Memorandum

Stetson Wind Project
T8R4 and T8R3, NBPP,
Washington County, ME

Historic Architectural Effects Assessment

PAL NO. 2029.02

October 31, 2007

Submitted to:
Stantec
30 Park Drive
Topsham, Maine 04086

This memorandum was prepared to respond to comments provided by the Maine Historic Preservation Commission (MHPC) in its letter dated October 9, 2007 on the findings of the Historic Architectural Reconnaissance Survey report prepared by PAL for the Stetson Wind Project summit turbine development. The MHPC determined that the following four properties, recommended as not eligible by PAL, are potentially eligible for listing in the National Register:

- Survey Map No. 108 - House, Lee Road, Springfield;
- Survey Map No. 117 - Springfield Fairground buildings, Park Street, Springfield;
- Survey Map No. 143 - House and Barn, 166 North Road, Carroll Plantation;
- Survey Map No. 250 - Corner Stone Inn, 7 Depot Street, Danforth.

Because these properties were not considered potentially eligible by PAL, the potential effects of the project were not assessed during the original survey effort. The MHPC has requested that a finding of effect be made for each. In order to complete the assessment of effects, PAL reviewed existing information about the properties and the visual impacts of the proposed project and conducted site visits as necessary. The results of the review and fieldwork, along with recommendations regarding the potential effect of the project on the properties identified by the MHPC as potentially eligible for the National Register are presented below.

Property Descriptions

Survey Map No. 108 – House on Lee Road (State Route 6), Springfield

The house at the southeast corner of the intersection of Lee Road (State Route 6) and Park Street (State Routes 169 and 170) in Springfield (Penobscot County) is a mid- to late-nineteenth-century, two-and-a-half-story building (Photo 1). It has a side gabled roof, two interior brick chimneys, corner pilasters, dentils, paired two-story bay windows on the west

side facade, and original paneled double front doors. The exterior is sheathed with an unusual diamond-patterned wood cladding. There is a historic period rear ell addition and later attached garage addition that does not appear to be more than 50 years old.

Photo 1. Survey Map No. 108 – House on Lee Road (State Route 6), Springfield.

Survey Map No. 117 – Springfield Fairground Buildings, Park Street, Springfield

The Springfield Fairground is located in Springfield (Penobscot County) on the east side of Park Street (State Routes 169 and 170) at the southeast corner of the intersection of Park Street and Coffin Road. It consists of a complex of about 20 buildings and structures associated with the Springfield Fair (Photo 2). The fair has a history that reportedly spans more than 150 years in this location, making it one of the oldest agricultural fairs in Maine. Most of the extant buildings and structures, however, appear to date from the mid- to late twentieth century. The most notable historic period structure is a covered wooden grandstand (Photo 3). Other buildings and structures consist of a wooden pavilion/stage, a shed roof event building, a ticket booth, animal sheds, a barn with cupola, a front-gabled barn, a wooden outbuilding with porch, two concession stands, several small gabled outbuildings, and two fenced corrals (Photo 4).

Photo 2. Survey Map No. 117 – Springfield Fairground, Park Street, Springfield.

Photo 3: Grandstand at the Springfield Fairground.

Photo 4: Springfield Fairground buildings.

Survey Map Nos. 143, 143.1, and 143.2 – 166 North Road, Carroll Plantation

The property at 166 North Road in Carroll Plantation contains a farmhouse with a side ell addition, a large connected barn, and a detached silo (Photo 5). The house is a circa 1870, one-and-a-half-story, front-gabled structure with clapboard siding, a central chimney, and an attached front porch (Photo 6). The side ell features clapboard siding, dormers, and a small shed-roof connector to the barn. The nineteenth-century, front-gabled, gambrel roof barn is of frame construction with wood shingle cladding and a shed-roof addition on either side (Photo 7). The name "Johnson" is painted on the facade facing the road. The silo is of corrugated metal and appears to date from the early twentieth century.

Survey Map No. 250 – Corner Stone Inn, 7 Depot Street, Danforth

The Corner Stone Inn at 7 Depot Street in Danforth is mid- to late-nineteenth-century structure that may have originally been a house or inn but currently serves as a restaurant. The two-and-a-half-story building features a side-gabled roof, clapboard siding, a two-story full front porch with decorative brackets and railing, a stone foundation, and an interior chimney (Photo 8). The resource is located in the commercial center of Danforth (Washington County) on the west side of Depot Street at the southwest corner of the intersection of Depot Street and Calais Road (US Route 1).

Photo 5: Survey Map Nos. 143, 143.1, and 143.2 – 166 North Road, Carroll Plantation.

Photo 6: 166 North Road farmhouse.

Photo 7: 166 North Road barn and silo.

Photo 8: Survey Map No. 250 – Corner Stone Inn, 7 Depot Street, Danforth.

Assessment of Project Effects

The four properties are located within the Area of Potential Effect (APE) for indirect impacts, which is defined in PAL's Architectural Reconnaissance Survey Report as extending 10-miles around the proposed Stetson Wind Project summit turbine development. The potential effects of the project within the indirect impact APE were determined to be visual in nature and limited to impacts that might alter the setting or other character-defining elements of a property's significance and/or integrity. The initial step in assessing effects was to determine whether or not any of the four properties would have views of the constructed wind turbines. This was done using the information collected by PAL during the original fieldwork conducted for the project and the visual analysis report prepared for the Stetson Wind Project prepared by Terrance J. DeWan & Associates (TJD&A).[1] For properties where some question remained after reviewing this information, PAL conducted a second site visit to reassess the potential effects. The following are the findings of the assessment of effects for each of the properties:

Survey Map No. 108 – House on Lee Road (State Route 6), Springfield

The house on Lee Road in Springfield is approximately 8.25 miles southwest of the southern end of the proposed wind turbine development (Appendix A: TJD&A Map 4). The thickly wooded Weatherbee Hill rises to the northeast of the property and is an immediate intervening feature between it and the distant Stetson Mountain. TJD&A found that there were no potential views of the project anywhere along Route 6 in the vicinity of Springfield.

Survey Map No. 117 – Springfield Fairground Buildings, Park Street, Springfield

The Springfield Fairground is located approximately 8 miles southwest of the southern end of the proposed project site on Stetson Mountain (Appendix A: TJD&A Map 4). The thickly wooded Weatherbee Hill rises to the northeast of the property and is an immediate intervening feature between it and the distant Stetson Mountain. TJD&A found that there were no potential views in the vicinity of the Fairgrounds.

Survey Map Nos. 143, 143.1, and 143.2 – 166 North Road, Carroll Plantation

The property at 166 North Road in Carroll Plantation is located approximately 3.25 miles south of the southern end of the proposed Stetson Wind Project (Appendix A: TJD&A Map 4). The house is sited perpendicular to the road with its facade facing south and is bordered on north, east, and west by thick woods. TJD&A conducted a visual analysis of the viewshed of the property and found that there would be no views of the constructed project. PAL conducted a second visit to the property and verified that due to the intervening

[1] This study was presented in the Maine Land Use Regulation Commission (LURC) Application for the Stetson Wind Project at Section 3-M, Visual.

topography and thick vegetation within the directional view of the property toward Stetson Mountain, there would be no views of the wind turbine development.

Survey Map No. 250 – Corner Stone Inn, 7 Depot Street, Danforth

The Corner Stone Inn is located in Danforth's commercial downtown area, approximately 6.75 miles northeast of the northern end of the proposed Stetson Wind Project (Appendix A: TJD&A Map 2). TJD&A found that there would be no views of the project from downtown Danforth. The area would be blocked from view by the intervening Snow Mountain.

Recommendation

Based upon the visual analysis conducted by TJD&A, and the site survey and photo-documentation conducted during fieldwork, PAL recommends that the proposed Stetson Wind Project summit turbine development will have no effect on the four properties determined by the MHPC as potentially eligible for listing in the National Register.

APPENDIX A

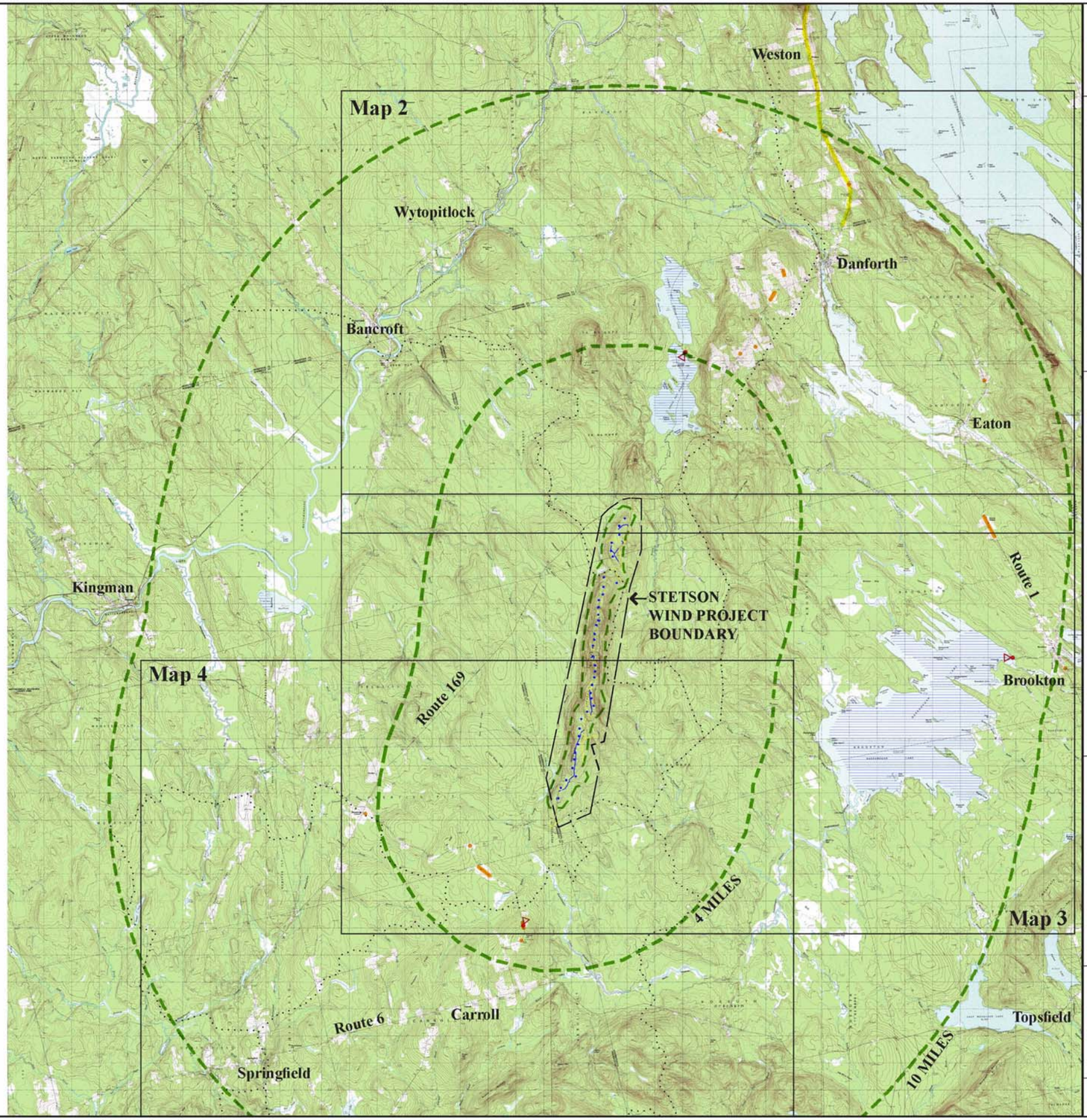
Visual Analysis Maps
Prepared for the Stetson Wind Project LURC Application, Section 3-M, Visual, Terrance J. DeWan & Associates

Location of historic properties added by PAL

KEY

P#	Location of photo (See Appendix A)
•	General Electric turbine (38 total)
	Location of Photosimulation and viewing angle (See Figures 2-4)
	Area of visibility from public roads
	Area of visibility from lakes and ponds
	'Million Dollar View' Scenic Byway (Weston)
• • •	Approximate location of snowmobile trails (ITS 110/115)

See Exhibit L: Road and Turbine Plans by Sewall Company for detailed layout of roads and turbines.



North

0 1 2 4 miles

Study Area Map

U.S.G.S. Quadrangles: Wytopitlock, Jimmey Mountain, Danforth, Potter Hill, Stetson Mountain, Brookton, Bowers Mountain, Dill Hill, and Farrow Mt.

STETSON WIND PROJECT

Evergreen Wind V, LLC

tjd&a

Terrence J. DeWan & Associates
Landscape Architects & Planners

Map 1

KEY

P#	Location of photo (See Appendix A)
•	General Electric turbine (38 total)
	Location of Photosimulation and viewing angle (See Figures 2-4)
	Area of visibility from public roads
	Area of visibility from lakes and ponds
	'Million Dollar View' Scenic Byway
• • •	Approximate location of snowmobile trails (ITS 110/115)

See Exhibit L: Road and Turbine Plans by Sewall Company for detailed layout of roads and turbines.

10 MILES

4 MILES MIDGROUND

P54

P61

P49-53

P45

P44

P48

P40-43

Photosimulation 3

P62-64

P65-69

GRAND LAKE

LOWER HOT BROOK LAKE

UPPER HOT BROOK LAKE

Survey Map No. 250 - Corner Stone Inn, 7 Depot Street, Danforth

Route One

Route 169

ITS 110

ITS 105

STETSON WIND PROJECT BOUNDARY

BANCROFT

DANFORTH

T8 R4 NBPP

North

2 miles 1 .5 0

Visibility from Lakes and Public Viewpoints & Photosimulation Location Map

STETSON WIND PROJECT

Evergreen Wind V, LLC

tjd&a

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Landscape Architecture & Planning
123 Main Street, Yarmouth, ME 04096
telephone: 207.846.0696 www.tjdesign.com

Map 2

KEY

P#	Location of photo (See Appendix A)
•	General Electric turbine (38 total)
	Location of Photosimulation and viewing angle (See Figures 2-4)
	Area of visibility from public roads
	Area of visibility from lakes and ponds
	'Million Dollar View' Scenic Byway
• • •	Approximate location of snowmobile trails (ITS 110/115)

See Exhibit L: Road and Turbine Plans by Sewall Company for detailed layout of roads and turbines.

STETSON WIND PROJECT BOUNDARY

ITS 105

ITS 110

5 MILE

Route 169

Route One

P65-69

Photosimulation 2
P76-79

P73

BASKAHEGAN LAKE

P27

P24-26

North Road

Photosimulation 1
P22-23

MIDGROUND
4 MILES

10 MILES

BROOKTON

TOPSFIELD

North

2 miles
1
.5
0

Visibility from Lakes and Public Viewpoints
& Photosimulation Location Map

STETSON WIND PROJECT
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Map 3

KEY

P#	Location of photo (See Appendix A)
•	General Electric turbine (38 total)
	Location of Photosimulation and viewing angle (See Figures 2-4)
	Area of visibility from public roads
	Area of visibility from lakes and ponds
	'Million Dollar View' Scenic Byway
• • •	Approximate location of snowmobile trails (ITS 110/115)

See Exhibit L: Road and Turbine Plans by Sewall Company for detailed layout of roads and turbines.

North

2 miles 1 .5 0

Visibility from Lakes and Public Viewpoints & Photosimulation Location Map

STETSON WIND PROJECT

Evergreen Wind V, LLC

tjd&a

Terrence J. DeWan & Associates
Landscape Architects & Planners
Yarmouth, Maine

Map 4

ITS 110
ITS 105
STETSON WIND PROJECT BOUNDARY
.5 MILE
MIDGROUND 4 MILES
Route 169
Route 6
North Road
P31
P27
P24-26
Photosimulation 1
P22-23
P21
Survey Map No. 143 - House and Barn, 166 North Road, Carroll Plantation
Survey Map No. 117 • Springfield Fairground, Springfield
Survey Map No. 108 - House, Lee Road, Springfield
PRENTISS PLT
WEBSTER PLT
SPRINGFIELD
CARROLL PLT
KOSSUTH (T7 R2 NBPP)
T8 R3 NBPP
R3 NBPP

Results of
Phase IA/IB Precontact Archaeological Resource Survey
Proposed Stetson Mountain Wind Farm Project
Washington and Penobscot Counties, Maine
(MHPC #2779-06)

Prepared by:

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71 Oak Street
Ellsworth, Maine 04605

August 23, 2007

Project Background

TRC is conducting a Phase IA/IB archaeological resource survey to identify and assess precontact archaeological resources for the proposed Stetson Mountain Windpower Project (SMWP) which will be located in western Washington County and eastern Penobscot County, Maine. The project consists of a two components: a wind farm (proposed turbine locations) with related access roads to be situated atop Stetson Mountain in Washington County and a transmission line that will connect the wind farm to the established electrical transmission grid. The archaeological assessment of the two project components were investigated separately and at different times. In the spring of 2007, TRC surveyed the proposed location of the SMWP wind turbine array and evaluated it for its potential to contain prehistoric cultural resources. None were found. *The results of archaeological resource assessment of the wind farm component are presented in a separate memo which is included here as* ***Appendix I***.

