Memorandum

To:	Green Mountain Power Georgia Substation Rebuild Project Project File	Date:	04/01/2026
		Project #:	R058901.002
From:	Nicole Fenton, Environmental Scientist; Ryan Scott, CPESC, PWS, Team Lead – Energy Utilities	Re:	Section 248 Natural Resources Assessment

At the request of Green Mountain Power ("GMP" or "Client"), VHB conducted natural resources assessments to support a Section 248 Petition for a Certificate of Public Good associated with the rebuild of GMP's existing Georgia Substation ("Project"), located at 2066 Ballard Road in Georgia, Vermont (see Natural Resources Map, Attachment 1). This technical memorandum presents the results of database and field assessments of natural resources and addresses potential impacts from Project activity to certain natural resources criteria, as defined in 30 V.S.A. Section 248(b)(5).

The natural resources assessments for the Project were designed to include an evaluation for the presence/absence of each natural resources type, and evaluation of potential impacts to the following Act 250 Criteria, given due consideration by the Vermont Public Utility Commission ("PUC") under 30 V.S.A. Section 248 review for a Certificate of Public Good ("CPG"):

- Outstanding Resource Waters (10 V.S.A. § 1424a248(d));
- Headwaters (§ 6086(a)(1)(A));
- Floodways (§ 6086(a)(1)(D));
- Streams (§ 6086(a)(1)(E));
- Shorelines (§ 6086(a)(1)(F));
- Wetlands (§ 6086(a)(1)(G));
- Soil Erosion (§ 6086(a)(4));
- Rare or Irreplaceable Natural Areas ("RINA")(§ 6086(a)(8));
- Necessary Wildlife Habitat and Endangered Species (§ 6086(a)(8)(A)); and,
- Primary Agricultural Soils 10 V.S.A. § 6001(15).

An assessment of each criterion is presented in the Section 248 Natural Resources Site Screening Table ("Site Screening Table," Attachment 2), which includes a brief statement of potential impacts to the natural resources covered by each criterion, recommended approaches for follow-up detailed surveys (if applicable), design or management options to first avoid and then minimize potential adverse effects, and identification of collateral environmental permits that may be required for the Project activity.

In preparing this memorandum, VHB relied upon Project information provided by GMP to assist in determining the areal extent of the assessment and evaluating potential Project impacts to natural resources. The following sections of this memorandum contain a description of the Project, a description of existing conditions, and an overall summary of the resource assessments warranting further discussion beyond what is covered in the Site Screening Table (Attachment 2). Supporting technical information is contained in the attachments to this memorandum. VHB relied on field work conducted by VHB ecologists primarily in October 2023, and desktop reviews of data maintained by the Federal Emergency Management Agency ("FEMA"), U.S. Fish and Wildlife Service ("USFWS"), Vermont Center for

Geographic Information ("VCGI"), Vermont Fish and Wildlife Department ("FWD"), Vermont Agency of Natural Resources ("ANR"), and Vermont Natural Heritage Inventory ("NHI").

Project Description

The Project involves upgrading the existing substation equipment and retiring obsolete equipment in order to increase the reliability of service and improve substation safety and operability for the towns of Georgia, Milton and St. Albans. Upgrades will include expansion of the existing substation yard, access road and a section of associated transmission line corridor. The Project will occupy approximately 0.98 acre ("Project Area"), but resource investigations were conducted on approximately 3.48 acres ("Study Area"), which generally aligns with the parcel boundary. Where access for field investigation was not permitted, VHB visually assessed within 50 feet of the Study Area to identify presence/ absence of resources that would have buffers that could extend into the Study Area (See Attachment 1).

The Project will also involve tree clearing, new pole and anchor installation, and construction of a temporary substation. The permanent substation yard will increase from approximately 6,014 square feet to 13,862 square feet and GMP proposes an expansion of the existing access road along the northern boundary of the substation to facilitate access to the transmission line to the east. A temporary gravel access road to the temporary substation will be installed north of the permanent access road. New poles and overhead line will be installed east and west of the rebuilt substation with tree clearing occurring within new and existing utility corridor as well as along the access road. Construction equipment and material will be staged within the Project limits.

The total potential for earth disturbance will be less than 1-acre (approximately 41,900 square feet). Excavation required within the rebuilt substation footprint will be approximately 7-feet in depth for the structure and control building foundation footers. The driveway, parking, and access road excavations will be approximately 2-feet and the temporary excavations for the portable substation will be 1-foot deep. The Project and all of its components are described in more detail in the pre-filed testimony of John Fiske.

Existing Conditions

The Study Area is located within the Champlain Valley biophysical region, which is characterized by low topography and a relatively warmer and drier climate (Thompson et al. 2019). The Study Area is located within the Mill River subwatershed (HUC12 043001081202) and the Saint Albans Bay-Lake Champlain subwatershed (HUC12 043001081204) with onsite flow draining into a wetland associated with an unnamed tributary to Stone Bridge Brook. On-site topography is generally gently sloping and undulating with elevations ranging from approximately 392 to 434 feet above mean sea level. Based on Natural Resources Conservation Service ("NRCS") soil mapping, the soil types within the Study Area are Lordstown loam, rocky (3 to 8 percent slopes), Deerfield loamy fine sand (0 to 8 percent slopes), and Au Gres loamy fine sand (0 to 6 percent slopes).

The Study Area includes an existing substation, access road, and maintained utility corridors with managed herbaceous vegetation. Hedge rows of trees between agricultural fields and infrastructure exist to the north and southwest of the existing substation yard. The adjacent parcel to the south contains a battery energy storage system ("BESS") and a communications tower with managed vegetation surrounding each location. Upland areas are characterized by species of white pine (*Pinus strobus)*, staghorn sumac (*Rhus typhina*), reed canary grass (*Phalaris arundinacea*), and bedstraws (*Galium* spp.). No VHD-mapped streams are present in the Study Area and there are no

Vermont Significant Wetlands Inventory ("VSWI") mapped wetlands within or adjacent to the Project. For depictions of on-site mapped natural resources and representative site photographs, refer to Attachments 1 and 3, respectively.

Section 248 Natural Resources Criteria Summary and Conclusions

VHB Ecologists conducted natural resources field assessments primarily in October 2023 and referenced applicable documents and findings from the adjacent BESS project (Case Number 21-1042-PET). Results of VHB's database review and field assessments, including an analysis of potential collateral permitting, are summarized in the *Section 248 Natural Resources Assessment Table (*Attachment 2). From this review, VHB determined that there are no Outstanding Resource Waters, Floodways, Shorelines, Rare or Irreplaceable Natural Areas, or Soil Erosion (considerations) within the Study Area. As a result, the Project will have no impact on these resources. On-site natural resources that required additional discussion beyond the content able to be provided in Attachment 2 are discussed briefly below.

Headwaters

The Headwaters criterion under Act 250, as incorporated into Section 248 review, requires that if a project is located in a headwaters area, it must meet "any applicable health and environmental conservation department regulations regarding reduction of the quality of the ground or surface waters flowing through or upon lands that are not devoted to intensive development" (§ 6086(a)(1)(A)). The factors for determining whether a project is within a headwaters are as follows:

(i). Headwaters or watersheds characterized by steep slopes and shallow soils;

(ii). Drainage areas of 20 square miles or less;

(iii). Above 1,500 feet elevation;

(iv). Watersheds of public water supplies designated by ANR; or

(v). Areas supplying significant amounts of recharge waters to aquifers.

