Appendix G. Stormwater Pollution Prevention Plan

Champlain Hudson Power Express

Case Number 10-T-0139

Land Segments 1 and 2

Stormwater Pollution Prevention Plan

Putnam to Whitehall

Washington County, New York

CHA Project Number: 006676

Prepared for:

Transmission Developers Inc.
1301 Avenue of the Americas, 26th Floor
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Prepared by:

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TABLE OF CONTENTS

LIST OF APPENDICES:

1.0 PROJECT INFORMATION

Project Name and Location	Owner and Operator Name and Address
Champlain Hudson Power Express Land Segments 1 and 2 Putnam / Dresden / Whitehall, New York	Transmission Developers Inc. 1301 Avenue of the Americas, 26th Floor New York, NY 10019

2.0 PROJECT DESCRIPTION

2.1 PURPOSE AND EXTENT OF PROPOSED DEVELOPMENT

The proposed Champlain Hudson Power Express (CHPE) project involves the construction of ±339 miles of high voltage direct current underground and underwater transmission line from Montreal, Canada to Queens, New York. It will bring 1,250 megawatts of hydropower to replace the use of fossil fuel, reduce carbon emission, and to help achieve clean renewable energy by the year 2025. The proposed project will provide enough power for more than 1 million homes, along with numerous environmental and economic benefits to millions of residents in New York State communities.

The first ±105.5 miles segment of the CHPE installation work from Montreal, Canada to Putnam, New York will be covered under a different SWPPP and design plans by others. This SWPPP has been prepared to cover the next ±145.5 miles of upland cable installation of a High Voltage Direct Current (HVDC) transmission cable via direct burial in conduit or installed using trenchless horizontal directional drilling (HDD). The remaining ±88 miles of the transmission line will be installed underwater and covered under another SWPPP by others.

Specifically, the proposed ±17.61 miles of upland cable installation begins with Segments 1 and 2 work in the Town of Putnam, Washington County and ends in Town of Whitehall, Washington County, NY (see Figures 1A and 1B – Site Location Maps in Appendix A). Proposed work consists of installing two 8-inch-diameter PVC casings and one 2-inch diameter PVC casing. All

trenching activities and directional drilling work will be located within public roadway and railroad Right-Of-Ways (ROWs). All temporary construction storage and staging areas will also be accomplished within the grounds of the existing ROWs or agreement with private landowners. Subsequent project work will follow with anticipated design plans and SWPPP updates.

Construction Land Segment	Location Description	Length Milage	Design Plans
1 and 2	Putnam/Dresden/Whitehall	±17.61	Provided
3	Whitehall/Fort Ann	±5.80	Anticipated
3	Fort Ann/Kingsbury	±14.51	Anticipated
4 and 5	Ft Edward/Moreau/Wilton/Saratoga/Milton	±26.50	Anticipated
6 and 7	Ballston Spa/Clifton Park /Glenville/Schenectady	±19.80	Anticipated
8 and 9	Rotterdam/Selkirk Rail Yard Bypass	±22.30	Anticipated
10	Selkirk/Catskill	±20.90	Anticipated
11	Catskill	±16.29	Anticipated
12	Rockland	±7.55	Anticipated
13, 14, and 15	Bronx/Astoria, Queens, New York City	±2.13	Anticipated

Site restoration of disturbed areas such as pavements, wetlands, lawn areas are addressed on the plan sheets, detail sheets and erosion and sediment control plans. Limits of proposed disturbances and restoration areas are identified on the plans and reference site specific details regarding the required restoration. Once the construction activity is completed, all disturbed grounds will be topsoiled, seeded, and stabilized. The proposed grading of the roads and side slopes on site will have minimal ground disturbance to the greatest extent practical while maintaining existing drainage patterns.

Land disturbance for this project will be limited to trenching activities and directional drilling work will be located within public roadway and railroad ROWs to facilitate the cable installation. Existing site drainage patterns will be maintained. Construction and temporary stabilization of

each site will be sequenced to avoid disturbing 5 acres or more at one time within one watershed. Land disturbance will be limited to the areas of each segment of trench and directional drilling work such that initiation of within any one place will be contingent on the completion and stabilization of a previous land disturbance. The cable installation will be phased such that no more than five acres will be disturbed at one time within one individual watershed. It is assumed that multiple crews will be performing installation across the limit of the project. Due to the linear nature of the project, sections of the disturbed areas will be stabilized as the cable installation work progresses along the alignment. As such a 5-acre waiver for disturbance will not be required.

The proposed project contains no increase in impervious area, and it is not anticipated to contribute a significant pollutant load within the watershed or to downstream waterbodies. As such, peak flow mitigation and water quality treatment are not required by the State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities (GP-0-20-001) and are not included as a part of this project, and post construction stormwater management practices are not proposed. Based on the Appendix B Table 1 of the SPDES General Permit GP-0-20-001, any construction activities that involves only installation of underground, linear utilities, such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains, will require a SWPPP that only includes ESC and weekly field inspections during construction. Erosion and sediment control plans and details have been developed and will be implemented during construction in order to stabilize disturbed areas.

This SWPPP has been prepared in accordance with the criteria presented in the SPDES General Permit GP-0-20-001, the New York State Stormwater Management Design Manual (January 2015), and the New York State Standards and Specifications for Erosion and Sediment Control (July 2016). This SWPPP was prepared to cover the construction work for Segments 1 and 2 of a multi-phase project. Updates to the SWPPP will occur with subsequent project segments and Erosion and Sedimentation plans will be developed for future segments as they occur. Work for Segments 1 and 2 of the project is scheduled to take place from September 2022 through August 2023.

The nature of this construction project is checked below:	
	New construction with proposed standard SMPs, Green Infrastructures, and ESC measures.
	Redevelopment with increase in impervious areas with proposed standard SMPs and ESC measures.
X	Redevelopment with no increase in impervious areas with proposed ESC measures only and no SMPs.

CHA will coordinate and obtain permits for the various State and local entities including the New York State Department of Transportation (NYSDOT), and both County and local municipalities for the various road and highway crossings, or general work in the ROW. Please see table below regarding expected construction permits that CHA anticipates being required in addition to NYSDOT required permits.

Required Highway Work Permits						
Washington County	Saratoga County	Schenectady County	Albany County	Greene County	Rockland County	Bronx/Queens
Town of Dresden	Town of Wilton	Town of Glenville	Town of Guilderland	Town of New Baltimore	Town of Stony Point	City of New York
Town of Whitehall	Town of Greenfield	City of Schenectady	Town of New Scotland	Town of Coxsackie	Town of Haverstraw	
Town of Fort Ann	City of Saratoga Springs	Town of Rotterdam	Town of Bethlehem	Town of Athens	Town of Clarkstown	
Town of Kingsbury	Town of Milton		Town of Coeymans	Town of Catskill		
Town of Fort Edward	Town of Ballston					
Town of Moreau	Town of Clifton Park					
Town of Northumberland						

2.2 PROJECT DISTURBANCE AREA

The total land disturbance acreage is calculated based on the length and width (±10 feet) for trenching activities and directional drilling work located within public roadway and railroad ROWs. Detailed disturbance and limit of work limits are depicted on the Erosion and Sediment Control plan sheets.

Land Segments	Location Description	Total Disturbed Area	Existing Impervious Area within Disturbed Area*	Proposed Impervious Area within Disturbed Area*
1 and 2	Putnam/Dresden/Whitehall	±21.34 acres	±17.07 acres	±17.07 acres

*Note: Assumed ±80% total disturbed area is impervious. This project involves restoration / replacement of existing impervious surfaces impacted during construction. No increase in impervious area is proposed.

2.3 DESCRIPTION AND LIMITATIONS OF ON-SITE SOILS

Geotechnical borings and summary have been provided across the project site to support HDD design work. See geotechnical report (document can be provided by request) in addition to the information provided below and Appendix B of this SWPPP.

The soil disturbance for the proposed work is limited to the total land disturbance acreage listed for each construction land segment. Based on a review of the USDA Soil Survey of Washington County, New York, the original soils on the project site are listed and described in Appendix B for USDA Soils Maps. A summary of the soil composition is shown in Table 1.

Table 1 - Soil Analysis Summary

Land Segments	Location	Hydrologic Soil Group (HSG)			
		A	B	C	D
1 and 2	Putnam/Dresden/Whitehall	2%	7%	0%	91%

The Natural Resource Conservation Service (NRCS, formerly known as the SCS), as part of their soil classification system, assigns each soil series to a Hydrologic Soil Group (HSG). The HSG is a four-letter index intended to indicate the minimum rate of infiltration obtained after prolonged wetting, and to indicate the relative potential for a soil type to generate runoff. The infiltration rate is the rate at which water enters the soil at the soil surface. The HSG also indicates the transmission rate – the rate at which water moves within the soil. Soil scientists define the four groups as follows:

- HSG ‘A’ (sand, loamy sand, or sandy loam): Soils have low runoff potential and high

infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission (> than 0.30 inches/hour).

- HSG 'B' (silt loam or loam): Soils have moderate infiltration rates when thoroughly wetted, and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to fine texture. These soils have a moderate rate of water transmission (0.15 to 0.30 inches/hour).
- HSG 'C' (sandy clay loam): Soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05 to 0.15 inches/hour).
- HSG 'D' (clay loam, silty clay loam, sandy clay, silty clay, or clay): Soils have high runoff potential. They have very low infiltration rates when thoroughly wetted, and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (< 0.05 inches/hour).
- If a soil is classified to a dual hydrologic group (A/D, B/D, or C/D), the first letter represents drained conditions and the second letter represents undrained conditions.

2.4 HISTORIC PLACES

A cultural resources management plan will be prepared by Hartgen Archeological Associates, Inc, and an overall plan the entire project will be prepared for EM&CP review process. A copy of the plan will be included in Appendix E upon approval from the New York State Office of Parks, Recreation, and Historic Preservation.

3.0 SEQUENCE OF MAJOR ACTIVITIES

This SWPPP presents erosion and sediment controls, both temporary and permanent, to assist the operator in compliance with the project's SPDES General Permit for construction activity. To the degree practicable, all temporary erosion and sediment control mitigation measures shall be installed immediately before associated project areas are disturbed in anticipation of all soil disturbing activities to follow. Based upon NYSDEC regulations, the owner or operator of a construction activity shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a regulated, traditional land use control MS4, the MS4 (provided the MS4 is not the owner or operator of the construction activity). There are currently no MS4 communities located in the proposed project Segments 1 and 2 work areas.

It is the responsibility of the Contractor to ensure that all soils removed from the project site are spoiled in a manner consistent with all local, state, and federal regulations. Appropriate erosion and sediment controls shall be installed at all spoil sites. Additionally, the Contractor is responsible for coordinating the application for a GP-0-20-001 permit (and development of an associated SWPPP) if disturbance associated with any soil spoils area is greater than 0.4 hectares (1 acre). GP-0-20-001 applications must be signed by the owner of the lands on which soils are spoiled. Disturbances associated with offsite spoil areas do not contribute to the total disturbances associated with onsite activities.

Construction activities shall be scheduled by the Contractor with the intent to minimize the amount of disturbed soil exposed at any one time by area and length of time. In general, once work has been started on a particular segment or structure, this work shall be completed to the extent possible, before work on another segment or structure is started. The Contractor must submit a schedule of construction activities for approval by the Engineer prior to any disturbance to the site.

The project will be carried out as outlined as follow, while maintaining the amount of disturbed soil in compliance with the NYSDEC limit.

Construction Sequence (Disturbance acreage will vary)

- Establish work area and contractor staging areas.
- Install stabilized construction entrance and temporary erosion and sediment control measures (installed in progressive segments).
- Perform initial clearing to remove vegetation (where required).
- Place temporary timber mattings through accessible wetland areas (where required).
- Perform excavation to facilitate trench. Perform conduit, splice box, handhole, etc. installation.
- Backfill trench in accordance with project details and specifications.
- Within HDD areas set up laydown, staging and excavate pits.
- Restore HDD disturbed areas in accordance with the plans.
- Within pavement areas, restore pavement to pre-existing grade, mill and overlay areas as depicted on the plans.
- Restore signage, guiderail, mailboxes etc. and staging/access roads impacted by construction to pre-existing condition.
- Remove temporary timber mattings through wetland areas and apply appropriate seed mixture where necessary.
- When all disturbed areas have been stabilized, remove all temporary sediment and erosion control measures.

3.1 NAME OF RECEIVING WATERS

Based on the existing topography on the project site, runoff is generally conveyed overland towards existing ditches, culverts, wetlands, and streams onsite and offsite. Some of the receiving waters in Washington County, specifically Lake Champlain and South Bay are currently listed as 303(d) segments impaired by construction related pollutants (Appendix E of the GP-0-20-001 permit). However, all the receiving waterbodies in Washington County are not identified as an enhanced phosphorus watershed (Appendix C of the GP-0-20-001 permit).

The water quality of surface waters in New York State is classified by the New York State Department of Environmental Conservation as A, B, C, or D, with special classifications for water supply sources (AA). A "T" used with the classification indicates the stream supports, or may support, a trout population. Water quality standards are also provided. The standards apply the same classification system but, in some cases, are more stringent in an effort to eventually improve

the water quality. The higher standard is most often used to reflect the existence or the potential for breeding trout (designation of (T) as discussed above). All surfaces waters with a Classification and/or a Standard of C (T) or better are regulated by the State. A summary of the stream classifications is shown in Table 2. Locations of the receiving waters are shown on figures and maps in Appendix C.