Subsequently, archaeological resource review in areas that would be potentially impacted by the proposed transmission line was undertaken. This report discusses the results of the proposed transmission line development.

The proposed SMWP transmission line will extend roughly 40 miles from the proposed turbine wind farm located atop Stetson Mountain in T8R3 NBPP roughly westward to an interconnect at a substation located in Chester, Maine (see Figure 1). The transmission line will be constructed across undeveloped, predominantly wooded terrain over a portion of its distance and also along an existing, (now abandoned) transmission line corridor. Construction of the project will impact a 100-foot wide area in locations where the new transmission line will occupy the now-abandoned transmission line, and 150 feet in width in locations where a new right-of-way will need to be established.

After a review of the proposed project, Earle Shettleworth, Jr., Maine State Historic Preservation Officer, requested that Phase IA/IB survey be conducted to identify precontact archaeological resources that may be preserved within the project APE and to evaluate their potential eligibility for listing in the National Register of Historic Places (letter from Earle Shettleworth to Brooke Barnes, November 16, 2006).

Prior to fieldwork on this project, Richard Will of TRC developed a predictive model to assess cultural resource sensitivity within the area of potential effect (APE) of the transmission line for the SMWP (see memo from Richard Will to Brooke Barnes, January 26, 2007). This model was based on background documents research, previous successful implementation of the sensitivity model on other linear projects, and field observation. Based on this analysis, a number of locations and landforms that will be impacted by the transmission line were considered to possess archaeological sensitivity.

In May 2007, James Clark and Jacob Freedman of TRC completed a walkover inspection of portions of transmission line and evaluated many of the areas of predicted resource sensitivity. Generally, these areas were near a wetlands, brooks, or stream crossings or on elevated, level, landforms overlooking resource areas. Eighteen areas with predicted sensitivity were inspected; eleven of the areas visited were found to be unsuitable for testing.

Subsequent to this inspection in May, the alignment of the proposed transmission line was changed in numerous locations. In particular, an approximately 11 km distance on the eastern end of the transmission line was relocated. In addition, access to areas that had been in accessible in May was possible. These changes resulted in modifications to the original sensitivity predictions (discussed in detail below).

Between August 6 and 10, 2006, TRC conducted Phase IA and IB fieldwork to test for precontact cultural resource the proposed SMWP transmission line. This fieldwork entailed walkover survey in new areas and areas that were previously inaccessible, and the excavation and recording of shovel testholes at six locations that had been inspected and determined to possess archaeological resource potential. In all, 67 standard, 50 cm^2 testholes were excavated along 11 transects (testhole records are included here as Appendix II).

This report details the result of the sensitivity assessment (Phase IA) and the preliminary Phase IB precontact archaeological resource survey of the Project. This is divided into several sections. First, various types of information that provide environmental and cultural context for the present study area are reviewed. These factors in general determine the archaeological potential for a project within a given project area. Next, the research design and survey methods employed by the present study are discussed. Next, the results of initial Phase I archaeological testing undertaken within the proposed Project APE are discussed. Finally, the preliminary conclusions and management recommendations for the Project are presented.

Area of Potential Effect

The project's Area of Potential Effect (APE) is generally defined to be the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of or use of historic properties, if any such properties exist. The APE is defined based upon the potential for effect, which may differ for above-ground resources (historic structures and landscapes) and subsurface resources (archaeological sites). The APE may include all areas where the ground may be disturbed, where land use (i.e., traffic patterns, drainages, etc.) may change, or any locations from which the undertaking may be visible.

For the proposed transmission line for the SMWP, we have considered the APE for archaeological resources to be the area within a linear corridor that extends from the proposed turbine array on Stetson Mountain to the sub-station in Chester, Maine. The width of this corridor varies from 100 feet to 150 feet depending on its course. Along existing, cleared right-of-way, the APE is considered to be a 100 feet wide; elsewhere it is 150 feet wide.

Survey Objectives

Phase IA and IB surveys for precontact archaeological resources are minimally intended to determine whether evidence for precontact human activity exists within the Project APE. As part of its Federal mandate under the Department of the Interior, the Maine SHPO requires that such survey for precontact archaeological resources be conducted within the areas of potential Project impacts. Should archaeological resources exist, additional phases of archaeological assessment as outlined in the SHPO guidelines may be required to determine if the resource is eligible for listing in the National Register of Historic Places.

Locations of precontact archaeological sites in Maine and elsewhere are predicted on the basis of natural and cultural historical models that incorporate a variety of types of information from several disciplines including anthropology, biology, natural history, and geology. In addition, Maine archaeologists depend to a great degree on historical experience to guide assessments of where to look for the archaeological remains of past inhabitants.

Several inter-related types for information inform the initial search for archaeological sites. Because Maine's precontact hunting and gathering peoples were to a substantial degree dependent on natural resources available for exploitation, information that seeks to characterize the type and

distribution of natural resources within a project area is essential to an understanding of site location. Choices related to mobility and settlement also were to a great degree influenced by the nature of the environment. For these reasons, archaeologists look to environmental conditions, both as they exist today and as they are thought to have existed in the past, in an attempt to predict archaeological potential for a project area. Finally, data on previous archaeological discoveries in Maine reveal patterns of precontact site location and distribution. This information is used to help predict the setting and type of sites that have a potential to exist in the Project area.

Environmental Overview

The proposed APE of the SMWP transmission line will cross a variety of physical environments and variations exist in topography, surficial materials, ground cover, and historical/cultural activity along its route from the wind turbine farm on one east to the substation terminus on the west. Along its route, the proposed APE traverses forested highlands, forested and open wetlands, and numerous major and minor brooks and streams, including the Mattagodus Stream, two crossings of the Mattawamkeag River, Penobscot River, Medunkeunk Stream, Ebhorse Brook, and numerous streams and wetlands that drain into the major river drainages. The terrain crossed by the Project varies from relatively level lowlands, marshes, and wetlands, to smooth, undulating upland, to knobby hills and mountains, with elevations in general under 300 meters amsl. Segments of the transmission line will cross and parallel Eastern Maine Railway tracks.

Surface features and topography largely reflect events associated with the Wisconsinan glaciation, the last major glacial advance in the Northeast. Most of the landforms along the transmission line route alternate between irregular terrain composed of angular till to water-laid features and sediments produced by glacial run-off and melt-water drainage. Because these variations in Project environment relate to the area's geologic, glacial, and post-glacial history, the following description of the environment of eastern Maine is presented to provide a general overview of the environmental context for precontact cultural occupation in the Project area.

Bedrock Geology. Much of the exposed bedrock seen throughout the Project area owes its origins to events leading up to and during the Acadian Orogeny between 400-360 million years ago. This mountain building period stems from the convergence and subsequent collision of the North American plate with a crustal block of the Eurasian Plate known as Avalonia. The collision caused widespread metamorphism and resulted in large slabs of crust being subducted into the mantle, forming plutons that later intruded into overlying metamorphosed rock. Some of these plutons are exposed on the surface today and can occasionally be noted in Washington County.

The associated deformation of the orogeny is reflected in major northeast-southwest trending folds and faults. This deformation is observed across the state in the form of linear, northeast-southwest trending ridges and drainages. One of the major fault areas is the Norumbega Fault Zone, a two-mile-wide area of crushed rock, extending from below Portland through Bangor to Vanceboro. This defines the northern boundary of a remnant piece of Avalonia welded onto North America (Kendall 1993:168-169). The fault zone was created when older rock was thrust onto younger rock during the latter stages of plate collision. Much of the clasts and fragments contained in glacial drift and till that blanket much of the terrain crossed by the Project is composed of rock from this deformation.

Certain types of bedrock were particularly well suited for use by Native people for the manufacture of stone implements. In Maine, fine-grained, aphanitic rocks of meta-sedimentary and volcanic origin—cherts, felsite, and quartz predominantly—because of their flaking qualities, were used to make flaked stone tools such as projectile points and scraping/processing tools. Another class of

tools, manufactured through a combination of flaking, pecking, and grinding, were typically manufactured from other rock types, including basalt, slate, and phyllite.

While the Stetson Mountain area is mapped geologically as a felsic, examination of outcroppings of during a field inspection in May determined that the rock is not suitable for tool-manufacture and likely would not have been sought out by precontact people for tool use (see Appendix I) . However, local sources of quartz were likely available. And given the extent of glacial movement of materials across the state, rocks of all types may have been available to precontact people in the Project area in the form of surficial and outwash/runoff deposits.

Surficial Geology. During the last glaciation of the Pleistocene, the Laurentian Ice Sheet (LIS) flowed south-southeast across the present coastline to reach a terminal position in the Gulf of Maine at Georges Bank some 18,000 to 20,000 years B.P. (Hughes et al. 1985). At that time, the area through which the Project runs was depressed under an enormous weight of ice. As the ice retreated across the landscape, marine waters followed it into the interior of present-day Maine as far north as the town of Lincoln, a few kilometers south of the SMWP area. Fine silt flowing from the ice margin settled as it met calmer marine waters, blanketing coarser glacial deposits in lower elevations and river valleys. These deposits were named the "Presumpscot Formation" by Bloom (1963), and their internal characteristics, fossil assemblages, and chronological relationships with other surficial materials have greatly enhanced understanding of the evolution of the present landscape. Deposits associated with this marine transgression are encountered in the Penobscot River valley and eastward from Blackman Stream, and these may contribute to extensive areas of wetland in the western portion of the Project area. Moving east, the silty deposits related to the Presumpscot Formation diminish and till-based silts and outwash sands and gravel predominate.

Eventually, the landscape began to rebound; the rate of rebound exceeded the rate of inundation by sea level rise, so that the early Maine coastline extended beyond its present-day limits out onto the Continental Shelf. Proglacial sandy outwash moved out of the ice in meltwater streams, filling valleys and forming deltas (Thompson 1982; Smith and Hunter 1989). The lower sea levels resulted in rivers quickly downcutting through softer sediments. Kelley et al. (I 992) show a rapid rise in sea level prior to 10,000 years ago. After that time, the rise slowed and since about 9,000 years ago, it has been rising at a slow and steady rate of approximately 1.5 to 2 mm per year. Since then, rivers have continued to incise their valleys, adding deposits of alluvial sediments along flood plains.

This process of incision and infilling was more extensive in the western and southern parts of Maine than in the SMWP area. Whereas major drainages in the southern portion of Maine show considerable deposition of Holocene alluvium, drainages in the north and east, such as the Penobscot and St. Croix Rivers possess slower moving waterways with poorly defined margins and very little, if any, floodplain development. In fact, many of the streams and rivers in the Project area appear to still be eroding along their margins rather than depositing sediment. This disparity is most likely the result of a combination of factors related to topography, the materials through which the rivers and streams are downcutting, and the type of sediment load being carried.

The overlying sediment throughout most of the SMWP area is the direct result of glacial advances and retreats during the Pleistocene epoch of the Quaternary Period. During this time, ice sheets moved from northern centers of accumulation outward toward the edges of the Continental Shelf and, in the process, scoured weathered bedrock to fresh surfaces and realigned drainages. Former V-shaped valleys in the mountains were rounded and smoothed to create U-shaped valleys. In the wake of the ice sheets, mass amounts of unsorted clay, silt, and debris (till) were deposited across the landscape filling hollows and forming ridges or moraines. Melt water flowing underneath the

glaciers reworked and deposited sediments along its coarse and margins, often as long, sinuous ridges called "eskers."

In much of the Project area, glacial deposits such as those described above form the predominant surficial geology. The Project will cross over primary till deposits that have remained essentially unmodified since it was originally laid down by the glaciers. North of the Project area, the till is partially stratified indicating that some partial reworking of sediments occurred due to glacial fluctuations.

The project crosses few eskers or other associated glaciofluvial deposits. Where these occur they are usually associated with or bordering the streams and rivers. One large well-sorted alluvial feature (sand) was observed at the western terminus of the transmission line near the Chester substation. The feature has been extensively quarried and modified by ATV traffic and power line construction. Nothing remains of its natural morphology.

Vegetation. Since the retreat of the LIS and subsequent regression of marine waters, vegetation in the Project area has undergone a series of changes throughout the Holocene leading up to and continuing to the present day. These changes were not synchronous throughout the Project area, but rather occurred as successive, location-specific responses of individual species to changes in the physical environment. Some of the changes may have been more pronounced in certain portions of the Project area than in others. Many of the changes are well documented by Davis and Jacobson (1985) and Jacobson and Davis (1988) and briefly summarized here.

The initial vegetation to colonize the landscape left bare by the LIS consisted of tundra and open woodland species of poplar, spruce, and paper birch. By 12,000 years ago, a closed spruce forest began to form over southern Maine and progressively moved northward. During the early Holocene (ca. 10,000-7,000 years B.P.), spruce declined dramatically and was replaced predominately by species of pine, as well as oak and birch. Between 8,000-5,000 years ago, pine declined considerably, birch and oak less so, with the emergence of hemlock. With the exception of a short period of decline in hemlock as well as the emergence of beech between 5,000-4,000 years B.P., forests remained relatively unchanged until about 1,500-1,000 years B.P. when spruce and fir show slight increases, perhaps related to a cooling trend.

By the arrival of Europeans in the 17'h century, many of these tree species were already beginning to show decline, particularly hemlock. By the end of the 19th century, vegetation had been significantly modified by human disturbances. These disturbances resulted from numerous activities, namely logging and agriculture. While agriculture and commerce and industry played a role along Penobscot River, logging, appears to have been (and continues to be) the exclusive economic activity pursued over most of the area across which the Project route will be constructed.

Due to the extensive history of intensive logging in most parts of the Project area, the character of vegetation today may not well reflect the forest resources that were available to prehistoric people. In general, the Project crosses through stands of mixed coniferous and deciduous forest of variable age. Vegetation in the Project area contains a mix of pine, maple, beech, birch, spruce, and fir in variable composition. Exclusive of wetland areas, segments of the Project crossed clear, recently harvested terrain, while in other areas, it will encounter pioneer hardwood thickets resulting from past cutting, while other segments will encounter forest growth of considerable age. This more likely reflects the mosaic of harvesting activity over the last two centuries than natural biotic development.

Soils. Soil development in the Project area is the result of a long, continuous process involving the interaction of a variety of dynamic natural forces. The variability of these forces in the Project area is ultimately reflected in the variable types of soils observed. Factors influencing the development are inevitably related to climate, parent material, relief, organic activity, time, and

disturbance. Some broad generalizations of soil characteristics observed in the Project area are directly related to parent materials and disturbance.

Better drained sediments such as sand, gravel, and some till show typical northern forest soil sequences that display a surface organic mat, overlying albic (leached) and spodic (enriched with sesquioxides) horizons. These horizons are diagnostic of a soil type referred to as "spodosols." Poorer drained materials such as silts, clay, and some till show very little alteration of the parent material and fit a category of soil types known as "entisols."

In most parts of Maine, disturbance to soils is primarily related to the formation of an agricultural plow zone horizon that extends 20-30 cm below ground surface. But in most of the SMWP transmission line route, plow zones were not encountered. Rather, the most common disturbances to soils observed (and thus to archaeological materials contained in them) occurs in the form of natural processes such as wind throw of trees, and those associated with logging and recreational/sporting activities in the Project area. These most commonly result in scoured and mixed surface soil horizons.

Cultural Context

The prehistoric archaeological record of Maine is long and complex dating back more than 11,000 years. The following is an overview of the three major periods that archaeologists use as a framework for identification of prehistoric cultural resources discovered in Maine. These three periods are known as the Paleoindian, Archaic, and Ceramic cultural periods (Table 1). Further subdivisions within these periods are based on similarities in artifact forms and cultural adaptations over broad regions (Spiess 1990). It is important to note that these divisions are archaeological constructs, and that their boundaries represent changes perceived as culturally significant by archaeologists in the region. Future research may further refine some of these divisions, or find they are not as significant as originally suspected.

Paleoindian Period (ca. 11,500-9,500 years ago). The earliest prehistoric inhabitants in the region, and throughout North America, are referred to as Paleoindians. Paleoindians are believed to be the first people to migrate into North America and, in their pursuit of large game, rapidly colonized the continent (Martin 1973). The hallmark of Paleoindian peoples is the fluted spear point, which was presumably used to hunt large game species, some of which are now extinct. These spear points are lanceolate in shape and possess a long, groove-like flake scar struck from their base on both faces. In Maine, the Paleoindian period dates from approximately 11,500 to 9,500 years ago when much of the landscape was still vegetated in tundra and/or woodlands. Paleoindian peoples living in the region are characterized as highly mobile hunter and gatherers reliant mainly on caribou that presumably were abundant in the environment of that time (Spiess, Wilson, and Bradley 1998). They crafted their tools out of very fine-grained, colorful rocks obtained from a limited number of sources in the region, and they camped in locations typically removed from present day water bodies (Spiess, Wilson, and Bradley 1998). These locations were rarely occupied during later cultural periods and are often strategically located above some form of low-lying terrain that may have been suitable habitat for caribou and other game animals. Their campsites are typically indicative of short-term habitations by small groups, perhaps in some cases by even a single, extended family.

