Champlain Hudson Power Express

Case Number 10-T-0139

Segment 3 - Package 1C

Stormwater Pollution Prevention Plan

Whitehall to Fort Ann

Washington County, New York

CHA Project Number: 006676

Prepared for:

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1.0 PROJECT INFORMATION

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Champlain Hudson Power Express Segment 3 - Package 1C Whitehall to Fort Ann, 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 ±5.8 miles of upland cable installation work for Segment 3 - Package 1C work begins in the Town of Whitehall, Washington County and ends in Town of Fort Ann, Washington County, NY (see Figure 1C – Site Location Map 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 Package 2 work will follow with anticipated design plans and SWPPP updates.

Table 1 - Overland and Marine Segments: CHPE Project Construction, Sequencing, and Scheduling

EM&CP Segment	Design Packages	Location Description	Approximate Segment Length (miles)	Anticipated EM&CP Submittal	Anticipated Construction Commencement
OVERLAND SEGMENTS					
1, 2	Package 1A/Package 1B	Putnam to Dresden/Dresden to Whitehall	17.82	April 15, 2022	November 2022
3	Package 1C/Package 2	Whitehall to Fort Ann/Fort Ann to Kingsbury	20.8	December 2022	May 2023
8	Package 5A	Rotterdam to Selkirk	16.99	December 2022	May 2023
9	Package 5B	Selkirk Bypass	5.31	December 2022	May 2023
4, 5	Package 3	Kingsbury to Milton	26.5	January 2023	June 2023
10	Package 6	Ravena to Catskill	20.9	January 2023	June 2023
13, 14, 15	Package 8	Queens	2.13	January 2023	June 2023
6	Package 4A	Milton to Ballston	10.2	February 2023	July 2023
7	Package 4B	Ballston to Schenectady/Rotterdam	9.6	February 2023	July 2023
11	Package 7A	Catskill to Germantown	8.6	February 2023	July 2023
12	Package 7B	Stony Point to Haverstraw	7.6	February 2023	July 2023

Laydown Yards	3, 5B, 6	Fort Edward, Bethlehem, Coxsackie	N/A	November 17, 2022	February 2023
MARINE SEGMENTS					
16	Package 9	Transitional HDD (Stony Point)	N/A	September 29, 2022	July 2023
17	Package 10	3 Transitional HDDs (Putnam, Catskill, Clarkstown)	N/A	December 2022	June 2023
18	Package 11	Lake Champlain	96	February 2023	June 2023
19	Package 12	Hudson River (Pre-Lay Mattressing)	89.1	March 2023	August 2023
20	Package 13	Hudson River (Cable Installation)	89.1	December 2023	June 2024
21	Package 14	Harlem River	6.3	December 2023	June 2024
22	TBD	Converter Station, Astoria Complex (Queens)	N/A	January 2023	June 2023
23	TBD	Astoria Rainey Cable HVAC System (Queens)	3.5	TBD	TBD

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 Segment 3 - Package 1C of a multi-phase project. Updates to the SWPPP will occur with subsequent project phases and Erosion and Sedimentation plans will be developed for future phases as they occur. Work for Segment 3 - Package 1C of the project is scheduled to be determined.

Table 2 – Nature of Construction Project

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.

CHPE 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 CHPE anticipates being required in addition to NYSDOT required permits.

Table 3 – Required Highway Work Permits

Municipality	Permit
Washington County	
Town of Whitehall	Town Road Work Permit
Town of Fort Ann	Town Road Work Permit

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 are depicted on the Erosion and Sediment Control plan sheets.

Table 4 – Project Disturbance Area

Land Segment	Design Package	Location Description	Total Disturbed Area	Existing Impervious Area within Disturbed Area*	Proposed Impervious Area within Disturbed Area*
3	1C	Whitehall/Fort Ann	±7.04 acres	±5.63 acres	±5.63 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 design package. 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 5.

Table 5 - Soil Analysis Summary

Construction Land Segment	Design Package	Location	Hydrologic Soil Group (HSG)			
			A	B	C	D
3	1C	Whitehall/Fort Ann	44%	3%	0%	53%

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

The Cultural Resources Management Plan (CRMP) is included in Appendix O of the EM&CP.

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 Segment 3 - Package 1C work area.

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 phase or structure, this work shall be completed to the extent possible, before work on another phase 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)

1. Establish work area and contractor staging areas.
2. Install stabilized construction entrance and temporary erosion and sediment control measures (installed in progressive phases).
3. Perform initial clearing to remove vegetation (where required).
4. Build gravel access roads.
5. Place temporary timber mattings through accessible wetland areas (where required).
6. Perform excavation to facilitate conduit placement or splice pits.
7. Perform conduit, splice box, handhole, etc. installation.
8. Backfill trench in accordance with project details and specifications.
9. Within HDD areas set up laydown, staging and excavate pits.
10. Perform HDD.
11. Restore HDD disturbed areas in accordance with the plans.
12. Within pavement areas, restore pavement to pre-existing grade, mill and overlay areas as depicted on the plans.
13. Pull and/or splice cable.
14. Restore signage, guiderail, mailboxes etc. and staging/access roads impacted by construction to pre-existing condition.
15. Remove temporary timber matting from wetland areas and apply appropriate seed mixture where necessary.
16. 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 Champlain Canal and its minor tributaries 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 surface 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 6. Locations of the receiving waters are shown on figures and maps in Appendix C.

Table 6 – Summary of Receiving Waters and Stream Classifications

Approximate Alignment Station	Receiving Waterbody / Stream Name	NYSDEC Stream Classification	Waterbody Field ID	303(d) Segment Impaired
15105+00 Segment 3 C-404	Unnamed Tributary to Champlain Canal	Unmapped	C-R-S3	Yes
15121+00 Segment 3 C-405	Unnamed Tributary to Champlain Canal	Unmapped	C-R-S2	Yes
15142+00 Segment 3 C-405	Unnamed Tributary to Champlain Canal	Unmapped	C-R-S1/G-R-S-K	Yes
15178+00 Segment 3 C-406	Champlain Canal	C/C 830-469	G-R-S-L	Yes
15227+00 Segment 3 C-408	Tributary to Champlain Canal	C/C 830-469	G-R-S-M	Yes
15298+00 Segment 3 C-410	Unnamed Tributary to Champlain Canal	Unmapped	G-R-S-N	Yes

4.0 CONTROLS

4.1 PRE-CONSTRUCTION

Prior to construction, the Owner shall have the Contractors and subcontractors identify at least one (1) person from their company who meets the requirements of a Trained Contractor. A Trained Contractor will be responsible for installing, constructing, repairing, and replacing the erosion and sediment control (ESC) practices.

In addition, the Trained Contractor will be responsible for the implementation of the Stormwater Pollution Prevention Plan (SWPPP) and the inspection and maintenance in accordance with New York Standards and Specifications for Erosion & Sediment Control (Blue Book). The Owner's Representative shall ensure that at least one (1) Trained Contractor is on-site daily when soil disturbance activities are being performed. The Trained Contractor shall inspect the site's ESC practices daily to ensure these facilities are operational. Pre-construction requirements to be followed by the Owner and Contractors prior to the commencement of any construction activities are described in Appendix F.

4.2 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 7 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.

4.3 EROSION AND SEDIMENT CONTROLS / STABILIZATION PRACTICE

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

4.3.1 Temporary Stabilization

Topsoil stockpiles, staging areas and disturbed pervious portions of the project area where construction activity temporarily ceases for at least 7 days shall be stabilized with temporary seed and mulch or with approved stabilization method per the NYSDEC Standards and Specifications for Erosion Control no later than 7 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 winter rye at a rate of 30 lbs per acre. If area is to remain stabilized over the winter into the following spring use winter 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.

4.3.2 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.

4.4 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.

4.4.1 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.

4.4.2 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 I.

4.5 OTHER CONTROLS

4.5.1 Waste Disposal

Solid Waste – materials will 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 will be disposed of in a portable container unit (dumpster). No waste materials will be buried. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating

these practices will 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 in accordance with the Soil Management Plan. 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.

4.5.2 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.

4.5.3 Non-Stormwater Discharges

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

4.6 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 Village of Whitehall and Town of Whitehall, Washington County, NY, various portions of the proposed CHPE project Segment 3 - Package 1C 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. No new impervious surfaces will be added, and no grading changes will be made, thus, the base flood elevations will not be impacted within the proposed project work area.

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. During each work day, all erosion control devices will be inspected in each work area and repaired (if necessary) to ensure proper functioning.
- Inlet protection will be provided to prevent sediment-laden runoff from entering adjacent drainage systems. Within State highway right-of-way, inlet protection will be provided in accordance with the Highway Design manual and the highway work permit issued by NYSDOT. Alternatively, with approval of DPS and NYSDEC, silt sacks may be used. Inlet protection will be inspected after every major rain event.
- 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 Department of Public Service (DPS) and 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 H.

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 F 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.
- During construction it may be necessary to remove surface or subsurface water from work areas. Where dewatering of the trench is necessary, the discharges of water from the excavated trench will be pumped into a portable sediment tank. The intakes of the hoses used to withdraw the water from the trench will be elevated and screened to minimize pumping of the deposited sediments. Soil excavated from the hole shall be stockpiled separately within a straw bale/ silt fence barrier to prevent siltation into surrounding areas.
- Where there is not sufficient room in the right-of-way to utilize a portable sediment tank, commercial sediment filter bags may be used to remove sediments from dewatering effluent. The dewatering hose will be connected to a filter bag placed on the ground surface within a stabilized areas (e.g., vegetated, or permeable surface such as aggregate). Once passing through the filter bag, the dewatering effluent will be discharge onto a vegetated area. Additional erosion and sedimentation controls may be installed as determined by the Environmental Inspector. Sediment filter bags will be inspected regularly. The filter bag and accumulated sediment shall be disposed of in an upland location at least 100 feet from a wetland or waterbody or disposed of offsite in a state approved solid waste disposal facility.
- Trapped sediment collected during dewatering activities shall be graded on the right-of-way in

areas where it cannot be washed into the adjacent stream, wetland, or other sensitive resource. Dewatering structures will be removed as soon as possible following the completion of dewatering activities.

- Any contaminated waters removed from a work site may not be discharged without a SPDES permit or must be discharged at a wastewater treatment plant following chemical analysis.
- 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.

6.1.4 Dewatering Methods

All the procedures related to dewatering methods are described in the section 4.3.2 of the Environmental Management and Construction Plan (EM&CP) and Spill Prevention Control & Countermeasures Plan (SPCC) in Appendix K of the EM&CP.

