

May 24, 2018

Vernal Pool Survey Report

Timber Crest Estates Development
Medway, MA

Submitted to:
Medway Conservation Commission

Prepared for:
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1. Introduction

I performed a vernal pool survey in the spring of 2016 within the Timber Crest Estates project boundary in Medway, MA. I searched for any confined basin depressional areas that had the potential to provide breeding habitat for “obligate” and “facultative” vernal pool indicator species, as described below. Some, but not all, of the wetland areas were previously mapped as “Potential Vernal Pools” (PVPs) and/or “Certified Vernal Pools” (CVPs) by the MA DFW Natural Heritage & Endangered Species Program (NHESP).

Based on my observations, I determined that eight wetland areas within the site contain the necessary “biological” and “physical” criteria for certification as vernal pools (Figure 1), as described in more detail below. Four of these vernal pools are presently certified by MA NHESP, as indicated on Figure 1.

2. Methods

In order to determine whether a wetland meets the State (MA DFW NHESP) criteria for being considered a vernal pool, I followed the procedures outlined in the NHESP’s *“Guidelines for the Certification of Vernal Pool Habitat”* document (hereafter “the NHESP Guidelines”). According to the NHESP Guidelines, a vernal pool can be certified if the appropriate biological and physical criteria are present using either the “Obligate Species Method” or the “Facultative Amphibian Species Method.”

For the Obligate Species Method, in the case of “physical criteria,” a “pool with no permanently flowing outlet” must be documented. In the case of “biological criteria,” there must be evidence of breeding by one or more “obligate” indicator species, including wood frogs, mole salamanders (*Ambystoma sp.*) or fairy shrimp. If a vernal pool is to be certified by the presence of amphibian egg masses, there must be at least five egg masses present (it can be a combination of multiple species). If it is to be certified by larvae or tadpoles, no minimum number of individuals is required. With fairy shrimp, no minimum number of individuals is required.

For the Facultative Amphibian Species Method, in the case of “physical criteria,” a “pool with no permanently flowing outlet” **and** “evidence that there is no established, reproducing fish population (i.e. photo of the pool dry)” must be documented. In the case of “biological criteria,” there must be evidence of breeding by **two or more** “facultative” indicator species, including spring peeper, gray treefrog, American toad or Fowler’s toad.

On each survey date, I conducted a visual search for evidence of breeding by common obligate indicator species (fairy shrimp, spotted salamanders and wood frogs, plus the less- common blue-spotted salamander). I used polarized glasses for visual scanning and a dip net to sample the water column. I also searched for American toad eggs and/or tadpoles, which be easily detectable if present. The water within each of the surveyed wetlands was extremely clear upon the first pass through, so I could see to the bottom of the wetland. I also listened for calling spring peepers and gray treefrogs.

3. Observations of Obligate Indicator Species

Vernal Pool A

This pool was certified prior to the survey, and the majority of the pool is offsite, therefore a thorough egg mass survey was not performed. Numerous wood frog tadpoles were observed.

Vernal Pool B

- 37 wood frog egg masses
- 14 spotted salamander egg masses

Vernal Pool C

- 54 wood frog egg masses
- 2 spotted salamander egg masses

Vernal Pool D

- 97 spotted salamander egg masses
- 41 wood frog egg masses

Vernal Pool E

- 14 wood frog egg masses
- 3 spotted salamander egg mass

Vernal Pool G

- 111 wood frog egg masses
- 35 spotted salamander egg masses

Vernal Pool H

- 10 spotted salamander egg masses
- 8 wood frog egg masses

Vernal Pool I

- 9 wood frog egg masses

4. Photos of Individual Pools

Vernal Pool A

No formal survey performed due to the prior certification status of the pool and the majority of its extent being off the project site.

Vernal Pool B



Wood frog egg masses.



Additional wood frog egg masses.



A spotted salamander egg mass.



View of the pool, facing south.

Vernal Pool C



Wood frog egg masses.



Additional wood frog egg masses.



View of large open portion of pool, facing north.

Vernal Pool D



Spotted salamander egg mass.



Additional spotted salamander egg mass.



Additional spotted salamander egg mass.



Wood frog tadpole, observed 6-30-15.



View of center off pool, facing south.

Vernal Pool E



Wood frog egg masses.



Spotted salamander egg mass.



View of pool, facing east.

Vernal Pool G



Wood frog egg masses.



Spotted salamander egg masses.



Western portion of pool, facing west.



Eastern portion of pool, facing south.

Vernal Pool H



Spotted salamander egg masses.



