

April 26, 2021

Vernal Pool Survey Report

0 School Street
Manchester, MA
DEP File #39-0834

Submitted to:
Manchester Conservation Commission

Prepared for:
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SLV School Street, LLC

1. Introduction

I performed a vernal pool survey in the spring of 2021 within the 0 School Street property area in Manchester, 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. One of the wetland areas was previously mapped as a “Potential Vernal Pools” (PVP) by the MA DFW Natural Heritage & Endangered Species Program (NHESP). No “Certified Vernal Pools” (CVPs) were mapped within the property prior to the survey.

Based on my observations, I determined that three 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 (Vernal Pools “B,” “A South” and “A North”). Two additional offsite wetland areas contained the necessary biological criteria for certification (>5 spotted salamander egg masses) but lacked the required physical criteria (“D-series Marsh” and “F-series Marsh”) because they are directly connected to Sawmill Brook, a perennial stream. These marsh areas provide suitable breeding habitat for vernal pool amphibians but are not certifiable as vernal pools.

2. Methods

Vernal pool surveys were conducted on 3/23, 3/26, 4/2, 4/9 and 4/16 of 2021. I was accompanied by the Commission’s peer reviewer Mike DeRosa of DeRosa Environmental Consultants on 4/2 and 4/9.

In order to determine whether a wetland meets the State (Massachusetts Division of Fisheries & Wildlife 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*” (March 2009) 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 Vernal Pool Indicator Species

Vernal Pool B

- 103 spotted salamander egg masses
- 113 wood frog egg masses

Vernal Pool A South

- 13 spotted salamander egg masses

Vernal Pool A North

- 18 spotted salamander egg masses

D-series Marsh

- 17 spotted salamander egg masses

F-series Marsh

- 18 spotted salamander egg masses

Other Offsite Surveyed Areas

See Figure 1.

4. Photos of Individual Pools and Obligate Species

4.1 Vernal Pool B



Photo 1 - Vernal Pool B, facing north (4/2/21).



Photo 2 - Large cluster of spotted salamander egg masses in Vernal Pool B (4/9/21).



Photo 3 - Underwater view of spotted salamander egg masses in Vernal Pool B (4/9/21).



Photo 4 - Large raft of wood frog egg masses in Vernal Pool B (3/26/21).



Photo 5 - Underwater view of wood frog egg masses in Vernal Pool B (4/9/21).

4.2 Vernal Pool A South



Photo 6 - Vernal Pool A South, facing southwest (4/2/21).



Photo 7 - Spotted salamander spermatophores on the bottom of Vernal Pool A South (4/2/21).



Photo 8 - Spotted salamander egg masses in Vernal Pool A South (4/2/21).

4.3 Vernal Pool A North



Photo 9 - Vernal Pool A North, facing northwest (4/2/21).



Photo 10 - Spotted salamander egg mass and spermatophores in Vernal Pool A North (4/2/21).



Photo 11 - Spotted salamander egg mass in Vernal Pool A North (4/2/21).

4.4 D-series Marsh



Photo 12 - Eastern side of D-series Marsh, facing School Street (4/9/21).



Photo 13 - Western side of D-series Marsh (4/9/21).



Photo 14 - Spotted salamander egg masses in D-series Marsh (4/9/21).

4.5 F-series Marsh



Photo 15 - Northern portion of F-series Marsh, facing south (4/9/21).



Photo 16 - Spotted salamander egg masses in F-series Marsh (4/9/21).

5. Conclusions

I conclude that three onsite wetland areas (Vernal Pools “B,” “A South” and “A North”) contain the necessary “biological” and “physical” criteria for certification as vernal pools. Two additional offsite wetland areas (“D-series Marsh” and “F-series Marsh”) contained the necessary biological criteria for certification (17 and 18 spotted salamander egg masses respectively) but lacked the required physical criteria. These marsh areas are clearly important as breeding habitat for vernal pool amphibians, but because they are directly connected to Sawmill Brook, a perennial stream they are not certifiable under the NHESP Guidelines.

