

# Wetland and Watercourse Delineation Report

For KCE CT 5 Battery Energy Storage System Project  
Willington and Stafford, Connecticut



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**June 2, 2023**

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- ATTACHMENT 1- Figures
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- ATTACHMENT 3 - CAWS Vernal Pool Monitoring Data Forms

## 1.0 Project Setting

The proposed KCE CT 5 Battery Energy Storage System (BESS) project (Project) is located in the towns of Willington and Stafford, Tolland County, Connecticut. The Project is within the watershed of the Willimantic River.

To support avoidance and minimization of potential impacts to protected natural resources, Flycatcher LLC (Flycatcher) completed agency consultation, desktop review, and on-site surveys to evaluate for the presence of sensitive resources and to inform the Project design and development. This includes a wetland and watercourse delineation and vernal pool survey. Field surveys were completed on November 18 and February 6, 2022, and on April 4, 2023.

The Project's Survey Area is approximately 14 acres and covers two parcels located between Blair Road and Village Hill Road (Figure 1, Attachment 1). The majority of the Survey Area is located within Willington; however, a portion of this area occurs to the north, just over the town line in Stafford. The eastern quarter of the property is developed by a farm, farmhouse, drive, and associated fields. The remainder of the property is forested and consists of second growth, mixed woods with upland and wetland habitats. An older haul road runs from the eastern side of the Survey Area in the agricultural field and through a forested portion of the site to the west, and then turns south to cross a stream and continues south, off site.

Topography onsite is highest and relatively flat within the eastern most quarter of the site and then slopes down towards Blair Road. The National Wetlands Inventory shows no wetlands or watercourses within the site.

## 2.0 Soils

The Natural Resources Conservation Service (NRCS) medium intensity soil survey for Tolland County shows the following map units depicted within the Survey Area:

- Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony
- Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony
- Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
- Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony
- Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony

Of the soils mapped within the Survey Area, none are considered hydric soils which are commonly associated with wetlands. Onsite investigations confirmed these soil types are present, along with additional soil types in the mapped wetland areas as described in the following section.

## 3.0 Water Resources

### 3.1 Wetlands

Wetland delineations were conducted in accordance with the US Army Corps of Engineers (USACE) Wetland Delineation Manual<sup>1</sup> and the Northcentral and Northeast Regional Supplement.<sup>2</sup> Additionally, wetland and watercourses surveys were completed in accordance with the Connecticut Department of Energy and Environmental Protection's (DEEP) Inland Wetland and Watercourses Act<sup>3</sup> and with the Towns of Willington<sup>4</sup> and Safford<sup>5</sup> Inland Wetlands and Watercourses Regulations, respectively.

The Survey Area was investigated by a soil scientist and wetland scientist via a meander survey. When a location appeared to have hydrophytic vegetation, indicators of hydrology, or the presence of hydric soils an investigation was undertaken. The scientist analyzed site-specific data to determine if the area met the criteria to be considered a wetland. When wetlands were identified, the boundaries of the wetlands were marked with pink survey flagging with the word "Wetland Delineation" and numbered in sequential order. Delineated wetlands were overseen and verified by a professional soil scientist, Rodney Kelshaw of Flycatcher.

Flycatcher mapped two (2) palustrine forested (PFO) wetlands within the Survey Area. Soils are characterized as mucky loam and stony sandy loam, and hydric indicators are *Histic Epipedon (A2)*, *Depleted Below Dark Surface (A11)*, and *Thick Dark Surface (A12)*. Summary descriptions of wetlands are provided in Table 1, below. The location of each wetland is mapped within the Survey Area depicted on Figure 2, in Attachment 1. Representative photographs of these resources are provided in Attachment 2.

### 3.2 Watercourses

Watercourse identification followed the DEEP's Inland Wetland and Watercourses Act definition of "Watercourses" (Chapter 440: Section 22a-38).<sup>3</sup> If a watercourse meeting the above definition was observed, blue survey flagging was hung along the centerline (for streams less than six feet in width) or along the top of the bank (for streams six feet or wider).

Flycatcher mapped one (1) intermittent watercourse within the Survey Area. The watercourse flows west out of wetland W-MFT-2. The bank-full width is approximately 4 feet wide, bank depth is approximately 4 inches deep, and substrate consists of cobble and rock. The location of the watercourse is mapped within the Survey Area depicted on Figure 2, in Attachment 1.

<sup>1</sup> USACE. (1987). *Corps of Engineers wetlands delineation manual*. Environmental Laboratory. Environmental Laboratory U.S. Army Corps of Engineers, Waterways Experiment Station, Wetlands Research Program Technical Report Y-87-1. Vicksburg, MS. <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/>

<sup>2</sup> USACE (2012). *Regional supplement to the Corps of Engineers wetland delineation manual: Northcentral and Northeast region: Version 2.0*. Ed. J.S. Wakely, R.W. Lichvar and C.V. Noble. ERDC/EL TR-08-27. Vicksburg, MS: U.S. Army. <https://usace.contentdm.oclc.org/utills/getfile/collection/p266001coll1/id/7640>

<sup>3</sup> CTDEEP. (1972). *Inland wetlands and watercourses act: regulations of Connecticut State agencies: Chapter 440: Wetlands and watercourses*. [https://www.cga.ct.gov/current/pub/chap\\_440.htm](https://www.cga.ct.gov/current/pub/chap_440.htm)

<sup>4</sup> Willington Inland Wetlands and Watercourses Commission. (1999). *Town of Willington Connecticut inland wetlands and watercourses regulations*. [https://www.willingtonct.gov/sites/g/files/vyhlif1456/f/uploads/wetlands\\_regulations.pdf](https://www.willingtonct.gov/sites/g/files/vyhlif1456/f/uploads/wetlands_regulations.pdf)

