

**Town of Sturbridge
Conservation Commission
Request for Determination of Applicability Application
Coversheet/Checklist**

Date	
-------------	--

Fill all white cells completely

Parcel		Applicant name	
Address		Address	
Assessors		Email	
Map/Plat		Phone	
Book & Page			
Owner name		Representative	
Address		Address	
Email		Email	
Phone		Phone	

Components of a Complete RDA

State Form: WPA Form 1	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Plan	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Property Owner Permission (if applicable)	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Narrative	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
TOPO Map identifying locus with scale	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Natural Heritage Map with WH, PH, & VP data	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Tax Form	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Fees \$ _____	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
Abutter Information	
★ Certified abutters list (within 200')	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
★ Abutter notification form	Included? <input type="checkbox"/> Yes <input type="checkbox"/> No
★ Affidavit & proof -- bring to hearing	<i>Present them at the hearing</i>
Other Attachments, e.g.	



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. General Information

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Applicant:

Old Road Realty LLC Name	jim@chacharone.com E-Mail Address	
1 West Boylston Street; Suite LL05 Mailing Address		
Worcester City/Town	MA State	01605 Zip Code
(508) 853-5066 Phone Number	_____ Fax Number (if applicable)	

2. Representative (if any):

EBT Environmental Consultants, Inc. Firm		
Glenn E. Krevosky Contact Name	glenn.krevosky@charter.net E-Mail Address	
601 Main Street Mailing Address		
North Oxford City/Town	MA State	01537 Zip Code
(508) 769-3659 Phone Number	_____ Fax Number (if applicable)	

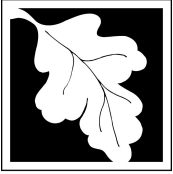
B. Determinations

1. I request the Sturbridge _____ make the following determination(s). Check any that apply:
Conservation Commission

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Sturbridge
Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

<u>660 Main Street</u> Street Address	<u>Sturbridge</u> City/Town
<u>Parcel ID: 415-02335-660</u> Assessors Map/Plat Number	<u>Parcel/Lot Number</u>

b. Area Description (use additional paper, if necessary):

(See attached C.1.b. Area Description)

c. Plan and/or Map Reference(s):

<u>(See attached C.1.c. Plan and/or Map Reference)</u>	
<u>Title</u>	<u>Date</u>
<u>Title</u>	<u>Date</u>
<u>Title</u>	<u>Date</u>

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

No work proposed at this time.

C.1.b. Area Description

The applicant is requesting through this RDA to go to the site for the rest of March and April with a fine mesh sein net viewing and seining the pooling areas (see attached Exhibit 1A) looking for obligate vernal pool inhabitants i.e., Fairy Shrimp, Spotted Salamander egg masses, Wood Frog egg masses, etc. The documentation will be submitted to the Conservation Agent, if any species are found, to set up a site inspection. Inspection of the pools has already commenced as of 3/12/2023; no activity is occurring.

C.1.c. Plan and/or Map Reference

Project Location: 660 Main Street, Sturbridge

Applicant: Old Road Realty LLC

- 1A. Existing Conditions Site Plan: prepared by Thompson-Liston Associates, Inc., dated 2/16/2017
- 2A. USGS National Map, dated 6/17/2022
- 3A. Sturbridge GIS Mapping, dated 3/15/2023
- 4A. Copy of RDA Fee Check & Local Fee Sheet
- 5A. Sturbridge Abutters List, dated 3/17/2023
- 6A. Notification to Abutters, dated 3/22/2023
- 7A. Affidavit of Service, dated 3/22/2023
- 8A. MassMapper with Layers, dated 3/15/2023
- 9A. Tax Signoff, dated xx/xx/xx
- 10A. Vernal Pool Assessment Protocol, dated 3/20/2023
Guidelines for the Certification of Vernal Pool Habitat, dated 3/2009



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

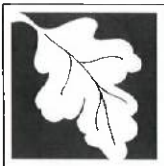
C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Old Road Realty LLC

Name

1 West Boylston Street; Suite LL05

Mailing Address

Worcester

City/Town

MA

State

01605

Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant

Date

3/15/23

Signature of Representative (if any)

3/15/2023

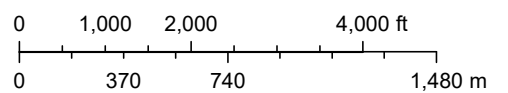
Date

660 Main Street, Sturbridge



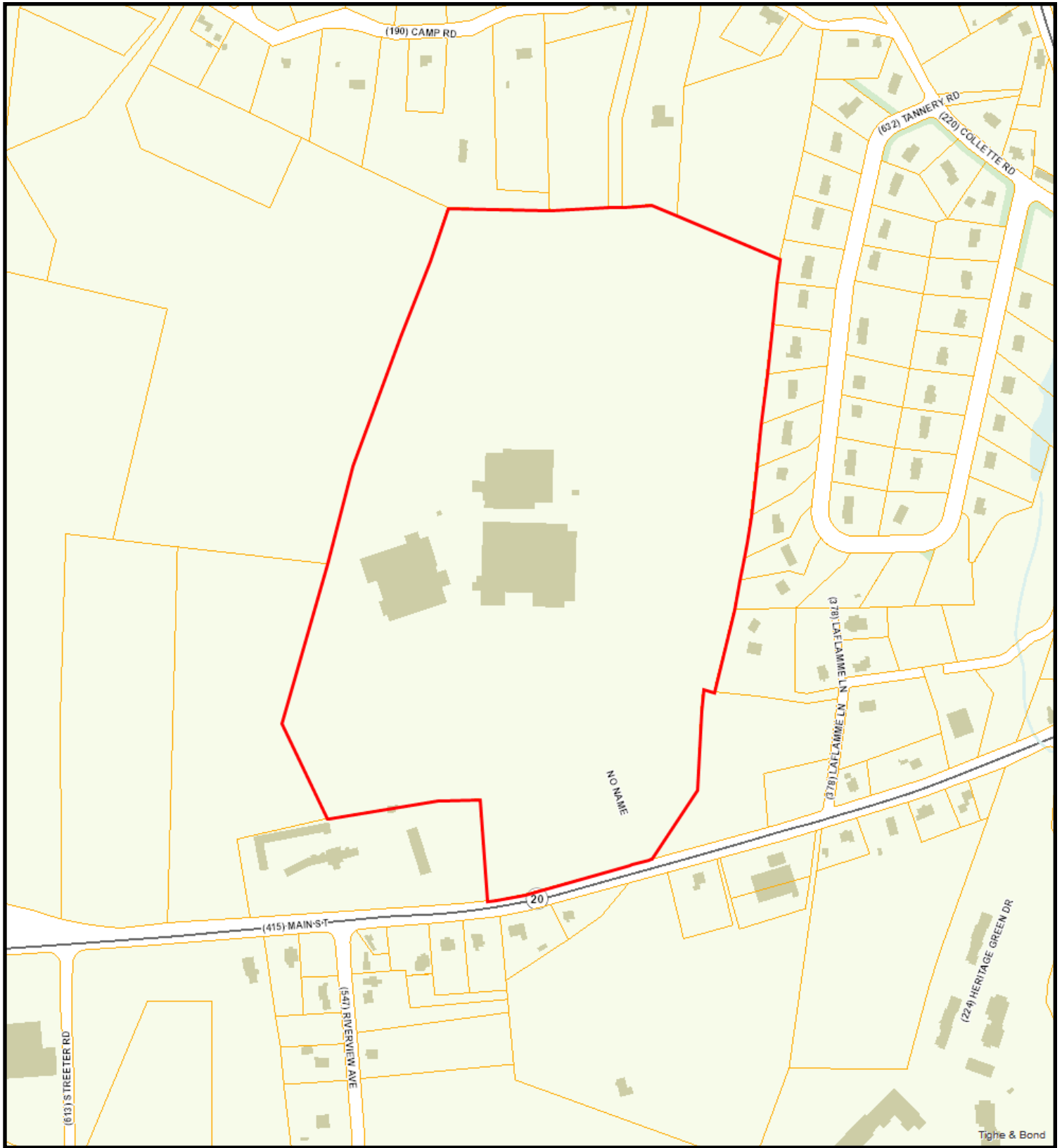
6/17/2022, 10:18:26 AM

1:36,112



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Dataset, National Land Cover Database, National Structures | National Transportation Dataset; USGS Global Ecosystems; | Bureau TIGER/Line data; USFS Road Data; Natural Earth