Table 2 – Summary of Receiving Waters and Stream Classifications

Approximate Alignment Station	Receiving Waterbody / Stream Name	NYSDEC Stream Classification	Waterbody Field ID	303(d) Segment Impaired
10006+00	Unnamed Tributary to Lake Champlain	Unmapped	CS1	No
10024+00	Unnamed Tributary to Lake Champlain	Unmapped	CS2	No
10027+00	Unnamed Tributary to Lake Champlain	Unmapped	CS3	No
10029+00	Unnamed Tributary to Lake Champlain	Unmapped	CS4	No
10035+00	Unnamed Tributary to Lake Champlain	Unmapped	CS5	No
10039+00	Unnamed Tributary to Lake Champlain	Unmapped	CS6	No
10041+00	Unnamed Tributary to Lake Champlain	Unmapped	CS7	No
10064+00	Unnamed Tributary to Lake Champlain	Unmapped	CS8	No
10080+00	Unnamed Tributary to Lake Champlain	Unmapped	CS9	No
10080+00	Overflow channel of Wetland CK conveying flow to CS10	Unmapped	CS10	No
10112+00	Unnamed Tributary to Lake Champlain	Unmapped	CS11	No
10128+00	Unnamed Tributary to Lake Champlain	Unmapped	CS12	No

10148+00	Mill Brook	C/C(T)	CS13	No
10173+00	Mill Brook	C/C(T)	CS14	No
10197+00	Mill Brook	C/C(T)	CS15	No
10300+00	Unnamed Tributary to Lake Champlain	D/D	C2S1	No
10321+00	Unnamed Tributary to Lake Champlain	Unmapped	C2J	No
10331+00	Unnamed Tributary to Lake Champlain	Unmapped	C2S2	No
10360+00	Unnamed Tributary to Lake Champlain	C/C	C2S3	No
12519+00	Unnamed Tributary to Lake Champlain	Unmapped	CS16	No
12534+00	Unnamed Tributary to Lake Champlain	C/C	CS17	No
12534+00	Unnamed Tributary to Lake Champlain	C/C	CS18	No
12535+00	Unnamed Tributary to Lake Champlain	Unmapped	CS19	No
12539+00	Unnamed Tributary to Lake Champlain	Unmapped	CS20	No
12566+00	Unnamed Tributary to Lake Champlain	Unmapped	CS21	No
12576+00	Unnamed Tributary to Lake Champlain	Unmapped	CS22	No
12579+50	Unnamed Tributary to Lake Champlain	Unmapped	CS23	No
12593+00	Unnamed Tributary to Lake Champlain	Unmapped	CS24	No
12599+50	Unnamed Tributary to Lake Champlain	C/C	CS25	No
12631+00	Unnamed Tributary to Lake Champlain	C/C	C2S4	No

12666+75	Unnamed Tributary to Lake Champlain	C/C(T)	CS26	No
12712+00	Unnamed Tributary to Lake Champlain	Unmapped	CYY	No
12745+00	Pine Lake Brook	C/C	CS27	No
12755+00	Unnamed Tributary to Lake Champlain	C/C	CS28	No
12796+25	Unnamed Tributary to Lake Champlain	B/B	CS29	No
12796+75	Unnamed Tributary to Lake Champlain	Unmapped	CS30	No
12846+00	Unnamed Tributary to Lake Champlain	Unmapped	CS31	No
12853+50	Unnamed Tributary to Lake Champlain	Unmapped	G-S-I	No
12856+75	Unnamed Tributary to Lake Champlain	Unmapped	G-S-H	No
12862+00	Unnamed Tributary to Lake Champlain	Unmapped	G-S-G	No
12863+25	Unnamed Tributary to Lake Champlain	B/B	G-S-F	No
12893+60	Unnamed Tributary to Lake Champlain	C/C	G-S-E	No
12899+50	Unnamed Tributary to Lake Champlain	Unmapped	G-S-D	No
12900+00	Unnamed Tributary to Lake Champlain	Unmapped	G-S-C	No
12903+25	Unnamed Tributary to Lake Champlain	Unmapped	G-S-B	No
12906+00	Unnamed Tributary to Lake Champlain	Unmapped	G-S-AA	No
13007+75	Unnamed Tributary to Lake Champlain	Unmapped	G-S-A	No

4.0 CONTROLS

4.1 TIMING OF CONTROLS/MEASURES

The erosion and sediment control measures shall be constructed prior to clearing or grading of any portion of the project. Where land disturbance is necessary, temporary seeding or mulching must be used on areas which will be exposed for more than 14 days. Permanent stabilization should be performed as soon as possible after completion of grading. As project areas are stabilized, the accumulated sediment shall be removed from the stabilized area. Erosion control devices shall remain in place until disturbed areas are permanently stabilized. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

4.2 EROSION AND SEDIMENT CONTROLS / STABILIZATION PRACTICE

Applicable erosion and sediment control measures and details are included in Appendix F. Specific final stabilization methods are provided within the plan set.

4.2.1 Temporary Stabilization

Topsoil stockpiles, staging areas and disturbed pervious portions of the project area where construction activity temporarily ceases for at least 14 days shall be stabilized with temporary seed and mulch no later than 14 days from the last construction activity in that area.

For all work areas of the proposed project located within the Adirondack Park grounds, temporary seeding shall consist of 100% annual rye applied at the rate of 30-60 lbs per acre in accordance with the Adirondack Park Agency requirements.

Otherwise, for all other work areas outside of the Adirondack Park grounds, temporary seed shall be ryegrass applied at the rates specified below:

- If seeding in spring, summer or early fall then seed with annual or No rye at a rate of 30 lbs per acre. If area is to remain stabilized over the winter into the following spring use No rye only.
- If seeding in late fall or early winter, use certified Aroostook winter rye (cereal rye) at a rate of 90 lbs per acre.

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact. Area must be free of large rocks and debris and seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding. Fertilizer or lime is not typically used for temporary plantings.

Mulch shall be applied in conjunction with seeding and applied at the rate of 90 lbs per 1000 square feet. Mulch shall be reapplied as necessary. Areas of the project area, which are to be paved, shall be temporarily stabilized by applying temporary gravel subbase until pavement can be applied.

Sediment control fencing shall be installed around the site where depicted on the attached plan sheets. Prior to commencing any earthwork, a stabilized construction entrance shall be installed as indicated on the attached plans. This entrance shall be utilized as the exclusive construction entrance and exit to the construction areas. Construction traffic shall be limited to the construction entrance.

4.2.2 Permanent Stabilization

Disturbed portions of the project area where construction activities permanently cease shall be stabilized with permanent seed no later than 14 days after the last construction activity. For all work areas of the proposed project located within the Adirondack Park grounds, permanent seeding shall consist of Adirondack seed mixes applied at the rates specified on the project plans. Otherwise, for all other work areas outside of the Adirondack Park grounds, permanent seed mix shall be in accordance with the project specifications and plans. Construction and maintenance of erosion and siltation control measures are in accordance with the New York Standards and Specifications for Erosion and Sediment Control.

Where construction activity is complete over areas to be permanently vegetated, stabilize with permanent seeding. Verify seeding dates with engineer. If engineer determines that seed cannot be applied due to climate, topsoil shall not be spread and mulching shall be applied to the exposed surface to stabilize soils until the next recommended seeding period. Other project areas shall be permanently stabilized with pavement, concrete, gravel or building structures.

4.3 WINTER OPERATIONS

If construction activities proceed through the winter season, access points should be enlarged and stabilized to provide for snow stockpiling. Drainage structures should be kept open and free of potential snow and ice dams. Inspection and maintenance are necessary to ensure the function of these practices during runoff events. For sites where construction activities temporarily cease, temporary and/or permanent soil stabilization measures shall be installed within seven (7) days from the date the soil disturbing activity ceased. Disturbed areas should be stabilized with seed and mulch, or other approved methods, even if the ground is covered by significant amounts of snow.

4.3.1 Winter Shutdown

Site inspections (by the qualified inspector) may be decreased to a minimum of one (1) time every thirty (30) days for sites where soil disturbing activities have been temporarily suspended and all disturbed areas have been temporarily stabilized with an approved method. Inlet protection should be installed and/or repaired before shutdown of the site. The owner or operator shall provide written notification to the respective DEC regional office prior to reducing the frequency of any site inspections.

4.3.2 Final Site Inspection

The qualified inspector shall perform a final inspection of the site to certify that:

- All disturbed areas have achieved final stabilization;
- Temporary erosion and sediment control practices have been removed; and
- Post-construction stormwater management practices (if required) have been constructed in conformance with the SWPPP.

Upon satisfactory completion of the final site inspection, the qualified inspector shall sign the appropriate sections of the Notice of Termination (NOT) form included in Appendix J.

4.4 OTHER CONTROLS

4.4.1 Waste Disposal

Waste materials – Foreign waste materials shall be collected and stored in a secured area until removal and disposal by a licensed solid waste management company. All trash and construction debris from the project area shall be disposed of in a portable container unit. No foreign waste materials shall be buried within the project area. All personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the project trailer and the individual who manages day-to-day project operations will be responsible for seeing that these procedures are followed.

Petroleum Impacted Waste – During the excavation activities, there is the potential that petroleum impacted soils may be encountered. In the event that field evidence of contamination is identified during the project, potentially contaminated soils will be segregated and stockpiled on polyethylene sheeting and covered in a predetermined staging area. The potentially impacted, stockpiled soils will then be sampled to determine if the soils are suitable for use as clean backfill. In the event that the soils are not suitable for re-use, the contaminated soil will be properly characterized and disposed of at an off-site NYSDEC permitted facility. The excavation will then be backfilled with clean, imported fill.

Hazardous Waste - All hazardous waste materials shall be disposed of in a manner specified by local or state regulations or by the manufacturer. Project personnel shall be instructed in these practices and the individual who manages day-to-day project operations shall be responsible for seeing that these practices are followed.

Sanitary Waste - Any sanitary waste from portable units shall be collected from the portable units by a licensed sanitary waste management contractor, as required by NYSDEC regulations.

4.4.2 Sediment Tracking by Vehicles

A stabilized construction entrance shall be installed (where depicted on attached plan) and maintained as necessary to help reduce vehicular tracking of sediment. The entrance shall be

cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring. Dump trucks hauling materials to and from the construction project area shall be covered with a tarpaulin to reduce dust. Any sediment and debris tracked from work area along project adjacent roadways shall be immediately removed with a street sweeper or equivalent sweeping method. Further, sweeping of streets adjacent to disturbed areas shall be performed prior to the end of each work day (at a minimum) when tracking of sediment is occurring.

4.4.3 Non-Stormwater Discharges

Non-stormwater discharges are not expected to exit the project area during construction.

4.5 CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The stormwater pollution prevention plan reflects the New York State requirements for stormwater management and erosion and sediment control. To ensure compliance, this plan was prepared in accordance with New York State Standards. There are no other applicable State or Federal requirements for sediment and erosion plans (or permits), or stormwater management plans (or permits).

5.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

The proposed project has been designed in accordance with the New York State Stormwater Management Design Manual (January 2015) and the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). Based on the Appendix B Table 1 of the SPDES General Permit GP-0-20-001, any construction activities that involves only installation of underground, linear utilities, and vegetated open space projects (i.e. recreational parks, lawns, meadows, fields) that do not alter hydrology from pre to post development conditions, will require a SWPPP that only includes ESC and weekly field inspections during construction.

Hence, the proposed project contains no increase in impervious area, and it is not anticipated to contribute a significant pollutant load within the watershed or to downstream waterbodies. As such, peak flow mitigation and water quality treatment are not included as a part of this project, and post construction stormwater management practices are not proposed. Detailed erosion and sediment control measures have been developed and will be implemented during construction in order to stabilize disturbed areas.

5.1.1 Floodplains

Based on a review of the FEMA Flood Insurance Rate Maps for Town of Putnam, Town of Dresden, Village of Whitehall, and Town of Whitehall, Washington County, NY, various portions of the proposed CHPE project Segments 1 and 2 work are located within the 100-year flood plain (see FEMA FIRM maps in Appendix D). Due to the linear nature of the proposed project, the sections of work located within the 100-year flood plain are located at the existing crossings with streams and waterbodies. Temporary soil disturbance at these locations will be minimized with trenching activities and directional drilling work. The disturbed areas will be stabilized as the cable installation work progresses along the alignment and will have no impact to the flood plains.

6.0 MAINTENANCE/INSPECTION PROCEDURES

6.1 EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

These are the minimum required inspection and maintenance practices that shall be used to maintain erosion and sediment controls:

6.1.1 Owner/Operator Inspection Requirements

- Prior to construction activity the owner/operator shall have contractors and subcontractors identify a trained individual responsible for the implementation of the SWPPP. The trained individual must be on-site on a daily basis when soil disturbing activities are occurring.
- The owner/operator shall inspect the erosion and sediment control measures as identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times. Where soil disturbing activities temporarily cease (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner/operator can stop conducting inspections. The owner/operator shall resume inspections when soil disturbing activities begin again.
- Where soil disturbing activities have ceased with partial project completion, the owner/operator can stop conducting inspections when disturbed areas have reached final stabilization. All post construction stormwater management practices required for the completed areas shall have been constructed in conformance with the SWPPP and be fully operational. Final stabilization means that all soil disturbance activities have ceased and a uniform, No vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.
- The owner/operator shall notify the DEC Regional Office's stormwater contact person prior to any reduction in the frequency of site inspections.
- The owner/operator shall retain copies of the NOI, NOI acknowledgment letter, SWPPP, MS4 SWPPP acceptance form and any inspection reports submitted in conjunction with this permit and records or all data used to complete the NOI to be covered by this permit for a period of at least five (5) years from the date that the site is finally stabilized. Copies of the NOI and NOI

acknowledgment letter are included in Appendix I.

6.1.2 Qualified Inspector Inspection Requirements

- The qualified inspector is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means the person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training.
- A site inspection shall be conducted at least once every seven (7) days by the qualified inspector when soil disturbing activities are occurring. A copy of the "Stormwater Construction Site Inspection Reports" is included in Appendix G of this plan.
- If any repairs or corrective actions are necessary, it is the responsibility of the qualified inspector to notify the owner/operator and appropriate contractor within one business day. The contactor shall begin implementing the corrective action within one business day of being notified.
- All inspection forms must be signed by a qualified inspector.
- For construction sites where soil disturbing activities are temporarily suspended, temporary stabilization measures shall be applied and the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.
- Where soil disturbing activities have ceased with partial project completion the qualified inspector can stop conducting inspections when disturbed areas have reached final stabilization and all post construction stormwater management practices required for the completed areas have been constructed in conformance with the SWPPP and are fully operational.
- Where soil disturbing activities are not resumed within two (2) years, from the date of shut down of partial project completion, the qualified inspector shall perform a final inspection and certify that all disturbed areas have achieved final stabilization, all temporary and permanent erosion control measures have been removed, and post-construction stormwater management

practices have been constructed in conformance with the SWPPP. Qualified inspector shall sign the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT).

6.1.3 General Requirements

- A copy of the SPDES General Permit (GP-0-20-001), the signed Notice of Intent (NOI), NOI acknowledgement letter, SWPPP, MS4 SWPPP Acceptance Form, and inspection reports shall be maintained onsite until the site has achieved final stabilization.
- Built up sediment shall be removed from any silt fence when it has reached one-third the height of the fence / dike.
- Sediment fencing shall be inspected for depth of sediment, and tears, to see if fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- The construction entrance shall be cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring.
- Dust shall be controlled on access points and other disturbed areas subject to surface dust movement and blowing.
- Inspection must verify that all practices are adequately operational, maintained properly and that sediment is removed from all control structures.
- Inspection must look for evidence of soil erosion on the site, potential of pollutants entering drainage systems, problems at the discharge points, and signs of soil and mud transport from the site to the public road.

7.0 INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be within the project area during construction:

- Compost filter sock.
- Portland cement concrete
- Fertilizers / seeding materials.
- Stone.
- Bituminous asphalt.
- Petroleum based products.
- Silt fence fabric.
- Lumber.
- Pavement marking paint.
- PVC pipe.

8.0 SPILL PREVENTION

The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

8.1 GOOD HOUSEKEEPING

The following good housekeeping practices shall be followed within project areas during construction:

- An effort shall be made to store only enough products required to do the job.
- All materials stored within project areas shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product shall be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal shall be followed.
- The project superintendent shall inspect daily to ensure proper use and disposal of materials.

8.2 HAZARDOUS PRODUCTS

These practices are used to reduce the risks associated with hazardous materials:

- Products shall be kept in original containers unless they are not resealable.
- Original labels and material safety data shall be retained.
- If surplus product must be disposed of, manufacturers' or local and state recommended methods of proper disposal shall be followed.
- Material Safety Data Sheets for all hazardous products shall be within the project area for the duration of construction.

8.3 PRODUCT SPECIFIC PRACTICES

The following product-specific practices shall be followed within the project areas:

PETROLEUM PRODUCTS

All project related vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used during construction shall be applied according to the manufacturer's recommendations.

FERTILIZERS

Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. Fertilizers shall be stored in a covered or other contained area.

PAINTS

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to manufacturer's instructions or State regulations.