The end of the Paleoindian period, and subsequent transition into the Early Archaic period is poorly understood. Some evidence indicates that during the later Paleoindian period, fluted spear points became less desirable and were replaced by smaller, unfluted points. Other point styles also emerge in the region, most notable of which are long, slender, lanceolate points with a distinctive parallel flaking technology (Doyle et al. 1985; Cox and Petersen 1997; Will and Moore 2002). These cultural changes coincide with the transformation of the forests from more open, woodland

Table 1. Comprehensive planning archaeological study units.

Time Period	Study Unit
11,500 - 10,000 RCYPB	Fluted Point Paleoindian Tradition
10,200 - 9,500 RCYBP	Late Paleoindian Tradition
10,000- 6,000 RCYBP	Early and Middle Archaic Traditions
6,000 - 4,200 RCYBP	Late Archaic: Laurentian Tradition
6,000 - 4,000 RCYBP	Late Archaic: Small-stemmed Point Tradition
4,500 - 3,700 RCYBP	Late Archaic: Moorehead Phase
3,900 - 3,000 RCYBP	Late Archaic: Susquehanna Tradition
3,000 RCYBP – AD 1500	Ceramic Period
AD 1500 – AD 1675	Early Contact
AD 1675 – AD 1760	Late Contact
AD 1760 – AD 1940	Integration with Euro-American Life

Note: RCYBC equals radiocarbon years before present; AD equals calendar years. All dates are estimates. Sources: Spiess (1990:104) and Spiess (pers. comm. 1999)

environments to closed forests. By the Early Archaic period, the archaeological record contains a dramatically different material culture than recovered from sites dating to the preceding Paleoindian period.

Archaic Period (ca. 9,500-3,000 years ago). The Archaic period represents the longest cultural period in the region, spanning around 6,500 years. This time frame is indicative of persistent cultural adaptations, as inferred from artifact assemblages, which lasted over several millennia. Although Early and Middle Archaic populations probably continued a nomadic hunter and gatherer lifestyle, their subsistence and settlement patterns were different than those of the Paleoindians. This is suggested by the location of most Early and Middle Archaic sites along present day water bodies, and the presence of food remains of aquatic species, particularly beaver, muskrat, and fish.

Archaeological assemblages dating to the Early and Middle Archaic periods in Maine are different than their Paleoindian predecessors, and somewhat unique to the Maine region, particularly with respect to the Early Archaic. Tools were typically made from local stone, often collected in cobble form, and assemblages lack the finely crafted, chipped stone spear points of the Paleoindian period. Rather, flakes and crudely fashioned unifacial tools dominate the assemblages. In addition, a new technology using pecking and grinding techniques appears for the first time in the archaeological record (Robinson 1992). This new technology produced a suite of groundstone tools that became more elaborate through time. By the Middle Archaic, chipped stone spear points become increasingly more abundant and the first cemetery sites occur. These cemetery sites reveal mortuary practices that included the sprinkling of graves with red ochre, and the offering of grave goods, such as wood working gouges, slate spear points, and stone rods (Moorehead 1922; Robinson 1992). This component, commonly referred to as the "Red Paint People," sites dating to their tradition are best know from Maine east of the Kennebec River.

The close of the Late Archaic period is characterized by another archaeological tradition known as the Susquehanna tradition (Sanger 1979; Borstal 1982; Bourque 1995). It is widespread in Maine and New England. The people of the Susquehanna Tradition appear to have been more focused on a terrestrial economy than a marine economy. They largely abandoned the use of red ochre in their graves, and often cremated their corpses rather than buried them intact. Diagnostic tool forms include large, broad-bladed chipped stone spear points.

The relationships between the perceived Late Archaic cultural groups continue to be a source of debate among Maine archaeologists. At the root of the argument is whether the various archaeological assemblages of the Late Archaic reflect local, long-term cultural adaptation or movement of people into the region, bringing with them a different culture and way of life. Whatever the origins of the cultural changes observed, they again roughly coincide with increasing changes in the environment that provided more favorable habitat for deer populations, and possibly other more modern species as well.

Ceramic Period (ca. 3,000-450 years ago). The introduction of pottery manufacture and use in Maine defines the onset of what Maine archaeologists call the Ceramic period (Sanger 1979). In other parts of the Northeast, this cultural period is referred to as the Woodland period. The differences between these two terms is mainly that hunting and gathering for food remained the primary means of subsistence throughout much of Maine and the Maritimes, while a reliance on horticulture and a tendency toward larger, more permanent settlements developed in other regions during the same time period. Ceramics first appear in the archaeological record of Maine around 3,000 years ago and they persist until contact with Europeans when clay pots were replaced in favor of iron and copper kettles that were traded for beaver pelts and other animal furs.

Ceramic period sites are abundant in Maine, along both the coast and in the Maine interior (Sanger 1979). Along the coast, they are most visible in the form of shell middens, which have attracted the attention of professional and amateur archaeologists since the late 19th century (e.g., Mercer 1897). Shell midden sites are found all along the Maine coast and contain discarded shells of clams, oysters, mussels, and quahogs, bones of both terrestrial and marine animals, as well as broken pottery sherds and discarded stone and bone tools. Sites in the interior are most common along waterways, ponds, and lakes (Sanger 1979). Assemblages from the interior differ from coastal sites in that the bone assemblages are poorly represented due to differences in preservation. The picture that emerges from Ceramic period sites is one showing a long-standing cultural adaptation to the diversified use of local resources. In addition, the nature of artifact forms present and certain types of stone recovered from Ceramic period sites indicate trade and communication with peoples to the far north, south, and west. By the end of the period, historical and archaeological evidence suggests horticulture was practiced in southern Maine. The Ceramic period ends with European contact around 450 years ago. At this time, most of the artifacts attributable to prehistoric inhabitants of Maine disappear from the archaeological record so that tracing specific cultural connections between present-day Maine Indians and their prehistoric ancestors is not possible.

Previously Discovered Sites and Archaeological Studies

Most of the archaeological investigations in Washington and Penobscot County and eastern Maine in general, when they have not been mandated by cultural resource management objectives, have concentrated on the reporting of artifact collections and artifact “spot finds,” or identifying and occasionally investigating in some detail, coastal prehistoric archaeological sites. East of the project area near the coast, a fluted projectile point from the Grand Lake area was reported by Kopec (1985) and several fluted projectile points and unifaces found on a hillside in the Moosehorn National Wildlife Refuge in Baring, Maine (Bonnichsen, Bourque, and Young 1983). These specimens belong to the Fluted Point Paleoindian Tradition and would likely date to more than 10,000 RCYBP (Table 2--

above). However, significant doubt remains regarding the provenience of these artifacts (Spiess and Wilson 1987:198-201). Significant lithic quarries and related sites are located north and west of the project area on Moosehead Lake and in the Munsungun Lake area.

Archaeological investigations on the eastern Maine coast have also included surveys for shell midden sites, excavations at shell middens on Roque Island off Jonesport (Sanger and Chase 1983; Sanger and Kellogg 1985), and documentation and interpretation of petroglyphs in Machias Bay (Hedden 1987, 1989, 1996). This work has demonstrated that prehistoric people inhabited coastal Washington County at least during the Late Archaic Period and throughout the Ceramic Period, or from about 5,000 RCYBP to the time of contact with Europeans.

The SMWF turbines will be located in western Washington County. Cultural resource management studies account for about two dozen reports on archaeological investigations in Washington County. Many of these were conducted on small-scale developments or Maine Department of Transportation projects (e.g., Petersen and Heckenberger 1987; Cox 1992; Lewis and Cox 1992; Trautman, Cranmer, and Spiess 1992; Hedden 1997; and Hedden and Spiess 1999) and have provided only preliminary data or few new data on the prehistory of the county. Large-scale surveys with in-depth reporting do exist for the Grand Falls drainage (Cox 1991; Cox and Bourque 1986, 1989), and the Forest City Project on Grand Lake (Cox 1995, 1998). The most completely investigated and reported prehistoric site from these projects is site 95.20, located at the narrows between Long and Lewy Lakes in the Grand Falls drainage (Cox 1991). The major component of this site is a Vergennes Phase occupation during the Late Archaic Period. Three ^{14}C dated features indicate that the occupation occurred around 5,000 RCYBP.

Arguably, the most significant site in Washington County is site 96.2. This site, which is also referred to as *N'tolonapemk* ("our relatives place") in Passamaquoddy, is located near the outlet of Meddybemps Lake. The site is not in the present study area, but its long sequence of occupation provides a detailed picture of precontact human activities in the region in which the proposed SMWP project will be constructed.

Recent excavations at the site by the University of Maine at Farmington Archaeological Research Center (UMF ARC) revealed multiple components spanning from the Early Archaic period to the Ceramic period (Brigham et al. 2001, 2005). The Early Archaic period occupation is dated from eight cultural features with radiocarbon dates ranging from 8690 $\pm$ 50 rcybp to 8270 $\pm$ 50 rcybp. Among the features are two that were interpreted as housepits. The Early Archaic is characterized by lithic tools typologically assignable to the Gulf of Maine Archaic tradition, including quartz cores and unifaces, groundstone tools such as abraders, choppers, stone rods, full channeled gouges and low numbers of bifacially-flaked lithic tools. Early Archaic subsistence is reconstructed to be similar to that for all time periods represented at the site. "These included an apparent spring seasonal emphasis on the alewife spawning run, fishing for perch, sucker and eels, some hunting of large mammals the hunting or trapping of beaver, muskrat, woodchuck, various birds and turtles. They also collected a variety of plant resources as evidenced by charred nutshells and seeds" (Brigham et al. 2005:356).

There appears to be a hiatus of occupation from 8,200 rcybp to a Middle Archaic period occupation around 6460 $\pm$ 80 rcybp. Hafted ulus (semi-lunar ground slate knives) are present in the Middle Archaic occupation tool kit, as are stemmed projectile points typologically similar to Neville and Stark points.

The Late Archaic period is radiocarbon dated from 5900 $\pm$ 40 rcybp to 3990 $\pm$ 100 rcybp at *N'tolonapemk.* Various Late Archaic phases (i.e., Small-stemmed, Vergennes, and Moorehead) appear to

be the best-documented occupations at the site. The area of the Late Archaic occupation at *N'tolonmpemk* increased from preceding occupations, suggesting population increase.

Of interest is the lack of any stemmed bifaces assignable to the Susquehanna Tradition, the far-flung Late Archaic manifestation well-represented to the south and west. Instead, the Terminal Archaic appears to be represented by lithic raw materials from sources on the St. John River, New Brunswick (Brigham et al. 2005:369). The UMF ARC suggests that this northern and eastern focus characterizes long-standing cultural interactions similar to the historic cultural connections of Wolastoquyik (Maliseet) and Passamaquoddy people historically.

The majority of the SMWP transmission line in located in eastern Penobscot County and crosses the both the Mattawamkeag and Penobscot Rivers. A great deal is known about the prehistoric cultural history of the Penobscot River drainage. The Penobscot River drainage has been the focus of research by both professional and amateur archaeologists for more than a century. Early interest in the region was sparked by the discovery of "Red Paint" sites, Late Archaic Period cemeteries with ochre-stained burial objects. Charles C. Willoughby, of Harvard's Peabody Museum, examined some of these sites in the lower Penobscot drainage and published his findings in 1935. A local geologist and antiquarian, Walter B. Smith, excavated the Eddington Bend Site located less than 500 m from the proposed BHE Project route in the 1920s (Moorehead 1922:134-143). Some of his collection is now in the Maine State Museum, although many of the diagnostic artifacts are missing (Sanger 1984b).

The work by Willoughby, Smith, and others in Penobscot Bay and on Moosehead Lake, as well as the expeditions in Ohio, Georgia, and the southwest carried out by his own institution, Phillips Academy, encouraged Warren K. Moorehead to conduct an archaeological survey of New England. Between 1912 and 1918, Moorehead's crews excavated a number of "Red Paint" cemeteries in the region, including the Godfrey's Cemetery in Old Town and the Sandy Point Site, eight miles north of Bucksport near Project route's western terminus in Orrington. The results of his work appear in the well-illustrated *Report on the Archaeology of Maine* (1922).

Moorehead (1922:220) knew about several sites on the Penobscot River between Bangor and the Milford-Old Town dam, but only Eddington Bend, excavated by Smith, is mentioned. Upriver of Eddington, Moorehead's crews dug at the Hathaway Cemetery in Passadumkeag (Moorehead 1922:48-56) and surveyed unsuccessfully for burials along Olamon Stream.

Following the publications of Moorehead and Willoughby in the early 1920s and 30s, professional archaeological investigations in the lower Penobscot River Valley were not conducted until the late 1960s. In 1968, Dean Snow followed up on Moorehead's work at the Hathaway Cemetery (Snow 1969) and supervised test excavations on the south end of Indian Island in Old Town (Belcher and Sanger 1988a).

A decade after Snow's work at the Hathaway Site, David Sanger and Robert MacKay of the University of Maine began interdisciplinary research at the Hirundo and Young Sites in Alton (Sanger et al. 1977; Borstal 1982). The Hirundo Site includes important Moorehead Tradition and Late Archaic, Laurentian Tradition-related zones. The basal stratum may have been used during Middle Archaic times. The Young Site contains largely intact Susquehanna Tradition and Ceramic Period occupations.

In the 1990s, large-scale archaeological surveys of the Lower Penobscot Valley were mandated by cultural resource management legislation. The University of Maine at Orono conducted a number of surveys in the central Penobscot River drainage, from Bangor to Howland. These include (from south to north) the Bangor dam to the Veazie Dam, the Veazie Reservoir, the Basin Mills Project, the Milford Reservoir Project, and the Howland Project. An important aspect of these projects

has been the documentation of known artifact collectors and their collections, and the assessment of important sites that have been subject to amateur excavations. Unfortunately, many of these sites have been heavily collected over the years, thus reducing their scientific value significantly.

The Bangor dam to Veazie dam project was undertaken in 1983 under the direction of David Sanger. Three areas were tested, including Eaton Brook and the Eddington Bend Site (74.8), and five new sites were discovered. Of these, the Eddington Bend Site has received the most attention (Moorehead 1922; Smith 1926; Sanger 1984b; Petersen and Sanger 1986, 1987). Recent work by University of Maine archaeologists has demonstrated that much of the site, including Susquehanna Tradition and Ceramic Period occupations, is still intact.

Fieldwork for the Basin Mills Project (Sanger 1984a; Belcher and Sanger 1988b) began in 1983. It resulted in the discovery of eight new prehistoric sites between Ayers Rapids and the Great Works dam. One of the most important sites is the Blackman Stream Site, which includes Moorehead Phase burials, Early and/or Middle Archaic component(s), and a Late Paleoindian component (Sanger 1984a; Sanger, Belcher and Kellogg 1992). Another significant site is Ayers Rapids (74.22), a single-component, Middle Ceramic Period site (Belcher and Sanger 1989). Many of the other sites, including the well-known Bradley Cemetery Site (74.1), have been destroyed by collecting, farming, and lumbering; by the construction of highways and railroads; and by erosion.

In the northern Penobscot River drainage, intensive CRM survey has documented extensive and long-standing use of the waterway by prehistoric peoples beginning in the Late Paleoindian period through the Ceramic period. Fieldwork along the West Branch and its headwaters related to dam relicensing has been undertaken from Millinocket, Pemadumcook and Ambejejus Lakes up the drainage through Chesuncook and Seboomook Lakes. The result of this work over 20 years has been the documentation of hundreds of small scale sites which demonstrate a sustained pattern of land and resource utilization centered on the waterways that persisted throughout the precontact period.

Finally, an intensive Phase I archaeological survey was conducted in advance of the Maritimes & Northeast Natural Gas Pipeline Project. The M&N Phase II pipeline originally planned a lateral pipeline that would have extended northward from Brewer along the Penobscot River to Medway and then west to the mills in East Millinocket and Millinocket. This route was surveyed for potential archaeological resources in 1999 by ARC, Inc. of Ellsworth, Maine. Using a predictive sampling design similar to the one implemented for the SMWP, numerous locations were tested, including all major and minor stream and river crossings. One precontact archaeological site was discovered and subsequently investigated on the Medunkeunk Stream in Chester near the substation where the SMWP transmission line will terminate (see Will et al. 1998). Phase II investigation resulted in a determination that the site was not eligible for listing in the National Register of Historic Places.

Phase IA Precontact Resource Assessment

Linear projects that extend for great distances across the landscape like underground pipelines and above-ground electric transmission lines offer a good potential to locate archaeological remains simply because they traverse great distances and encounter a variety of environmental settings along the way. The probability is thus good that archaeologically-sensitive areas will be encountered. These types of projects also help corroborate models that attempt to predict the location of archaeological sites (and thus permit inferences about human behavior) based on a variety of natural and cultural attributes.