2A



660 Main Street

3/15/2023 11:01:07 AM

Scale: 1"=400'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



STURBRIDGE WETLANDS PROTECTION BY-LAW AND REGULATIONS

WETLANDS FILING FEE CALCULATION WORKSHEET

Application Type	Qty	Town Filing Fee	TOTAL
Notice of Intent (NOI):			
Residential – Single Family:			
Accessory (Deck, Shed, Pool Septic)	_____	\$150	_____
Shoreline Work	_____	\$150	_____
New Construction	_____	\$300	_____
Residential – Other:			
Subdivision/Multi-Unit	_____	\$750	_____
Commercial/Industrial:			
New	_____	\$1500	_____
Redevelopment	_____	\$1000	_____
Limited Project (as defined in SWB & WPA)	_____	Equal to full WPA fee	_____
Alterations – located within Riverfront Area	_____	Additional 50% of Fee	_____
Application filed after Enforcement Order		Double the Municipal fee	_____
Request for Amended Order of Conditions	_____	50% of initial fee	_____
Request for Determination of Applicability (RDA):			
No Wetland Boundary Confirmation			
Residential:	_____	\$100	_____
No Wetland Boundary Confirmation			
All Other:	_____	\$200	_____
For Wetland Boundary Confirmation File ANRAD or NOI			
Abbreviated Notice of Resource Area Delineation (ANRAD):			
Residential – Single Family:	_____	\$100	_____
All Other:			
Base Review	_____	\$300	_____
Resource Area Boundary			

Certificate of Compliance (COC):

Residential:

Single Family _____ \$50 _____

Subdivision or Multi-Unit _____ \$150 _____

Commercial or Industrial: _____ \$150 _____

If Order of Conditions has Expired _____ Add an additional \$150 _____

OOO Extension Request _____ \$50 _____

Emergency Certification _____ \$50 _____
(NOI may be required to be filed following issuance of Emergency Cert)

Local Bylaw Fee (includes Town Filing Fee) \$ _____

State Filing Fee (from DEP Wetland Transmittal Form) \$ _____

Total Payable to "Town of STURBRIDGE" \$ _____

*Additional Consultant Fee may be required for reasons which may include:

- Significant amount of wetland impact;
- Extensive resource areas on a site;
- Lack of information supplied;
- Incomplete plans, reports, forms submitted;
- Supplemental information submitted.

Parcel ID	Owner	Owner Address	Owner City	State	Zip	Property Address
415-02345-669	BELANGER ALBERT A	669 MAIN STREET	FISKDALE	MA	01518	669 MAIN STREET
632-02336-023	BONDAREVSKY DAVID J	23 TANNERY ROAD	FISKDALE	MA	01518	23 TANNERY ROAD
632-02326-029	BUCENEC SEAN M	29 TANNERY ROAD	FISKDALE	MA	01518	29 TANNERY ROAD
415-02346-649	C&R AUTOMOTIVE ENTERPRISES LLC	P.O. BOX 908	STURBRIDGE	MA	01566	649 MAIN STREET
632-02326-035	CAMPISI JOSEPH S JR	35 TANNERY ROAD	FISKDALE	MA	01518	35 TANNERY ROAD
415-02336-658	CHACHARONE NICHOLAS D	1 WEST BOYLSTON STREET	WORCESTER	MA	01605	658 MAIN STREET
415-02346-648	CHACHARONE NICHOLAS D	1 WEST BOYLSTON STREET	WORCESTER	MA	01605	648 MAIN STREET
190-02315-10A	DESY RAOUL	PO BOX 181	FISKDALE	MA	01518	10A CAMP ROAD
190-02315-010	DIGREGORIO KEITH J	P.O. BOX 661	FISKDALE	MA	01518	10 CAMP ROAD
632-02336-021	DIGREGORIO MICHAEL R	21 TANNERY ROAD	FISKDALE	MA	01518	21 TANNERY ROAD
632-02326-037	ESTERBROOK JAMES	37 TANNERY ROAD	FISKDALE	MA	01518	37 TANNERY ROAD
632-02336-025	FIORUCCI KEITH E	25 TANNERY ROAD	FISKDALE	MA	01518	25 TANNERY ROAD
415-02345-665	FOSTER ANDREW E	P O BOX 100	STURBRIDGE	MA	01566	665 MAIN STREET
190-02314-018	GALASSO DEIDRE M	18 CAMP ROAD	FISKDALE	MA	01518	18 CAMP ROAD
632-02326-031	HIBBARD TROY	31 TANNERY ROAD	STURBRIDGE	MA	01566	31 TANNERY ROAD
632-02316-041	KITCH KIMBERLY	41 TANNERY ROAD	FISKDALE	MA	01518	41 TANNERY ROAD
415-02345-673	LAKE ADAM	673 MAIN STREET	STURBRIDGE	MA	01566	673 MAIN STREET
632-02326-027	LAURITSEN ROBERT A	27 TANNERY ROAD	FISKDALE	MA	01518	27 TANNERY ROAD
632-02336-019	MARINELLI JACQUELYN M	19 TANNERY ROAD	FISKDALE	MA	01518	19 TANNERY ROAD
632-02326-039	NUNES ERIC	39 TANNERY ROAD	FISKDALE	MA	01518	39 TANNERY ROAD
190-02315-012	OLD ROAD REALTY LLC	1 WEST BOYLSTON STREET	WORCESTER	MA	01605	12 CAMP ROAD
415-02344-690	OLD ROAD REALTY LLC	1 WEST BOYLSTON STREET	WORCESTER	MA	01605	690 MAIN STREET
415-02344-682	PRAMUKHRAJ REALTY INC	682 MAIN STREET	STURBRIDGE	MA	01566	682 MAIN STREET
415-02345-655	QUINN DAVID S	P.O. BOX 265	FISKDALE	MA	01518	655 MAIN STREET
415-02344-677	RICHER SHIRLEY J	677 MAIN STREET	FISKDALE	MA	01518	677 MAIN STREET
378-02336-11A	SEY CHESTER E	PO BOX 213	FISKDALE	MA	01518	11A LAFLAMME LANE
378-02336-011	CARDENAS DEANNE F	11 LAFLAMME LANE	FISKDALE	MA	01518	11 LAFLAMME LANE
415-02344-675	SUPRENANT JOEL F	PO BOX 320	FISKDALE	MA	01518	675 MAIN STREET
632-02326-033	TANGNEY MICHAEL	33 TANNERY ROAD	FISKDALE	MA	01518	33 TANNERY ROAD
190-02315-016	TRZECIAK DARIN C	16 CAMP ROAD	FISKDALE	MA	01518	16 CAMP ROAD

