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April 23, 2019

VIA ELECTRONIC MAIL
AND FIRST CLASS MAIL

Ms. Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. 1354 – Chatfield Solar Fund, LLC, petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.98-megawatt AC solar photovoltaic electric generating facility located in Killingworth, Connecticut

Dear Ms. Bachman:

As requested during the hearing on March 26, 2019, Chatfield Solar Fund is submitting Petitioner's Exhibit 16, which is the final vernal pool report ("VP Report") from James McManus at JMM Wetland Consulting Services, LLC ("JMM"). On March 31 and April 4, 2019, JMM conducted site visits to survey three potential vernal pools identified as Vernal Pool #1 (northern), Vernal Pool #2 (old farm pond), and Vernal Pool #3 (located off-site to the south). The VP Report contains the following determinations:

Vernal Pool #1: Determined to be a vernal pool, but not likely a productive habitat for vernal pool obligate amphibians.

Vernal Pool #2: Determined to be a vernal pool, and although obligate amphibian reproduction persists, predatory pressure from other amphibians keeps such populations depressed.

Vernal Pool #3: Determined to be a productive vernal pool, but occurs 75 feet off-site, and will be preserved.

I certify that a copy hereof has been furnished on this date via electronic mail and/or first class mail, postage prepaid, to all parties, intervenors and participants of record for this petition as of this date.

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Ms. Melanie Bachman, Executive Director

April 23, 2019

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Please feel free to contact me with any questions concerning this submittal at (203) 772-7787.

Very truly yours,



Bruce L. McDermott

Enclosures

JMM WETLAND CONSULTING SERVICES, LLC

April 23, 2019

Mr. George Andrews, P.E.
Loureiro Engineering Associates, Inc.
100 Fort Hill Road
Groton, CT 06340

Re: VERNAL POOL SURVEYS
Proposed Chatfield Solar Farm
Lot 14B, North Branford Road (Route 80), Killingworth, CT

JMM Job #: 18-2315-KILL-1

Dear Mr. Andrews:

On March 31st, and April 4th, 2019, **JMM Wetland Consulting Services, LLC** (JMM), conducted site visits to survey three potential vernal pool habitat, previously identified as Vernal Pool #1 (northern), Vernal Pool #2 (old farm pond), and Vernal Pool #3, located just off-site to the south.

The survey was conducted with ideal field conditions; clarity of water was very good, and egg masses were not obscured by pollen on the surface of the water or by excessive algal mats. Each pool was first surveyed from its perimeter, and then entered for further observation. An aquatic net was used to sample both amphibians and other aquatic organisms (i.e., dragonfly nymphs, caddisfly larva, snails, etc.). General physical characteristics, such as water depth were also recorded.

Vernal Pool #1

At the time of the site inspections depth of inundation was roughly 3 to 9 inches. After careful observation, only one (1) wood frog (*Lithobates sylvaticus*) egg mass was observed in the southernmost portion of the interconnected vernal pool habitat that was delineated

and shown on the project plans (see photos 1 and 2, attached). Based on our field observations, and the maximum depths of inundation, this seasonally flooded wetland does not serve as a productive (i.e., Tier 1) vernal pool habitat, per the Calhoun and Klemens (2002) methodology¹. Limited reproduction of wood frogs, which only occurs during wetter than average years, will continue after the solar arrays are in place.

Vernal Pool #2

This is the old farm pond described in our Wetlands Assessment report, dated October 18th, 2018 (see photo 3). It is a permanently flooded waterbody, with an inlet and outlet intermittent stream, with just over 30-inches of water, and over 3-feet of soft organics in its bottom.

Sixteen (16) wood frog egg masses were observed, split in two locations, one in the east-central portion of the pond, the other near its outlet stream. Only one (1) spotted salamander egg (*Ambystoma maculatum*) mass was observed at the same as the second location of wood frog egg masses (see photo 4). This pond is replete with several other amphibians including spring peepers (*Pseudacris crucifer*), green frog (*Rana clamitans*), and red-spotted newt (*Notophthalmus viridescens*). The latter were particularly abundant (see photo 5-6). Many aquatic organisms were netted including water-boatmen (Corixidae), sow bugs (Aselidae), and predatory diving beetles (Dytiscidae).

Vernal pool obligate amphibian reproduction appears to persist at this pond even though predatory pressure from other amphibians, such as from the red-spotted newts, and from invertebrate predators, likely keeps the populations depressed. Following construction of the solar farm, the function of this farm pond as a vernal pool habitat will persist. Sufficient interconnection with preferred habitats (i.e., uplands and wetlands) will be preserved for wood frogs, as they typically travel and disperse along wetland corridors, which are left intact at the site.