Prior to the commencement of Phase IB survey for the SMWP, an archaeological sensitivity study (Phase IA) was completed that helped to specify locations where precontact cultural materials and sites would be most likely found based in part on natural and cultural criteria outlined above (Will 2007). An ever-increasing body of literature assists the decision-making process for evaluating the archaeological potential of any given project area. But despite a consideration of a number of other

influencing attributes, evidence for precontact human activity in the interior of Maine has almost exclusively been located on level, reasonably well-drained land surfaces near the shores of rivers, lakes, and streams. Additionally, though less frequently, archaeological sites have been found to overlook marshes and wetlands. While there are exceptions to this rule, as in the case of special use sites, major bodies of water would have been preeminently important as resource areas and transportation routes for Native people.

Literature Review. A determination of the archaeological resource sensitivity for the Project involved two basic steps. First, documents and maps that are related to the previous archaeological surveys and site records on file at MHPC were reviewed. This provided the basis for determining the resource sensitivity in those locations where the Project APE corresponds spatially with previous archaeological survey projects.

The design of the precontact archaeological resource survey for the Project benefited from the comprehensive Phase I and Phase II archaeological surveys that were conducted for the existing M&NE Pipeline by Archaeological Research Consultants, Inc. in 1997-1998 (Will et. al. 1997; Will et. al. 1999) and by TRC in 2005 (Clark, Will and Freedman 2005). Briefly, that sensitivity design focused on identifying the potential for areas within that Project's APE (a 100-150 foot corridor) to contain precontact Native American cultural resources. Stratification of these areas into high, moderate, and low potential was accomplished with an archaeological sensitivity assessment of the Project APE.

Predictions of where archaeological resources might be present, and where they were not likely to be present, were made based on a set of key variables that have been shown useful for determining the locations of precontact period cultural resources in Maine and elsewhere. Three major completed linear archaeological resource surveys have guided the sensitivity assessment for the SMWP transmission line.

First, as noted above, the model was tested with information collected from more than 300 miles of the M&NE Pipeline corridor. On that project, the model proved to be a powerful tool for predicting whether certain landscapes would possess precontact period archaeological sites. On this project, through use of a predictive sampling design, 30 locations were tested using 20 transects. Only one precontact archaeological site was discovered along a major stream crossing as a result of this field effort. Subsequent fieldwork revealed no diagnostic precontact artifacts and established the site to cover an area of approximately 15 m^2. The site was not eligible for listing in the National Register.

Another major archaeological survey using a similar sensitivity model was conducted by the Maine State Museum under the direction of Stephen Cox in 1989 (Cox 1989). This project surveyed a proposed Bangor Hydroelectric Company 345 kV electric transmission line route located off the Stud Mill Road south of the SMWP area. On this project, Cox examined 87 sampling areas of varying archaeological sensitivity along the electric transmission line route from Orrington to the St. Croix River in Baileyville and excavated a total of 996 testholes. Three archaeological sites were discovered, each located along a major river or stream. All three were small sites representing short duration precontact activity and none were determined eligible for listing in the National Register.

Finally, a major survey on a revised Bangor Hydroelectric Company 345 kV transmission line route was conducted by TRC in 2004 (Clark and Moore 2004). That survey examined a route parallel to the existing M&NE Pipeline from Orrington to the St. Croix River. In all, 18 locations and landforms were tested for the presence of precontact cultural sites and materials using 317 testholes. No precontact sites or materials were discovered on that project.

In general, the results of previous archaeological surveys suggest that the region saw low intensity human occupation and use over much of the prehistoric period, and thus it has a comparatively low potential to contain archaeological sites and materials except in areas adjacent to major bodies of water. Results of field testing on the SMWP transmission line have corroborated this generalization.

Environmental Attributes. A second step in the prediction of archaeological sensitivity for the SMWP Project involved a consideration of environmental and topographic features that the Project will impact. In locations where no prior archaeological investigations have been undertaken, U.S.G.S. 7.5 minute quad sheets were examined. The following list of variables was used to evaluate locations along the proposed transmission route for the potential to contain precontact cultural resources:

High Sensitivity:

- fresh or saltwater resources within 150 meters;
- well-drained sandy soils;
- level to moderately level topography (0 to 3 percent slope).

Moderate Sensitivity:

- fresh or saltwater resources within 150 to 500 meters;
- well-drained to moderately well-drained, sandy to cobbly soils;
- moderately level topography (3 to 8 percent slope);
- minimal to moderate ground disturbance
- archaeological sites in vicinity of the Project area.

Low Sensitivity:

- no fresh or salt water for more than 500 meters;
- poorly drained or inundated areas;
- steep topography (8 percent slope or greater);
- moderate to extensive ground disturbance;
- no archaeological sites in vicinity of the Project area.

Previous archaeological work in Maine indicates proximity to water resources was a dominant factor used by precontact peoples in selecting occupation sites. Approximately 95 percent of the precontact Native American sites in Maine have been discovered either along the seacoast or along interior rivers, streams, lakes, and wetlands (Spiess 1994). Consequently, proximity to water was an important variable used to score areas for precontact cultural resource potential. All river and stream crossings were scored as high sensitivity regardless of other criteria. Minor streams, brooks, and intermittent/seasonal drainages were generally scored as moderate sensitivity. Where route segments cross wetlands/bogs, they were scored as low sensitivity; segments bordering wetlands were scored moderate to high sensitivity, depending on soil types and terrain (slope).

Soil or sediment type, and the related considerations of drainage and topography, have also been demonstrated by past research to have important predictive value. For example, research suggests that Paleoindian and Late Paleoindian peoples preferred well-drained sandy soils situated on topographic breaks (Spiess et al. 1995). These locations can sometimes be distant from water bodies in the present-day environment. Generally, well-drained sandy soils were scored highest. Conversely, poorly drained or impermeable soils scored low sensitivity.

A variety of sources were consulted for obtaining soil and topographic data in the SMWP APE including U.S.G.S. 7.5-minute quadrangles, 7.5-minute surficial geology maps, aerial photographs, and U.S.D.A. soil survey maps.

Because archaeological sites have been found to cluster in certain regions and on certain types of landform, the proximity of the APE to known archaeological sites was considered in the determination of resource sensitivity. The location of known archaeological sites was determined from archaeological site survey files maintained at the MHPC.

Finally, documented disturbances within the Project APE were considered in the sensitivity assessment due to their potential for impacting cultural resources. Disturbances considered in the sensitivity assessment included, but were not limited to, roads, gravel quarries, railroad beds, and commercial and residential development.

Using these basic variables, the SMWP transmission line route was assessed for precontact cultural resources. That is, locations within the APE were assigned sensitivity scores ranging from high to low depending on the predicted likelihood for them to contain precontact cultural resources. Originally, 29 locations were judged to possess precontact archaeological resource potential. Subsequent to the original sensitivity assessment, approximately 11 km of transmission line corridor on the eastern end of the transmission line was relocated and several other minor route changes were implemented. These changes resulted in modifications to the original sensitivity predictions.

In all, over 30 locations along the proposed SMWP transmission line route are considered to have a potential to contain pre-contact archaeological resources. These areas are generally located in proximity to water crossings. The majority of these areas were inspected during fieldwork in August 2007 and six of them were tested using subsurface shovel testholes. Figures 2a-2e show the proposed transmission line route, areas that were considered sensitive, areas that were tested, and areas that were not considered sensitive as a result of field inspection.

The sensitivity model and scope of testing developed for the Project was reviewed and approved by Dr. Arthur Spiess on May 10, 2006 (letter from Arthur Spiess to Richard Will, May 10, 2006). And subsequently, minor modifications to the originally accepted survey design were approved through direct communication with Dr. Spiess (telephone conversation with Richard Will, August 7, 2007).

Phase IB Archaeological Survey

Beginning in the first week of August 2007, Phase IB fieldwork was initiated within APE of the SMWP transmission line. Along the proposed transmission line route, all accessible location that had been determined in Phase IA to possess resource sensitivity were inspected and evaluated for possible subsurface testing. In all, 20 locations were examined by pedestrian walkover survey to validate the sensitivity predictions and to determine specific areas that required Phase IB testing. Several of the locations identified in the Phase IA sensitivity study as possessing archaeological resource sensitivity were found to not display resource potential predicted (see Figures 2a-2e).

Moving from west east along the proposed transmission line route, Phase IB testing for precontact archaeological resources was ultimately conducted at Test Area 1 and 2 (east and west side of the Penobscot River crossing in Mattawamkeag), Test Area 4 (north side of Mattawamkeag River in Mattawamkeag), Test Area 5 (south side of Mattagodus Stream), Test Area 6 (south side of Cleaves Brook), and Test Area 7 (west side of Mattawamkeag River in Kingman). The results of that testing are presented below.

Several locations were identified as possessing archaeological resource potential, but access and time constraints have not permitted inspection or testing of them (if necessary). Phase IA/IB survey remains to be done for these locations. These locations are illustrated in Figures xx-xx.

Phase IB Methods. All fieldwork undertaken within the APE conformed to the SHPO Standards for Archaeological Work in Maine (27 MRSA S.509). Subsurface testing was accomplished using shovel testholes placed on linear transects to provide adequate sampling of specific landforms. In this report, transects represent a series of shovel testholes generally organized in a line at regular intervals. Transects are intended to systematically sample a landform, such as along a break in slope, and may vary in the number of testholes and orientation depending on the nature of the landform. In some cases, more than one transect may be used within a testing area either due to the presence of more than one archaeologically sensitive landform, or to provide broader sampling of a particular landform. Transects were usually placed within 10 meters of the edges of eroding banks, terrace landforms, or at breaks in slope.

For the Project, single or multiple linear transects were extended from edge to edge across the transmission line corridor, or where possible across the landforms and on the sides of stream crossings. Testholes were variably spaced to best fit the landform sampled. Shovel testholes measured 50 cm^2—a size that facilitated observation of soil profiles and subsurface features to depths up to 1 meter.

Typically, a two-person team was the most efficient method of shovel testing with one person excavating and one person screening. All soil removed from testholes and test units was screened through 1/4 inch (6.4 mm) mesh that provided for recovery of small stone flakes, bones, or other cultural materials that might otherwise be missed without screening. Relevant documentation of each testhole and test unit excavated, including a soil description was made on a standardized recording form. Copies of testhole records recorded in the field are included in Appendix II of this report. A field sketch of each test area was made and photographs were taken to document the area as tested. Finally, spatial data regarding the location of testholes relative to significant landscape features was collected using a hand-held, Trimble Geo-XT GPS receiver. These data were post-processed and corrected using Trimble GPS Pathfinder Office software (v. 3.0).

Results of Phase IB Archaeological Testing

Phase IB fieldwork was initiated on the SMWP in those areas for which access had been granted. The survey consisted of the excavation of subsurface testholes at six locations along the proposed transmission line corridor. In all, 67 standard 50 cm^2 testholes along 11 transects were excavated. One precontact archaeological site and one precontact artifact spot find were discovered as a result of Phase IB survey. Table 2 presents summary information on all locations investigated during 2006 Phase IB cultural resource survey of the SMWP Project. Figures 2a-2e show the location of all areas tested. Below is a detailed description of areas investigated during Phase IB cultural resource survey.

Test Area 1—East Side of Penobscot River. The area tested borders the east side of the Penobscot River immediately north of the railroad in the town of Mattawamkeag, Penobscot, County, Maine (see Figure 2c). Three testhole transects were used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Mattawamkeag, Maine quadrangle at UTM coordinates 19Z 5039937N 550100E (NAD 83 meters).

The proposed SMWP transmission line route in this location will be 150 feet wide and will cross the river north of the Central Maine Railroad tracks. The testing area is located on the second or upper

Table 2. Summary information on all testing areas.

Test Area	Location	Area Tested (approx. linear meters)	Transects, Testholes, Testing Interval	Results of Testing	UTM Coordiantes (NAD 83 meters)
TA 1	East Side Penobscot River	60	3, 13, 8 m	Negative; Light surface scatter historics	19Z 5039937N 550100E
TA 2	West Side Penobscot River	60	2, 23, 8 m (with 4 m brackets)	Precontact site	19Z 5039896N 549925E
TA 4	North Side Mattawamkeag River	30	1, 5, 8 m	Negative	19Z 5040730N 551797E
TA 5	South Side Mattagodus Stream	30	1, 5, 8 m	Negative	19Z 5041438N 565827E
TA 6	South Side Cleaves Brook	30	1, 5, 8 m	Negative	19Z 5037034N 570976E
TA 7	West Side Mattawamkeag River	60	3, 16, 8 m	Negative	19Z 5043590N 559860E

terrace overlooking the Penobscot River to the west. The area is vegetated with mainly mature conifers and some deciduous trees there is very little underbrush. The ground surface is covered with pine needles and branches. Scattered boulders are visible on the ground surface and the surface is very hummocky. The landform slopes down gently 5-10% to the west toward the river that about 10 m away. The ground surface in this area has been significantly modified by historic activity. An old road bed runs along the terrace edge in the southern portion of the testing area from the railroad to about half way into the right-of-way. A possible historic foundation or borrow pit is located within the testing area to he east of transect 2. A wire fence exists along the river bank and along the edge of the railroad in some areas. The area presently provides easy access to the railroad trestle that crosses the river and it appears well-utilized.

Three transects of testholes were used to test the location. Transect 1 was placed parallel to the river along the terrace edge. It consisted of 5 testholes. Transect 2 was located 8 m to the east of transect 1 and also ran parallel to the river or approximately north-south. It consisted of 5 testholes. Transect 3 was placed approximately 12 m south of transect 1 toward the railroad along the terrace edge immediately east of the old road bed that runs along the terrace in edge in this portion of the testing area. Transect 3 consisted of 3 testholes. The testing interval used was 8 meters when possible, a standard used to accommodate historic resources, if discovered. A total of 13 test holes were excavated to an average depth of 45 cm bs.

A typical soil profile for testholes in this area consists of pine needle litter underlain by a light brown A horizon composed of silty sand with pebbles and cobbles that extended to a depth of about 15 cm bs. This horizon was underlain by an orange, yellow-brown B soil horizon that consists of fine sand with pebbles and cobbles from 15 – 35 cm bs. This B soil horizon was underlain by a lighter yellow-

brown B_2 soil horizon of fine sand with pebbles and cobbles to a depth of about 40 cm bs. This second B soil horizon overlain an olive brown C soil horizon composed of fine sand with scattered charcoal, pebbles and cobbles. These sediments do not appear to represent recent river alluvium and are likely glacially derived till deposits.

No precontact cultural remains were recovered from testholes excavated in this area. However, a very light scatter of 20th century historic debris was encountered.

Test Area 2—West Side Penobscot River. The area tested lies on the west bank of the Penobscot River immediately north of the railroad in the town of Mattawamkeag, Penobscot, County, Maine (see Figure 2d). Two testhole transects were used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Mattawamkeag, Maine quadrangle at UTM coordinates 19Z 5039896N 549925E (NAD 83 meters).

The proposed SMWP transmission line route in this location will be 150 feet wide and will cross the river north of the Central Maine Railroad tracks. The testing area is located on the alluvial terrace overlooking a low lying flood plain on the east bank of the Penobscot River. The area is forested with mature maple, oak, fir, white pine and cedar trees. Undergrowth is sparse and consists mainly of ferns. Large granite boulders are present on the surface of the terrace and along the terrace edge. Many of the boulders exhibit signs of historic quarrying activities. A light scatter of historic debris is also present on the surface consisting of wire fencing, metal fragments, and wood. This debris may be associated with the railroad which forms the southern boundary of the testing area. The terrace is level in some areas and in other areas slopes down gently toward the river and in other areas slopes up to the west to another level area (see Figures 3 and 4). A small sandy beach area is present along the front of the terrace edge between the terrace edge and the low lying flood plain vegetated with ferns. Precontact lithic debitage and a lateral biface fragment manufacture from Munsungun chert was surface collected from this beach area.

Two transects of testholes were used to test the location. Transect 1 was placed parallel to the river along the terrace edge. It consisted of 7 testholes. Transect 2 was located 8 m to the west of transect 1 and also ran parallel to the river. It consisted of 4 testholes. Twelve test holes were used to bracket test holes that were positive for precontact cultural material along transect 1 and 2. The testing interval used was 8 m when possible, a standard used to accommodate historic resources, if discovered. Positive test holes were bracketed at 4 m intervals to the north, south, east, and west. A total of 23 test holes were excavated to an average depth of 48 cm bs. Eleven of the 23 test holes contained precontact cultural material. Appendix III is a catalog of materials collected and Appendix IV is a Maine Archaeological Site Survey Record. See Conculsions and Recommendation section for a description of the materials recovered and a recommendation for further archaeological testing.

A possible hearth feature was identified in testhole 4N on transect 1. It consisted of a cluster of fire-crack-rock associated with charcoal and reddened soil located in the northwest corner of the testhole within the B soil horizon at 30 cm bs. The feature was not excavated. It was covered with plastic and backfilled to allow more detailed excavation at a later date.