190-02315-004	TOWN OF STURBRIDGE	308 MAIN STREET	STURBRIDGE	MA	01566	4 CAMP ROAD
190-02313-028	VAN GERVEN VIRGILUS B	PO BOX 918	FIKSDALE	MA	01518	28 CAMP ROAD
415-02346-657	YOUNG ZACHARY A	657 MAIN STREET	FIKSDALE	MA	01518	657 MAIN STREET
	BOARD OF ASSESSORS					
Above persons listed are record owners as they appear on the most recent applicable tax list.						
Assessors are not responsible for errors or omissions. RE: M.G.L. - Chapter 40A, Section 11						
Abutters List -	Conservation Commission - 200'					
RE: 660 MAIN STREET						
Certified Copy						
Assessor:	<i>John P. Murphy</i>					
Date:	<i>3-17-2023</i>					



Town of Sturbridge

Conservation Commission

Notification to Abutters

under the MA Wetlands Protection Act and the Town of Sturbridge Wetland Bylaw Regulations

In accordance with the second paragraph of Massachusetts General Laws, Chapter 131, § 40, as well as the Town of Sturbridge Wetland Bylaw, you are hereby notified of the following permit application for work within a wetland resource area and/or within the 200-foot buffer zone to a resource area:

- A. The name of the applicant is: Old Road Realty
- B. The address of the lot(s) where the activity is proposed is: 660 Main Street
- C. The nature of the activity proposed includes: Vernal Pool Study
- D. The applicant has filed the following in accordance with the Wetlands Protection Act (MGL c. 131, § 40), and/or the Town of Sturbridge Wetland Bylaws.
- Notice of Intent seeking permission to conduct work within a wetland, water body or resource area
 - Request for Determination seeking permission to conduct work within a buffer zone to a wetland, waterbody or resource area
 - Abbreviated Notice of Resource Area Delineation seeking to confirm the wetland resource area boundaries.
 - Request to amend an existing Order of Conditions for DEP File #300-_____

The Public Hearing for this application will be held in person and remotely via GoTo Meeting

at Veteran's Hall, Town Hall, 308 Main Street, 2nd Floor

Date and Time of Hearing: March 30, 2023 @ 7:50 PM

Public Hearing can be accessed remotely:

- From your computer using: <https://global.gotomeeting.com/join/846062197> or
- From your phone: +1 872 240 3212, followed by the access code 846-062-197

Please note that while an option for remote attendance and/or participation is being provided to the public, the meeting/hearing will not be suspended or terminated if technological problems interrupt the virtual broadcast, unless otherwise required by law. Members of the public with particular interest in any specific item on this agenda should make plans for in-person vs. virtual attendance accordingly. Please note that meetings can also be watched either online via the Town's on demand video broadcast or on cable television on channel 191, however, there is no public participation through these options.

PLEASE NOTE: Copies of the application and related materials including agendas and staff notes can be found here:

- <https://www.sturbridge.gov/conservation-commission/pages/meeting-calendar-and-documents>

You may contact the Sturbridge Conservation Commission Office (508) 347-2506 or the Department of Environmental Protection Central Regional Office at 508-792-7650 with questions in regards to the application process or the Wetlands Protection Act.

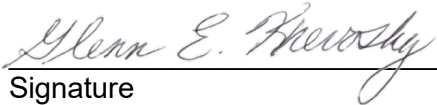
AFFIDAVIT OF SERVICE

UNDER THE TOWN OF STURBRIGE WETLAND PROTECTION BYLAW

I, Glenn E. Krevosky, hereby certify under the pains and penalties of perjury that on March 22, 2023, I gave notification to abutters within 200 feet of the proposed project in compliance with Section 365-7.1 A. (7) of the Sturbridge Wetland Regulations and the DEP Guide to Abutter Notification, dated April 8, 1994, in connection with the following matter:

A Request for Determination of Applicability filed under the Massachusetts Wetlands Protection Act and The Town of Sturbridge Wetland Protection Bylaw by EBT Environmental Consultants, Inc., 601 Main Street, North Oxford, MA 01537, with the Sturbridge Conservation Commission on March 22, 2023, for a property located at, 660 Main Street, Sturbridge.

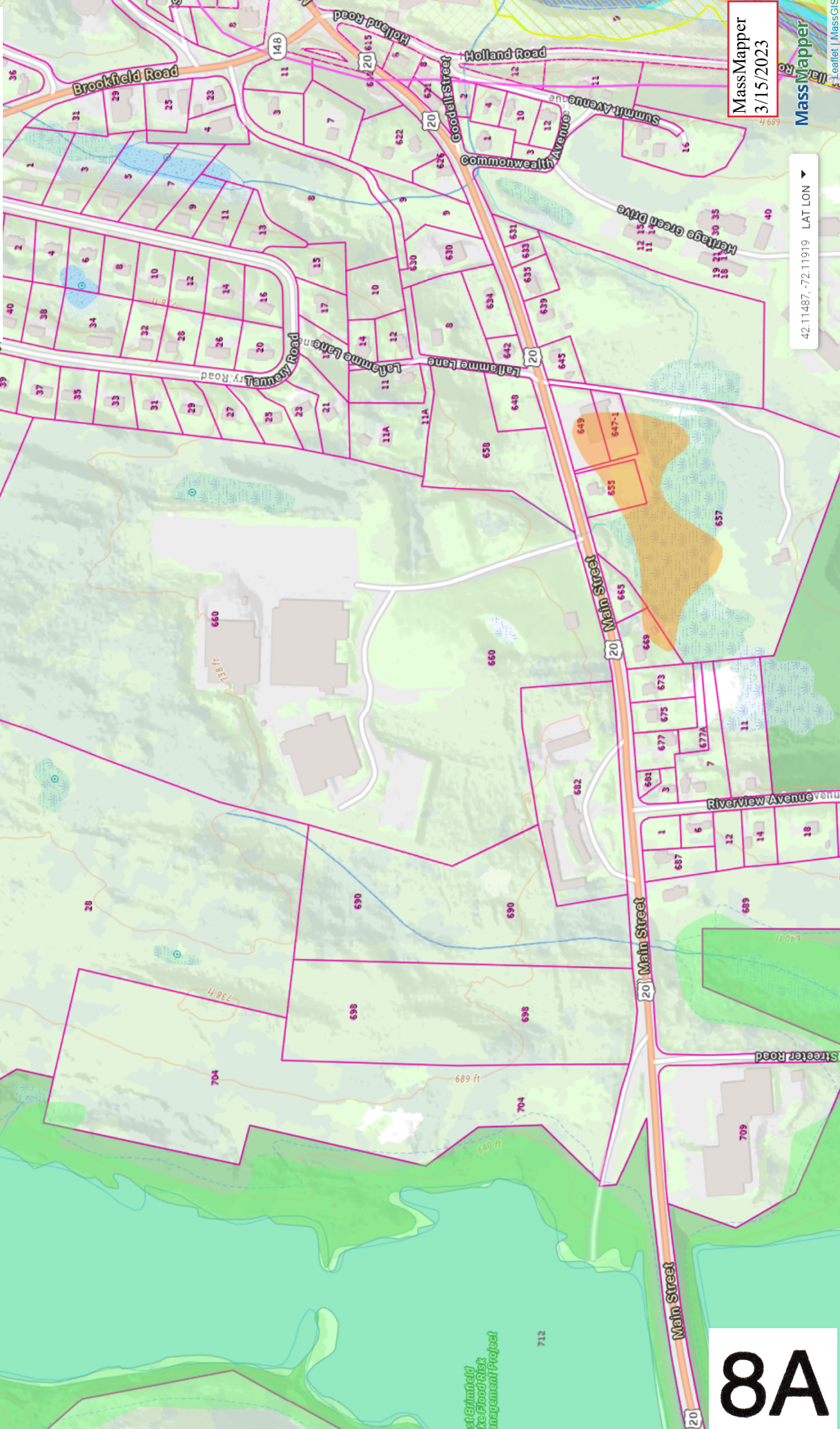
The form of the notification and the list of the abutters to whom it was given and their addresses are attached to this Affidavit of Service.


