

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Application of Orchard Road Solar I, LLC for a)
certificate of public good, pursuant to 30 V.S.A.)
§§ 219a and 248, to install and operate a 500 kW) CPG #16-0042-NMP
group net metered solar electric generation facility)
located on Orchard Road in Middletown Springs,)
Vermont, to be known as the “Orchard Road)
Solar Project”)

PREFILED SUPPLEMENTAL DIRECT TESTIMONY OF DORI BARTON

November 6, 2018

Summary: Dori Barton’s supplemental testimony addresses environmental aspects of the proposed alternative site and compliance with § 248(b)(5) environmental criteria. Specifically, Ms. Barton’s testimony addresses the potential effects of the Project on outstanding water resources (30 V.S.A. § 248(b)(8)) and certain criteria of 30 V.S.A. § 248(b)(5), namely: headwaters (10 V.S.A. § 6086(a)(1)(A)), floodways (10 V.S.A. § 6086(a)(1)(D)), streams (10 V.S.A. § 6086(a)(1)(E)), shorelines (10 V.S.A. § 6086(a)(1)(F)), wetlands (10 V.S.A. § 6086(a)(1)(G)), and necessary wildlife habitat, rare, threatened and endangered species, and rare and irreplaceable natural areas (10 V.S.A. § 6086(a)(8)(A)).

1 **Q1. Please state your name, occupation, and business address.**

2 A1. My name is Dori Barton. I am a Senior Wetland Ecologist and Partner with Arrowwood
3 Environmental, LLC (“Arrowwood” or “AE”). My business address is 950 Bert White
4 Road, Huntington, Vermont.

5
6 **Q2. What is the purpose of your testimony?**

7 A2. The purpose of my testimony is to address the compliance of the proposed alternative site
8 for the Orchard Road Solar I, LLC Project with environmental criteria that are considered in
9 § 248 review. My testimony and conclusions are based on the environmental assessment
10 conducted by Arrowwood, which is attached as *Exhibit ORS-DB-3*. Each of the criteria
11 that we evaluated is addressed below.

12
13 **Q3. Have you previously participated in this proceeding?**

14 A3. Yes, I submitted a report containing my environmental resource assessment of the original
15 project site with the application submitted on July 15, 2016 along with an affidavit attesting
16 to my work and conclusions.

17
18 **Q4. Please describe the work you have done to assess the alternative site proposed for the**
19 **Project.**

20 A4. As part of my initial assessment of the Project (prior to submission of the application), I
21 visited the alternative project site that has been proposed for the Project, which is located to
22 the East and across Orchard Road from the original project site. I identified a large wetland

1 area, and a representative from ANR who also visited the site identified this wetland as a
2 Class II wetland. Since a Class II wetland would prohibit construction of the Project on this
3 site, the Project was proposed on the original site location, and my environmental
4 assessment of that site was included with the application as *Exhibit ORS-DB-2*.

5 In July of 2018, I was asked by the Applicant to revisit the alternative site and
6 reassess the wetland feature. I did a site investigation and delineated this wetland as a Class
7 III wetland. ANR staff reviewed my assessment and agreed that the wetland is Class III. As
8 a result, Applicant requested a full natural resource assessment on the alternative site to
9 determine whether the site met the other Section 248 environmental criteria and would
10 therefore be a viable location for the Project. I conducted this investigation during the
11 summer of 2018, and concluded that the alternative site does comply with all Section 248
12 environmental criteria, as described more fully below. Please note that my responses with
13 respect to each individual criterion refer to the alternative site.

14 For all the site investigations that took place in November 2015, July 2018, and
15 September 2018 for this Project, I have acted as project manager for Arrowwood. In
16 addition, I have reviewed available state databases and communicated with representatives
17 from the Agency of Natural Resources (ANR) regarding wetlands.

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1 or surface waters in the area. For these reasons, the Project will have no undue adverse
2 impact on headwaters areas.

3
4 **Floodways - 10 V.S.A. § 6086(a)(1)(D)**

5 **Q7. Is the Project within a floodway or floodway fringe? If so, will the Project have an**
6 **undue adverse impact on the floodway?**

7 A7. No, based on AE's review of FEMA maps for the Project site, the Project is not located
8 within a floodway or floodway fringe, and will not have an adverse impact. The closest
9 mapped flood hazard zone is approximately 1100' from the Project and associated with the
10 Poultney River. As the Project is not located within a floodway, it will not restrict or divert
11 the flow of floodwaters or significantly increase the peak discharge of a river or stream
12 within or downstream from the area of development.

13
14 **Streams - 10 V.S.A. § 6086(a)(1)(E)**

15 **Q8. Is the Project on or adjacent to the bank of a stream? If so, will the Project have any**
16 **undue adverse impacts on the stream or streams?**

17 A8. No. The Project is not on or adjacent to any stream banks, and will not have an undue
18 adverse impact on any streams. The closest stream is a tributary to the Poultney River and is
19 located approximately 460' from the Project area. The Project will result in no cutting or
20 clearing of vegetation within 50' of stream resources.

