplocarpus foe Quercus palustris Quercus palustris Quercus palustris Quercus palustris	otidus	POOL: Acer rubrum Vaccinium cory		orested area
Broading Critaria Cadas	OBLIGATE S	PECIES	CODE	QUANTITY
Breeding Criteria Codes  1 Breeding chorus	Wood frog	0: _ 0	3	Many
	Spotted sala	mander	2	3
2 Egg masses — — — — — — — — — — — — — — — — — —	Jefferson sa		<del></del>	-
4 Salamander larvae	Blue-spotted			
5 Presence of adults	Spadefoot to			
5   Fresence of addits	Fingernail cla			
FACULTATIVE SPECIES:	Marbled sala			
Red-spotted newt adults	Unidentified	mole		
Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
Painted turtles				
☐ Snapping turtles				
☐ Predacious diving beetles		Species Observed:	ī	
⊠ Fingernail clams	None			
Amphibious snails				
Spring peepers				
American toads		umentation:		
Fowler's Toad	View Lookir	ng W of Pool		
☐ Caddis fly case/larvae				
☐ Dragonfly nymphs				
☐ Damselfly nymphs <u>Co</u> ☐ Leeches	onclusions / Con	<u>iments:</u>		
☐ Pickerel Frog	⊠ Vernal Poo	I 🗌 Amphibian	Brooding I	Habitat
i ickerei i iog	☑ Veillai i 00		Diecuing i	ιαριτατ
CHARACTERISTICS OF ADJACENT VEO (within 100-feet of pool edge)	SETATION:			
% PSS	<u>96</u> % PFO	% F	PEM	
4% UF	% ROW	% (	OFS	
% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

OUAD ACTEDIOTION							
	C	<u>HARACTERISTI</u>	CS				
WETLAND #	WCT46-VP2		LENGTH & WIDTH	ł	120'X90'		
TOWN	Suffield, CT	•	<b>CLOSEST WETLA</b>	ND	#225-231	•	
			FLAG				
AVERAGE WATER DEP	TH	24" (Max >3')	COVER TYPE	PE	EM PSS (	(PFO)	
SUBSTRATE: [	OMINANT VEGE	TATION WITHIN	POOL:				
□ Boot	Cumpala an united for	tiala	1				

AVE	RAGE WATER DEPTH	24" (Max >3')   <b>CO</b>	VER TYPE	PEM F	PSS (PFO)
			_		
		EGETATION WITHIN POC	· <del></del>		
	Peat Symplocarpu		Acer rubrum		
$\bowtie$	Leaf Litter	a	Vaccinium corym	ibosum	
H	Sand Gravel				
片		ol w/in maintained ROW	100 % of pos	al within f	oracted area
$\forall$	Mud/Muck	or will maintained ROW		) WILIIII I	oresteu area
	Wud/Wuck				
Bre	eding Criteria Codes	OBLIGATE SPECI	ES	CODE	QUANTITY
1	Breeding chorus	Wood frog			
2	Egg masses	Spotted salamand		2	20+
3	Frog tadpoles	Jefferson salamaı			
4	Salamander larvae	Blue-spotted sala	mander		
5	Presence of adults	Spadefoot toad			
		Fingernail clams			
FAC	CULTATIVE SPECIES:	Marbled salamand			
	Red-spotted newt adults	Unidentified mole	;		
	Spotted turtles	salamander			
	Blanding's turtles	Fairy shrimp			
□F	Painted turtles				
	Snapping turtles				
	Predacious diving beetles	Additional Spec	ies Observed:		
□ F	ingernail clams	None			
	Amphibious snails				
	Spring peepers				
=	American toads	Photo Documen			
	Fowler's Toad	View Looking W			
	Caddis fly case/larvae	Spotted salaman	der egg masses		
	Dragonfly nymphs				
	Damselfly nymphs	Conclusions / Commen	<u>ts:</u>		
	eeches_	<u> </u>	¬		
Ш Н	Pickerel Frog	✓ Vernal Pool     ✓	Amphibian E	3reeding H	Habitat
СП	ARACTERISTICS OF ADJACENT	VECETATION:			
_	hin 100-feet of pool edge)	VEGETATION:			
(WIL	illi 100-leet of pool edge)				
	% PSS	<u>35</u> % PFO	% PE	ΞM	
5	<u>0_</u> % UF	<u>15</u> % ROW	% OI	FS	
	% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT49-VP1		LENGTH & WIDTH	-	80'	X80'	
TOWN	Suffield, CT		CLOSEST WETLAND		#400-412		)
		FLAG					
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PE	ЕМ (	(PSS)	PFO

AVED ACE WATER DEPTH	24" (142) : 2"	COVED TYPE		DEC DEC
AVERAGE WATER DEPTH	24" (Max >3')	COVER TYPE	PEM (F	PSS) PFO
<ul> <li>☐ Peat Cephalanthus</li> <li>☐ Leaf Litter Ilex verticillata</li> <li>☐ Sand</li> <li>☐ Gravel</li> </ul>		Acer rubrum Vaccinium cory		
☐ Cobble <u>20</u> % of poo ☑ Mud/Muck	I w/in maintained R	OW <u>80</u> % of po	ool within f	orested area
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog			
2 Egg masses	Spotted salar	mander	2	12+
3 Frog tadpoles	Jefferson sal	amander		
4 Salamander larvae	Blue-spotted	salamander		
5 Presence of adults	Spadefoot to			
J Tresence of addits	Fingernail cla			
FACULTATIVE SPECIES:	Marbled sala			
Red-spotted newt adults	Unidentified	mole		
☐ Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
Painted turtles				
☐ Snapping turtles				
Predacious diving beetles	Additional	Species Observed:	:	
Fingernail clams	Ribbon Sna		<u>-</u> '	
☐ Amphibious snails				
☐ Spring peepers				
		<u>umentation:</u>		
☐ Fowler's Toad		ng SE of Pool		
Caddis fly case/larvae	Spotted sala	amander egg masse	S	
Dragonfly nymphs				
Damselfly nymphs	Conclusions / Com	<u>nments:</u>		
Leeches				
☐ Pickerel Frog	⊠ Vernal Poo	I 🗌 Amphibian	Breeding I	Habitat
CHARACTERISTICS OF ADJACENT \ (within 100-feet of pool edge)	/EGETATION:			
% PSS	% PFO	% F	PEM	
% UF	<u>15</u> % ROW	<u>50</u> % (	OFS	
12 % Other / define: Access Road,	gravel/paved			

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS								
WETLAND #	WCT50B-VP1		LENGTH & WIDTH	ł	60'X60'			
TOWN	Suffield, CT		CLOSEST WETLA	ND	#307			
			FLAG					
AVERAGE WATER DEPTH	18" (Max 3')	COVER TYPE	PE	EM PSS	(PFO)			
SUBSTRATE: DOM	IINANT VEGET	TATION WITHIN	POOL:					

AVE	RAGE WATER DE	PIH	18" (IVIAX 3")	COVER TYPE	PEM F	288 (PFU)
0115	OCTO ATE	DOMINANT VEGET	ATION MUTIUS			
SUE	SSTRATE:	DOMINANT VEGET	ATION WITHIN			
Ц	Peat	Fagus grandifolia		Acer rubrum	_	
$\boxtimes$	Leaf Litter	llex verticillata		Vaccinium cory		
Ш	Sand	Fraxinus americana	Э	Osmunda cinna	ımomea	
	Gravel					
	Cobble	0_% of pool w/i	n maintained R	OW <u>100</u> % of po	ool within fo	orested area
$\boxtimes$	Mud/Muck					
Bro	eding Criteria Cod	06	OBLIGATE S	PECIES	CODE	QUANTITY
1	Breeding chorus	#5 <u> </u>	Wood frog		3	20+
2	Egg masses		Spotted sala	mander	2	1
3	Frog tadpoles		Jefferson sa		<del>_</del>	·
4	Salamander larva		Blue-spotted	l salamander		
5	Presence of adul		Spadefoot to			
่อ	Presence of adult	<u> </u>	Fingernail cl			
ΕΛC	CULTATIVE SPECI		Marbled sala			
	Red-spotted newt a		Unidentified	mole	-	
	Spotted turtles	laulis	salamander			
	Blanding's turtles		Fairy shrimp			
	Painted turtles			1		•
	Snapping turtles					
	Predacious diving	beetles	Additional	Species Observed:	:	
	ingernail clams		None		•	
	Amphibious snails					
	Spring peepers					
	American toads		Photo Doc	umentation:		
=	Fowler's Toad			ng NE of Pool		
Πo	Caddis fly case/larv	/ae		amander egg mass		
	Dragonfly nymphs					
	Damselfly nymphs	Cor	nclusions / Con	nments:		
	_eeches					
□ F	Pickerel Frog		✓ Vernal Poo	I 🗌 Amphibian	Breeding I	Habitat
	•					
	ARACTERISTICS C	F ADJACENT VEGE ol edge)	ETATION:			
	% PSS	60	)_% PFO	% F	PEM	
1	<u>0_</u> % UF		% ROW	<u>30</u> % (	OFS	
	% Other / define	<b>e</b> :				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT50D-VP	1	LENGTH & WIDTH	ł	60'	K60'	
TOWN	Suffield, CT		<b>CLOSEST WETLA</b>	ND	#30	0-304	
			FLAG				
AVERAGE WATER DEPTH		24" (Max >3')	COVER TYPE	PE	EM	PSS (	(PFO)
	_	_		•	•		