CONCRETE TRUCKS

Concrete trucks shall be allowed to wash out within project areas provided that the contractor provides an area which collects and contains any concrete / slurry material washed from trucks for recovery and disposal at a later time. No concrete / slurry shall be discharged from the property at any time of construction. If such washing is anticipated, the contractor shall submit a plan detailing the control of concrete / slurry to the engineer for approval.

WATERCOURSE PROTECTION

Construction operations shall be conducted in such a manner as to prevent damage to watercourses from pollution of debris, sediment, or other foreign material, or from manipulation, from equipment and/or materials in or near the watercourse. The contractor shall not return directly to the watercourse any water used for wash purposes or other similar operations which may cause the water to become polluted with sand, silt, cement, oil or other impurities. If the contractor uses water from the water course, the contractor shall construct an intake or temporary dam to protect and maintain watercourse water quality.

8.4 SPILL CONTROL PRACTICES

The contractor will be responsible for preparing a project area specific spill control plan in accordance with local and NYSDEC regulations. At a minimum this plan should:

- Reduce stormwater contact if there is a spill.
- Contain the spill.
- Stop the source of the spill.
- Dispose of contaminated material in accordance with manufactures procedures, and NYSDEC regulations.
- Identify responsible and trained personnel.
- Ensure spill area is well ventilated.

9.0 UPDATING THE SWPPP

The SWPPP shall be updated/revised as conditions merit or as directed by the regulating authority. The attached inspection forms included with this document allows for the certification of any updates/revisions. The SWPPP shall be amended when modifications to the design, construction, operation, or maintenance of the project have been or will occur which could have an effect on the potential for discharge of pollutants in stormwater runoff. Amendments shall be documented within Appendix H of this SWPPP.

10.0 SWPPP CERTIFICATION

Contracting Firm Information:

Contracting Firm

Address

City/Town ***State*** ***Zip***

Site Location:
Champlain Hudson Power Express
Segments 1 and 2
Washington County, New York

Contractor's Certification

I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Signature (Contractor/Subcontractor) ***Date***

For

Responsible For

Signature (Trained Contractor) ***Date***

For

Responsible For

Signature (Contractor/Subcontractor) ***Date***

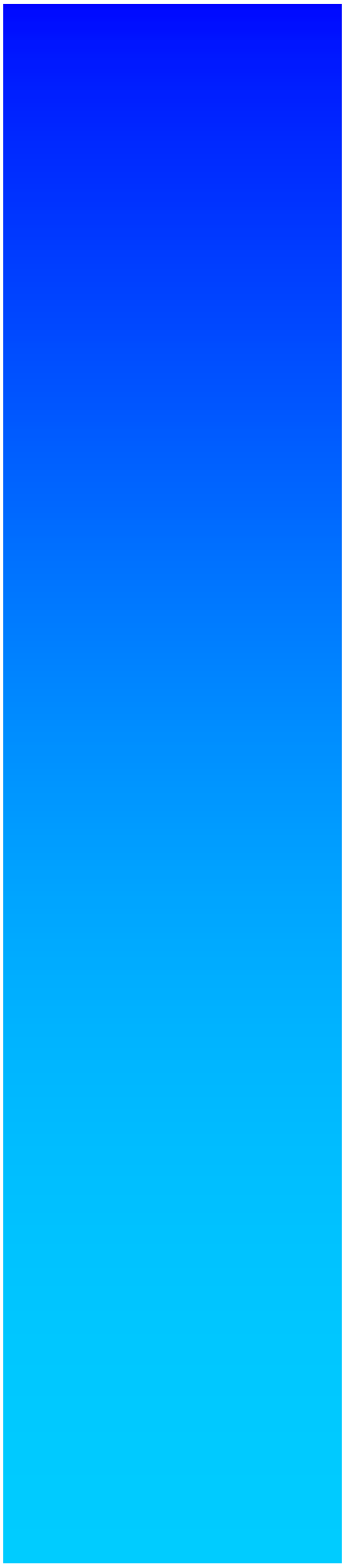
For

Responsible For

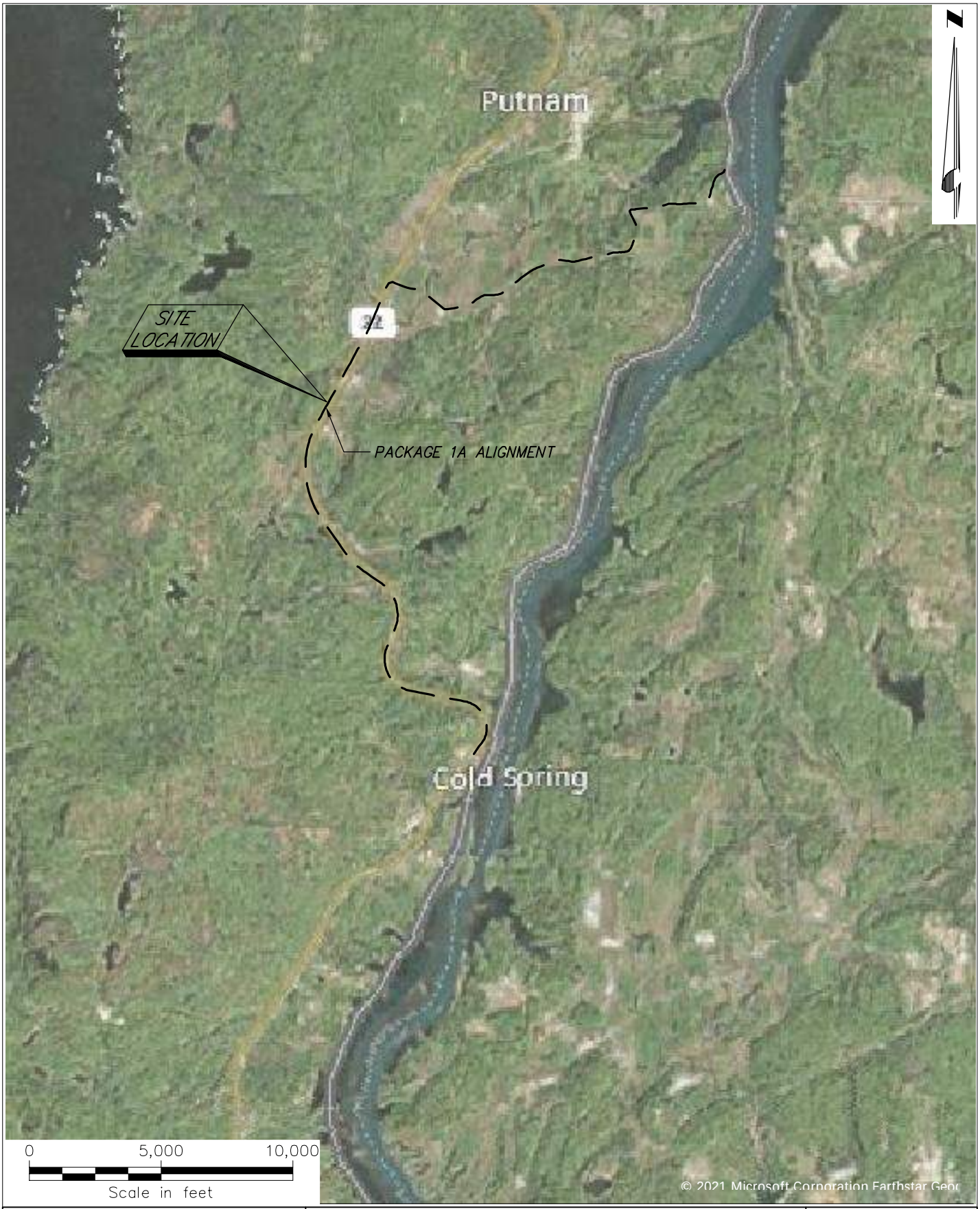
Signature (Trained Contractor) ***Date***

For

Responsible For



Appendix A
Figures



CHA
111 Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

SITE LOCATION MAP

CHAMPLAIN HUDSON POWER EXPRESS
PACKAGE 1A
PUTNAM TO DRESDEN
WASHINGTON COUNTY, NEW YORK

PROJECT NO. 066076

DATE: DEC. 2021

FIGURE 1A

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

SITE LOCATION MAP

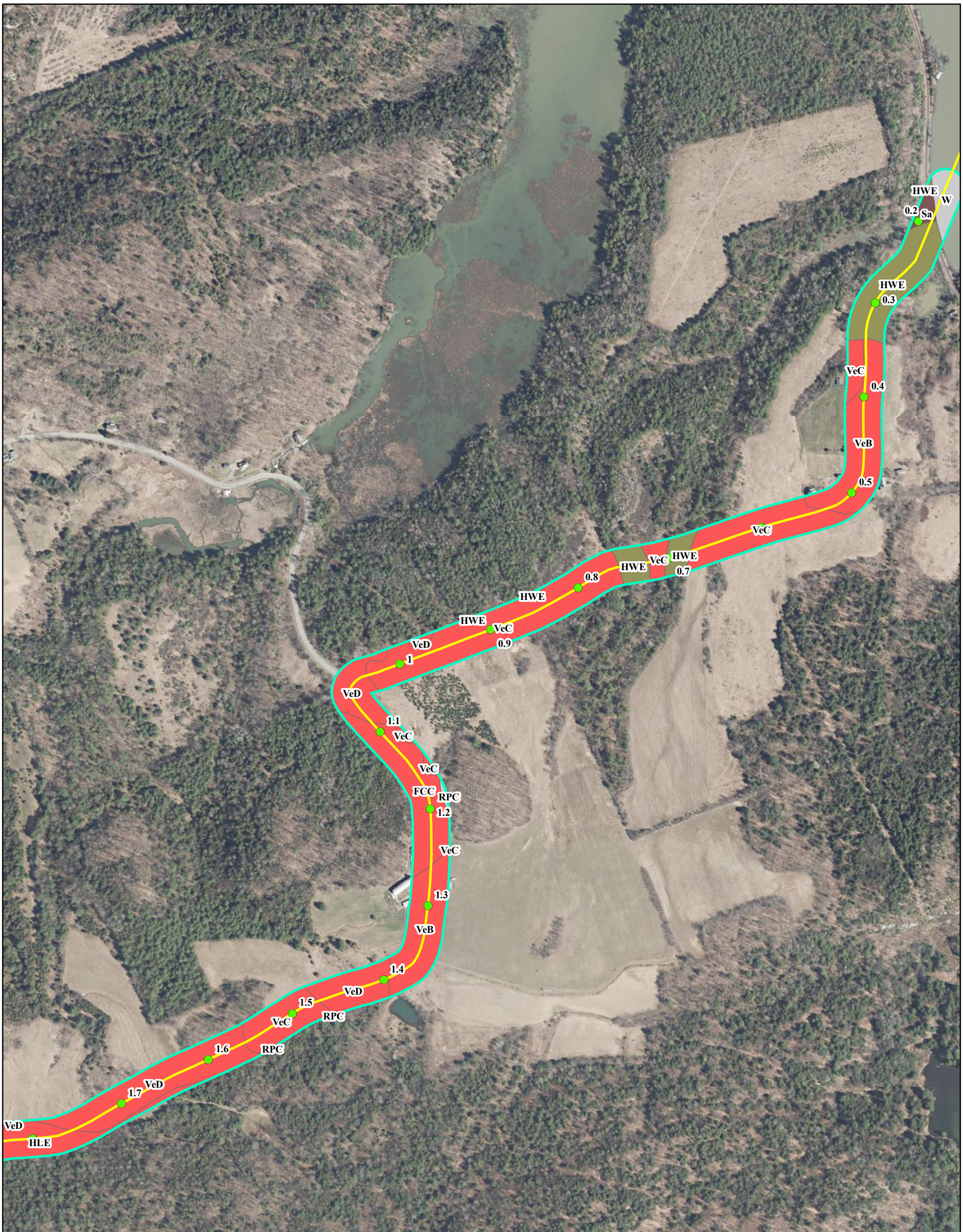
CHAMPLAIN HUDSON POWER EXPRESS
PACKAGE 1B
DRESDEN TO WHITEHALL
WASHINGTON COUNTY, NEW YORK

PROJECT NO.
066076

DATE: DEC. 2021

FIGURE 1B

Appendix B
USDA Soils Maps



CHA

Page 1 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

A	C
A/D	C/D
B	D
B/D	Not rated

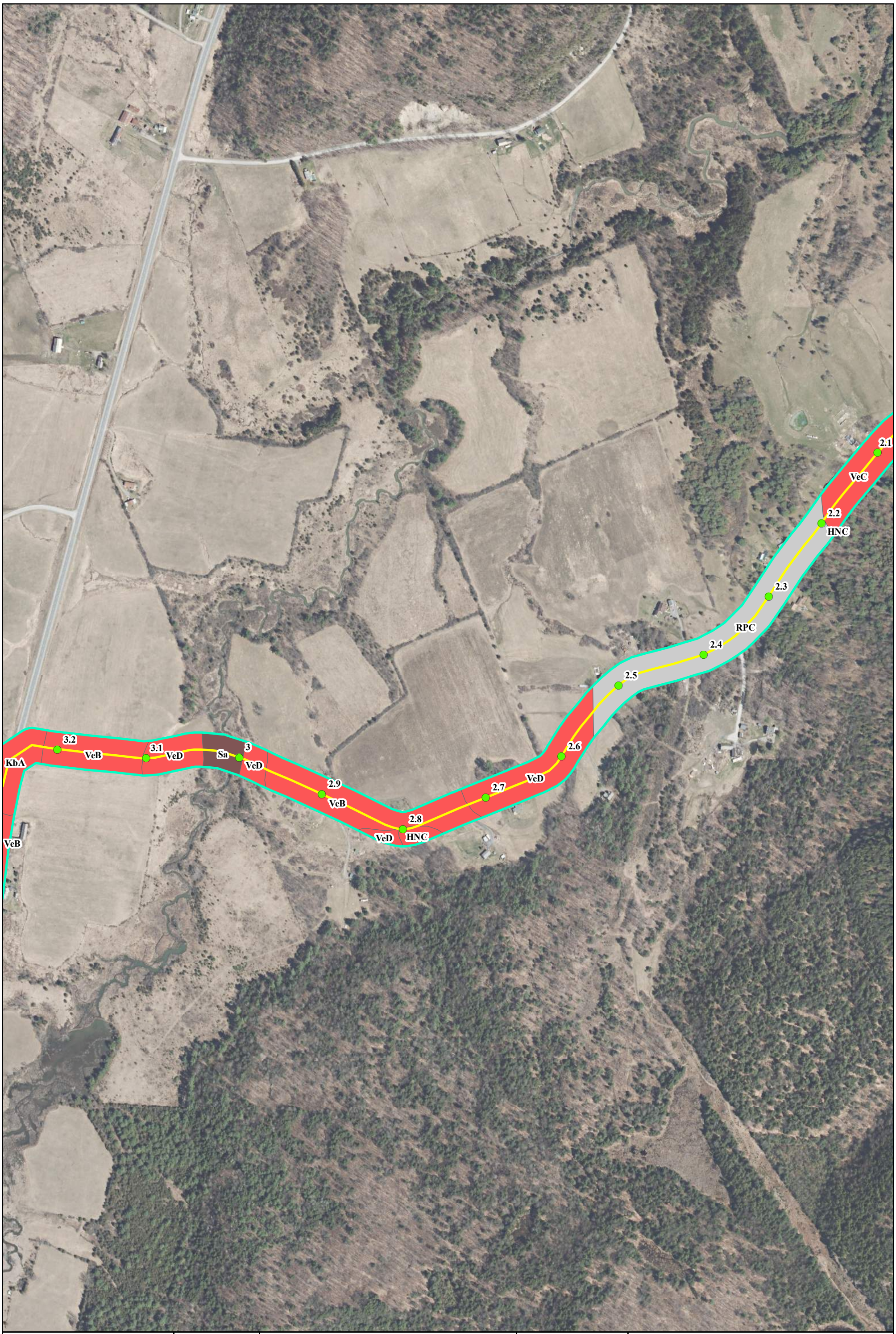
0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York



