



Agency of Natural Resources

1 National Life Drive, Davis 2
Montpelier, VT 05620-3702
802-828-1294

Application for Endangered & Threatened Species Taking Permits

Statutory Authority: [10 VSA §5408](#)

Application Fees

\$50 for permits issued for scientific, educational and noncommercial cultural or ceremonial purposes, to enhance the propagation or survival of a threatened or endangered species and for special purposes consistent with the federal Endangered Species Act.

\$250 for each listed animal/plant taken up to a maximum of \$25,000 for zoological and botanical exhibition purposes, and for incidental take. The Secretary may also require the implementation of mitigation strategies and may collect mitigation funds, in addition to the permit fees, to mitigate the impacts of a taking.

For research and survey projects for listed bats, please download the application form specifically for such projects from our [endangered species permits page](https://vtfishandwildlife.com/conservation-planning/endangered-and-threatened-species/threatened-endangered-species-takings-permit): <https://vtfishandwildlife.com/conservation-planning/endangered-and-threatened-species/threatened-endangered-species-takings-permit>

1. **Permittee/Applicant Name:** Curtis Pond Association _____
Institution (if applicable): NA _____
Principal Officer (CEO) of Institution: NA _____
Physical Address/Town/St/Zip: 84 W County Road, Calais, VT 05648 _____
Mailing Address (if different): _____
Telephone: 802-272-6441 _____ **E-Mail:** colleen.bloom@gmail.com _____

2. **Name(s) & affiliation of subpermittee(s)**

Colleen Bloom, President
Curtis Pond Association

3. **Which species, and how many of each, will be collected or impacted?**

(add additional rows if needed)

Common Name	Scientific Name	# of individuals to be collected/impacted	% of population to be collected/impacted
Lesser bur-reed	<i>Sparganium natans</i>	16,210*	3%

*See attached Transplanting Plan documentation for description of site and explanation of methodology

4. **Purposes for which you are applying for a takings permit** (must meet one of the following):

- ☐ Scientific Purposes ☐ Enhancing the propagation of a threatened or endangered species
☐ Educational Purposes ☐ Special purposes consistent w/ the federal Endangered Species Act
☐ Zoological Exhibition
☒ Incidental Take

Describe the purpose for which you seek a permit (1-2 sentences)

Thousands of stems of *Sparganium natans* are located in an area proposed for installation of a new dam structure at the edge of Curtis Pond. Impact to this species for coffer dam installation, temporary drawdown, machinery access, and construction of a concrete wall adjacent to the existing dam is necessary in order to repair the failing dam.

5. Detailed Explanation of Proposed Activities

Describe the proposed activity, why you want to do it, and how listed species and their habitats might be impacted.

An Aquatube coffer dam will be installed in order to create a safe work area for dam repair and construction. Drawdown will occur in this area for approximately 3 months, potentially impacting plants. Impacts will also occur for machinery access, though the majority of the plants in the work area will be either temporarily matted or fenced off during construction. Some permanent habitat loss will occur for installation of a new concrete structure. In this area, plants will be removed prior to commencement of work and transplanted to a nearby area with very similar site characteristics. See attached plan set and transplant plan. Plants will be firmed in and monitored for 5 years.

6. Is survey data available to indicate the size and/or extent of the impacted population for each species listed in section 3? No ____, Yes __x__.

Prior to commencing the proposed activities, a survey may be required to determine the extent and number of individuals of T&E species at the project location. The survey requires authorization from the Agency of Natural Resources (ANR) and shall be completed by an expert with experience/qualifications acceptable to ANR.

The extent of the population was confirmed by Grace Glynn during a pond-wide survey by kayak on October 1, 2022 as described in the attached Transplant Plan. The population as a whole consists of an estimated 500,940 stems across 2.3 acres. The population consists of 8 distinct subpopulations throughout the pond.

7. Provide a detailed explanation for the basis of the taking/impact.

For instance, if the basis is Scientific Purposes, demonstrate how the benefits of the proposed activities outweigh the impact(s) to the individuals and the populations.

If the basis is Incidental Take, explain:

- A) Steps taken to avoid, minimize, and mitigate impact to listed species and/or critical habitat;
- B) The benefits that would result if a permit is issued;
- C) Why you believe the taking is necessary;
- D) Why you believe the taking will not impair the conservation or recovery of T&E species;
- E) Any alternative actions to the taking that you considered and the reasons that the alternative(s) were not selected.

Provide supporting documentation if applicable.