		ILAG		
AVERAGE WATER DEPTH	24" (Max >3')	COVER TYPE	PEM	PSS (PFO)
		POOL: Acer rubrum Vaccinium cory		orested area
Mud/Muck				
Broading Critaria Cadaa	OBLIGATE S	PECIES	CODE	QUANTITY
Breeding Criteria Codes  1 Breeding chorus	Wood frog		3	many
2 Egg masses	Spotted sala	mander	-	,
3 Frog tadpoles	Jefferson sa			
4 Salamander larvae	Blue-spotted	salamander		
5 Presence of adults	Spadefoot to	ad		
5 Treserice of addits	Fingernail cl	ams		
FACULTATIVE SPECIES:	Marbled sala	mander		
Red-spotted newt adults	Unidentified	mole		
Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp			
☐ Painted turtles				
Snapping turtles				
Predacious diving beetles		Species Observed:	•	
Fingernail clams	None			
Amphibious snails				
☐ Spring peepers ☐ American toads	Dhota Doo	umantation.		
Fowler's Toad		<u>umentation:</u> ng S of Pool		
☐ Towler's Todd ☐ Caddis fly case/larvae	VIEW LOOKII	ig 5 01 F 001		
☐ Dragonfly nymphs				
	onclusions / Con	nments:		
Leeches		<u></u>		
☐ Pickerel Frog	∨ Vernal Poo	I 🗌 Amphibian	Breeding I	Habitat
-		•		
CHARACTERISTICS OF ADJACENT VEO	GETATION:			
% PSS	<u>10  </u> % PFO	% F	PEM	
	% ROW	<u>75</u> % (	OFS	
% Other / define:				

PROJECT	Connecticut Expansion		
DATE	May 1, 2014	WEATHER	Raining, (0.89"), Overcast,
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	69°F

CHARACTERISTICS							
WETLAND #	WCT51-VP1		LENGTH & WIDTH	-	80'X30'		
TOWN	Suffield, CT		CLOSEST WETLAND		#104-107		
			FLAG				
AVERAGE WATER DEPTH		12" (Max 18")	COVER TYPE	PE	M PSS	(PFO)	

AVERAGE WATER DEPTH	12" (Max 18")	COVER TYPE	PEM	PSS (PFO)	
AVERAGE WATER DEFTI	12 (IVIAX 10 )	COVERTIFE	FEIVI	F33 (FFU)	
SUBSTRATE: DOMINANT VEGI Peat Cornus amomum Leaf Litter Ilex verticillata	,	l <b>POOL:</b> Acer rubrum Vaccinium cory	mbosum		
☐ Sand Fraxinus america	na				
☐ Gravel		011/ 400 0/ 6			
	//in maintained R	OW <u>100</u> % of po	ool within t	orested area	
⊠ Mud/Muck					
Broading Critoria Codes	OBLIGATE S	PECIES	CODE	QUANTITY	
Breeding Criteria Codes  1 Breeding chorus	Wood frog				
2 Egg masses	Spotted sala	mander	2	9	
3 Frog tadpoles	Jefferson sa				
4 Salamander larvae		salamander			
5 Presence of adults	Spadefoot toad				
Fingernail clams					
FACULTATIVE SPECIES:	Marbled sala				
Red-spotted newt adults	Unidentified	mole			
Spotted turtles	salamander				
☐ Blanding's turtles	Fairy shrimp				
Painted turtles		•		•	
☐ Snapping turtles					
☐ Predacious diving beetles	Additional	Species Observed:	:		
☐ Fingernail clams	None	<u> </u>	-		
Amphibious snails					
Spring peepers					
☐ American toads		umentation:			
☐ Fowler's Toad	View Lookir	ng SE of Pool			
☐ Caddis fly case/larvae	Spotted sal	amander egg mass			
☐ Dragonfly nymphs					
	onclusions / Con	nments:			
Leeches	_	_			
☐ Pickerel Frog	∨ Vernal Poo	I 🗌 Amphibian	Breeding	Habitat	
CHARACTERISTICS OF ADJACENT VEO	GETATION:				
% PSS	<u>15</u> % PFO	% I	PEM		
40% UF	<u>13_</u> % ROW	<u>10</u> % (	OFS		
22 % Other / define: PEM/Open Ag Fi	eld				

PROJECT	Connecticut Expansion		
DATE	April 30, 2014	WEATHER	Raining (1.94"), 45°F
OBSERVERS	S. Egan, B. Morrill	CONDITIONS	

CHARACTERISTICS						
WETLAND #	Near WCT32	2	LENGTH & WIDTH	-	46'X50'	
TOWN	Suffield, CT		CLOSEST WETLAND		#300	
			FLAG			
AVERAGE WATER DEPTH		24" (Max 3.5')	COVER TYPE	PE	M PSS	(PFO)

AVERAGE WATER DEPTH	24" (Max 3.5')	COVER TYPE	PEM	PSS (PFO)
SUBSTRATE: DOMINANT VE	GETATION WITHIN	N POOL: Acer rubrum		
□ Leaf Litter Vaccinium cory	rmbosum -	Quercus bicoloi	r	
☐ Sand				
☐ Gravel				
☐ Cobble <u>45</u> % of pool	w/in maintained F	ROW <u>55</u> % of po	ool within f	orested area
Mud/Muck		_		
Breeding Criteria Codes	OBLIGATE S	SPECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog		2/3	9/many
2 Egg masses	Spotted sala	ımander	2	6
3 Frog tadpoles	Jefferson sa	lamander		
4 Salamander larvae	Blue-spotted	d salamander		
5 Presence of adults	Spadefoot to			
5 Presence of addits	Fingernail cl		5	many
FACULTATIVE SPECIES:	Marbled sala			•
Red-spotted newt adults	Unidentified	mole		
Spotted turtles	salamander			
☐ Blanding's turtles	Fairy shrimp	)		
Painted turtles				1
☐ Snapping turtles				
☐ Predacious diving beetles	Additional	Species Observed:		
☐ Dragonfly nymphs	None		•	
Amphibious snails				
Spring peepers				
American toads	Photo Doc	umentation:		
Fowler's Toad	View NE of	Pool		
□ Caddis fly case/larvae	Spotted sal	lamander egg masse	s	
☐ Dragonfly nymphs				
	<b>Conclusions / Cor</b>	nments:		
Leeches				
☐ Pickerel Frog	∨ Vernal Poor	ol 🗌 Amphibian	Breeding	Habitat
CHARACTERISTICS OF ADJACENT V (within 100-feet of pool edge)	EGETATION:			
% PSS	<u>39</u> % PFO	% F	PEM	
% UF	<u>20</u> % ROW	% (	OFS	
2 % Other / define: WCT32-VP2				

PROJECT	Conn	ecticut Expansion		
DATE	4	4/21/14	WEATHER	45° F
OBSERVERS	(	O'Sullivan/Stearns	CONDITIONS	Full Sun
•	•			

CHARACTERISTICS						
WETLAND #	VETLAND # VP WMA3-1 LENGTH & WIDTH					
TOWN	Sandisfield, MA		CLOSEST WETLAND		416	
			FLAG			
AVERAGE WATER DEPTH		8-10"	COVER TYPE		PFO	

	Carraionola	, 1417 (	FLAG				
AVERAGE WATER DEPTH		8-10"	COVER TYPE		PFO		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:  Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia  Sand Gravel Cobble Mud/Muck  Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia  Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia  Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia Dominant Vegetation Within Pool: Tsuga canadensis, Acer rubrum, Oncolea sensibilis, Sambucus candensis, Typha latifolia							
Breeding Criteria Codes		OBLIGATE S	SPECIES	CODE	QUANTITY		
1 Breeding chorus		Wood frog					
2 Egg masses		Spotted sala		2	4		
3 Frog tadpoles		Jefferson sa	lamander				
4 Salamander larvae			d salamander				
5 Presence of adults		Spadefoot to					
Fingernail clams							
FACULTATIVE SPECIES:		Marbled sala					
Red-spotted newt adults		Unidentified	mole				
☐ Spotted turtles		salamander					
☐ Blanding's turtles							
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs							
☐ Damselfly nymphs	<u>(</u>	Conclusions / Cor	<u>nments:</u>				
<ul><li>☐ Leeches</li><li>☐ Pickerel Frog</li></ul>		⊠ Vernal Poo	ol 🗌 Amphibian	Breeding	) Habitat		
CHARACTERISTICS OF AD (within 100-feet of pool edg% PSS		EGETATION:  50 % PFO	% I	PEM			
<u>20</u> % UF	_	% ROW	%(	OFS			
30 % Other / define: Town Hill Road and above ground gas line facility							