Signature

3-22-2023
Date

Legend

- FEMA National Flood Hazard Layer Polygons
- A: 1% Annual Chance of Flooding, no BFE
- AE: 1% Annual Chance of Flooding, with BFE
- AH: 1% Annual Chance of 1.38' Flooding, with BFE
- AO: 1% Annual Chance of 1.38' Street Flow Flooding, with BFE
- D: Possible but Undetermined Hazard
- X: 1% Drainage Area < 1 Sq. MI
- Y: Reduced Flood Risk due to Levee
- Z: Area with no DFIRM - Paper Floods in Effect
- NHESP Estimated Habitats of Rare Wildlife
- NHESP Priority Habitats of Rare Species
- Potential Vernal Pools
- NHESP Certified Vernal Pools



EBT Environmental Consultants, Inc.
GLENN E. KREVOSKY, CONSULTANT
601 Main Street
North Oxford, MA 01537
glenn.krevosky@charter.net
Cell: (508)769-3659 Office: (508)987-0979

March 20, 2023

Sturbridge Conservation Commission
308 Main Street
Sturbridge, MA 01566

Re. Vernal Pool Assessment Protocol – 660 Main Street, Sturbridge

Dear Commission,

On behalf of the Applicant, Old Road Realty LLC, EBT Environmental Consultants, Inc., (EBT) is submitting this Vernal Pool Assessment Protocol for the above-referenced property.

Methodology

The Vernal Pool Assessment will be conducted implementing scientifically accepted professional practices and standards in accordance with the Massachusetts Division of Fisheries and Wildlife Guidelines for Certification of Vernal Pool Habitat (March 2009, “NHESP Certification Guidelines”).

EBT will conduct weekly site visits between March-May 2023 to evaluate Pool #1 and Pool #2 (see plan). The Assessment will commence concurrently with regional amphibian breeding activity, more specifically amphibian migration to vernal pools following snow/ice melt and favorable weather conditions (precipitation/temperature).

During the Assessments, EBT will identify the presence or absence of Fairy Shrimp (Obligate Vernal Pool Species) via visual observation and dip-netting and/or evidence of Obligate or Facultative Vernal Pool amphibian breeding activity (e.g., spermatophores, chorusing, mated pairs, egg masses, transforming tadpoles/larvae/juveniles, etc.).

As defined under the “NHESP Certification Guidelines”,

***Obligate species** serve as direct indicators of vernal pool habitat because they require at least two months of flooded conditions and the absence of established, reproducing fish populations. When breeding evidence of obligate species is documented, it is not necessary to prove there is no established fish population.*

***Facultative amphibian species** serve as indirect indicators of vernal pool habitat. Documentation of the appropriate facultative amphibian species does not ensure certification; evidence documenting there is no established, reproducing fish population must also be submitted. Additionally, the physical documentation (e.g., pool photos, descriptive notes) submitted must demonstrate the pool possesses the physical characteristics necessary to sustain a vernal pool environment (e.g., depth, size, vegetation).*

EBT will also observe the physical characteristics of each area, including water depths, and provide photographic documentation.

EBT Environmental Consultants, Inc.
GLENN E. KREVOSKY, CONSULTANT

601 Main Street

North Oxford, MA 01537

glenn.krevosky@charter.net

Cell: (508)769-3659 Office: (508)987-0979

The site evaluations will be staggered to target optimal vernal pool breeding activity based on regional amphibian activity and weather conditions. Should adequate biological criteria be documented within either area, further continuance of the Vernal Pool Assessment may only be necessary to confirm whether either area holds standing water for the continuous two (2) months.

Should either area meet the criteria for certification, EBT will delineate the Mean High Water (MHW) boundary for each certifiable vernal pool in accordance with the “NHESP Certification Guidelines.” The MHW or Vernal Pool boundary is coincident with any distinct and clear topographic break at the edge of a pool or the maximum observed or recorded extent of flooding that represents the ecological boundary of the vernal pool, evident by leaf staining and other indicators of hydrology.

EBT confirms the following:

- 1) Every survey will consist of egg-mass surveys conducted during the period beginning one week after commencement of appreciable inbound amphibian (e.g. Wood Frog, Spotted Salamander) migrations and ending 4 weeks after said commencement of migrations; however, only 1 such visit will be conducted if sufficient vernal pool biological evidence is documented per the “NHESP Certification Guidelines.”
- 2) Dipnets will be utilized during all visual surveys to document the presence/absence of Fairy Shrimp or other vernal pool species/wetland biota in the water column. Every reasonable effort will be made to capture and identify amphibian larvae or tadpoles observed.
- 3) Date, method(s), and percent surface area searched should be recorded for each wetland survey and compiled in a summary table for final reporting.
- 4) Documentation of wetland biota to be used as evidence of vernal pool habitat (e.g., Fairy Shrimp, amphibian egg masses, amphibian larvae, Wood Frog tadpoles, etc.) will include clear photos of the subject(s) at close range such that identification can be made to species with certainty; photos of amphibian larvae should include dorsal, lateral, and ventral views of each subject.

Furthermore,

- EBT will notify the Conservation Department weekly either before or after the site visit takes place (most site visits will be on Saturday or Sunday).
- EBT will document the search time for each area and weather conditions at time of site visit.
- Polarized sunglasses will be worn and Ryobi Xenon Hi-Beam will be utilized for optimal viewing within wetlands.

Reporting

EBT will prepare a summary report with photographs documenting the results of the Vernal Pool Assessment for submission to the Commission. The report will review the presence or absence of documented vernal pool species and/or breeding activity and whether either area provides viable vernal pool habitat. EBT will participate in a subsequent Public Meeting to review our findings. Should either area meet the criteria for

EBT Environmental Consultants, Inc.
GLENN E. KREVOSKY, CONSULTANT

601 Main Street

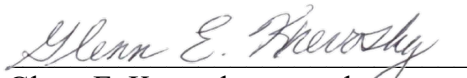
North Oxford, MA 01537

glenn.krevosky@charter.net

Cell: (508)769-3659 Office: (508)987-0979

certification, EBT will submit the necessary Vernal Pool Field Observation Form and requisite materials to the Commission and to NHESP via MassWildlife's Heritage Hub (electronic database).

Respectfully,


Glenn E. Krevosky, consultant



MASSWILDLIFE

DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581

p: (508) 389-6300 | f: (508) 389-7890

MASS.GOV/MASSWILDLIFE

Guidelines for the Certification of Vernal Pool Habitat, March 2009*

Table of Contents:

Section I. - NHESP Vernal Pool Fact Sheet

Section II. - NHESP Certification Criteria & Documentation Requirements

Section III. - NHESP Vernal Pool Field Observation Form

Background Information

The NHESP& Vernal Pool Certification:

The goal of the Natural Heritage & Endangered Species Program (NHESP) is to protect the state's native biological diversity with its highest priority being the protection of the state's native vertebrate, invertebrate, and plant species officially listed as Endangered, Threatened, or of Special Concern under the Massachusetts Endangered Species Act (M.G.L. c. 131A and implementing regulations 321 CMR 10.00).

The NHESP also administers the state's official vernal pool certification program. NHESP staff does not routinely survey and monitor vernal pools outside of rare species work and special vernal pool projects, but accepts certain biological and physical documentation submitted by outside scientists, resource managers, and other interested individuals and organizations as the basis for the possible certification of vernal pool habitat.

Why were the *Guidelines for the Certification of Vernal Pool Habitat* Revised in 2009?