The construction Contractor or applicable subcontractor will be responsible for providing a dewatering system for construction that is of adequate size and capacity to lower and maintain the groundwater at the specified level. The dewatering system will meet the following requirements:

a) Utilize portable sediment tanks with elevated and screened intake hoses to withdraw water from the trench and to minimize pumping of deposited sediment. Where not practicable (i.e. Due to space within the Road/Highway ROW) commercial sediment filter bags may be used (2012 BMPs, Section 4). A dewatering hose will be connected to a filter bag placed

on the ground surface within a stabilized area (2012 BMPs, Section 4). As needed additional erosion and sediment controls may be installed as determined by the Environmental Inspector. Sediment filter bags will be inspected regularly and disposed of in upland locations at least one hundred (100) feet from a wetland or waterbody or disposed of at an off-site disposal location included in Soil Management Plan in Appendix L of the EM&CP (2012 BMPs, Section 4). A Sediment Dewatering Bag detail is provided on the Plan and Profile Drawings to show the general design of one of the methods that may be utilized by the construction Contractor.

b) Trapped sediment collected during dewatering activities shall be managed as excavated soil materials as described in the Soil Management Plan in Appendix L of the EM&CP.
c) Include standby pumps and power sources for continuous operation.
d) Consist of wellpoints, deep wells, cut-off walls, riser pipes, swing joints, header lines, valves, pumps, discharge lines, and all other necessary fittings, accessories, and equipment for a complete operating system; and
e) Provide groundwater reading wells or piezometers ("observation wellpoints") to monitor the groundwater level as indicated on the approved Plan and Profile Drawings or as directed by the design Engineer.

The dewatering system will be kept in continuous operation from the time excavation is started in the dewatering area (or before if required by site conditions to lower groundwater to the elevations specified on the Plan and Profile Drawings) until the time backfilling is completed at least two (2) feet above the normal groundwater level. All water removed from the excavation will be conveyed in a closed conduit. No trench excavations will be used as temporary drainage ditches. All water removed from the excavation will be disposed of by the construction Contractor in a manner that does not endanger public health, property, or any portion of the Project under construction or completed. If contaminated water is encountered during dewatering, the procedures described in the Soil Management Plan (Appendix L of the EM&CP) will be followed. Water disposal will not cause erosion or sedimentation to occur in existing wetland and stream resources areas, or other swales or water bodies.

6.1.5 Dust Control

The Certificate Holders and all Contractors will take appropriate measures to minimize fugitive dust and airborne debris from construction activity associated with Segment 3 construction (CC#64). Dust control will be used through dry weather periods until all disturbed areas are stabilized and will be controlled as needed based on site conditions. Only plain water will be used for dust suppression. Stabilized construction entrances for dust control will be consistent with NYSDEC stabilized construction entrance requirements (see Plan and Profile Drawings in Appendix C). All applicable regulations and standards related to dust control will be followed including the New York State Standards and Specifications for Erosion and Sediment Control ("Blue Book") for dust control, pages 2.25.

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.
- Glue and primer.
- HDD Fluid.
- Hydraulic fluid conductor.
- Matting.

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 Contractors shall inspect daily to ensure proper use and disposal of materials.

8.2 HAZARDOUS PRODUCTS

All the procedures related to hazardous materials and waste are described in the Spill Prevention Control & Countermeasures Plan (SPCC) in Appendix K of the EM&CP.

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.

Petroleum and Chemical handling procedures are outlined in the Spill Prevention Control Countermeasures Plan (SPCC). These procedures will be used to minimize the potential for spills of petroleum and hazardous substances, or other materials, that have the potential to pollute the environment and the response measures that will be implemented to contain, clean-up and dispose of any spilled substances during construction. The Certificate Holder will keep required parties appraised of on-site chemicals and waste stored within one hundred (100) feet of their Co-located Infrastructure (CI) or service area. These required parties include Local Fire Departments, Emergency Management Teams, and owners and operators of Co-located Infrastructure (Certificate Conditions (CC#34)).

In accordance with amended Certificate Conditions (CC#114), in general, and to the maximum extent practicable, refueling of equipment, storage mixing, or handling of open containers of pesticides, chemicals labeled "toxic," or petroleum products, shall not be conducted within one hundred (100) feet of a stream or waterbody or wetland. Requirements for refueling within 100 feet of wetlands or streams will be allowed under certain circumstances identified below, subject to the practices set forth in the approved EM&CP.

1. Refueling of hand equipment will be allowed within 100 feet of wetlands or streams when secondary containment is used. Secondary containment will be constructed of an impervious material capable of holding the hand equipment to be refueled and at least 110% of the fuel storage container capacity. Fuel tanks of hand-held equipment will be initially filled in an upland location greater than 100 feet from wetlands or streams in order to minimize the amount of refueling within these sensitive areas. Crews will have sufficient spill containment equipment on hand at the secondary containment location to provide prompt control and cleanup in the event of a release.

2. Refueling of equipment will be allowed within 100 feet of wetlands or streams when necessary to maintain continuous operations and where removing equipment from a sensitive area for refueling would increase adverse impacts to the sensitive area. Fuel tanks of such equipment will be initially filled in an upland location greater than 100 feet from wetlands or streams in order to minimize the amount of refueling within these sensitive

areas. Absorbent pads or portable basins will be deployed under the refueling operation. In addition, the fuel nozzle will be wrapped in an absorbent pad and the nozzle will be placed in a secondary containment vessel (e.g., bucket) when moving the nozzle from the fuel truck to the equipment to be refueled. All equipment operating within 100 feet of a wetland or stream will have sufficient spill containment equipment on board to provide prompt control and cleanup in the event of a release.

3. Field personnel and Contractors shall be trained in spill response procedures, including the deployment and maintenance of spill response materials.

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

Protect all waters from contamination by deleterious materials such as wet concrete, gasoline, solvents, epoxy resins or other materials used during construction (2012 BMPs, Section 18). This will be accomplished primarily by preventing the storage or refueling of vehicles within 100 feet of streams and wetlands, properly maintaining and checking construction equipment for leaks, properly containing concrete washouts, and in most cases avoiding direct impacts to streams and other waterbodies.

After placement of concrete, wash water used to clean the concrete truck will be directed to a concrete washout structure at designated areas only. These concrete washout area(s) will be located a minimum of one hundred (100) feet from all wetlands, waterbodies, and drainage structures. Self-installed or prefabricated containers may be used and are intended to capture the wash water to allow for evaporation or off-site disposal. Washout structures or containers will be inspected after each use to determine if they are filled to seventy-five (75) percent of capacity and to make sure that the plastic linings are intact and not leaking. Material in washout structures or containers will be removed when they reach seventy-five (75) percent capacity

WATERCOURSE PROTECTION

All the procedures related to stream and watercourse protection are described in Section 8.1 of the Environmental Management and Construction Plan (EM&CP).

8.4 SPILL CONTROL PRACTICES

Spill response and mitigation procedures will be implemented in the case of any accidental spills of chemical, fuel, or other toxic materials, as identified in Section 5.0 of the Environmental Management and Construction Plan (EM&CP). The spill response and cleanup procedures are outlined and described in the Spill Prevention, Control and Countermeasures Plan (SPCC).

The Certificate Holders shall notify DPS Staff and the New York State Department of Environmental Conservation ("NYSDEC") immediately of any petroleum product spills. The Certificate Holders shall also notify owners and operators of CI of any petroleum product spills within one hundred (100) feet of their CI, provided however that in the case of CI located within CNY, the Certificate Holders shall advise CI owners and operators of petroleum product spills within three hundred (300) feet of such facilities.

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 G of this SWPPP.

10.0 SWPPP CERTIFICATION

Contracting Firm Information:

Contracting Firm

Address

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

Site Location:
Champlain Hudson Power Express
Segment 3 - Package 1C
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 1C
WHITEHALL TO FORT ANN
WASHINGTON COUNTY, NEW YORK

PROJECT NO. 066076

DATE: DEC. 2021

FIGURE 1C

Appendix B
USDA Soils Maps

CHA

Page 1 of 5

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
Segment 3 Soils Map

Washington County, New York

112.3
Lm
VeB
112.4
112.5
112.6
112.7
112.8
KbA
112.9
Sa
OP
113
113.1
Sa
113.2
Cv
113.3
Sa
113.4
113.5
Sa
113.6
W
Sa
Sa
113.7

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
Segment 3 Soils Map
Washington County, New York

113.7
Sa
113.8
113.9
OP
114
W
114.1
114.2
114.3
Te
114.4
Lm
114.5
114.6
Te
114.7
114.8
Te
Sa
114.9
115
Lm
OP
Sa
115.1
KbA

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
Segment 3 Soils Map
Washington County, New York

KbA
OP
115.2
W
115.3
Sa
W
115.5
W
115.6
115.7
115.8
Te
115.9
116
W
OP
116.1
HcA
116.2
OP
116.3
VeB
116.4
116.5
KbA
Cv
116.6
OP

CHA

Page 4 of 5

Legend

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

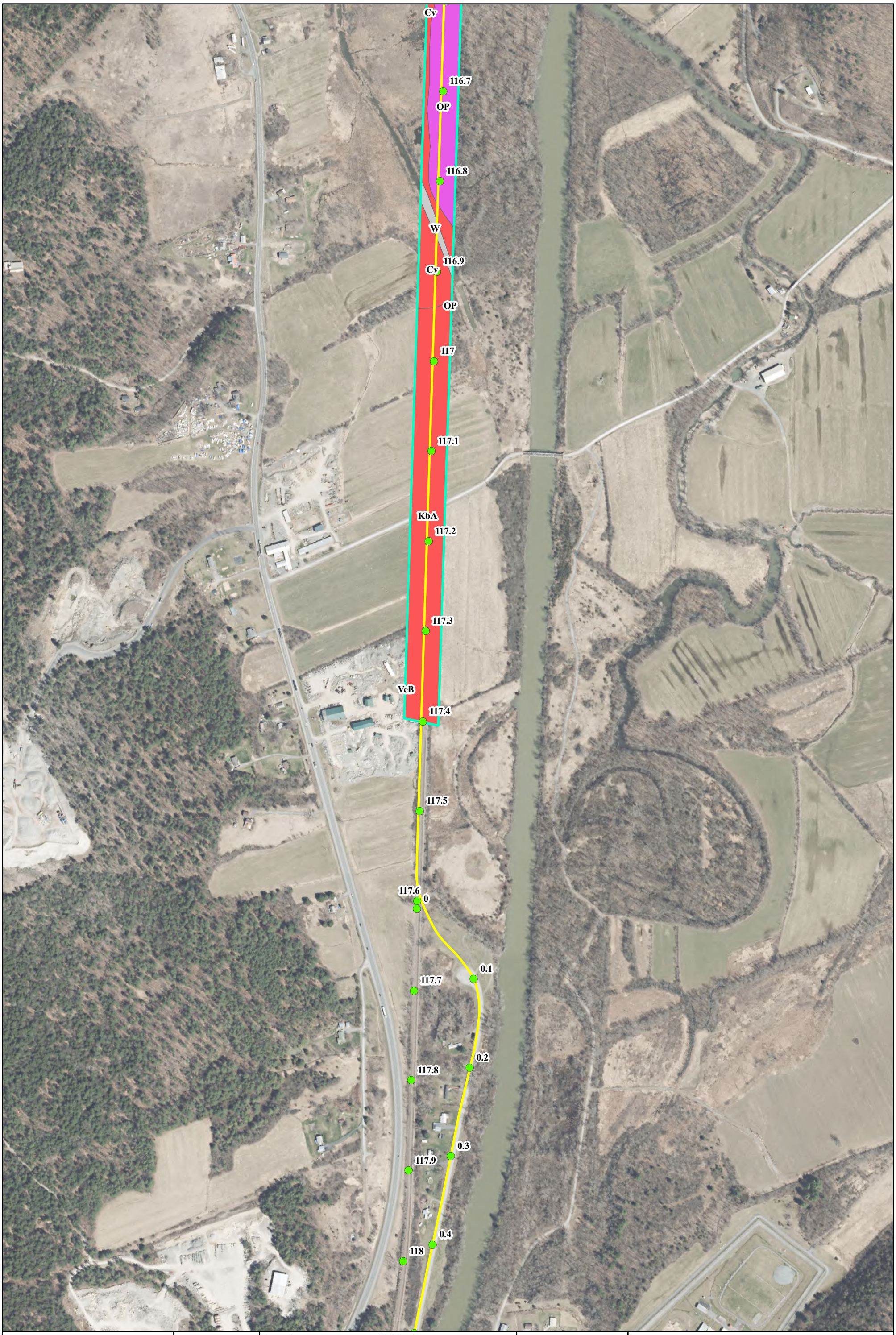
Soil Rating

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

0 250 500
Feet
1 in. = 500 ft.