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	45° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS						
WETLAND #	ETLAND # VP WMA3-2				10x50'	
TOWN	Sandisfield, MA		CLOSEST WETLAND		406	
	•		FLAG			
AVERAGE WATER DEPTH		8-14"	COVER TYPE		PFO PEM	

			FLAG				
AVERAGE WATER DEPTH		8-14"	COVER TYPE	PF	O PEM		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:    Peat							
∐ Sand							
☐ Cobble							
_	_% or pool w/	in maintained R	OW <u>70</u> % of poo	i within for	ested area		
Breeding Criteria Codes		OBLIGATE S	PECIES	CODE	QUANTITY		
1 Breeding chorus		Wood frog					
2 Egg masses		Spotted salar	mander	2	4		
3 Frog tadpoles		Jefferson sal	amander				
4 Salamander larvae		Blue-spotted	salamander				
5 Presence of adults		Spadefoot to	ad				
Fingernail clams							
FACULTATIVE SPECIES: Marbled salamander							
Red-spotted newt adults	;	Unidentified	mole				
☐ Spotted turtles	salamander						
☐ Blanding's turtles	Fairy shrimp						
☐ Painted turtles							
☐ Snapping turtles							
☐ Predacious diving beetle	es	<u>Additional</u>	Species Observed	<u>:</u> None			
Dragonfly nymphs							
Amphibious snails							
Spring peepers							
American toads		Photo Doci	<u>umentation:</u> Yes				
Fowler's Toad							
☐ Caddis fly case/larvae							
☐ Dragonfly nymphs	0.5						
<ul><li>☐ Damselfly nymphs</li><li>☐ Leeches</li></ul>	<u>Co</u>	nclusions / Com	<u>iments:</u>				
☐ Pickerel Frog		∀ Vernal Poo	I 🗆 Amphibian	Breeding I	Uahitat		
Fickerel 1 Tog		✓ Vernai FOO		i bieeuilig i	ιαριιαι		
CHARACTERISTICS OF AD- (within 100-feet of pool edge		ETATION:					
% PSS		0 % PFO	10 %	PEM			
		<del></del>					
<u>20</u> % UF		% ROW	%	OFS			
20 % Other / define: Abo	ove ground ga	s line facility					

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	50° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS						
WETLAND #	VP WMA5-1		<b>LENGTH &amp; WIDTH</b>		8x15'	
TOWN	Sandisfield, MA		CLOSEST WETLAND		306	
			FLAG			
AVERAGE WATER DEPTH		6-8"	COVER TYPE		PFO	

			FLAG				
AVERAGE WATER DEPTH		6-8"	COVER TYPE	F	PFO		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:    Peat							
	% of pool w/i	in maintained R	OW <u>100</u> % of po	ol within fo	rested area		
Mud/Muck							
		OBLIGATE S	DECIES	CODE	QUANTITY		
Breeding Criteria Codes		Wood frog	FLUILS	CODL	QUANTITI		
1 Breeding chorus		Spotted salar	mander	2	3		
2 Egg masses 3 Frog tadpoles		Jefferson sal					
4 Salamander larvae		Blue-spotted					
5 Presence of adults		Spadefoot to	ad				
o   Treserior of addition		Fingernail clams					
FACULTATIVE SPECIES:	ACULTATIVE SPECIES: Marbled salamander						
Red-spotted newt adults	Unidentified mole						
☐ Spotted turtles	salamander						
Blanding's turtles		Fairy shrimp					
Painted turtles							
☐ Snapping turtles		A -1 -1:4: 1 :	O	. N			
Predacious diving beetle	es	Additional	Species Observed	: None			
<ul><li>☐ Dragonfly nymphs</li><li>☐ Amphibious snails</li></ul>							
Spring peepers							
☐ American toads		Photo Docu	umentation: Yes				
Fowler's Toad							
Caddis fly case/larvae							
Dragonfly nymphs							
Damselfly nymphs	Col	nclusions / Com	<u>iments:</u>				
☐ Leeches		M Vernel Deel		. Dunnalina I	labitat		
☐ Pickerel Frog		∨ Vernal Pool     ver	i <u> </u>	Breeding I	abitat		
CHARACTERISTICS OF AD (within 100-feet of pool edg		ETATION:					
% PSS		0 % PFO	%	PEM			
		<u></u>					
% UF	1	0_% ROW	%	OFS			
% Other / define:							

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	50° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS					
WETLAND # VP WMA6-1 LENGTH & WIDTH 10x40'					10x40'
TOWN	Sandisfield, MA		CLOSEST WETLAND		312
		FLAG			
AVERAGE WATER DEPTH		6-8"	COVER TYPE		PEM

AVERAGE WATER DEPTH	6-8"	COVER TYPE	F	PEM		
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:  Peat						
Breeding Criteria Codes			CODE	QUANTITY		
1 Breeding chorus	Wood fro		2	2		
2 Egg masses		salamander	2	3		
3 Frog tadpoles		n salamander				
4 Salamander larvae	Blue-spotted salamander					
5 Presence of adults	Spadefoo					
	Fingerna					
FACULTATIVE SPECIES:		salamander				
Red-spotted newt adults Unidentified mole						
Spotted turtles	salamander					
☐ Blanding's turtles	Fairy shr	imp				
Blanding's turtles Fairy shrimp   Painted turtles Snapping turtles   Predacious diving beetles Additional Species Observed: None   Dragonfly nymphs Amphibious snails   Spring peepers American toads   American toads Photo Documentation: Yes   Fowler's Toad Caddis fly case/larvae   Dragonfly nymphs Damselfly nymphs   Damselfly nymphs Conclusions / Comments:   Leeches Vernal Pool Amphibian Breeding Habitat						
CHARACTERISTICS OF ADJACENT VE (within 100-feet of pool edge) % PSS	EGETATION: 20 % PFO	<u>20</u> %	PEM			
<u>20</u> % UF	% ROW	40_%	OFS			
% Other / define:						

PROJECT	Connecticut Expansion			
DATE	4/21/14	WEATHER	55° F	
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun	

CHARACTERISTICS					
WETLAND #	TLAND# VP WMA7-1 LENGTH & WID				10x15'
TOWN	Sandisfield, MA		CLOSEST WETLAND		123
			FLAG		
AVERAGE WATER DEPTH		6-8"	COVER TYPE		PEM

AVERAGE WATER DEPTH	6-8"	COVER TYPE	Р	PEM				
SUBSTRATE: DOMINANT VEGE  Peat Carex spp. Pool in Leaf Litter								
Sand     San								
Gravel								
☐ Cobble <u>100</u> % of pool w/ ☑ Mud/Muck		OW <u>0</u> % of pool v						
Breeding Criteria Codes	OBLIGATE S	PECIES	CODE	QUANTITY				
1 Breeding chorus	Wood frog		2	6				
2 Egg masses	Spotted sala		2	1				
3 Frog tadpoles	Jefferson sa							
4 Salamander larvae	Blue-spotted							
5 Presence of adults	Spadefoot toad							
	Fingernail cl							
FACULTATIVE SPECIES:	FACULTATIVE SPECIES: Marbled salamander							
Red-spotted newt adults	potted newt adults Unidentified mole							
☐ Spotted turtles	salamander							
☐ Blanding's turtles								
☐ Painted turtles ☐ Snapping turtles ☐ Predacious diving beetles ☐ Dragonfly nymphs ☐ Amphibious snails ☐ Amphibious snails								
☐ Spring peepers ☐ American toads ☐ Fowler's Toad ☐ Caddis fly case/larvae ☐ Dragonfly nymphs	Photo Doc	umentation: Yes						
	nclusions / Con	nments:						
☐ Pickerel Frog	∨ Vernal Poo	I 🗌 Amphibian	Breeding H	labitat				
CHARACTERISTICS OF ADJACENT VEG (within 100-feet of pool edge)	ETATION:							
	<u>0_</u> % PFO	<u>40</u> % F	PEM					
% UF	% ROW	<u>20</u> % C	FS					
% Other / define:								

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	60° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS					
WETLAND #	VP WMA7-2 LENGTH & WIDTH				700x10-100'
TOWN	Sandisfield, MA		CLOSEST WETLAND		104
			FLAG		
AVERAGE WATER DEPTH		8-20"	COVER TYPE		PEM

