APPENDIX 14A:
PHASE IA ARCHAEOLOGICAL ASSESSMENT REPORT

Phase IA Archaeological Assessment of the Chinook Solar Project, Town of Fitzwilliam, Cheshire County, New Hampshire

Prepared for:

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January 18, 2018

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[redacted]

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Project Description

NextEra Energy Resources, LLC (NEER) is developing the Chinook Solar Project (Project), an approximately 30-megawatt (MW) solar energy generating project proposed on seven (7) separate parcels in the Town of Fitzwilliam, New Hampshire (Figure 1). The Project will occupy approximately 460 acres to the west of Fullam Hill Road and includes an existing transmission line corridor along its northeast border. The electric grid interconnection point of the Project is proposed to be at the recently built 34.5 kilovolt distribution line along Route 119 north of the Project area. TRC was contracted to conduct a Phase IA archaeological assessment of the Project area as part of the Site Evaluation Committee process for the State of New Hampshire. It was completed in accordance with guidelines established by the New Hampshire Division of Historic Resources (NHDHR). All figures prepared for this report appear in Appendix 1.

Environmental Description

Located in the southwestern corner of New Hampshire, the proposed Chinook Solar Project occurs within the Town of Fitzwilliam, adjacent to Scott Brook, which drains Scott Pond located approximately 0.8 km (0.5 mile) north of the Project area. Sip Pond is located 1.9 km (1.2 miles) south of the southernmost extent of the Project area. Fitzwilliam is bordered to the east by the Town of Rindge, New Hampshire and Tarbell Brook and Damon Reservoirs, to the west is the Town of Richmond, New Hampshire, to the north is the Town of Troy and the Gap Mountain Preserve and to the south is the Massachusetts border. Lands surrounding the proposed Project are mostly forested, with single family homes and a few cleared agricultural fields present to the south and east of the Project area. The Project area is primarily forested with extensive wetlands present in the eastern, central and southernmost portions of the Project. The Project area extends south from Route 119, and two transmission line corridors cross the northern section of the Project area and forms much its eastern boundary. The Project area is located between Fullam Hill Road to the east and Route 12 to the west.

In general, lands in the Project area are used for timber production, electric transmission and recreation. Uplands are generally located along a low ridge toward the center of the Project area and slope gradually to steeply toward lowlands to the southeast and west. Forested lands in the Project area are in varying stages of succession due to recent and historic logging and contain a mix of hard and softwood trees. The northern and southernmost portions contain forests appearing to be greater than 75 to 100 years in age with fairly large trees and an open understory. The remainder is in the early stages of regeneration, dense with shrubby growth, decaying slash piles, and a maze of skidder trails from logging activity within the last 10 to 15 years.

The Project area is in the Miller watershed (HUC 8: 01080202) and the Priest Brook (HUC 12: 010802020102) and Torbell-Millers River (HUC 12: 010802020103) subwatersheds. The subwatersheds are divided along a low ridge that runs northeast-southwest through the middle of the Project area. Topography within the Project area generally tends to the west and south toward Scott Brook or to the southeast toward Sip Pond and Millers River along this divide. Headwater wetlands and streams located along shallow swales and ravines east of the watershed divide drain south and off-site to Sip Pond and Sip Pond Brook. West of the watershed divide, lands slope steeply to an expansive forest-shrub wetland complex bordering Scott Brook (TRC 2017).

Wetlands cover a large portion of the Project area extending from the northwestern boundary south along the western border and extend into the central portion of the Project area. A stream runs south from the central portion of the Project to a large wetland in the southeastern corner. Wetland delineations within the Project area were completed in 2016 and 2017 (Figure 2).

The Natural Resource Conservation Service (NRCS) has identified seventeen soil classifications within the Project area. These classifications are summarized in Table 1 (Figure 3). The Project is composed primarily of glacial till with other areas comprised of bog, muck and other wetland deposits. The till deposits include various classifications of very stony, fine sandy loam.

Table 1. Major NRCS soil classifications within the Project boundaries.

Soil Unit	**Map Unit Name**	**Texture**	**Percent Slope**	**Drainage Classification**	**Parent Material**
56	Becket	Fine sandy loam	B=3-8% C=8-15%	Well drained	Basal melt out till
57	Becket	Fine sandy loam, very stony	B=3-8% C=8-15% D=15-25%	Well drained	Basal melt out till
60	Tunbridge-Berkshire complex	Fine sandy loam, very stony	B=0-8% C=8-15%	Well drained	Loamy supraglacial till
77	Marlow	Fine sandy loam, very stony	B=0-8% C=8-15% E=25-50%	Well drained	Loamy lodgment till
79	Peru	Fine sandy loam, very stony	B=0-8%	Moderately well drained	Loamy lodgment till
143	Monadnock	Fine sandy loam, very stony	B=0-8% C=8-15%	Well drained	Loamy supraglacial melt out till
169	Sunapee	Fine sandy loam, very stony	B=0-8%	Moderately well drained	Loamy supraglacial melt out till
197	Borohemists	Mucky peat, ponded	0-1%	Very poorly drained	Bogs
295	Greenwood	Mucky peat	0-2%	Very poorly drained	Bogs
298	Pits, gravel	---	---	---	---
347	Lyme and Moosilauke	Fine sandy loam	B=0-5%	Poorly drained	Till
395	Chocorua	Mucky peat	0-2%	Very poorly drained	Bogs
495	Ossipee	Mucky peat	0-2%	Very poorly drained	Bogs

Table 1. Major NRCS soil classifications within the Project boundaries, continued.

Soil Unit	Map Unit Name	Texture	Percent Slope	Drainage Classification	Parent Material
558	Skerry	Fine sandy loam	B=3-8%	Moderately well drained	Basal melt out till
559	Skerry	Fine sandy loam, very stony	B=3-8% C=8-15%	Moderately well drained	Basal melt out till
647	Pillsbury	Fine sandy loam	B=0-8%	Poorly drained	Loamy lodgment till

Literature Review

Background research included a review of all site files and reports of previous studies done within 6.7 kilometers (km) of the Project using the NHDHR site files. A visit was made to review NHDHR's site files on October 13, 2017. A historic map review included L. Fagan's 1858 *Map of Cheshire County, New Hampshire* (Figure 4), C. H. Rockwood's 1877 *Atlas of Cheshire County, New Hampshire* (Figure 5), D. H. Hurd's 1892 *Atlas of the State of New Hampshire* (Figure 6), 1898, 1936 and 1949 United States Geological Survey (USGS) topographic 15-minute quadrangle Monadnock, NH (Figures 7, 8 and 9). This map data suggests that potential historic resources are located within the Project boundaries (see Figures 4-7). Fagan's 1858 map shows "C. Drury" and "H. Platt" homesteads located within the eastern boundary of the Project along the road that extends from Fullam Hill Road into the Project area. On this map, School House No.2 is located immediately north of the two homesteads at the intersection of Fullam Hill Road and the road leading to the homesteads. Rockwood's 1877 atlas also shows two structures located within the Project area at similar locations to the two mentioned above; however, they are now attributed to "Mrs. M. Drury" and "S. Carrot." School No. 2 is still located outside of the Project boundaries on this map. On Hurd's 1892 atlas School No. 2 falls within the eastern boundary of the Project area. The two structures south of the school are still shown, now attributed to "Mrs. C. Drury" and "Mrs. N. S. Cox." On the 1898 USGS topographic map, only one structure is still shown within the Project boundaries near the "Mrs. N. S. Cox" structure. By 1936, the USGS topographic map shows no structures within the Project area; however, the road leading from Fullam Hill Road south into the Project is still visible, and the transmission line that runs along the eastern boundary of the Project area is in place.

