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/conserve/conservation-planning/endangered-and-threatened-species/threatened-endangered-species-takings-permit

1. **Permittee/Applicant Name:** Andrew McMillan, on behalf of VELCO
   Institution (if applicable): VT Transco (VELCO)
   Principal Officer (CEO) of Institution: Tom Dunn, CEO
   Physical Address/Town/St/Zip: 366 Pinnacle Ridge Road, Rutland, VT 05701
   Mailing Address (if different): _____
   Telephone: _____ **E-Mail:** _____

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

   Mitch Jackman, Carla Fenner, Kaitlyn Maines (VHB)

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
Houghton's flatsedge	*Cyperus houghtonii*	**24 individuals**	**~26% This is an estimate from the current population observed within the right-of-way (ROW). A significant seedbank is also assumed to be present.**

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

___ Scientific Purposes
___ Educational Purposes
___ Zoological Exhibition
___ Enhancing the propagation of a threatened or endangered species
___ Special purposes consistent w/ the federal Endangered Species Act

_X__ Incidental Take

The Houghton's flatsedge (*Cyperus houghtonii* or "CYHO") population is located on the VELCO-owned parcel containing the Georgia Substation and southern portion of the existing K42 transmission line corridor where a portion of the Franklin County Line Upgrade Project ("FCLU") ("Project") is proposed. The Project consists of installing a parallel single pole replacement line between VELCO's Georgia and Highgate Substations, then removing the existing two-pole H-frame transmission line. A K42 replacement structure is proposed directly adjacent to a mapped CYHO population directly north of the Georgia Substation (see Attachment 1). The VELCO Project team has re-engineered the K42 210Y replacement structure's location as a result of the CYHO population in a way that avoids any direct impacts to the plants from the poles and anchor excavation/installations. However, construction phase impacts cannot be fully avoided due to the structure's close proximity to the plants, line engineering requirements (e.g. counterpoise) and existing, adjacent infrastructure constraints. In addition to installing a new utility pole, buried counterpoise wire, and guy-wire anchors, installation will require access roads and workpads to allow for equipment set up during the active construction period. The mapped CYHO population and proposed impacts are shown as Attachment 2.

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.

The Project proposes to rebuild approximately 16.6 miles of VELCO's existing 115 kV transmission line from VELCO's Georgia substation to VELCO's Highgate substation, known as the K42 line, to remedy asset age and condition deficiencies. A VELCO transmission line includes many subcomponents such as: structures (poles & arms), insulators, switches, conductor/spacers, ground wire, fiber optic cable, guy wires, grounding wire. After construction of the new line, VELCO will remove the existing line and restore the lands impacted by the work. To stay within the existing 150-foot Right of Way easement boundaries, the new structures will need to be taller as the three phases of conductors shift from a horizontal to a vertical configuration.

Within the CYHO population, VELCO proposes installing single pole structure 210Y and associated guy-wire anchors, and buried counterpoise. To safely install the structure, line crews will require a flat work area, consisting of approximately 125-foot by 75-foot pads. As a result of shifting the structure to avoid direct impacts to the plants, portions of the mapped CYHO population surround the proposed pole and guy-wire anchors. VELCO anticipates unavoidable impacts to the population where it is located within the ROW at the southern work pad for replacement Structure 210Y (1 plant) and to the north and east of the replacement structure for guy-wire anchor and counterpoise (grounding wire) installation and testing. Take associated with anchor and counterpoise installation is associated with a 16-foot-wide work area required for equipment access for concrete anchor installation and testing, and for installation of buried counterpoise. Counterpoise installation is proposed to be completed by hand within the CYHO

population area for Structure 210Y.

To mitigate for direct impacts to CYHO, and based on past experience with CYHO at their Sandbar Substation where VELCO obtained a Takings Permit for similar impacts, and coordination with Grace Glynn (VT ANR Botanist), VELCO is proposing a Habitat Creation Plan, which is further described below and in the attached habitat creation and monitoring plan document. The habitat creation plan also addresses post-construction plans for the portions of the impacted CYHO population, which generally includes no loaming, seeding, or application of mulch.

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.