<sup>5</sup> *Inland Wetlands and Watercourses Regulations*. (2018). Town of Stafford. Revised September 5, 2018. [https://cms5.revize.com/revize/staffordct/Document%20Center/Department/Building%20&%20Zoning/IWWC%20Regs%20Town%20of%20Stafford%20%20\(revised%20August%202018\).pdf](https://cms5.revize.com/revize/staffordct/Document%20Center/Department/Building%20&%20Zoning/IWWC%20Regs%20Town%20of%20Stafford%20%20(revised%20August%202018).pdf)

Table 1. Summary Descriptions of Wetlands Delineated Within the Survey Area

Resource ID	Cowardin Classification <sup>1</sup>	Hydrology Indicators	Dominant Vegetation	Hydric Soil Indicators	Description & Notes
W-MFT-1	PFO	Saturation (A3), Drainage Patterns (B10)	Northern spicebush ( <i>Lindera benzoin</i> ), red maple ( <i>Acer rubrum</i> ), eastern hemlock ( <i>Tsuga canadensis</i> ), Japanese barberry ( <i>Berberis thunbergii</i> ), Christmas fern ( <i>Polystichum acrostichoides</i> )	Depleted Below Dark Surface (A11), Thick Dark Surface (A12)	Sidehill forested drainage swale.
W-MFT-2	PFO	Saturation (A3), Drainage Patterns (B10), Geomorphic Position (D2)	Red maple, eastern hemlock, yellow birch ( <i>Betula alleghaniensis</i> ), shag-bark hickory ( <i>Carya ovata</i> ), green ash ( <i>Fraxinus pennsylvanica</i> ), Asian bittersweet ( <i>Celastrus orbiculatus</i> ), common red raspberry ( <i>Rubus idaeus</i> ), allegheny black berry ( <i>Rubus allegheniensis</i> ), northern spicebush, mountain laurel ( <i>Kalmia latifolia</i> ), sensitive fern ( <i>Onoclea sensibilis</i> ), cinnamon fern ( <i>Osmundastrum cinnamomeum</i> ), evergreen wood fern ( <i>Dryopteris intermedia</i> ), Christmas fern, lamp rush ( <i>Juncus effusus</i> ), cottongrass bulrush ( <i>Scirpus cyperinus</i> )	Histic Epipedon (A2), Thick Dark Surface (A12)	Riparian drainage wetland connected to forested depression. Contains S-MFT-1 and PVP-MFT-1 and 2.
1. Wetland classifications per USFWS' Cowardin et al. (1979) <a href="https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf">https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf</a>					

## 4.0 Vernal Pool Surveys

Vernal pools are temporarily/seasonally flooded wetlands that provide the primary breeding habitat for vernal pool indicator species, and a host of secondary faunal species.<sup>6</sup> Wood frogs (*Lithobates sylvaticus*) spotted salamanders (*Ambystoma maculatum*), blue spotted salamanders (*Ambystoma laterale*), marbled salamander (*Ambystoma opacum*), Jefferson's salamander (*Ambystoma jeffersonianum*), and fairy shrimp (*Eubranchipus spp.*) are vernal pool indicator species that depend on vernal pools to complete their life cycle.<sup>7</sup> Productivity of breeding vernal pool species is the primary metric used by regulatory authorities to assess vernal pool quality; thus, vernal pools must be assessed during the breeding season (generally March to late April).

Vernal pool surveys were conducted on April 4, 2023. Definitions from Calhoun et al. (2005) and the USACE Connecticut General Permit (2021) as well as the presence of indicator species were used to make vernal pool determinations.<sup>5,6</sup>

Flycatcher mapped two (2) vernal pools within the Survey Area. Summary descriptions of each pool are provided in Table 2. The location of each vernal pool is mapped within the Survey Area depicted on Figure 2, in Attachment 1. Photographs of each pool are provided in Attachment 2, and completed Connecticut Association of Wetland Scientists (CAWS) Vernal Pool Monitoring Data Forms are provided in Attachment 3.

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<sup>6</sup> Calhoun, A. J., Miller, N. A., & Klemens, M. W. (2005). *Conserving pool-breeding amphibians in human-dominated landscapes through local implementation of Best Development Practices*. *Wetlands Ecology and Management*, 13, 291-304.

<sup>7</sup> USACE (2021). *Department of the Army Regional General Permits for the State of Connecticut*.

<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/Connecticut-General-Permit-2021.pdf>