- A) Impacts have been minimized by moving the cofferdam south to the extent practicable and through the use of temporary matting. Some small areas will be flagged and substrate will not be disturbed during construction. Impacts will be mitigated by moving plants 42% of impacted plants to a prepared site in suitable habitat along the shoreline on the adjacent town-owned parcel.
- B) The permit will allow Curtis Pond—and therefore the *Sparganium natans* habitat—to persist.
- C) The taking has been minimized to the extent practicable and is necessary for rehabilitation of dam, which is currently at risk of failing.
- D) The proposed work will impact only 3% of the population and a small portion of this particular subpopulation. In addition, proposed transplanting of 42% of the impacted population will assure continued preservation of the subpopulation in the impact area.
- E) Because of the dam's condition and location, redesign in order to avoid the plants is not practicable.

8. **What is the time frame of proposed activities:** July to October 2023

9. **What are the qualifications & experience of person(s) conducting the proposed activities?**

The applicant is responsible for retaining a qualified botanist conduct the proposed mitigation activities and subsequent monitoring. Ideally D&K's Botanist who conducted the pond-wide survey of this population in 2022 and wrote the attached transplant plan would conduct these activities.

10. **Which methods and equipment will you use?**

If, for example, you seek authorization to translocate/transplant Threatened & Endangered Species, attach a translocation/transplanting plan identifying how specimens will be found and moved, where to, and how you propose to monitor the effectiveness of the translocation/transplanting.

Plants in the proposed impact area will be removed within several days of installation of the coffer dam. Because this work will be done before the substrate dries out, all transplant work will be done on foot with the use of shovels. Plants will be transported to the transplant site in a small plastic pool filled with ~3 inches of water. Plants will be firmed in and planted at a similar density to their original location. The transplant site will be monitored once per growing season for 5 years post-construction.

11. **Where is your project location?** Be as specific as possible and identify the town(s) and county.

If field-based activities are proposed, attach a detailed map of project site(s).

At the existing dam site near the intersection of Camp Rd and Worcester Rd, Calais.

12. What are the possible impacts of the proposed activities on the target species or habitat?

Include details about the numbers of plants and/or animals that will be taken/impacted, and/or the extent and nature of habitat alteration or destruction and efforts to minimize impact.

Impacts to the plants include placement of a cofferdam, drawdown for ~months, installation of a concrete wall, and movement of machinery. Installation of new fill below OHW will impact approximately 9,000 stems. Temporary impacts from drawdown, coffer dam placement, and machinery access will impact approximately 7,210. However, contractors will be required to utilize temporary matting in much of this area, as shown on the attached plans. Where feasible, some areas have been selected to be fenced off during construction, and the plants in these areas will be undisturbed other than the period of drawdown. Substrate will presumably remain somewhat intact, albeit compacted, beneath the Aquadam cofferdam, and it is assumed that if rhizomes are damaged in this area, the *Sparganium natans* will be able to recolonize this area following construction.

13. What is your plan for conservation or mitigation of species or habitat impacted?

The transplanted plants will be relocated on the edge of the adjacent town-owned parcel. Though a portion of this parcel receives recreational use by swimmers, the chosen section of shoreline seemingly does not receive boat use or heavy foot traffic and is not in the immediate vicinity of the swimming dock.

14. Final disposition of the specimens you collect (if any)?

The Pringle Herbarium (one specimen was collected for ID purposes)

15. If your project is proposed for a time of year that is more likely to impact listed species than other times of year, please explain why a permit should be granted during your proposed time period.

The project cannot feasibly be completed in the winter and must be undertaken prior to leaf-off for safety reasons.

16. Impacts to Migratory Birds: Federal authorization is required for activities which might take birds (alive or dead, feathers, eggs and even nests). Federal migratory bird permits are issued by the

US Fish & Wildlife Service Migratory Bird Office: 413-253-8643,
<https://www.fws.gov/birds/policies-and-regulations/permits.php>.

My proposed project will impact migratory birds, feathers, eggs or nests: ☒ No, ☐ Yes?

If yes: My migratory bird permit # is _____, it is valid until _____
(please include a copy with your application)

I don't have a migratory bird permit but will apply for one ☐ Yes.

17. **Institutional Animal Care & Use Committee (IACUC) Protocol #** (if applicable): _____

18. **Required attachments**

____ **Permit fees:** Make checks payable to: "VFWD T&E Permit Fund 20345"

\$50 for permits for scientific, educational and noncommercial cultural or ceremonial purposes, for enhancing the propagation of a listed species and for special purposes consistent with the federal Endangered Species Act.

\$250 for each listed animal/plant taken up to \$25,000 for zoological exhibition and incidental take.