21

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23

1 **Shorelines - 10 V.S.A. § 6086(a)(1)(F)**

2 **Q9. Is the Project located on a shoreline?**

3 A9. No. The closest shoreline is that of the Poultney River, approximately 1200' to the north of
4 the proposed Project. The Project will not result in any clearing of forest vegetation along
5 the shore of the Poultney River.

6
7 **Wetlands - 10 V.S.A. § 6086(a)(1)(G)**

8 **Q10. Is the Project located in or adjacent to a wetland or wetland buffer? If so, will the**
9 **Project comply with the rules of the Agency of Natural Resources regarding**
10 **significant (Class I or II) wetlands?**

11 A10. No. There are no Class I or Class II wetland resources within or adjacent to the Project
12 area. The proposed Project will have no adverse impact on Class I or Class II wetland
13 resources.

14
15 **Q11. Will the Project have an undue adverse impact on any non-significant (Class III)**
16 **wetlands?**

17 A11. No. The proposed Project involves minor impacts to a Class III wetland resource. The
18 proposed Project will involve the installation of driven posts for the perimeter fencing as
19 well as for the solar racking within a Class III wetland within the Project area. Array
20 installation and decommissioning will be conducted on mats or during frozen or dry
21 conditions in wetland areas. Trenching will not occur in the wetland. There is no grading
22 proposed within wetlands for the proposed Project. A 7' to 8' high Solidlock for Game
23 fixed knot with 6" vertical spacing fence shall be installed around the perimeter of the

1 facility. There is no tree clearing proposed in the wetland. For all of these reasons, the
2 Project will not trigger the jurisdiction of the Army Corps of Engineers. Based on the
3 limited nature of the impacts to the Class III wetland and the protective mechanisms the
4 Project will employ during construction, the Project will not have an undue adverse impact
5 upon any Class III wetlands.

6
7 **Rare and Irreplaceable Natural Areas - 10 V.S.A. § 6086(a)(8)**

8 **Q12. Is the Project located in any rare and irreplaceable natural areas, or will it have any**
9 **impact on any such areas?**

10 A12. No, the Project area does not contain any rare or irreplaceable natural areas and therefore
11 will have no impact on any such areas. No rare and irreplaceable natural areas were
12 identified in either a review of available digital maps or a field review within the Project site
13 or the immediate vicinity. Thus, the Project will have no impacts on any rare and
14 irreplaceable natural areas.

15
16 **Necessary Wildlife Habitat and Endangered Species - 10 V.S.A. § 6086(a)(8)(A)**

17 **Q13. Is the Project located in or adjacent to any necessary wildlife habitat or habitat of any**
18 **rare, threatened, or endangered species? If so, will the Project cause an undue**
19 **adverse impact on any such habitat?**

20 A13. No. AE reviewed available digital maps of the Project area and conducted a field
21 investigation, and did not identify any necessary wildlife habitat or rare, threatened, or
22 endangered plant or animal species in the Project area. The on-site RTE plant survey was

1 conducted for the proposed facility on September 14, 2018. No rare, threatened, or
2 endangered plant species were discovered in the Project area.

3

4 **Q14. Does this conclude your testimony at this time?**

5 A14. Yes, it does.

I, Dori Barton, do hereby swear and affirm under the penalty of law that the information provided in my testimony is accurate to the best of my knowledge, and that I have personal knowledge of and am able to testify as to the validity of the information contained in my testimony and attached exhibits.



Dori Barton

State of Vermont
County of Chittenden

The foregoing instrument was signed and acknowledged before me this 2 day of November, 2018 at Huntington, Vermont by Dori Barton who acknowledged the act to be her free act and deed.



Notary Public

Name of Notary: Nancy mazar

Commission Expires: 2/10/19

**Natural Resources Assessment for:
500kW (AC) Photovoltaic Electric Generation Facility
Alternative Site
Orchard Road Solar, I

Middletown Springs, Vermont**

*Prepared by:
Arrowwood Environmental, LLC*

November 1, 2018



**Natural Resources Assessment for
500kW (AC) Photovoltaic Electric Generation Facility
Alternative Site
Orchard Road Solar, I
Middletown Springs, Vermont**

Table of Contents

	Page #
I. Summary Findings.....	1
II. Introduction and Project Description.....	1
III. Site Characterization.....	1
IV. Criterion 1(A) - Headwaters.....	2
V. Criterion 1(D) - Floodways.....	2
VI. Criterion 1(E) Streams and Outstanding Resource Waters.....	2
VII. Criterion 1(F) – Shorelines.....	3
VIII. Criterion 1(G) - Wetlands.....	3
IX. Criterion 8 - Rare and Irreplaceable Natural Areas.....	4
X. Criterion 8(A) Wildlife Habitat and Rare, Threatened and Endangered Species.....	4
XI. References.....	6