Table 2. Vernal Pool Summary

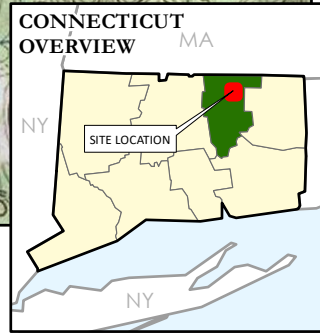
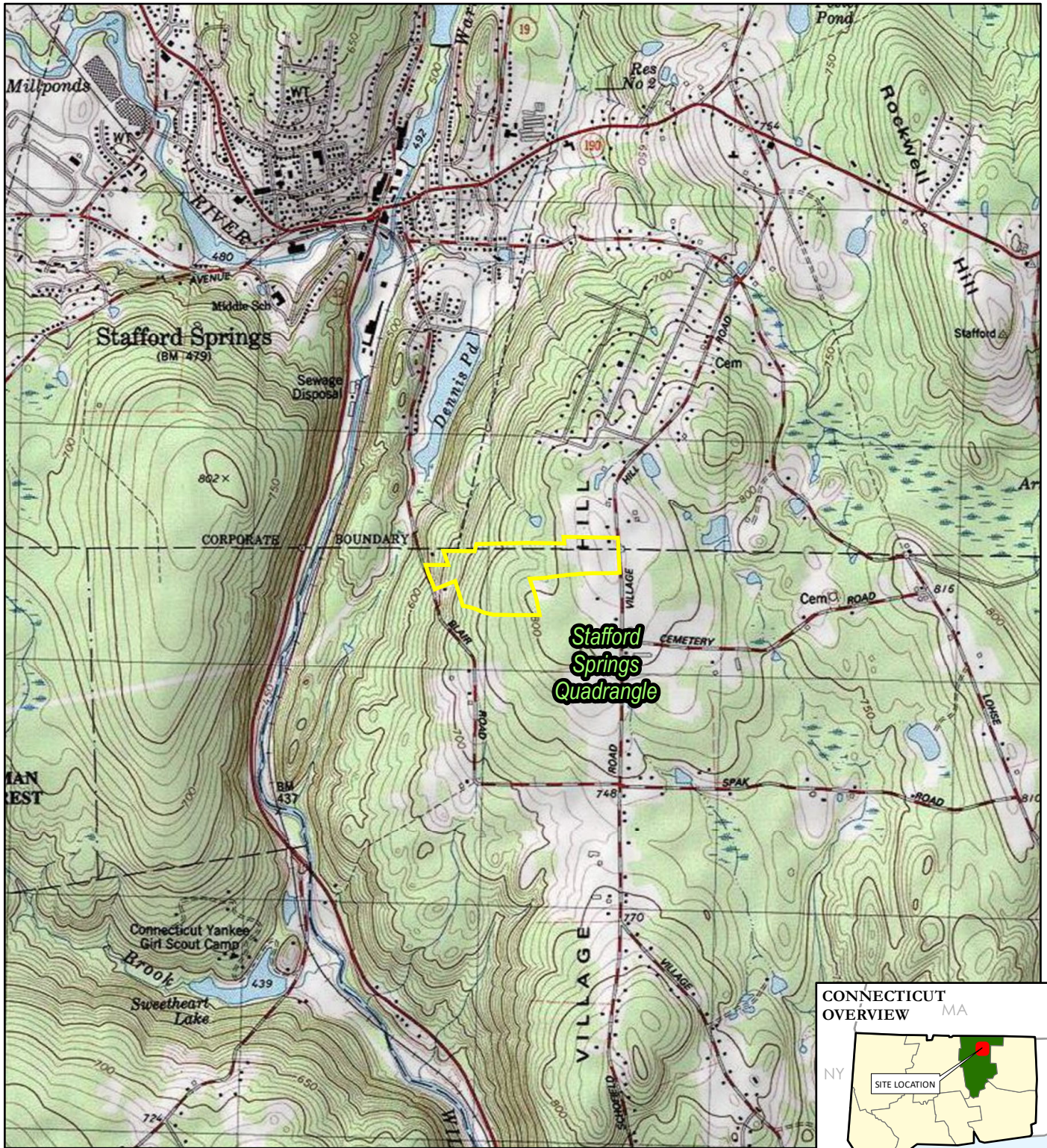
<i>Resource ID</i>	<i>Pool Origin</i>	<i>Approximate Dimensions (ft)</i>	<i>Approximate Depth (ft)</i>	<i>Substrate</i>	<i>Indicator Presence (Observed number of egg masses)</i>	<i>Description</i>
VP-CWF-1	Human made	13 x 13	3	Mineral/ leaf litter	Wood frog (9), Spotted (5), Blue spotted (8)	Excavated basin in old trail. Ephemeral inlet and outlet.
VP-CWF-2	Human made	20 x 24	8	Muck	Spotted salamander (11)	Natural spring that has likely been excavated to be larger pool. No inlet or outlet.