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Page 2 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

A	C
A/D	C/D
B	D
B/D	Not rated

0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York

3.7
Sa
VeC
VeB
3.8
3.9
VeC
Sa
4
KbB
4.1
VeC
4.2
RPF
4.3
VeB
4.4
4.5
CHC
4.6
4.7
4.8
KbA
4.9
Cv
5
KbB
5.1
HLE
SB
5.2
HLE

CHA

N

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

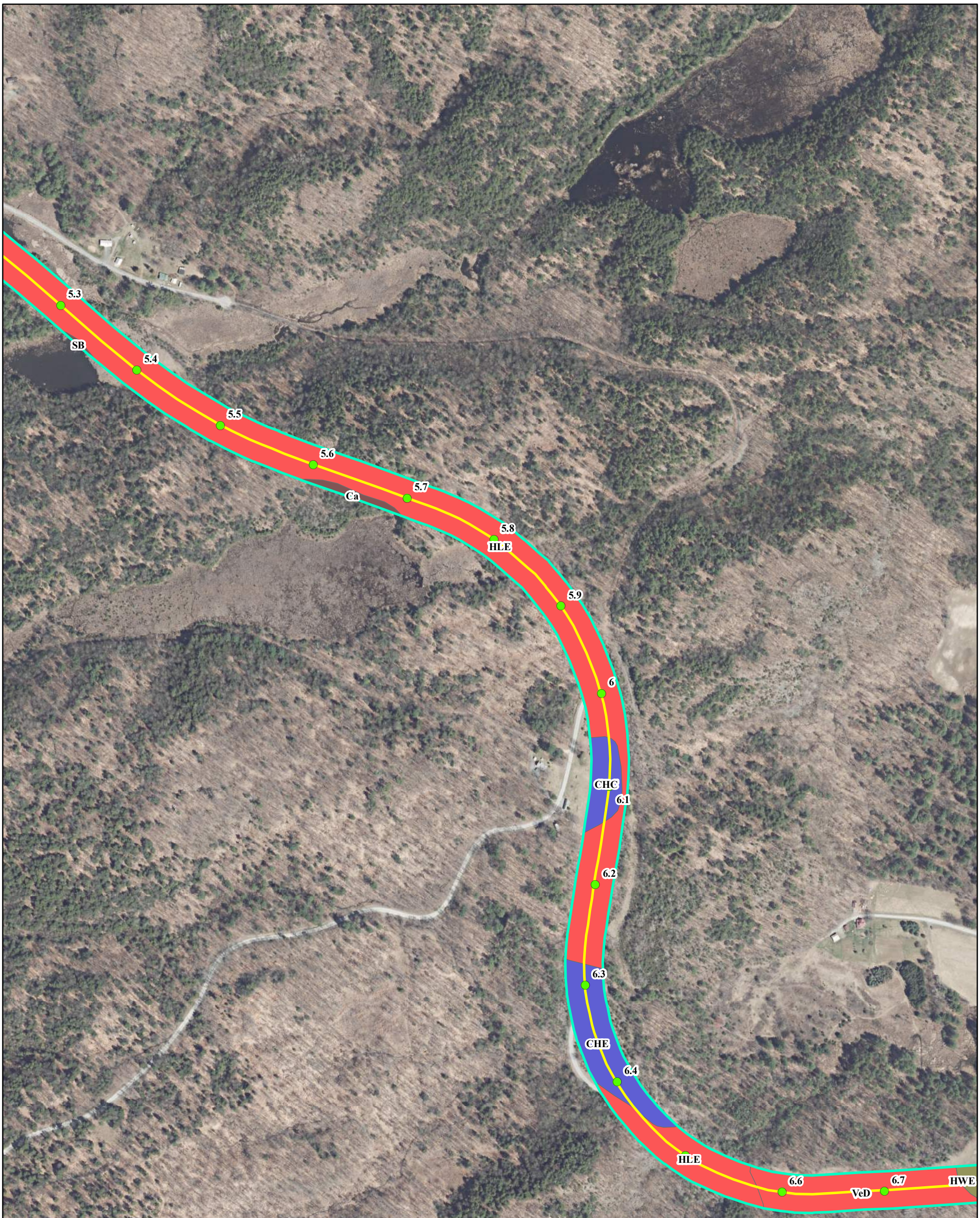
Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

0 250 500
Feet
1 in. = 500 ft.

Champlain Hudson Power Express Package 1A & 1B Soils Map

Washington County, New York



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Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

A	C
A/D	C/D
B	D
B/D	Not rated

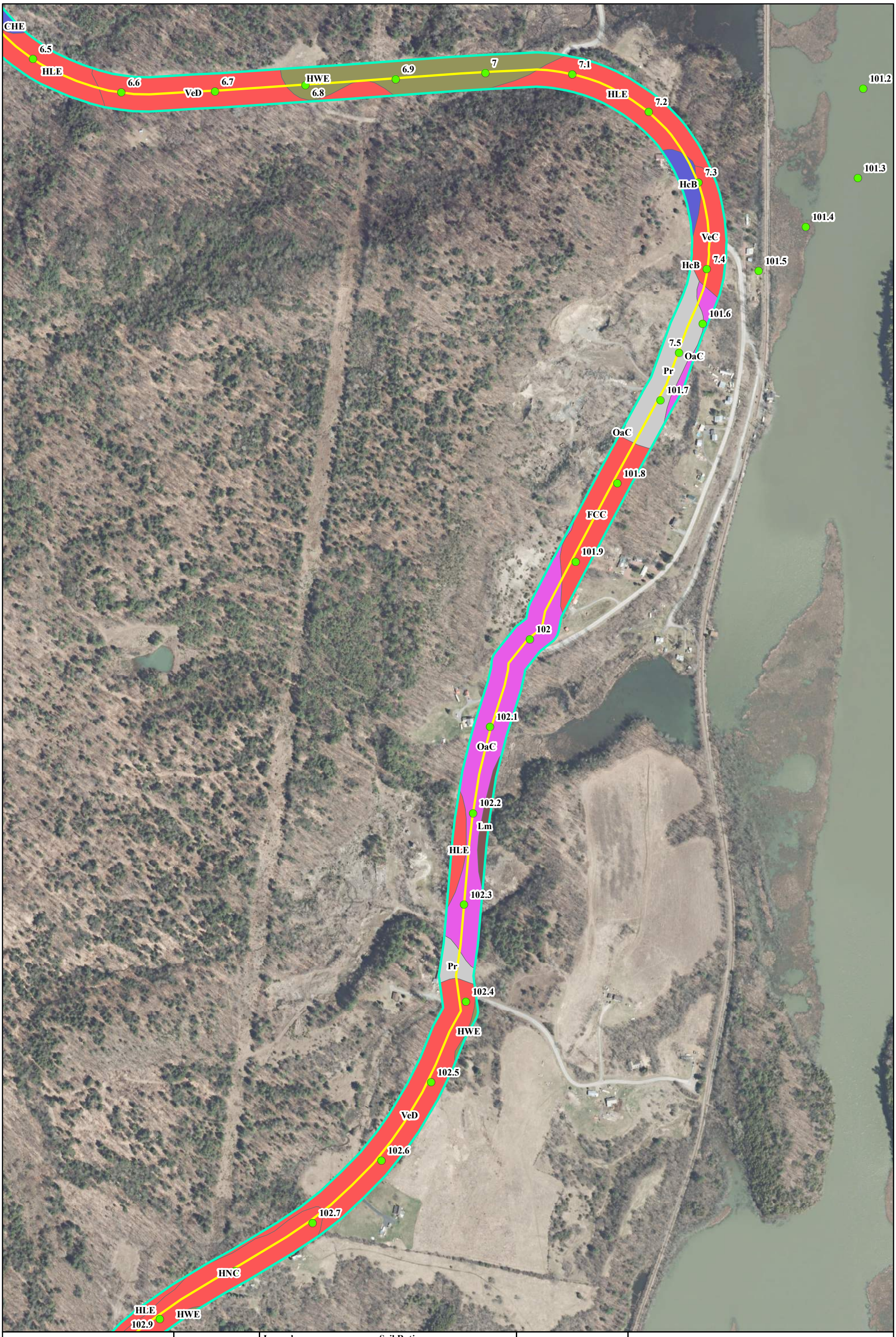
0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York



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Page 5 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

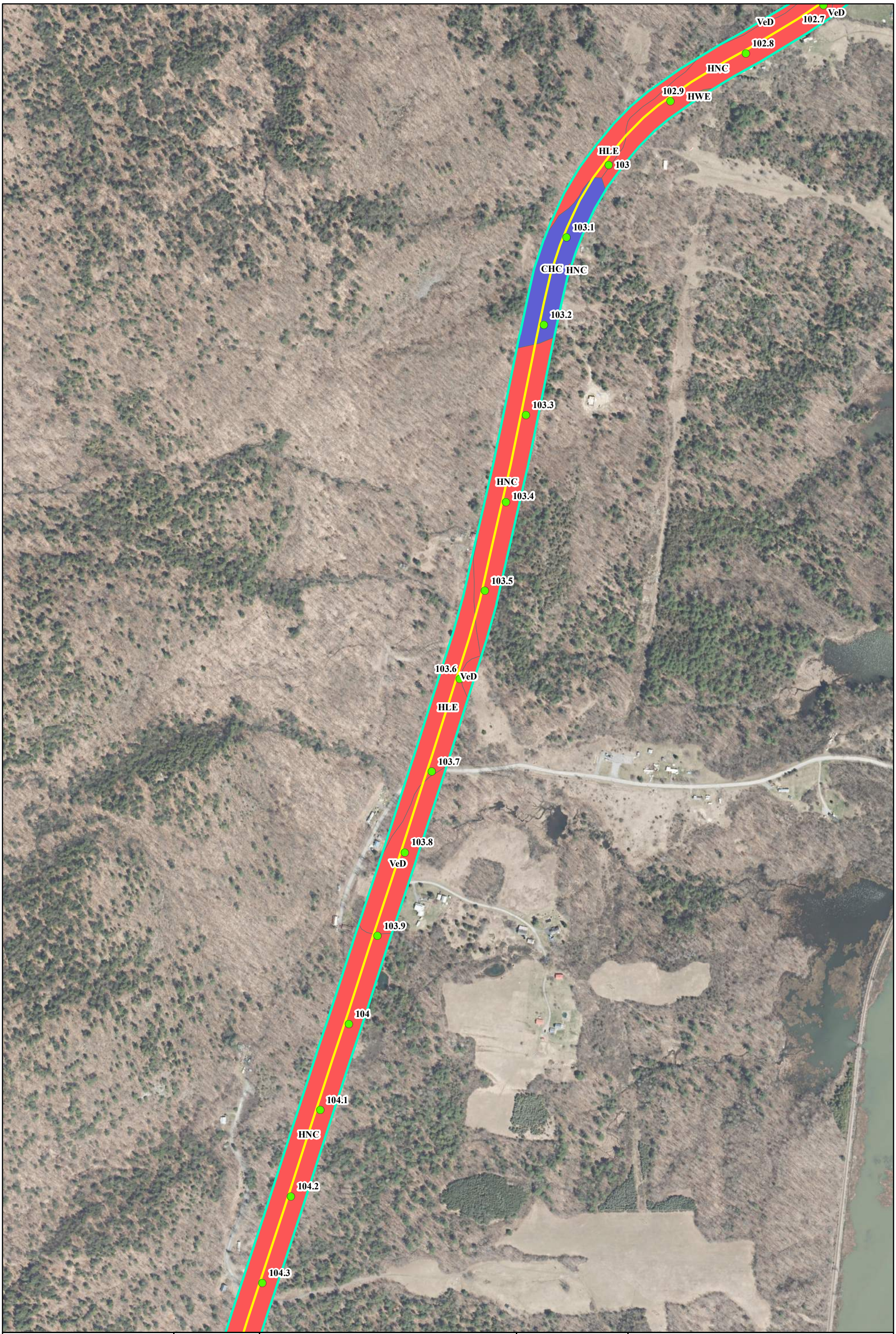
0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express Package 1A & 1B Soils Map

Washington County, New York



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N

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

A	C
A/D	C/D
B	D
B/D	Not rated

0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York

104.4
HNC
104.5
104.6
104.7
HLE
VeB
104.8
HSDK
HLE
VeB
105
105.1
105.2
HLE
105.3
105.4
105.5
CHC
105.7
105.8
VeC
HWE
105.9
CHE

CHA

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

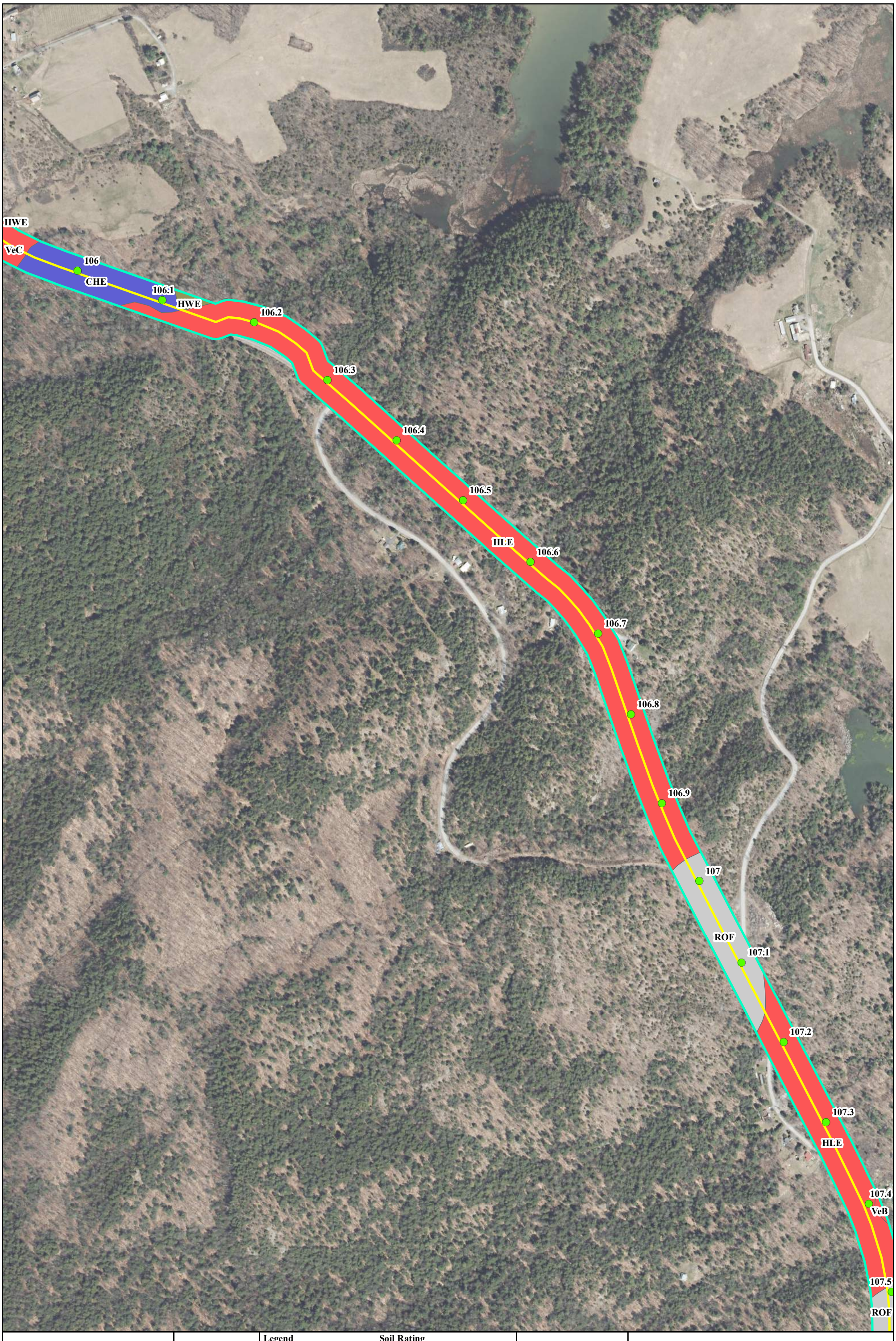
Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

0 250 500
Feet
1 in. = 500 ft.

