

Appendix 3-D

ARCHAEOLOGICAL SURVEY

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**PHASE IA ARCHAEOLOGICAL SENSITIVITY ASSESSMENT
CONCORD MUNICIPAL AIRPORT
CONCORD (MERRIMACK COUNTY), NEW HAMPSHIRE**



Submitted to
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PROJECT SUMMARY

Project Name: Concord Municipal Airport

Project Number: E2X49000-S10-0003

Type of Survey: Phase IA Archaeological Sensitivity Assessment

Client: Jacobs Engineering Group, Inc.

Sponsor Agency: Federal Aviation Association (FAA); NH Department of Transportation

Location: Concord Municipal Airport (CMA), Concord, New Hampshire

Project Area Size: Approximately 574 acres (2.32 km²)

Survey Dates: Phase IA site inspection on June 29, 2010

Expected Impacts: Project plans call for operational and safety improvements to the airport facility including private T-hangar and commercial development, new taxiway construction, the installation of two new paved parking/staging areas, resurfacing an existing taxiway with the addition of paved holding bay and constructing a new taxiway on an existing abandoned runway.

Sites Found: None

Findings: The assessment identified two portions of the project area that have moderate sensitivity for Pre-Contact archaeological resources; these are **Areas A and E**.

Recommendations: IAC recommends a Phase IB intensive archaeological investigation in two sensitive areas, with the excavation of 75 STPs. The Phase IB investigation would confirm the presence or absence of Pre-Contact archaeological resources within the bounds of the project area.

No. of pages: 42
No. of Maps: 11
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INTRODUCTION

Independent Archaeological Consulting (IAC), LLC completed a Phase IA archaeological sensitivity assessment of the Concord Municipal Airport (CMA) Improvement project area in Concord (Merrimack County), New Hampshire (Figures 1 and 2). CMA currently utilizes a 6,000-foot (1,828-meter) main runway and a 3,200-foot (975.4-meter) cross wind runway. Project impacts include the construction of a new parallel taxiway T-hangars, paved parking/staging areas and the re-paving of existing pavement.

The main goal of the sensitivity assessment is to evaluate the archaeological sensitivity for both Native American and Euroamerican cultural resources within the bounds of the area of potential effect (APE). The work is authorized under Section 106 of the Historic Preservation Act of 1966 (P. L. 89-665), as amended, and as implemented by regulations of the Advisory Council on Historic Preservation (36 CFR Part 800).

Archaeologists completed the assessment through review of known archaeological resources as inventoried in the New Hampshire Division of Historic Resources (NHDHR) site files in Concord and the use of a site predictive model that identifies level terrain, well-drained soils, and the availability of fresh water and other natural resources as possible sites for ancient Native American settlement. Euroamerican sensitivity evaluations build largely from a review of historic maps to identify where sites were present in relation to present-day land features. The Phase IA survey therefore takes into account existing conditions of landform, topography, soils, and proximity to water; as well as review of cartographic and secondary historic sources. A third component of the Phase IA assessment is a walkover site inspection to examine the existing conditions and to estimate the extent of proposed project impacts. IAC completed a site inspection on June 29, 2010.

Much of the project area has suffered significant disturbance from initial construction of the airport and its myriad facilities and features; some of these effects from construction will be reviewed in the present report. Nonetheless, the Phase IA assessment revealed several archaeologically sensitive sections of the APE, primarily at the margins of the airport property where grading and construction have not taken place. Archaeologists identified two (2) areas that appear intact and therefore may contain pre-Contact-period or Native American archaeological resources. The survey revealed no evidence of Euroamerican occupation within the project area, confirming data from historic cartographic resources showing limited nineteenth-century use of the airport parcel.

IAC recommends a Phase IB intensive archaeological investigation in the two (2) sensitive areas to confirm the presence or absence of intact Native American cultural deposits within the bounds of the project area of potential effect (APE).