A typical soil profile for testholes in this area consists of a humus layer underlain by a brown to dark brown A soil horizon composed of silt and fine sand with pebbles and cobbles that extended to a depth of about 18 cm bs. This horizon was underlain by an orange brown B soil horizon that consists of silt and medium-fine sand with pebbles and cobbles from 18 – 40 cm bs. This B soil horizon was underlain by a lighter yellow-brown B_2 soil horizon of fine sand with pebbles and cobbles to a depth of about 50 cm bs. This second B soil horizon overlain a gray brown C soil horizon composed of silt with pebbles and cobbles.

Precontact cultural material was found in test holes from 20 – 60 cm bs.

Test Area 4 — North Side Mattawamkeag River. The area tested overlooks the south side of the Mattawamkeag River within an existing transmission line in the town of Mattawamkeag, Penobscot, County, Maine (see Figure 2c). One testhole transect was used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Mattawamkeag, Maine quadrangle at UTM coordinates 19Z 5040730N 551797E (NAD 83 meters).

The proposed SMWP transmission line route in this location will occupy an existing corridor and will be 100 feet wide. The testing area is located on the upland overlooking the south side of the Mattawamkag River. The area within the cleared transmission line is vegetated with small immature oak, spruce, hemlock and mosses. The edges of the right-of-way that have not been cleared are covered with mature spruce and fir and little to no undergrowth. The ground surface is hummocky and covered with pine needles and branches. The landform slopes down moderately to south toward the river that is approximately 230 m away. The ground surface within the cleared transmission have been scraped and leveled a berm of material exists on both sides of the cleared area.

A single transect of testholes were used to test the location; it bisects the transmission line running approximately east-west parallel with the river. Five test holes were placed along this transect at 8 m intervals, a standard used to accommodate historic resources, if discovered. Test holes were excavated to an average depth of 45 cm bs.

A typical soil profile for testholes in this area consists of organic layer underlain by a brown A soil horizon composed of silt and cobbles that extended to a depth of about 15 cm bs. This horizon was underlain by an orange-brown to yellow-brown B soil horizon that consists of fine-coarse sand with pebbles and cobbles from 15 – 30 cm bs. This B soil horizon was underlain by an olive gray C soil horizon composed of silt with pebbles and cobbles.

No precontact cultural remains were recovered from testholes excavated in this area.

Test Area 5—South Side Mattagodus Stream. The area tested lies on the southeast side of the Mattagodus Stream on the north side of Rt. 170 the township of Webster, Penobscot, County, Maine (see Figure 2b). One testhole transects were used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Kingman, Maine quadrangle at UTM coordinates 19Z 5041438N 565827E (NAD 83 meters).

The proposed SMWP transmission line route in this location will occupy an existing corridor and will be 100 feet wide. The testing area is located on the upland overlooking the wetlands along the southeast side of Mattagodus Stream within the existing transmission line. The cleared area associated with the transmission line is vegetated ferns, mosses, immature cedar, pine, spruce and birch. The edges of the right-of-way that have not been cleared are covered with mature spruce, fir, birch and maple and little to no undergrowth. The ground surface is hummocky. The landform slopes down gradually to north and west toward the wetlands and stream that are approximately 100 m away. The landform slopes gradually upward to the south and east toward Rt. 170. The ground surface within the cleared transmission have been scraped and leveled a berm of material exists on both sides of the cleared area.

A single transect of testholes were used to test the location; it bisects the transmission line running approximately east-west parallel with the river. Five test holes were placed along this transect at 8 m intervals, a standard used to accommodate historic resources, if discovered. Test holes were excavated to an average depth of 40 cm bs.

A typical soil profile for testholes in this area consists of pine needle litter underlain by a dark brown A soil horizon composed of silty loam that extended to a depth of about 20 cm bs. This horizon was underlain by a light gray E or ablic soil horizon of very fine sand and silt that was 5 cm thick. A yellow brown B soil horizon underlain the E soil horizon and consisted of very fine sand with pebbles and cobbles extending from 25 – 30 cm bs. This B soil horizon overlain an olive brown C soil horizon composed of silt and clay with pebbles and cobbles. These sediments do not appear to represent recent river alluvium and are likely glacially derived till deposits.

No prehistoric cultural remains were recovered from testholes excavated in this area.

Test Area 6—South Side Cleaves Brook. The area tested lies on the south side of Cleaves Brook on the northeast side of Tar Road in the township of Prentiss, Penobscot, County, Maine (see Figure 2b). One testhole transects were used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Bowes Mt., Maine quadrangle at UTM coordinates 19Z 5037034N 5709576E (NAD 83 meters).

The proposed SMWP transmission line route in this location will occupy an existing corridor and will be 100 feet wide. The testing area is located on the south bank of Cleaves Brook within the existing transmission line. The cleared area associated with the transmission line is vegetated ferns, mosses, immature cedar, pine, spruce and birch. The edges of the right-of-way that have not been cleared are covered with mature spruce, fir, birch and maple and little to no undergrowth. The ground surface is hummocky. The landform slopes down steeply to the north toward the brook and rises moderately to the south and east toward the upland. The brook is less than 5 m north of transect 1. The ground surface within the cleared transmission have been scraped and leveled a berm of material exists on both sides of the cleared area.

A single transect of testholes were used to test the location; it bisects the transmission line running approximately east-west parallel with the river. Five test holes were placed along this transect at 8 m intervals, a standard used to accommodate historic resources, if discovered. Test holes were excavated to an average depth of 35 cm bs.

A typical soil profile for testholes in this area consists of organics underlain by a dark brown A soil horizon composed of silt and clay with pebbles and cobbles that extended to a depth of about 15 cm bs. This horizon was underlain by a light gray E or ablic soil horizon of very fine sand and silt that was 3 cm thick. A yellow brown to light yellow brown B soil horizon underlain the E soil horizon and consisted of silt and clay with pebbles and cobbles extending from 18 – 35 cm bs. This B soil horizon overlain an olive brown C soil horizon composed of silt and clay with pebbles and cobbles. These sediments do not appear to represent recent river alluvium and are likely glacially derived till deposits.

No prehistoric cultural remains were recovered from testholes excavated in this area.

Test Area 7—West Side Mattawamkeag River. The area tested is located on the west bank of the Mattwamkeag River south of the Eastern Maine railroad grade in Kingman, Penobscot, County, Maine (see Figure 2c). Two testhole transects were used to sample this location for the presence of precontact cultural materials. The approximate geographic center of Transect 1 can be located on the U.S.G.S. 7.5 minute (1:24,000 scale) topographic series, Kingman, Maine quadrangle at UTM coordinates 19Z 5043590N 559860E (NAD 83 meters).

The proposed SMWP transmission line route in this location will be 150 feet wide. The testing area is located on the upper and lower terraces on the west side of the Mattwamkeag River. The upper terrace has been recently logged leaving scattered mature maple, oak, fir and oak and an understory of

princess pine and seedling white and fir. Large tree throws are also common within the area. The ground is extremely hummocky, with visible cobbles on the surface. This upper terrace is composed of silt, gravel and cobbles and is glacially derived, while the lower terrace is composed of silt and is the result of alluvial deposition. The lower terrace is vegetated with ferns, poison ivy, and mature hardwood and softwood trees.

Two transects of testholes were used to test the location. Transect 1 was placed parallel to the river along the upper terrace edge. It consisted of 7 testholes. Transect 2 was located 100 m to the west of transect 1on the lower terrace approximately 5 m from the river. It also ran parallel to the river and consisted of 3 testholes. Testhole 4 on transect 1 contained a quartz flake in the upper 10 cm bs. Six number of test holes were used to bracket test holes that were positive for precontact cultural material along transect 1. The testing interval used was 8 ms when possible, a standard used to accommodate historic resources, if discovered. Positive test holes were bracketed at 4 m intervals to the north, south, east, and west. A total of 16 test holes were excavated to an average depth of 40 cm bs.

A typical soil profile for testholes located on the upper terrace consists of a humus layer underlain by a brown to dark brown A soil horizon composed of silt loam with gravel and cobbles to a depth of about 12 cm bs. This horizon was underlain by a dark orange brown B soil horizon that consists of silt, coarse sand, pebbles and cobbles from 12 – 40 cm bs. This B soil horizon was underlain by an olive brown C soil horizon composed of silt with pebbles and cobbles.

A typical soil profile for testholes located on the lower terrace consists of a humus layer underlain by a brown to dark brown A soil horizon composed of silt loam to a depth of about 12 cm bs. This horizon was underlain by a light yellow brown B soil horizon that consists of silt from 12 – 40 cm bs. The B soil horizon was underlain by an olive brown C soil horizon composed of silt.

Precontact cultural material was found in test holes on the upper terrace from 0 – 30 cm bs.

Conclusions and Recommendations

A precontact archaeological site was discovered on the western bank of the Penobscot River as a result of walkover inspection and subsurface testing within the proposed APE of the SMWP (Test Area 2). Preliminary assessment involving 23 testholes and walkover inspection reveals that the site area extends at least across the width of the proposed transmission line corridor. This conclusion is supported by the presence of extensive fire-cracked rock and lithic artifacts (flakes) that were observed and collected on the eroding surface of the shore. Precontact lithic artifacts were recovered from 5 testholes along transect 1 and 2. Close interval testing (bracket) placed around these testholes identified a likely-cultural feature containing datable charcoal in testhole 4N on transect 1 and additional site deposits are present at least 10-15 m away (backshore) of the eroding river terrace margin. Lithic materials collected from the site represent diverse sources minimally including gray/green chert, red (Munsungun) chert, rhyolite/felsite, and quartz. The biface fragment (projectile point) is a non-diagnostic medial fragment manufactured from rhyolite. In addition to flaked stone, a ridged hammerstone fragment of felsite, and flakes attributable to ground stone tool production were also recovered. Large quantities of fire-cracked rock were observed on the eroded surface of the beach in front of the terrace. Several pieces of fire-cracked emerged from testhole 4N on transect 1, which contained a likely-cultural feature.

All things considered, the diversity and quantity of lithic materials recovered, including evidence for both flaked stone and ground stone tool manufacture, and the presence of an intact, datable feature warrant a recommendation that this site receive additional Phase II testing to determine its size

and potential for listing in the National Register. Phase II archaeological assessment at this site should occur prior to SMWP Project construction.

A single lithic flake was discovered on the west side of the Mattawamkeag River in Kingman (Test Area 7). The flake is a small, piece of lithic shatter manufactured of crystal quartz. Additional close interval testing (brackets) placed around the single positive testhole failed to yield additional cultural materials and demonstrate that this is an isolated artifact spot find. No additional testing is recommended for this location.

Elsewhere, the results of Phase IA and IB precontact archaeological survey on the SMWP transmission line are consistent with numerous previous and ongoing linear archaeological resource surveys conducted in downeast and northern interior Maine. Combined, the results of these surveys suggest that the region likely saw low intensity occupation and use over much of the precontact period. Except in areas that are adjacent to major bodies of water (lakes and canoeable rivers and streams), upland, forested areas on till-based soils in general possess a low potential to contain archaeological sites and materials. It is therefore significant that both locations found during the present study to contain precontact resources are adjacent to major waterways: the Penobscot River and the Mattawamkeag River. The relative paucity of sensitive precontact archaeological resource areas along most of the SMLP transmission line route, combined with the negative results of testing at most locations investigated in this study, suggest that linear projects constructed across this portion of Maine may have less potential to negatively impact cultural resources than those constructed elsewhere in the state.

Except for Test Area 2 on the western side of the Penobscot River where a Phase II investigation is recommended, Phase IA and IB precontact archaeological resource survey for the locations described in this report are considered to be concluded. No further archaeological survey is recommended for the other locations investigated within the Project APE as defined in this report.

The Phase IA/IB archaeological survey is nevertheless ongoing; the findings presented in this report do not represent a complete precontact cultural resource survey. Several locations along the proposed transmission line route have not been accessed and inspected and some degree of additional testing *may* be necessary at them. Fieldwork at these remaining locations can be conducted concurrently with Phase II at Test Area 2, if it is determined necessary after review of this report.

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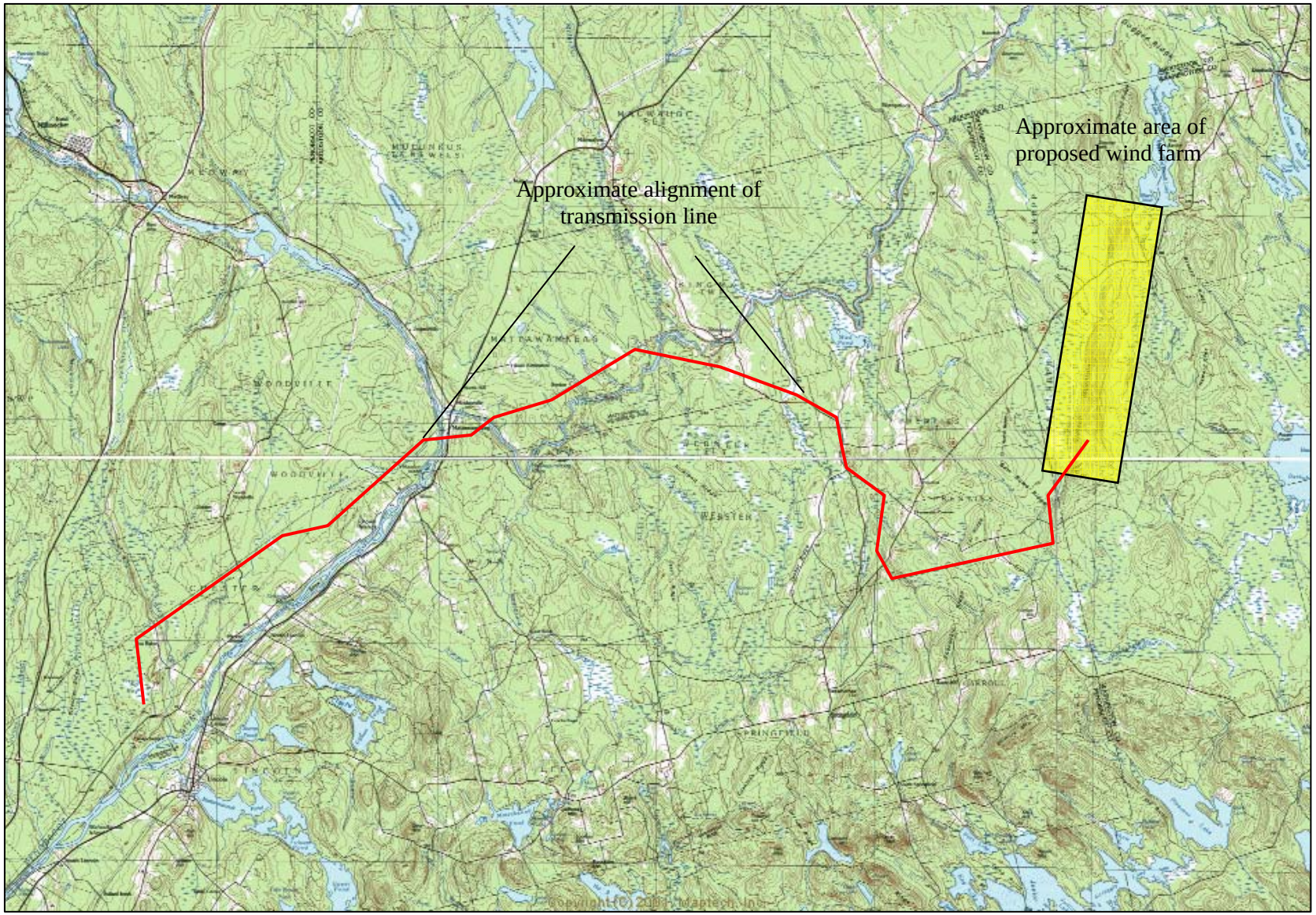

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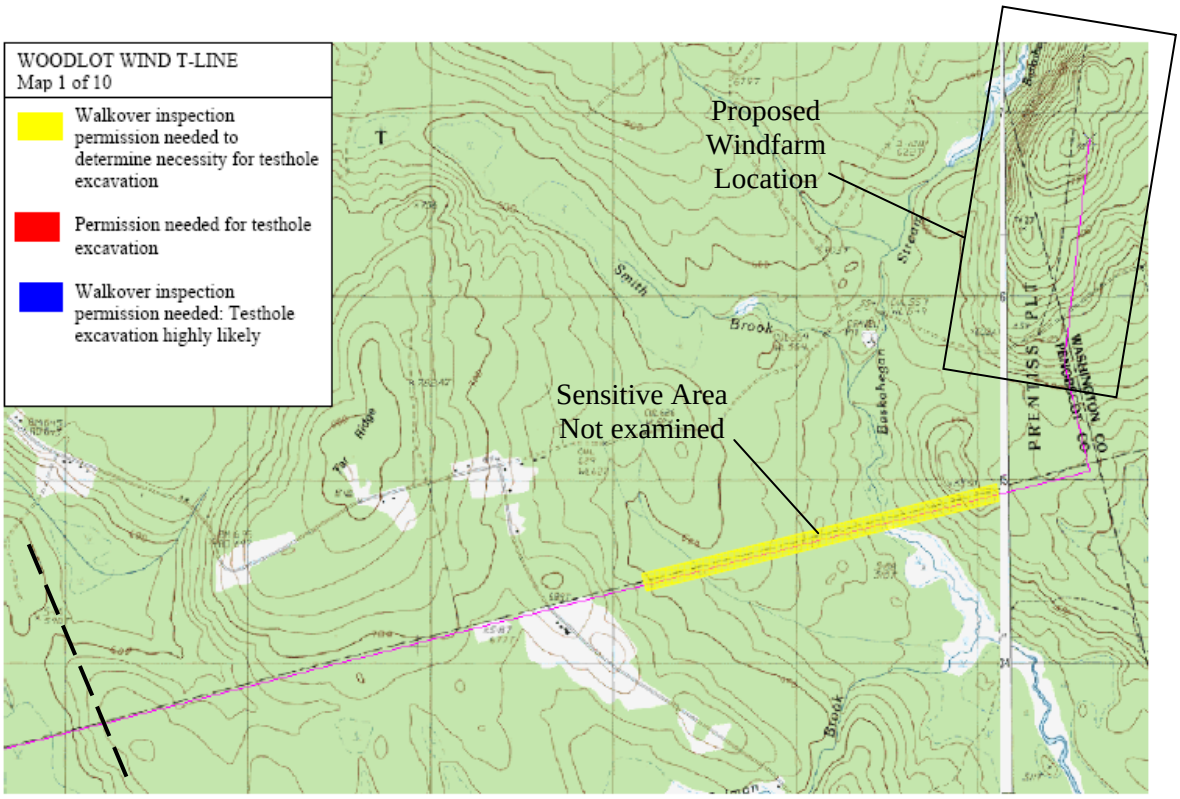
Stetson Mountain Windpower Project
Washington and Penobscot Counties, ME

Figure 1. 1:100,000 USGS map showing the location of the Stetson Mountain Windpower Project.