Champlain Hudson Power Express Package 1A & 1B Soils Map

Washington County, New York



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Page 8 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

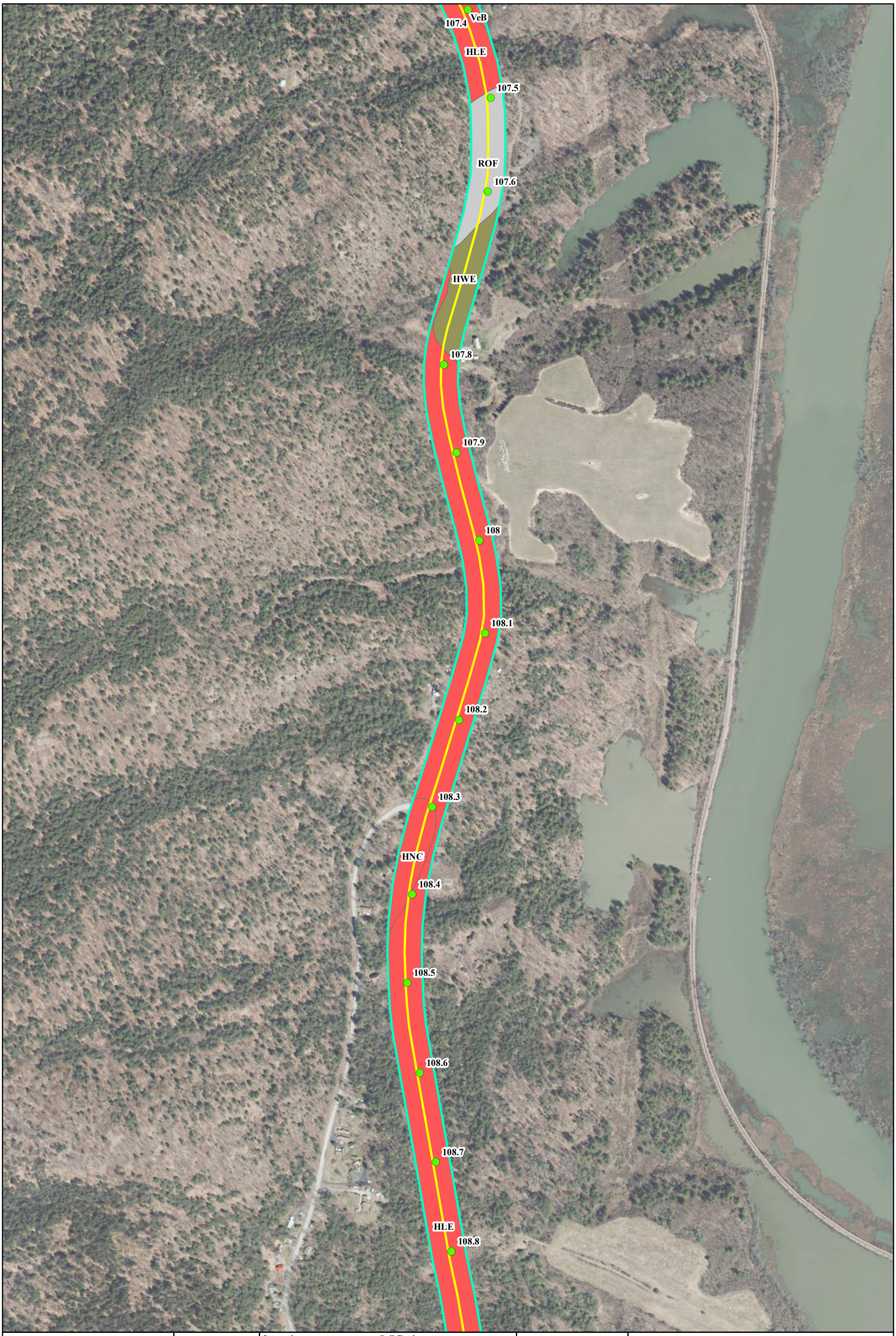
0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York



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Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

0 250 500
Feet

1 in. = 500 ft.

Champlain Hudson Power Express Package 1A & 1B Soils Map

Washington County, New York

CHA

Page 10 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York

CHA

Page 11 of 11

Legend

- Consolidated Route
- 100 ft. Buffer (AOI)
- Mile Marker

Soil Rating

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated

0 250 500

Feet

1 in. = 500 ft.

Champlain Hudson Power Express
Package 1A & 1B Soils Map

Washington County, New York

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Washington County, New York

March 1, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

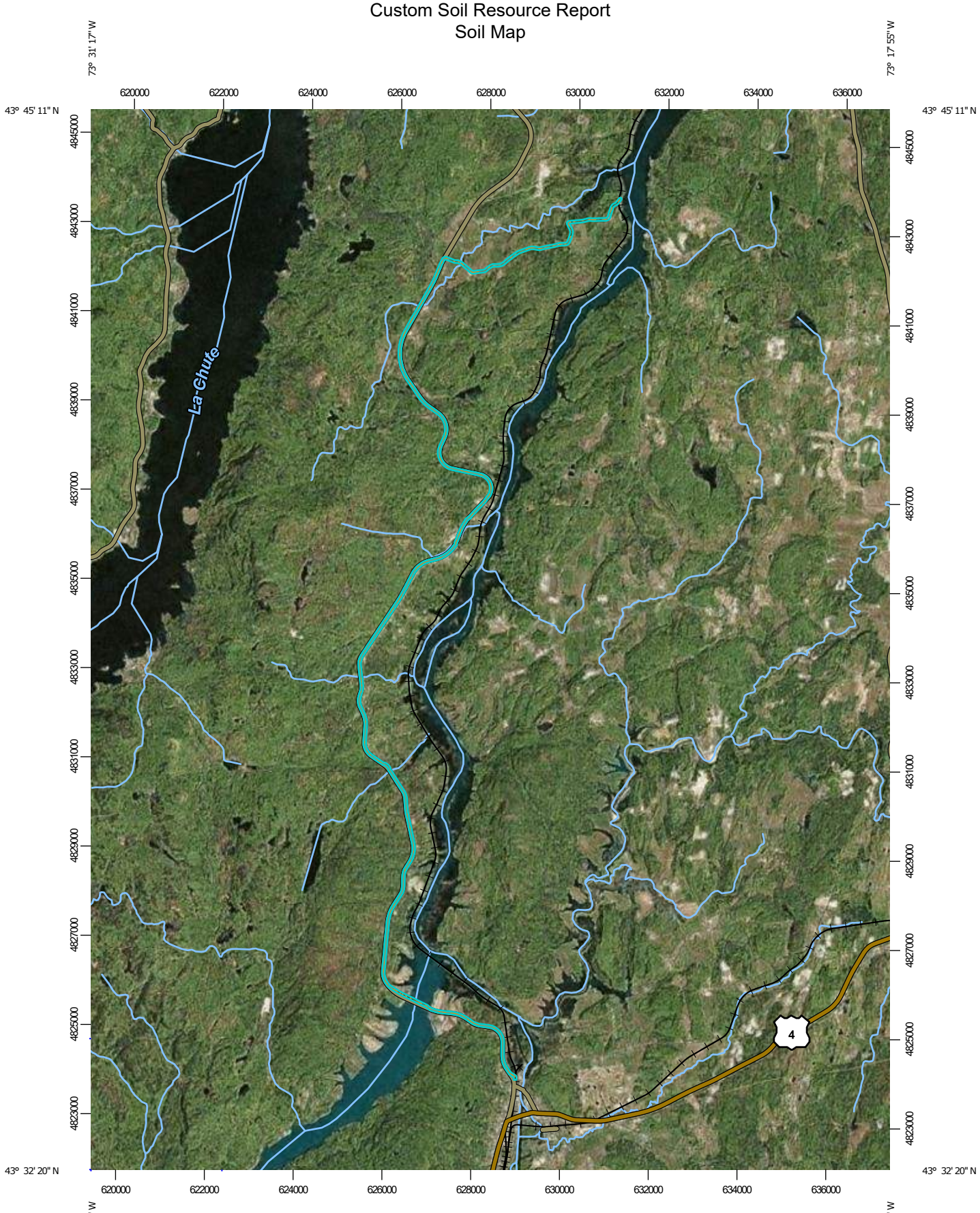
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:116,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 1500 3000 6000 9000

Feet
0 5000 10000 20000 30000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, New York
Survey Area Data: Version 21, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ca	Catden muck, 0 to 2 percent slopes	0.4	0.1%
CHC	Charlton fine sandy loam, 3 to 8 percent slopes, very stony	19.9	4.6%
CHE	Charlton soils, very stony, moderately steep and steep	7.8	1.8%
ClB	Claverack loamy fine sand, 2 to 6 percent slopes	0.1	0.0%
Cv	Covington silty clay loam	2.8	0.7%
FCC	Farmington-Rock outcrop association, nearly level through moderately steep	8.0	1.9%
HcB	Hartland very fine sandy loam, 2 to 6 percent slopes	1.0	0.2%
HLE	Hollis-Charlton association, moderately steep and steep	134.7	31.4%
HNC	Hollis-Rock outcrop association, gently sloping and sloping	33.6	7.8%
HSDK	Hoosic gravelly sandy loam, rolling and hilly	1.0	0.2%
HWE	Hudson and Vergennes soils, steep and very steep	18.5	4.3%
KbA	Kingsbury silty clay, 0 to 2 percent slopes	7.6	1.8%
KbB	Kingsbury silty clay, 2 to 6 percent slopes	8.0	1.9%
Lm	Limerick silt loam	1.7	0.4%
OaC	Oakville loamy fine sand, 5 to 15 percent slopes	9.8	2.3%
Pr	Pits, gravel and sand	4.7	1.1%
ROF	Rock outcrop-Hollis association, moderately steep through very steep	8.1	1.9%
RPC	Rock outcrop-Vergennes association, gently sloping through moderately steep	16.1	3.8%
RPF	Rock outcrop-Vergennes association, steep and very steep	0.4	0.1%
Sa	Saco silt loam	4.4	1.0%
SB	Saprists, Aquepts, and Aquents	6.1	1.4%
VeB	Vergennes silty clay loam, 3 to 8 percent slopes	40.0	9.3%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
VeC	Vergennes silty clay loam, 6 to 12 percent slopes	50.5	11.8%
VeD	Vergennes silty clay loam, 12 to 20 percent slopes	38.6	9.0%
W	Water	4.9	1.2%
Totals for Area of Interest		**429.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Washington County, New York

Ca—Catden muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t2qk
Elevation: 0 to 1,430 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Catden and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Catden

Setting

Landform: Depressions, depressions, fens, depressions, kettles, marshes, bogs, swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed herbaceous organic material and/or highly decomposed woody organic material

Typical profile

Oa1 - 0 to 2 inches: muck
Oa2 - 2 to 79 inches: muck

Properties and qualities

Slope: 0 to 1 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 26.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F144AY042NY - Semi-Rich Organic Wetlands
Hydric soil rating: Yes

Minor Components

Canandaigua
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Natchaug
Percent of map unit: 5 percent
Landform: Depressions, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Timakwa
Percent of map unit: 5 percent
Landform: Swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Alden
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

CHC—Charlton fine sandy loam, 3 to 8 percent slopes, very stony

Map Unit Setting
National map unit symbol: 2wh0r
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition
Charlton, very stony, and similar soils: 85 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F142XB009VT - Acidic Till Upland
Hydric soil rating: No

Minor Components

Sutton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton, very stony

Percent of map unit: 5 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Chatfield, very stony

Percent of map unit: 3 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Leicester, very stony

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

CHE—Charlton soils, very stony, moderately steep and steep

Map Unit Setting

National map unit symbol: 227tj
Elevation: 110 to 1,970 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, very stony, and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Very Stony

Setting

Landform: Till plains, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Acid loamy till derived mainly from schist, gneiss, or granite

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
H1 - 1 to 3 inches: sandy loam
H2 - 3 to 29 inches: gravelly sandy loam
H3 - 29 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Ecological site: F142XB008VT - Steep Acidic Till Upland
Hydric soil rating: No

Minor Components

Pittsfield

Percent of map unit: 8 percent
Hydric soil rating: No

Bernardston

Percent of map unit: 7 percent
Hydric soil rating: No

Hollis

Percent of map unit: 6 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 6 percent

Rock outcrop

Percent of map unit: 3 percent
Hydric soil rating: Unranked

CIB—Claverack loamy fine sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xyz
Elevation: 600 to 1,800 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Claverack and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Claverack

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciolacustrine deposits, derived primarily from non-calcareous sandstone or granite, that overlie clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 33 inches: loamy fine sand
H3 - 33 to 80 inches: silty clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F142XB018VT - Moist Lake Plain
Hydric soil rating: No

Minor Components

Cosad

Percent of map unit: 8 percent
Hydric soil rating: No

Oakville

Percent of map unit: 6 percent
Hydric soil rating: No

Hudson

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 2 percent

Cv—Covington silty clay loam

Map Unit Setting

National map unit symbol: 9xz1
Elevation: 50 to 1,000 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Covington and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Covington

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Calcareous clayey glaciolacustrine deposits or glaciomarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 13 inches: silty clay
H3 - 13 to 27 inches: clay
H4 - 27 to 80 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: F142XB007VT - Wet Clayplain Depression
Hydric soil rating: Yes

Minor Components

Kingsbury
Percent of map unit: 8 percent
Hydric soil rating: No

Madalin
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Rhinebeck
Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed soils
Percent of map unit: 3 percent

FCC—Farmington-Rock outcrop association, nearly level through moderately steep

Map Unit Setting
National map unit symbol: 9xz2
Elevation: 100 to 900 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Farmington and similar soils: 50 percent
Rock outcrop: 20 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Farmington

Setting
Landform: Till plains, ridges, benches
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till or congeliturbate derived from limestone, dolomite, shale, and sandstone, and in many places mixed with wind and water deposits