The Study Area is located within the Mill River subwatershed with a drainage area of less than .05 square mile but is within the larger Saint Albans Bay-Lake Champlain watershed (HUC10 0430010812), which has a drainage area of greater than 20 square miles.

Though the Project area does meet subcategory (ii) of the headwaters criteria with a drainage area of less than twenty square miles, the remaining subcategories related to elevation, slope, water protection and ground water recharge are not met. Given the physical characteristics of the Project area as they relate to headwater subcategories, and the Project's location in the greater Champlain Valley, it is not located in a Headwaters area as it meets none of the others, and it is VHB's judgement that the Study Area is not located in a headwaters area based on this alone.

Although not a headwaters, the Project will not adversely affect groundwater or surface water. The Project will meet applicable health and Vermont Department of Environmental Conservation ("DEC") regulations regarding the quality of groundwater and surface waters. Construction phase soil disturbance will be less than one acre and associated erosion prevention will follow the *Low Risk Site Handbook for Erosion Prevention and Sediment Control* (ANR 2020), as

such, a Vermont Construction Stormwater Permit is not required. Further, the Project will result in less than one-half acre of new impervious surface and therefore, an Operational Stormwater Permit is not required. In addition, GMP will follow BMPs and will take measures to protect against impacts in the event of an oil spill by adhering to all state, federal, and GMP best management practices and policies for notification, response, and remediation. The proposed Project will result in no reduction of ground or surface water quality from the construction and/or operation of the proposed Project activities.

Streams

Regarding the Section 248 criterion for Streams *(§ 6086(a)(1)(E))*, the proposed Project, whenever feasible, must maintain the natural condition of the stream and not endanger the health, safety, or welfare of the public or adjoining landowners. While no streams were observed within the Study Area, VHB identified one intermittent stream associated with Wetland 2023-1 as part of work performed at with the adjacent BESS project.

The offsite Intermittent stream 2020-SC-1, delineated as part of the adjacent BESS project, is an unnamed tributary to Stone Bridge Brook. As the stream is intermittent, a regulated River Corridor does not apply, however pursuant to the ANR's Riparian Buffer Guidance (ANR 2005), a 50-foot riparian buffer does and is measured from the upland edge of contiguous wetland (Wetland 2023-1).

Direct impacts to the riparian buffer result from minor grading and tree clearing along the outer edge of the buffer to accommodate the substation expansion and access. The Project will result in approximately 1,930 square feet of riparian buffer clearing associated with the substation expansion and improvements to site access visibility. These impacts have been minimized by utilizing the existing substation footprint and angling the grading on the southwest corner of the substation yard. As no direct impacts are proposed to the previously mapped stream and the impacts are to a minor area largely on the outer fringe of the buffer, the Project will not impact the buffer's function to protect the riparian wetland and the offsite intermittent stream. The Project will maintain the natural condition of the stream, and will not endanger the health, safety, or welfare of the public or adjoining landowners.

Wetlands

Regarding the Section 248 criterion for Wetlands *(§ 6086(a)(1)(G))*, the proposed Project must comply with the Vermont Wetland Rules ("VWR") (ANR 2023). The VWR regulates significant wetlands (class I and Class II) and their associated 50-foot buffer zones. Impacts to Class III wetlands are generally reviewed under Section 248(b)(5) through the PUC's consideration of the potential for undue adverse impacts on the natural environment. Further, all wetlands may be regulated by the USACE under Section 404 of the Clean Water Act ("CWA"), as well as the related DEC CWA Section 401 Water Quality Certification ("WQC") review process.

Wetland delineations are made pursuant to applicable methodologies outlined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Routine Determination Method (USACE 2011). Wetlands are identified in the field with pink flagging. Wetland functions and value presence and significance are evaluated based on the field notes and observations according to the VWR. When present, wetland features are GPS-located using equipment capable of sub-meter accuracy.

VHB delineated one categorically determined Class II wetland (2023-1) with a presumed 50-foot buffer (see Attachment 1). This is an extension of the same wetland complex VHB partially delineated in 2020 for the BESS Project, which was reviewed and confirmed by the DEC Wetland Program (Brock Freyer). The VHB-mapped wetland is a palustrine emergent and forested wetland system in the southwest portion of the Study Area. It is characterized by

reed canary grass (*Phalaris arundinacea)* and broad-leaved cattail (*Typha latifolia*) where emergent and American elm (*Ulmus americana*) and green ash (*Fraxinus pennsylvanica*) where forested (See photographs in Attachment 3).

Wetland 2023-1 was already determined to be Class II via the BESS project, and it meets categorical characteristics 4.6a, 4.6b, and 4.6c of the VWR. The wetland provides the following functions: Water Storage for Flood Water and Storm Runoff (5.1), Surface and Ground Water Protection (5.2), Fish Habitat (5.3), Wildlife Habitat (5.4), and/or Erosion Control through Binding and Stabilizing the Soil (5.10). The wetland continues outside of the Study Area where it intersects with intermittent stream 2020-SC-1, and as such, a 50-foot riparian buffer is also applied to the wetland boundary. For additional technical details pertaining to the wetland's characteristic, refer to USACE Wetland Determination Data Forms in Attachment 4.

Any proposed project activity occurring within the identified wetlands or their associated buffer zones, which is not exempt or considered an "allowed use" under the VWR, will require a Vermont Wetland Permit. Direct impacts to wetland that are considered Waters of the United States may also be regulated by the USACE under Section 404 of the Clean Water Act ("CWA").

The Project will obtain approval under a Vermont Wetland General Permit for approximately 150 square feet of Class II wetland and 1,930 square feet of impacts to the Class II wetland buffer (360 square feet is from the substation expansion) resulting from proposed substation yard grading, tree clearing for the overhead utility line, and access road visibility improvements. The Project does not propose permanent dredge or fill within wetland considered Waters of the United States and therefore does not require review or approval under Section 404 of the CWA.

Necessary Wildlife Habitat and Endangered Species

Regarding the Section 248 criterion for Necessary Wildlife Habitat and Endangered Species *(§ 6086(a)(8)(A))*, a review of the U.S. Fish and Wildlife Service ("USFWS") Information for Planning and Consultation ("IPaC") database determined the Project Area falls within the known summer range of one protected bat species, federally-endangered and Vermont-endangered northern long-eared bat (*Myotis septentrionalis, "*MYSE*"*). As of December 2025, no critical habitat within or adjacent to the Project has been designated for these species by USFWS (See Attachment 5 for the USFWS Official Species List). Further, there are no known occurrences of MYSE (including hibernacula) within one mile of the Study Area, and therefore the Study Area is assumed to be "Potential Summer Habitat" under FWD *Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats* (ANR 2017b). Tree clearing will be less than one percent of the forested area within a 1-mile radius, and as such, additional conservation measures related to threatened and endangered bats are not warranted.

As part of VHB's one-mile radius review of the Vermont Natural Heritage Inventory ("NHI") Database, no element occurrences ("EO") of state-protected species are known to occur within the Study Area (See Attachment 6). One state endangered animal species, the upland sandpiper (*Bartramia longicauda)* (a state endangered bird that inhabits large grasslands), was documented thirty years ago (c. 1996) approximately 0.97 mile from the Study Area. There is suitable grassland habitat within the vicinity of the Project area but given the field/edge and existing land uses reduce habitat suitability onsite for this bird and the Project would not impact it, in the unlikely event individuals still occur in the vicinity. Although the database and onsite habitat review suggests a detailed/targeted RTE plant survey is not warranted, VHB inventoried onsite plants during the October 2023 field assessment, which identified no RTE or Uncommon plants within the Study Area (see Attachment 7). This plant inventory occurred outside of the prescribed growing season but otherwise followed ANR's *Guidance for Conducting Rare, Threatened, and Endangered Plant*

Inventories in Connection with Section 248 Projects (ANR 2016a). Given the lack of RTE plant targets or unique onsite habitats, further RTE plant surveys are not warranted.