☒ **Map/Site Plan:** For field-based activities attach a map, of appropriate scale, identifying the location where field based activities will occur.

____ **Scientific Research:** Include a research proposal/description and IACUC review and approval application or report with any T&E permit application for scientific research.

☒ **Translocation/Transplanting Plan:** If you seek authorization to translocate/transplant listed species, attach a plan identifying how specimens will be found and moved, where to and how you propose to monitor the effectiveness of the translocation/transplantation.

____ **Importation:** For permits authorizing the importation of live specimens of threatened or endangered species a Veterinary Health Inspection report is required certifying the disease-free status of the specimens to be imported.

18. **Certification by signature:** I hereby affirm, under penalty of perjury, that the information, as well as any exhibits, documentations, and maps, are truthful to the best of my knowledge, that I am not delinquent in any obligation to pay child support or that I am in good standing with respect to any unpaid judgment issued by the judicial bureau or district court for fines and penalties for a civil violation or criminal offense. I also understand that false statements made on this application are punishable pursuant to 10 V.S.A. 4267 of Vermont state law.

Signature: _____ **Date:** _____



Submit signed application via email to jon.kart@vermont.gov or mail c/o "Permit Specialist" Vermont Fish & Wildlife Department, 1 National Life Drive, Davis 2, Montpelier, VT 05620-3702.

Endangered and threatened species taking permits are issued under the authority of 10 VSA §5408. Permits are issued for the purposes of taking (including collecting, disturbing or possessing) individuals (or parts of) of species listed as Endangered or Threatened by the State of Vermont. Collection on lands posted according to 10 VSA §5201 or 13 VSA §3705 is unlawful without landowner permission.

Transplanting Plan for *Sparganium natans* at Curtis Pond Dam, Calais

Prepared by Dubois & King, Inc.

December 2022

Background & Site Description

In September 2022, a large population of lesser bur-reed (*Sparganium natans*) was found in the cove just upstream of the existing dam at Curtis Pond, off Worcester Rd in Calais, during a wetlands site review by Grace Glynn of Dubois & King. The plants were flowering at the time of identification, and species identification was confirmed in the field by Bob Popp and Art Gilman shortly thereafter. Because the species is listed as Threatened in Vermont and because some of the plants will be impacted by the proposed rehabilitation of the dam, an Endangered Species Takings Permit is being sought.

During a survey of Curtis Pond by kayak in October 2022, Glynn mapped 8 separate subpopulations throughout the pond using a handheld GPS with sub-meter accuracy. The population as a whole was found to measure approximately 2.3 acres. Much of the population was fruiting at the time of this survey, which aided in identification.

In order to estimate the number of lesser bur-reed plants present, stems were counted within a 1 ft² area in 10 different locations across the pond. Plants were counted as separate individuals only when stems arose from the ground 3 inches apart from one another. Stem counts were averaged across the 10 locations to arrive at an average of 5 stems/ft². The entire population was then calculated to support 500,940 individual stems, and an estimated 16,210 stems are located in the area of proposed impact in the vicinity of Curtis Pond Dam. Therefore, an estimated 3% of the population will be impacted by this project. Because of the rhizomatous nature of this species and its tendency to form dense carpets in sometimes deep water areas, it was difficult to obtain an accurate stem count and impossible to count the number of individual genets present.

Proposed Transplanting

The Applicant proposes to move plants located in a 1,372 square foot area of proposed impact and transplant them to a shoreline site with similar characteristics on the adjacent town-owned parcel. The plants to be transplanted and the proposed transplant site are shown on the attached plan.

The following procedure is proposed:

1. A coffer dam will be installed in July. During the process of de-watering but before the soil and plants dry out, the Applicant will retain a qualified botanist to locate the average depth to the *Sparganium natans* rhizomes at the site to determine the best strategy for removing the plants without damaging them. The plants will be removed using a shovel. If volunteers assist in removal of the plants, they will be overseen by a qualified botanist during the entire course of work.
2. The plants will immediately be placed in a plastic tub or pool with a small amount of water for transport to the nearby transplant site.
3. The transplant site will be prepared using a shovel. The transplanted material will be firmed in.
4. The Applicant will retain a qualified botanist to monitor the transplant site once a year during the growing season, for a period of five years, with reports on conditions and any recommendations to be prepared and submitted to the state.



LEGEND

Rare Threatened Endangered

Threatened or Endangered

Rare

Wetland - VSWI

Class 1 Wetland

Class 2 Wetland

Buffer

River Corridors (Aug 27, 2019)

.5 - 2 sqmi.

.25-.5 sqmi.