Typical profile
H1 - 0 to 6 inches: loam
H2 - 6 to 18 inches: loam
H3 - 18 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F142XB010NY - Shallow Rich Till Upland
Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydric soil rating: Unranked

Minor Components

Amenia

Percent of map unit: 8 percent
Hydric soil rating: No

Pittsfield

Percent of map unit: 8 percent
Hydric soil rating: No

Vergennes

Percent of map unit: 7 percent
Hydric soil rating: No

Kingsbury

Percent of map unit: 7 percent
Hydric soil rating: No

HcB—Hartland very fine sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xzh
Elevation: 50 to 500 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hartland and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hartland

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Silty eolian or glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: very fine sandy loam
H2 - 10 to 26 inches: very fine sandy loam
H3 - 26 to 75 inches: very fine sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY017NH - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Belgrade
Percent of map unit: 6 percent
Hydric soil rating: No

Wallington
Percent of map unit: 5 percent
Hydric soil rating: No

Oakville
Percent of map unit: 5 percent
Hydric soil rating: No

Hamlin
Percent of map unit: 4 percent
Hydric soil rating: No

HLE—Hollis-Charlton association, moderately steep and steep

Map Unit Setting
National map unit symbol: 9xz7
Elevation: 100 to 2,570 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Hollis and similar soils: 60 percent
Charlton and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting
Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: A thin mantle of loamy till derived mainly from schist, granite, and gneiss

Typical profile
H1 - 0 to 4 inches: loam
H2 - 4 to 19 inches: fine sandy loam
H3 - 19 to 23 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Charlton

Setting

Landform: Till plains, ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Acid loamy till derived mainly from schist, gneiss, or granite

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
H1 - 1 to 3 inches: sandy loam
H2 - 3 to 29 inches: gravelly sandy loam
H3 - 29 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 15 to 25 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 40 to 72 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F142XB008VT - Steep Acidic Till Upland
Hydric soil rating: No

Minor Components

Pittsfield

Percent of map unit: 5 percent

Hydric soil rating: No

Rock outcrop

Percent of map unit: 3 percent
Hydric soil rating: Unranked

Unnamed soils

Percent of map unit: 2 percent

HNC—Hollis-Rock outcrop association, gently sloping and sloping

Map Unit Setting

National map unit symbol: 9xz8
Elevation: 100 to 2,150 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 70 percent
Rock outcrop: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: A thin mantle of loamy till derived mainly from schist, granite, and gneiss

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 19 inches: fine sandy loam
H3 - 19 to 23 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rock Outcrop

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Minor Components

Charlton
Percent of map unit: 6 percent
Hydric soil rating: No

Sun
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Carlisle
Percent of map unit: 4 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

HSDK—Hoosic gravelly sandy loam, rolling and hilly

Map Unit Setting
National map unit symbol: 9xz9
Elevation: 100 to 1,100 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Hoosic and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hoosic

Setting
Landform: Terraces, outwash plains, deltas
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 8 inches: gravelly sandy loam
H2 - 8 to 35 inches: very gravelly loamy sand
H3 - 35 to 80 inches: very gravelly sand

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Oakville

Percent of map unit: 5 percent
Hydric soil rating: No

Fredon

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent

Otisville

Percent of map unit: 5 percent
Hydric soil rating: No

HWE—Hudson and Vergennes soils, steep and very steep

Map Unit Setting

National map unit symbol: 9xzc
Elevation: 90 to 1,800 feet
Mean annual precipitation: 35 to 42 inches

Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Vergennes and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 12 inches: silt loam
H3 - 12 to 26 inches: silty clay
H4 - 26 to 60 inches: stratified silty clay

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam

H2 - 6 to 13 inches: silty clay
H3 - 13 to 25 inches: clay
H4 - 25 to 60 inches: clay

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Fluvaquents

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Nassau

Percent of map unit: 3 percent
Hydric soil rating: No

Severely eroded soils

Percent of map unit: 2 percent
Hydric soil rating: No

KbA—Kingsbury silty clay, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 9xzv
Elevation: 80 to 600 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Kingsbury and similar soils: 80 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingsbury

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous, clayey glaciomarine deposits or glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silty clay
H2 - 8 to 28 inches: clay
H3 - 28 to 60 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F142XB006NY - Moist Clayplain
Hydric soil rating: No

Minor Components

Vergennes

Percent of map unit: 5 percent
Hydric soil rating: No

Covington

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Farmington

Percent of map unit: 4 percent
Hydric soil rating: No

Hollis

Percent of map unit: 3 percent
Hydric soil rating: No

Charlton

Percent of map unit: 3 percent
Hydric soil rating: No

KbB—Kingsbury silty clay, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 9xzw
Elevation: 80 to 600 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Kingsbury and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingsbury

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous, clayey glaciomarine deposits or glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silty clay
H2 - 8 to 28 inches: clay
H3 - 28 to 60 inches: clay

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F142XB006NY - Moist Clayplain
Hydric soil rating: No

Minor Components

Covington
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Vergennes
Percent of map unit: 5 percent
Hydric soil rating: No

Farmington
Percent of map unit: 4 percent
Hydric soil rating: No

Charlton
Percent of map unit: 3 percent
Hydric soil rating: No

Hollis
Percent of map unit: 3 percent
Hydric soil rating: No

Lm—Limerick silt loam

Map Unit Setting
National map unit symbol: 9xzx
Elevation: 50 to 500 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Limerick and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Limerick

Setting
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium that is dominantly silt and very fine sand

Typical profile
H1 - 0 to 3 inches: silt loam
H2 - 3 to 26 inches: silt loam

H3 - 26 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F144AY015NY - Wet Silty Low Floodplain
Hydric soil rating: Yes

Minor Components

Hamlin

Percent of map unit: 5 percent
Hydric soil rating: No

Teel

Percent of map unit: 5 percent
Hydric soil rating: No

Saco

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent

OaC—Oakville loamy fine sand, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9y06
Elevation: 600 to 1,200 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Oakville and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oakville

Setting

Landform: Terraces, outwash plains, deltas
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy eolian, beach ridge, or glaciofluvial deposits

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 24 inches: loamy fine sand
H3 - 24 to 60 inches: fine sand

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Hoosic

Percent of map unit: 7 percent
Hydric soil rating: No

Otisville

Percent of map unit: 7 percent
Hydric soil rating: No

Claverack

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 3 percent

Pr—Pits, gravel and sand

Map Unit Setting

National map unit symbol: 1qdsw
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Gravel and sand pits: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

ROF—Rock outcrop-Hollis association, moderately steep through very steep

Map Unit Setting

National map unit symbol: 9y0h
Elevation: 100 to 2,640 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 70 percent
Hollis and similar soils: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 50 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: Unranked

Description of Hollis

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: A thin mantle of loamy till derived mainly from schist, granite, and gneiss

Typical profile

H1 - 0 to 4 inches: loam
H2 - 4 to 19 inches: fine sandy loam
H3 - 19 to 23 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent

Charlton

Percent of map unit: 3 percent
Hydric soil rating: No

Kingsbury

Percent of map unit: 1 percent
Hydric soil rating: No

Vergennes

Percent of map unit: 1 percent
Hydric soil rating: No

RPC—Rock outcrop-Vergennes association, gently sloping through moderately steep

Map Unit Setting

National map unit symbol: 9y0j

Elevation: 50 to 1,000 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 35 percent
Vergennes and similar soils: 25 percent
Minor components: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: Unranked

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 13 inches: silty clay
H3 - 13 to 25 inches: clay
H4 - 25 to 60 inches: clay

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Unnamed soils
Percent of map unit: 13 percent

Kingsbury
Percent of map unit: 9 percent
Hydric soil rating: No

Charlton
Percent of map unit: 9 percent
Hydric soil rating: No

Covington
Percent of map unit: 9 percent
Landform: Depressions
Hydric soil rating: Yes

RPF—Rock outcrop-Vergennes association, steep and very steep

Map Unit Setting
National map unit symbol: 9y0k
Elevation: 50 to 1,000 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Rock outcrop: 40 percent
Vergennes and similar soils: 30 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Properties and qualities
Slope: 25 to 50 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydric soil rating: Unranked

Description of Vergennes

Setting
Landform: Lake plains
Landform position (two-dimensional): Summit

Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 13 inches: silty clay
H3 - 13 to 25 inches: clay
H4 - 25 to 60 inches: clay

Properties and qualities

Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 13 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent

Farmington

Percent of map unit: 5 percent
Hydric soil rating: No

Nassau

Percent of map unit: 5 percent
Hydric soil rating: No

Charlton

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis

Percent of map unit: 5 percent
Hydric soil rating: No

Bernardston

Percent of map unit: 5 percent
Hydric soil rating: No

Sa—Saco silt loam

Map Unit Setting

National map unit symbol: 9y0r
Elevation: 80 to 950 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Saco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saco

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Silty alluvium derived mainly from crystalline rock, shale, and sandstone

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 30 inches: silt loam
H3 - 30 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very high (about 13.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Limerick
Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Teel
Percent of map unit: 5 percent
Hydric soil rating: No

Wallington
Percent of map unit: 4 percent
Hydric soil rating: No

Belgrade
Percent of map unit: 4 percent
Hydric soil rating: No

Fluvaquents
Percent of map unit: 2 percent
Landform: Flood plains
Hydric soil rating: Yes

SB—Saprists, Aquepts, and Aquents

Map Unit Setting
National map unit symbol: 9y0n
Elevation: 10 to 2,400 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Saprists and similar soils: 30 percent
Aquepts and similar soils: 25 percent
Aquents and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saprists

Setting
Landform: Marshes, swamps
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material

Typical profile

H1 - 0 to 70 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.20 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Aquepts

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

Typical profile

H1 - 0 to 9 inches: mucky silty clay loam
H2 - 9 to 72 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Description of Aquents

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave

Typical profile

H1 - 0 to 12 inches: gravelly fine sandy loam
H2 - 12 to 70 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Carlisle

Percent of map unit: 5 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Sun

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Fluvaquents

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Halsey

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

VeB—Vergennes silty clay loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2rvsk
Elevation: 100 to 510 feet
Mean annual precipitation: 31 to 59 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Vergennes and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vergennes

Setting

Landform: Lake terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous clayey estuarine deposits derived from limestone and/or calcareous clayey glaciolacustrine deposits derived from limestone

Typical profile

Ap - 0 to 8 inches: silty clay loam
B/E - 8 to 10 inches: clay
Bt - 10 to 22 inches: clay
BC - 22 to 29 inches: silty clay
C1 - 29 to 37 inches: silty clay
C2 - 37 to 45 inches: silty clay
C3 - 45 to 79 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Cayuga

Percent of map unit: 5 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Kingsbury

Percent of map unit: 5 percent
Landform: Lake terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Wilpoint

Percent of map unit: 3 percent
Landform: Lake terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Farmington

Percent of map unit: 2 percent
Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

VeC—Vergennes silty clay loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 9y0y
Elevation: 50 to 1,000 feet
Mean annual precipitation: 35 to 42 inches

Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Vergennes and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 13 inches: silty clay
H3 - 13 to 25 inches: clay
H4 - 25 to 60 inches: clay

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Kingsbury

Percent of map unit: 5 percent
Hydric soil rating: No

Farmington

Percent of map unit: 5 percent
Hydric soil rating: No

Hollis

Percent of map unit: 5 percent
Hydric soil rating: No

Hudson

Percent of map unit: 3 percent
Hydric soil rating: No

Eroded soils

Percent of map unit: 2 percent
Hydric soil rating: No

VeD—Vergennes silty clay loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: 9y0z
Elevation: 50 to 1,000 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Vergennes and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 6 inches: silty clay loam
H2 - 6 to 13 inches: silty clay
H3 - 13 to 25 inches: clay
H4 - 25 to 60 inches: clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Kingsbury

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent

Farmington

Percent of map unit: 5 percent
Hydric soil rating: No

Eroded soils

Percent of map unit: 3 percent
Hydric soil rating: No

Hudson

Percent of map unit: 2 percent
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: 1qdsb
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

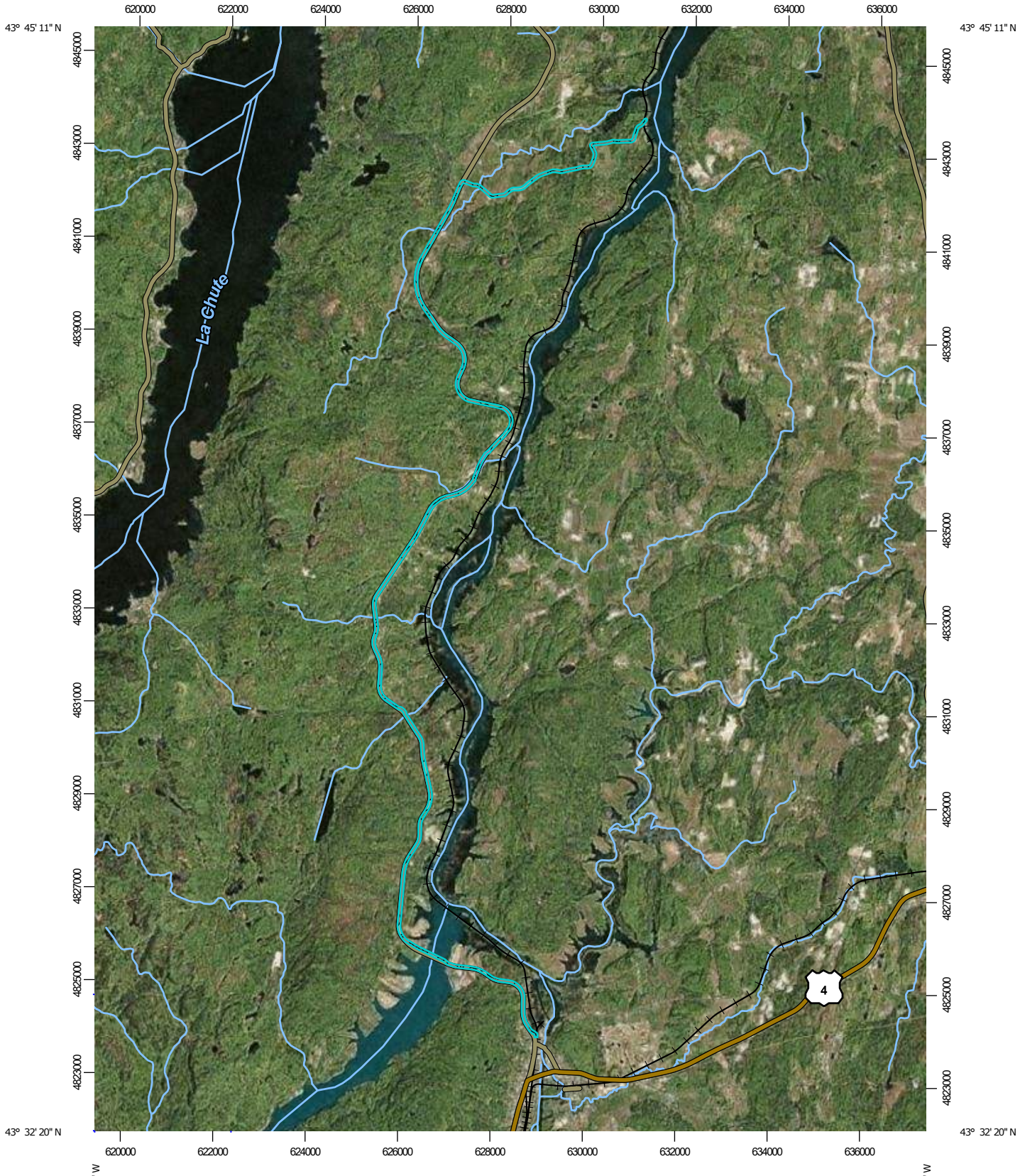
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:116,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 1500 3000 6000 9000