Champlain Hudson Power Express
Segment 3 Soils Map

Washington County, New York



CHA

Page 5 of 5

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
Segment 3 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.

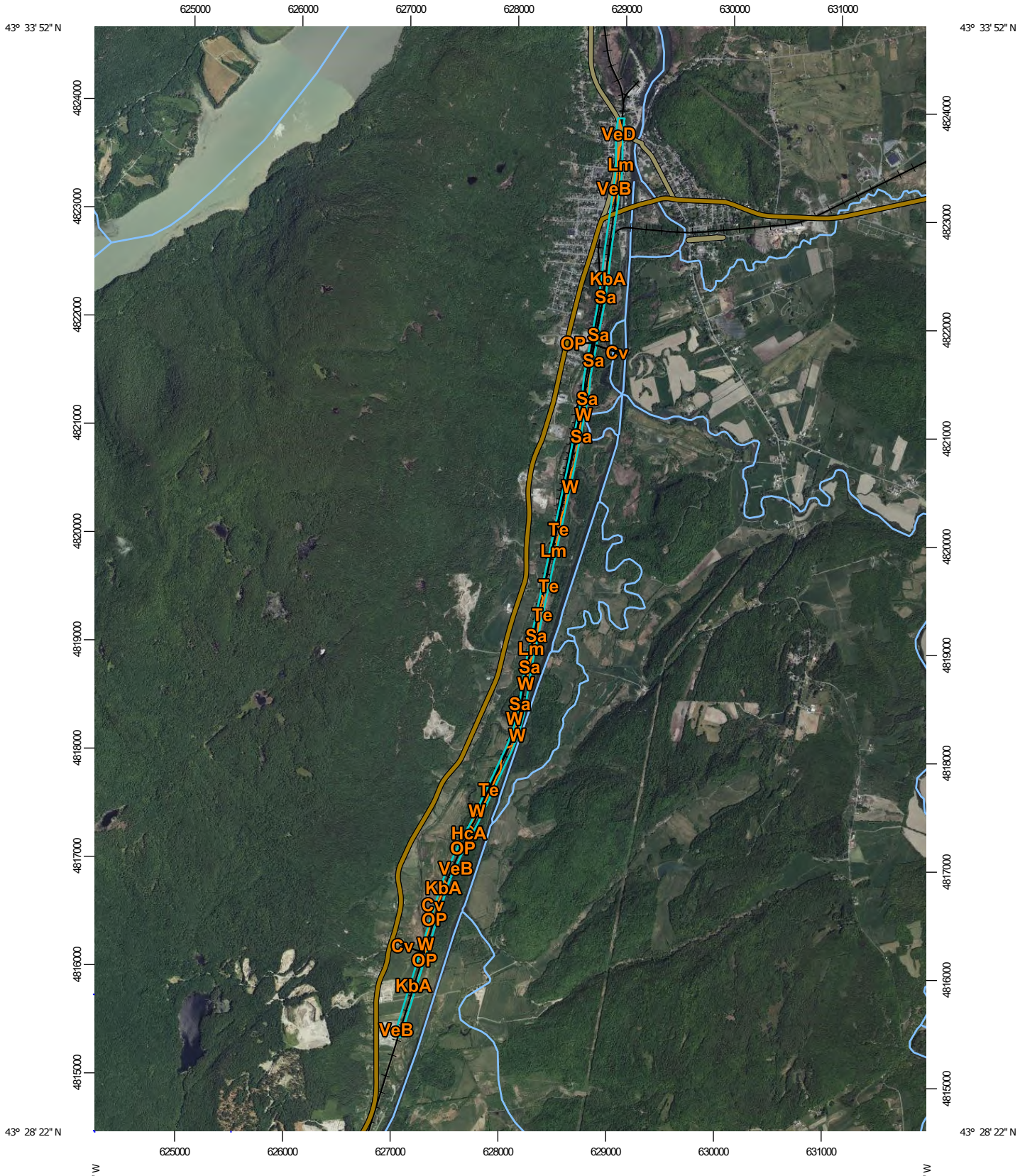
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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: 1:49,700 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 500 1000 2000 3000

Feet: 0 2000 4000 8000 12000

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
Cv	Covington silty clay loam	3.7	2.8%
HcA	Hartland very fine sandy loam, 0 to 2 percent slopes	3.5	2.7%
KbA	Kingsbury silty clay, 0 to 2 percent slopes	15.0	11.3%
Lm	Limerick silt loam	19.0	14.3%
OP	Orthents and Psamments	58.4	44.1%
Sa	Saco silt loam	14.6	11.0%
Te	Teel silt loam	5.4	4.1%
VeB	Vergennes silty clay loam, 3 to 8 percent slopes	6.5	4.9%
VeD	Vergennes silty clay loam, 12 to 20 percent slopes	3.8	2.9%
W	Water	2.6	2.0%
Totals for Area of Interest		**132.5**	**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

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

HcA—Hartland very fine sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 9xzg
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: 0 to 2 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): 1
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

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

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

OP—Orthents and Psamments

Map Unit Setting
National map unit symbol: 9y03
Elevation: 80 to 330 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
Orthents and similar soils: 50 percent
Psamments and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orthents

Setting
Parent material: Dredge spoils

Typical profile
H1 - 0 to 10 inches: silt loam
H2 - 10 to 60 inches: channery loam

Properties and qualities
Slope: 0 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): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

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

Description of Psamments

Setting

Parent material: Dredge spoils

Typical profile

H1 - 0 to 10 inches: fine sand
H2 - 10 to 60 inches: coarse sand

Properties and qualities

Slope: 0 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 3.6 inches)

Interpretive groups

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

Minor Components

Herkimer

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

Covington

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Fredon

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Claverack

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

Rhinebeck

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

Hoosic

Percent of map unit: 1 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

Te—Teel silt loam

Map Unit Setting
National map unit symbol: 9y0w
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
Teel and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Teel

Setting
Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Silty alluvium

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 25 inches: silt loam
H3 - 25 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 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 high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F101XY002NY - Low Floodplain
Hydric soil rating: No

Minor Components

Hamlin

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

Limerick

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

Saco

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

Unnamed soils

Percent of map unit: 5 percent

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

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.


73° 27' 49" W
73° 22' 5" W
43° 33' 52" N
43° 28' 22" N
625000
626000
627000
628000
629000
630000
631000
4824000
4823000
4822000
4821000
4820000
4819000
4818000
4817000
4816000
4815000
VeD
Lm
VeB
KbA
Sa
OP
Sa
Cv
Sa
W
Sa
W
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Te
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Lm
Sa
W
Sa
W
W
Te
W
HcA
OP
VeB
KbA
Cv
OP
Cv
W
OP
KbA
VeB
Map Scale: 1:49,700 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0
500
1000
2000
3000
Feet
0
2000
4000
8000
12000
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
Cv	Covington silty clay loam	D	3.7	2.8%
HcA	Hartland very fine sandy loam, 0 to 2 percent slopes	B	3.5	2.7%
KbA	Kingsbury silty clay, 0 to 2 percent slopes	D	15.0	11.3%
Lm	Limerick silt loam	B/D	19.0	14.3%
OP	Orthents and Psamments	A	58.4	44.1%
Sa	Saco silt loam	B/D	14.6	11.0%
Te	Teel silt loam	B/D	5.4	4.1%
VeB	Vergennes silty clay loam, 3 to 8 percent slopes	D	6.5	4.9%
VeD	Vergennes silty clay loam, 12 to 20 percent slopes	D	3.8	2.9%
W	Water		2.6	2.0%
Totals for Area of Interest			**132.5**	**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