The Town of Fitzwilliam was founded in 1764 and by the year 1800 had a population of about 1,200 people who farmed the rolling landscape. The coming of the railroad in 1848 turned the village into a small commercial center. Granite quarrying soon became a major industry, peaking about the time of World War I. Farming declined in the late 19th century in the face of competition from the mid-west. By the 1930's, the granite industry was fading away as well. By 1940, the population had dropped to 824. It increased slightly after 1960 with the influx of retirees, summer residents and those commuting to jobs in Keene and other local communities (http://fitzwilliam.org/fitzhist.htm).

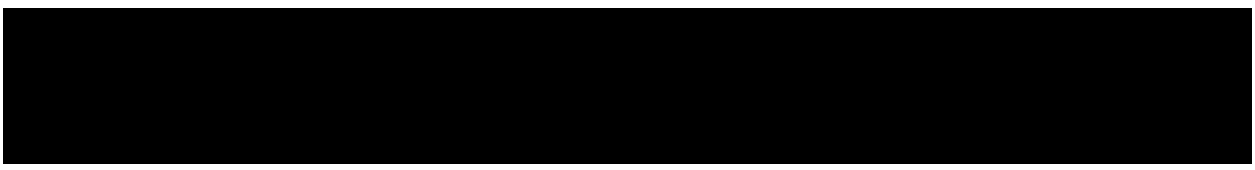

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Table 3. Previous cultural resource studies conducted within 6.7 km of the Project.

Authors	Title	Date
Shaffer, Gary D.	Archaeological Identification of the Mill by Boyce Pond Dam, Fitzwilliam, Cheshire County, NH. NRCS, Bangor, ME.	2013
Lynch et al.	Interim Progress Report, Project Phase IB Intensive Archaeological Investigations, Northeast Energy Direct Project: Cheshire, Hillsborough, Rockingham Counties, NH. Tennessee Gas Pipeline Company, LLC.	2015
Gutbrod, David, Barbara Dondue, and Martin Dudek	Phase IA Archaeological Sensitivity Assessment Eversource's ROW 367 Tree Clearing Reclamation Project, Amherst, Milford, Brookline, Mason, Fitzwilliam, and Keene, NH.	2016

Desktop Sensitivity Assessment

Desktop review of the various data sources described above was used to examine both the Precontact and Historic archaeological sensitivity for the Project area. Precontact sensitivity considered proximity to water or wetlands, distance from water or water-related bodies, level topography, breaks in slope, and soil type. Historic sensitivity was derived from historic map review showing the locations of former dwellings and structures located or potentially located within the Project area. The maps reviewed are included in this report (Figures 4-9).

Precontact Sensitivity

Four areas were identified in the Project area as sensitive for Precontact period archaeological resources (P1-P4) (Figure 10). No effort was made to distinguish sensitivity as high, medium, or low or with another rank-order strategy. Instead areas were identified as either sensitive or not. Each of the four sensitive areas is described here.

Area P1 is in the northwest portion of the Project that overlooks Scott Brook and its associated wetlands to the west (Figure 10). This high and level area may have been a camping location during any time during the Holocene Epoch.

Area P2 is located south of Area P1, but at a higher elevation (Figure 10). Similar to Area P1, it would have provided a prominent overlook and easy access to Scott Brook and its wetlands for a variety of resources during any time in the past 10,000 years.

Area P3 is located along a small stream in the central west part of the Project area (Figure 10). The stream may be seasonal but it empties into a small unnamed pond located outside of the Project area. There do not appear to be any breaks in slope where level ground might have afforded human activities, but the location's association with water, if only seasonally, may have been an important resource acquisition area in the past.

Like Area P3, Area P4 is also positioned near a small stream (Figure 10). It is situated in the southern part of the Project area, and this stream drains into a large wetland to the south. Topographic information shows the area may be somewhat steep, but the stream's location to a large wetland may have provided Native people with a variety of desirable resources in the past.

Historic Sensitivity

One area is identified as sensitive for Historic period resources. It is located on the eastern boundary of the Project in the central portion. [redacted]

Results of Walkover Survey

Walkover survey of the entire Project area was completed over a two-day period (November 14 and 15, 2017). Weather conditions were favorable during fieldwork, which was undertaken by Ms. Brooke Kenline-Nyman with two field assistants. The results of this field effort are presented below. Field observations corroborated most of the information presented in Figure 10 although one initially-defined field area was deleted, but another sensitive area was identified during the walkover (P5). Additionally, the field walkover survey permitted the opportunity to more precisely determine where archaeological testing should be completed within a sensitive area (compare Figures 10 and 11). Figure 11 shows the walkover survey of the sensitivity areas depicted with three map insets. The insets are enlarged into three additional figures (Figures 12, 15 and 18). Precontact period and historic period archaeological areas are discussed in detail below along with the amount of field testing recommended for each area with 50 cm^2 shovel test pits set on an 8-m interval, which is the NHDHR standard.

Precontact Sensitivity

The sensitivity of Area P1 was confirmed as a location of high and level ground in proximity to Scott Brook. In particular, two areas within Area P1 were identified (Test Areas P1a and P1b) (Figure 12) where testing on level topography overlooking a wetland area to the west are recommended (Figures 13a and 13b). Ten test pits for each area identified within P1 is the amount of testing recommended.

The sensitivity of Area P2 was confirmed as an elevated landform surrounded by wetlands. Testing of a single location within this area is also recommended with ten test pits (Test Area P2a) (Figures 12 and 14a).

Area P3 was reassessed and determined not sensitive (Figure 14b). The tiny stream is likely a seasonal water flow. It is not associated with any level landform and much of the area is saturated. This area is not recommended for testing and is eliminated from further discussion.

Area P4 contains three sensitive locations (P4a, P4b, P4c) on the east side of the small, unnamed stream that empties into the large wetland associated with Scott Brook (Figures 15, 16a, 16b). These locations offer level overlooks to the brook and access to the wetlands to the south. The amount of testing for Area P4a is 10 test pits. The amount of testing for Area P4b is 10 test pits. The amount of testing for Area P4c is 15 test pits. The total amount of testing for Area P4 is 35 test pits.

An additional area (P5) with two testing locations (P5a and P5b) was added for testing based on field reconnaissance. It is located to the east of Area P1 and to the north of Area P2 (Figure 12). It consists of two level locations that have prominent breaks in slope overlooking wetlands to the west. These new testing locations are identified as P5a and P5b (Figure 17a and 17b). Ten test pits for each area identified within P5 is the amount of testing recommended.

The total number of test pits recommended for testing the Precontact period archaeologically sensitive areas is 85. We recommend an additional 15 test pits to be used if artifacts are found in any of the sensitive areas to bracket and determine the extent of the archaeological deposit.

Historic sensitivity

The total number of test pits recommended for testing the Historic period archaeologically sensitive areas is 200. This includes bracket test pits around foundation features to evaluate the extent of the archaeological deposits associated with them.

Additional Field Observations

There have been recent disturbances to the Project area in the form of logging. These were primarily noted in the area H1 between the fallow field (H1a) and the existing transmission line corridor (Figure 22a). The field observations were unable to assess whether and to what extent ground disturbances may have affected the integrity of historic cultural resources. Another area of extensive disturbance from logging was identified in the southernmost portion of the Project area (Figure 22b).

Conclusions

Desktop review and field reconnaissance of the Project area identified five general areas with Precontact (n=4) and Historic (n=1) archaeological sensitivity. Detail maps of these locations and with proposed subsurface testing locations are presented in Figures 12, 15, and 18). The amount of test pit excavation that is required to examine and evaluate all archaeologically sensitive areas with the Project is 300. A majority of this effort (66%) is devoted to the study of Historic period sensitive areas. Work on the field component of this Project can begin as soon as ground conditions permit in 2018.

References Cited

Fagan, L.
1858 *Map of Cheshire County, New Hampshire*. Published by Smith & Morley, Philadelphia, PA.

Hurd, D. H,
1892 *Town & City Atlas of the State of New Hampshire.* Published by D. H. Hurd & Co., Boston, MA.