Revisions to the Guidelines are designed to ensure consistency between the NHESP certification criteria and the biological and physical criteria of 'vernal pool habitat' in the WPA regulations (310 CMR 10.04, 10.57(1)(a)(3), 10.57(1)(b)(4), and 10.58(1)). The Guidelines have been modified to increase the confidence that pools that become certified provide essential breeding habitat for certain amphibians that require vernal pools. This is necessary, for example, because facultative vernal pool species use a variety of temporary and permanent wetlands and are not always reliable indicators of hydroperiod (two months inundation) or vernal pool habitat. The revised Guidelines address this by reducing the number of facultative species that can be used for certification. In addition, they enhance the requirements for documenting the physical and biological characteristics of a vernal pool (see sections II. and III. for specific changes). Overall, the revised Guidelines contribute to the defensible certification of vernal pool habitat in the variety of wetlands where they, in fact, occur.

I. VERNAL POOL FACT SHEET

What Are Vernal Pools?

Vernal pools are temporary bodies of fresh water that provide important habitat for many vertebrate and invertebrate species. “Vernal” means spring, and indeed, many vernal pools are filled by spring rains and snowmelt, and then dry during the summer. However, many vernal pools are filled by autumn rains (i.e., “autumnal pools”) and persist through the winter and others are semi-permanent and do not dry every year. Vernal pools are quite often very small and shallow; vernal pools that support rich communities of vertebrate and invertebrate animals may measure only a few yards across. However, vernal pools of several acres also occur throughout Massachusetts.

Where Are Vernal Pools Found?

Vernal pools are common in Massachusetts and occur in almost every town in the state. Vernal pools are found across the landscape where small woodland depressions, swales, or kettle holes collect spring runoff or intercept seasonally high groundwater tables. Although many people associate vernal pools with dry woodland areas, vernal pools also occur in meadows, river floodplains, interdunal swales, and large vegetated wetland complexes. Vernal pool habitat can occur where water is contained for more than two months in the spring and summer of most years and where no reproducing fish populations are present.

Why Are Vernal Pools Valuable?

Vernal pools constitute a unique and increasingly vulnerable type of wetland. Vernal pools are inhabited by many species of wildlife, some of which are totally dependent on vernal pools for their survival. Vernal pools do not support fish because they dry out annually or at least periodically. Some may contain water year round, but are free of fish as a result of significant drawdowns that result in extremely low dissolved oxygen levels. The wood frog (*Lithobates sylvaticus*) and the four local species of mole salamander (*Ambystoma* spp.) have evolved breeding strategies intolerant of fish predation on their eggs and larvae; the lack of established reproducing fish populations is essential to the breeding success of these species.

Some state-listed species that may be found in vernal pools:

Species	Status ¹
Marbled salamander (<i>Ambystoma opacum</i>)	T
Blue-spotted salamander (<i>A. laterale</i>)	T/SC
Jefferson salamander (<i>A. jeffersonianum</i>)	SC
Eastern spadefoot toad (<i>Scaphiopus holbrookii</i>)	T
Blanding’s turtle (<i>Emydoidea blandingii</i>)	T
Wood turtle (<i>Glyptemys insculpta</i>)	SC

¹Status pursuant to the MA Endangered Species Act: T = Threatened; SC = Special Concern.

Other amphibian species, including the American toad (*Anaxyrus americanus*), spring peeper (*Pseudacris crucifer*), and gray treefrog (*Hyla versicolor*), often exploit the fish-free waters of vernal pools but use a variety of different wetland types. Vernal pools also support rich and diverse invertebrate faunas. Some invertebrates, such as the fairy shrimp (*Eubranchipus* spp.), are also dependent upon vernal pools. Invertebrates are both important predators and prey in vernal pool ecosystems. Vernal pools are an important habitat resource for many birds, mammals, reptiles and amphibians, including many species listed under the MA Endangered Species Act (M.G.L c.131A).

Vernal Pool Protection

Vernal pools became eligible for protection when the **Massachusetts Wetlands Protection Act regulations (WPA)** (310 CMR 10.00) were revised in 1987 to include ‘wildlife habitat’ as an interest protected under the WPA. Vernal pools became protected not as a specific wetland type, but rather a

wetland function that provides important ‘wildlife habitat’. In accordance with the WPA, vernal pools are presumed present in jurisdictional wetland ‘Resource Areas’ only when mapped and certified by the Natural Heritage & Endangered Species Program (NHESP). Thus, the vernal pool certification program was established to register the locations of *all vernal pools, regardless of jurisdiction, that meet the biological and physical features of ‘Vernal Pool Habitat’ in the WPA*; i.e., those that provide essential breeding habitat for certain amphibians that require vernal pools (310 CMR 10.04, 10.57(1)(a)(3), 10.57(1)(b)(4), and 10.58(1)). Although the NHESP certifies vernal pool habitat, local conservation commissions and the Massachusetts Department of Environmental Protection (DEP) are responsible for the regulatory protection of vernal pools.

Other regulations have subsequently incorporated protections for certified vernal pools including: the **Massachusetts Surface Water Quality Standards** (314 CMR 4.00), **Massachusetts Environmental Code: Title 5** (310 CMR 15.00), **Massachusetts Forest Cutting Practices Act Regulations** (304 CMR 11.00), **Massachusetts 401 Water Quality Certification Regulations** (314 CMR 9.00), and some **local wetland bylaws**. These regulations extend protections to many certified vernal pools (CVPs) that may not be jurisdictional under the WPA. In addition, the WPA and Forest Cutting Practices Act regulations also provide protection to vernal pools that have not been certified if their occurrence is adequately documented during permit review.

The Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) protect certified vernal pools and up to 100 feet beyond the pool boundary by preventing alterations which would result in impairment of the wildlife habitat function of the CVP. In order to receive protection through the WPA, however, CVPs must occur within a jurisdictional wetland ‘Resource Area’. If in a ‘Resource Area’, protection extends to the CVP itself, as well as to the portion of the 100-foot zone surrounding the CVP (referred to as ‘Vernal Pool Habitat’) that is within a Resource Area. WPA protection of ‘Vernal Pool Habitat’ does not extend into non-jurisdictional upland or the buffer zone of a resource area. In summary, conservation commissions are empowered to prevent the impairment of the capacity of Vernal Pool Habitat to function as wildlife habitat.

Vernal pools that are not certified may also be protected by local conservation commissions or the DEP if credible scientific evidence is presented prior to the end of the appeals period for a Superseding Order of Conditions (OOC) issued by the DEP. A conservation commission, or the DEP on appeal, can incorporate protective conditions into an OOC that would prevent the impairment of the wildlife habitat value of the pool and its 100 foot ‘Vernal Pool Habitat’ if the pool is not certified.

The WPA is administered by local conservation commissions under the jurisdiction of the DEP, either of which should be contacted for all questions related to the regulatory protection of certified and potential vernal pools.

Each DEP Regional Office has Vernal Pool Liaison(s) who can be contacted at these locations:

<p>NORTHEAST REGIONAL OFFICE 203B Lowell Street Wilmington, MA 01887 (978) 694-3200</p>	<p>SOUTHEAST REGIONAL OFFICE 20 Riverside Drive Lakeville, MA 02347 (508) 946-2700</p>	<p>CENTRAL REGIONAL OFFICE 627 Main Street Worcester, MA 01608 (508) 792-7650</p>	<p>WESTERN REGIONAL OFFICE 436 Dwight Street Springfield, MA 01103 (413) 748-1100</p>
---	--	---	---

The Massachusetts Surface Water Quality Standards (SWQS) (314 CMR 4.00), administered by the DEP, implement Section 401 of the federal Clean Water Act at the state level. When a project proposes discharges of solid or liquid fill in a wetland under federal jurisdiction, a permit must be obtained from the Army Corps of Engineers. In accordance with the SWQS, the project proponent must first obtain a Water Quality Certification from the DEP, under the Massachusetts 401 Water Quality Certification Regulations (314 CMR 9.00), that states that the discharge complies with the federal Clean Water Act. The SWQS classify CVPs as Outstanding Resource Waters (ORW) for which no new or increased discharge of pollutants, including solid fill or storm water, is allowed, and any existing discharge must cease, or be treated with the highest and best practical methods. Generally, a CVP will be protected from the discharge of fill as an ORW, even if the CVP is not subject to WPA jurisdiction as a state wetland.