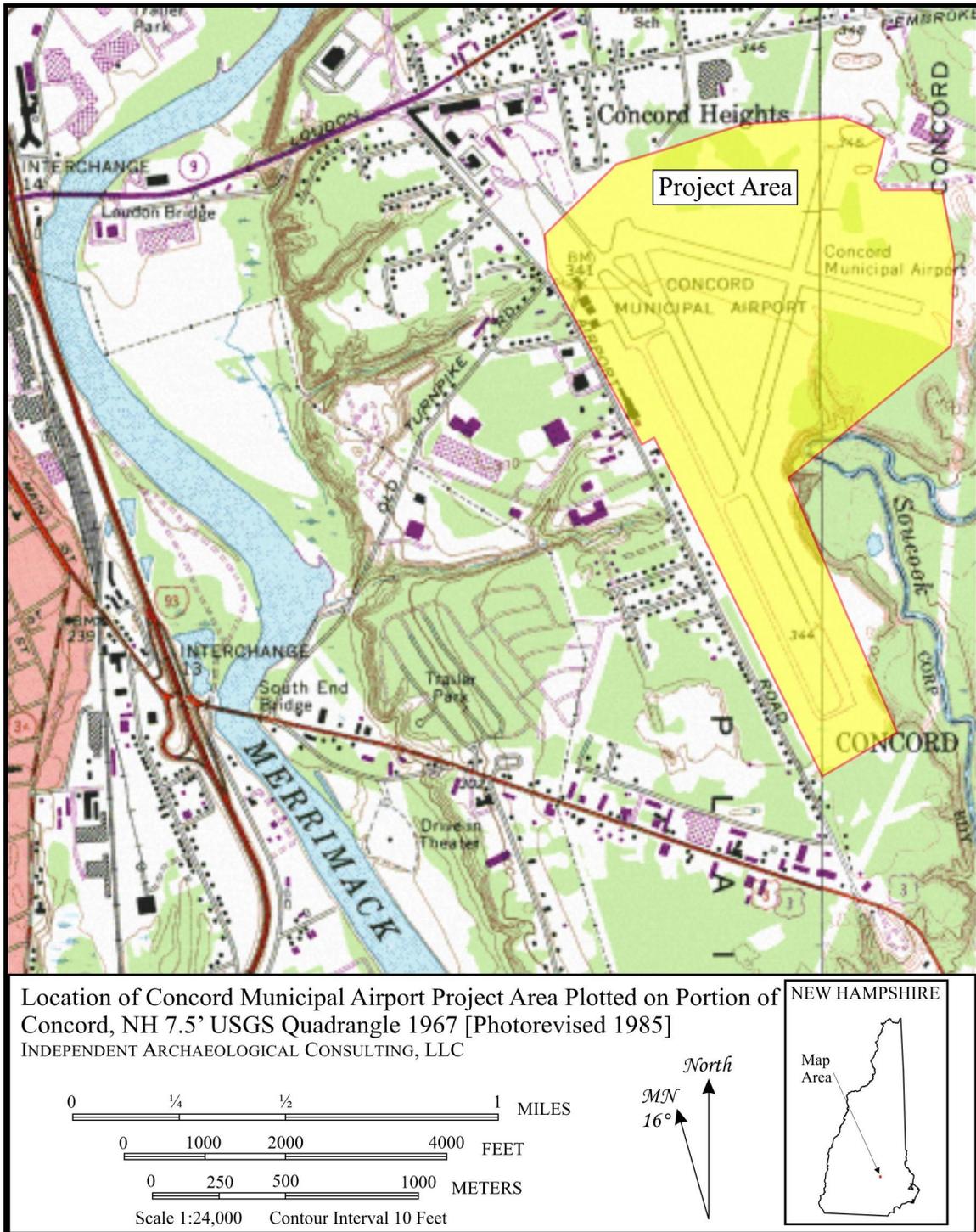


Figure 1. Location of Concord Municipal Airport Improvement project (after USGS Concord 1985).