Natural Resources Conservation Service
2017 http://websoilsurvey.sc.egov.usda.gov

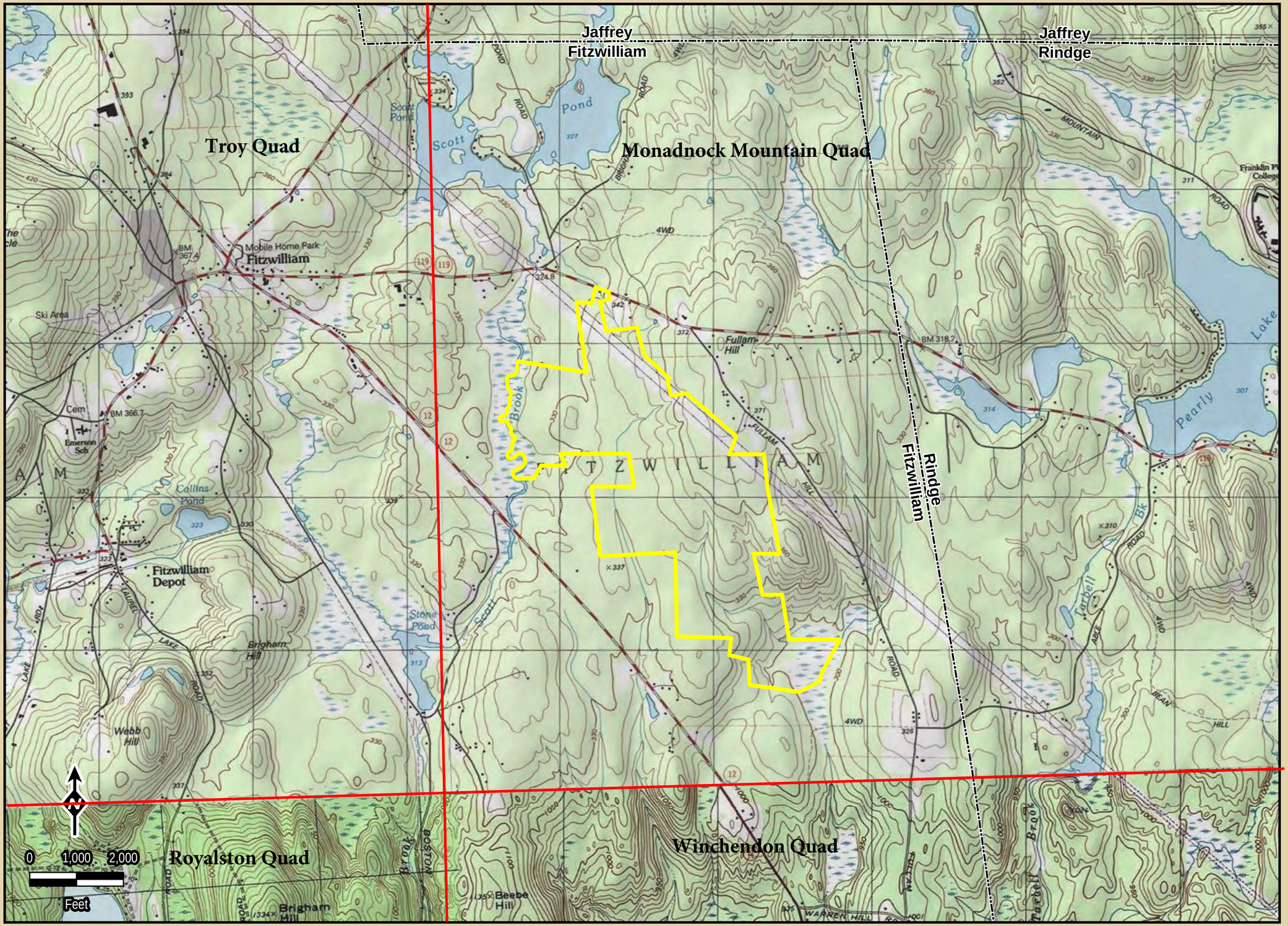
Rockwood, C. H.
1877 *Atlas of Cheshire County, New Hampshire.* Published by C. H. Rockwood, West Chesterfield, NH.

Town of Fitzwilliam
2017 http://fitzwilliam.org/fitzhist.htm

TRC
2017 Wetland and Waterbody Delineation Report. Report on file with TRC, Scarborough, ME.

U.S. Geologic Survey
1898 topographic 15-minute quadrangle Monadnock, NH
1936 topographic 15-minute quadrangle Monadnock, NH
1949 topographic 15-minute quadrangle Monadnock, NH

Appendix 1: Report Figures



Legend

- Project Area
- Township Boundary

Sources: TRC
Basemap - USGS

Chinook Solar, LLC

Fitzwilliam, NH

Figure 1: Project Location

Created: 11/3/2017

TRC
6 Ashley Drive
Scarborough
Maine 04074

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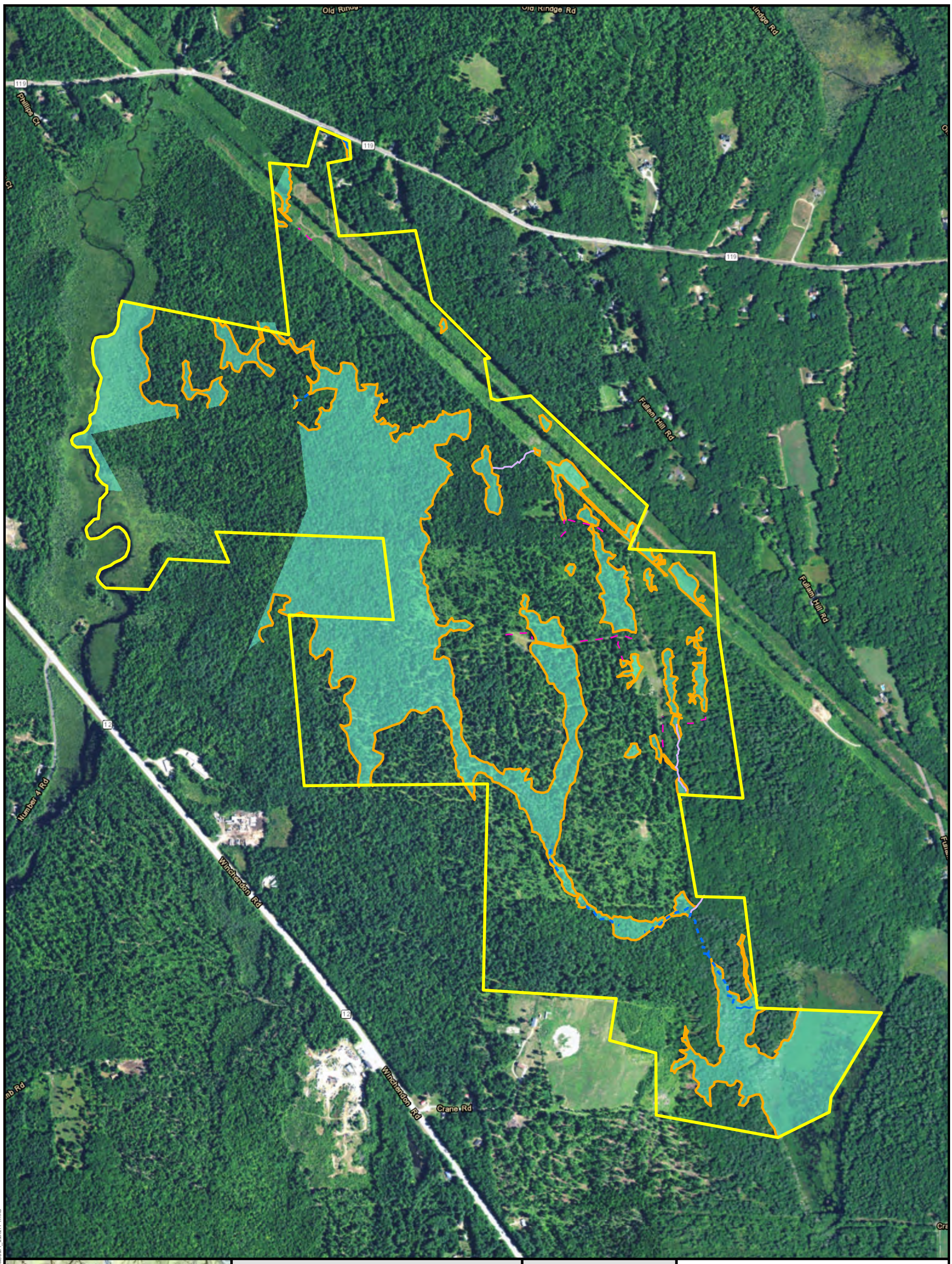