Dresden

Whitehall

Fort Ann

C, C

C, C

C, C

C, C

C, C

C, C

Champlain Canal

Champlain Canal

Page 1 of 1

N

Legend

Consolidated Route

Municipal Border

Water Bodies

Streams

0 1,000 2,000

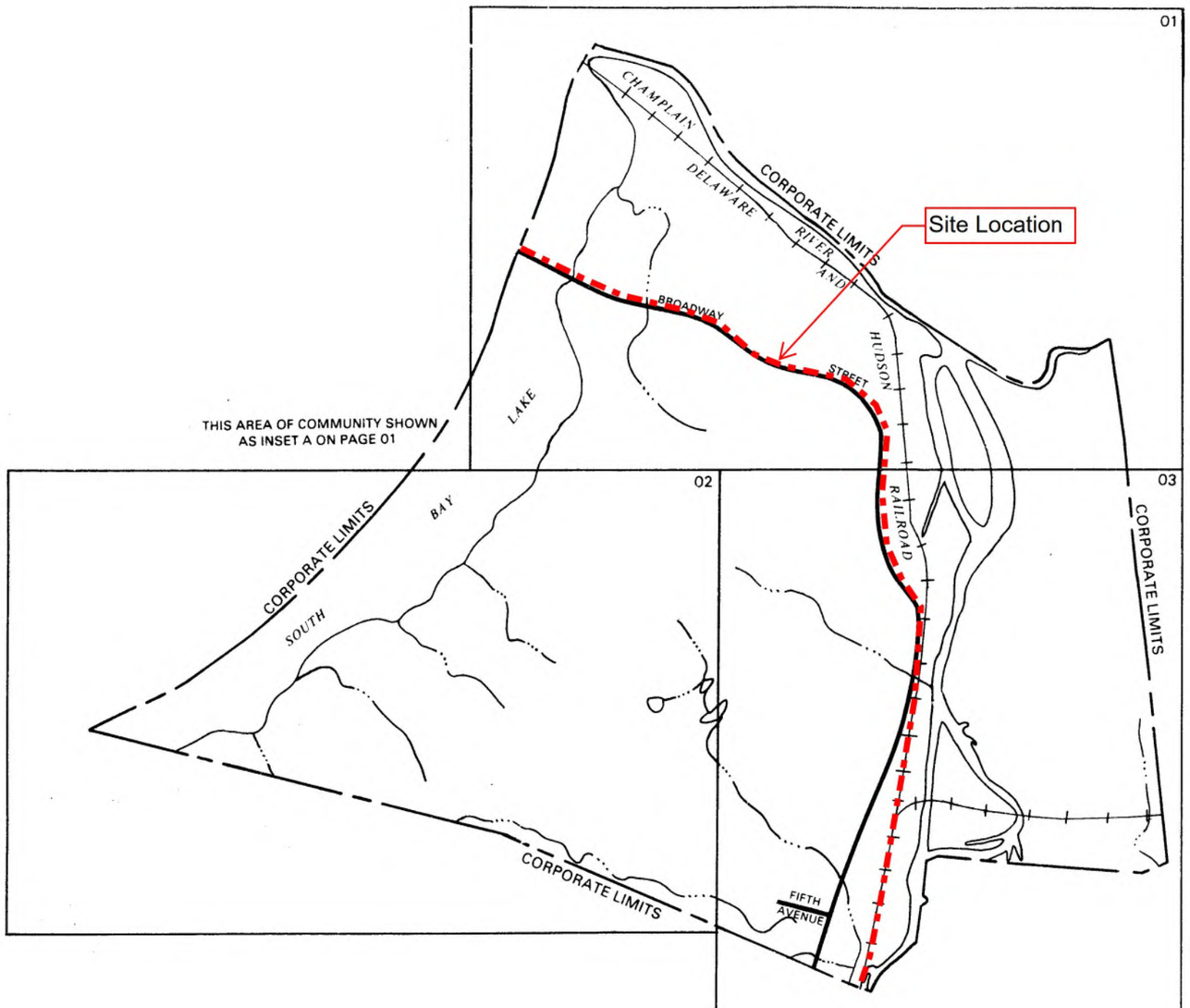
Feet

1 in. = 2,250 ft.

Champlain Hudson Power Express
Receiving Waters Map
Segment 3

Washington County, New York

Appendix D
FEMA FIRM Maps



KEY TO

ZONE DESIGNATIONS*

Base Flood Elevation Line with elevation

Base Flood Elevation where uniform w

Elevation Reference Mark

River Mile

*EXPLANATION OF

A flood insurance map displays the zone designat
flood hazards. The zone designations used by FEM

Zone	
A	Areas of 100-year flood; base flood ele
A0	Areas of 100-year shallow flooding; flo velocity (feet per second) less than 15
AH	Areas of 100-year shallow flooding wh flood elevations are shown, but no floo
A1-A30	Areas of 100-year flood; base flood ele
A99	Areas of 100-year flood to be protected flood elevations and flood hazard factor
B	Area between limits of 100-year flood a where depths less than 1 foot
C	Areas outside 500-year flood
D	Areas of undetermined, but possible, flo
V	Areas of 100-year coastal flood with v hazard factors not determined
V1-V30	Areas of 100-year coastal flood with v hazard factor determined

NOTES

Certain areas not in the special flood hazard areas structures

This map is for flood insurance purposes only; it d in the community or all planimetric features outsi

Refer to the FLOOD INSURANCE RATE MAP EFFE acturial rates apply to structures in the zones whe

To determine if flood insurance is available in this National Flood Insurance Program at (800) 638-6

INITIAL IDENTIFICATION: **MAY 3, 1974**

FLOOD HAZARD BOUNDARY MAP REVISI

FLOOD INSURANCE RATE MAP EFFECTIV

FLOOD INSURANCE RATE MAP REVISION

federal emergency

FI

FLOOD INSURA

MAP

LOOD HAZARD BOUNDARY MAP REVISIONS: **JUNE 25, 1976**

LOOD INSURANCE RATE MAP EFFECTIVE: **JUNE 3, 1985**

LOOD INSURANCE RATE MAP REVISIONS

federal emergency management agency

FIRM

FLOOD INSURANCE RATE MAP

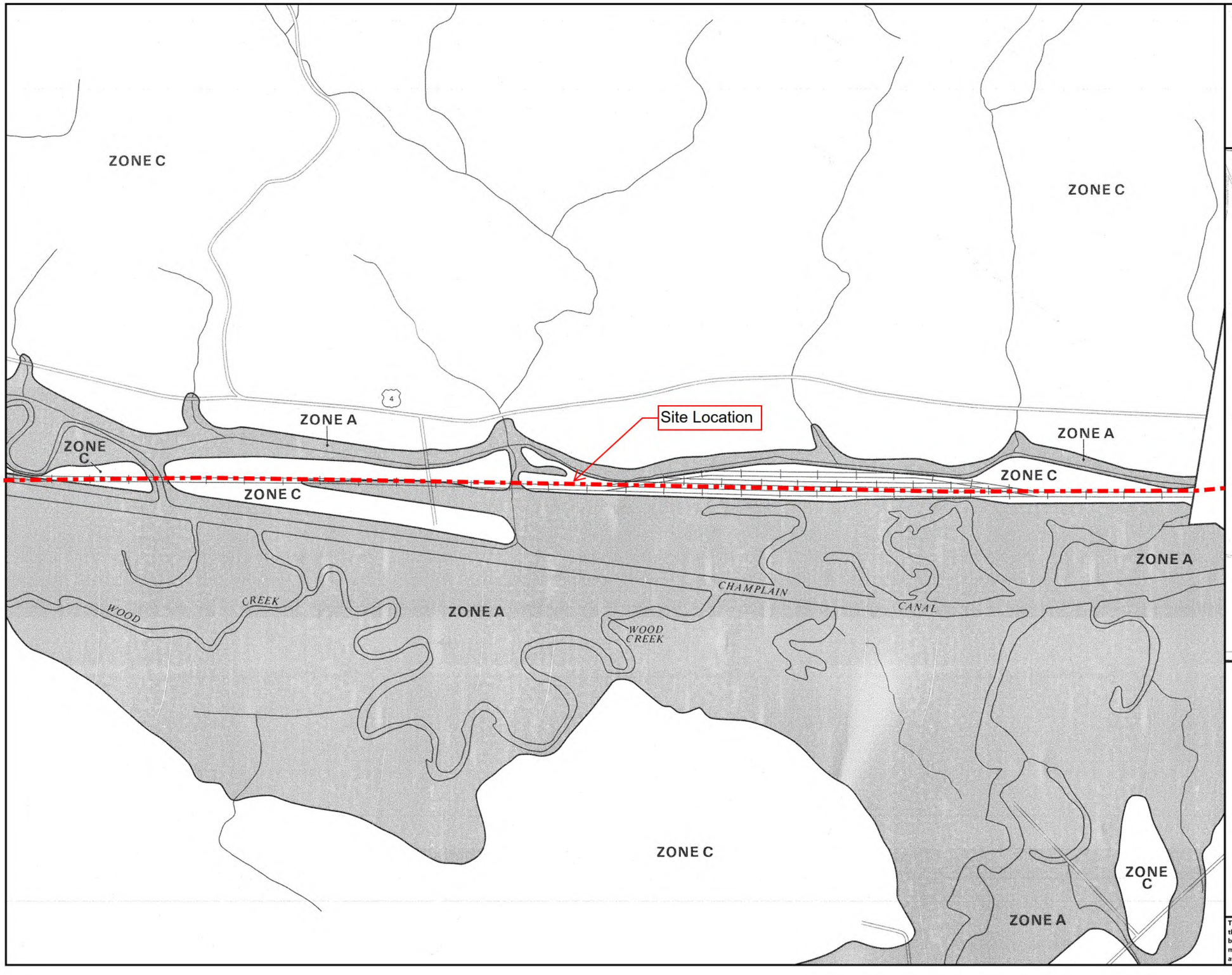
MAP INDEX

VILLAGE OF WHITEHALL, NY

WASHINGTON COUNTY

COMMUNITY NUMBER 360889 B

Champlain Hudson Power Express
FEMA FIRM MAP 8



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
WHITEHALL, NEW YORK
WASHINGTON COUNTY

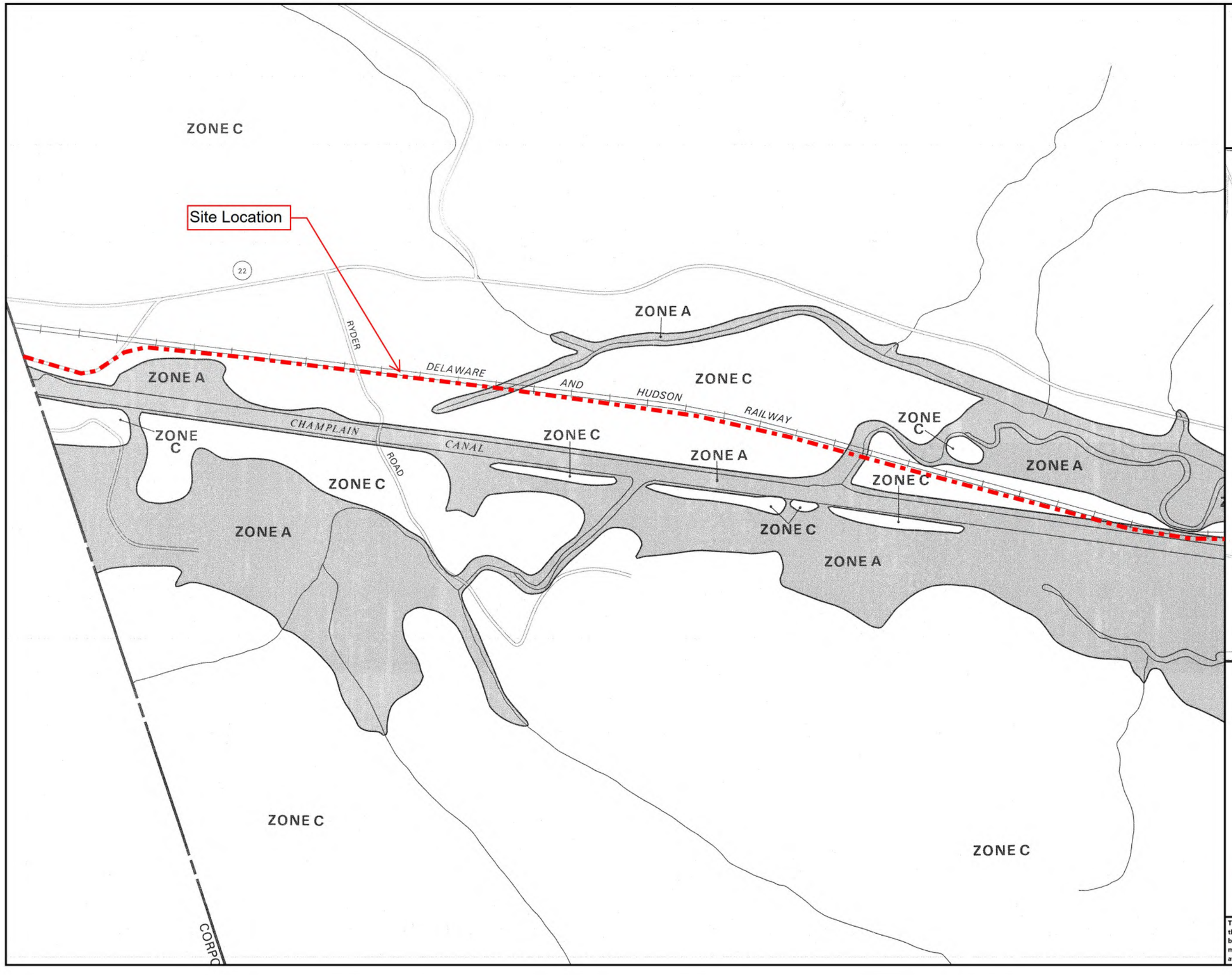
PANEL 10 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361239 0010 A