Feet
0 5000 10000 20000 30000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, New York
Survey Area Data: Version 21, Sep 1, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ca	Catden muck, 0 to 2 percent slopes	B/D	0.4	0.1%
CHC	Charlton fine sandy loam, 3 to 8 percent slopes, very stony	B	19.9	4.6%
CHE	Charlton soils, very stony, moderately steep and steep	B	7.8	1.8%
ClB	Claverack loamy fine sand, 2 to 6 percent slopes	C/D	0.1	0.0%
Cv	Covington silty clay loam	D	2.8	0.7%
FCC	Farmington-Rock outcrop association, nearly level through moderately steep	D	8.0	1.9%
HcB	Hartland very fine sandy loam, 2 to 6 percent slopes	B	1.0	0.2%
HLE	Hollis-Charlton association, moderately steep and steep	D	134.7	31.4%
HNC	Hollis-Rock outcrop association, gently sloping and sloping	D	33.6	7.8%
HSDK	Hoosic gravelly sandy loam, rolling and hilly	A	1.0	0.2%
HWE	Hudson and Vergennes soils, steep and very steep	C/D	18.5	4.3%
KbA	Kingsbury silty clay, 0 to 2 percent slopes	D	7.6	1.8%
KbB	Kingsbury silty clay, 2 to 6 percent slopes	D	8.0	1.9%
Lm	Limerick silt loam	B/D	1.7	0.4%
OaC	Oakville loamy fine sand, 5 to 15 percent slopes	A	9.8	2.3%
Pr	Pits, gravel and sand		4.7	1.1%
ROF	Rock outcrop-Hollis association, moderately steep through very steep		8.1	1.9%
RPC	Rock outcrop-Vergennes association, gently sloping through moderately steep		16.1	3.8%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RPF	Rock outcrop-Vergennes association, steep and very steep		0.4	0.1%
Sa	Saco silt loam	B/D	4.4	1.0%
SB	Saprists, Aquepts, and Aquents	B/D	6.1	1.4%
VeB	Vergennes silty clay loam, 3 to 8 percent slopes	D	40.0	9.3%
VeC	Vergennes silty clay loam, 6 to 12 percent slopes	D	50.5	11.8%
VeD	Vergennes silty clay loam, 12 to 20 percent slopes	D	38.6	9.0%
W	Water		4.9	1.2%
Totals for Area of Interest			**429.0**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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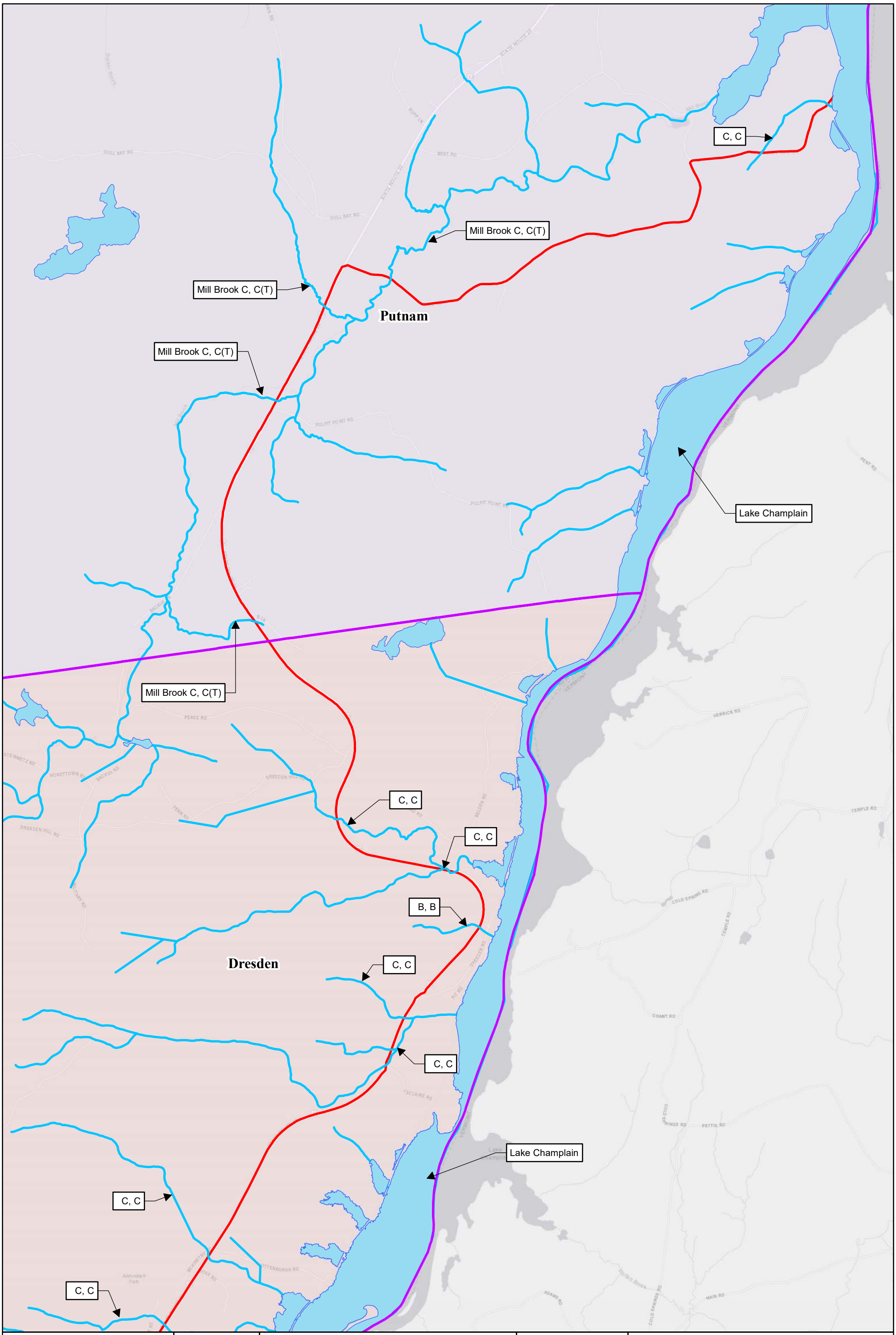
Appendix C
Receiving Waters Maps



CHA

N

Legend

Consolidated Route

Municipal Border

Water Bodies

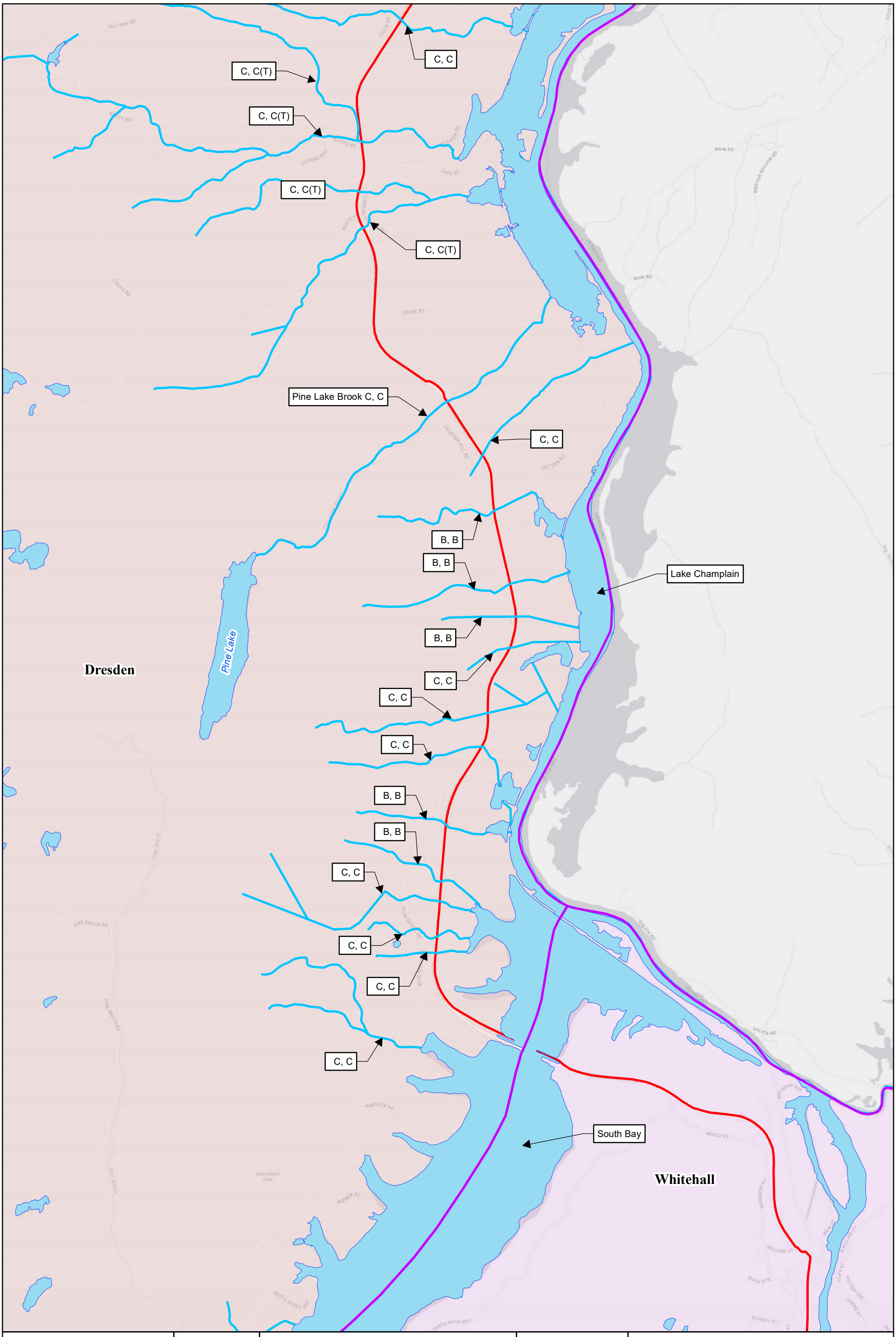
Streams

0 1,000 2,000

Feet

1 in. = 2,250 ft.

Champlain Hudson Power Express Receiving Waters Map



CHA

N

Legend

Consolidated Route
Municipal Border
Water Bodies
Streams

0 1,000 2,000
Feet

1 in. = 2,250 ft.

Champlain Hudson Power Express
Soils Map

County, New York

Appendix D
FEMA FIRM Maps

F G H

ZONE X

MILL BAY

ZONE X

ZONE AE
(EL 102)

STATE BOUNDARY
LAKE CHAMPLAIN

DELAWARE AND HUDSON RAILROAD

Site Location

22

Mill Brook

ZONE AE
(EL 102)

LAKE CHAMPLAIN STATE BOUNDARY

To determine if flood insurance is available in this community, contact you
insurance agent or call the National Flood Insurance Program at (800) 638-662

N

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
PUTNAM, NEW YORK
WASHINGTON COUNTY

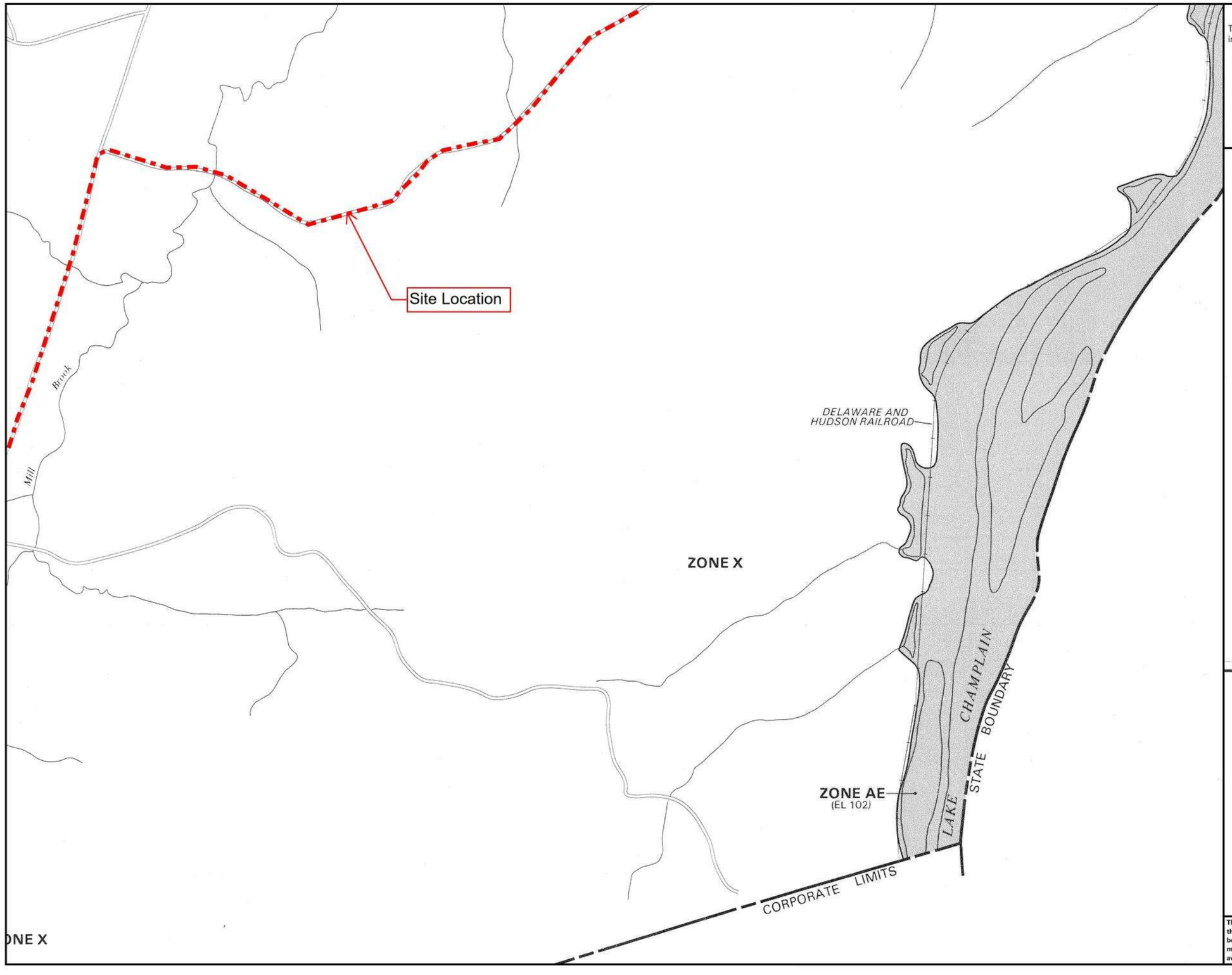
PANEL 10 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361236 0010 B