- Chinook Project Boundary
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream
- Non-Jurisdictional Drainage
- Delineated Wetland Boundary
- Wetland

0 375 750

Feet

Note: Vernal pools shown on this figure were delineated by TRC. Additional vernal pools occur within the project boundary and are shown on separate mapping.

Chinook Solar Project,

Figure 2. Delineated Wetland and Stream Resources

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TRC

December 2017

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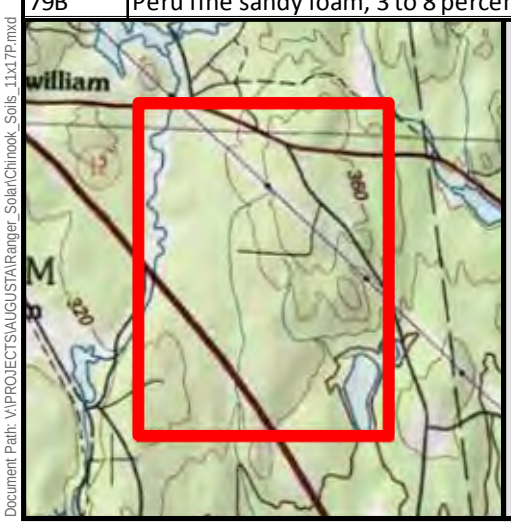
Sources: ESRI, MEGIS, TRC

Projection: NAD 1983 StatePlane New Hampshire FIPS 2800 FeetUnits: Foot US

MUSYM	MU Name
143B	Monadnock fine sandy loam, 3 to 8 percent slopes, very stony
143C	Monadnock fine sandy loam, 8 to 15 percent slopes, very stony
169B	Sunapee fine sandy loam, 3 to 8 percent slopes, very stony
197	Borohemists, ponded
295	Greenwood mucky peat
347B	Lyme and Moosilauke soils, 0 to 5 percent slopes, very stony
395	Chocorua mucky peat
495	Ossipee mucky peat
558B	Skerry fine sandy loam, 3 to 8 percent slopes
559B	Skerry fine sandy loam, 3 to 8 percent slopes, very stony
559C	Skerry fine sandy loam, 8 to 15 percent slopes, very stony
56B	Becket fine sandy loam, 3 to 8 percent slopes
56C	Becket fine sandy loam, 8 to 15 percent slopes
57B	Becket fine sandy loam, 3 to 8 percent slopes, very stony
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony
60B	Tunbridge-Berkshire complex, 3 to 8 percent slopes, very stony
60C	Tunbridge-Berkshire complex, 8 to 15 percent slopes, very stony
647B	Pillsbury fine sandy loam, 0 to 5 percent slopes, very stony
73C	Berkshire fine sandy loam, 8 to 15 percent slopes, very stony
77B	Marlow fine sandy loam, 3 to 8 percent slopes, very stony
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony
77E	Marlow fine sandy loam, 25 to 50 percent slopes, very stony
79B	Peru fine sandy loam, 3 to 8 percent slopes, very stony



Chinook Project Boundary
NRCS Soils

0 375 750
Feet

Chinook Solar **Project**
Figure 3. Soil Resources

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June 2017

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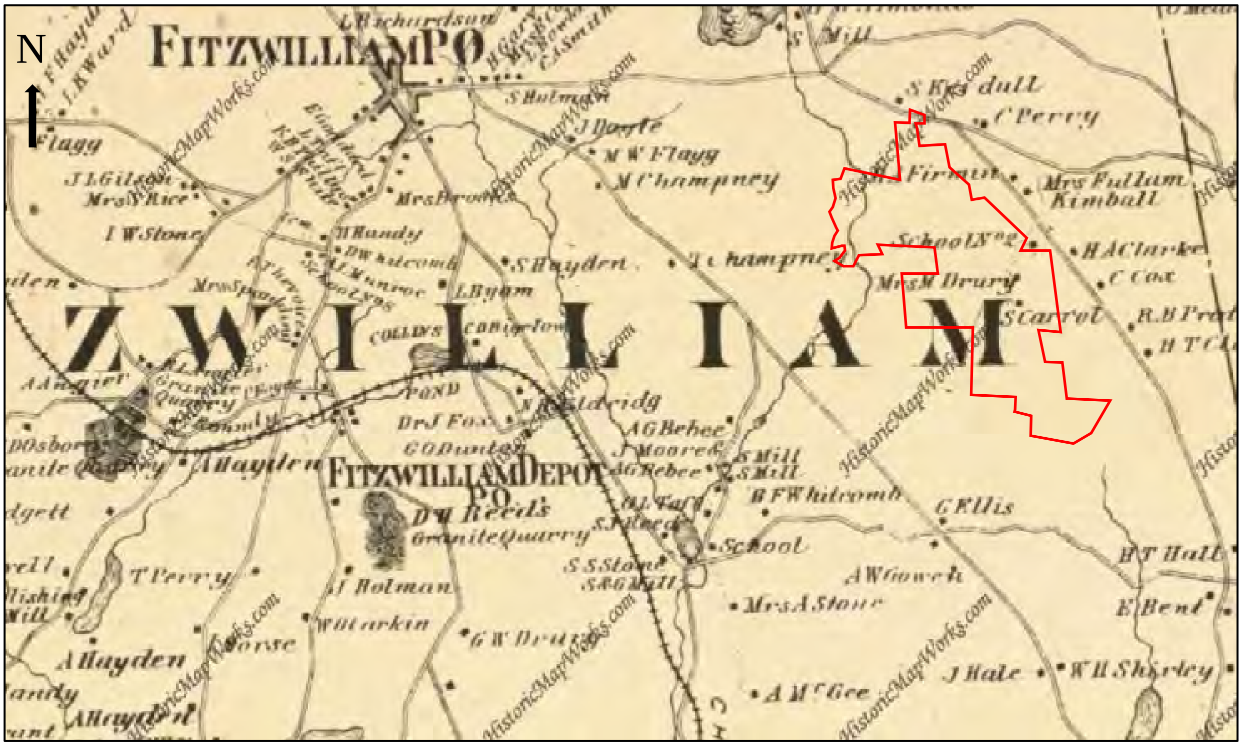
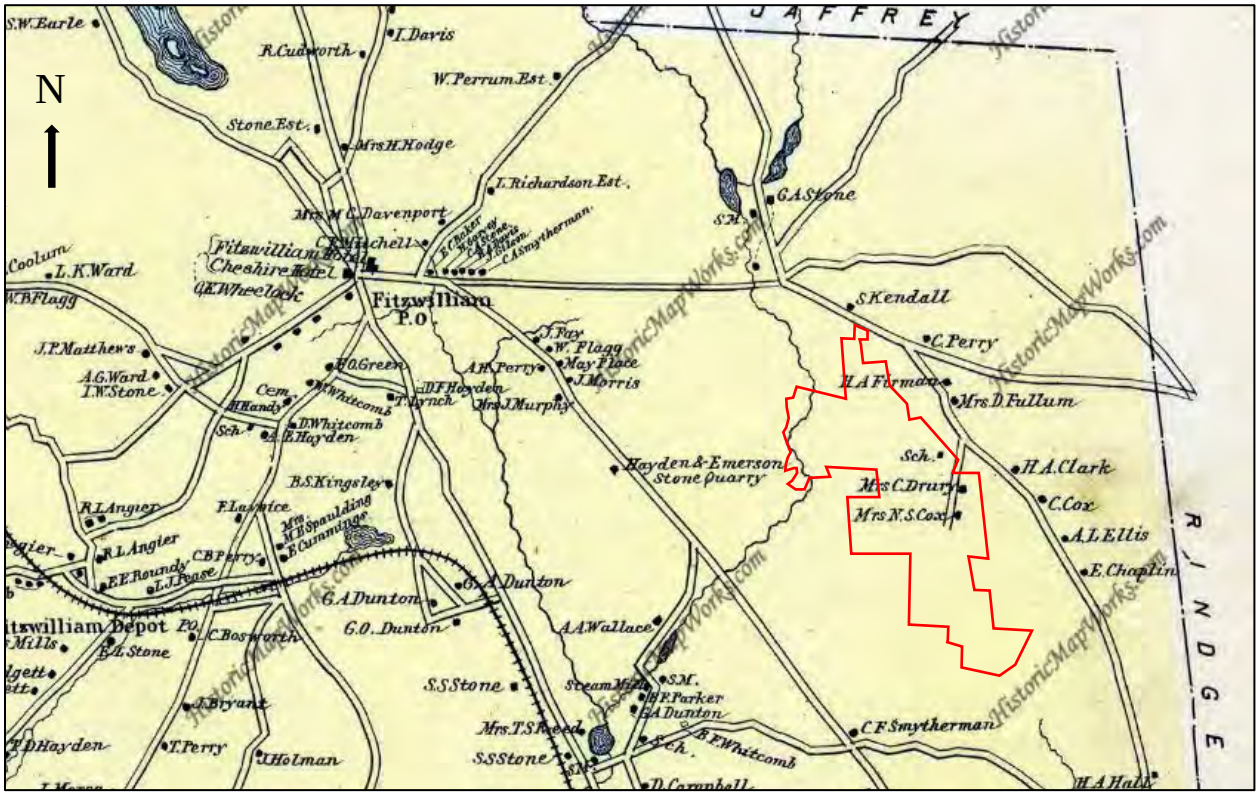
Sources: ESRI, MEGIS, TRC