**ATTACHMENT 1**

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**Figures**







BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



PROJECT: **KEY CAPTURE ENERGY  
WILLINGTON CT5 BATTERY STORAGE PROJECT  
WILLINGTON, TOLLAND COUNTY, CONNECTICUT**

DRAWN BY:	D. KENWORTHY
CHECKED BY:	K. NICKERSON
MONTH:	JUNE
YEAR:	2023
PROJ. NO.:	22-F2
CLIENT:	KCE

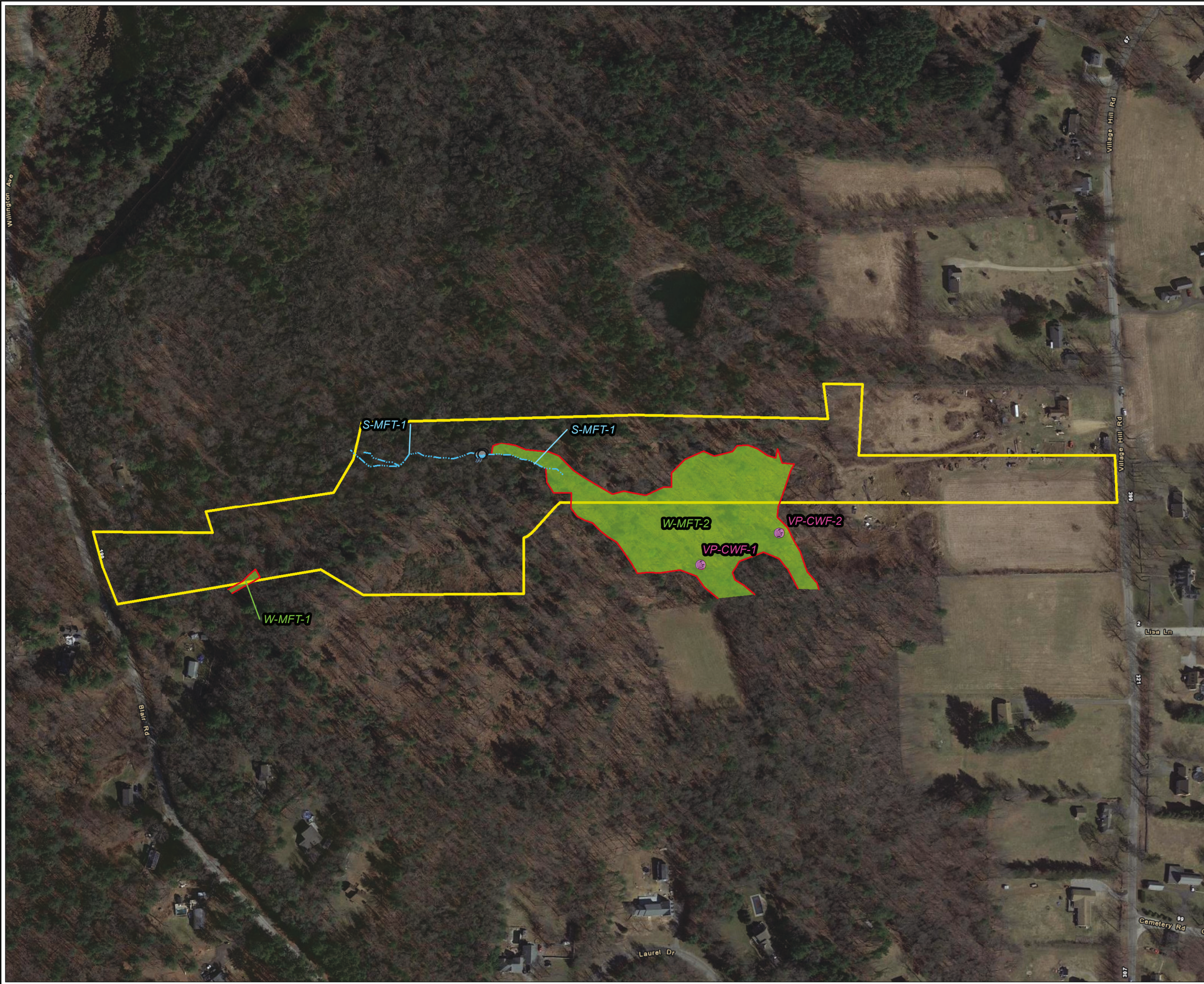
LEGEND:  
 SUBJECT PARCEL  
 USGS 7.5-MINUTE QUADRANGLE BOUNDARY



**FIGURE 1**

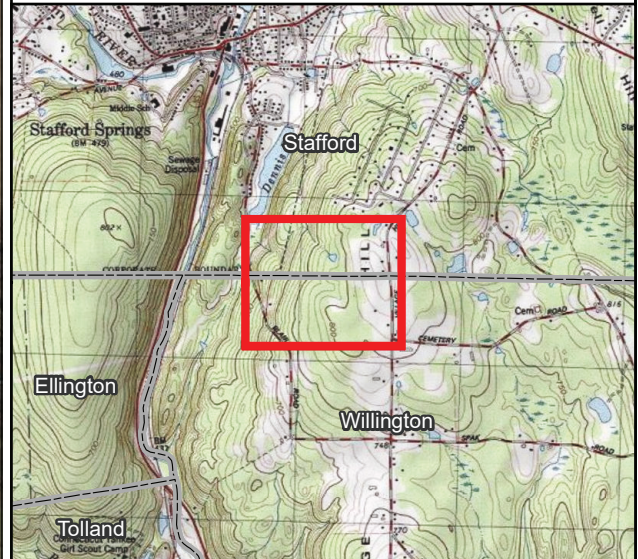
Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet (Foot US)  
 Map Rotation: 0

Plot Date: 6/13/2023 08:48:14 AM by DREWKENWORTHY -- LAYOUT: ANSI B(11"x17")  
 Path: C:\FLYCATCHER\Projects\KeyCapture\KCE\_WillingtonCTS\_Delin\_Fig2\_Results\_11x17L.mxd



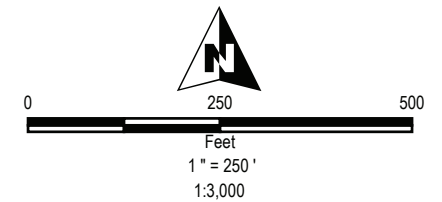
**LEGEND**

- SURVEY AREA
- CULVERT
- VERNAL POOL
- DELINEATED INTERMITTENT STREAM
- DELINEATED WETLAND BOUNDARY
- DELINEATED WETLAND



**NOTES:**

- 1 BASEMAP IMAGERY FROM ESRI/NAIP "WORLD IMAGERY" SERVICE LAYER.
- 2 RESOURCES WERE DELINEATED BY FLYCATCHER IN NOVEMBER 2022.



PROJECT: **KEY CAPTURE ENERGY  
 WILLINGTON CT 5 BATTERY STORAGE PROJECT  
 WILLINGTON, TOLLAND COUNTY, CONNECTICUT**

TITLE: **DELINEATED RESOURCE MAP**

DRAWN BY: D. KENWORTHY	PROJ NO.: 22-F2
CHECKED BY: K. NICKERSON	<b>FIGURE 2</b>
MONTH: JUNE	
YEAR: 2023	

FILE NO:	KCE_WillingtonCTS_Delin_Fig2_Results_11x17L.mxd

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**ATTACHMENT 2**  
**Site Photographs**



**Wetland W-MFT-1, November 18, 2022.**



**Wetland W-MFT-2, November 18, 2022.**



**VP-CWF-2 within W-MFT-2, April 4, 2023.**



**VP-CWF-1 within W-MFT-2, April 4, 2023.**



**Watercourse S-MFT-1, November 18, 2022.**



**Watercourse S-MFT-1, November 18, 2022.**



**Upland area looking north at farm fields, November 18, 2022.**



**Upland area looking northeast at farm fields, November 2022.**

**ATTACHMENT 3**

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**CAWS Vernal Pool Monitoring Data Forms**