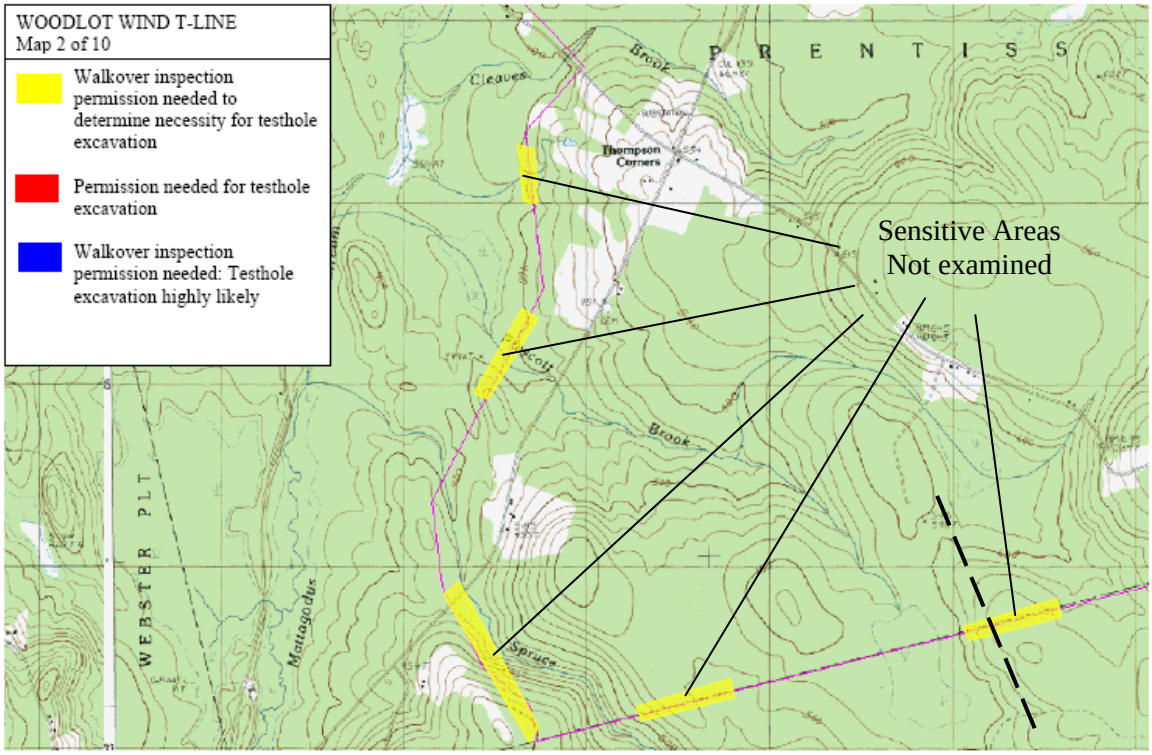


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Figure 2a. USGS 7.5 minute topographic maps showing the proposed alignment of the SMWP transmission line moving east to west. Archaeological sensitivity is indicated. Scale is indicated by 1 km x 1 km grid. *Image source: U.S.G.S. 1:24,000 quadrangles.*

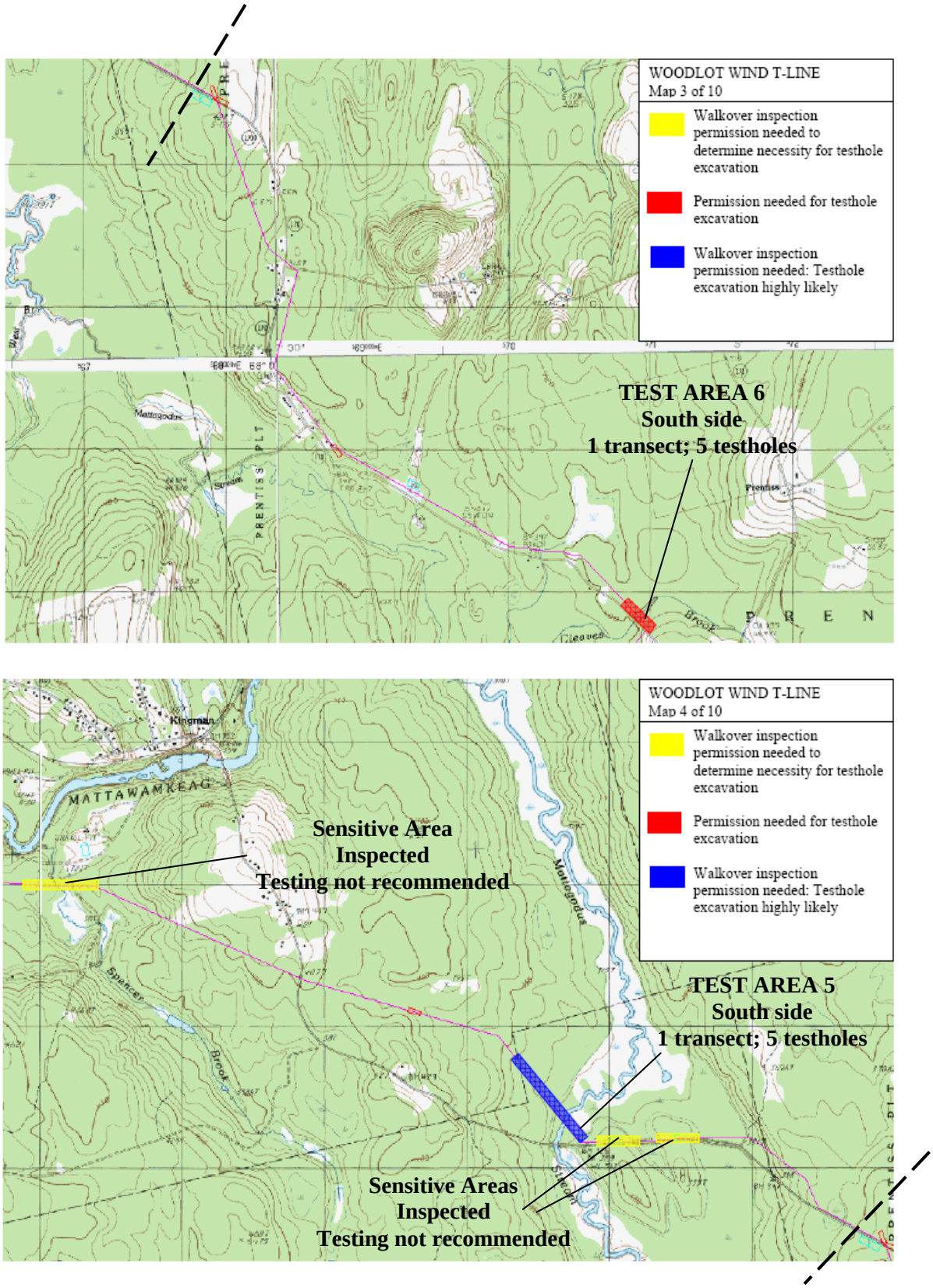

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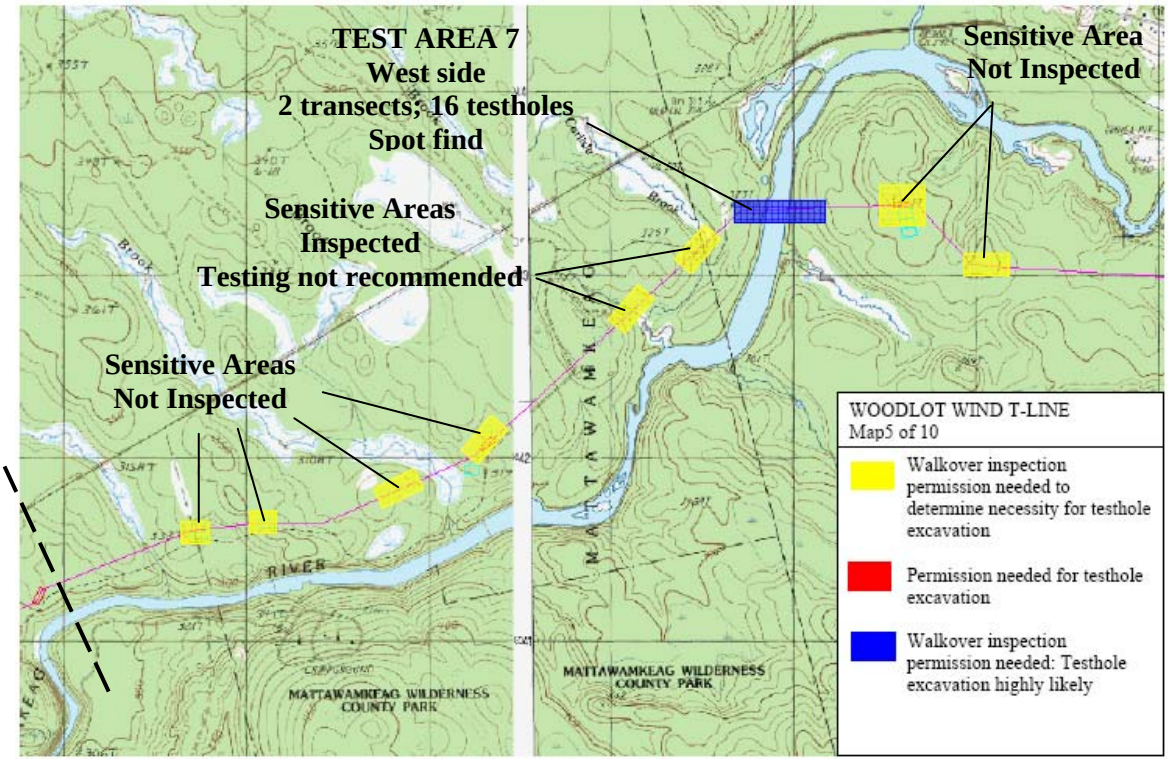
Figure 2b. USGS 7.5 minute topographic maps showing the proposed alignment of the SMWP transmission line moving east to west. Archaeological sensitivity is indicated. Scale is indicated by 1 km x 1 km grid. *Image source: U.S.G.S. 1:24,000 quadrangles.*



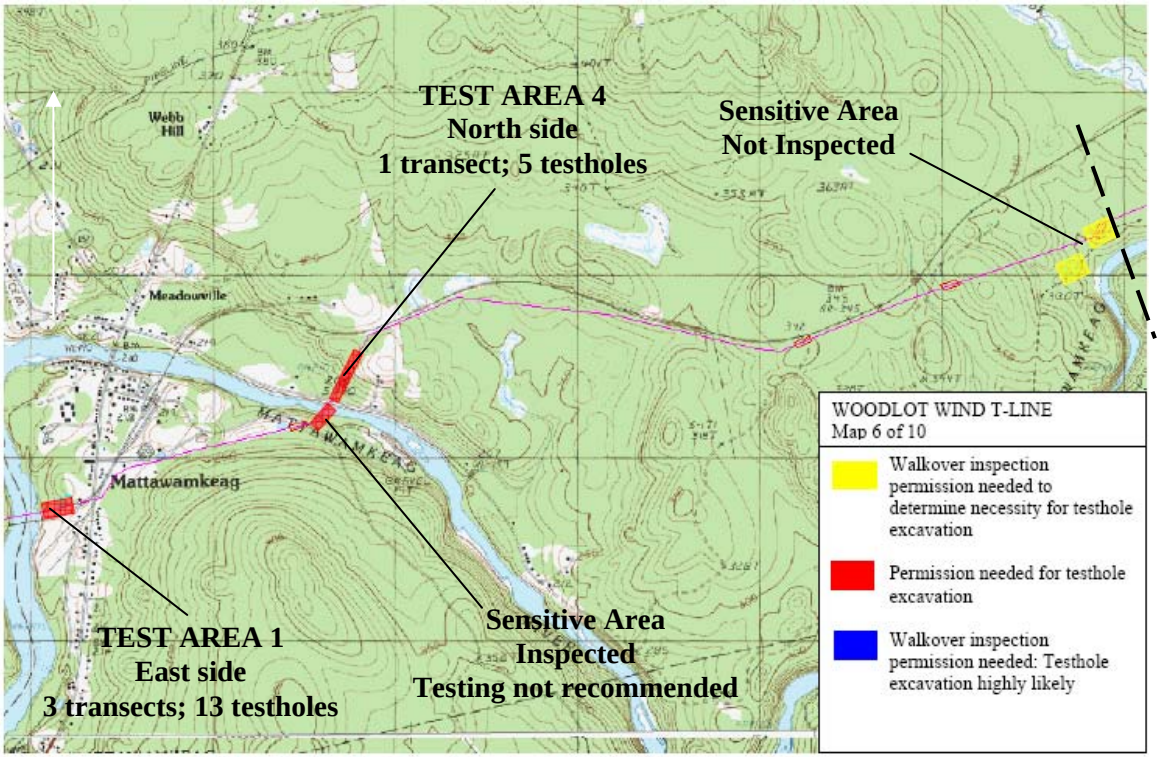


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Figure 2c. USGS 7.5 minute topographic maps showing the proposed alignment of the SMWP transmission line moving east to west. Archaeological sensitivity is indicated. Scale is indicated by 1 km x 1 km grid. *Image source: U.S.G.S. 1:24,000 quadrangles.*