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

Very truly yours,

Dan Wells, M.S.
Senior Wildlife Biologist and Wetland Scientist

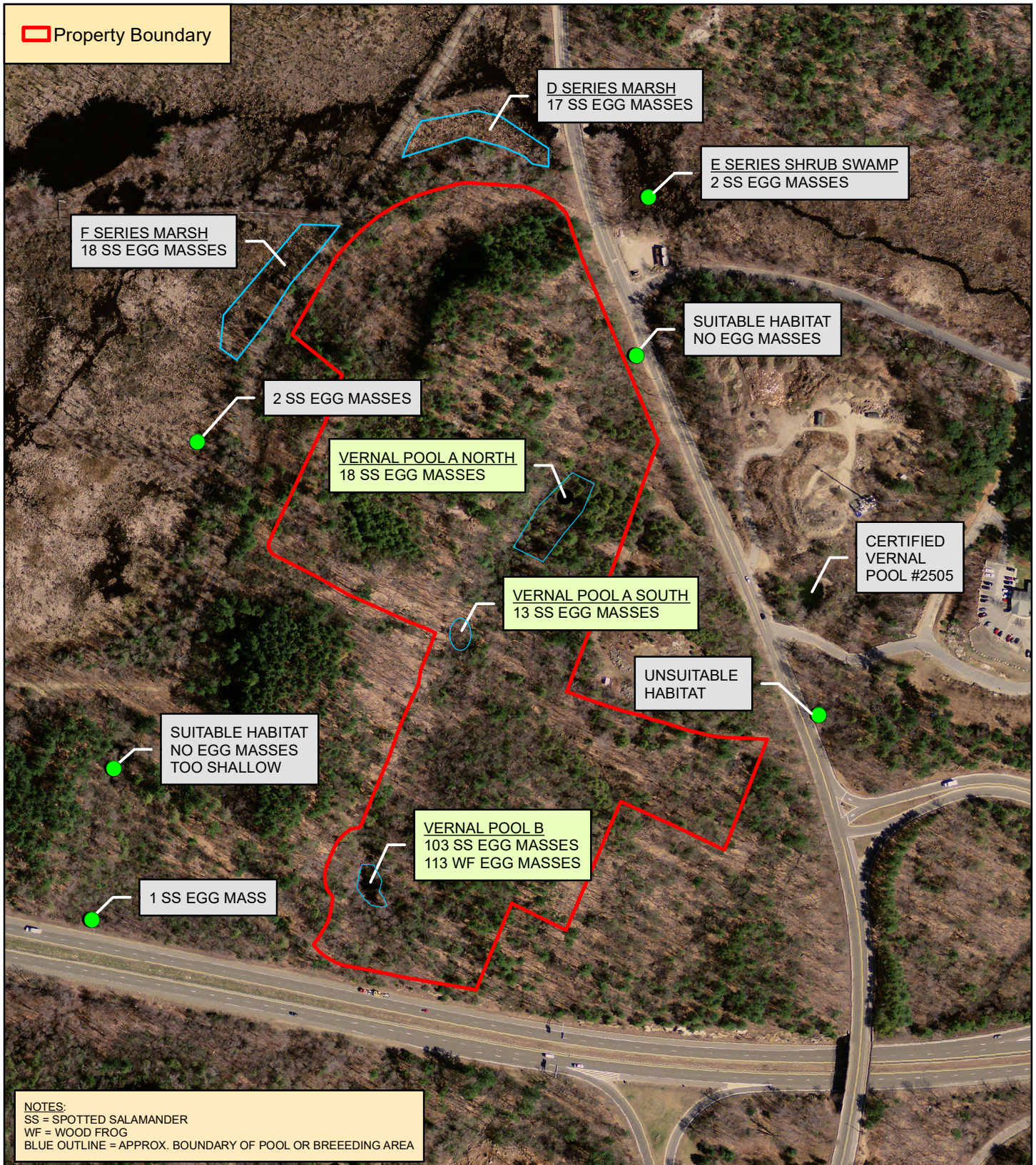


Figure 1 - Vernal Pool Survey Map

0 School Street - Manchester, MA



0 75 150 300
Feet

1 inch = 300 feet

Date: 4/26/2021

GIS Data Source: "Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services"

GODDARD CONSULTING
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