EFFECTIVE DATE:
JULY 3, 1986

Federal Emergency Management Agency

Champlain Hudson Power Express
FEMA FIRM MAP 9



APPROXIMATE SCALE

1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
WHITEHALL, NEW YORK
WASHINGTON COUNTY

PANEL 10 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361239 0010 A

EFFECTIVE DATE:
JULY 3, 1986

Federal Emergency Management Agency

Champlain Hudson Power Express FEMA FIRM MAP 10

Appendix E
Grading and Erosion Sediment Control Plans and Details

LEGEND & ABBREVIATIONS

HH	EXIST. FIBER OPTIC LINE HANDHOLE
P	EXIST. FIBER OPTIC LINE PEDESTAL
DH	EXIST. FIBER OPTIC LINE DOGHOUSE
MH	EXIST. FIBER OPTIC LINE MANHOLE
V	EXIST. FIBER OPTIC LINE VAULT
BP	EXIST. FIBER OPTIC LINE BORE PIT
LB	EXIST. FIBER OPTIC LOCK BOX
	EXIST. GROUND ROD
FIBER MARK	EXIST. FIBER OPTIC MARKER POST
100	EXIST. FIBER STORAGE
HYD	EXIST. FIRE HYDRANT
WV	EXIST. WATER VALVE
W	EXIST. WATER MANHOLE
WATER MARK	EXIST. WATER MARKER
SS	EXIST. SANITARY SEWER MANHOLE
VENT	EXIST. SANITARY SEWER VENT
ST	EXIST. STORM SEWER MANHOLE
CB	EXIST. STORM SEWER CATCH BASIN
INV.	EXIST. CULVERT INVERT
G	EXIST. GAS MANHOLE
GV	EXIST. GAS VALVE
GAS MARK	EXIST. GAS MARKER
VENT	EXIST. GAS PIPELINE VENT
	EXIST. LIGHT POLE
UP	EXIST. UTILITY POLE
PP	EXIST. ELEC. POLE
	EXIST. TRAFFIC LIGHT
E	EXIST. ELEC. METER
E	EXIST. ELEC. MANHOLE
TR	EXIST. ELEC. TRANSFORMER
V	EXIST. ELEC. VAULT
HH	EXIST. ELEC. HANDHOLE
P	EXIST. ELEC. PEDESTAL/BOX
ELEC MARK	EXIST. ELEC. MARKER POST
	EXIST. ELEC. GUY ANCHOR/WIRE
T	EXIST. TELE. RISER/BOX
T	EXIST. TELE. MANHOLE
HH	EXIST. TELE. HANDHOLE
V	EXIST. TELE. VAULT
P	EXIST. TELE. PEDESTAL
DH	EXIST. TELE. DOGHOUSE
TELEPHONE MARK	EXIST. TELE. MARKER POST
	EXIST. TELE. JUNCTION BOX
TB	EXIST. TRAFFIC SIGNAL BOX
	EXIST. CELL TOWER
CB	EXIST. CABLE BOX
MH	EXISTING MANHOLE UNKNOWN
U	EXISTING UTILITY BOX UNKNOWN
	EXISTING ANTENNA
CAPPED IRON ROD	EXISTING CAPPED IRON ROD
IRON PIPE	EXISTING IRON PIPE
CONCRETE BOUNDARY	EXISTING CONCRETE MONUMENT
POST	EXISTING POST
	EXISTING REFLECTOR MARKER
(SYM.)	EXISTING SYMBOL

SIGN	EXISTING SIGN
	EXIST. STRUCTURE POST
	EXIST. STRUCTURE MAILBOX
XX-##	EXIST. WETLAND FLAG
G G	EXIST. GAS LINE
UT UT	EXIST. UNDERGROUND TELE.
FO FO	EXIST. FIBER OPTIC
OT OT	EXIST. OVERHEAD TELE.
UE UE	EXIST. UNDERGROUND ELEC.
OE OE	EXIST. OVERHEAD ELEC.
ST ST	EXIST. CULVERT
SS SS	EXIST. SANITARY SEWER
ST ST	EXIST. STORM SEWER
W W	EXIST. POTABLE WATER LINE
	EXIST. RAILROAD TRACK
	EXIST. WETLANDS
CERTIFIED ROUTE MP XX	CERTIFIED ROUTE PROVIDED BY CHPE KMZ
100	EXIST. CONTOUR, INDEX
101	EXIST. CONTOUR, DEPRESSION INDEX
101	EXIST. CONTOUR, INTERMEDIATE
102	EXIST. CONTOUR, DEPRESSION INTERMEDIATE
109.7	EXIST. SPOT ELEVATION
	EXIST. CULTURAL DEBRIS
	EXIST. CULTURAL FIELD LINE
	EXIST. CULTURAL LANDSCAPE AREA
	EXIST. CULTURAL PILE
	EXIST. CULTURAL STORAGE AREA
	EXIST. HYDROGRAPHIC
	EXIST. CULVERT
	EXIST. INUNDATED AREA
	EXIST. RIP-RAP
	EXIST. STREAM
	EXIST. SWAMP
WL 104.9	WATER LEVEL
	EXIST. NATURAL BOULDER
	EXIST. NATURAL SHRUB LINE
	EXIST. NATURAL TREE LINE
	EXIST. NATURAL SINGLE TREE/BUSH
	EXIST. STRUCTURAL BUILDING
	EXIST. PAVED DRIVE
	EXIST. PAVED ROAD
	EXIST. PAVED SHOULDER
	EXIST. PAVED SIDEWALK
	EXIST. GUARDRAIL
	EXIST. RAILROAD
	EXIST. TRAIL
X	EXIST. FENCE
	EXIST. WALL
	EXIST. RETAINING WALL
	EXIST. MILEPOST NUMBER
	EXIST. MAPPING BOUNDARY
DA 1550 002	EXIST. GROUND CONTROL
	PROP. RIGHT-OF-WAY
	PROP. ABUTTER

	PEM – PALUSTRINE EMERGENT
	PSS – PALUSTRINE SCRUB-SHRUB
	PFO – PALUSTRINE FORESTED
	PUB – PALUSTRINE UNCONSOLIDATED BOTTOM
	L1 – LACUSTRINE LIMNETIC
	L2 – LACUSTRINE LITTORAL
	NYSDEC FWW 100-FOOT ADJACENT BUFFER AREA
	BUTTERFLY HABITAT
	JD BOUNDARY
WP	PROP. WETLAND PROTECTION FENCE
FS	PROP. COMPOST FILTER SOCK (OR SILT SOCK)
LOW	PROP. LIMITS OF WORK/DISTURBANCE
	PROP. LIMITS OF CLEARING/LIMITS OF WORK IN CLEARING AREAS (SEE NOTE 1)
	PROP. CONCRETE WASHOUT
	PROP. ACCESS ROAD ROUTE (EXISTING ROAD OR SURFACE)
	PROP. REFURBISHED ACCESS ROAD
	PROP. ACCESS ROAD OR OFF SITE ACCESS ROAD
	PROP. TIMBER MATTING ACCESS ROAD
	PROP. SPLICE LOCATION
	PROP. SPLICE VAULT
	PROP. LINK BOX HANDHOLE
	PROP. FIBER SPLICE HANDHOLE
	PROP. BORING LOCATION
XXXXX+XX	PROP. ALIGNMENT STATIONING
	PROP. RIGHT-OF-WAY
	PROP. ABUTTER
	PROP. ALIGNMENT CENTERLINE
	PROP. TEMPORARY EASEMENT
	PROP. PERMANENT EASEMENT
	PROP. TEMPORARY ACCESS EASEMENT
	APPROXIMATE SNOWMOBILE TRAIL LOCATION

NOTES:

1. LIMIT OF WORK (LOW) – THE BOUNDARY IN WHICH ALL CONSTRUCTION ACTIVITIES, STOCKPILES MATERIAL, EQUIPMENT STORAGE, ACCESS, PARKING, GRADING, LANDSCAPING, RESTORATION, AND ANY OTHER CONSTRUCTION RELATED ACTIVITIES SHALL OCCUR. ADDITIONALLY, THE LOW IS THE BOUNDARY FOR ALL POTENTIAL DISTURBANCE DURING CONSTRUCTION. UNLESS OTHERWISE SPECIFIED, WHEN THE LIMIT OF CLEARING AND GRUBBING IS SHOWN ON THE PLANS, IT SHALL ALSO BE THE LOW. THE LOW INCLUDES THE AREA THAT WOULD BE CONSIDERED THE LIMIT OF DISTURBANCE (LOD).

