THE STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

SEC DOCKET NO. 2019-02

APPLICATION OF CHINOOK SOLAR, LLC FOR A CERTIFICATE OF SITE AND FACILITY FOR THE CHINOOK SOLAR PROJECT IN FITZWILLIAM, NEW HAMPSHIRE

PREFILED TESTIMONY OF KAREN E. MACK
ON BEHALF OF
CHINOOK SOLAR, LLC
OCTOBER 14, 2019

Qualifications of Karen E. Mack

Q. Please state your name and business address.

A. My name is Karen E. Mack. My business address is TRC, 71 Oak St., Ellsworth, Maine 04605.

Q. Who is your current employer and what position do you hold?

A. I am employed by TRC as a Senior Archaeologist.

Q. Please describe your responsibilities at TRC, including those that relate to the Chinook Solar Project that is the subject of this docket.

A. I serve as a principal investigator and director of field investigations, data analysis and report writing for all levels of archaeological investigations. My responsibilities include developing sensitivity models for large- and small-scale development projects, including energy projects like the Chinook Solar Project ("the Project"). I also conduct Phase IA and IB archaeological assessments and investigations, as I did for this Project. I have more than 25 years of experience in the field of Cultural Resource Management. I am a Level 1 and 2 Approved Prehistoric Archaeologist with the Maine State Historic

Preservation Office, and I am an Approved Archeologist with the New Hampshire State Historic Preservation Office. I have a BA in anthropology from the University of New Hampshire and an MS in Quaternary Science/Archaeology from the University of Maine. More detail on my background and experience is included in my resume, which is Attachment A to this testimony.

Q. Have you previously testified before this Committee and/or any other state permitting agencies?

A. I have not testified before the New Hampshire Site Evaluation Committee ("SEC" or "Committee").

Purpose of Testimony

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide the Committee with the results of the Phase IA Archeological Assessment of the Chinook Solar Project and the Phase IB Archaeological Investigation of the Chinook Solar Project, in which I participated and which was conducted with Richard Will, Andrew Heller and a crew of four field technicians.

Site Information

Q. Please describe the location and basic characteristics of the proposed Project site.

A. The Project is proposed to be located in Fitzwilliam, New Hampshire. Specifically, the Project footprint is proposed to be located on approximately 110 acres of

private lands which are currently under either an option to purchase or an option to lease agreement between Chinook Solar, LLC ("Chinook Solar") and each of five landowners. The total amount of land subject to these agreements is in excess of 500 acres of land, though as noted above the footprint of the proposed Project and thus the amount of land that will be cleared for the Project is a much smaller portion of the land under agreement. The Project is a 30MW electric generating facility, with the electricity to be generated through the use of solar panels. In general, the Project site is one which has been actively forested for a number of years. More information about the location and characteristics of the Project site and surrounding area is contained in the Application.

TRC's Phase IA Archaeological Assessment of the Project

Q. Did you and others with whom you work at TRC prepare the Phase IA Archaeological Assessment for this Project?

A. Yes. In conjunction with others at TRC, I prepared the Phase IA Archaeological Assessment for this Project.

Q. Please describe the Assessment that TRC conducted.

A. As noted in the report, which is included as Appendix 14A to the Application, our primary objective was to conduct a Phase IA archaeological assessment of the Project in accordance with guidelines established by the New Hampshire Division of Historical Resources ("NHDHR"). This assessment included background research on all site files and reports of previous studies done within 6.7 kilometers of the Project using the NHDHR site files. We did a review of historic maps, which suggested that potential

historic resources, including homesteads and a school, were located within the Project boundaries. We also reviewed information on file with the Natural Resources Conservation Service ("NRCS"), which showed that there are 17 soil classifications within the Project area, though the Project is composed of mostly glacial till with some bog, muck and other wetland deposits. The till deposits include various classifications of very stony, fine, sandy loam. The desktop review of various data sources was to examine the Precontact and Historic archaeological sensitivity for the Project area, which included consideration of proximity to water or wetlands, distance from water or water-related bodies, level topography, breaks in slope, and soil type. We also did a two-day walkover survey of the entire Project area.