Soils - Hydric

Parcels (standardized)

Roads

Interstate

US Highway; 1

State Highway

Town Highway (Class 1)

Town Highway (Class 2,3)

Town Highway (Class 4)

State Forest Trail

National Forest Trail

Legal Trail

Private Road/Driveway

Proposed Roads

Stream/River

Stream

Intermittent Stream

1: 1,626

September 1, 2022



83.0 0 42.00 83.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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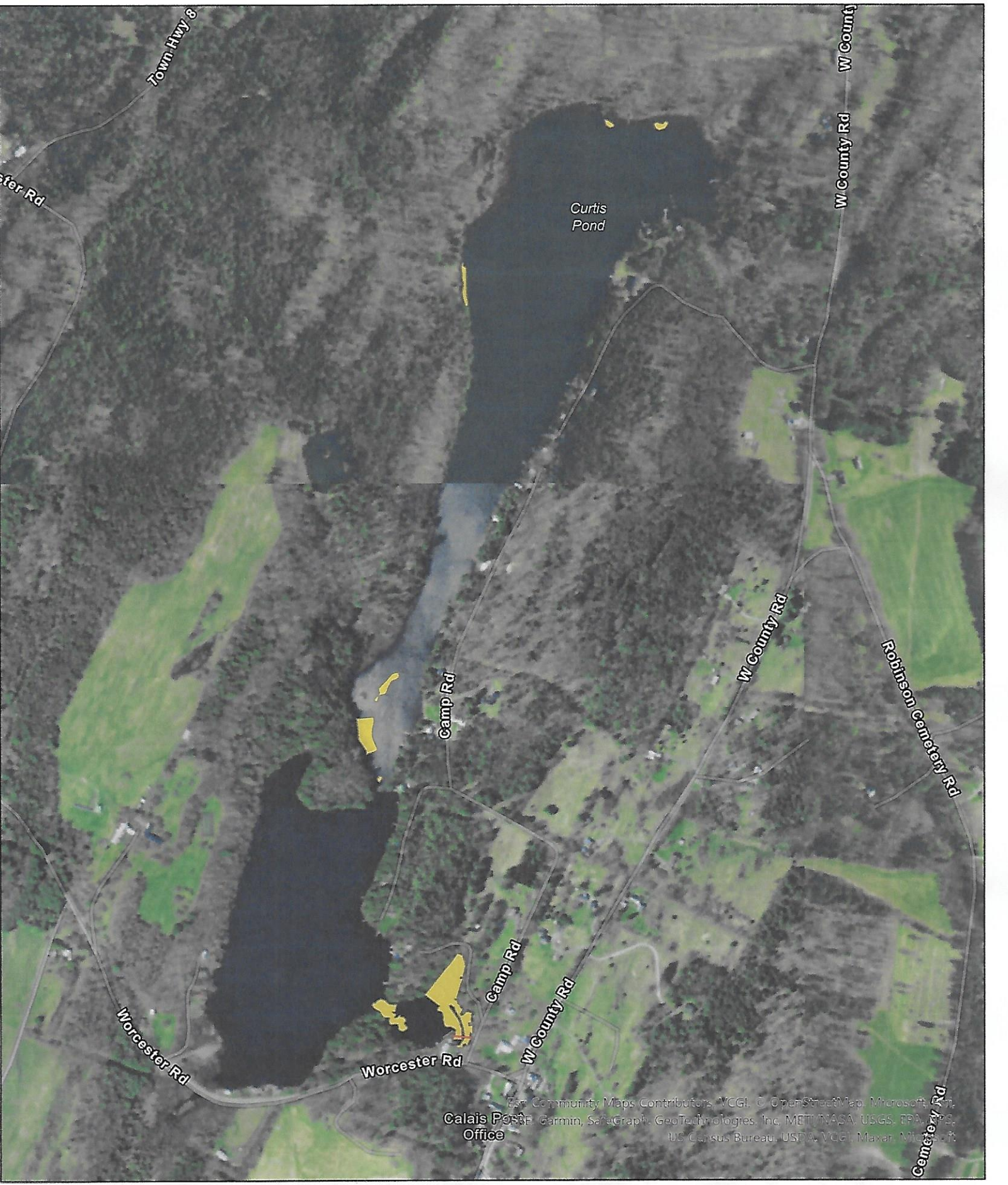
1" = 136 Ft. 1cm = 16 Meters