APP	APPROVED
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
DB	DESIGNED BY
DEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DEG	DEGREES
DR	DRIVE
DZ	DEVIATION ZONE
E	EASTING
ELECTRIC	ELECTRIC CABLE
ELEV	ELEVATION
FIBER	FIBER OPTIC CABLE
FT	FEET
GAS	GAS PIPE
H	HORIZONTAL
HDD	HORIZONTAL DIRECTIONAL DRILLING
HVDC	HIGH-VOLTAGE DIRECT CURRENT TRANSMISSION LINE
INV	INVERT ELEVATION
LOW	LIMITS OF WORK
MAX	MAXIMUM
MIN	MINIMUM
N	NORTHING
NO	NUMBER
NY	NEW YORK
P#	PACKAGE #
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REV	REVISION
ROW	RIGHT-OF-WAY
RTE	ROUTE
SEWER	SANITARY SEWER PIPE
SH	SHEET
ST	STREET
STA	STATION
STORM	STORM DRAIN PIPE
TELECOM	TELECOMMUNICATIONS CABLE
TEMP	TEMPORARY
TR	THERMAL RESISTIVITY
TYP	TYPICAL
V	VERTICAL
WATER	WATERLINE

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
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
LEGEND AND ABBREVIATIONS

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022

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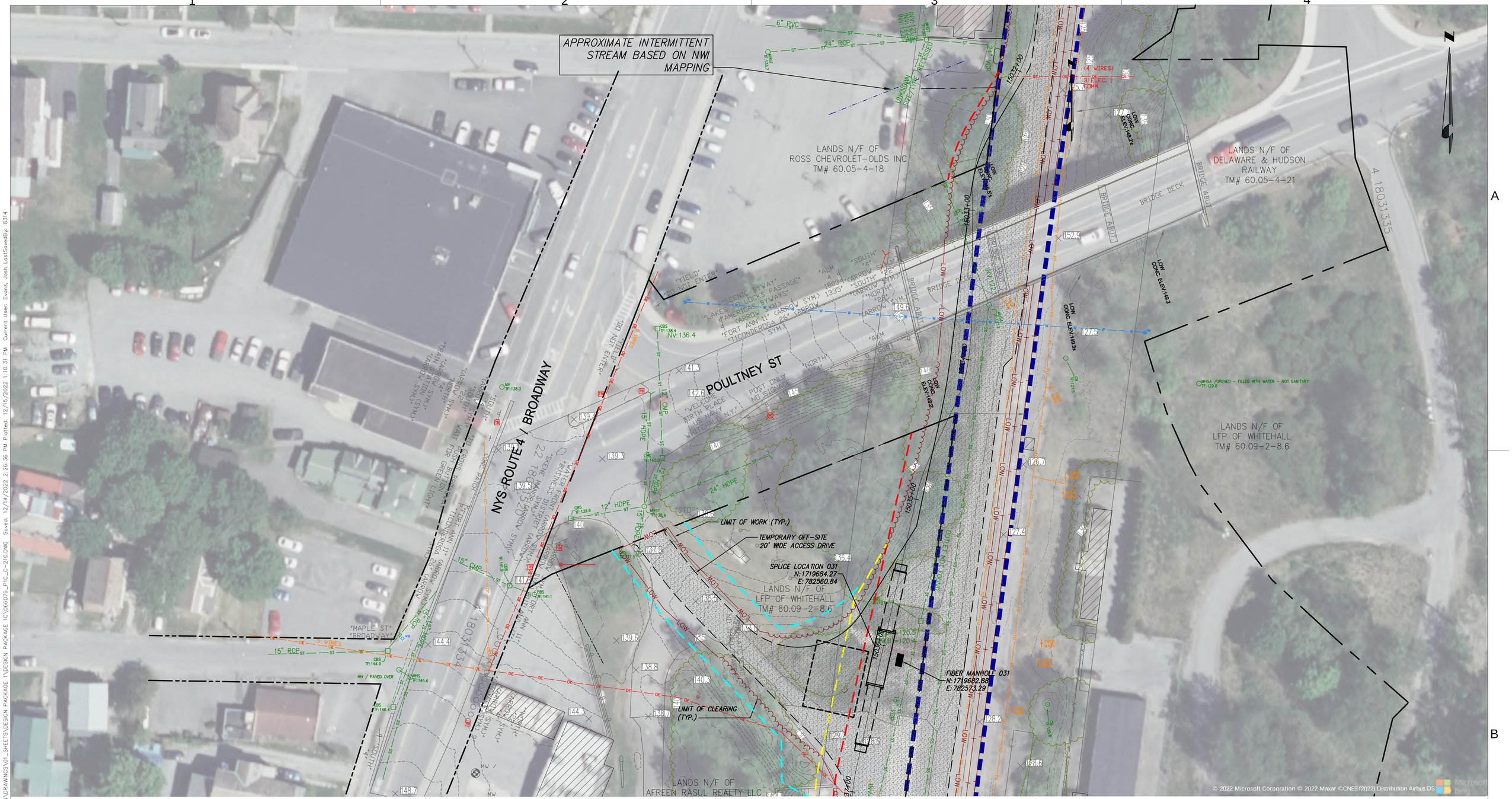
CHA PROJECT NO. 066076
DRAWING NO. G-004



ACCESS ROAD OFF POULTNEY STREET AT STA. 15036+50

SCALE: 1" = 30'

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0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF POULTNEY STREET AT STA. 15036+50

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-210

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022

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ACCESS ROAD OFF NYS ROUTE 4 AT STA 15069+00±

SCALE: 1" = 30'

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF NYS ROUTE 4 AT STA. 15069+00

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-211

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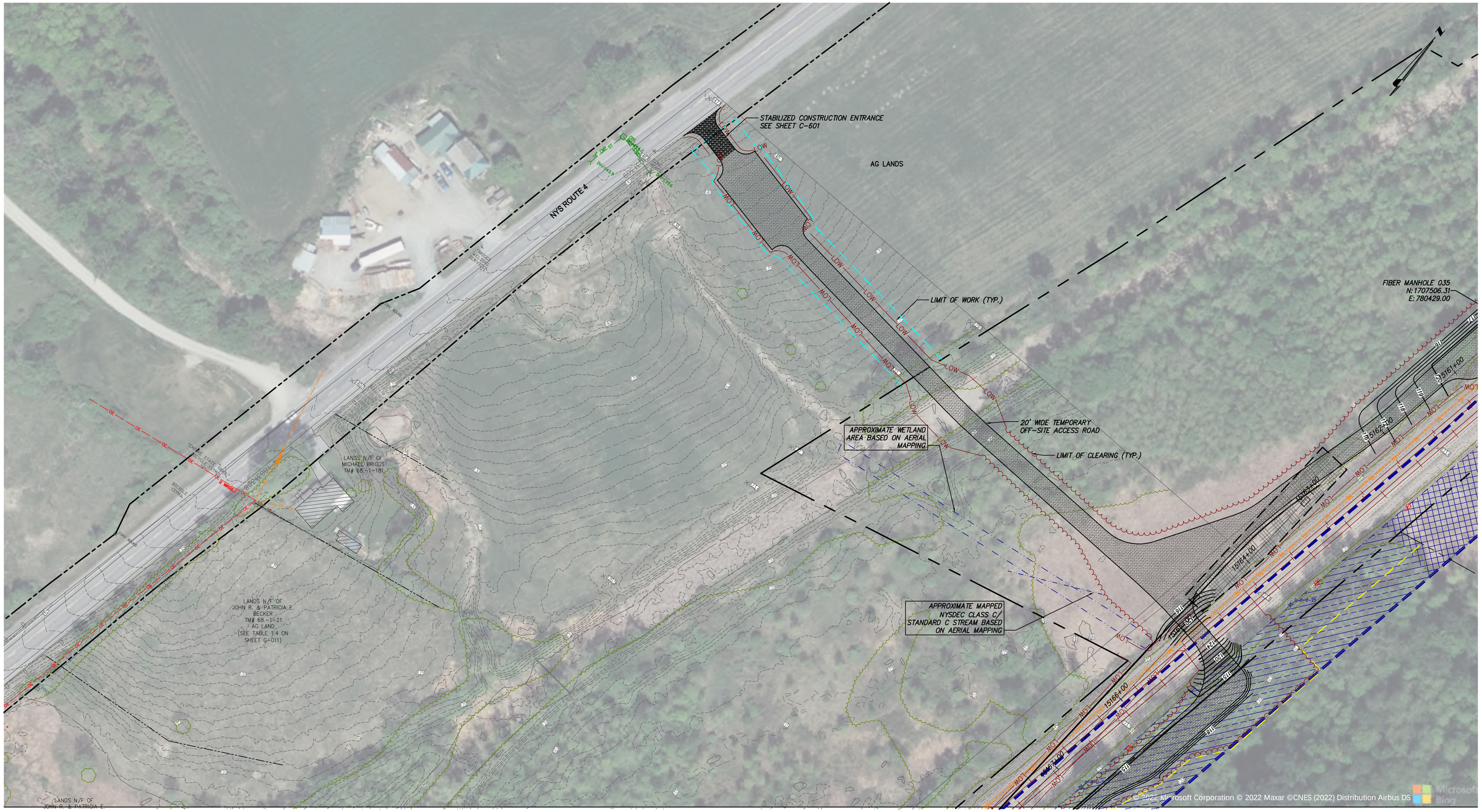

ACCESS ROAD OFF NYS ROUTE 4 AT STA 15165+00±

SCALE: 1" = 50'

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF NYS ROUTE 4 AT STA. 15165+00

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-212

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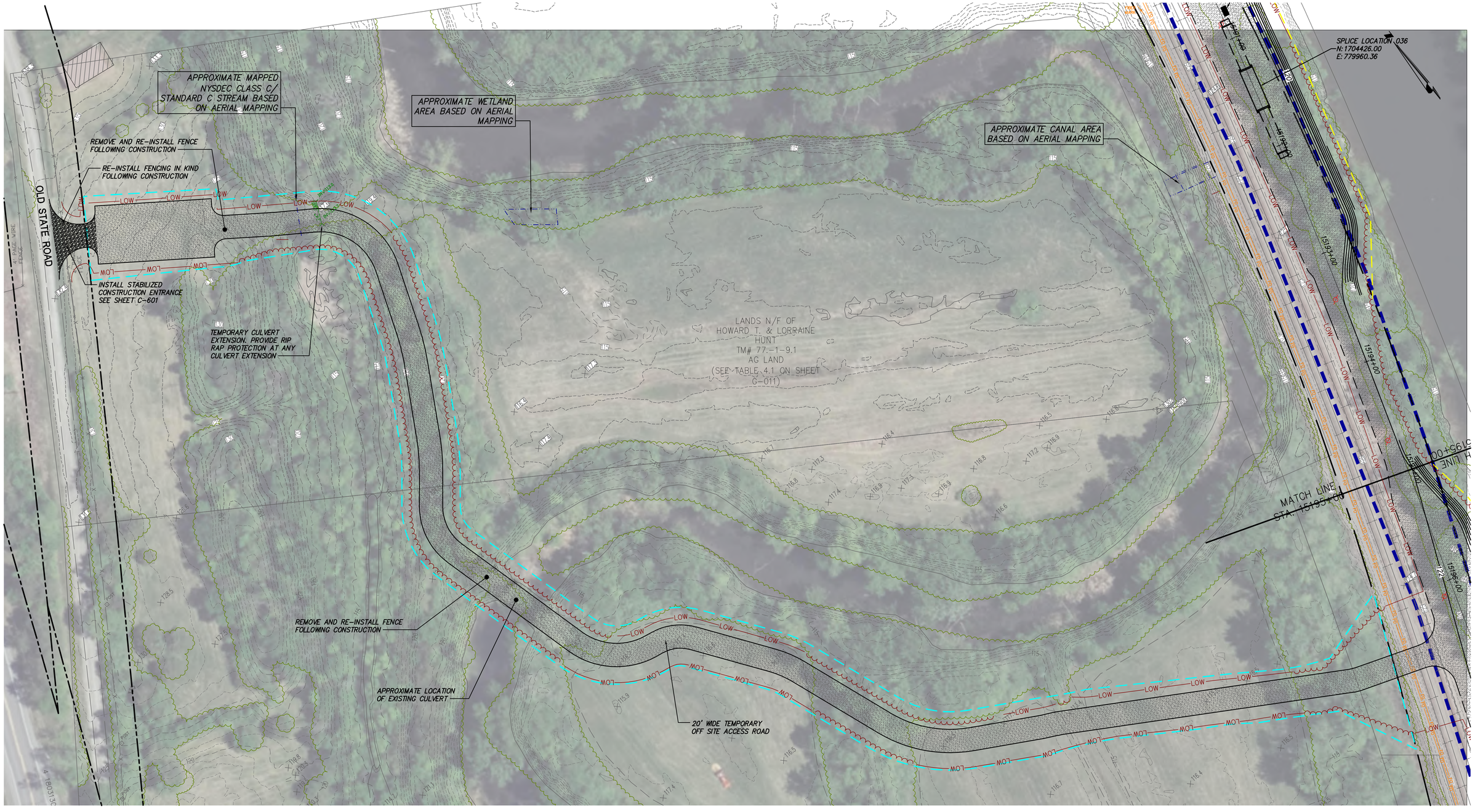