AVERAGE WATER DEPTH	8-20"	COVER TYPE	F	PEM			
SUBSTRATE:    Peat							
Breeding Criteria Codes				QUANTITY			
1 Breeding chorus	Wood fro		2	450-500			
2 Egg masses		salamander	2	6			
3 Frog tadpoles		salamander					
4 Salamander larvae	Blue-spotted salamander						
5 Presence of adults	Spadefoo						
	Fingernai						
FACULTATIVE SPECIES:		salamander					
☐ Red-spotted newt adults	Unidentif						
☐ Spotted turtles	salamander						
☐ Blanding's turtles	Fairy shri	imp					
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs Damselfly nymphs Leeches Pickerel Frog	Additional Species Observed: Water striders  Additional Species Observed: Water striders  Additional Species Observed: Water striders  Photo Documentation: Yes  Photo Documentation: Yes  Plarvae  Photo Documentation:						
CHARACTERISTICS OF ADJACENT \ (within 100-feet of pool edge)% PSS	/EGETATION:60% PFO	<u>20</u> %	PEM				
	% ROW	<u> </u>	OFS				
% Other / define:							

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	60° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS					
WETLAND # VP WMA7-3 LENGTH & WIDTH					30x60'
TOWN	Sandisfield, MA		CLOSEST WETLAND		276
			FLAG		
AVERAGE WATER DEPTH		8-12"	COVER TYPE		PFO/PEM

		ILAO				
AVERAGE WATER DEPTH	8-12"	COVER TYPE	PF	PFO/PEM		
<ul> <li>☐ Peat</li></ul>	•			ested area		
- " - " - " - "	ORLIGAT	E SPECIES	CODE	QUANTITY		
Breeding Criteria Codes	Wood frog		2	3		
1 Breeding chorus		alamander	2	4		
2 Egg masses		salamander		-		
<ul><li>3 Frog tadpoles</li><li>4 Salamander larvae</li></ul>		ted salamander				
4 Salamander larvae 5 Presence of adults	Spadefoo					
5 Presence of adults	Fingernai					
FACULTATIVE SPECIES:	Marbled salamander					
Red-spotted newt adults	Unidentified mole					
Spotted turtles	salamander					
	Fairy shrimp					
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs Damselfly nymphs Leeches Pickerel Frog	Painted turtles Chapping turtles Chapping turtles Chapping turtles Chapping turtles Chapping turtles Chapping beetles Chapping peepers Chappin					
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)% PSS	VEGETATION:	<u>30</u> %	PEM			
<u>20</u> % UF	% ROW	%	OFS			
% Other / define:						

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	65° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS						
WETLAND #	LAND # VP WMA7-4 LENGTH & WIDTH					
TOWN	Sandisfield, MA		CLOSEST WETLAND		274	
		FLAG				
AVERAGE WATER DEPTH		6-8"	COVER TYPE		PEM	

AVERAGE WATER DEPTH	6-8"	COVER TYPE	ŀ	FIVI		
SUBSTRATE:    Peat   Carex spp.,Alisma plantago,   Sphagnum sp., Juncus effusus     Gravel   Cobble   100 % of pool w/in maintained ROW 0 % of pool within forested area     Mud/Muck   Mud/Muck   Dominantained ROW 0 % of pool within forested area     DOMINANT VEGETATION WITHIN POOL:   Carex spp.,Alisma plantago,   Sphagnum sp., Juncus effusus     Sand   Gravel   100 % of pool w/in maintained ROW 0 % of pool within forested area     DOMINANT VEGETATION WITHIN POOL:						
Mud/Muck				_		
Breeding Criteria Codes	OBLIGATE	SPECIES	CODE	QUANTITY		
1 Breeding chorus	Wood frog		2	12		
2 Egg masses	Spotted sa		2	3		
3 Frog tadpoles	Jefferson salamander					
4 Salamander larvae	Blue-spotted salamander					
5 Presence of adults	Spadefoot toad					
Fingernail clams						
FACULTATIVE SPECIES: Marbled salamander						
☐ Red-spotted newt adults	Unidentifie	d mole				
Spotted turtles	salamander					
☐ Blanding's turtles	Fairy shrimp					
☐ Painted turtles ☐ Snapping turtles ☐ Predacious diving beetles ☐ Dragonfly nymphs ☐ Amphibious snails ☐ Spring peepers ☐ American toads ☐ Fowler's Toad ☐ Caddis fly case/larvae ☐ Dragonfly nymphs ☐ Damselfly nymphs ☐ Leeches	Additional Species Observed: Water striders  Photo Documentation: Yes  Conclusions / Comments: 15-20 Spermatophores observed.					
☐ Pickerel Frog	∨ Vernal Po	ool 🗌 Amphibia	n Breeding	Habitat		
CHARACTERISTICS OF ADJACENT VEGETATION: (within 100-feet of pool edge)% PSS						
40% UF	% ROW	<u>10</u> %	OFS			
% Other / define:						

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	65° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS					
WETLAND #	VP WMA7-5		LENGTH & WIDTH		60x30'
TOWN	Sandisfield, MA		CLOSEST WETLAND		267
	· ·		FLAG		
AVERAGE WATER DEPTH		8-14"	COVER TYPE		PEM

AVERAGE WATER DEPTH	8-14"	COVER TYPE	F	PEM				
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:    Peat								
Breeding Criteria Codes								
1 Breeding chorus	Wood fro		2	30-35				
2 Egg masses		salamander	2/5	3/1				
3 Frog tadpoles		salamander						
4 Salamander larvae		tted salamander						
5 Presence of adults	Spadefoo							
	Fingernai							
FACULTATIVE SPECIES:		salamander						
☐ Red-spotted newt adults	ewt adults Unidentified mole							
☐ Spotted turtles	salamander							
☐ Blanding's turtles	Fairy shrimp							
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs Damselfly nymphs Leeches Pickerel Frog								
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)% PSS	/EGETATION:	<u>20</u> %	PEM					
% UF	% ROW	<u> </u>	OFS					
% Other / define:								

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	65° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS					
WETLAND #	VP WMA7-6 <b>LENGTH &amp; WIDTH</b>			ł	150x35'
TOWN	Sandisfield, MA		CLOSEST WETLAND		258
		FLAG			
AVERAGE WATER DEPTH		6-18"	COVER TYPE		PSS PEM

		ILAU					
AVERAGE WATER DEPTH	6-18"	COVER TYPE	PSS PEM				
SUBSTRATE:    Peat							
Duna din n Onitania Cadaa	OBLIGATE	SPECIES	CODE	QUANTITY			
Breeding Criteria Codes	Wood frog		2	7			
1 Breeding chorus 2 Egg masses	Spotted sa		2	6			
3 Frog tadpoles		salamander					
4 Salamander larvae		ed salamander					
5 Presence of adults	Spadefoot						
5 Fresence of addits	Fingernail						
FACULTATIVE SPECIES:	Marbled sa						
Red-spotted newt adults	Unidentifie	ed mole					
Spotted turtles	salamander						
☐ Blanding's turtles	Fairy shrir	np					
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs Damselfly nymphs Leeches Pickerel Frog			: Water stric Finger nai	l clams			
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)% PSS	VEGETATION:30% PFO	<u>10</u> % l	PEM				
<u>50</u> % UF	% ROW	10%(	OFS				
% Other / define:							

PROJECT	Connecticut Expansion		
DATE	4/21/14	WEATHER	65° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Full Sun

CHARACTERISTICS						
WETLAND #	MA CVP 1		LENGTH & WIDTH		20x40'	
TOWN	Sandisfield, MA		CLOSEST WETLAND		Area not flagged	
			FLAG		as wetland	
AVERAGE WATER DEPTH		24-36"	COVER TYPE		PFO	
SUBSTRATE: DOMINANT VEGETATION WITHIN POOL:						