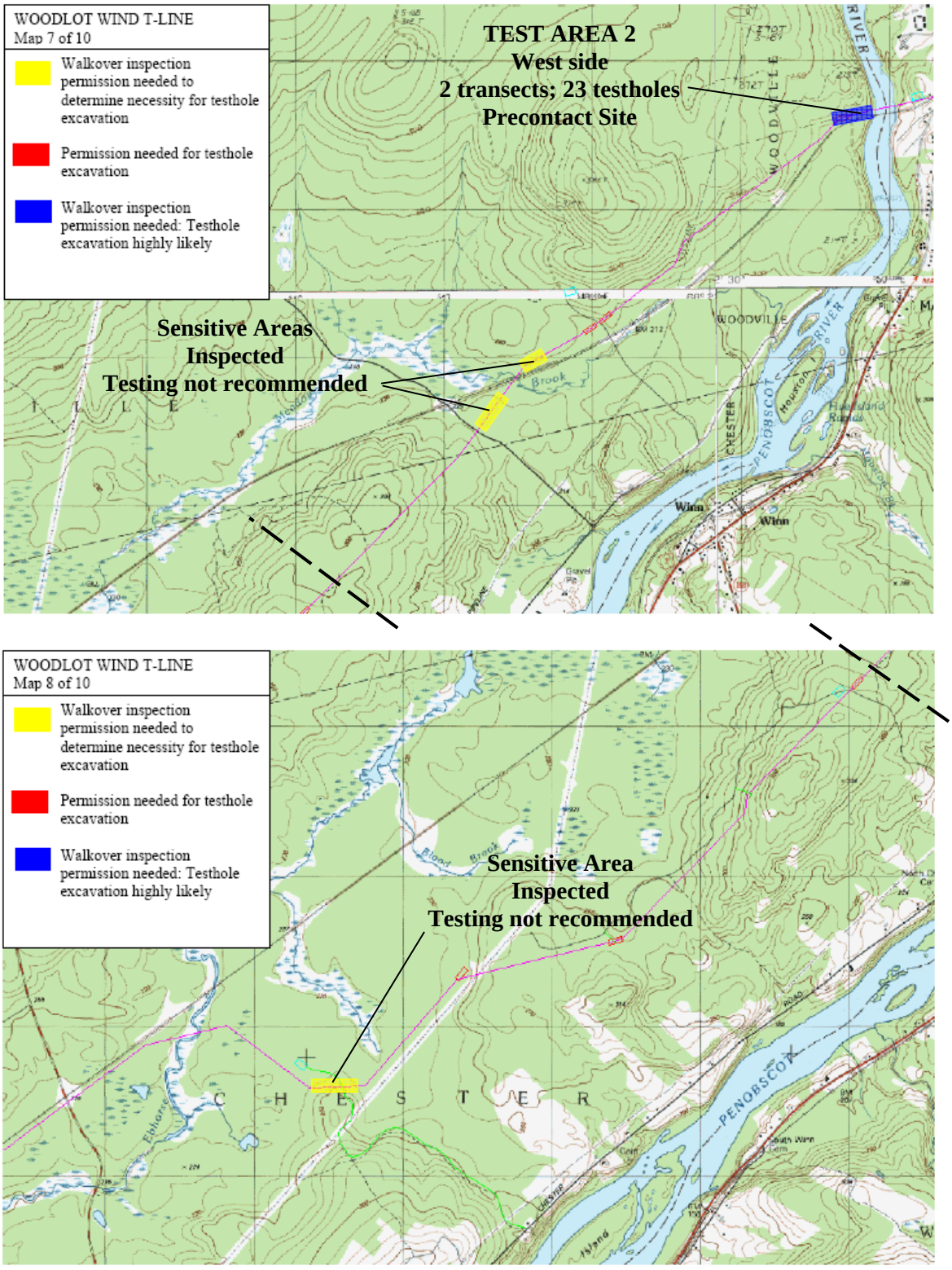

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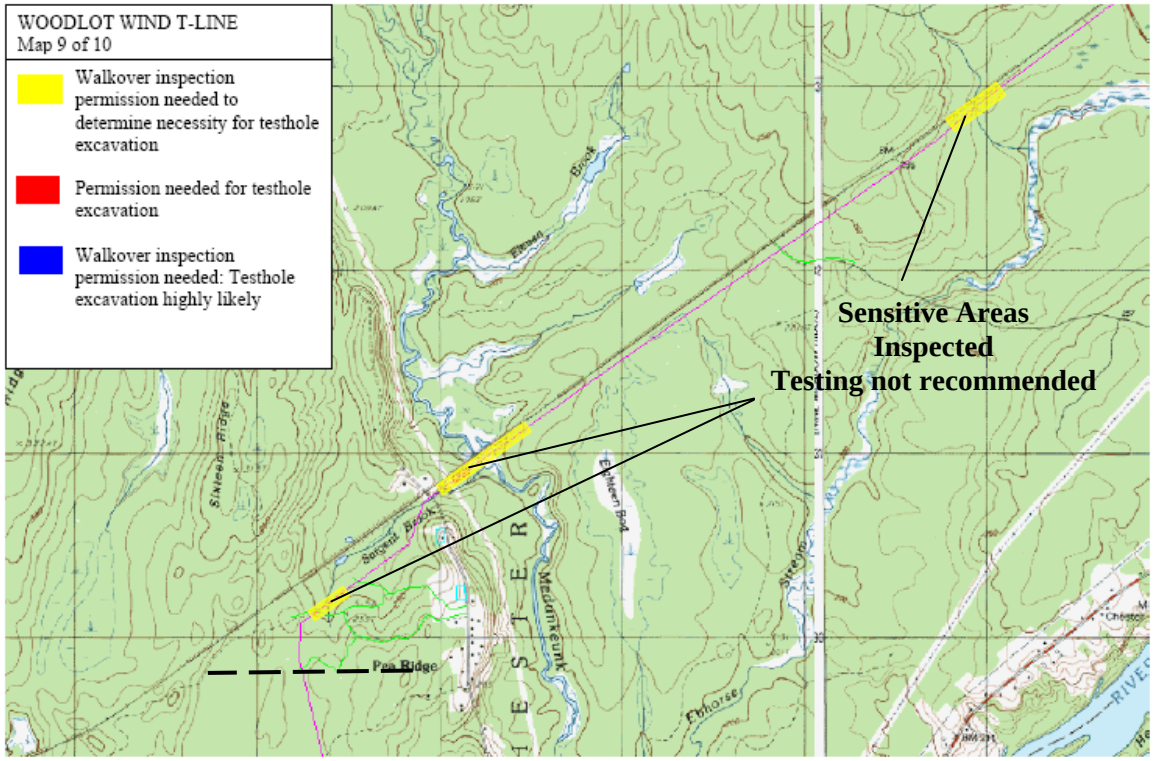
Figure 2d. USGS 7.5 minute topographic maps showing the proposed alignment of the SMWP transmission line moving east to west. Archaeological sensitivity is indicated. Scale is indicated by 1 km x 1 km grid. *Image source: U.S.G.S. 1:24,000 quadrangles.*



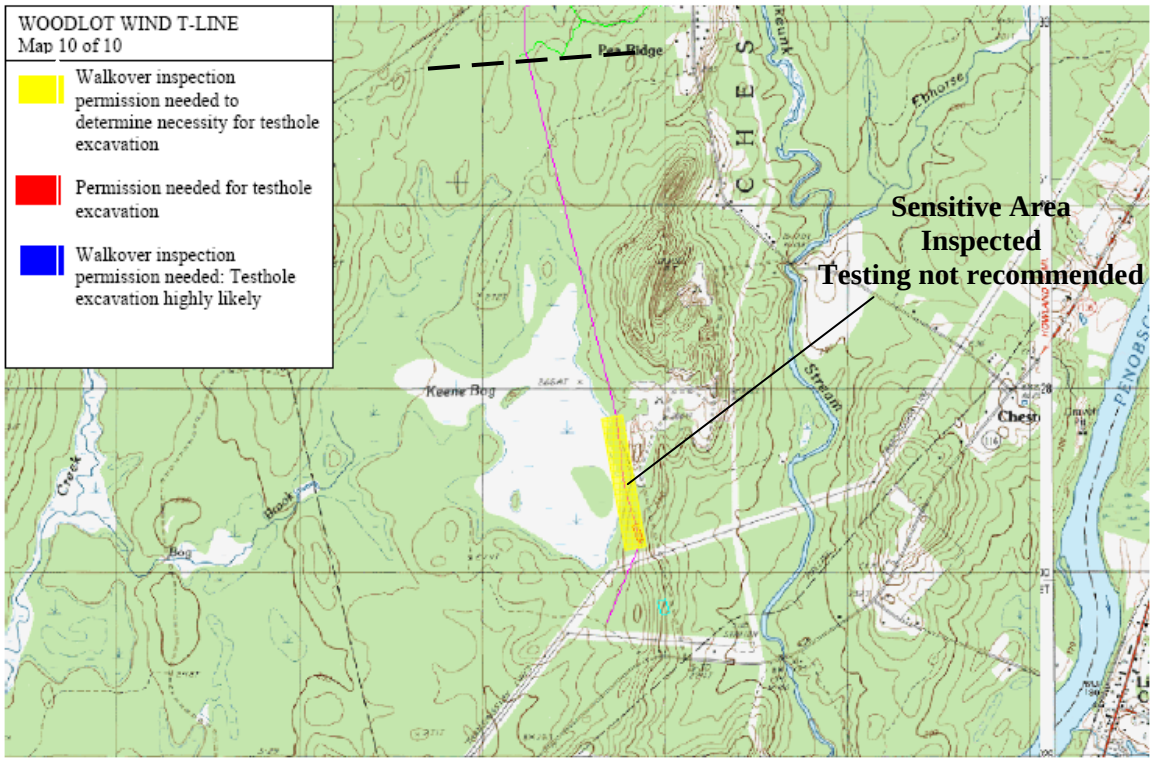


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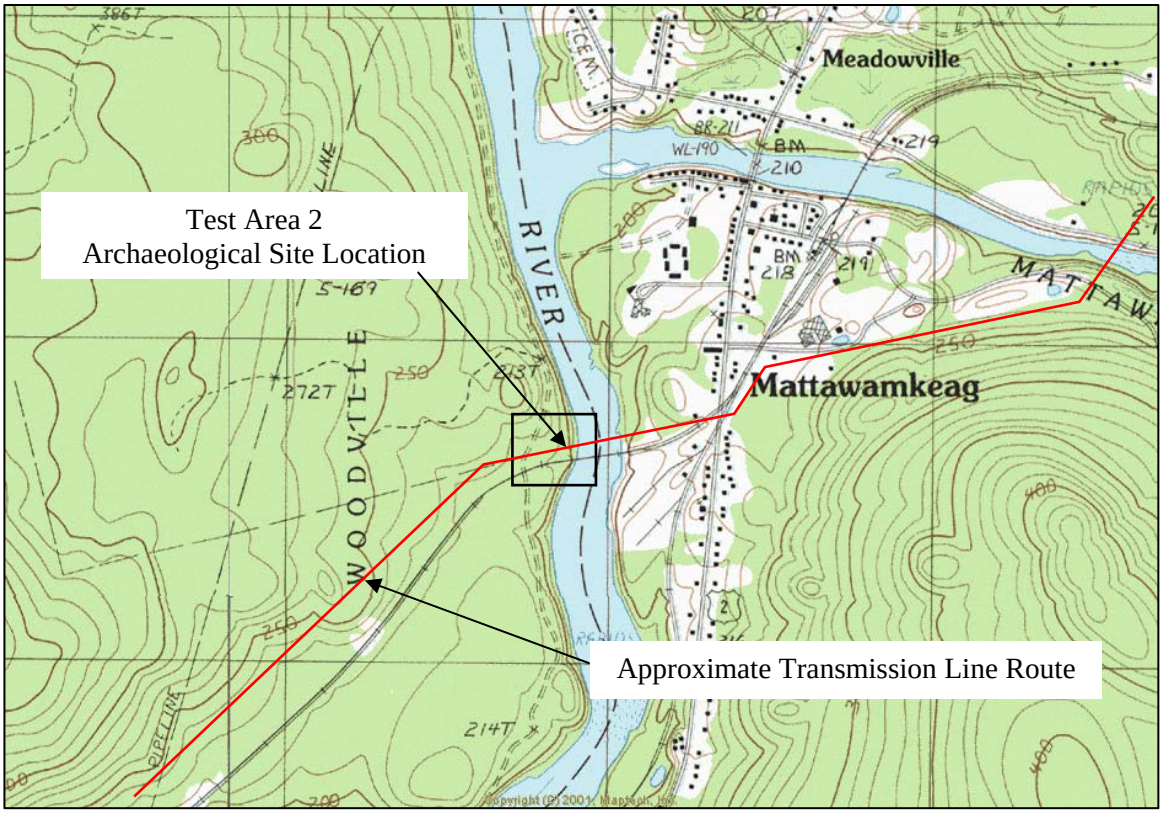
Figure 2e. USGS 7.5 minute topographic maps showing the proposed alignment of the SMWP transmission line moving east to west. Archaeological sensitivity is indicated. Scale is indicated by 1 km x 1 km grid. *Image source: U.S.G.S. 1:24,000 quadrangles.*



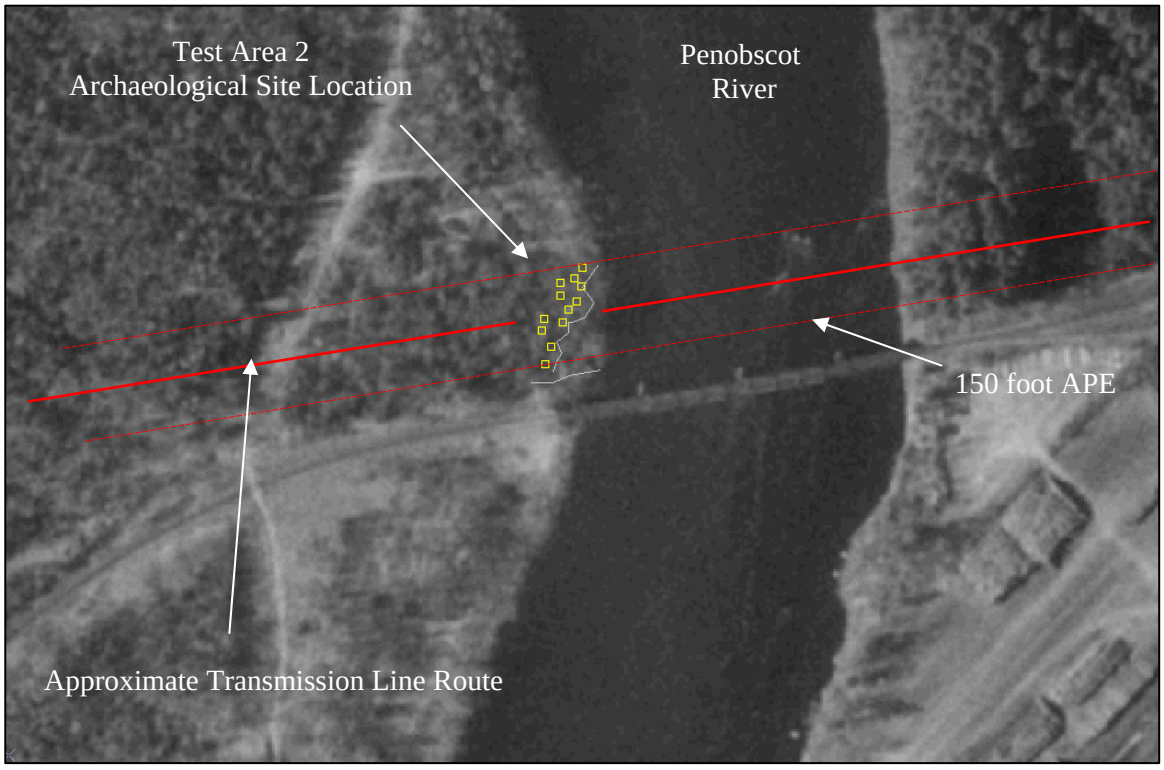


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Figure 3. USGS 7.5 minute topographic map (above) and aerial imagery (below) showing Test Area and location of testholes excavated at the location of a newly discovered archaeological site. *Image source: U.S.G.S. 1:24,000 and 1:12,000 Mattawamkeag, Maine quadrangles. Testhole locations placed using Trimble Geo XT GPS.*

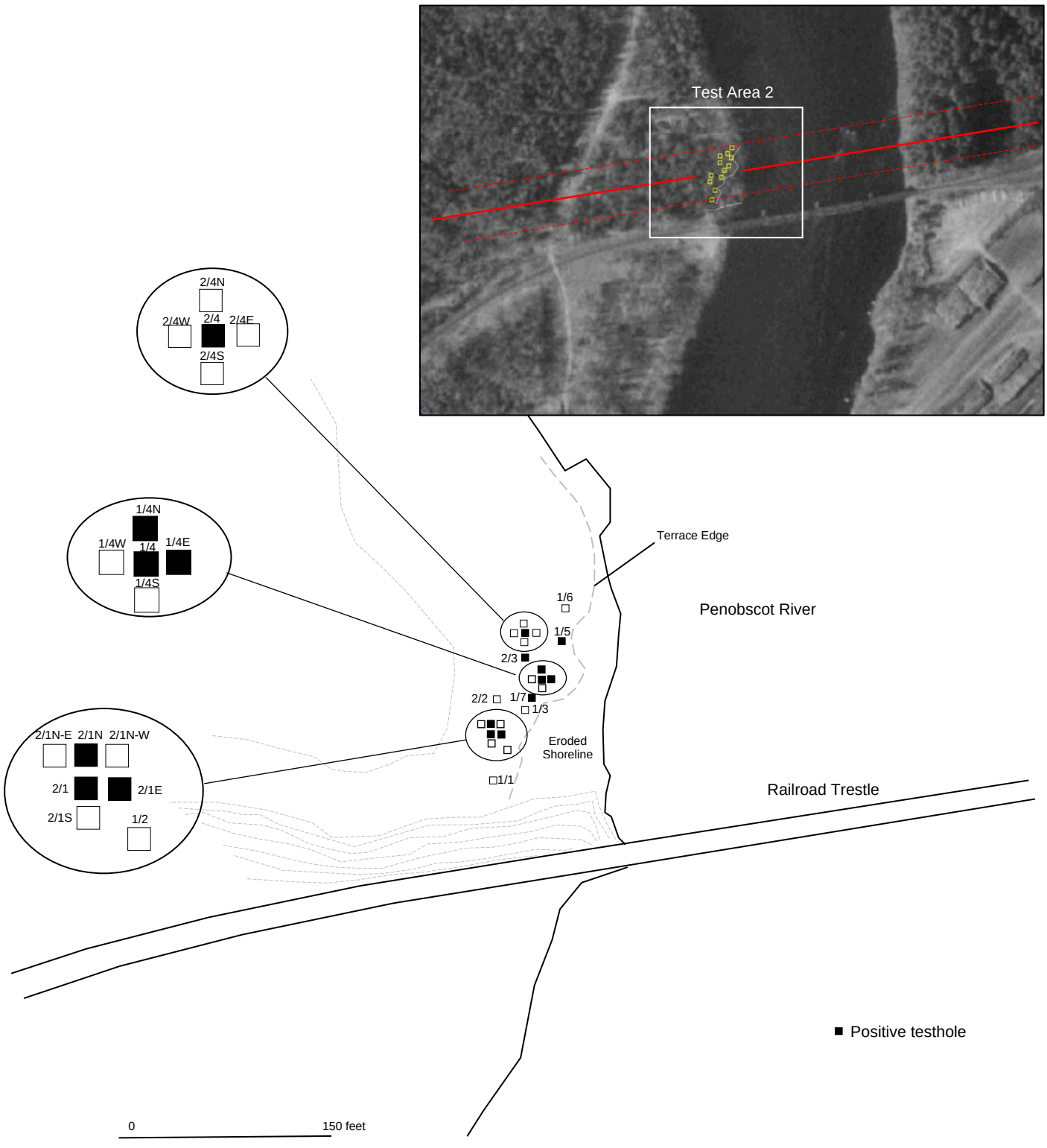

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Figure 4. Field sketch showing Test Area 2 and location of testholes excavated at the location of a newly discovered archaeological site.