Figures

Figure 1. Resource Assessment Map	2
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**Natural Resources Assessment for
500kW (AC) Photovoltaic Electric Generation Facility
Alternative Site
Orchard Road Solar I
Middletown Springs, Vermont**

I. Summary Findings

Arrowwood Environmental, LLC ("AE") conducted a natural resources assessment of the proposed alternative site for the Orchard Road Solar Project (the "Project") during the summer of 2018. AE concludes that the Project has been sited and designed to avoid adverse impacts to environmental resources including headwaters, shorelines, streams, Outstanding Resource Waters, floodways, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat and rare, threatened or endangered species.

In summary, there are no shorelines, streams, Outstanding Resource Waters, floodways, Class 2 or Class 1 wetlands, rare and irreplaceable natural areas, necessary wildlife habitat or rare, threatened, or endangered plant or animal species, within the Project area. For these reasons, there will be no adverse impact on these resources.

The Project is located in a headwater as its watershed area is less than 20 square miles. The Project area is below 1,500' in elevation and the watershed for the site is not for public water supplies and does not provide significant recharge to aquifers. Construction of the Project will be performed in accordance with the Vermont Standards & Specifications for Erosion and Prevention and Sediment Control, 2006. The proposed Project will not result in a reduction of the quality of ground or surface waters in the area. For these reasons, we conclude that the Project will have no adverse impact on headwater areas.

The proposed Project involves minor impacts to Class 3 wetland resources that do not trigger the jurisdiction of the Army Corps of Engineers. More specifically, the proposed Project will involve the installation of driven posts for the perimeter fencing as well as for the solar racking within a Class 3 wetland in the Project area. Array installation and decommissioning will be conducted on mats or during frozen or dry conditions in wetland areas. Trenching will not occur in the

wetland. There is no grading proposed within Class 3 wetlands for the proposed Project. A 7' to 8' high Solidlock for Game fixed knot with 6" vertical spacing fence will be installed around the perimeter of the facility. There is no proposed tree clearing within Class 3 wetlands. For these reasons, the proposed Project will have no undue adverse impact on wetland resources.

The following map indicates the approximate study area and findings of the natural resource assessment.



Figure 1. Resource Assessment Map

II. Introduction and Project Description

This report outlines AE's findings related to the natural resources criteria reviewed by the Public Utility Commission under Section 248, including: streams and headwaters, outstanding resource waters, floodways, shorelines, wetlands, rare and irreplaceable natural areas, necessary wildlife habitat, and rare, threatened and endangered species.

Arrowwood Environmental, LLC (AE) was retained by the Project to perform a natural resources assessment for a proposed approximately 500kW (AC) photovoltaic electric generation facility proposed on undeveloped land off of Orchard Road in Middletown Springs, VT. The Project area encompasses approximately 5 acres to be leased from a larger approximately 126-acre parcel. The Project lease area is located on the east side of Orchard Road, generally east of the intersection of Wescott and Orchard Roads. The proposed solar array will be accessed via a new 12' gravel drive off of Orchard Road and into the Project area. The Project is primarily located in an open field, currently under agricultural management (mowing and horse pasture).

The natural resources assessment involved both a remote review of available digital databases as well as field investigations in the Project area. Field visits was made to the Project area in November 2015, July 2018 and September 2018.

III. Site Characterization

Ecologically, the site is within the Taconic Mountains biophysical region of the state (Thompson and Sorenson, 2000). The site is located at approximately 900' in elevation and is approximately 1,300' to the south of the Poultney River. The bedrock geology of the site is mapped as the Pawlet Formation with wacke and slate rock types (Bedrock Geologic Map, 2011). The soils are mapped as Macomber-Dutchess soil series complex, which is characterized as loams on the Project site (NRCS Rutland County Soil Survey). The Project lease area is currently characterized as horse pasture. The Project area is bound to the north by an apple orchard, to the west by Orchard Road, and to the east and south by forested land.

IV. Criterion 1(A) - Headwaters

The headwaters involved both a remote review of the USGS topographic map, the Vermont Hydrography Dataset (streams, rivers, and waterbodies), and a field investigation in July 2018.

The Project is located in a headwater as its watershed area is less than 20 square miles. The Project area is below 1,500' in elevation and the watershed for the site is not for public water supplies and does not provide significant recharge to aquifers. Construction of the Project will be performed in accordance with the Vermont Standards & Specifications for Erosion and Prevention and Sediment Control, 2006. The proposed Project will not result in a reduction of the quality of ground or surface waters in the area. For these reasons, we conclude that the Project will have no adverse impact on headwater areas.