As part of the review for the adjacent BESS Project, the FWD identified fields in that Project Area as potential grassland bird habitat ("GBH"), which may be considered NWH. On February 19, 2021, the FWD's Noel Dodge concluded that the BESS Project, given its location at the edge of existing agricultural fields and with the presence of nearby existing infrastructure (communications tower, farm buildings, substation) would have a *de minimis* impacts to GBH and no further field studies or conservation measures were required. Due to nature of the Project as a rebuild, and the Project's proximity to the BESS project, VHB applies the same conclusions to this Project (there will be no, or *de minimis*) impact to grassland bird habitat).

There are no mapped or otherwise observed deer wintering areas or bear feeding habitats and no potential or state-mapped vernal pools identified with the Study Area. As such, the Project will not destroy or significantly imperil any known endangered species or necessary wildlife habitat.

Primary Agricultural Soils

Regarding Act 250 criterion for *Primary Agricultural Soils 10 V.S.A. § 6001(15)* ("PAS"), the proposed project must not result in any reduction in the agricultural potential of the primary agricultural soils. As shown on the map in Attachment 8, the Study Area is mapped by the Natural Resources Conservation Service ("NRCS") as Lordstown loam, rocky (3 to 8 percent slopes), which is considered Prime, with a 1.7 acre area within the Study Area, Deerfield loamy fine sand (0 to 8 percent slopes), which is considered Statewide, with a 0.8 acre area within the Study Area, Au Gres loamy fine sand (0 to 6 percent slopes), which is considered Statewide, with a 0.5 acre area within the Study Area, and Massena stony loam (3 to 8 percent slopes), which is considered Prime(b), with a 0.1 acre area within the Study Area (see Attachment 8).

These soils where not impacted and not part of wetlands or buffers are considered PAS for the purposes of Act 250 and Section 248 review. Based on existing impacts and development within the Study Area, and that all proposed permanent work is located around the existing substation footprint and access road, it is VHB's conclusion that the Project will not reduce the potential for agricultural use and there will be no undue adverse effects to farming, farming potential, or PAS as a result of the Project. Proposed temporary impacts to PAS from the Project total 0.17 acre and proposed permanent impacts total 0.37 acre. In accordance with AAFM guidance, impact areas with mitigation multiplier values applied would require less than 2 acres of mitigation and are considered *de minimis* and do not require mitigation (see Attachment 8).

For construction of the temporary substation and associated access road, 6-inches of topsoil will be removed and stockpiled onsite, then replaced after construction. Construction fabric will be placed over the stripped soil and 12-inches of gravel will be placed on top. Upon completion of the permanent substation, the temporary substation will be removed, and the area's soils will be restored back to original condition.

Conclusion

Based on VHB's assessment of the Study Area with respect to the natural resources criteria listed above, VHB concludes that there are natural resources present that would be given due consideration under Section 248 as well as collateral permitting for impacts are unavoidable. Based on this assessment of natural resources, VHB finds that there are resources and/or buffers present on site to which direct impacts should be minimized or avoided by Project design

if feasible. Expansion of the current substation and tree clearing associated with the overhead utility line and access road construction will impact the Class II wetland and buffer and require a Vermont Wetland General Permit. As designed and through obtaining approvals under collateral permits described above, the Project will not have an undue adverse impact on the applicable natural environment criteria.

Attachments

1. Natural Resources Map
2. Section 248 Natural Resources Site Screening Table
3. Representative Site Photographs
4. USACE Wetland Determination Data Forms
5. USFWS IPaC Official Species List
6. Potential Rare, Threatened, and Endangered Species and Significant Natural Communities Summary in the Project Region and Onsite Habitats
7. Species List – Partial Floristic Inventory
8. Primary Agricultural Soils Map

References

Agency of Natural Resources ("ANR") 2023. The Vermont Wetland Rules. Department of Environmental Conservation. Effective February 2023.

—2024. *Rare and Uncommon Native Vascular Plants of Vermont. Fish and Wildlife Department. Effective June 10, 2024.*

—2022a. *Endangered and Threatened Plants of Vermont.* Natural Heritage Inventory, Fish and Wildlife Department. Effective February 10, 2022.

—2022c. *Vermont Water Quality Standards.* Environmental Protection Rule, Chapter 29A. Department of Environmental Conservation. Effective November 15, 2022.

—2018. *Vermont Natural Community Ranking Specifications*. Fish and Wildlife Department. Effective September 2018.

—2017a. Environmental Protection Rule. Vermont Stormwater Management Rule and the Agency's Design Guidance. Chapter 36, effective July 1, 2017.

—2017b. *Flood Hazard Area and River Corridor Protection Procedure.* Environmental Protection Rule Chapter 29. Department of Environmental Conservation. Effective September 7, 2017.

—2017c. *Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats*. Effective February 2017.

—2016a. *Guidance for Conducting Rare, Threatened, and Endangered Plant Inventories in Connection with Section 248 Projects.* Fish and Wildlife Department. Effective October 5, 2016.

—2005. *Guidance for Agency Act 250 and Section 248 Comments Regarding Riparian Buffers*. Effective December 9, 2005.

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US Army Corps of Engineers (USACE). 2022. Department of the Army Vermont General Permit: NAE-2022-00024. New England Division. Effective December 6, 2022.

—2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeastern Region (Version 2.0)*, *Final Report*.

—2005. *Regulatory Guidance Letter: Ordinary High Water Mark Identification*. No. 05-05.

US Fish and Wildlife Service (USFWS). 2016. *Key to the Northern Long-Eared Bat 4(d) Rule for Federal Actions that May Affect Northern Long-Eared Bats.* Created January 13, 2016; Revised February 17, 2016.

—2025. Information Planning and Consultation. Available on-line at IPaC: Home (fws.gov)

Vermont Fish and Wildlife Department ("FWD"). 2025. New Endangered and Threatened Species List Designations. Available on-line at New Endangered and Threatened Species List Designations | Vermont Fish & Wildlife Department (vtfishandwildlife.com).