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APPENDIX I

Proposed Stetson Wind Farm Project, Stetson Mountain, Washington and Penobscot Counties, ME—MHPC #2779-06.

Appendix I: Results of Precontact Archaeological Resource Review of the Proposed Stetson Mountain Wind Farm Project, Washington and Penobscot Counties, ME—MHPC #2779-06.

In response to a request by MHPC for a Precontact archaeological resource review of the Stetson Mountain Wind Farm Project being permitted by Woodlot Alternatives, Inc., TRC has completed an inspection and assessment of the proposed location of the wind farm (proposed turbine locations) and related access roads on Stetson Mountain in Washington and Penobscot Counties, Maine.

This report discusses only the location of the proposed wind farm and related access roads. It does not include the results of a preliminary archaeological inspection of the proposed transmission line that is designed to carry electricity generated by the wind farm. Numerous archaeologically-sensitive locations along this proposed transmission line were inspected during our fieldwork, however a final route had not been determined and the transmission line route has subsequently been changed in a number of areas. No fieldwork has been undertaken on the transmission line subsequent to the date of the field inspection reported in this memo.

As proposed, the Stetson Mountain Wind Farm will be placed along the ridge line of Stetson Mountain which is oriented roughly north/south in Township T8R3 NBPP. The Wind Farm itself will be located entirely in Washington County and access roads and transmission line facilities will extend eastward and southerly into Penobscot County (see Figure 1). The APE of the Wind Farm will be approximately 1,200 to 1,500 m wide and will extend roughly 12 km northward from the Washington/Penobscot County line in Prentiss Plantation. Access to Stetson Mountain can be gained by two existing dirt roadways: the Ridge Road from the south and Atlas Road from the north. These roads may require minor improvements related to the development and construction of the project, therefore they were also inspected for archaeological sensitivity, along with all road cuts, borrow pits, and disturbances that border them.

As noted in TRC's sensitivity assessment (submitted on January 6, 2007), although the area does not possess high resource sensitivity for Precontact occupation sites, it was considered possible that the Stetson ridgeline may possess higher sensitivity with regard to certain resource acquisition; specifically stone for the manufacture of stone tools. Precontact period quarries have been found on Mt. Kineo at Moosehead Lake (Will 1996) and at Norway Bluff near Munsungun Lake (Pollock 1999). Although these are not immediately in proximity to the Stetson Mountain Wind Farm Project, the presence of such quarries in north-central Maine suggests stone procurement activity was an important component of Precontact period adaptation in this region of Maine. In addition, geologic mapping indicates that outcrops of "felsic bedrock" are present in the area, and it is known that fine-grained felsitic rock, such as that found on Mt. Kineo (Boucet 1961), was used for tool-making throughout the Precontact period in Maine. Because available data including videotape shot during a low altitude helicopter flyover of Stetson Mountain were not sufficient to determine whether outcrops of knappable stone might exist, field reconnaissance was undertaken.

On May 3-4, 2007, James Clark and Jacob Freedman of TRC Ellsworth completed a walkover and visual reconnaissance of the Stetson Mountain Wind Farm location and portions of its associated transmission line. The proposed scope of work for this survey of the Wind Farm location was submitted to and approved by MHPC on January 26, 2007. This field survey consisted of close inspection of the selected areas within the proposed Wind Farm Project area (APE) and surrounding locations to determine the potential for stone quarrying or other prehistoric activity within and adjacent to the Project APE.

The Project APE was accessed via Ridge Road and Atlas Roads which when combined provide access across the entire Stetson Mountain ridge top. Using a four-wheeled drive vehicle, the ridge was traversed from north to south. The area surrounding three test towers (located at the southern, central, and northern end of the ridge) which had been erected previous to our inspection were examined and surficial sediments and lithology was observed. Intermittently, other locations bordering the ridge access road were examined for the possible presence of rock outcroppings, bluffs, or cliffs. None were noted. Most of the ridge line is tree-covered and the ground surface is covered in soil and organic materials. Except in locations that have been cleared for the test towers or disturbed by road construction, neither soil nor bedrock exposures were observed.

In a further effort to observe rock outcroppings, talus slopes, rock slides, or cliffs that might reveal the area's lithology and which would also have provided exposed stone for possible prehistoric procurement, two additional, unnamed dirt roads were surveyed. The first road follows along the west side of Stetson Ridge along the base of the steepest slope just east of Meadow Brook Stream. This road branches off from Ridge Road at the southern end of the APE and eventually rejoins Atlas Road on the northern side of the mountain. This road followed closely along the base of the steepest part of Stetson Mountain's west side. The survey was conducted early enough in the spring that the hardwood trees that cover the slopes were not yet in leaf, and this provided good visibility up the western slope of the mountain. No exposed stone faces, slides, or talus slopes were observed. The mountainside appears to be stable and well vegetated with mature hardwoods growing over much of its surface area.

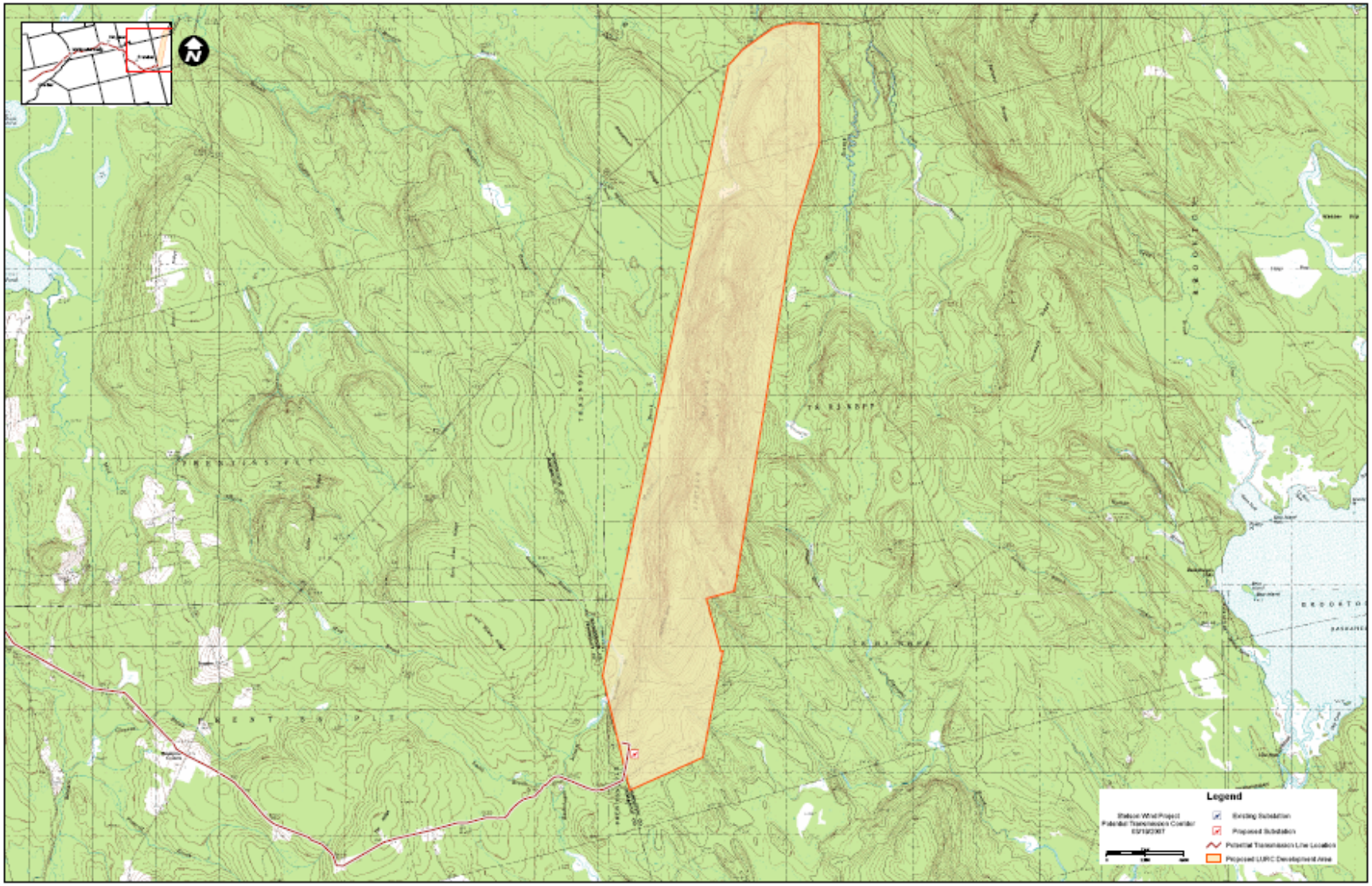
All road cuts and borrow pits along this (tote?) road were examined and several "grab samples" of country rock were collected to analyze the rock's suitability for knapping. In general, the rocks observed and collected display remarkable uniformity from the southern to the northern end of Stetson Mountain. The color of the rock is general bluish gray to dark gray/black. The ground mass is fine-grained, but contains intrusive elements that make breakage difficult to predict. It is not possible to strike flakes from the material collected that produce a conchoidal fracture pattern. The lithic material is not suitable for production of chipped stone tools

The east side of Stetson Mountain was also inspected via an old logging road that extends south from the Atlas Road part way along the western side of the mountain. This road does not extend the entire distance back to rejoin Ridge Road, as does the unnamed road on the western side of Stetson Mountain (described above). The eastern side of Stetson Mountain is similar in slope and character to the western side. It is largely overgrown with hardwoods, is

well covered in soil and organic debris (deadfall, leaf litter), and no cliffs, talus slopes, or exposures were observed. Grab samples of country rock were also collected from this side of the mountain and there were identical in character to those collected on the western side of the mountain.

Considering that fact that approximately 95% of all Precontact period archaeological sites in Maine have been discovered either on the coast or along interior rivers, streams, lakes, and wetlands (Spiess 1994), the ridgeline of Stetson Mountain where the proposed Wind Farm will be located does not possess great potential to have been used by Precontact people as a primary occupation area. However, the locations of special use sites (such as cemeteries) and resource extraction sites (food procurement and/or rock quarrying for tool making) are much more difficult to predict. As such, reconnaissance survey of the proposed Wind Farm location was intended to assess the possibility that Stetson Mountain might have been used for one of these special uses, specifically the quarrying of stone. We found no evidence of stone quarrying activity, nor did we find that the rock observed in the area, and from which the mountain is in part made up, is suitable for stone tool making. As such, the area would not have been attractive to Precontact people primarily for that use. Further, no Precontact cultural materials were observed or recovered as a result of our reconnaissance survey, and no locations similar to those utilized as primary occupation sites were observed.

Based on the results of our walkover survey, we are confident that activities related to the construction of the Stetson Mountain Wind Farm Project within the APE as proposed, including improvement and use of the primary access roads to and across the ridge top, will not impact significant Precontact archaeological resources or special use sites. No further archaeological survey is recommended for this portion of the Project as currently proposed.



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Stetson Mountain Wind Farm Project
Archaeological Resource Assessment

Figure 1. Location of the Stetson Mountain Wind Farm Project. Proposed maximum APE is shaded.

APPENDIX II

Archaeological Testhole Records

APPENDIX III

Catalog of Materials Collected

Catalog	No.	Transect	Testhole	Level	Depth	Horiz	Feature	Class	Description	Quan	Comments
TA2	001	2	4E	2-3	10-30	A/B		Lithic	Debitage	56	felsite, some flow banded
TA2	002	1	7	1	0-10	A		Lithic	Debitage	1	quartz
TA2	003	1	4N	3	20-30	B		Lithic	Debitage	1	felsite
TA2	004	1	4	3	20-30	B		Lithic	Debitage	1	FGV
TA2	005	1	4	6	50-60	B		Lithic	Groundst flake	1	metamorphic
TA2	006	1	4	6	50-60	B		Lithic	Ridged Hammer	1	felsite, fragment
TA2	007	1	4	6	50-60	B		Lithic	Split Cobble	1	metamorphic
TA2	008	1	4E	6	50-60	B		Faunal	Calcined	1	refit
TA2	009	1	5	5	40-50	B		Lithic	Debitage	1	other
TA2	010	2	1	2	10-20	B		Lithic	Biface	1	chert, mid-section
TA2	011	2	1E	1	0-10	A		Lithic	Debitage	1	felsite
TA2	012	2	1N	3	20-30	B		Lithic	Debitage	3	1 LGM, 2 chert
TA2	013	2	3	3	20-30	B		Lithic	Debitage	1	LGM
TA2	014	2	4	5	40-50	B		Lithic	Debitage	1	LGM
TA2	015	surface	beach	0	0	0		Lithic	Debitage	11	5 felsite, 3 quartz, 3 chert
TA2	016	surface	beach	0	0	0		Lithic	Biface	1	munsungun, lateral fragment

Feature	Class	Description	Quan	Comments
	Lithic	Debitage	1	quartz
	Lithic	Debitage	1	felsie

APPENDIX IV

Maine Archaeological Site Survey Record

MAINE PREHISTORIC ARCHAEOLOGICAL SITE SURVEY RECORD

NEW SITE
REVISIONS

ME SITE SURVEY # to be determined
MAP Mattawamkeag **COUNTY** Penobscot **TOWN** Mattawamkeag
LOCATION
The area tested lies on the west bank of the Penobscot River immediately north of the railroad in the town of Mattawamkeag. **ELEVATION (ft.a.s.l.)** 200 ft
UTMEAST 19/ 549925 **UTMNORTH** 5039896
UTM DATUM **NAD27 (paper USGS map)** **NAD83** **OTHER/DON'T KNOW**

NATIONAL REG. STATUS (MHPC only) ***DATE N.R. STATUS***
PREVIOUS NAME or NUMBER FOR SITE
LANDOWNER **ADDRESS**
ATTITUDE TOWARD EXCAVATION
TENANT **PRIOR OWNER, DATE**
SITE LENGTH (m) **WIDTH (m)** **DEPTH (m)**
COVER **WATERTYPE**
MATRIX **DESCRIPTION OF SITE**

LAST PROFESSIONAL TO EXAMINE SITE James Clark **DATE** August, 7, 2007
CULTURAL FEATURES PRESENT yes, a possible hearth feature
CULTURAL PHASES Precontact: Undetermined
ARTIFACTS Lithic flakes, ridged hammerstone, biface fragments, and split cobble

FAUNA 1 calcined bone fragment
COLLECTION LOCATION(S) 71 Oak St., Ellsworth, ME 04605
REFERENCES, SITE REPORTS Clark, J. 2007, *Results of Phase IA/IB Precontact Archaeological Resource Survey*
Proposed Stetson Mountain Wind Farm Project Washington and Penobscot Counties, Maine (MHPC #2779-06)

RECORDED DATA AVAILABLE: SKETCH MAP X SURVEYED MAP X
SHOVEL TESTING X PHOTOS X LAB ANALYSIS
RADIOCARBON DATES **DETAILED FIELDNOTES X**
AMOUNT OF DAMAGE TO SITE: EROSION - moderate
CULTIVATION **EXCAVATION**
BUILDINGS **ROADS, TRAILS –** debris from nearby railroad activities on surface
SITE DESTRUCTION POTENTIAL – moderate, through erosion and development
ADDITIONAL REMARKS

ORIGINAL PROFESSIONAL TO RECORD SITE
DATE ORIGINALLY RECORDED
SITE REPORTED BY