V. Criterion 1(D) - Floodways

AE reviewed the FEMA DFIRM (Digital Flood Insurance Rate Map Database) for Rutland County, Vermont. The site of the proposed Project is not located within a 100-year flood hazard area (zone A). The proposed Project is not located within a floodway or a floodway fringe and will not restrict or divert the flow of floodwaters or significantly increase the peak discharge of a river or stream within or downstream from the area of development. The closest FEMA flood hazard zone and/or river corridor is approximately 1,100' to the north of the Project and associated with the Poultney River. The Project will have no impact on floodways or river corridors.

VI. Criterion 1(E) Streams and Outstanding Resource Waters

There are no surface waters within the Project area. The closest stream is a tributary to the Poultney River, approximately 460' to the east of the Project. The Project will result in no cutting or clearing of vegetation within a riparian corridor (50' of the top of bank) of surface water resources. For these reasons, we conclude that the Project will have no adverse impact on streams.

The Water Resources Panel (now dissolved and its functions administered by the Agency of Natural Resources) has listed four waterways as Outstanding Resource Waters: Batten Kill River in towns of East Dorset and Arlington; Pike's Falls/Ball Mountain in the town of Jamaica; Poultney River in the towns of Poultney and Fair Haven; and Great Falls, Ompompanoosuc in the town of Thetford. There are no Outstanding Resource Waters in the Project area and therefore the Project will have no adverse impact on Outstanding Resource Waters.

VII. Criterion 1(F) – Shorelines

AE reviewed USGS topographic maps, the Vermont Hydrography Dataset (streams, rivers, and waterbodies), and digital orthophotography. The site of the proposed Project is not located on a shoreline of a river, lake or pond. The closest shoreline is that of the Poultney River, 1200' north of the proposed Project. The Project will not result in any clearing of forest vegetation along the shore of the Poultney River. As a result, the proposed Project will result in no impacts to shorelines.

VIII. Criterion 1(G) - Wetlands

The wetland assessment involved both a remote review of available maps (including Vermont Significant Wetland Inventory Maps and the NRCS Soil Survey) and a field inventory component conducted in November 2015 and updated in July 2018. The protocols put forth in the USACE's *Corp of Engineers Wetlands Delineation Manual* (2009 Regional Supplement for the Northcentral and Northeast Region) were employed for delineating wetlands as is the standard practice in Vermont.

There is a Class 3 wetland within the Project area. Ms. Zapata Courage from the Vermont Wetlands Office conducted a site visit in November 2015 and reviewed and approved the 2018 wetland delineation and confirmed wetland classification (#2015-670 30 Orchard Road, Middletown Springs Wetland Classification Report, August 13, 2018, attached).

The proposed Project involves minor impacts to a Class 3 wetland resource. The proposed Project will involve the installation of driven posts for the perimeter fencing as well as for the solar racking within a Class 3 wetland within the Project area (resulting in approximately 75

square feet of impact (+/-)). Array installation and decommissioning will be conducted on mats or during frozen or dry conditions in wetland areas. Trenching will not occur in the wetland. There is no grading proposed within wetlands for the proposed Project. A 7' to 8' high Solidlock for Game fixed knot with 6" vertical spacing fence shall be installed around the perimeter of the facility. There is no tree clearing proposed in the wetland. For all of these reasons, the Project will not trigger the jurisdiction of the Army Corps of Engineers.

Based on the limited nature of the impacts to the Class 3 wetland and the protective mechanisms the Project will employ during construction, the Project will not have an undue adverse impact upon any Class 3 wetlands.

IX. Criterion 8 - Rare and Irreplaceable Natural Areas

The rare and irreplaceable natural areas (RINA) assessment involved both a remote review of available digital maps for the Project area and a field review. AE reviewed digital orthophotography, the Rutland County Soil Survey, the 2011 Bedrock Geologic Map of Vermont and the Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database.

The Project development area consists of an open field currently utilized as a horse pasture. These areas do not constitute a significant natural community or a RINA. There are no rare and irreplaceable natural areas present within the Project site or the immediate vicinity, and thus the Project will have no impacts on any rare and irreplaceable natural areas.

X. Criterion 8(A) Wildlife Habitat and Rare, Threatened and Endangered Species

The wildlife habitat assessment involved both a remote review of available digital maps for the Project area and a field inventory component. A remote review of available digital databases was conducted to identify and map necessary wildlife habitat (including State of Vermont Deeryard data layer, Vermont Dept. of Fish and Wildlife, USGS Topographic map, "VT HYDRODEM" elevation data) within the Project Area and within the vicinity of the Project Area.

Site visits were conducted in July and September 2018 to assess wildlife, wildlife habitats, and rare, threatened, and endangered animal and plant species.