# VERNAL POOL DATA SHEET

Survey Date: 2023-04-04	Investigator(s): C. Ferris, J. Hutchinson	Town: Willington	CAWS Pool #: VPCWF1	CAWS Project #:
Town Staff Contacted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Project/property name: KCE CT 5 Battery Energy Storage System		Pool Type: Development: <input type="checkbox"/>	Reference: <input type="checkbox"/>
Address/location (or include annotated map): Village Hill Rd (see Figures 1 and 2)			Investigator's Contact information: chuck@flycatcherllc.com	

### SEARCH CONDITIONS AND METHODS (required)

**WEATHER:**

Precipitation: Within last 24 hours  
 Current: 0"      0"

Cloud Cover:  
 clear   
 partly cloudy   
 mostly cloudy   
 full cloud cover

Start time: 1100H  
 End time: 1115H

Methods used:  
 Visual   
 Dipnetting

Type of Inspection:  
 baseline  Polarized sunglasses used? Yes   
 during construction  No   
 post construction  No

Comments:  
 Temporary flagging used to mark egg masses? Yes  No

### AMPHIBIAN EGG MASS COUNTS (required)

**Wood frogs:**

Condition	Abundance categories
<input checked="" type="checkbox"/> 1-25 <input type="checkbox"/> 26-49 <input type="checkbox"/> 50	<input type="checkbox"/> 250-300
<input type="checkbox"/> 50-75	<input type="checkbox"/> 300-400
<input type="checkbox"/> 75-100	<input type="checkbox"/> 400-500
<input type="checkbox"/> 100-150	<input type="checkbox"/> 500-750
<input type="checkbox"/> 150-200	<input type="checkbox"/> 750-1000
<input type="checkbox"/> 200-250	<input type="checkbox"/> 1000-1250
	<input type="checkbox"/> >1250

If condition mixed, note "some", "many" or "most"

intact: most  
 breaking up:  
 hatching:

Describe estimation method used for a large raft:

**Spotted Salamanders:**

Condition:  
 intact: 5      Total Number  
 breaking up:  
 hatching:      5

### ADDITIONAL NOTES: (optional)

Pool is an excavated area within an old road/trail within a forested setting. An ephemeral inlet flows into the pool from the south and an ephemeral outlet flows out of the pool through the trail to the west.

Pool was delineated with red flags labeled VP-CWF-1.

Approximately 8 blue-spotted salamander egg masses were observed loose within the pool on April 4, 2023.

### CONDITIONS/OBSERVATIONS WITHIN POOL (required data)

	No	Yes	Flowing	Not flowing
Inlet observed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Outlet observed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
finfish observed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Estimated water depth range? 30"-36"

Optional Data (see also back of sheet)

**Other Vernal Pool Species:**  
 fairy shrimp present? Yes  No   
 marbled salamander larvae present? Yes  No

**Vegetation (within or overhanging pool):**  
 Trees/Saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_  
 Percent tree canopy closure? 50%  
 Woody debris content? High  Med.  Low

**Pool Substrate: (top three)**  
 Mud/muck  Sand/Silt  Bedrock   
 Leaf Litter  Silt/clay  Gravel/cobbles

**Water Quality:**  
 ph \_\_\_\_\_ conductivity (uS/cm) \_\_\_\_\_ temperature (°C) \_\_\_\_\_  
 Nitrate-N (mg/l) \_\_\_\_\_ Total P (ug/l) \_\_\_\_\_ DO (mg/l) \_\_\_\_\_  
 turbidity (NTU's) \_\_\_\_\_ Sulphidic odor? No  Yes   
 Approximate % cover by algal mat or duckweed? \_\_\_\_\_  
 GPS coordinates: \_\_\_\_\_

### CONDITIONS IN ENVELOPE WITHIN 100 FT OF POOL (required data)

Give approximate percentage or show on sketch on back

Landuses/conditions	Percentage
forest	85%
shrubland	
meadow	
pasture	
lawn	
building	
exposed soil	
grading	
ag. field	25%
road busy (>1 car/10 min.)	yes <input type="checkbox"/> no <input type="checkbox"/>
parking lot	

Comments:  
 surrounded by mixed deciduous forest and is located within a trail

**Leaf Litter:** If variable, note location (e.g. "N. shore")  
 none/low: \_\_\_\_\_  
 moderate: \_\_\_\_\_ x  
 high: \_\_\_\_\_

Cover Objects:	Logs	Rocks
none:		
low:		X
moderate:	X	
high:		

**Dominant vegetation (optional)**  
 Trees/saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_

### CONDITIONS IN ENVELOPE AROUND POOL (required data)

Estimate %cover (Hi, Med, Low, VLow, None)

Landuses	Within 100 feet	100'-300' (optional)
forest	mod	mod
shrubland	low	VLow
exposed soil	none	none
pavement	none	none
building	none	none
lawn	none	none
field	low	low
busy road (<1 car/10 min.)?	yes <input type="checkbox"/>	yes <input type="checkbox"/>