ACCESS ROAD OFF OLD STATE ROAD AT STA 15196+00±

SCALE: 1" = 40'

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF OLD STATE ROAD AT STA. 15196+00

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-213

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022

ACCESS ROAD OFF NYS ROUTE 4 AT STA 15240+00±

SCALE: 1" = 50'

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF NYS ROUTE 4 AT STA. 15240+00

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-214

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022

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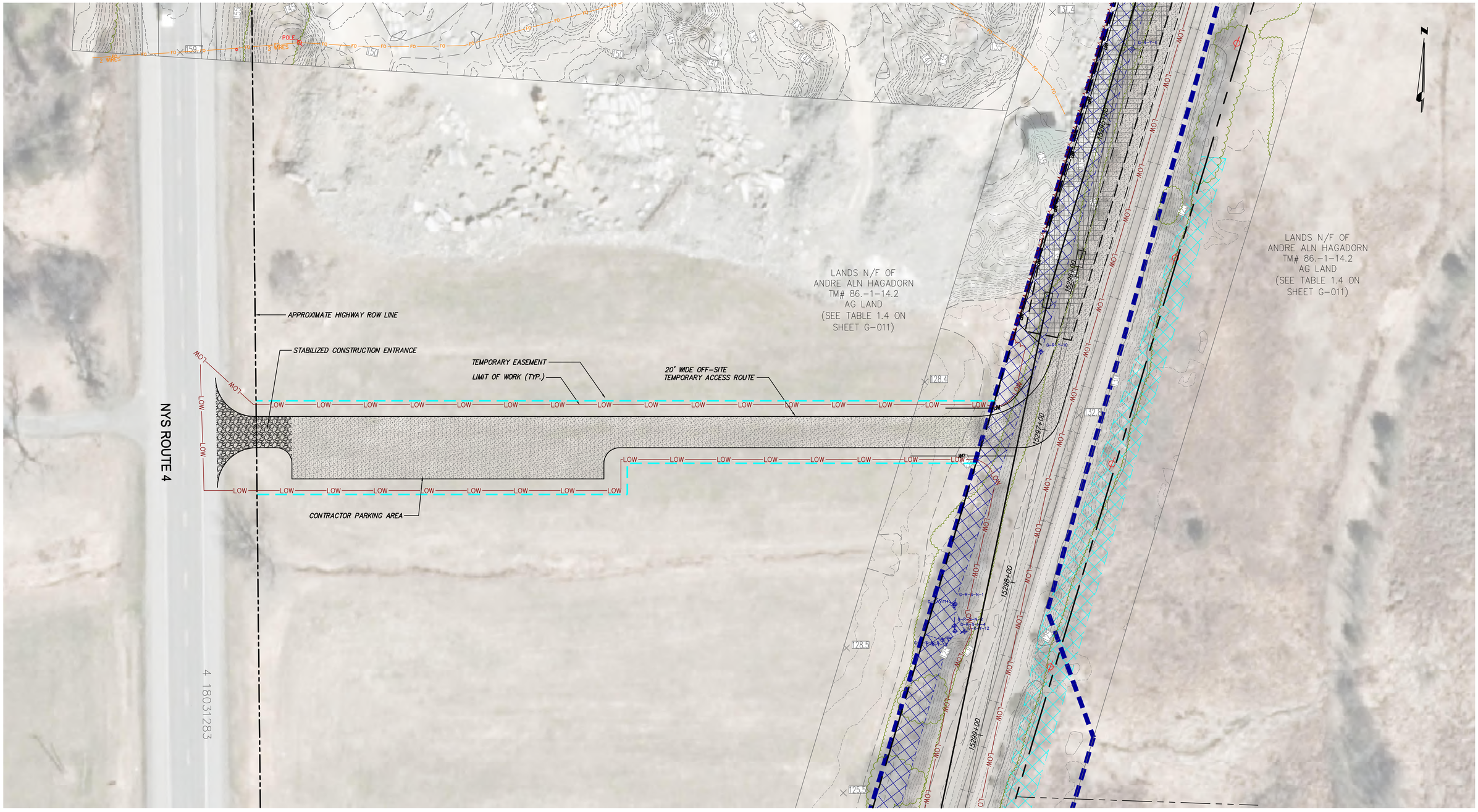

ACCESS ROAD OFF NYS ROUTE 4 AT STA 15297+00±

SCALE: 1" = 30'

CHPE Champlain Hudson Power Express

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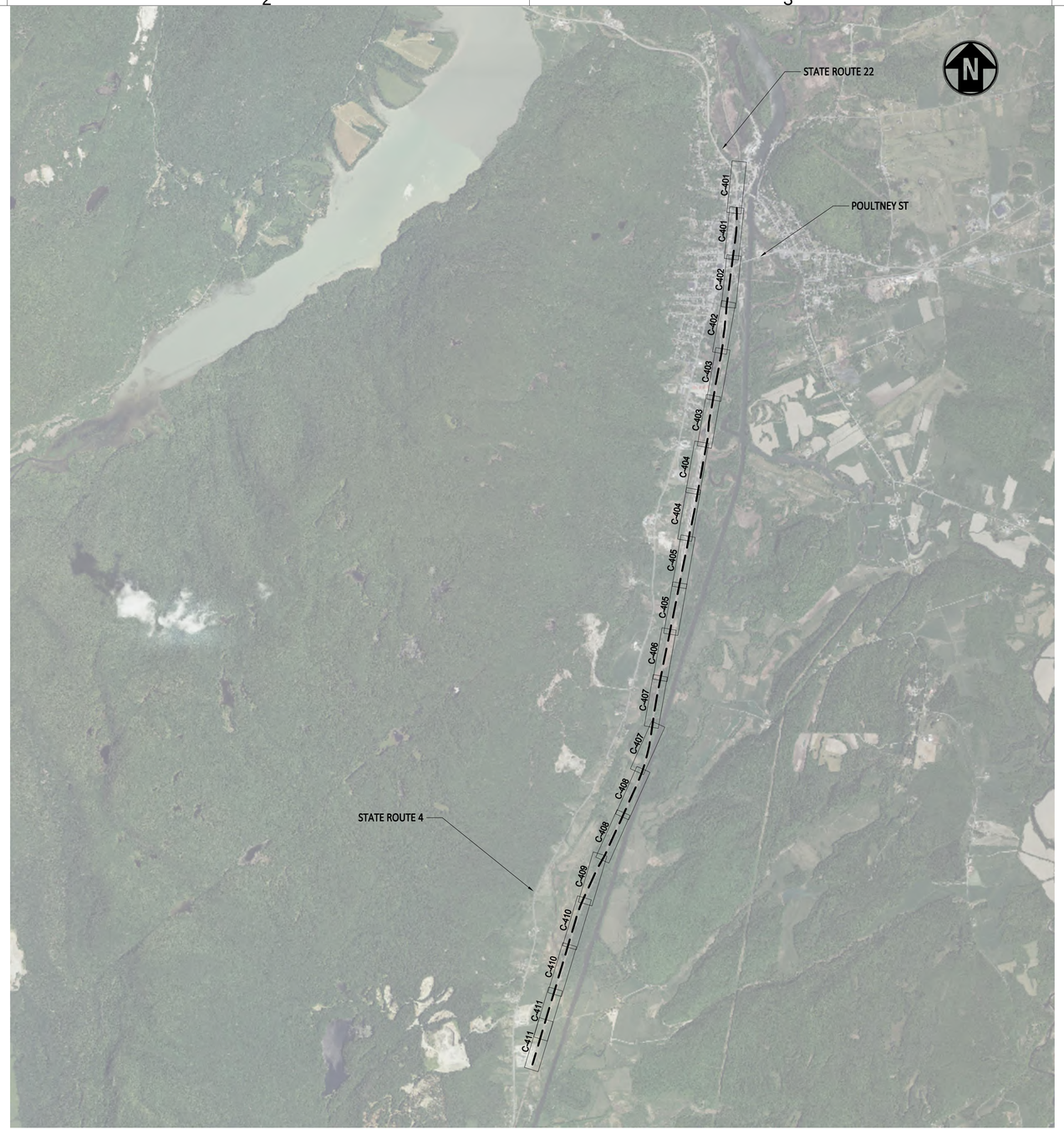
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
ACCESS ROAD OFF NYS ROUTE 4 AT STA. 15297+00

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-215

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022



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

CHPE Champlain Hudson Power Express

Kiewit

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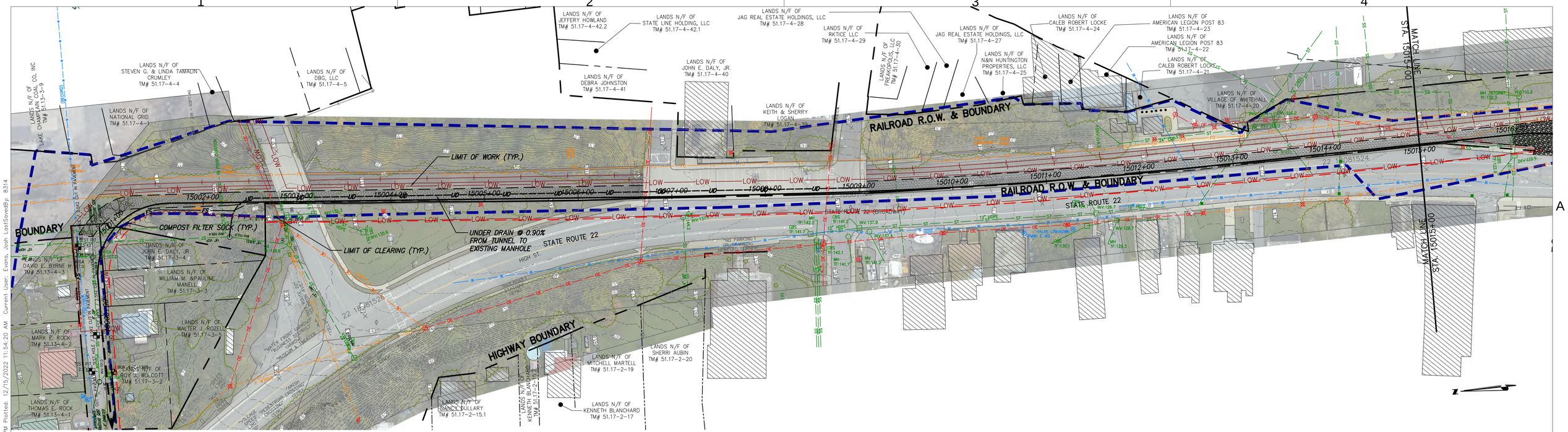
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