The Massachusetts Environmental Title 5 (310 CMR 15.00) regulates the siting and construction of subsurface sewage disposal (septic) systems in the state. A system's septic tank and distribution box must be located a minimum of 50 feet, and the leaching field a minimum of 100 feet, from the boundary of a CVP. The setback for the leach fields can be reduced if hydrogeologic data demonstrates the pool is hydraulically up-gradient from the proposed system.

The Massachusetts Forest Cutting Practices Act Regulations (304 CMR 11.00) protect CVPs from certain forestry impacts. Harvesting requirements limit cutting to no more than 50% of the trees within 50 feet of a CVP. They also require that trees or tree tops not be felled in CVPs, and restrict the use of pools as staging areas or skidder trails. Guidelines, similar to the regulations, are established for activities planned near uncertified vernal pools identified by consulting foresters.

Town Wetlands and Zoning By-laws are used by many municipalities to enhance protections to vernal pools. While the details of by-laws are town specific, they are generally intended to increase protection to vernal pools beyond that afforded by the WPA.

The Vernal Pool Boundary

The shallow edges of vernal pool habitat represent one of the most ecologically valuable portions of these habitats. These areas are generally the first to thaw in the spring and provide access to the pool for the earliest breeding species. These shallow water zones also tend to be significantly warmer than the deeper portions of a vernal pool throughout the spring. Egg masses of early breeding amphibians benefit from the warmer water temperatures at the pool edges that promote rapid egg development.

The boundary of vernal pool habitat must incorporate these shallowest reaches of the pool. When there is no distinct and clear topographic break at the edge of a pool, the maximum observed or recorded extent of flooding represents the ecological boundary of the vernal pool. This boundary is evident and should be delineated by leaf staining and other indicators of hydrology outside of the mean annual high water period (March through early April in most cases).

The NHESP does not establish a physical, on-the-ground vernal pool boundary during the certification process. The WPA allows a project proponent to submit an opinion as to the extent of a CVP that is based upon a total run-off from a statistical 2.6 inch rainfall in 24 hours, but it should also include groundwater inputs to the basin at the beginning of the spring amphibian breeding season (see DEP DWW Policy 85-2). The DEP has stated in its policies that groundwater inputs should not be overlooked

in these calculations because otherwise it could result in a total volume considerably smaller than the basin holds in any given spring.

How Can Vernal Pools Be Certified?

The NHESP administers the official vernal pool certification program and accepts certain biological and physical documentation submitted by outside scientists, resource managers, and other interested individuals and organizations as the basis for the possible certification of vernal pool habitat. People interested in vernal pool certification should:

1. Download the NHESP *Guidelines for the Certification of Vernal Pool Habitat, March 2009* and the *Vernal Pool Field Observation Form* from www.mass.gov/nhesp. Please read and understand the Guidelines before collecting data and completing the form.

The NHESP strongly recommends that landowner permission be obtained prior to collecting certification documentation. It is the sole responsibility of an individual providing vernal pool certification information to ensure that all activities associated with gathering said information comply with law.

Certification is based on evidence that a pool provides important wildlife habitat consistent with 'Vernal Pool Habitat' in the WPA. Wildlife that use vernal pools are generally divided into two groups:

Obligate Species: vertebrate and invertebrate species that require vernal pools for all or a portion of their life cycle and are unable to successfully complete their life cycle without vernal pools.

Facultative Species: vertebrate and invertebrate species that frequently use vernal pools for all or a portion of their life cycle, but are able to successfully complete their life cycle in other types of wetlands.

Obligate species serve as *direct* indicators of vernal pool habitat because they require at least two months of flooded conditions and the absence of established, reproducing fish populations. When breeding evidence of obligate species is documented, it is not necessary to prove there is no established fish population.

Facultative amphibian species serve as *indirect* indicators of vernal pool habitat.

Documentation of the appropriate facultative amphibian species does not ensure certification; evidence documenting there is no established, reproducing fish population must also be submitted. Additionally, the physical documentation (e.g., pool photos, descriptive notes) submitted must demonstrate the pool possesses the physical characteristics necessary to sustain a vernal pool environment (e.g., depth, size, vegetation).

2. Fill out a Vernal Pool Field Observation Form (paper or electronic form). Attach the physical and biological documentation and the maps as required by the Guidelines. Submit the packet to the NHESP for review.

The NHESP does not field visit pools prior to certification but relies on the submittal of accurate information and clear documentation of both the biological and physical evidence. If the documentation is inconclusive additional documentation may be requested or the pool may not be certified. Once it is determined that a vernal pool meets the certification criteria in the Guidelines, it will be officially certified by NHESP and the observer, conservation commission, DEP regional office, and landowner (if known) are formally notified.

For information on using the electronic form, please visit: www.mass.gov/nhesp.

Certified Vernal Pool Maps

- GIS Data layers of Certified Vernal Pools (updated continually) and Potential Vernal Pools are available through the MassGIS Online Data Viewer ('Oliver') at www.mass.gov/get-a-map.
 - Click on "Open OLIVER interactive mapping tool"
 - Zoom to area of interest
 - Add Layers by clicking on "Conservation/Recreation" folder, then "Natural Heritage Data", then "NHESP Certified Vernal Pools" and/or "Potential Vernal Pools".
- NHESP's town-wide 'Priority Habitat & Estimated Habitat' maps (published every 4 years) include CVPs and are available for public viewing at the offices of conservation commissions, planning boards, and building inspectors.

II. CERTIFICATION CRITERIA & DOCUMENTATION REQUIREMENTS

Please read and understand the **CERTIFICATION CRITERIA** and **DOCUMENTATION REQUIREMENTS** in the following sections before submitting Vernal Pool Field Observation Form(s) and supporting documentation.

Certification Criteria

Vernal pool certification is possible only after the appropriate **biological AND physical** criteria have been met and documented by one of the two certification methods described below:

A) OBLIGATE SPECIES METHOD

Biological Criteria

- Breeding evidence of obligate amphibian species OR the presence of fairy shrimp (see table on pg. II.2).

AND

Physical Criteria

- Evidence of a pool with no permanently flowing outlet (i.e., photo of the pool holding water).

B) FACULTATIVE AMPHIBIAN SPECIES METHOD

Biological Criteria

- Breeding evidence of 2 or more facultative amphibian species (see table on pg. II.2).

AND

Physical Criteria

- Evidence of a pool with no permanently flowing outlet (i.e., photo of the pool holding water).

AND

- Evidence that there is no established, reproducing fish population (i.e., photo of the pool dry).

The **Obligate Species Method** is the most direct way to certify a vernal pool. If documentation submitted is inconclusive, or if the physical documentation appears to show inappropriate habitat, the pool may not be certified or additional documentation may be requested. Since **facultative amphibians** can use a variety of wetland habitats it is especially important when using this method that the pool

photos demonstrate the physical characteristics necessary to sustain a vernal pool environment (e.g., depth, size, vegetation). If there is any doubt, the NHESP may require additional evidence.