**Leaf Litter within 100' (in wooded cover type)**  
 none/low: \_\_\_\_\_  
 moderate: \_\_\_\_\_ X  
 high: \_\_\_\_\_

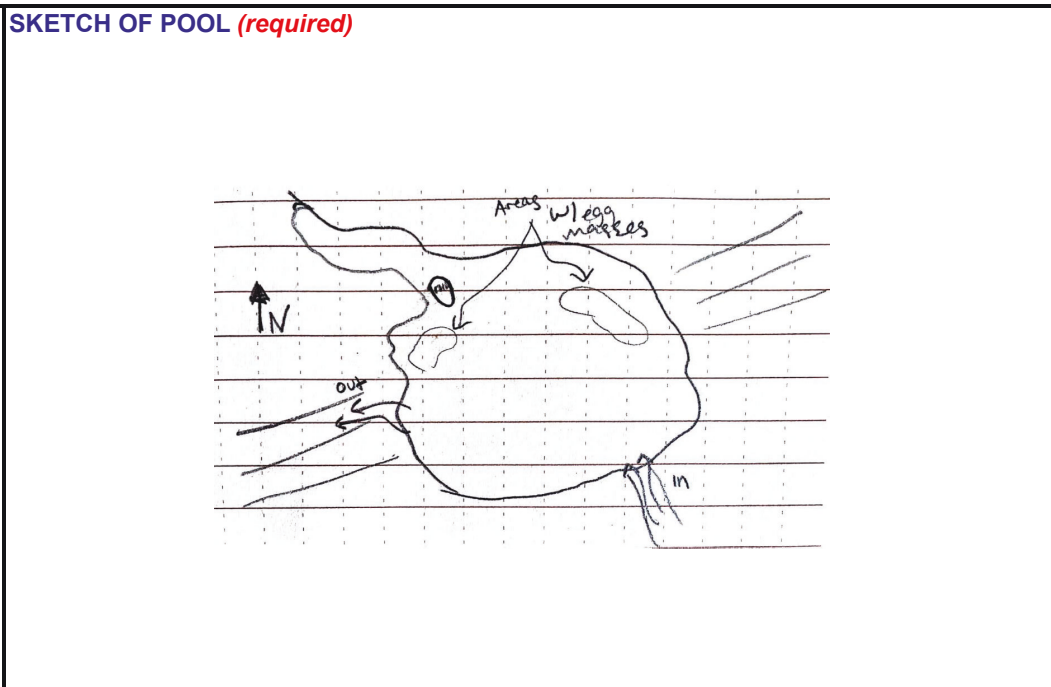
Cover Objects:	Logs	Rocks
none:		
low:		X
moderate:	X	
high:		

**Dominant vegetation within 100' (optional)**  
 Trees/saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_

# VERNAL POOL DATA SHEET, p. 2

Survey Date: 4/4/2023	Investigator(s): C. Ferris, J. Hutchinson	Town: Willington	CAWS Pool #: VPCWF1	CAWS Project #:
Project/property name: KCE CT 5 Battery Energy Storage System Project			Pool Type:	Development: <input type="checkbox"/> Reference: <input type="checkbox"/>

Draw a **rough, quick** sketch of the pool showing **approximate locations of egg mass rafts & clusters** in relation to pool features, like logs, algal mats, and islands. Show inlet/outlet if present. Include north arrow and approximate scale.



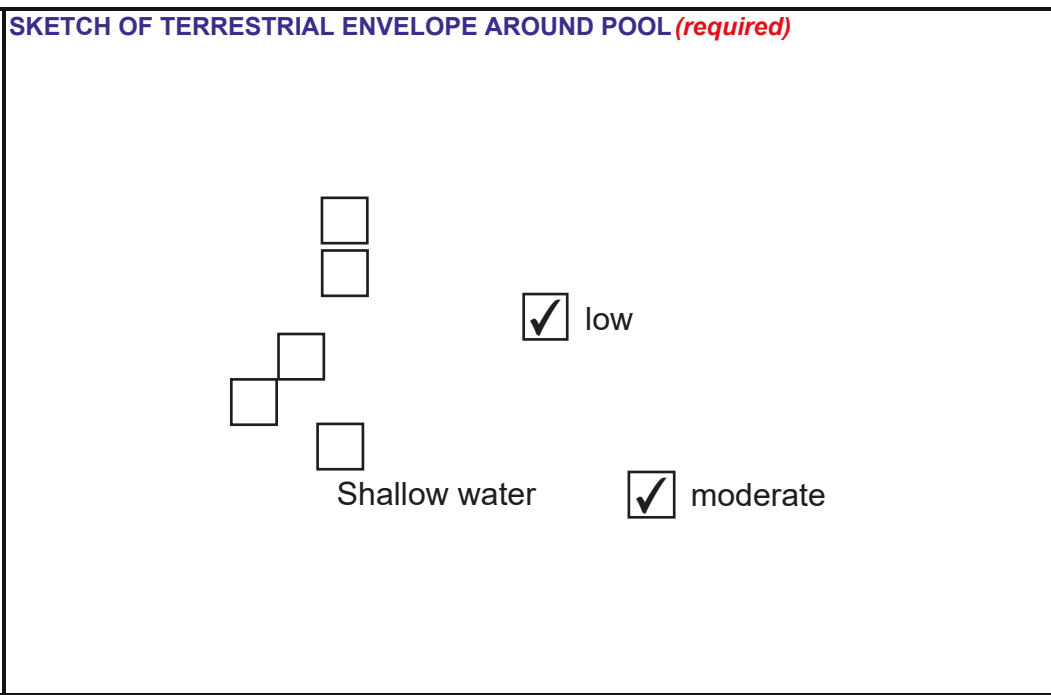
**WILDLIFE OBSERVATIONS: (optional)**

**Checklist of Facultative Herptile Fauna (Pool & Fringe):**

Green Frog	<input type="checkbox"/>	Spring Peeper	<input type="checkbox"/>
Pickereel Frog	<input type="checkbox"/>	Gray Tree Frog	<input type="checkbox"/>
Bull Frog	<input type="checkbox"/>	Pickereel Frog	<input type="checkbox"/>
Eastern Toad	<input type="checkbox"/>	Painted Turtle	<input type="checkbox"/>
Spotted Turtle	<input type="checkbox"/>	Snapping Turtle	<input type="checkbox"/>
N. Water Snake	<input type="checkbox"/>	Blue-spot. salam.	<input checked="" type="checkbox"/>

**Other Observed Fauna (Pool & Fringe):**

Draw a **rough, quick** sketch of the pool's **terrestrial envelope**, extending at least 200' from pool in all directions. Provide **detail on conditions & landuses within 100 feet of edge of pool**. Include north arrow and approximate scale.