Projection: NAD 1983 StatePlane New Hampshire FIPS 2800 FeetUnits: Foot US

NextEra Energy Resources, LLC **Chinook Solar Project** **Phase IA Archaeological Assessment**	Figure 4. Approximate location of the Project parcel on L. Fagan's 1858 *Map of Cheshire County, New Hampshire*.
TRC **71 Oak Street** **Ellsworth, Maine 04605**	



NextEra Energy Resources, LLC Chinook Solar Project Phase IA Archaeological Assessment	Figure 5. Approximate location of the Project parcel on C. H. Rockwood's 1877 *Atlas of Cheshire County, New Hampshire*.
TRC 71 Oak Street Ellsworth, Maine 04605	



NextEra Energy Resources, LLC **Chinook Solar Project** **Phase IA Archaeological Assessment**	Figure 6. Approximate location of the Project parcel on D. H. Hurd's 1892 *Atlas of the State of New Hampshire*.
TRC **71 Oak Street** **Ellsworth, Maine 04605**	

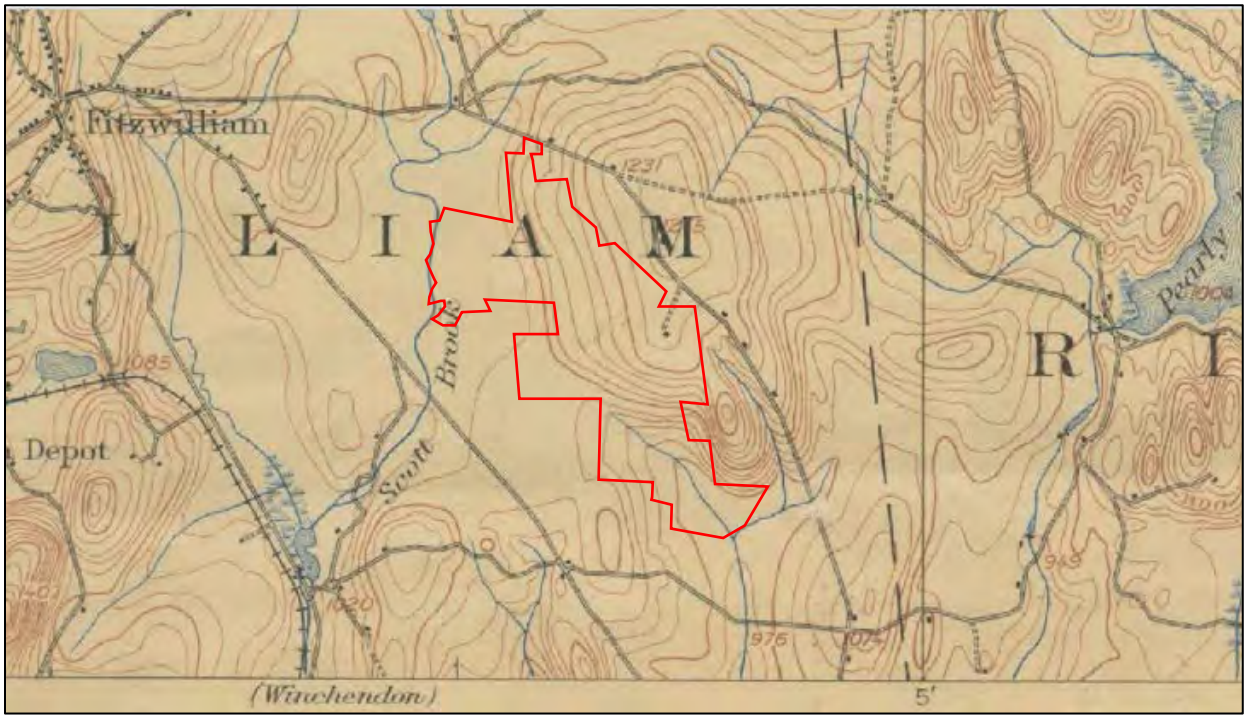


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Figure 7. Approximate location of the Project parcel on 1898 USGS topographic 15 minute quadrangle Monadnock, NH.