ATTACHMENT 1

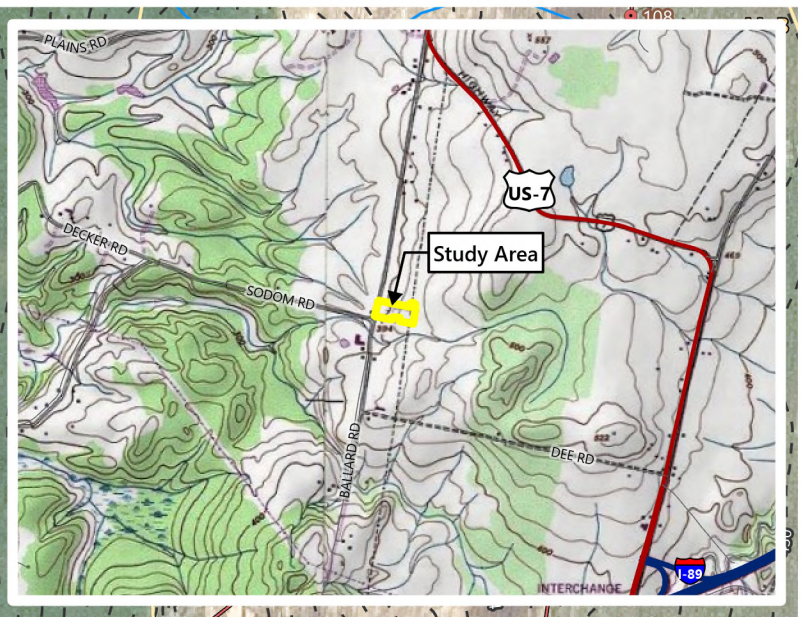
Natural Resources Map

GMP Georgia Substation Project | Georgia, Vermont

GREEN MOUNTAIN POWER

vhb

DRAFT | *March 03, 2026*



Existing GMP Georgia Substation

Study Area
Size: 3.48 acres
73.1198250°W
44.7123989°N

TOWN OF GEORGIA

2023-DP-1-Wet

2023-DP-1-Up

2023-1 (II)

SODOM RD

BALLARD RD

Unnamed Tributary to Stone Bridge Brook

RaB EdA DeB AuA LoB MeB MuB EdB

0 200 Fe

NRCS Soil Information

Soil Abbreviation	Soil Map Unit	Vermont Farmland Classification	Erodibility Ranking	Area (Acre)
AuA	Au Gres loamy fine sand, 0 to 6 percent slopes	Statewide	not highly erodible	0.5
DeB	Deerfield loamy fine sand, 0 to 8 percent slopes	Statewide	not highly erodible	0.8
LoB	Lordstown loam, rocky, 3 to 8 percent slopes	Prime	potentially highly erodible	1.7
MeB	Massena stony loam, 3 to 8 percent slopes	Prime (b)	potentially highly erodible	0.1

- Study Area (VHB)(1)
- Delineated Wetland (Proposed Class) (VHB)(1)
- Proposed Class II Wetland Buffer - 50 ft. (VHB)(1)
- Riparian Buffer (VHB)(1)
- Wetland Determination Data Point (VHB)(2)
- Found Culvert Point (VHB)(1)
- Poles (GMP)(24)
- Overhead Electric Line (GMP)(27)
- Stream (ANR)(3)
- Waterbody (ANR)(1)
- VSWI Wetland (ANR)(1)
- River Corridor (ANR)(0)
- Private Well (ANR)(0)
- Public Water Source (ANR)(0)
- Ground Water SPA (ANR)(0)
- Surface Water SPA (ANR)(0)
- 1% Annual Chance Flood Hazard (FEMA)(0)
- 0.2% Annual Chance Flood Hazard (FEMA)(0)
- Regulatory Floodway (FEMA)(0)
- Special Floodway (FEMA)(0)
- Deer Wintering Areas (ANR)(0)
- Rare, Threatened, Endangered Species (ANR)(0)
- Uncommon Species (ANR)(0)
- Natural Communities (ANR)(0)
- AE/VCE Confirmed Vernal Pools(0)
- NRCS Soil Boundary (VCGI)(10)
- Interstate (VTrans)(0)
- US Highway (VTrans)(0)
- State Highway (VTrans)(0)
- Town Road (VTrans)(3)
- Parcel Boundary (VCGI)(4)
- Town Boundary (VCGI)(1)
- 1 ft. Contour (VCGI)(113)

(#) Count of feature visible within map extent

NR Data Notes:
Natural resource field investigations performed by VHB (R. Scott) on October 26, 2023.
A portion of the wetland was previously reviewed for classification and boundaries by a DEC Wetland Ecologist as part of a separate project on the adjoining parcel.

Sources: Background Imagery by VCGI (Collected in 2024), VCGI (Vermont Center for Geographic Information - Various Dates), ANR (Vermont Agency of Natural Resources - Various Dates), FEMA (Federal Emergency Management Agency - Various Dates), VTrans (Vermont Agency of Transportation - Various Dates), VHB (2023-2026)

Path: \\vhb\gis\proj\SBurlington\58901.02 GMP Georgia Section 248\Project\GMP_Georiga_Sub_NR_Map\GMP_Georiga_Sub_NR_Map.aprx (User: JTherrien, Date: 3/3/2026)

ATTACHMENT 2

Section 248 Natural Resources Site Assessment Table

Project: Georgia Substation Rebuild
Client: Green Mountain Power
Location: Georgia, Vermont
Field Visit Date(s): 26-Oct-23
Study Area: 3.48 acres