A. Obligate Species Method: Biological and Physical Criteria & Evidence Accepted for Certification:

THE NHESP STRONGLY RECOMMENDS THAT LANDOWNER PERMISSION BE OBTAINED PRIOR TO COLLECTING CERTIFICATION DOCUMENTATION. IT IS THE SOLE RESPONSIBILITY OF AN INDIVIDUAL PROVIDING VERNAL POOL CERTIFICATION INFORMATION TO ENSURE THAT ALL ACTIVITIES ASSOCIATED WITH GATHERING SAID INFORMATION COMPLIES WITH LAW.

BIOLOGICAL CRITERIA		PHYSICAL CRITERIA	
Obligate Species Accepted - one or more of the following	Breeding Evidence Accepted - one or more of the following from at least one obligate species must be documented by photos, video, or audio (chorusing)	Physical Features Accepted	Physical Evidence Accepted
<p>Wood frog (<i>Lithobates sylvaticus</i>)</p> <p>Spotted salamander (<i>Ambystoma maculatum</i>)</p> <p>Blue-spotted salamander * (<i>A. laterale</i>)</p> <p>Jefferson salamander * (<i>A. jeffersonianum</i>)</p> <p>Marbled salamander * (<i>A. opacum</i>)</p>	<p>Adult wood frogs -</p> <ul style="list-style-type: none"> • Full chorus (calls constant, continuous, & overlapping) - map location of chorus (pool) and site where recording was taken; OR • 5+ mated pairs OR <p>Adult salamanders -</p> <ul style="list-style-type: none"> • Congressing OR • Spermatophores OR • Marbled salamander attending a nest OR <p>Egg masses -</p> <ul style="list-style-type: none"> • TOTAL of 5 egg masses - any combination, regardless of species OR • 1 egg mass of a MESA-listed salamander or nest and eggs of marbled salamander OR <p>Larvae -</p> <ul style="list-style-type: none"> • Any number of larvae OR <p>Transforming juveniles -</p> <ul style="list-style-type: none"> • Still in pool with tail and/or gill remnants. 	<p>Pool with no permanently flowing outlet.</p>	<p>Good quality photos or video of the entire pool holding water including any inlets or outlets (e.g., any streams, culverts, etc).</p> <p><i>See 'Tips for Photographing Evidence Required for Vernal Pool Certification'.</i></p>
<p>Fairy shrimp (<i>Anostraca: Eubrachipus</i>)</p>	<p>Photo or video of adult specimen(s).</p>	<p>Same as above.</p>	<p>Same as above.</p>

*Species listed under the Massachusetts Endangered Species Act Regulations (MESA) (321 CMR 10.90). If observed, please document and fill out a *Rare Animal Observation Form* (available at www.mass.gov/nhesp) to be submitted to the NHESP.

B. Facultative Amphibian Species Method: Biological and Physical Criteria & Evidence Accepted for Certification:

BIOLOGICAL CRITERIA		PHYSICAL CRITERIA	
Facultative Species Accepted - two or more of the following	Breeding Evidence Accepted - one or more of the following from at least two facultative species must be documented by photos, video, or audio (chorusing)	Physical Features Accepted	Physical Evidence Accepted
Spring peeper <i>(Pseudacris crucifer)</i> Gray treefrog <i>(Hyla versicolor)</i> American toad <i>(Anaxyrus americanus)</i> Fowler’s toad <i>(Anaxyrus fowleri)</i>	Adults – <ul style="list-style-type: none"> • Full chorus (calls constant, continuous, & overlapping) - map location of chorus (pool) and site where recording was taken; OR • 5+ mated pairs OR Egg masses – <ul style="list-style-type: none"> • Any number of egg masses OR Larvae – <ul style="list-style-type: none"> • Any number of larvae OR Transforming juveniles – <ul style="list-style-type: none"> • Still in pool with tail remnants. 	Pool with no permanently flowing outlet. AND Evidence that there is no established, reproducing fish population.	Good quality photos or video of the entire pool holding water including any inlets or outlets (e.g., any streams, culverts, etc.). AND Good quality photos or video of the entire pool dry. <i>See ‘Tips for Photographing Evidence Required for Vernal Pool Certification’.</i>

Documentation Requirements

Documentation of the biological and physical evidence listed in the **CERTIFICATION CRITERIA** must be submitted for official certification of a vernal pool. Photographs are the preferred method of documentation but video of evidence or audio recording of chorusing frogs or toads are acceptable. Field notes are encouraged and helpful, but are not accepted as the sole source of evidence.

A. BIOLOGICAL DOCUMENTATION – Photos, Video, or Audio of Amphibian Breeding Evidence or Fairy Shrimp:

- Photos, video, or audio must be of suitable quality (resolution, focus, clarity, indicators of scale (e.g., coin, lens cap, ruler)) so species identification can be confirmed. Please see “*Tips for Photographing Evidence Required for Vernal Pool Certification*”.
- Photos, video, or audio must be labeled with pool location (town), pool name or tracking # (e.g. VP#1, Elm St. VP), date taken, & observer’s name.

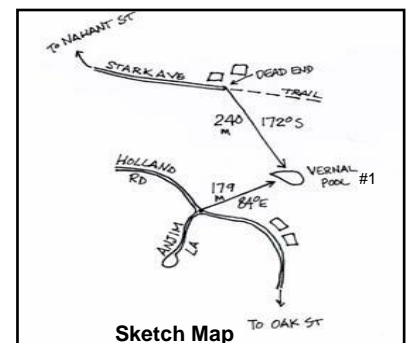
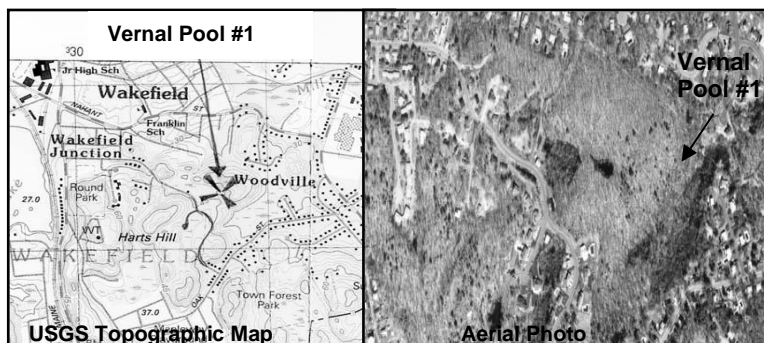
- Each individual egg mass or mated pair required for certification (e.g., all 5 wood frog egg masses) must be photographed or videotaped. If more than the minimum required number is observed, photo the required number, and count or estimate the total number and indicate this on the Vernal Pool Field Observation Form.
- Only audio tapes of full amphibian choruses (calls are constant, continuous & overlapping) are accepted (see Protocol Description at: <http://www.pwrc.usgs.gov/naamp/>) provided the location of chorusing (i.e., exact pool location) and the location of your recording site are accurately mapped.
- Documentation must be collected within 3 years prior to submittal to NHESP.

B. PHYSICAL DOCUMENTATION – Photos or Video of Pool Holding Water and Dry:

- Photograph(s) or video of the entire pool including any inlets or outlets (e.g., any streams, culverts) are required and must be of suitable quality (resolution, focus, scale) so pool features can be reliably assessed. One or more identifying landmarks (e.g., stand of trees, stumps, boulders, rock walls, etc.) to authenticate the pool location must be included. If unable to photograph the entire pool in a single photo, take a “panorama” series. Please see “*Tips for Photographing Evidence Required for Vernal Pool Certification*”.
- Photo(s) or video must be labeled with pool location (town), pool name or tracking # (e.g. VP#1, Elm St. VP), date taken, & observer’s name.
- Documentation must be collected within 3 years prior to submittal date to NHESP.