Mitch Jackman and Levi Keszey of VHB conducted initial RTE surveys for the Project during the 2022 growing season. Follow up surveys were conducted by Kaitlyn Maines and Carla Fenner of VHB during the 2023 growing season, which identified the presence of 92 individuals. The location of individuals plants were captured with a sub-meter capable GPS. In addition, a field meeting was held between VELCO, VHB and VT ANR on August 28, 2023, to confirm the presence and extent of the subject population. Takings and mitigation plans were also discussed during the August 28, 2023, meeting.

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) Structure siting and design incorporates avoidance and minimization of impacts to natural resources, including threatened and endangered species populations, to the greatest extent practicable. Structure 210Y, which occurs adjacent to and within the CYHO population faces several design constraints as it consists of an angle structure, is the second structure outside of the Georgia Substation, and is located adjacent to other electrical infrastructure that is not owned or operated by VELCO. The Project team developed several iterations of the structure design and layout, including a shift south, to minimize impacts to

the population. Where practicable, VELCO will complete portions of the work during the dormancy period. For plants that cannot be avoided, and as further described in the Habitat Creation Plan, the Project will mitigate impacts to individuals by removing topsoil and its associated seedbank from a portion of the work area and moving it to a habitat creation area.
(B) If issued a permit, VELCO will be able to update aging electrical infrastructure that is crucial to support the electrical grid. In addition, dedicated CYHO habitat will be created within the ROW to encourage success of the overall population, as well as capitalize on re-located topsoil assumed to support CYHO propagation through the seedbank.
(C) The taking is necessary to replace aging electrical infrastructure, as avoidance has been implemented to the greatest extent possible by the engineering and siting of physical infrastructure to be installed, which results in only minimal impact from construction phase installation activities.
(D) The habitat creation area within the ROW, which was collaboratively identified by FWD, VELCO and VHB, will provide suitable conditions for CYHO propagation from the seedbank based on soil type and standard vegetation management practices within the ROW preventing succession to forested cover type. This habitat creation area was collaboratively identified by FWD, VELCO, and VHD during the August 2023 field meeting. In addition, through habitat creation and post construction monitoring, the takings permit affords an opportunity to further VELCO's and ANR's knowledge of 1) the species, 2) its sandplain habitat, and 3) how anthropogenic effects, such as equipment access in CYHO populations can benefit the species long-term. VELCO hopes this information may help advance General Permit considerations for entities like VELCO to perform maintenance activities in and around similar plant species that require periodic soil disturbance to sustain and/or are known seed bankers that are likely to benefit from periodic encroachments.
(E) The Project is designed to avoid impacts to natural resources, including rare, threatened and endangered species, to the greatest extent practical. However, impacts to the CYHO population described herein are unavoidable due to engineering constraints and the presence of adjacent electrical infrastructure at the Georgia Substation site.

8. What is the time frame of proposed activities: August 2024 to December 2026

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

VELCO will hire contractors to complete the civil components of the Project, which consist of access road and work pad installation, and restoration. Structure installation and linework will be completed by a line construction contractor.

The proposed work will be overseen by qualified Environmental Inspectors who will train the onsite contractors on environmental compliance measures applicable to the Project,

install flagging, signage, and barriers to prevent access into habitat creation areas.

Implementation of the Habitat Creation Plan will be overseen by a qualified botanist, or other qualified personnel selected by VELCO.

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.

Please refer to the Habitat Creation Plan.

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).

The Project is located between VELCO's Georgia Substation and Highgate Substation. The work described in this Takings Permit Application is located at 44°42'53.32"N, 73° 9'12.65"W.

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 CYHO will be minimal. Habitat creation efforts are expected to result in the proliferation of many new plants during the 5-year post-construction monitoring period, which would then establish their own seed bank in that area. This species prefers dry and open conditions with a sandy substrate, which will be generated through the habitat creation plan. Favorably conditions are also likely to persist outside of the habitat creation area based on use of vegetation management within the ROW.

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

Please refer to the Habitat Creation Plan.

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

Collection of individual plants is not proposed.

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.**

Every effort will be made to transfer topsoil and its associated seedbank within the proposed work area during the spring or fall to encourage propagation within the habitat creation area. The duration of the Project requires several phases of work that will occur at various times throughout the year.

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: _X__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**

_X_ **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.