		Outstanding Resource Waters (10 V.S.A. § 1424a(d))	Headwaters (§ 6086(a)(1)(A))	Floodways (§ 6086(a)(1)(D))	Streams (§ 6086(a)(1)(E))	Shorelines (§ 6086(a)(1)(F))	Wetlands (§ 6086(a)(1)(G))	Soil Erosion (§ 6086(a)(4))	Rare or Irreplaceable Natural Areas (§ 6086(a)(8))	Wildlife Habitat and Endangered Species (§ 6086(a)(8)(a))	Prime Agricultural Soils 10 V.S.A. § 6001
Section 248 Natural Resources Criteria Assessment	**Identification Method**	Review of the Natural Resources Board/ Agency of Natural Resources list of Outstanding Resource Waters (ORW) and Prospective Outstanding Resource Waters (ANR)	Sub-criteria reviewed (as applicable) by evaluating NRCS soils data, contour data; watershed size; ground and surface water protection areas to determine if the site meets the headwater criteria	Review of floodplain mapping provided by VCGI and FEMA (Community Panel Number 50003C0511D (December 2, 2015); Review of ANR River Corridor Map Layer; Stream flow regime from review of watershed sizes and in-field determinations.	Review of VHD stream mapping provided by VCGI; field review to determine if there are any streams present.	Review of VHD waterbody data provided by VCGI and field review to determine if there are any named waterbodies including lakes, ponds, reservoirs, or rivers present.	Review of VSWI mapping provided by VCGI; field review to delineate potential federal/state jurisdictional features. If present, presumed wetland classifications made per the VT Wetland Rules (VWR) and confirmed in-field with DEC District Wetlands Ecologist.	Review of NRCS-mapped soil survey series and K-factors used to determine potential soil erodibility; soil series are considered to be of "medium" or "high" erodibility ranking (Medium 0.17<K<0.37 and High K>0.36) according to the Vermont Standards and Specifications for Erosion Prevention and Sediment Control	Review of the significant natural community mapping provided by VCGI and corroborated by presence/absence and approximate extent field mapping (if present) for potential rare and significant natural communities .	1-mile radius review of VT NHI database for Rare, Threatened and Endangered Species (RTE) species; review of black bear and deer wintering habitat data provided by VCGI; review of USFWS IPaC database; all database reviews corroborated by field reviews.	Review of NRCS-mapped soil survey series to determine those that would be considered Primary Agricultural Soils (PAS).
	Presence / Absence	Absent	Absent	Absent	**Present**	Absent	**Present**	N/A	Absent	**Present**	**Present**
	Resource Description	None present	The Study Area meets the subcategory for watershed size, as it drains a small watershed (approx. 0.25 square miles); the remaining sub-criteria regarding elevation/slope, water protection, and groundwater recharge are not met by lands within the Study Area. As watershed size is the only subcategory met, and that the Site is located in the greater Champlain Valley, it is VHB's judgement that Study Area is not headwaters.	None present	There are no streams in the Project study area, but an unnamed tributary to Stone Bridge Brook occurs approximately 176-feet south of the study area, and is contiguous with onsite wetlands that would have a 50' riparian buffer.	No shorelines within or adjacent to the Study Area	One categorical Class II wetland was delineated by VHB in the southwest corner of the Study Area, depicted as Wetland 2023-1 on the attached Natural Resources Map.	The soils mapped within the Study Area are Au Gres loamy, fine sand (K factor=.10 low erodibility), Deerfield loamy, fine sand (K factor=.24 medium erodibility), and Lordstown loam, rocky (K factor=.28 medium erodibility).	No natural communities are mapped within or adjacent to the Study Area. Field review corroborated that no potential state-significant natural communities are present.	No state-mapped RTE or Necessary Wildlife Habitat ("NWH") are present within the Study Area; however, the Project is within the known summer range of northern long-eared bat (Myotis septentrionalis)("MYSE"). An element occurrence of upland sandpiper (Bartramia longicauda) is present within 1-mile of the Study Area. A RTE and Uncommon plant survey was performed within the Study Area as part of a general floristic inventory during the survey effort. No RTE or Uncommon plants were observed within the Study Area and no unique habitat that typically supports listed species was observed.	VHB's review of PAS is limited to soil types mapped by the NRCS. Based on review of the ANR Atlas there are four mapped PAS soils on site: Lordstown, rocky (Prime), Deerfield loamy fine sand (Statewide), Au Gres loamy fine sand (Statewide) and Massena stony loam (Prime b).
	Further Survey Recommended?	No	No	No	No	No	No	No	No	No	No
	Potential Adverse Impacts (Yes/No)	No	No	No	Yes	No	Yes	No	No	No	No
	Impact Mitigation Description/ Recommendation	None required or recommended.	Though VHB does not consider the Study Area to fall within headwaters, the Project will adhere to erosion prevention and sediment control measures outlined in the Low-Risk Site handbook so as not to adversely impact ground or surface water quality. Total earth disturbance is <1 acre and total impervious surface is <0.5 acre, therefore no operational stormwater or construction stormwater permits are required.	None required or recommended	Minimize impacts from the Project's unavoidable tree clearing, including maintaining compatible woody vegetation where able and minimizing stump grubbing.	None required or recommended.	Minimize impacts from the Project's unavoidable impacts from grading for the substation footprint and tree clearing for the grading and upgrades of the access road visibility. Danger tree cutting for the existing overhead utility line is not Project related, but is to follow best management practices for utility maintenance work, as described in the Vermont Wetland Rules, and GMP's integrated vegetation management plan.	There will be <1 acre of soil disturbance and thus the Project will adhere to the Low-Risk Site handbook and DEC dust control standards.	None required or recommended.	VHB recommends following FWD Regulatory Review Guidance for Protecting Northern Long-eared Bats and Their Habitats (ANR 2017b). Regarding upland sandpiper, VHB assumes take of the species is not likely to occur.	While direct impacts to PAS are anticipated for the life of the Project, the Study Area currently contains an existing substation and infrastructure, which preclude the area from farming. PAS associated with the temporary substation will be stockpiled onsite and used to completely restore the area once the permanent substation is rebuilt and operational. PAS impacts associated with the permanent access road, substation expansion and new utility poles are considered deminimus and do not require AAFM offsite mitigation.
	Impact Assessment	As there are no ORW present within the Study Area, there are no impacts to this resource.	As the site is not in a headwaters location, there will not be impacts to ground and surface water as the project will comply with the appropriate DEC regulations	The Project will not restrict or divert the flow of flood waters, or endanger the health, safety and welfare of the public or of riparian owners during flooding	No direct impacts to streams. Approximately 1,933 sf of riparian buffer trees will need to be cut, and 534 sf of riparian buffer will be graded for the substation rebuild. Both are minor amounts and will not functionally impact the stream that is offsite. The Project will not impact natural conditions of the stream and will not endanger the health, safety, or welfare of the public or of adjoining landowners.	As there are no shorelines present within the Study Area, there will be no impacts to this resource.	740 sf impact to wetland buffer from tree clearing and grading, and 1,576 sf impact to wetland from tree clearing that is not considered and VWR Allowed Use. The project will need to obtain a Vermont Wetlands General Permit. No USACE 404 permit is required.	With adherence to EPSC measures during construction, there will be no significant or measurable reduction of the land's capacity to hold water as the nature of this Project will not result in an appreciable change in land form or cover. As such, there will be no dangerous or unhealthy conditions associated with soil erosion as a result of the Project and there will be no undue adverse effect from soil erosion.	As there are no state-significant natural communities within or adjacent to the Study Area, the Project will not have an undue adverse effect on rare and irreplaceable natural areas.	Tree clearing for the Project will be <1% of surrounding vegetation within a one-mile radius of the Project and therefore, no further bat conservation measures are necessary. VHB assumes impacts to GBH would be de minimis and no further conservation measures are required.	0.37 acres of new permanent impacts to PAS are associated with the expansion of the existing substation, access road and 0.17 acres of temporary impacts for the temporary substation that will be restored to pre-construction condition and use. Project permanent impacts are de minimus, will not required mitigation, and the Project will not significantly impacts the use or condition of mapped PAS onsite.
Collateral Environmental Permits (Federal or State)	**Applicable Permit(s) (If Required)**	None	No specific permits required for Headwaters Criterion; a project must comply with applicable health and environmental regulations	Flood Hazard and River Corridor Permit (General or Individual)	Clean Water Act Section 404 Permit / Clean Water Act Section 401 WQC / Stream Alteration Permit	Rivers and Harbors Act Section 10 Permit / Shoreland Protection and Lake Encroachment Permits	Clean Water Act Section 404 Permit / Clean Water Act Section 401 WQC / Vermont Wetland Permit	Construction Stormwater Discharge Permit (GP 3-9020/INDC)	None	Endangered Species Takings Permit (None for NWH)	None
	Agency	VT DEC Watershed Management Division	Public Utility Commission / Agency of Natural Resources; VT DEC Stormwater Section; VT FWD	VT DEC River Management Section	USACE / VT DEC Watershed Management Division / VT DEC River Management Section / VT Fish and Wildlife Department	USACE / VT DEC Lakes and Ponds Section	USACE / VT DEC Watershed Management Division / VT DEC Wetlands Section	DEC Stormwater Section	VT FWD	VT FWD / USFWS	VT Agency of Agriculture and Food Markets
	Required (Yes/No)	No	No	No	No	No	Yes - Vermont Wetland General Permit	No	No	No	No

ATTACHMENT 3

GMP Georgia Substation Rebuild Project

Photographs: 2023 Natural Resources Assessment

PROJECT NUMBER

R058901.002

2066 Ballard Road
Georgia, Vermont 05478

Green Mountain Power
163 Acorn Lane,
Colchester, VT 05446

NO. 1 / 10.26.2023

DESCRIPTION

A representative photograph of Wetland 2023-1 located in the southwestern portion of the Study Area along Ballard Road.

NO. 2 / 10.26.2023

DESCRIPTION

A representative photograph of the forested portion of Wetland 2023-1 located in the southwestern portion of the Study Area.

NO. 3 / 02.13.2026

DESCRIPTION

A representative photograph of the existing Georgia substation and associated access road.

NO. 4 / 02.13.2026

DESCRIPTION

A representative photograph of the tree line along the northern boundary of the Study Area.

NO. 5 / 02.13.2026

DESCRIPTION

A representative photograph of the tree line along the eastern boundary of the Study Area along Ballard Road. Photo taken looking south.