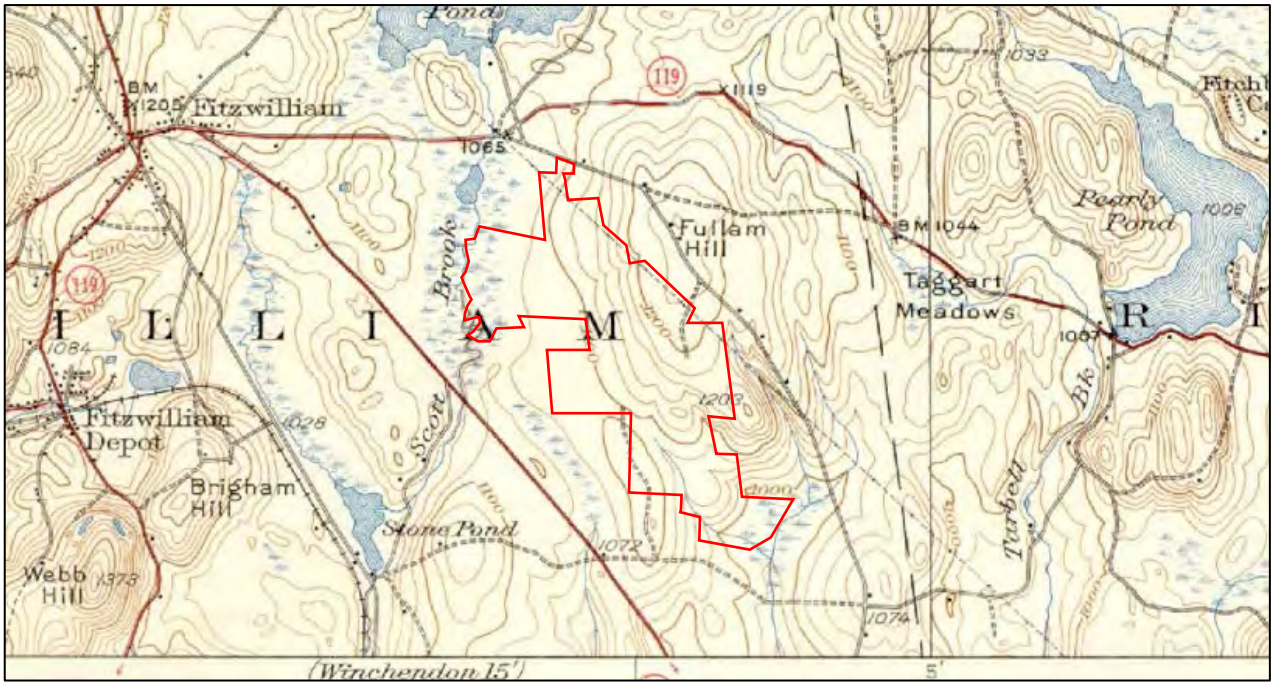

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Figure 8. Approximate location of the Project parcel on 1936 USGS topographic 15 minute quadrangle Monadnock, NH.

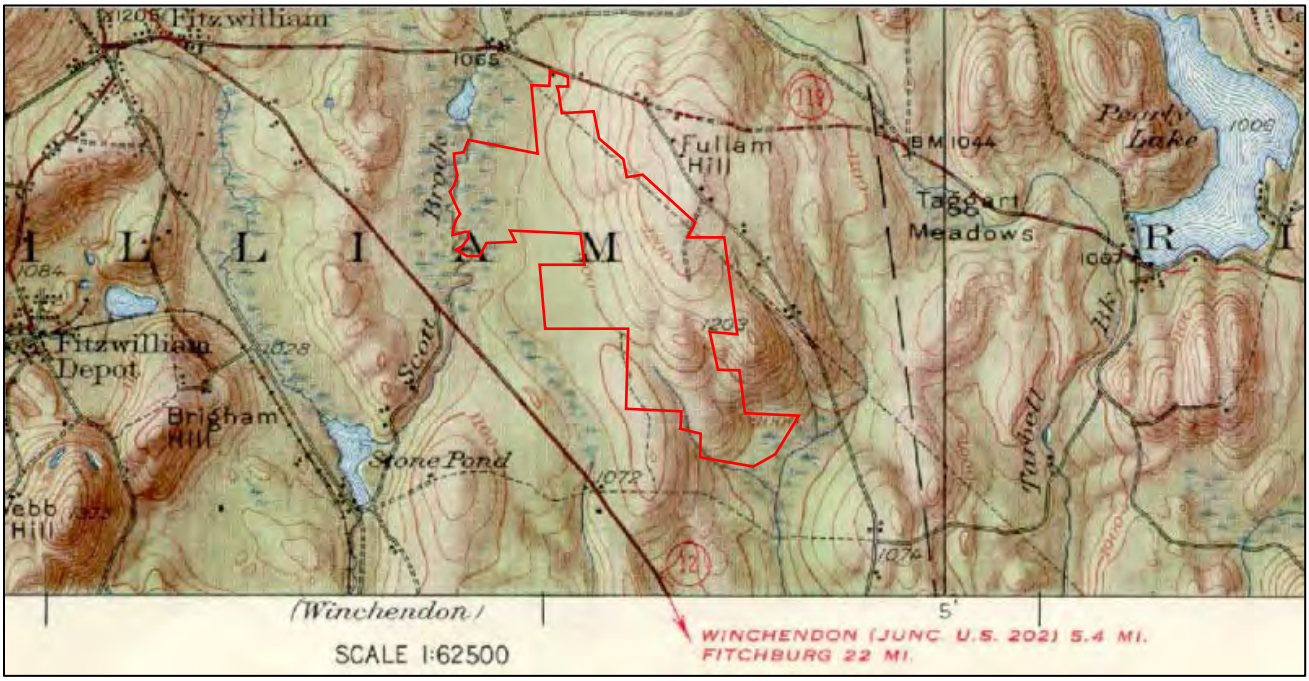

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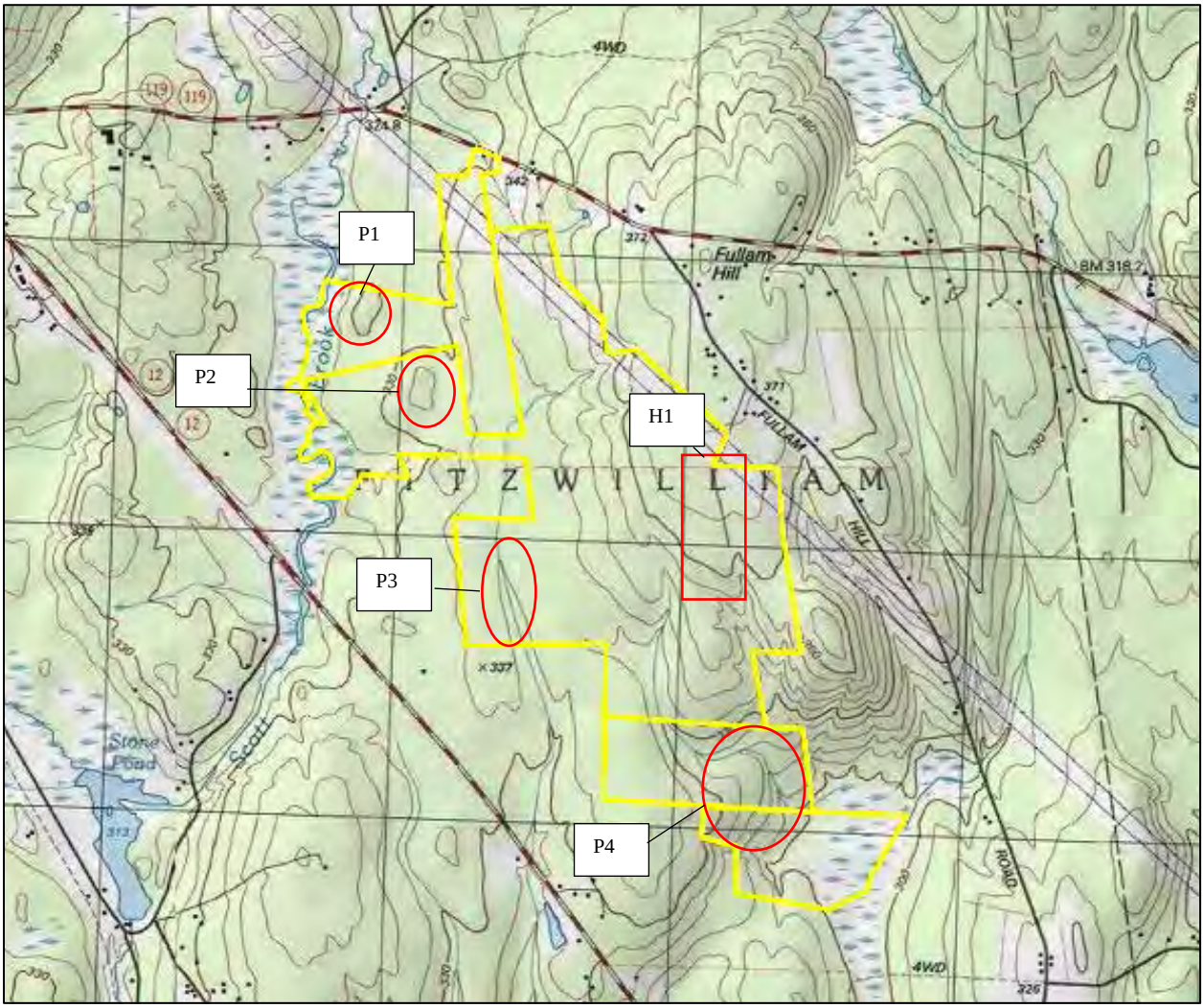
Figure 9. Approximate location of the Project parcel on 1949 USGS topographic 15 minute quadrangle Monadnock, NH.