Q. What were the results of this review?

A. Four areas were identified in the Project area as sensitive for Precontact period archaeological resources: Area P1, an area in the northwest corner of the Project that overlooks Scott Brook and its associated wetlands that may have been a camping location during any time during the Precontact period; Area P2, an area south of there at a higher elevation that would have provided an 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 P5, an area located to the east of the first area and the north of the second area consisting of two level locations that have prominent breaks in slope overlooking wetlands to the west; and Area P4, an area positioned near a small stream in the southern part of the Project area which may have provided Native people with a variety of desirable resources in the past.

We recommended 85 test pits and an additional 15 test pits to be used if artifacts are found in any of the sensitive areas for the Precontact period archeologically sensitive areas, and 200 test pits for testing the Historic period in two archaeologically sensitive areas. We also noted that there have been recent disturbances in the Project area in the form of logging. The field observations were unable to assess whether and to what extent ground disturbances may have affected the integrity of historic cultural resources.

Q. Was the Phase IA Archaeological Assessment which TRC conducted accepted by the NHDHR?

A. Yes. In a letter dated February 7, 2018, a copy of which is included as Appendix 14B to the Application, the NHDHR accepted the results of the Phase IA assessment and requested the preparation of a Phase IB archaeological study.

TRC's Phase IB Archaeological Investigation of the Project

Q. Did you and others with whom you work at TRC prepare the Phase IB Archaeological Evaluation for this Project?

A. Yes. Once the Phase IA assessment was accepted by NHDHR, we prepared the Phase IB Archaeological Evaluation for this Project.

Q. Please describe the Phase IB Evaluation that TRC conducted.

A. As noted in the report, which is included as Appendix 14C to the Application, the Phase IB survey for archaeological resources included a combination of intensive walkover inspection and excavation of 50 centimeter by 50-centimeter shovel test pits ("STPs"). STPs were placed at 8-meter intervals along linear transects. Bracket STPs

were placed on 4-meter intervals when historic cultural material was found within shovel test pits. All soil removed from the STPs was screened through mesh, which was suitable for the recovery of small stone flakes, bones, or other cultural materials that might otherwise have been missed without screening. Standardized documentation was maintained for every STP excavated, including a soil description to indicate the nature of subsurface sediments, notes on disturbance and site drainage. A field sketch of the overall test area was made, and photographs were taken. Spatial data regarding the location of STPs were collected and the data were post-processed and corrected. Project maps were created. All field work complied with NHDHR standards for cultural resource investigations and the curation of archaeological collections in New Hampshire.

Q. What were the results of this survey?

A. As a result of the Phase IB survey, TRC archaeologists concluded that the areas are not sensitive for cultural resources and therefore they did not recommend any additional investigation.

Q. Was the Phase IB Archaeological Evaluation which TRC conducted accepted by the NHDHR?

A. Yes. In a letter dated December 3, 2018, a copy of which is included as Appendix 14D to the Application, NHDHR noted that the Phase IB studies were completed and that NHDHR determined that no additional archaeological studies were required.

Conclusion

Q. In your opinion, will the Project have an unreasonable adverse effect on archaeological resources?

A. No. Based upon the information set forth above and in our Phase IA and IB assessment and evaluation, as well as our consultation with NHDHR, I believe that the Project will not have an unreasonable adverse effect upon archaeological resources.

Q. Does this conclude your testimony?

A. Yes, this concludes my testimony at this time, though I reserve the right to file supplemental testimony in accordance with the Committee's procedural schedule.