ATTACHMENT 4

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2023-1-WET

Project Site:	GMP Georgia Substation	City/County:	Georgia/Franklin	Samp. Date:	10/26/2023
Applicant/Owner:	Green Mountain Power	State:	Vermont	Sampling Point:	2023-1-WET
Investigator(s):	RMS	Section, Township, Range:	-		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	None	Slope (%):	0-6
Subregion (LRR or MLRA):	LRR R	Lat: 44.712347	Long: -73.120947	Datum:	NAD 83
Soil Map Unit:	Au Gres loamy fine sand, 0 to 6 percent slopes			NWI Class:	PFO, PUB

Are climatic/hydrologic conditions on the site typical for this time of year? No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? No Normal Circumstances? Yes
Are Vegetation, Soil, or Hydrology naturally problematic? No (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	YES	Is This Sample Area Within a Wetland? YES
Hydric Soil Present?	YES	
Wetland Hydrology Present?	YES	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

	Surface Water (A1)		Water-Stained Leaves (B9)
X	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B13)
	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial (B7)		Other (Explain in Remarks)
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?		Depth (inches):	
Water Table Present?	X	Depth (inches):	6
Saturation Present?	X	Depth (inches):	Surface

Wetland Hydrology Present? YES

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

0.18" of rain in 5 days prior in Burlington, VT (NWS 2023); PDSI 3.95 (Very Moist Spell) for week ending 10/28/2023

Remarks:

While the PDSI was very high, indicating a "Very Moist Spell" during the time of field observations, hydrology indicators such as Geomorphic Position and Water Stained Leaves indicate a more permanent presence of wetland hydrology.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					FINE SANDY LOAM	
6-10	10YR 4/2	95	10YR 6/8	5	C	M	FINE SANDY LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
	Histic Epipedon (A2)		Thin Dark Surface (S9) (LRR R, MLRA 149B)
	Black Histic (A3)		Loamy Mucky Mineral (F1) (LRR K, L)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
	Stratified Layers (A5)		Depleted Matrix (F3)
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)
	Thick Dark Surface (A12)	X	Depleted Dark Surface (F7)
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)
	Sandy Gleyed Matrix (S4)		
	Sandy Redox (S5)		
	Stripped Matrix (S6)		
	Dark Surface (S7) (LRR R, MLRA 149B)		

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Indicators for Problematic Hydric Soils[3]:

	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Coast Prairie Redox (A16) (LRR K, L, R)
	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	Dark Surface (S9) (LRR K, L, M)
	Polyvalue Below Surface (S8) (LRR K, L)
	Thin Dark Surface (S9) (LRR K, L)
	Iron-Manganese Masses (F12) (LRR K, L, R)
	Piedmont Floodplain Soils (F19) (MLRA 149B)
	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	Red Parent Material (F21)
	Very Shallow Dark Surface (TF12)
	Other (Explain in Remarks)

Restrictive Layer (if observed):
Type: Rock
Depth (inches): 10

Hydric Soil Present? YES

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: **2023-1-WET**

Tree Stratum (Plot size: **30' RAD**)	Absolute % Cover	Dom. Sp?	Indicator Status
1. **Ulmus americana**	**38**	**X**	**FACW**
2. **Fraxinus pennsylvanica**	**38**	**X**	**FACW**
3.			
4.			
5.			
6.			
7.			
	76	= Total Cover	
Sapling Stratum (Plot size: **15' RAD**)			
1. **Ulmus americana**	**10**	**X**	**FACW**
2. **Fraxinus pennsylvanica**	**10**	**X**	**FACW**
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Shrub Stratum (Plot size: **15' RAD**)			
1. **Frangula alnus**	**10**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: **5' RAD**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	
Woody Vines (Plot size: **15' RAD**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **5** (A)

Dominants across all strata: **5** (B)

% Dominants OBL, FACW, FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply By:
OBL	x 1 =	
FACW **96**	x 2 =	**192**
FAC **10**	x 3 =	**30**
FACU	x 4 =	
UPL	x 5 =	
Sum: **106** (A)		**222** (B)

Prevalence Index = B/A = **2.09**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ___ Problematic Hydrophytic Vegetation[1] (explain)
- ___ Rapid Test for Hydrophytic Vegetation
- ___ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Herbaceous vegetation not observed due to forested community type and open water

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

2023-1-UPL

Project Site: **GMP Georgia Substation** City/County: **Georgia/Franklin** Samp. Date: **10/26/2023**

Applicant/Owner: **Green Mountain Power** State: **Vermont** Sampling Point: **2023-1-UPL**

Investigator(s): **RMS** Section, Township, Range: **-**

Landform (hillslope, terrace, etc.): **Hillslope** Local relief (concave, convex, none): **None** Slope (%): **0-6**

Subregion (LRR or MLRA): **LRR R** Lat: **44.712123** Long: **-73.121081** Datum: **NAD 83**

Soil Map Unit: **Au Gres loamy fine sand, 0 to 6 percent slopes** NWI Class: **UPL**

Are climatic/hydrologic conditions on the site typical for this time of year? **No** (If no, explain in Remarks.)

Are Vegetation, Soil, or Hydrology significantly disturbed? **No** Normal Circumstances? **Yes**

Are Vegetation, Soil, or Hydrology naturally problematic? **No** (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sample point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	**YES**	Is This Sample Area Within a Wetland? **NO**
Hydric Soil Present?	**NO**	
Wetland Hydrology Present?	**NO**	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? ___ Depth (inches): ___

Water Table Present? ___ Depth (inches): ___

Saturation Present? Depth (inches): ___

Wetland Hydrology Present? **NO**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

0.18" of rain in 5 days prior in Burlington, VT (NWS 2023); PDSI 3.95 (Very Moist Spell) for week ending 10/28/2023

Remarks:

While the PDSI was very high, indicating a "Very Moist Spell" during the time of field observations, hydrology indicators such as Geomorphic Position and Water Stained Leaves indicate a more permanent presence of wetland hydrology.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(in)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	**10YR 3/4**	**100**					**SANDY LOAM**	
6-16+	**10YR 4/6**	**100**					**SANDY LOAM**	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S9) (LRR K, L, M)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **NO**

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: **2023-1-UPL**

Tree Stratum (Plot size: **30' RAD**)	Absolute % Cover	Dom. Sp?	Indicator Status
1. **Prunus serotina**	**38**	**X**	**FACU**
2. **Acer saccharinum**	**15**	**X**	**FACW**
3. **Fraxinus pennsylvanica**	**15**	**X**	**FACW**
4.			
5.			
6.			
7.			
	68	= Total Cover	

Sapling Stratum (Plot size: **15' RAD**)			
1. **Fraxinus pennsylvanica**	**10**	**X**	**FACW**
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Shrub Stratum (Plot size: **15' RAD**)			
1. **Frangula alnus**	**10**	**X**	**FAC**
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	

Herb Stratum (Plot size: **5' RAD**)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

Woody Vines (Plot size: **15' RAD**)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

Dominance Test Worksheet:

Dominants OBL, FACW, FAC: **4** (A)

Dominants across all strata: **5** (B)

% Dominants OBL, FACW, FAC: **80%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply By:
OBL		x 1 =	
FACW	**40**	x 2 =	**80**
FAC	**10**	x 3 =	**30**
FACU	**38**	x 4 =	**152**
UPL		x 5 =	
Sum:	**88** (A)		**262** (B)

Prevalence Index = B/A = **2.98**

Hydrophytic Vegetation Indicators:

- **X** Dominance Test is > 50%
- **X** Prevalence Index is <= 3.0
- ___ Problematic Hydrophytic Vegetation[1] (explain)
- ___ Rapid Test for Hydrophytic Vegetation
- ___ Morphological Adaptations

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and 3in (7.6cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20ft (6m) or more in height and less than 3in (7.6cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20ft (1 to 6m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3ft (1m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **YES**

Remarks: (If observed, list morphological adaptations below).