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

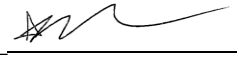
___ **Scientific Research**: Include a research proposal/description and IACUC review and approval application or report with any T&E permit application for scientific research.

_X_ **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**: 6/6/2024

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.

Memorandum

To: VELCO Franklin County Line Upgrade Project File

Date: June 7, 2024

Project #: 58789.00

From: Ryan Scott, CPESC, PWS
Team Leader – Energy Utilities

Re: Houghton's Flatsedge Habitat Creation and Monitoring Plan
Vermont Threatened and Endangered Species Takings Permit

At the request of Vermont Transco, LLC ("VELCO"), VHB developed this Houghton's Flatsedge Mitigation Plan ("Plan") as a component of their Vermont Threatened and Endangered Species Takings Permit application ("TE Permit") for the proposed Franklin County Line Upgrade Project ("FCLU"). The FCLU is located along the existing K42 Transmission Line ("K42") within the towns of Georgia, St. Albans, Swanton, and Highgate, Vermont ("Project"). The Project will result in unavoidable impacts to a portion of a population of Houghton's flatsedge (*Cyperus houghtonii* or "CYHO") resulting from the installation of a replacement transmission line structure. Impacts are associated with infrastructure siting and, more specifically, work areas required to complete construction-phase work. This plan is intended to supplement the TE Permit application.

VHB conducted fieldwork during the 2022 and 2023 growing seasons and identified a population of CYHO located north of VELCO's Georgia Substation, adjacent to Structure 210Y. The 2023-identified population consists of 92 individuals located within an approximately 2,000 square foot area. The proposed 210Y replacement structure and its associated anchors is sited and engineered to avoid a direct take to individual plants. However, construction-phase work and grounding wire installation will result in direct take to individuals. Species take is proposed at the southern work pad of replacement Structure 210Y and to allow for installation of counterpoise, consisting of a buried grounding wire. To minimize impacts, VELCO intends to follow best management practices ("BMPs") including, but not limited to, performing the structure and anchor installation work during the dormancy period. The use of temporary construction timber mats for equipment access within the mapped RTE polygon was considered and may be implemented if necessary to afford safe equipment setup and operation, but will be minimized in order to promote soil roughening in the RTE population area to enable new habitat for this known seed banker.

VELCO proposes to mitigate for impacts to individual plants through habitat creation. The methods described herein are largely based on VELCO's experience and feedback provided by former Vermont Fish and Wildlife Department ("FWD") botanist Bob Popp from successes observed with two prior TE Permits for impacts to CYHO at VELCO's Sandbar Substation. VELCO also communicated and coordinated with the current FWD Botanist, Grace Glynn, including site visits to review the plants and sandplain habitat present at both the VELCO Sandbar and Georgia Substations. The *Houghton's Flatsedge Transplantation, Habitat Restoration, and Monitoring Plan – Sandbar Substation Upgrade Project* (Gilman and Briggs Environmental 2020) provides the basis for this plan.

Habitat Creation and Transplantation Plan

VELCO anticipates take of up to 24 individuals during the construction of FCLU. All work described below shall be completed by a qualified botanist listed as the permittee, subpermittee, or under direct supervision of the permittee.

1. Prior to conducting any work within the mapped CYHO population, a qualified botanist will review the area to mark previously identified individuals, as well as individuals that were not previously observed. This pre-construction

survey shall occur during the growing season when the plant is readily identifiable (generally between April 15th and October 15th).