A. Necessary Wildlife Habitats

1. White-tailed Deer Wintering Habitats

There are no VT Fish and Wildlife Department mapped white-tailed deer (*Odocoileus virginianus*) winter habitats in the Project area. The nearest State mapped deer winter areas are approximately 880' to the southwest of the Project site. Field investigation confirmed the absence of deer wintering habitats in the Project area.

2. Black Bear Habitat

The open field comprising the Project site does not provide habitat for the black bear (*Ursus americanus*) and no sign of black bear was found at the proposed site.

3. Grassland Bird Habitat

The Project site area is approximately 5 acres of an approximately 8-acre field that is bordered by forest or trees. The Project area does not provide suitable habitat for grassland bird species.

B. Rare, Threatened and Endangered Species

The RTE species review involved both a remote review of available digital maps for the Project area as well as a site visit in September 2018. AE reviewed digital orthophotography, the Rutland County Soil Survey, the 2011 Bedrock Geologic Map of Vermont and the Natural Heritage Inventory (NHI) Rare, Threatened and Endangered Species digital database. In reviewing the NHI digital database, there are no records or occurrences in or directly near the Project site. The closest recorded occurrences of RTE species are approximately 1.8 miles to the southeast of the Project site.

The Northern Long Eared Bat (LEB) became a federally listed endangered species in May of 2015. The State of Vermont has determined that project clearing constituting greater than 1% of the total forested area within a 1 square mile radius of a project triggers review for habitat loss of this endangered species. The proposed Project will result in no clearing of trees.

The Project is not in an area known to provide summer roosting habitat for Indiana bat, no old or abandoned buildings potentially providing roosting habitat for little brown bat are proposed for demolition, and there are no known bat hibernacula or maternity roosts within 1 mile of the Project site.

The on-site RTE plant survey was conducted for the proposed facility on September 14, 2018. A complete list of plant species recorded during this inventory is attached. No rare, threatened or endangered plant species were discovered in the Project area.

Since there are no rare, threatened or endangered plant or animal species in the Project area, there will be no adverse impacts to this criterion as a result of the Project.

XI. References

Argentine, Cindy Corlett. Vermont Act 250 Handbook. Putney Press. 2008.

Natural Resources Board. Vermont Wetland Rules. Effective August 1, 2010.

Natural Resources Conservation Service. Soil Survey Maps. Rutland County.

Ratcliffe, N.M., Stanley, R.S., Gale, M.H., Thompson, P.J., and Walsh, G.J., 2011, Bedrock geologic map of the Vermont: U. S. Geological Survey Scientific Investigations Map 3184, scale 1:100,000.

Thompson, Elizabeth H. and Eric R. Sorenson. Wetland, Woodland, and Wildland: A Guide to the Natural Communities of Vermont. The Nature Conservancy of Vermont, 2000.

Vermont Center for Geographic Information (VCGI). EcologicHabitat_DEERWN GIS data layer. Provided by Vt. Dept. of Fish and Wildlife, release date April 1, 2011.



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Plant Species List for GroSolar Orchard Rd. proposed solar site, Middletown Springs, VT.

Survey Date: Sept. 14, 2018	Red =invasive species
Surveyor: Matt Peters	Blue = RTE (S1, S2, T, or E) species
Nomenclature follows Gilman. 2015. <i>New Flora of Vermont</i>	Yellow = Uncommon (S3) species
Scientific Name	Common Name
Acer rubrum	red maple
Achillea millefolium	yarrow
Agrimonia gryposepala	common agrimony
Agrostis gigantea	red-top
Agrostis stolonifera	creeping bent
Ambrosia artemisiifolia	common ragweed
Anthoxanthum odoratum	sweet vernal grass
Arctium lappa	great burdock
Asclepias syriaca	common milkweed
Athyrium filix-femina	lady fern
Barbarea vulgaris	winter cress
Betula lenta	black birch
Betula populifolia	gray birch
Bidens frondosa	common beggar's-ticks
Calystegia sepium	hedge bindweed
Capsella bursa-pastoris	Shepherd's purse
Carex debilis	weak sedge
Carex gynandra	gynandrous sedge
Carex pallescens	pale sedge
Carex scoparia	broom sedge
Carex vulpinoidea	fox sedge
Carum carvi	caraway
Centaureum pulchellum	lesser centaury
Cerastium fontanum	common mouse-ear chickweed