AVERAGE WATER DEPTH	24-36"	COVER TYPE		PFO			
	GETATION WITH	IIN POOL:					
	ated with boulde	ers and upland soil					
∠ Leaf Litter							
☐ Sand							
☐ Gravel							
☐ Cobble0 % of poo	w/in maintained	I ROW <u>100</u> % of po	ool within fo	rested area			
☐ Mud/Muck		<u> </u>					
_	001104						
Breeding Criteria Codes		SPECIES	CODE	QUANTITY			
1 Breeding chorus	Wood frog		2	1			
2 Egg masses	Spotted sa		2	4			
3 Frog tadpoles		salamander					
4 Salamander larvae		ed salamander					
5 Presence of adults	Spadefoot						
Fingernail clams							
FACULTATIVE SPECIES: Marbled salamander							
Red-spotted newt adults Unidentified mole							
☐ Spotted turtles salamander							
Blanding's turtles Fairy shrimp							
☐ Painted turtles							
☐ Snapping turtles							
□ Predacious diving beetles	<u>Addition</u>	al Species Observed	<u>:t</u>				
☐ Dragonfly nymphs			_				
☐ Amphibious snails							
☐ Spring peepers							
☐ American toads	Photo De	ocumentation: Yes					
☐ Fowler's Toad							
☐ Caddis fly case/larvae							
☐ Dragonfly nymphs							
☐ Damselfly nymphs	Conclus	ions / Comments: A	rea formed o	lue to			
	from initial pipe	eline construction an	id is manma	de. No			
hydric	soil or wetland p	lant community pres	sent.				
Leeches	•						
☐ Pickerel Frog	∇ernal Percent Percen	ool 🗌 Amphibia	n Breeding I	Habitat			
_	_		•				
CHARACTERISTICS OF ADJACENT V	EGETATION:						
(within 100-feet of pool edge)							
% PSS	% PFO	%	PEM				
<u>80</u> % UF	% ROW	20%	OFS				
% Other / define:							

PROJECT	Connecticut Expansion		
DATE	4/23/14	WEATHER	45° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Cloudy

CHARACTERISTICS						
WETLAND #	VP WMA12-1		LENGTH & WIDTH		10x4'	
TOWN	Sandisfield, MA		CLOSEST WETLAND		205	
			FLAG			
AVERAGE WATER DEPTH		6-10"	COVER TYPE		PEM	

	,		FLAG				
AVERAGE WATER DEPTH		6-10"	COVER TYPE	F	PEM		
SUBSTRATE:    Peat							
Breeding Criteria Codes		OBLIGATE S	PECIES	CODE	QUANTITY		
1 Breeding chorus		Wood frog		2	6		
2 Egg masses		Spotted sala	mander	2	2		
3 Frog tadpoles		Jefferson sa	lamander				
4 Salamander larvae		Blue-spotted	salamander				
5 Presence of adults		Spadefoot to	ad				
o i i i occinco oi adano		Fingernail cla					
FACULTATIVE SPECIES: Marbled salamander							
Red-spotted newt adults	,	Unidentified	mole				
☐ Spotted turtles							
☐ Blanding's turtles		Fairy shrimp					
□ Painted turtles   □ Snapping turtles   □ Predacious diving beetles   □ Dragonfly nymphs   □ Amphibious snails   □ Spring peepers   □ American toads   □ Fowler's Toad   □ Caddis fly case/larvae   □ Dragonfly nymphs   □ Damselfly nymphs   □ Damselfly nymphs   □ Leeches     Additional Species Observed:  150  200 spermatophores observed  Photo Documentation: Yes  Conclusions / Comments:  Conclusions / Comments / Com							
☐ Pickerel Frog		∨ Vernal Poo	I	n Breeding I	Habitat		
CHARACTERISTICS OF AD (within 100-feet of pool edg	e)			DE14			
% PSS		<u>)  </u> % PFO	<u>30</u> %	PEIVI			
% UF		% ROW	%	OFS			
% Other / define:							

PROJECT	Connecticut Expansion				
DATE	4/23/14	WEATHER	45° F		
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Cloudy		

CHARACTERISTICS						
WETLAND #	VP WMA13-1		LENGTH & WIDTH		70x10'	
TOWN	Sandisfield, MA		CLOSEST WETLAND		402	
			FLAG			
AVERAGE WATER DEPTH		6-8"	COVER TYPE		PEM	

	FI	LAG					
AVERAGE WATER DEPTH	6-8" C	OVER TYPE	PEM				
SUBSTRATE:    Peat							
Breeding Criteria Codes	OBLIGATE SPE	CIES COI	DE QUANTITY				
1 Breeding chorus	Wood frog	2	2 40-45				
2 Egg masses	Spotted salama	nder 2	2 3				
3 Frog tadpoles	Jefferson salam	ander					
4 Salamander larvae	Blue-spotted sa	lamander					
5 Presence of adults	Spadefoot toad						
o Troconco or addito	Fingernail clams						
FACULTATIVE SPECIES:	Marbled salama						
Red-spotted newt adults	Unidentified mole						
☐ Spotted turtles	salamander						
☐ Blanding's turtles	Fairy shrimp						
☐ Painted turtles ☐ Snapping turtles ☐ Predacious diving beetles ☐ Dragonfly nymphs ☐ Amphibious snails ☐ Spring peepers ☐ American toads ☐ Fowler's Toad ☐ Caddis fly case/larvae ☐ Dragonfly nymphs ☐ Damselfly nymphs ☐ Damselfly nymphs ☐ Leeches ☐ Pickerel Frog  CHARACTERISTICS OF ADJAC	Additional Species Observed: 20 250 spermatophores observed  Photo Documentation: Yes  Conclusions / Comments:  □ Vernal Pool □ Amphibian Breeding Habitat						
(within 100-feet of pool edge)% PSS	ENT VEGETATION:	<u>15_</u> % PEM					
% UF	% ROW	<u>15_</u> % OFS					
% Other / define:							

PROJECT	Cor	nnecticut Expansion		
DATE		4/23/14	WEATHER	45° F
OBSERVERS		O'Sullivan/Stearns	CONDITIONS	Cloudy

CHARACTERISTICS						
WETLAND #	WETLAND # VP WMA16-1 LENGTH & WIDTH 120x20'					
TOWN	Sandisfield, MA		CLOSEST WETLAND		328	
			FLAG			
AVERAGE WATER DEPTH		12-24"	COVER TYPE		PFO	

	FLAG				20			
AVERAGE WATER DEPTH		12-24"	COVER TYPE		PFO			
SUBSTRATE:    Peat								
Breeding Criteria Codes OBLIGATE SPECIES CODE QUANTITY								
1 Breeding chorus		Wood frog		2	200-250			
2 Egg masses		Spotted salar						
3 Frog tadpoles		Jefferson sal						
4 Salamander larvae		Blue-spotted						
5 Presence of adults		Spadefoot to						
Fingernail clams								
FACULTATIVE SPECIES: Marbled salamander								
Red-spotted newt adults	;	Unidentified	mole					
Spotted turtles salamander								
☐ Blanding's turtles		Fairy shrimp						
☐ Snapping turtles ☐ Predacious diving beetle	<ul> <li>☐ Painted turtles</li> <li>☐ Snapping turtles</li> <li>☐ Predacious diving beetles</li> <li>☐ Additional Species Observed: 150-200 spermatophores observed.</li> </ul>							
☐ Dragonfly nymphs ☐ Amphibious snails ☐ Spring peepers ☐ American toads ☐ Fowler's Toad ☐ Caddis fly case/larvae ☐ Dragonfly nymphs ☐ Damselfly nymphs	<u>Con</u>	Photo Docu	umentation: Yes					
Leeches								
☐ Pickerel Frog		⊠ Vernal Poo	I 🗌 Amphibian	Breedir	ng Habitat			
CHARACTERISTICS OF AD (within 100-feet of pool edg% PSS	e)	TATION: _% PFO	% F	PEM				
<u>40</u> % UF		_% ROW	%(	OFS				
20 % Other / define: Cold Spring Road								

PROJECT	Cor	necticut Expansion			
DATE		4/23/14	WEATHER	45° F	
OBSERVERS		O'Sullivan/Stearns	CONDITIONS	Cloudy	
·					
CHARACTERISTICS					

CHARACTERISTICS							
WETLAND #	VP WM/		LENGTH & WIDTH	20x2	25'		
TOWN	Sandisfi		CLOSEST WETLAN				
	Carraion	0.0, 17.7	FLAG				
AVERAGE WATER DEPTH		10-12"	COVER TYPE		PEM		
		1.4.1-					
SUBSTRATE:    Peat							
Breeding Criteria Codes		OBLIGATE S	PECIES	CODE	QUANTITY		
1 Breeding chorus		Wood frog		2	10		
2 Egg masses		Spotted sala					
3 Frog tadpoles		Jefferson sa					
4 Salamander larvae			l salamander				
5 Presence of adults		Spadefoot to					
		Fingernail cl					
<b>FACULTATIVE SPECIES:</b>		Marbled sala					
Red-spotted newt adults	3	Unidentified mole					
Spotted turtles		salamander					
☐ Blanding's turtles		Fairy shrimp					
☐ Painted turtles							
☐ Snapping turtles							
☐ Predacious diving beetle	es		Additional Speci	ies Obse	rved: 20-		
		25 sperma	tophores observed.				
<ul><li>☐ Dragonfly nymphs</li><li>☐ Amphibious snails</li><li>☐ Spring peepers</li></ul>		Pl ( P					
<ul><li>☐ American toads</li><li>☐ Fowler's Toad</li><li>☐ Caddis fly case/larvae</li><li>☐ Dragonfly nymphs</li></ul>		Photo Doc	umentation: Yes				
☐ Damselfly nymphs ☐ Leeches		Conclusions / Con	nments:				
☐ Pickerel Frog		∨ Vernal Poo	I 🗌 Amphibian B	reeding	Habitat		
CHARACTERISTICS OF AD (within 100-feet of pool edg		VEGETATION:					
% PSS	,	<u>60</u> % PFO	<u>10</u> % PE	M			
<u>20</u> % UF		% ROW	<u>10</u> % OF	S			