ATTACHMENT A

KAREN E. MACK

EDUCATION

BA Anthropology (Magna Cum Laude), University of New Hampshire, Durham, NH, 1991
MS Quaternary Science/Archaeology, University of Maine, Orono, ME, 1994

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Register of Professional Archaeologists, 1999
Level I and 2 Approved Prehistoric Archaeologist, Maine State Historic Preservation Office
Approved Archaeologist -

- Massachusetts State Historic Preservation Office
- New Hampshire State Historic Preservation Office
- Vermont State Historic Preservation Office
- New York State Historic Preservation Office

TECHNICAL SPECIALTIES

- Preparation of Cultural Due Diligence Documents
- Intensive Archaeological Survey
- Archaeological Site Testing and Data Recovery
- Project Management and Logistics
- Report Preparation

PROFESSIONAL EXPERIENCES

Senior Archaeologist

Serves as principal investigator and director of field investigations, data analysis, and report writing for all levels of investigation (Phase I–III). Responsibilities include developing sensitivity models for large- and small-scale development projects such as natural gas pipe lines, transmission lines, solar installations, wind farms, and residential developments.

Archaeologist

Organization: USDA Forest Service, White Mountain Nat'l Forest (WMNF), Laconia, NH
Served as archaeological assistant to the forest archaeologist on the WMNF. Responsibilities included directing an archaeological field school on a National Register site; co-directing "Passports in Time"/"State Conservation and Rescue Archaeology Program (SCRAP)" field school with NH Division of Historical Resources and Plymouth State College; and inventorying, managing, and assessing historic and prehistoric cultural resources within the forest.

Research Archaeologist
Organization: Archaeological Research Consultants, Inc., Ellsworth, ME
Served as a research archaeologist for cultural resource management (CRM) firm. Responsibilities included directing all phases of archaeological research from reconnaissance to data recovery; developing CRMPs based on state and federal regulations for development projects; conducting archaeological sensitivity assessments for landforms with project areas; supervising field and laboratory operations; and authoring reports and publications regarding the archaeological investigations conducted.

Research Associate
Organization: MacKay Archaeology Lab, University of Maine, Orono, ME
Served as a research associate and field/lab director of university-based CRM program. Responsibilities included directing all operations at the MacKay Archaeology Lab; supervised two to twenty technicians and students; co-developed and implemented CRMPs; directed field excavations, analysis, and wrote reports.

SELECTED REPORTS

New York

2018 Phase 1 Archaeological Assessment of the Salt Point Solar, LLC Project, Town of Hyde Park, Dutchess County, New York (Project Review # 18PR00540). Report on file with New York State Historic Preservation Office, Waterford, NY.

2017b Phase IA/IB Archaeological Assessment of the National Grid Tilden – Cortland #18, 115kV, Cortland County and Onondaga County, New York (NY SHPO Project Review #17PR03468). Report on file with New York State Historic Preservation Office, Waterford, NY.

2016a Phase I Archaeological Investigation of the Hamilton College Solar Project, Kirkland, Oneida County, New York (Project Review# 16PR00190). Report on file with New York State Historic Preservation Office, Waterford, NY.

2016b Phase IA Archaeological Assessment of the Wawayanda Solar Project, Wawayanda, Orange County, New York (Project Review # 16PR00301). Report on file with New York State Historic Preservation Office, Waterford, NY.

2016c Phase IA Archaeological Assessment and Partial Phase IB Archaeological Investigation of the Vermont Green Line Project, Beekmantown, Clinton County, New York (Project Review# 16PR01803). Report on file with New York State Historic Preservation Office, Waterford, NY.

2016d Phase IA/IB Archaeological Assessment of the National Grid Whitehall-Mohican #13 kV Transmission Line Conductor Clearance Refurbishment Project Saratoga and Washington Counties (NY SHPO Project Review #15PR07594). Report on file with New York State Historic Preservation Office, Waterford, NY.

2013 Results of Phase IB Archaeological Resource Survey Proposed Cape Vincent Wind Farm Project, Cape Vincent and Lyme, Jefferson County New York. Report on file with BP Wind Energy, NA Inc., Houston, Texas.