Cirsium arvense	Canada thistle
Cirsium vulgare	bull thistle
Clematis virginiana	virgin's-bower
Clinopodium vulgare	wild basil
Cornus alternifolia	alternate-leaved dogwood
Cornus racemosa	gray dogwood
Cornus sericea	red-osier dogwood
Dactylis glomerata	orchard grass
Daucus carota	Queen Anne's lace
Dennstaedtia punctilobula	hay-scented fern
Digitaria sp.	crabgrass
Dryopteris intermedia	intermediate woodfern
Dryopteris marginalis	marginal woodfern
Echinocystis lobata	wild cucumber
Elymus repens	witch grass
Epilobium ciliatum	ciliate willow-herb
Epilobium leptophyllum	narrow-leaved willow-herb
Erigeron annuus	white daisy-fleabane
Erigeron canadensis	horseweed
Erigeron philadelphicus var. philadelphicus	Philadelphia fleabane
Erigeron strigosus	daisy fleabane
Erysimum cheiranthoides	treacle-mustard
Eupatorium perfoliatum	boneset
Euthamia graminifolia	grass-leaved goldenrod
Eutrochium maculatum	common Joe-Pye weed
Festuca rubra	red fescue
Fragaria virginiana	wild strawberry
Fraxinus americana	white ash

Galeopsis tetrahit	dead hemp-nettle
Galium mollugo	common bedstraw
Geum aleppicum	yellow avens
Geum canadense	white avens
Hylotelephium telephium	live-forever
Hypericum perforatum	common St. John's-wort
Juncus dudleyi	Dudley's rush
Juncus tenuis	path rush
Juniperus communis	common juniper
Lactuca biennis	tall wild lettuce
Lactuca canadensis	wild lettuce
Leucanthemum vulgare	common daisy
Linaria vulgaris	butter-and-eggs
Lobelia inflata	Indian tobacco
Lonicera morrowii	Morrow's honeysuckle
Lotus corniculatus	bird's-foot trefoil
Lycopus americanus	American water-horehound
Lysimachia ciliata	fringed loosestrife
Lythrum salicaria	purple loosestrife
Maianthemum canadense	Canada mayflower
Malus pumila	wild apple
Matteuccia struthiopteris	ostrich fern
Medicago lupulina	black medick
Melilotus albus	white sweet clover
Mentha canadensis	American wild mint
Muhlenbergia mexicana	wirestem muhly
Oenothera biennis	common evening primrose
Onoclea sensibilis	sensitive fern
Origanum vulgare	wild marjoram
Osmunda claytoniana	interrupted fern
Oxalis stricta	tall yellow wood-sorrel
Panicum capillare	old witch-grass
Parthenocissus quinquefolia	woodbine
Pastinaca sativa	parsnip
Persicaria hydropiper	water-pepper
Persicaria maculosa	lady's-thumb
Persicaria sagittata	tearthumb

Phleum pratense	timothy
Physalis heterophylla	clammy ground-cherry
Pilosella aurantiaca	orange hawkweed
Pilosella caespitosa	yellow king devil
Plantago lanceolata	buckhorn plantain
Plantago major	plantain
Poa annua	annual bluegrass
Poa nemoralis	European woodland bluegrass
Poa pratensis	Kentucky bluegrass
Polygonum aviculare	dooryard knotweed
Populus grandidentata	large-toothed aspen
Populus tremuloides	quaking aspen
Potentilla norvegica	rough cinquefoil
Potentilla recta	sulphur cinquefoil
Potentilla simplex	old-field cinquefoil
Prunella vulgaris	self-heal
Prunus pensylvanica	fire cherry
Prunus serotina	black cherry
Prunus virginiana	choke cherry
Pseudognaphalium obtusifolium	common everlasting
Quercus rubra	red oak
Ranunculus acris	common buttercup
Ranunculus repens	creeping buttercup
Rhamnus cathartica	buckthorn
Rosa multiflora	multiflora rose
Rubus allegheniensis	common highbush blackberry
Rubus idaeus	red raspberry
Rumex crispus	curly dock
Salix discolor	pussy willow
Salix eriocephala	wand willow
Schedonorus arundinaceus	tall fescue
Scirpus atrovirens	dark bulrush
Setaria sp.	foxtail grass
Silene latifolia	common white campion
Solanum dulcamara	bittersweet nightshade
Solidago canadensis	Canada goldenrod

<i>Solidago juncea</i>	early goldenrod
<i>Solidago rugosa</i>	rough-leaved goldenrod
<i>Sonchus oleraceus</i>	common sow thistle
<i>Spiraea alba</i>	meadowsweet
<i>Sporobolus vaginiflorus</i>	sheathed dropseed
<i>Stellaria graminea</i>	common stitchwort
<i>Symphotrichum cordifolium</i>	heart-leaved aster
<i>Symphotrichum lanceolatum</i>	lance-leaved aster
<i>Symphotrichum lateriflorum</i>	calico aster
<i>Symphotrichum novae-angliae</i>	New England aster
<i>Symphotrichum puniceum</i>	red-stemmed aster
<i>Taraxacum officinale</i>	common dandelion