P1 – P4: indicate locations sensitive for Precontact Period resources = ◯

H1: indicates a location sensitive for Historic Period resources = ▯

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Figure 10. Results of desktop sensitivity assessment.

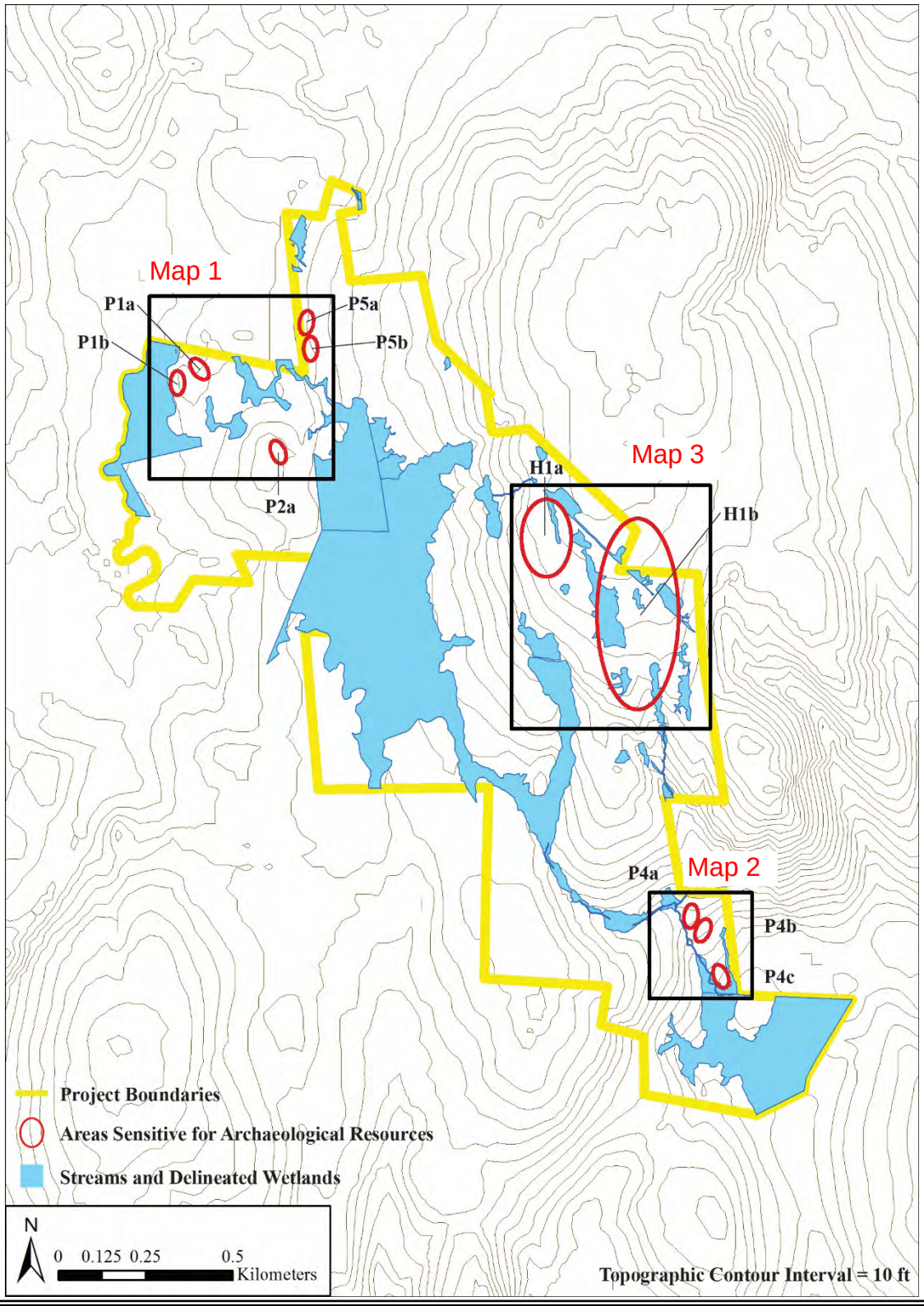

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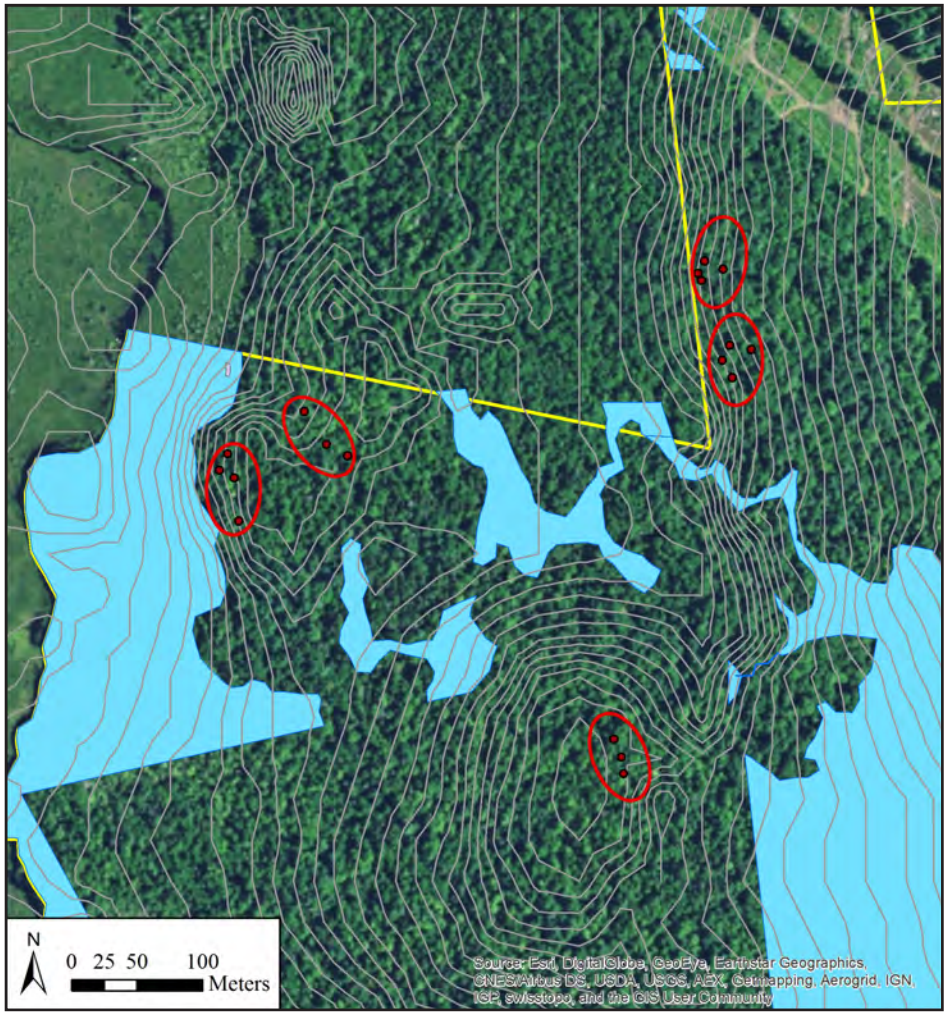
Figure 11. Overall archaeological sensitivity areas map.
Note: "P"-named areas represent Precontact period sensitivity and "H"-named areas represent Historic period sensitivity.