¹ Calhoun, A. J. K. and M. W. Klemens. 2002. Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

Vernal Pool #3

While a portion of the overall wetland (i.e., Wetland C) occurs on-site, the vernal pool habitat occurs more than 75-feet southerly of the site's property line. The Vernal Pool #3 habitat, where obligate amphibian egg masses were observed, is roughly 3,500 to 4,000 square feet (see photo 7). Average depth of inundation is roughly one foot, with areas of deeper inundation noted.

One large wood frog egg mass raft, containing approximately 71 masses, was observed in about seven inches of water (photos 8 and 9). No other amphibians were noted. This is by far the most productive vernal pool habitat surveyed, and in our professional opinion, will be preserved, that is, it will continue to be a Tier 1 vernal pool habitat in the post-construction phase, providing significant reproduction for wood frogs.

Please call us if you have any questions on the above or need further assistance.

Respectfully submitted,

JMM WETLAND CONSULTING SERVICES, LLC



James M. McManus, MS, CPSS
Certified Professional Soil Scientist (No. 15226)

Attachments: Photos 1 to 10



Photo 1: View of VP-#1 within the northern part of site (JMM photo taken 4/4/19); facing southeasterly

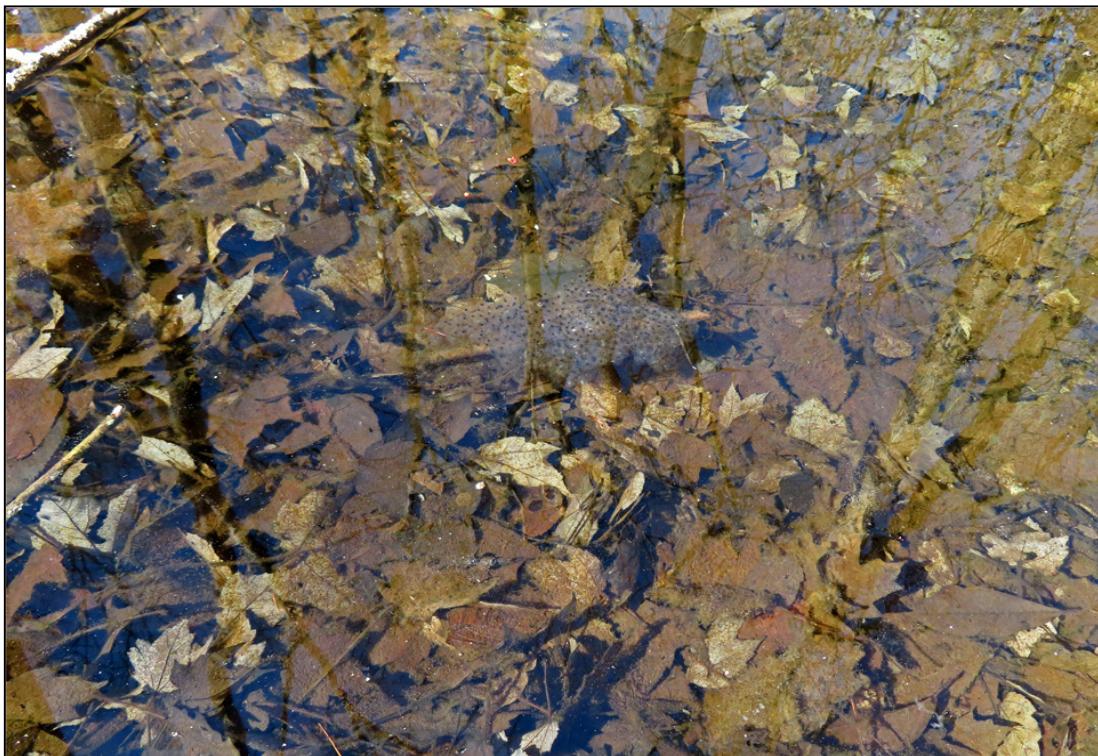


Photo 2: View of 1 wood frog egg mass found within VP-#1 (JMM photo taken 4/4/19)



Photo 3: View of VP-#2 "Old Farm Pond" (JMM photo taken 4/4/19); facing southeasterly



Photo 4: View of spotted salamander egg mass within VP#2 (JMM photo taken 4/4/19)



Photo 5: View of two green frog tadpoles from VP#2 (JMM photo taken 4/4/19)



Photo 6: View of red-spotted newt from VP#2 (JMM photo taken 4/4/19)



Photo 7: View of off-site VP-#3 located south of the southern property line (JMM photo taken 4/4/19); facing southerly



Photo 8: Close up view of wood frog egg masses from off-site VP#3 (JMM photo taken 4/4/19)



*Photo 9: View of a number of wood frog egg masses within off-site VP-#3
(JMM photo taken 4/4/19)*