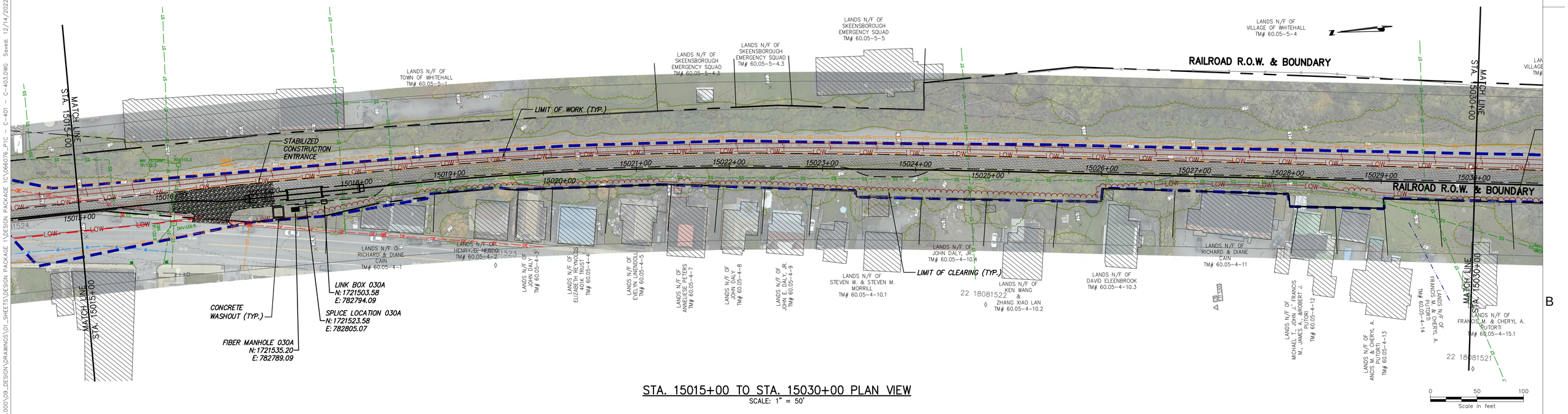
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
E&S KEY PLAN

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

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022



STA. 15000+00 TO STA. 15030+00 PLAN VIEW
SCALE: 1" = 50'



STA. 15015+00 TO STA. 15030+00 PLAN VIEW
SCALE: 1" = 50'

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
0	12/16/2022	FINAL EM&CP SUBMISSION	JTM	JPR

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
STA. 15000+00 TO STA. 15030+00 EROSION AND SEDIMENT CONTROL PLAN

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-401

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | DATE 12/16/2022 | REV. NO. X

STA. 15030+00 TO STA. 15045+00 PLAN VIEW
SCALE: 1" = 50'

STA. 15045+00 TO STA. 15060+00 PLAN VIEW
SCALE: 1" = 50'

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
STA. 15030+00 TO STA. 15060+00 EROSION AND SEDIMENT CONTROL PLAN

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-402

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED REV. NO. X DATE 12/16/2022

1 2 3 4

LANDS N/F OF
GEORGE ALTIMORE
&
STEPHANIE SAFKA
TM# 60.13-2-2

LANDS N/F OF
DELAWARE & HUDSON RAILWAY CORP.
TM# 68.-1-10.1

LANDS N/F OF
ROSS CHEVROLET-OLDS INC
TM# 60.09-2-8.5

LANDS N/F OF
ROSS CHEVROLET-OLDS INC
TM# 60.13-1-13

RAILROAD R.O.W. & BOUNDARY

RAILROAD R.O.W. & BOUNDARY

COMPOST FILTER SOCK (TYP.)

MATCH LINE STA. 15060+00

MATCH LINE STA. 15075+00

APPROXIMATE LIMITS OF HDD #3

FIBER MANHOLE 032
N: 1716696.97
E: 782149.87

SPLICE LOCATION 032
N: 1716624.94
E: 782144.15

WETLAND PROTECTION (TYP.)

LIMIT OF CLEARING (TYP.)

LIMIT OF DISTURBANCE AT HDD WORK ZONE

A

STA. 15060+00 TO STA. 15075+00 PLAN VIEW
SCALE: 1" = 50'

0 50 100
Scale in feet

MATCH LINE STA. 15075+00

MATCH LINE STA. 15090+00

APPROXIMATE LIMITS OF HDD #3

B

STA. 15075+00 TO STA. 15090+00 PLAN VIEW
SCALE: 1" = 50'

0 50 100
Scale in feet

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
STA. 15060+00 TO STA. 15090+00 EROSION AND SEDIMENT CONTROL PLAN

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-403

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE: AS NOTED | DATE: 12/16/2022 | REV. NO. X

STA. 15090+00 TO STA. 15105+00 PLAN VIEW
SCALE: 1" = 50'

STA. 15105+00 TO STA. 15120+00 PLAN VIEW
SCALE: 1" = 50'

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
STA. 15090+00 TO STA. 15120+00 EROSION AND SEDIMENT CONTROL PLAN

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-404

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022

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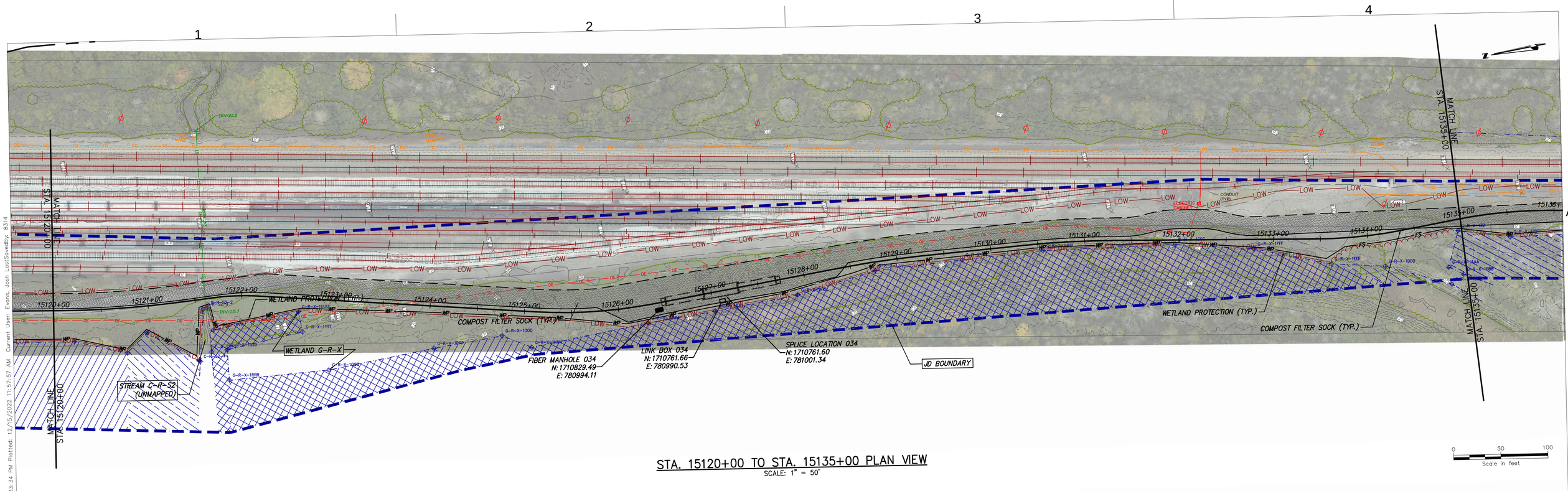
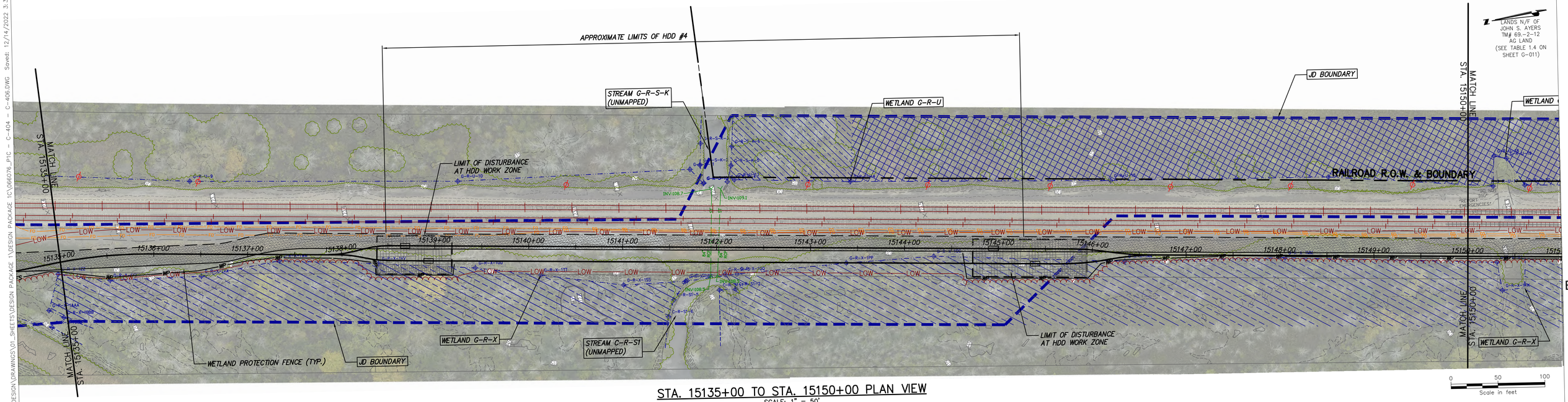


STA. 15120+00 TO STA. 15135+00 PLAN VIEW
SCALE: 1" = 50'



STA. 15135+00 TO STA. 15150+00 PLAN VIEW
SCALE: 1" = 50'

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
STA. 15120+00 TO STA. 15150+00 EROSION AND SEDIMENT CONTROL PLAN

DRAWN BY: JJE | DESIGNED BY: JTM | APPROVED BY: JPR | SCALE AS NOTED | REV. NO. X

KIEWIT PROJECT NO.
21162
CHA PROJECT NO.
066076
DRAWING NO.
C-405
DATE 12/16/2022

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 1\DESIGN PACKAGE 1C\066076_P1C - C-404 - C-406.DWG Saved: 12/14/2022 3:33:34 PM Plotted: 12/15/2022 11:57:57 AM Current User: Evans, Josh LastSavedBy: 8314