Herbaceous vegetation not observed due to forested community type

ATTACHMENT 5

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 3301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To: 12/15/2025 21:16:54 UTC
Project Code: 2023-0133439
Project Name: GMP Georgia Substation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the "**New England Field Office Endangered Species Project Review and Consultation**" website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (**Updated 4/12/2023**) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act
Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/service/section-7-consultations

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

https://www.fws.gov/program/migratory-bird-permit

https://www.fws.gov/library/collections/bald-and-golden-eagle-management

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 3301-5094
(603) 223-2541

PROJECT SUMMARY

Project Code: 2023-0133439
Project Name: GMP Georgia Substation
Project Type: Power Gen - Other
Project Description: Substation upgrade
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.71210475,-73.12035506653115,14z

Counties: Franklin County, Vermont

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: VHB
Name: Nicole Fenton
Address: 40 Idx Dr. Building 100 Suite 200
City: South Burlington
State: VT
Zip: 05403
Email nfenton@vhb.com
Phone: 8024976107

ATTACHMENT 6

Vermont Potential Rare, Threatened, and Endangered Species and Natural Communities in the Project Region and Onsite Habitats Summary
Client: Green Mountain Power
Project: GMP Georgia Substation
Prepared by: VHB (N.Fenton) December 15, 2025

	Species	Common Name	Type	State Rank	Global Rank	Vermont Status	Federal Status	EO last Observed	Habitat Description[1]	Occurrence Description[2]	Optimal Survey Time[3]	EO Mapped within Study Area?	Potential for Habitat to Occur Onsite?	Survey Recommended?	
														(yes/no)	Comments
Element Occurrences- 1 Mile Radius	*Bartramia longicauda*	Upland Sandpiper	Animal	S2B	G5	E	-	1996	Mixture of short and tall grass with patches of bare ground and some tall signing perches	Near commuter parking lot on east side of Route 7 off Interstate 89 exit 18	Summer	No	Yes	No	The Project will not impact the species

[1]Potential sources for habitat description listed below
Ahles, Harry E. and Magee, Dennis W. 2007. *Flora of the Northeast*. A Manual of the Vascular Flora of New England and Adjacent New York
Animal Diversity Web. Retrieved from: https://animaldiversity.org/accounts
Cornell Lab of Ornithology Bird Guide. Retrieved from: https://www.allaboutbirds.org/guide/
Gilman, Arthur V. 2015. *New Flora of Vermont*. The New York Botanical Garden.
Gleason, Henry A. and Cronquist, Arthur. 1991. *Manual of Vascular Plants of Northeaster United States and Adjacent Canada.* The New York Botanical Garden.
Haines, Arthur. 2011. *Flora Novae Angliae*. New England Wildflower Society/Yale University Press, New Haven, CT . 973 Pp.
Langdon, Richard W., Ferguson, Mark T. and Cox, Kenneth M. 2006. *Fishes of Vermont*. Vermont Department of Fish and Wildlife.
Newcomb, Lawrence. 1977. *Newcomb's Wildflower Guide*. Little, Brown, and Company, Boston
Northern Prairie Wildlife Research Center. http://www.npwrc.usgs.gov/resource/distr/insects/tigb/usa/49.htm
Seymour, Frank Conkling. 1982. *The Flora of New England*. 2d ed. Phytologia Memoirs 5. Plainfield, NJ: Harold N. Moldenke and Alma L. Moldenke. 611 p. [7604]
Thompson, Elizabeth H., Sorenson, Eric R. and Zaino, Robert J. 2019. *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*. Vermont Department of Fish and Wildlife and The Nature Conservancy.
Vermont Natural Resources Atlas, Accessed January 2025. Element Occurrence Reports
[2]Sources for occurrence description listed below:
Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department - Element Occurrence Reports. Access on 12/15/2025
[3]Flowering Time: Spring (April-May), Summer (June-July), Late Summer (August-September), Fall (October-November)

ATTACHMENT 7

Partial Floristic Inventory
Client: Green Mountain Power
Project: GMP Georgia Substation
Survey Date(s): 10/26/2023
Prepared by: VHB (N. Fenton)

Study Completed By:
VHB
Field Investigators:
R. Scott, J. Smith

Scientific Name [1]	Common Name	Family	Observed Habitat		VT Rarity Rank[2,3]	Non-Native Invasive Species[4]
			Upland	Wetland		
Acer rubrum L.	red maple	Aceraceae	X			
Acer saccharum Marshall	sugar maple	Aceraceae	X			
Arctium L.	burdock	Asteraceae	X			
Asclepias syriaca L.	common milkweed	Asclepiadaceae	X			
Betula populifolia Marshall	gray birch	Betulaceae		X		
Brassica rapa L.	field mustard	Brassicaceae	X			
Carex vulpinoidea Michx.	foxtail sedge	Cyperaceae		X		
Cichorium intybus L.	chicory	Asteraceae	X			
Cirsium vulgare (Savi) Ten.	bull thistle	Asteraceae	X			
Cornus racemosa Lam.	gray dogwood	Cornaceae		X		
Daucus carota L.	Queen Anne's lace	Apiaceae	X			
Equisetum arvense L.	field horsetail	Equisetaceae		X		
Fragaria virginiana Duchesne	Virginia strawberry	Rosaceae		X		
Frangula alnus Mill.	glossy buckthorn	Rhamnaceae		X		
Fraxinus pennsylvanica Marshall	green ash	Oleaceae		X		
Galium mollugo L.	false baby's breath	Rubiaceae		X		
Galium palustre L.	common marsh bedstraw	Rubiaceae		X		
Geum macrophyllum Willd.	largeleaf avens	Rosaceae		X		
Glechoma hederacea L.	ground ivy	Lamiaceae	X			
Hamamelis L.	witchhazel	Hamamelidaceae	X			
Lactuca serriola L.	prickly lettuce	Asteraceae		X		
Lonicera tatarica L.	Tatarian honeysuckle	Caprifoliaceae	X			B
Malus Mill.	apple	Rosaceae	X			
Medicago sativa L.	alfalfa	Fabaceae	X			
Onoclea sensibilis L.	sensitive fern	Dryopteridaceae		X		
Oxalis montana Raf.	mountain woodsorrel	Oxalidaceae	X			
Pastinaca sativa L.	wild parsnip	Apiaceae	X			WL
Phalaris arundinacea L.	reed canarygrass	Poaceae		X		WL
Phleum pratense L.	timothy	Poaceae	X			
Pinus strobus L.	eastern white pine	Pinaceae	X			
Plantago major L.	common plantain	Plantaginaceae	X			
Populus grandidentata Michx.	bigtooth aspen	Salicaceae	X			
Populus tremuloides Michx.	quaking aspen	Salicaceae	X			
Quercus rubra L.	northern red oak	Fagaceae	X			
Rhus typhina L.	staghorn sumac	Anacardiaceae	X			
Rubus allegheniensis Porter	Allegheny blackberry	Rosaceae	X			
Solidago altissima L.	tall goldenrod	Asteraceae	X			
Solidago rugosa Mill.	wrinkleleaf goldenrod	Asteraceae		X		
Symphyotrichum lanceolatum (Willd.) G.L. Nesom	white panicle aster	Asteraceae		X		
Symphyotrichum novae-angliae (L.) G.L. Nesom	New England aster	Asteraceae		X		
Tanacetum vulgare L.	common tansy	Asteraceae	X			
Taraxacum officinale F.H. Wigg.	common dandelion	Asteraceae	X			
Trifolium pratense L.	red clover	Fabaceae	X			
Tsuga canadensis (L.) Carrière	eastern hemlock	Pinaceae		X		
Tussilago farfara L.	coltsfoot	Asteraceae	X			
Typha latifolia L.	broadleaf cattail	Typhaceae		X		
Ulmus americana L.	American elm	Ulmaceae		X		
Vicia cracca L.	bird vetch	Fabaceae	X			

X - Plant species was found in this community type.