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

NOTES

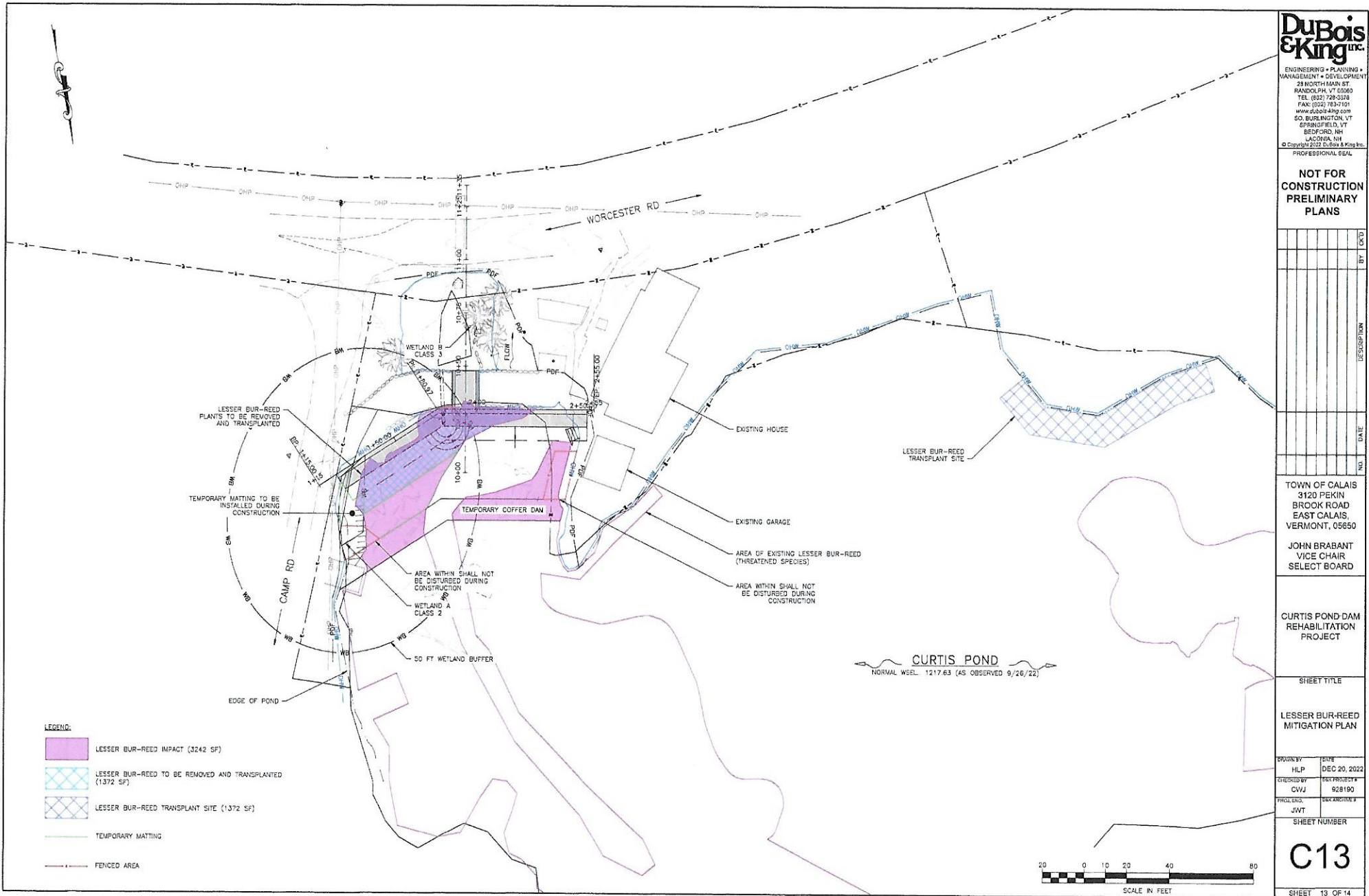
Map created using ANR's Natural Resources Atlas



0 62.5 125 250 Meters

Proposed Coffey Dam
SPANAT





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PROFESSIONAL SEAL

**NOT FOR
CONSTRUCTION
PRELIMINARY
PLANS**

NO.	DATE	BY	DESCRIPTION

TOWN OF CALAIS
3120 PEKIN
BROOK ROAD
EAST CALAIS,
VERMONT, 05850

JOHN BRABANT
VICE CHAIR
SELECT BOARD

CURTIS POND DAM
REHABILITATION
PROJECT

SHEET TITLE

LESSER BUR-REED
MITIGATION PLAN

DRAWN BY	DATE
HLP	DEC 20, 2022
CHECKED BY	DESIGN PROJECT #
CWJ	928190
PROJECT ENG.	DESIGN ARCHITECT #
JWT	

SHEET NUMBER

C13

SHEET 13 OF 14