2. In collaboration with FWD and VHB, VELCO identified a Habitat Creation Area ("HCA") located southeast of the existing population, as shown on Attachment 2. While this general area is identified, the on-site botanist will micro-site land preparation and soil transfer activities to encourage the most successful outcome. To prep the HCA, VELCO will remove leaf litter and any other surficial debris and windrow it along the adjacent forest margin. VELCO will plow and harrow the HCA to a depth of approximately eight inches and remove all large subsurface material, including roots, from the area. Woody debris observed within the HCA and impacted work area during annual monitoring will be hand cut to discourage shading of herbaceous plants by natural recruits. The HCA's soil surface will be left rough and exposed and will not receive any seed or mulch cover.
3. Once the HCA is prepped as described above, VELCO will transfer the stripped organic materials and top few inches of soil from the species take area proximal to Structure 210Y to the HCA. The intention is transfer soil with favorable characteristics for the plant, in addition to transferring an established seedbank. Following construction, the species take area generally north and east of replacement Structure 210Y will be left in its disturbed, exposed state in order to promote ongoing habitat for the species in that area. A portion of the workpad for Structure 210Y assumes importing stone for a safe and efficient surface to support line construction. VELCO will minimize its use of imported stone to only what is necessary and will remove any stone on fabric associated with temporary line construction phase work including, but not limited to, the wire pulling pad. Additionally, VELCO will remove the top layer of organic material and top few inches of soil from beneath the proposed stone road located south of the species population and spread that material east of the road, and as shown on Attachment 2.
4. Exposed soils will not be seeded or stabilized with mulch to encourage natural recruitment from the relocated topsoil and seedbed. Once established, each of these areas will be marked in the field for avoidance purposes during the Project's construction phase and ease of locating during the post-construction monitoring period. The three areas will also be field located with a GPS unit capable of sub-meter accuracy during the Project's construction phase for inclusion on a map figure within the first annual post-construction monitoring report.

Post Habitat Creation Protection and Monitoring Plan

Once the HCA is established, the following measures shall be taken to ensure there are no impacts to individuals or the habitat.

- During the construction phase of FCLU, flagging and signage will be installed around the perimeter of the non-impacted portion of the CYHO population proximal to Structure 210Y. In addition, barrier fence will be installed to include the HCA and a 25-foot buffer. The HCA will be shown on updated construction plans and discussed in environmental sensitivity training with the contractor and any personnel working on the project to encourage success of the population. Once installed, the windrowed soils adjacent to the access road will also be marked with flagging and signage to preclude unintended access.
- Post-Construction Monitoring will occur on an annual basis during late summer or early fall for a period of five years. Monitoring will document the natural recruitment, health and vigor of CYHO within the existing population area impacted by the project, along with the HCA and area of windrowed soil along the access road. These areas, described above, will be mapped and shown within the first annual monitoring report. Given the limited size of each area, a stem count documenting CYHO occurrence will be performed for each of these areas: 1) impacted population / project work area, 2) HCA, and 3) habitat creation area without known seedbank (windrowed soil

Memorandum

along access road). Monitoring will also assess for the presence of recruited woody vegetation and non-native invasive species within each of these areas and their 25-foot buffer area. If NNIS are identified, they will be removed by hand with care taken to leave the area disturbed as exposed bare sand. Recruited woody vegetation observed within the monitoring areas will be hand cut to discourage shading.

› VELCO or its contractor will submit annual reporting to the Vermont Natural Heritage Inventory Program prior to January 31 of the year following monitoring. The report will include the following:

- A summary of monitoring methodologies, results, and findings including overall stem county and density of CYHO. It will also indicate the number of flowering/fruiting stems observed;
- Representative photographs of the habitat creation areas and their associated buffers;
- Assessment of NNIS; and
- Description of any management actions taken or recommended.

Attachments:

1. Site Location Map
2. Houghton's flatsedge Takings Permit Structure Work & RTE Mitigation Plan

ATTACHMENT 1

Site Location Map

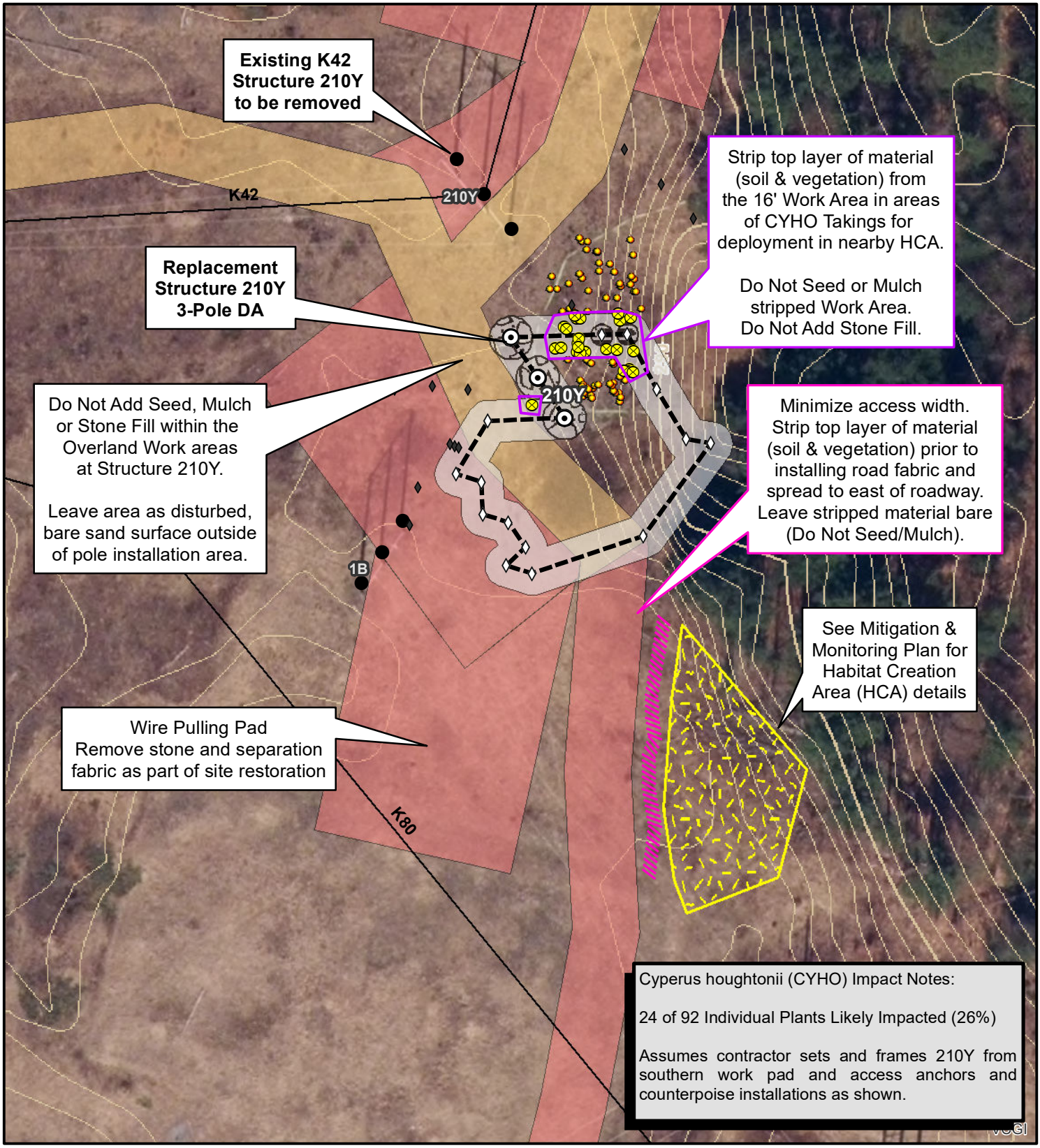
VELCO Franklin County Line Upgrade (FCLU) K-42 115 kV Line | Georgia, Saint Albans Town, Swanton, Highgate , Vermont

May 21, 2024

Study Area (VHB)
Waterbody (VCGI)
VHD Stream (VCGI)
VSWI (ANR)
Road (VTrans)

Sources:
Background USA Topo Maps, (Esri), ANR (Vermont Agency of Natural Resources - Various Dates)
VCGI (Vermont Center for Geographic Information - Various Dates), VHB 2024.

ATTACHMENT 2



- Proposed Takings of CYHO (24 of 92)
- Existing K42 Guy
- Existing K42 Pole
- Proposed FCLU Structures
- Proposed FCLU Guy Anchors
- Str 210Y Counterpoise (grounding)
- CYHO Individual Pts
- Stripped topsoil from access road (approx.)
- Cut/Fill; Stone Work Area
- Overland Work Area
- 16' Diameter Excavation Area
- 8' wide impact area (48" concrete anchor alt.)
- 16' Wide Work Area (Anchor & Counterpoise)
- Habitat Creation Area (HCA) (approx.)

Houghton's flatsedge Takings Permit
Structure Work & RTE Mitigation Plan
Franklin County Line Upgrade Project
Georgia, Vermont

1 inch = 50 feet

0 10 20 40 Feet

N

VELCO vermont electric power company