\_\_\_\_% Other / define:

## VERNAL POOL FIELD DATA SHEET 2014 FIELD SEASON

PROJECT	Connecticut Expansion		
DATE	4/17/14	WEATHER	50° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Partly Sunny

CHARACTERISTICS						
WETLAND # VP WMA23 LENGTH & WIDTH ~30' in diameter					~30' in diameter	
TOWN	Sandisfield, MA		CLOSEST WETLAND		309	
AVERAGE WATER DEPTH 12-18"			COVER TYPE		PEM	

dug for livestock water source. L pasture. Peat Leaf Litter Sand Gravel	T VEGETATION WITHIN POOL: Pool un-veikely dries out. No fish observed. Entire s	urrounding	area is a
Breeding Criteria Codes	OBLIGATE SPECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog	2	50-60
2 Egg masses	Spotted salamander		
3 Frog tadpoles	Jefferson salamander		
4 Salamander larvae	Blue-spotted salamander		
5 Presence of adults	Spadefoot toad		
o i roccinco er adante	Fingernail clams		
<b>FACULTATIVE SPECIES:</b>	Marbled salamander		
Red-spotted newt adults	Unidentified mole		
Spotted turtles	salamander		
☐ Blanding's turtles	Fairy shrimp		
Painted turtles Snapping turtles Predacious diving beetles Dragonfly nymphs Amphibious snails Spring peepers American toads Fowler's Toad Caddis fly case/larvae Dragonfly nymphs Damselfly nymphs Leeches Pickerel Frog	Additional Species Observed  Photo Documentation: Yes  Conclusions / Comments:  Vernal Pool	l <u>:</u> None n Breeding I	Habitat
CHARACTERISTICS OF ADJACE	NT VEGETATION:		
(within 100-feet of pool edge)% PSS		PEM	
% UF	% ROW%	OFS	
20 % Other / define: Upland m	neadow/pasture		

## VERNAL POOL FIELD DATA SHEET 2014 FIELD SEASON

PROJECT	Connecticut Expansion		
DATE	4/17/14	WEATHER	50° F
OBSERVERS	O'Sullivan/Stearns	CONDITIONS	Partly Sunny

CHARACTERISTICS					
WETLAND # VP WMA24 LENGTH & WIDTH ~30' in diameter					~30' in diameter
TOWN	Sandisfield, MA		CLOSEST WETLAND		308
			FLAG		
AVERAGE WATER DEPTH	11-15"	COVER TYPE		PEM	

for livestock water source. Likely drie pasture.  Peat Leaf Litter Sand Gravel	EGETATION WITHIN POOL: <i>Typha I</i> es out. No fish observed. Entire sur	rounding area	isa
Breeding Criteria Codes	OBLIGATE SPECIES	CODE	QUANTITY
1 Breeding chorus	Wood frog	2	80-100
2 Egg masses	Spotted salamander		
3 Frog tadpoles	Jefferson salamander		
4 Salamander larvae	Blue-spotted salamander		
5 Presence of adults	Spadefoot toad		
3 Tresence of addits	Fingernail clams		
FACULTATIVE SPECIES:	Marbled salamander		
Red-spotted newt adults	Unidentified mole		
☐ Spotted turtles	salamander		
☐ Blanding's turtles	Fairy shrimp		
<ul> <li>☐ Painted turtles</li> <li>☐ Snapping turtles</li> <li>☐ Predacious diving beetles</li> <li>☐ Dragonfly nymphs</li> <li>☐ Amphibious snails</li> <li>☐ Spring peepers</li> <li>☐ American toads</li> <li>☐ Fowler's Toad</li> <li>☐ Caddis fly case/larvae</li> <li>☐ Dragonfly nymphs</li> </ul>	Additional Species Observer Photo Documentation: Yes		
☐ Damselfly nymphs ☐ Leeches	Conclusions / Comments:		
☐ Pickerel Frog		ian Breeding	Habitat
CHARACTERISTICS OF ADJACENT (within 100-feet of pool edge)% PSS		% PEM	
	% ROW	% OFS	
% Other / define:			

## **Attachment B**

2014 Vernal Pool Representative Site Photographs



VP WMA01A



VP WCT6-1



VP WCT5



VP WCT6-2

Environment

VP WCT-7



VP WCT-9



WCTCP-2



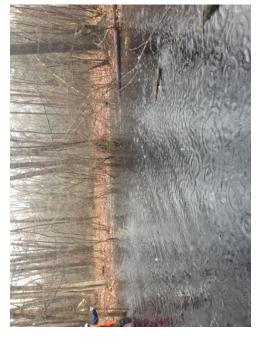
VP WCT-11



WCT-VP1



WCT-VP1



WCT-VP2



WCT33-VP1

Environment



WCT33-VP2



WCT33-VP5



WCT33-VP3



WCT-VP5 (Wood frog egg mass)