C. MAPPING REQUIREMENTS - THREE types of maps are required for certification and the pool locus must be clearly delineated and identified (your pool name or tracking #) on each map:

1. **U.S. Geological Survey topographic map** (copy) (1:24,000 or 1:25,000 scale) - topos can be downloaded from MassGIS.
2. **Color orthophotos** (copy) (1:12,000 scale or better) - orthophotos can be downloaded from MassGIS.
3. **One additional map or form of location data** to help clarify the pool’s location, as follows:
 - **Sketch map** - directions and distances from landmark(s), readily identifiable in the field, should be marked and clearly described on the map; if submitting a breeding chorus, the location of the chorus (pool) and recording site can be delineated on this map, **OR**
 - **Assessors map** - available from local tax assessor’s offices, include the map and parcel #'s, **OR**
 - **Professional survey, OR**
 - **GPS longitude/latitude coordinates.**



Tips for Photographing Evidence Required for Vernal Pool Certification¹

The biological and physical evidence required for vernal pool certification must be documented by photos and/or video (or audio for frog/toad chorusing) of suitable quality (resolution, focus, indicators of scale) so species identification can be confirmed and pool features be reliably assessed. Because this often requires close-up photographs in generally poor lighting conditions, some general “**rules of thumb**” are included below to help you produce good photos/video:

- Cameras that compensate for low light conditions and close-up focusing provide the best photos; most digital cameras are capable of this but fixed focus cameras (i.e., “point and shoot”) typically do not focus closer than 2-4 feet (if used carefully they usually produce suitable photos).
- Hold the camera as steady as possible or use a tripod to avoid blurred images.
- Take several photos, or extra photos using different backgrounds and light settings, to be certain you end up with a clear photo.
- Process or view your photos immediately so you can return to the pool for better photos, if needed.

POOL Photos (Physical Evidence)

Photographs of the vernal pool need to be clear and show as much of the pool as possible.

- They must include a landmark to authenticate the pool location (e.g., stand of trees, stump, a boulder, rock wall, etc.).
- If unable to photograph the entire pool in a single photo, try to photograph the pool in a “panorama” series.
- When photographing pools ‘holding water’, also include photos of any inlets or outlets (e.g., streams, culverts) observed entering or leaving the pool.

ORGANISM Photos (Biological Evidence)

Biological evidence from the pool needs to be documented by photographs/video that confirms **amphibian breeding** (i.e., mated pairs of frogs/toads, congressing salamanders, spermatophores, egg masses, larvae, or transforming juveniles) or the presence of **fairy shrimp** (see Certification Criteria for specific requirements).

- **Mated pairs** of wood frogs and **congressing salamanders** typically need to be photographed at night. A flash can sometimes illuminate the water surface, impeding the view underwater, so a flashlight can be used to illuminate subjects underwater.
- **Spermatophores** are found on the bottom of the pool. Reflections on the surface can sometimes block underwater images and can be eliminated in two ways: 1) position an object (or person) to cast a shadow over the area you are photographing, or 2) use a polarizing filter on your camera.
- To photograph **egg masses**, place a light-colored background (e.g., yellow foam meat tray, Frisbee, white board) behind the masses so they are clearly visible against the dark water and more easily identifiable; they should not be removed from the water and only minimally disturbed. Also try and include something in the photo for scale (e.g., backing tray with measurement markings, a hand, net, etc.).

- **Larvae and fairy shrimp** usually need to be briefly removed from the pool to be photographed. Place larvae or fairy shrimp in a small container (e.g., margarine tub, foam meat tray, clear plastic baggie) *filled with pool water* or photograph in your hand.
 - a. **Salamander larvae** - place in container filled with pool water and photograph from above to clearly show the gills and, if possible, a side view of the body.
 - b. **Wood frog tadpoles** - photograph in or out of water but positioned to show the belly (i.e., gut coiling) and gold flecking over the belly and sides.
 - c. **Fairy shrimp** - place in white or clear container filled with pool water and photograph.
 - d. **Transforming juveniles** – photograph so tail and/or gill remnants are visible; photos should be taken from above and/or a side view for proper identification.

¹Based on *Wicked Big Puddles: A Guide to the Study and Certification of Vernal Pools*, 3rd Edition (March 2003) by Leo P. Kenney, Vernal Pool Association (www.vernalpool.org) and is used with permission.

Instructions (continued)
 4. Certification by the Facultative Amphibian Method - provide photo, video, or audio (chorusing) of the required breeding evidence and photo(s) or video of the pool holding water **AND** dry.
 6. Provide information to help distinguish the pool & assess its features.
 7. All required biological & physical evidence must be documented by good quality photos, video, or audio.
 8. Indicate the 3 required maps submitted.

4. Biological Evidence: *Facultative Amphibians*

Breeding evidence¹ of ≥ 2 species must be documented by photos, video, or audio.

BREEDING AMPHIBIANS	DATE OBSERVED month/day/year	BREEDING EVIDENCE ¹ OBSERVED
Spring peeper		
Gray treefrog		
American toad		
Fowler's toad		

Breeding evidence¹ includes: full breeding choruses (call constant & overlapping), ≥ 5 adults in amplexus, any # of egg masses, tadpoles, and/or transforming juveniles in pool.

5. Rare Wetland Species

Were MESA-listed species observed using this pool?

Yes No

If yes, please submit a Rare Animal Observation Form with photo & map to the NHESP (available at www.nhesp.org).

6. Description of Pool and Surroundings ~ Please describe to the best of your ability and knowledge.

Dimensions (please include measurements or estimates):

Approx. Length: _____ Approx. Width: _____ Approx. Maximum Depth: _____

Describe distinctive features (roads, structures, boulders, foot trails, vegetation types, etc.) which are visible from or near the pool that would help someone recognize it.

Origin of the pool (check): Natural depression Human-made pool/ditch Created wetland/pool Other or Unknown (describe) _____

The pool's hydroperiod is most likely: Seasonal (drying out in most years) Semi-permanent (drying partially in most years) Permanent

Describe any inlet or outlets to/from the pool and their permanence (e.g., streams, culverts, etc).

Land use in vicinity of pool (approx. 100 ft from pool edge – check all that apply): upland forest forested wetlands emergent marsh/scrub-shrub wetland
 agricultural/grassland/meadow residential/commercial other _____

7. Documentation Submitted – Label with pool name or tracking #, town, date taken, observer's name.

- Photo(s) Video Audio
 Obligate Species Facultative Species Pool Holding Water Dry Pool

9. Property Owner Information - Landowner information is optional & is available from local tax assessor's offices.

Name _____

Address _____

Town _____ State _____ Zip _____ Assessors Map/Pcl# _____ (if known)

10. Observer Information & Signature – Must be filled out & signed.

Name _____

Address _____

Town _____ State _____ Zip _____

Telephone _____ E-mail _____

I hereby certify under the pains and penalties of perjury that the information contained in this report is true and complete to the best of my knowledge.

Signature _____ Date _____

Signature of Adult, if Observer is under 18 years of age _____

All submissions and supporting documents will be retained by the NHESP and, with the exception of information for MESA-listed species and the identity of minors, are available to interested parties under the Public Records Law.

8. Maps Submitted

Pool locus must be delineated & identified with your pool name or tracking #.

3 REQUIRED MAPS:

- USGS Topographic Map - 1:24,000 or 1:25,000 or better
 Color orthophoto - 1:12,000 or better

and ≥1 of the following:

- Assessor's map (Map and Plot #)
 Professional survey
 Sketch map - with directions and distances from permanent landmarks
 GPS longitude/latitude coordinates:
 Latitude = _____
 Longitude = _____

SEND COMPLETED, SIGNED FORM & SUPPORTING DOCUMENTATION TO:

**NHESP - Vernal Pool Certification
 MA Division of
 Fisheries & Wildlife
 1 Rabbit Hill Rd.
 Westborough, MA 01581**

For questions call 508-389-6360