Wood frog egg masses.



View of pool, facing north.

Vernal Pool I



Wood frog egg masses.



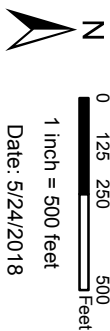
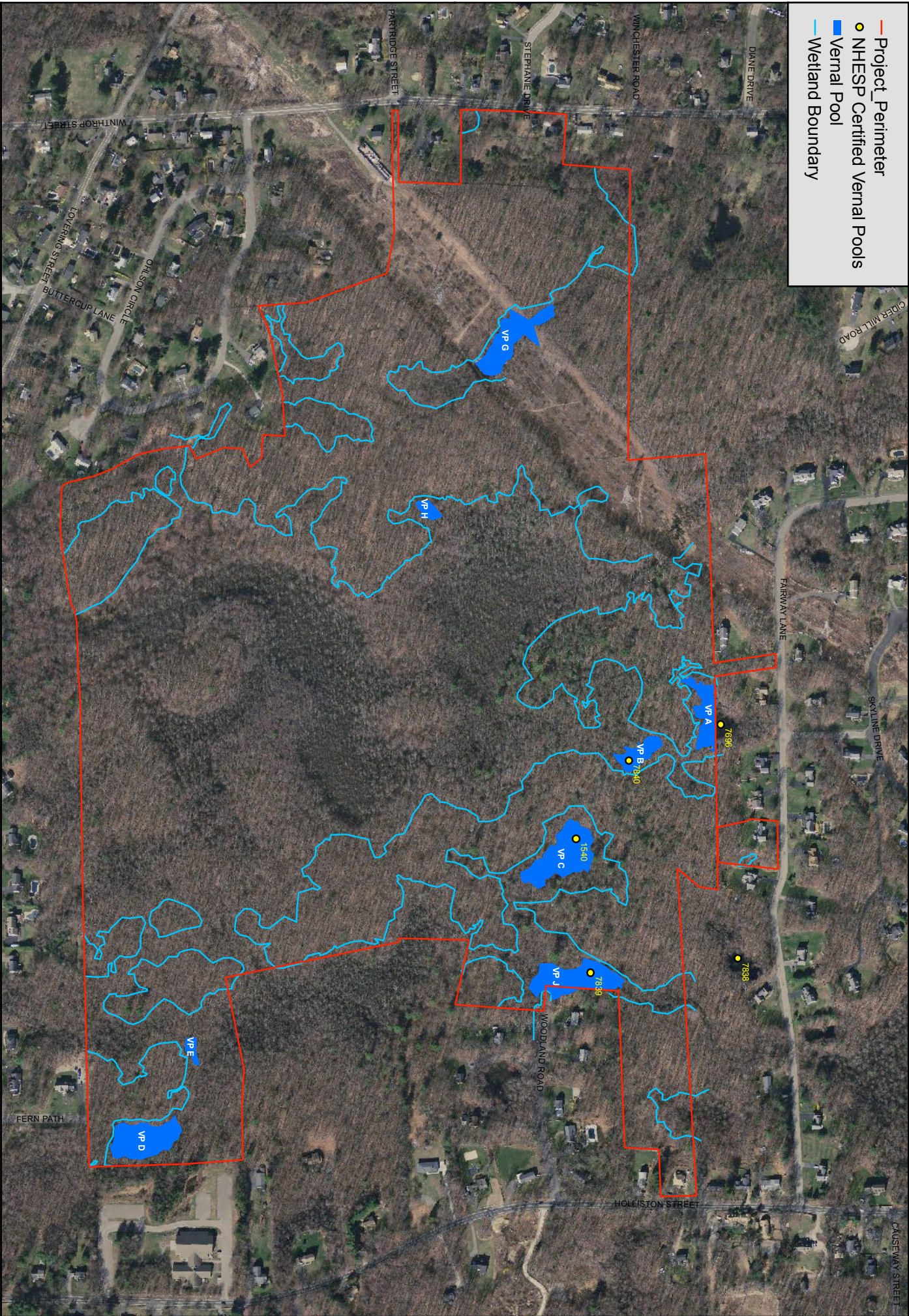
View of pool, facing southwest.

Please feel free to contact me if you have any questions.

Very truly yours,

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- Project_Perimeter
- NHESP Certified Vernal Pools
- Vernal Pool
- Wetland Boundary



GIS Data Source: "Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Information Technology Division"

Engineering Data Source: Outback Engineering

Figure 1 - Vernal Pool Locations

Timber Crest Estates - Medway, MA