WCT33-VP6



WCT34-VP2



WCT34-VP1



WCT36-VP1



WCT39-VP1

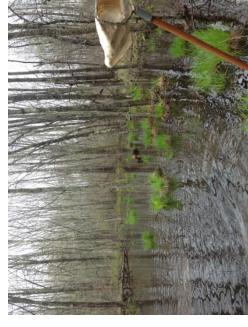


WCT41-VP2





WCT41-VP1



WCT45-VP1



WCT45-VP2



WCT46-VP2

Environment



WCT46-VP1



WCT49-VP1

∞



WCT50D-VP1



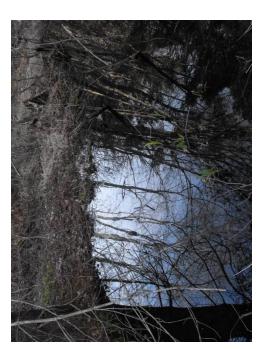
**VP WMA-3-1** 



WCT50B-VP1



WCT51-VP1



**VP WMA-3-2** 



VP WMA-6-1



**VP WMA-5-1** 



**VP WMA-7-1** 

**VP WMA-7-2** 



VP WMA-7-4



VP WMA-7-3



VP WMA-7-5



MA-CVP-1



VP WMA-13-1



**VP WMA-7-6** 



**VP WMA-12-1** 



**VP WMA-18-1** 



VP WMA-23

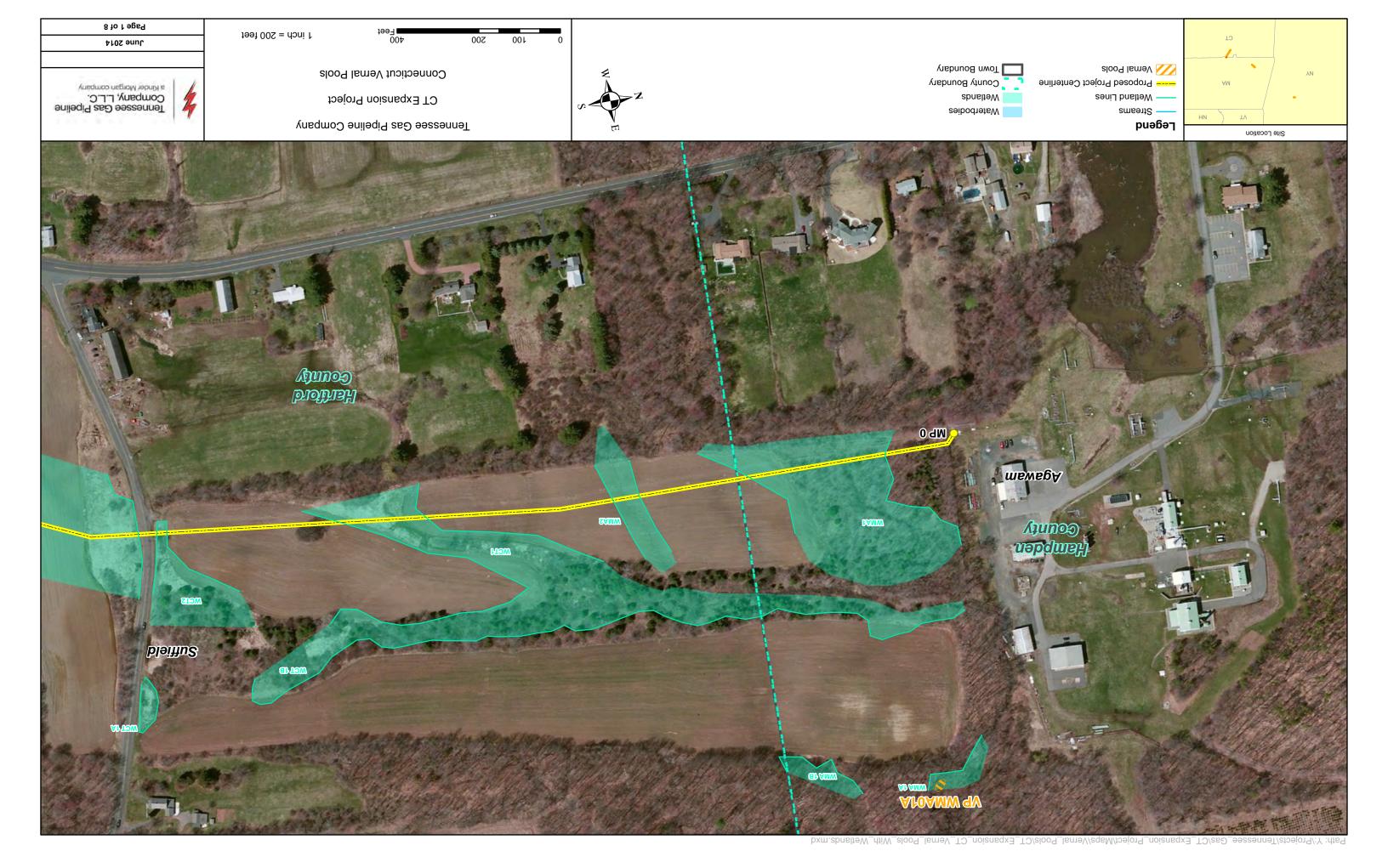


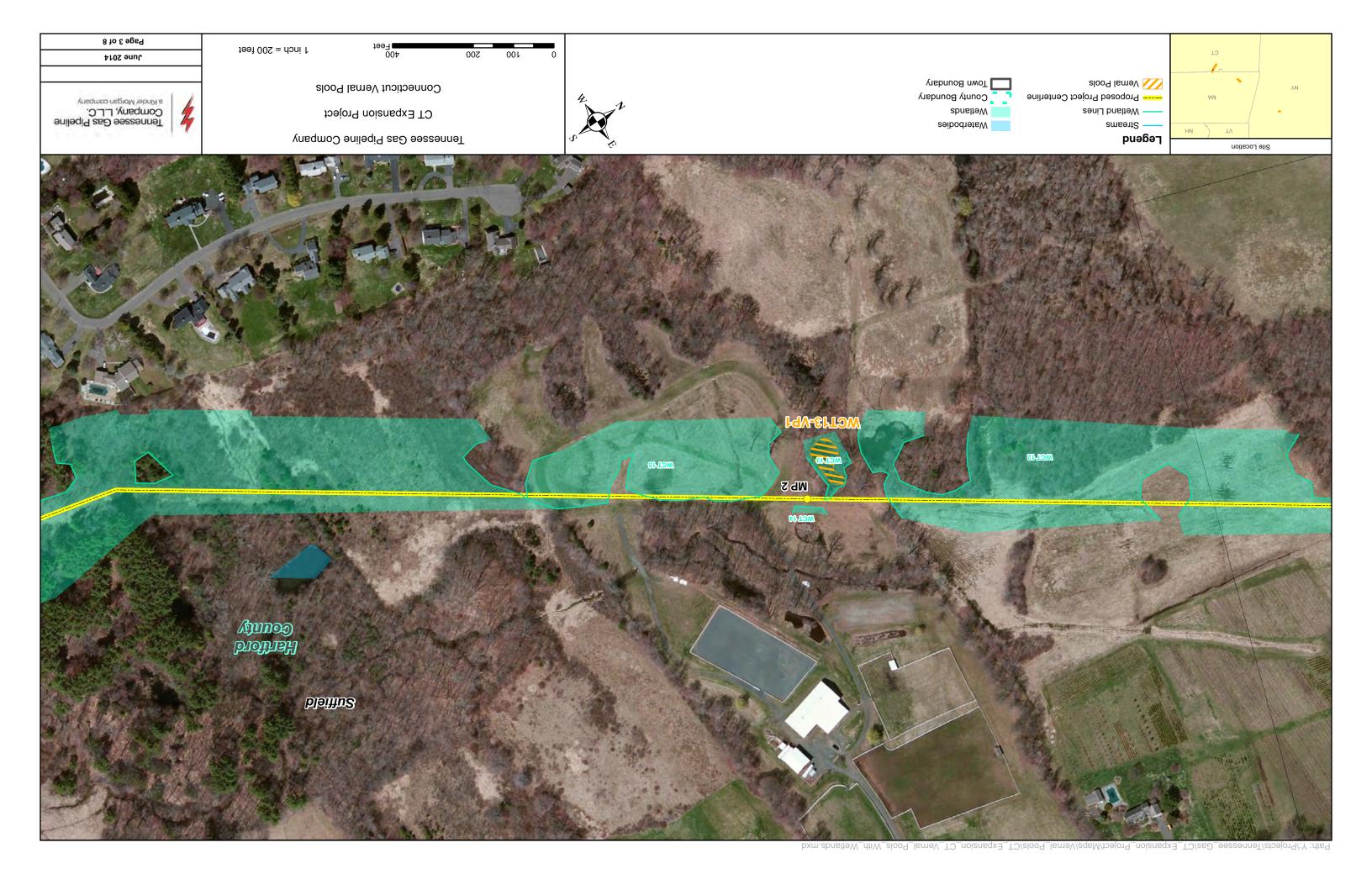
VP WMA-A6-1

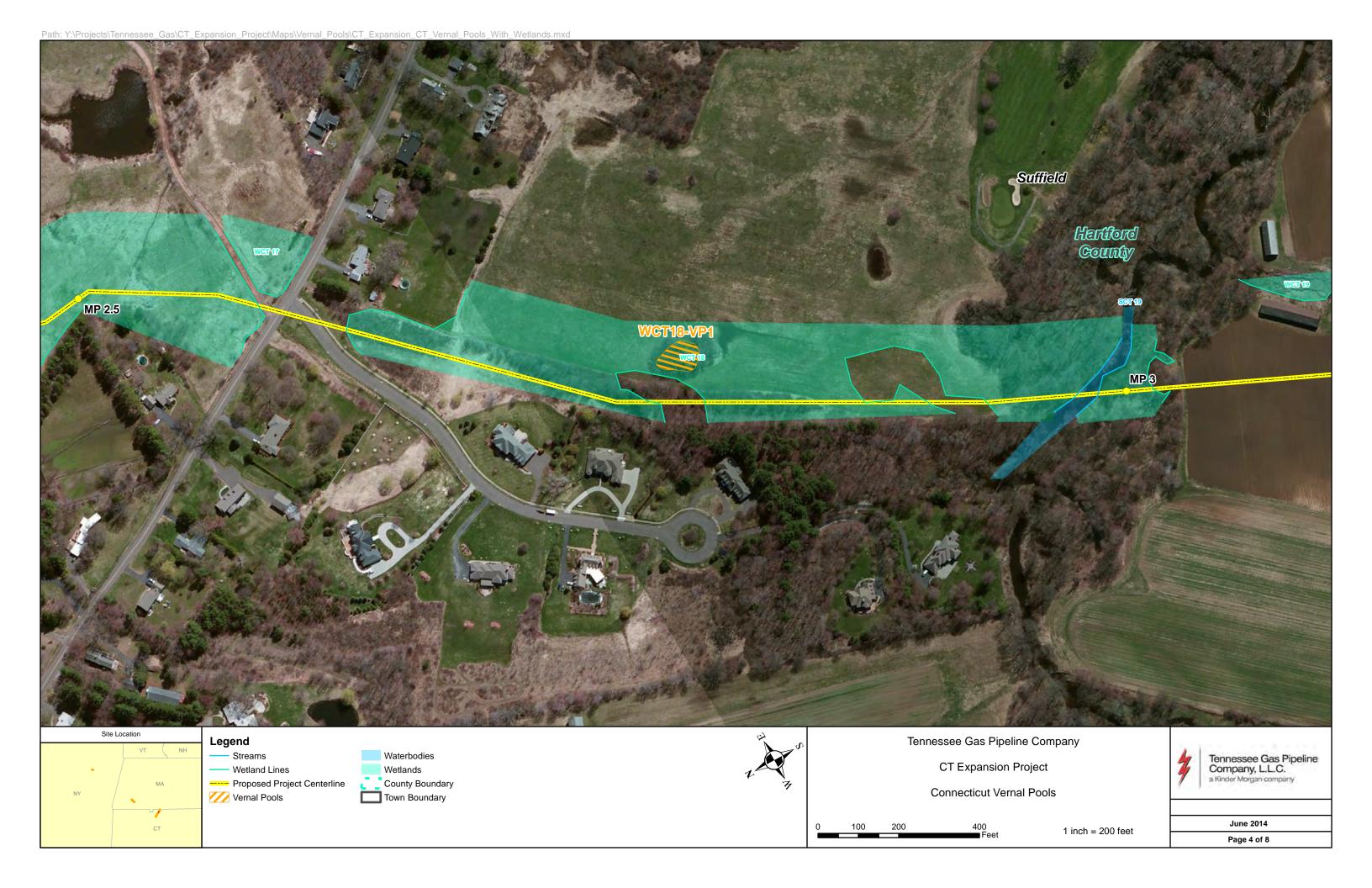


VP WMA-24

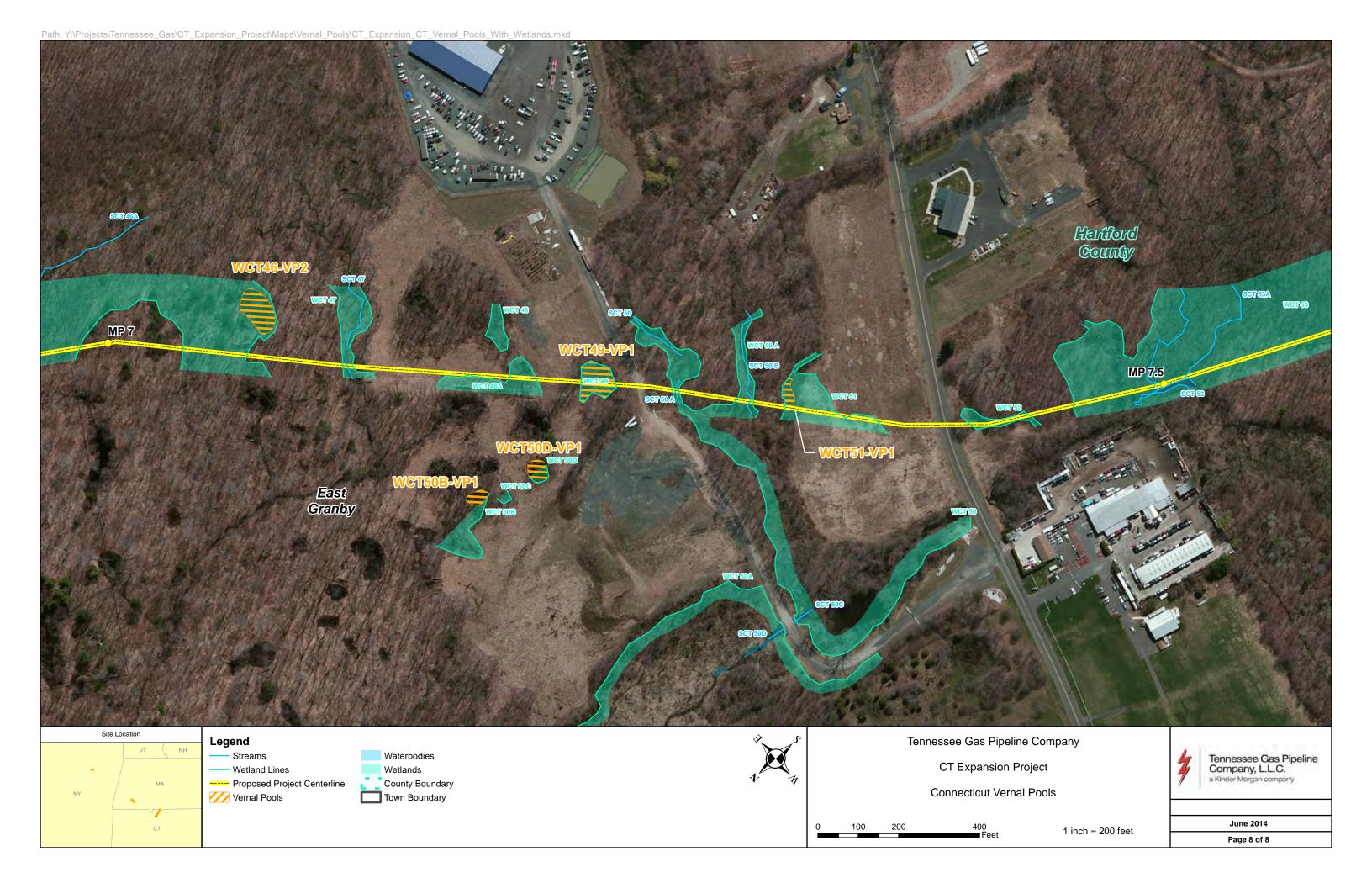
## Attachment C 2014 Vernal Pool Mapping



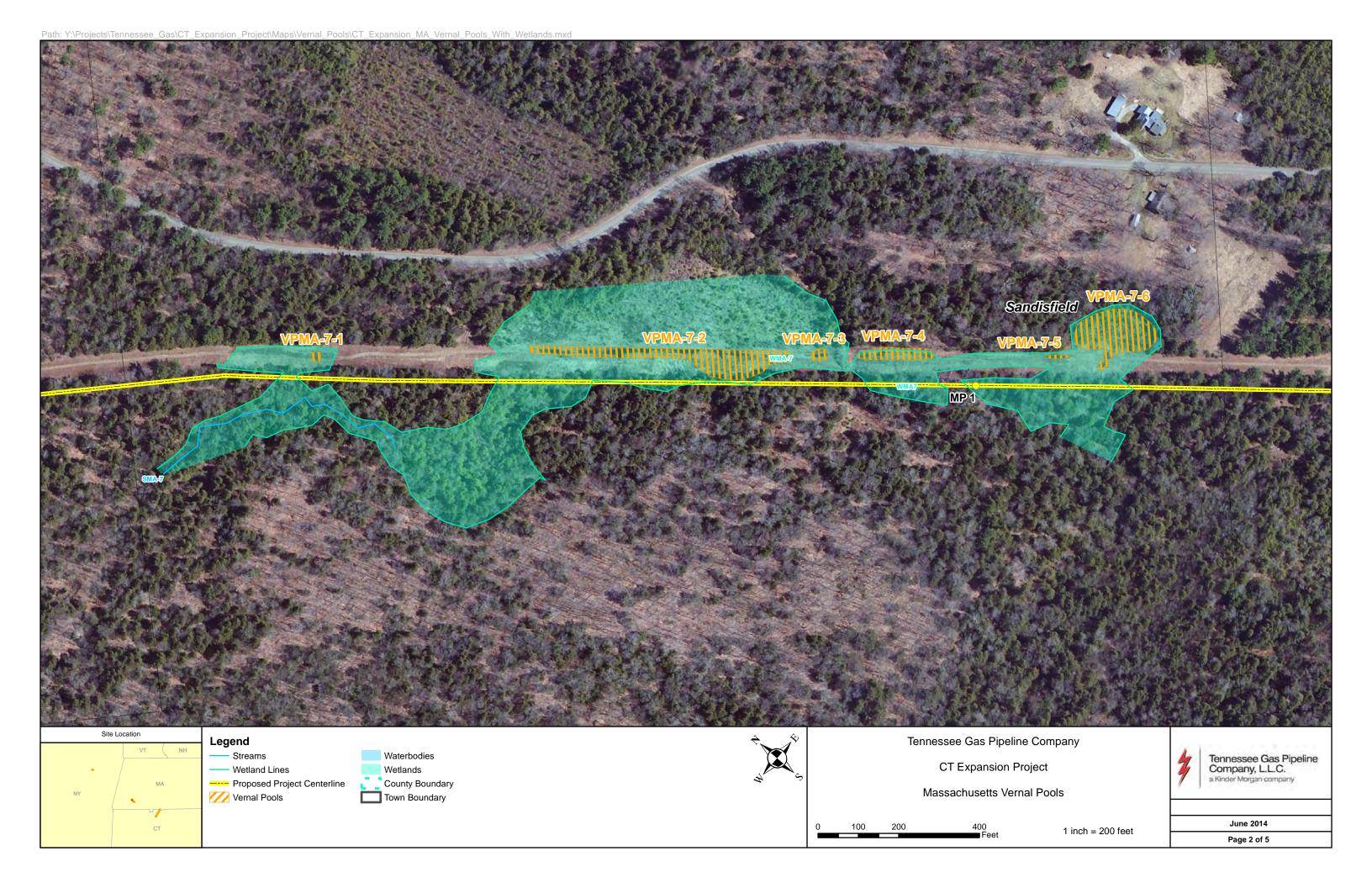




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