MAP REVISED:
NOVEMBER 20, 1996

Federal Emergency Management Agency

Champlain Hudson Power Express
FEMA FIRM MAP 1



To determine if flood insurance is available in this community, contact you
insurance agent or call the National Flood Insurance Program at (800) 638-662

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
PUTNAM, NEW YORK
WASHINGTON COUNTY

PANEL 10 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361236 0010 B

MAP REVISED:
NOVEMBER 20, 1996

Federal Emergency Management Agency

Champlain Hudson Power Express
FEMA FIRM MAP 2

ONE X

ZONE A

ZONE X

ZONE A

ROAD

ZONE A

22

Site Location

ZONE X

ZONE A

ZONE A

ZONE X

ZONE A

22

ZONE AE
(EL 102)

LAKE CHAMPLAIN

DELAWARE AND HUDSON RAILWAY

ZONE AE
(EL 102)

STATE BOUNDARY

CORPORATE LIMITS

ZONE AE
(EL 102)

determine if flood insurance is available in this community, contact your
urance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
DRESDEN,
NEW YORK
WASHINGTON COUNTY

PANEL 15 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361410 0015 B

MAP REVISED:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

Champlain Hudson Power Express
FEMA FIRM MAP 3

determine if flood insurance is available in this community, contact your
urance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
DRESDEN,
NEW YORK
WASHINGTON COUNTY

PANEL 15 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361410 0015 B

MAP REVISED:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

ZONE A
ZONE X
ZONE A
ZONE A
Site Location
ZONE AE
(EL 102)
ZONE X
ZONE A
STATE BOUNDARY
LAKE CHAMPLAIN
DELAWARE AND HUDSON RAILWAY
BARRET BAY
ZONE AE
(EL 102)
ZONE AE
(EL 102)
LAKE

Champlain Hudson Power Express
FEMA FIRM MAP 4

determine if flood insurance is available in this community, contact your
urance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
DRESDEN,
NEW YORK
WASHINGTON COUNTY

PANEL 15 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361410 0015 B

MAP REVISED:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

Site Location

ZONE A

ZONE X

ZONE A

ZONE A

ZONE X

ZONE AE
(EL 102)

ZONE A

Pine Lake Brook

ZONE AE
(EL 102)

HUDSON AND DELAWARE RAILWAY

ZONE AE
(EL 102)

STATE BOUNDARY

ZONE X

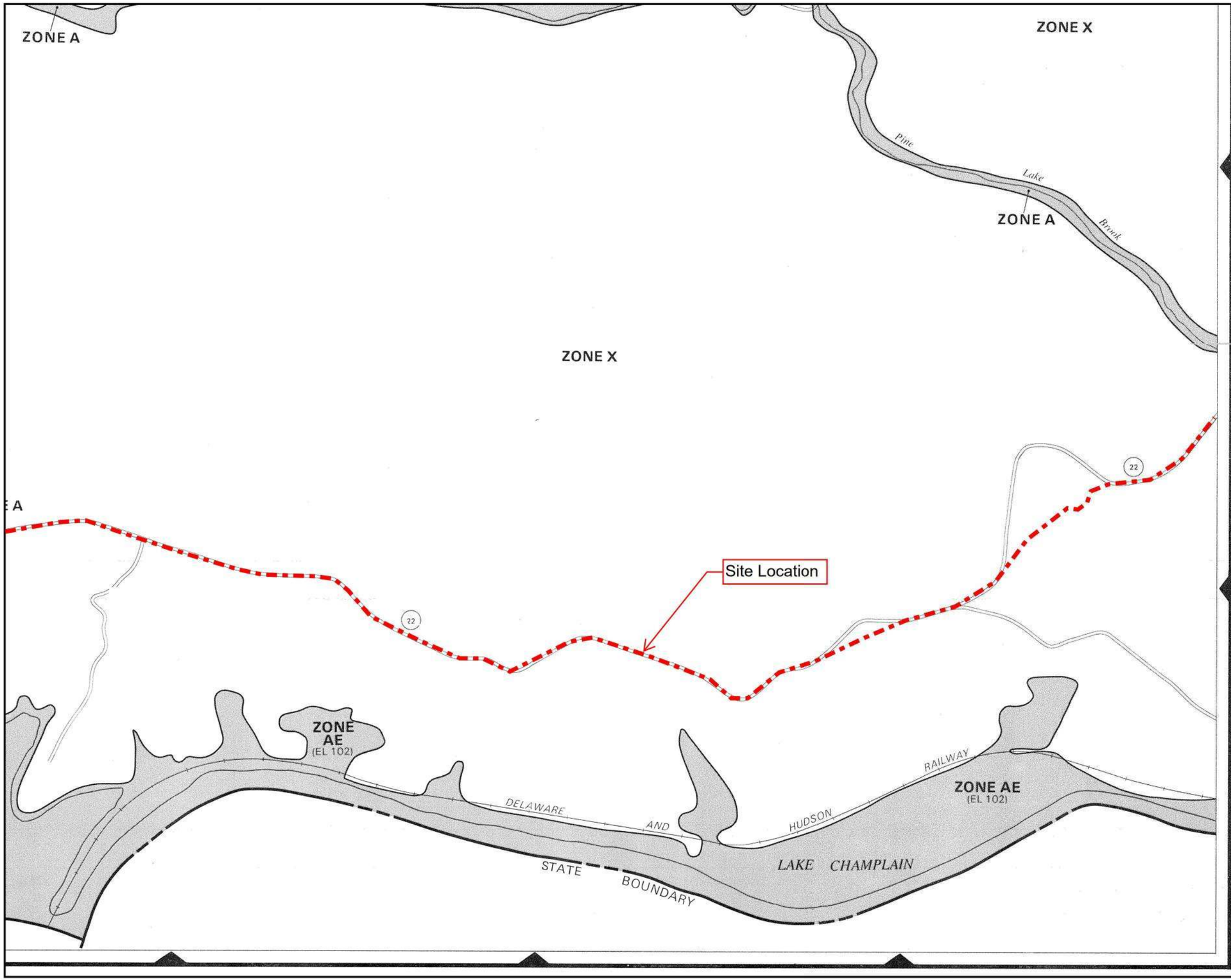
ZONE AE
(EL 102)

LAKE CHAMPLAIN

LAKE CHAMPL

22

Champlain Hudson Power Express
FEMA FIRM MAP 5



To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
DRESDEN,
NEW YORK
WASHINGTON COUNTY

PANEL 10 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361410 0010 B

MAP REVISED:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

Champlain Hudson Power Express
FEMA FIRM MAP 6

o determine if flood insurance is available in this community, contact your
nsurance agent or call the National Flood Insurance Program at (800) 638-6620.

APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
DRESDEN,
NEW YORK
WASHINGTON COUNTY

PANEL 10 OF 15
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361410 0010 B

MAP REVISED:
SEPTEMBER 20, 1996

Federal Emergency Management Agency

ZONE A

ZONE X

ZONE A

ZONE A

ZONE X

Site Location

ZONE AE
(EL 102)

ZONE
AE
(EL 102)

BAY

CORPORATE LIMITS

SOUTH BAY

Champlain Hudson Power Express
FEMA FIRM MAP 7

Appendix E
Historic Resource Determination Correspondence

Appendix F
Grading and Erosion Sediment Control Plans and Details

CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 1 - PUTNAM TO DRESDEN

WASHINGTON COUNTY, NEW YORK

100% FINAL SUBMISSION

(APRIL 15, 2022)

SITE LOCATION MAP
SCALE: 1" = 3000'

NOT FOR CONSTRUCTION

CHPE Champlain Hudson Power Express

Kiewit

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 • www.chacompanies.com

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
A	04/15/2022	EM&CP REGULATORY SUBMISSION	JM	JR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 1 - PUTNAM TO DRESDEN
COVER SHEET

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	G-000

DRAWN BY: JTM | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 04/15/2022 | SH.NO. XXX OF XXX

1 2 3 4

A

B

STAGING AND LAYDOWN AREA NOTES:

1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES PRIOR TO CONSTRUCTION OF THE LAYDOWN AREA.
2. FOR CONSTRUCTION OF THE LAYDOWN AREA, CONTRACTOR TO INSTALL FABRIC AND STONE DIRECTLY ON EXISTING GRADE.
3. LAYDOWN AREA SHALL NOT BE CONSTRUCTED WITHIN WETLAND AREAS.
4. FUELING OPERATIONS SHALL NOT TAKE PLACE WITHIN 100 FEET OF ANY KNOWN WETLAND OR STREAM OR WITHIN 200 FEET OF ANY POTABLE WATER SOURCE.
5. AT THE COMPLETING OF CONSTRUCTION, CONTRACTOR TO REMOVE STONE, FABRIC AND RESTORE TO EXISTING CONDITIONS IN ACCORDANCE WITH THE RESTORATION SECTION FOR AGRICULTURAL LANDS AS IDENTIFIED WITHIN THE EM&CP.

RYDER ROAD STAGING AND LAYDOWN AREA (SOUTH)

SCALE: 1" = 40'

CHPE Champlain Hudson Power Express

Kiewit

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
A	04/15/2022	EM&CP REGULATORY SUBMISSION	JM	JR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 1 - PUTNAM TO DRESDEN
RYDER ROAD STAGING AND LAYDOWN AREA (SOUTH)

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	**C-201**

DRAWN BY: JTM | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 04/15/2022 | SH.NO. XXX OF XXX

1 2 3 4

A B

STAGING AND LAYDOWN AREA NOTES:

1. CONTRACTOR TO INSTALL EROSION CONTROL MEASURES PRIOR TO CONSTRUCTION OF THE LAYDOWN AREA.
2. FOR CONSTRUCTION OF THE LAYDOWN AREA, CONTRACTOR TO INSTALL FABRIC AND STONE DIRECTLY ON EXISTING GRADE.
3. LAYDOWN AREA SHALL NOT BE CONSTRUCTED WITHIN WETLAND AREAS.
4. FUELING OPERATIONS SHALL NOT TAKE PLACE WITHIN 100 FEET OF ANY KNOWN WETLAND OR STREAM OR WITHIN 200 FEET OF ANY POTABLE WATER SOURCE.
5. AT THE COMPLETING OF CONSTRUCTION, CONTRACTOR TO REMOVE STONE, FABRIC AND RESTORE TO EXISTING CONDITIONS IN ACCORDANCE WITH THE RESTORATION SECTION FOR AGRICULTURAL LANDS AS IDENTIFIED WITHIN THE EM&CP.

RYDER ROAD STAGING AND LAYDOWN AREA (NORTH)

SCALE: 1" = 40'

CHPE Champlain Hudson Power Express

Kiewit

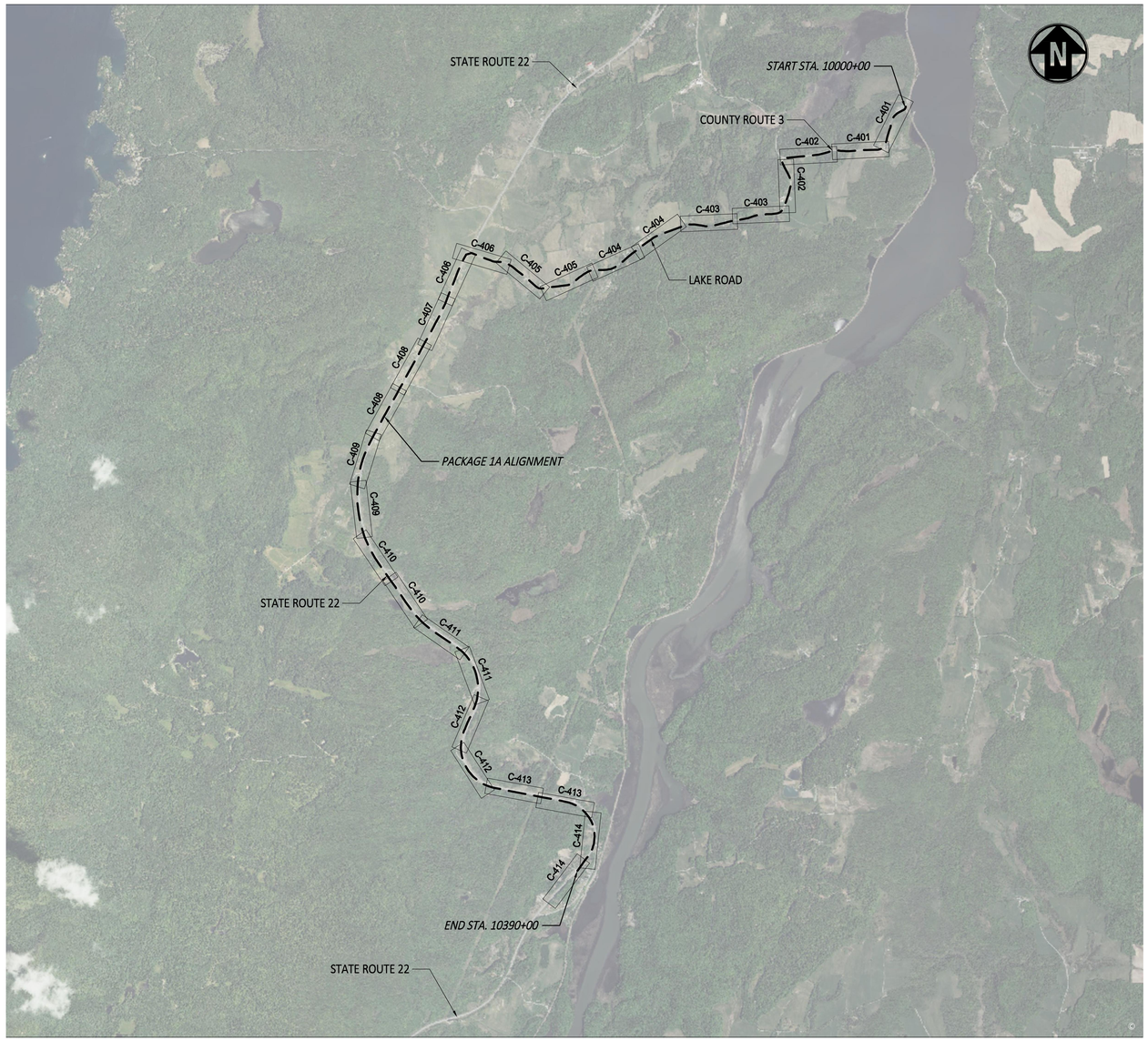
CHA
111 Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
A	04/15/2022	EM&CP REGULATORY SUBMISSION	JM	JR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 1 - PUTNAM TO DRESDEN
RYDER ROAD STAGING AND LAYDOWN AREA (NORTH)

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-202

DRAWN BY: JTM | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 04/15/2022 | SH.NO. XXX OF XXX



E&S KEY MAP
SCALE: 1" = 2000'

CHPE Champlain Hudson Power Express

Kiewit

CHA
111 Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
A	04/15/2022	EM&CP REGULATORY SUBMISSION	JM	JR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 1 - PUTNAM TO DRESDEN
KEYPLAN E&S

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-400

DRAWN BY: JTM | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 04/15/2022 | SH.NO. XXX OF XXX

File: V:\PROJECTS\ANY\V6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 1\DESIGN PACKAGE 1A\066076_1A_C-400.DWG Saved: 3/7/2022 2:14:17 PM Plotted: 4/12/2022 8:28:49 PM Current User: Evans, Josh LastSavedBy: 7895