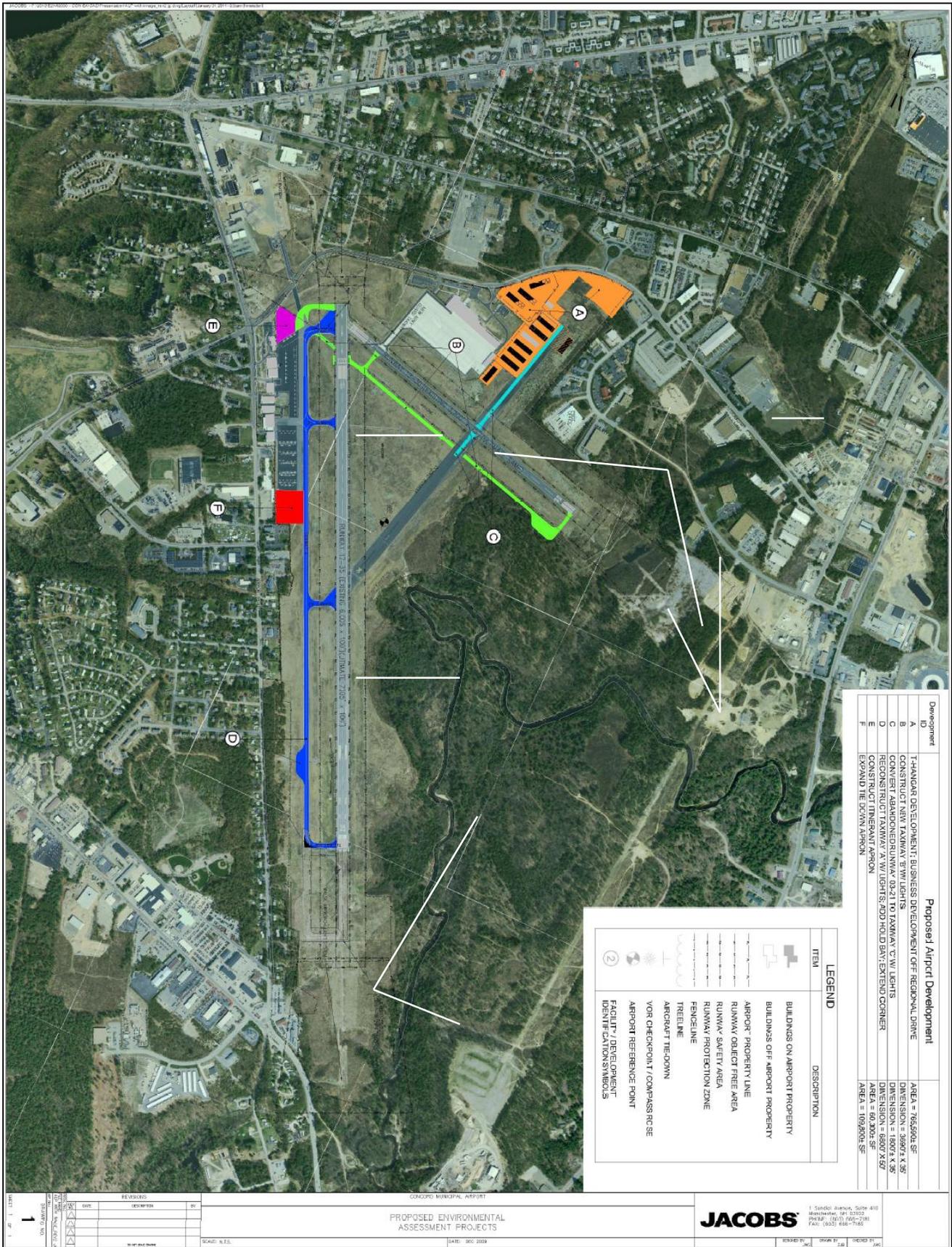


Figure 2. Proposed project impacts, provided by Jacobs (2011). The colored areas delineate areas subject to improvement.

PROJECT LOCATION AND ENVIRONMENTAL CONTEXT

The Concord Municipal Airport project area encompasses approximately 574 acres (2.32 km²) along the western bank of the Soucook River in Concord in Merrimack County. The airport parcel falls in what was previously known as the “Dark Plains,” a wide, level outwash plain between the Merrimack River and the Soucook River, covered in a pine barrens. The airport property bounds the Concord-Pembroke town line along the Soucook to the southeast. Chain-link fencing defines the eastern and southern edges of the project area. Regional Drive partially delineates the northern border of the APE, while Airport Road runs just outside the western fence line.