**ADDITIONAL NOTES: (optional)**

## VERNAL POOL DATA SHEET

Survey Date: 4/4/2023	Investigator(s): C. Ferris, J. Hutchinson	Town: Willington	CAWS Pool #: VPCWF2	CAWS Project #:
Town Staff Contacted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Project/property name: KCE CT 5 Battery Energy Storage System		Pool Type: Development: <input type="checkbox"/>	Reference: <input type="checkbox"/>
Address/location (or include annotated map): Village Hill Road (see Figure 1)			Investigator's Contact information: chuck@flycatcherllc.com	

**SEARCH CONDITIONS AND METHODS (required)**

**WEATHER:**

**Precipitation:** Within last 24 hours  
 Current 0"      0"

**Cloud Cover:**  
 clear   
 partly cloudy   
 mostly cloudy   
 full cloud cover

**Start time:** 1125H  
**End time:** 1140H

**Methods used:**  
 Visual   
 Dipnetting

**Type of Inspection:**  
 baseline  Polarized sunglasses used? Yes   
 during construction  No   
 post construction  No

**Comments:**  
 Temporary flagging used to mark egg masses? Yes  No

**AMPHIBIAN EGG MASS COUNTS (required)**

**Wood frogs:** *1-25* *26-49* ~~50~~

Abundance categories	Count
250-300	<input type="checkbox"/>
300-400	<input type="checkbox"/>
400-500	<input type="checkbox"/>
500-750	<input type="checkbox"/>
750-1000	<input type="checkbox"/>
1000-1250	<input type="checkbox"/>
>1250	<input type="checkbox"/>

**Condition:**  
 intact:   
 breaking up:   
 hatching:

*If condition mixed, note "some", "many" or "most"*

**Describe estimation method used for a large raft:**  
 no wood frog larvae detected

**Spotted Salamanders:**

Condition	Total Number
intact: 11	11
breaking up: <input type="checkbox"/>	
hatching: <input type="checkbox"/>	

**ADDITIONAL NOTES: (optional)**

Pool is very deep and excavated; appears to potentially be spring-fed. Is adjacent to a trail in a forested setting.

Pool was delineated with red flags labeled VP-CWF-2.

**CONDITIONS/OBSERVATIONS WITHIN POOL (required data)**

	No	Yes	Flowing	Not flowing
Inlet observed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outlet observed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
finish observed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Estimated water depth range? Approx. 8 feet

**Optional Data (see also back of sheet)**

**Other Vernal Pool Species:**  
 fairy shrimp present? Yes  No   
 marbled salamander larvae present? Yes  No

**Vegetation (within or overhanging pool):**  
 Trees/Saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_  
 Percent tree canopy closure? 50%  
 Woody debris content? High  Med.  Low

**Pool Substrate: (top three)**  
 Peat   
 Mud/muck  Sand/Silt  Bedrock   
 Leaf Litter  Silt/clay  Gravel/cobbles

**Water Quality:**  
 ph  conductivity (uS/cm)  temperature (°C)   
 Nitrate-N (mg/l)  Total P (ug/l)  DO (mg/l)   
 turbidity (NTU's)  Sulphidic odor? No  Yes   
 Approximate % cover by algal mat or duckweed?   
 GPS coordinates: 41.453634 N, -72.115312 E

**CONDITIONS IN ENVELOPE WITHIN 100 FT OF POOL (required data)**

**Landuses/conditions** Give approximate percentage or show on sketch on back

forest	100%	shrubland	<input type="checkbox"/>	meadow	<input type="checkbox"/>
pasture	<input type="checkbox"/>	lawn	<input type="checkbox"/>	building	<input type="checkbox"/>
exposed soil	<input type="checkbox"/>	grading	<input type="checkbox"/>	ag. field	<input type="checkbox"/>
road	<input type="checkbox"/>	busy (>1 car/10 min.)	yes <input type="checkbox"/> no <input type="checkbox"/>		
parking lot	<input type="checkbox"/>				

**Comments:**  
 surrounded by mixed deciduous forest; adjacent to trail

**Leaf Litter:** If variable, note location (e.g. "N. shore")

none/low:	
moderate:	x
high:	

**Cover Objects:**

	Logs	Rocks
none:		
low:		
moderate:	X	X
high:		

**Dominant vegetation (optional)**  
 Trees/saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_

**CONDITIONS IN ENVELOPE AROUND POOL (required data)**

Estimate %cover (Hi, Med, Low, VLow, None)

Landuses	Within 100 feet	100'-300' (optional)
forest	med	med
shrubland	low	low
exposed soil	none	none
pavement	none	none
building	none	low
lawn	none	low
field	none	low
busy road (<1 car/10 min.)?	yes <input type="checkbox"/>	yes <input type="checkbox"/>

**Leaf Litter within 100' (in wooded cover type)**

none/low:	
moderate:	X
high:	