[1] Nomenclature follows USDA-NRCS PLANTS database (plants.usda.gov/) (**2026**).

[2] The Vermont Rarity Rank from the "Rare and Uncommon Native Vascular Plants of Vermont - Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department", version dated June 10, 2024.

[3] The Vermont Rarity Rank from the "Endangered and Threatened Plants of Vermont - Vermont Natural Heritage Inventory - Vermont Fish & Wildlife Department", version dated February 10, 2022.

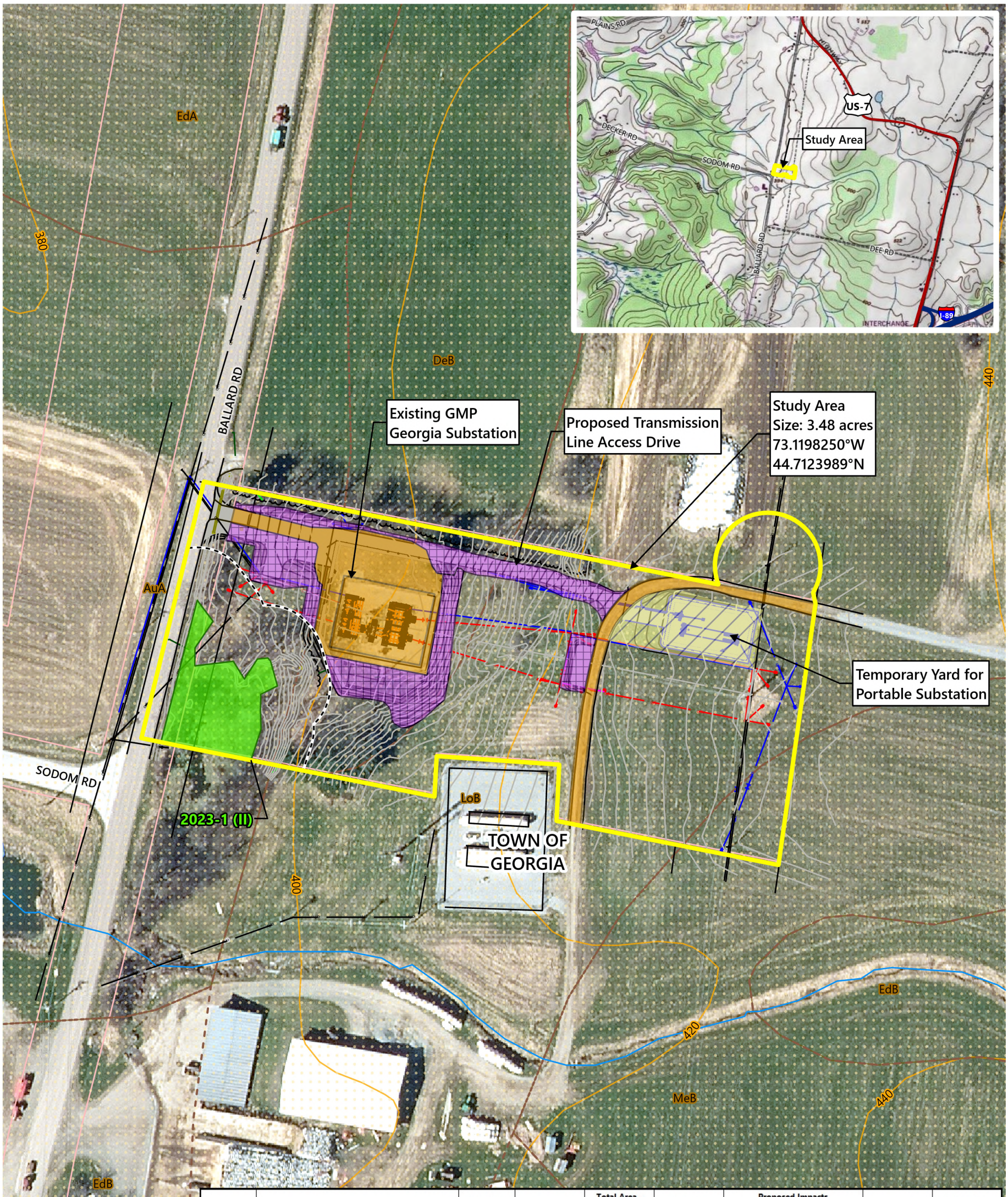
[4] **Class B Noxious Weeds Species (B)** from: Quarantine #3- Noxious Weeds (2012).
Watch List Species (WL) from: Vermont Invasive Exotic Plant Committee. 2017. Quarantine and Watch List Update.

ATTACHMENT 8

Primary Agricultural Soils (PAS) Map

GMP Georgia Substation Project | Georgia, Vermont

DRAFT | *March 03, 2026*



Key	Soil Type	Vermont Farmland Classification	Ag Value	Total Area - Including Existing Impacts (Acres)	Existing Impacts (Acres)	Proposed Impacts (Acres)		Mitigation Multiplier[1]	Mitigation Requirement (Acres)[2]
						Temporary	Permanent		
AuA	Au Gres loamy fine sand, 0 to 6 percent slopes	Statewide	0	0.20	0.04	-	0.11	-	-
DeB	Deerfield loamy fine sand, 0 to 8 percent slopes	Statewide	6	0.53	0.30	-	0.18	2.0	0.35
LoB	Lordstown loam, rocky, 3 to 8 percent slopes	Prime	0	0.39	0.10	0.17	0.08	-	-
Total:	----	----	----	1.11	0.44	0.17	0.37	----	0.35

[1] Mitigation multiplier values were obtained from information shown on the Vermont Agency of Agriculture Food and Markets (AAFM) - Act 250 Criterion 9(B) website on February 25, 2026.

[2] Given that the impacts, after applying the mitigation multiplier, total less than 2 acres, the impacts for this project are considered de minimis under AAFM guidance and do not require mitigation.

- Study Area (VHB)
- Existing PAS Impact (VHB)
- Proposed Permanent PAS Impact (VHB)
- Proposed Temporary PAS Impact (VHB)
- NRCS Soils (VCGI)
- NRCS Prime Agricultural Soils (VCGI)
- Delineated Wetland (Proposed Class) (VHB)
- Proposed Class II Wetland Buffer - 50 ft. (VHB)
- Stream (ANR)
- Waterbody (ANR)
- Parcel Boundary (VCGI)
- Town Boundary (VCGI)
- 20 ft. Contour (VCGI)

Sources: Background Imagery by VCGI (Collected in 2024), VCGI (Vermont Center for Geographic Information - Various Dates), ANR (Vermont Agency of Natural Resources - Various Dates), VTrans (Vermont Agency of Transportation - Various Dates), VHB (2023-2026)