<i>Tragopogon pratensis</i>	showy goat's-beard
<i>Trifolium aureum</i>	large hop clover
<i>Trifolium hybridum</i>	alsike
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	white clover
<i>Urtica gracilis</i>	stinging nettle
<i>Verbascum thapsus</i>	common mullein
<i>Verbena hastata</i>	blue vervain
<i>Verbena urticifolia</i>	white vervain
<i>Veronica officinalis</i>	common speedwell
<i>Veronica serpyllifolia</i> var. <i>serpyllifolia</i>	thyme-leaved speedwell
<i>Vicia cracca</i>	cow vetch
<i>Vitis riparia</i>	riverbank grape
<i>Zizia aurea</i>	golden Alexanders
Total Species Richness	151

[Please add this document to your land records for reference](#)

Wetland is Class III: Please be advised that I have confirmed that there is a Class III wetlands on the property as identified in the map below. Class III wetlands are not protected under the Vermont Wetland Rules (VWR). No State Wetland permit is required for activities occurring in Class III wetlands. This report outlines the reasons for this decision. Because wetland character, size, and function can change over time, the Wetlands Program recommends seeking a reevaluation of wetland status every 5 years, to avoid a potential violation of the VWR. If you disagree with this decision you can petition for a formal wetland classification determination of Class II as outlined under the petition section of this report. The following table(s) document the reasons for this decision.

Wetland Name:	Class III-Orchard Road
Wetland Location:	Orchard Road, Middletown Springs VT
Desktop Review Only?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Visit Date:	November 6, 2015
People Present:	Dori Barton, Peter Bay
Wetland is Mapped:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland is contiguous to mapped wetland:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland was found to meet the following presumption(s) of significance:	<input type="checkbox"/> Presumptions have not been assessed. Wetland meets classification by other means. <input checked="" type="checkbox"/> \$4.6(a) over half an acre in size; <input type="checkbox"/> \$4.6(b) contains woody vegetation and is adjacent to a stream, river, or open body of water; <input type="checkbox"/> \$4.6(c) contains dense, persistent non-woody vegetation and is adjacent to a stream, river, or open body of water; <input type="checkbox"/> \$4.6(d) is a vernal pool that provides amphibian breeding habitat; <input type="checkbox"/> \$4.6(e) is a headwater wetland; <input type="checkbox"/> \$4.6(f) adjacent to impaired waters and the impairment is related to wetland water quality functions; <input type="checkbox"/> \$4.6(g) the wetland contains a species that appears in the NNHP database as rare, threatened, endangered or uncommon; or is a natural community type that is rare or uncommon; <input type="checkbox"/> \$4.6(h) has been previously designated as a significant wetland.
Presumption Description:	The wetland area as delineated is approximately 1.3 acres in size, meeting the presumption of a Class II wetland under 4.6a of the wetland rules.

Sketch Map of general wetland area (not a delineation):

[Mapped wetland in teal, hydric soils in orange, advisory wetlands in green, wetland sketch in light blue, area reviewed in yellow]