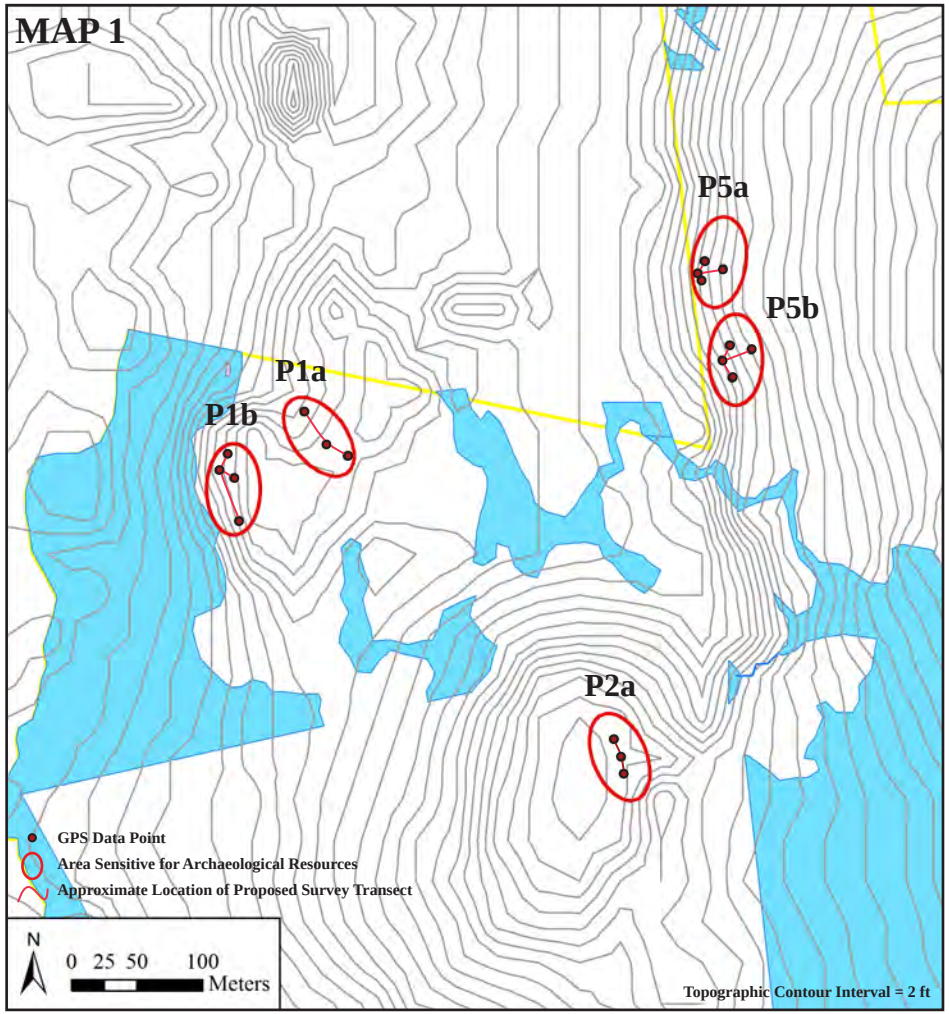


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Figure 12. Survey Map 1

Figure 13a. View of Test Area P1a, facing west.

Figure 13b. View of Test Area P1b, facing northwest.

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Figure 14a. View of Test Area P2a, facing south.

Figure 14b. View of Area P3-determined not sensitive for cultural resources, facing west.

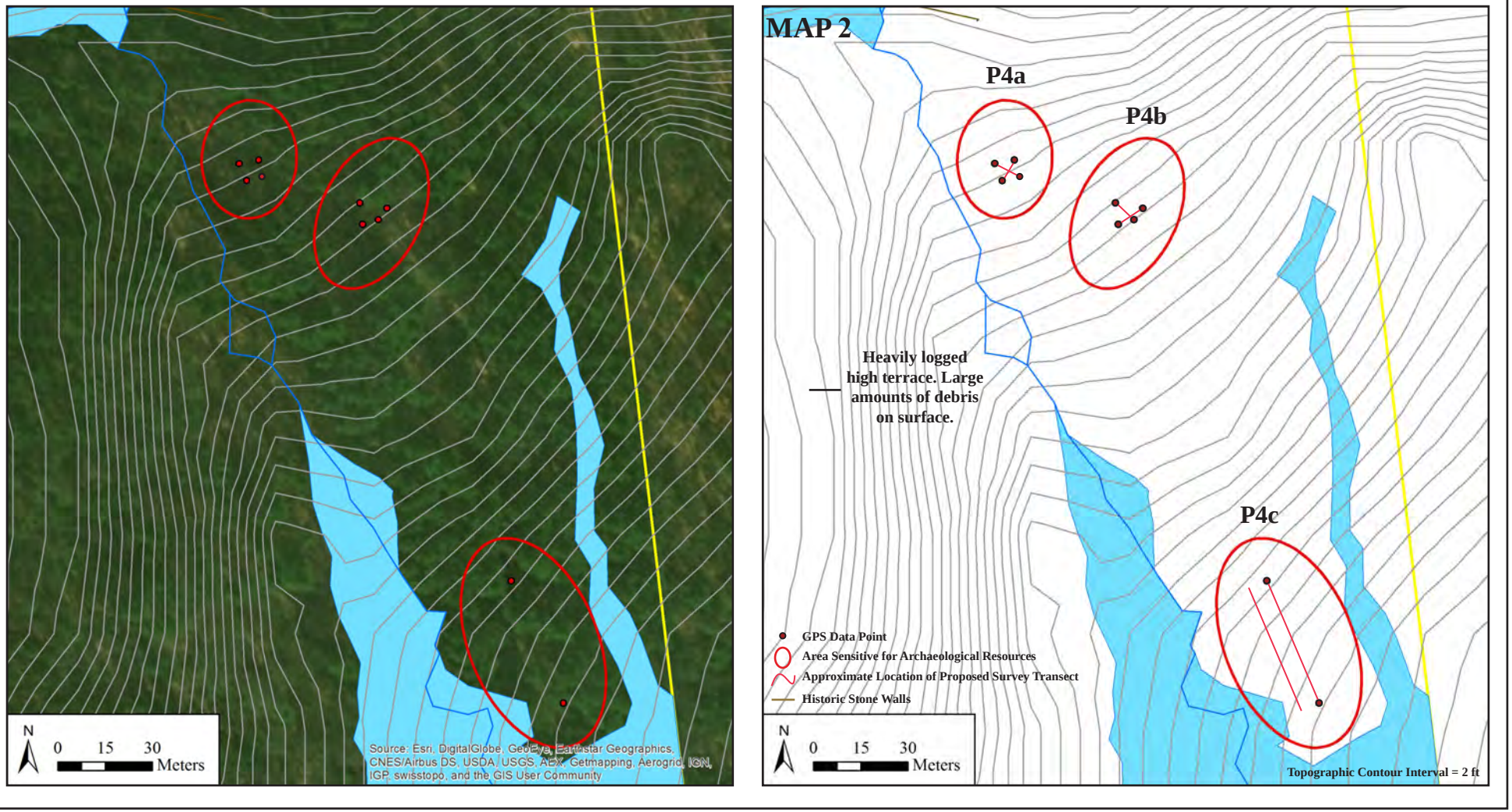

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Figure 15. Survey Map 2

Figure 16a. View of Test Area P4a, facing north.

Figure 16b. View of Test Area P4c, facing south.

Figure 17a. View of Test Area P5a, facing west.

Figure 17b. View of Test Area P5b, facing west.