**Cover Objects:**

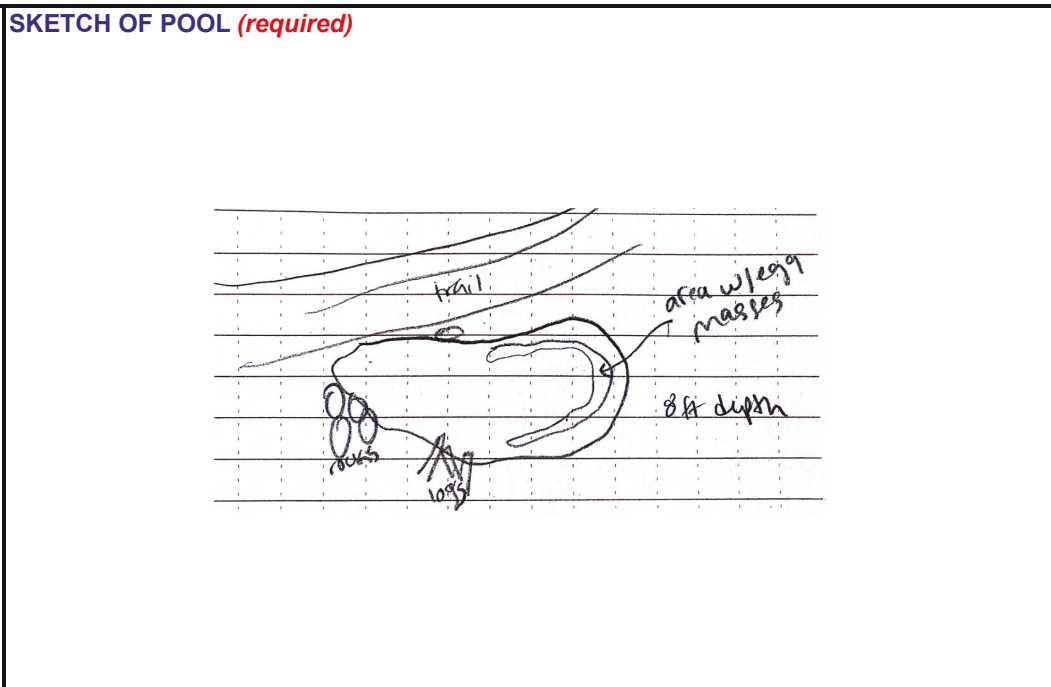
	Logs	Rocks
none:		
low:		
moderate:	X	X
high:		

**Dominant vegetation within 100' (optional)**  
 Trees/saplings: \_\_\_\_\_  
 Shrubs/Vines: \_\_\_\_\_  
 Herbs: \_\_\_\_\_

# VERNAL POOL DATA SHEET, p. 2

Survey Date: 4/4/2023	Investigator(s): C. Ferris, J. Hutchinson	Town: Willington	CAWS Pool #: VPCWF2	CAWS Project #:
Project/property name: KCE CT 5 Battery Energy Storage System Project			Pool Type:	Development: <input type="checkbox"/> Reference <input type="checkbox"/>

Draw a **rough, quick** sketch of the pool showing **approximate locations of egg mass rafts & clusters** in relation to pool features, like logs, algal mats, and islands. Show inlet/outlet if present. Include north arrow and approximate scale.



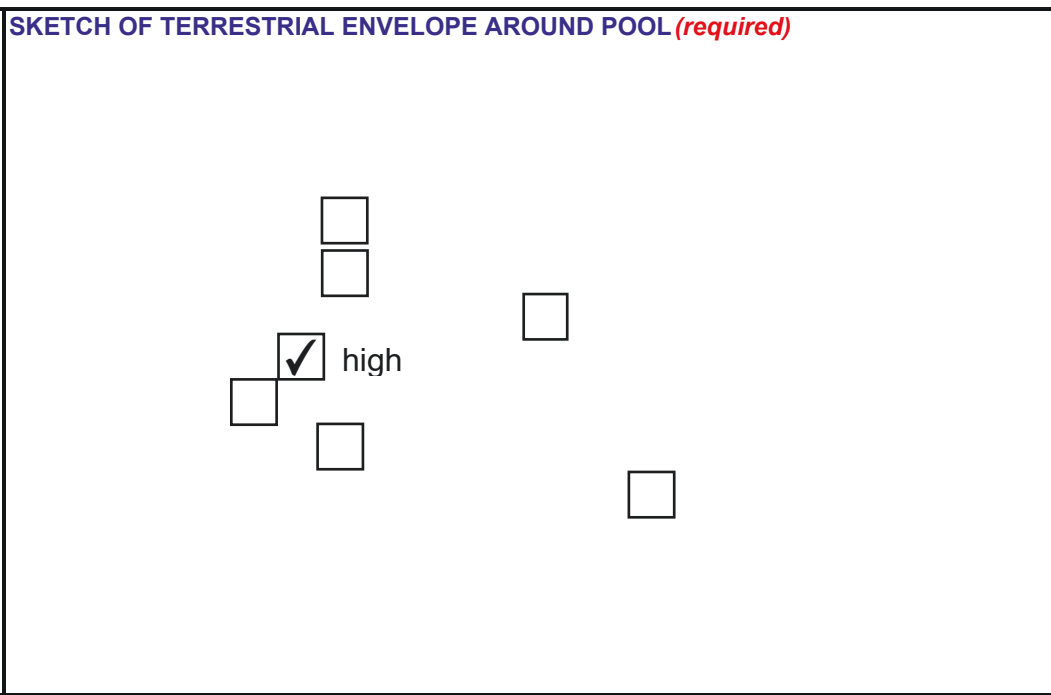
**WILDLIFE OBSERVATIONS: (optional)**

**Checklist of Facultative Herptile Fauna (Pool & Fringe):**

Green Frog	<input checked="" type="checkbox"/>	Spring Peeper	<input type="checkbox"/>
Pickereel Frog	<input type="checkbox"/>	Gray Tree Frog	<input type="checkbox"/>
Bull Frog	<input type="checkbox"/>	Pickereel Frog	<input type="checkbox"/>
Eastern Toad	<input type="checkbox"/>	Painted Turtle	<input type="checkbox"/>
Spotted Turtle	<input type="checkbox"/>	Snapping Turtle	<input type="checkbox"/>
N. Water Snake	<input type="checkbox"/>	Blue-spot. salam.	<input type="checkbox"/>

**Other Observed Fauna (Pool & Fringe):**

Draw a **rough, quick** sketch of the pool's **terrestrial envelope**, extending at least 200' from pool in all directions. Provide **detail on conditions & landuses within 100 feet of edge of pool**. Include north arrow and approximate scale.



**ADDITIONAL NOTES: (optional)**