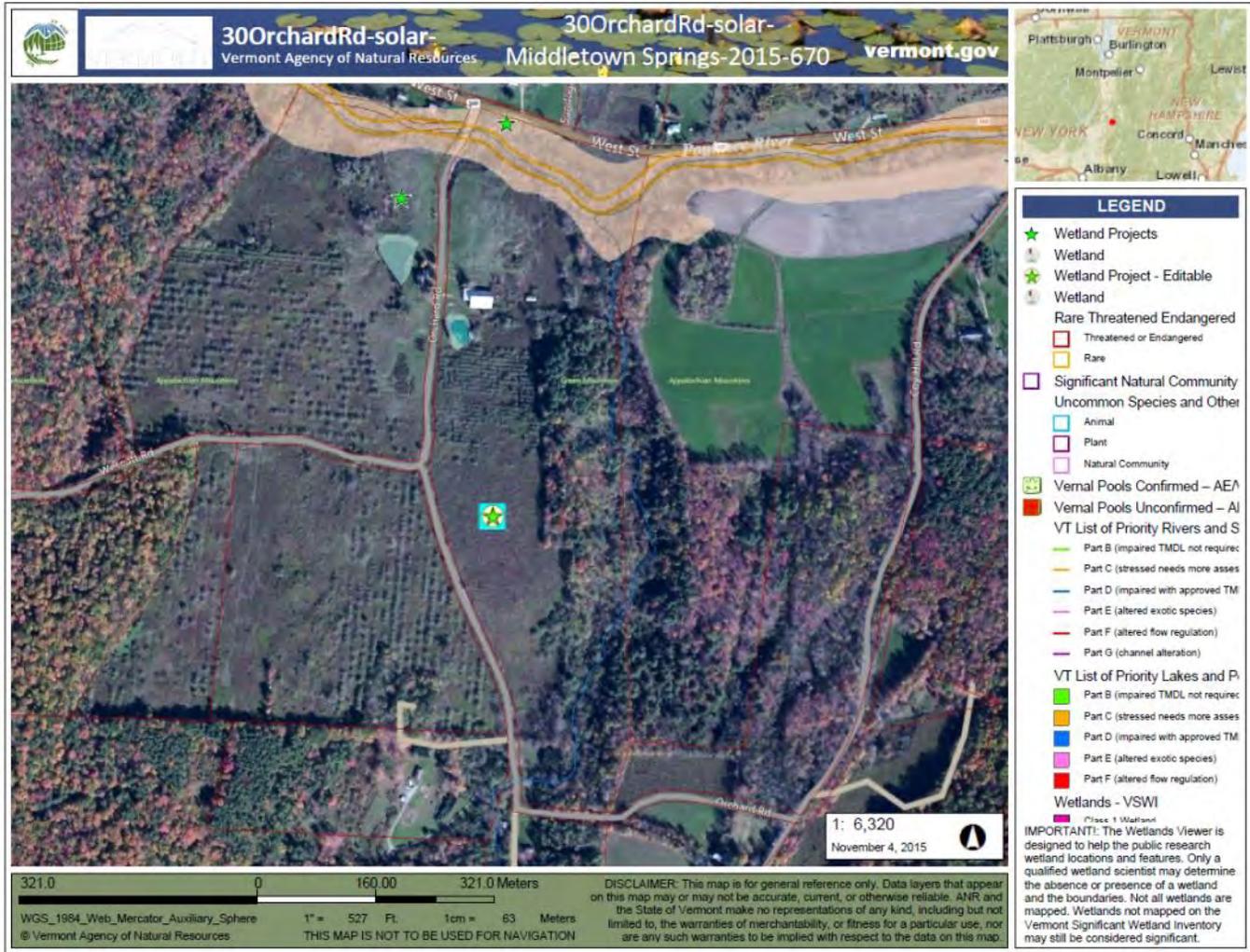




Photo: available in the project folder and upon request.

Preliminary Classification: Class II
 Class III

Class III justification
 Although the wetland meets the presumption of a Class II wetland due to its size of over one-half acre, in evaluating whether any wetland is a Class II or a Class I wetland, the Secretary shall evaluate the functions that the wetland serves both as a discrete wetland and in conjunction with other wetlands by considering functional criteria. Consideration shall be given to the number of and/or extent to which protected functions and values are provided by a wetland or wetland complex. Based on the functions and values evaluation it was determined, and confirmed by the Wetlands Program that the wetland in question provides none of the ten functions and values at a significant level at this time. They are either not present or are present at such a minimal level as to not be protected functions; therefore, the wetland is considered to be a Class III wetland (July 27, 2018). Because wetland character, size, and function can change over time, the Wetlands Program recommends seeking a reevaluation of wetland status every 5 years, to avoid a potential violation of the VWR.

Wetlands Determination Petition Process

If you disagree with this report, you may request a formal determination of wetland classification, pursuant to Section 8 of the VWR. To request a \$8 formal determination of wetland classification, please fill out and submit the petition form located on the Vermont Wetlands Program's website "Permit Information" page. Formal determinations are appealable pursuant to 10 V.S.A. § 917.

Pursuant to 10 V.S.A. chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Division of the Superior Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or their attorney.

In addition, the appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned; the name of the permittee; and any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street, 2nd Floor, Suite 303, Burlington, VT 05401 (Tel. # 802-951-1740).



More Information is Available on the Wetlands Program Website

For more on state wetland permitting and how to apply for a permit visit the [Wetlands Permit Information Page](#).

at <http://dec.vermont.gov/watershed/wetlands/jurisdictional/permit-info>
For more on wetland classifications visit the [Jurisdictional Wetland Page](http://dec.vermont.gov/watershed/wetlands/jurisdictional) at
<http://dec.vermont.gov/watershed/wetlands/jurisdictional>
For more about Allowed Uses visit the [Allowed Uses Page](http://dec.vermont.gov/watershed/wetlands/bmps) at <http://dec.vermont.gov/watershed/wetlands/bmps>
For more on wetland classification petitions and forms visit the [Wetlands Permit Information Page](http://dec.vermont.gov/watershed/wetlands/jurisdictional/permit-info), at
<http://dec.vermont.gov/watershed/wetlands/jurisdictional/permit-info>
To find a wetland consultant to help with applying for a permit or petitioning see our [Wetland Consultant List](http://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list)
[Page](http://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list) at <http://dec.vermont.gov/watershed/wetlands/what/id/wetland-consultant-list>

Other Wetland Permit Obligations

In addition, the U.S. Army Corps of Engineers ([Corps](#)) regulates the discharge of dredged and/or fill material, including mechanized land clearing and grading, in all waters of the United States, including inland rivers, lakes, streams and wetlands. For detailed information on Corps permits and regulations call (802) 872-2893. It is the applicants responsibility to determine if your project also requires an Corps permit. In addition, your town may have local regulations regarding wetland protection. Please call your town clerk to verify any local regulations.

[Please add this document to your land records for reference](#)