Runways and taxiways cut gray lines of pavement across the level, grassy field covering the majority of the project area. Hangars, shops, parking areas and numerous structures form the heart of the airport facility at the northwest corner of the parcel (Plate 1). Secondary dirt roads and two-tracks stretch through the low grass across the breadth of the APE. Sections of the grassland are preserved by New Hampshire Fish and Game Department as habitat for the endangered Karner Blue Butterfly as well as species of endangered flora and fauna. Dense softwood forest blankets the southeastern portion of the property along the winding course of the Soucook River (Plate 2).

The project area is situated within the Uplands physiographic region of the state atop a glacial outwash plain in the Merrimack River drainage. The Soucook River has cut terraces through the outwash in the southern and eastern part of the property. Surficial geology maps indicate three distinct soil types within the APE. Soils outside the immediate vicinity of the runway network to the south and east are classified as Windsor loamy fine sand, an excessively drained material common on outwash plains and terraces (Merrimack County Conservation District 2003). This type of soil will support softwoods, and the forest on the property is predominantly softwood. Slopes range from 0 to 3 percent nearest the airport and 3 to 8 percent throughout most of the remaining area, except for the 15 to 60 percent slopes on the sides of the ravines lining the Soucook.

Landforms lining the edges of the runways, taxiways and other surficial features to the east are classified as udipsamments; recently deposited sandy soil of 0 to 6 percent slopes with little to no associated vegetation. This material may be partially resultant of filling or grading episodes during initial construction of the airport, though the natural landscape appears minimally altered. Soils at the western edges of the parcel are considered urban land, heavily disturbed soils of 0 to 8 percent slopes. Bedrock of the area is abundant two-mica granite of the Devonian Period (NHDES Website).



Plate 1. Overview of level, grassy area beside Runway 12-30 on glacial outwash plain, view northwest. Multiple component structures of the airport facility are visible across the center of the photo.



Plate 2. Overview of eastern area beside Runway 12-30, view southeast. The Soucook River snakes through the dense pine forest at the right side of the photo.

NATIVE AMERICAN CULTURAL CONTEXT AND EXPECTED ARCHAEOLOGICAL RESOURCES

New Hampshire's Native American cultural chronology is generally divided into eight periods based on data from archaeological sites, artifact collections, and analogs throughout New England (Bunker 1994). These cultural periods include the Paleoindian, Early Archaic, Middle Archaic, Late Archaic, Early Woodland, Middle Woodland, Late Woodland, and Contact, and each period is discussed below in relation to nearby or "type" sites. Because the Merrimack River Valley has long been a focus of archaeological survey, the basic cultural history of New Hampshire is built on sites known from that drainage and is directly applicable to the project area.

Paleoindian (11,000-9,000 B. P. ["Before Present"])

The distribution of known Paleoindian sites in the region suggests that the Paleoindians preferred to settle around a "mosaic" of rivers, streams, and wetlands, particularly those which formed in the basins of pro-glacial lakes because of the diversity of natural resources available in these areas (Bunker 1994:21). Lake shores, lake outlets, and high river terraces were also favored for their diversity of resources. Most commonly associated with the Paleoindian period is the Clovis-like fluted projectile point, but in fact, the tool assemblage of this period is extensive and much-varied, including such forms as fluted points, leaf-shaped and ovate knives, end scrapers, side scrapers, flake shavers, pieces esquillées, drills, gravers, hammerstones, anvil stones, and choppers (Curran 1994; Gramly 1982).

Paleoindian artifacts are typically manufactured from a high-quality lithic material that frequently derives from sources hundreds of miles from the archaeological site. Paleoindian sites are often defined by the discovery of characteristic points or fluted tools, with little information about site formation or intrasite organization of activity areas; i. e., how a campsite has been set up in terms of building shelters, food processing and preparation, or manufacture of stone tools.

Located in the Ashuelot River Valley in southwestern Cheshire County, the Whipple Site is the most substantively reported Paleoindian site in the state of New Hampshire (Curran 1994). Archaeological investigation began in the early 1970s, revealing at least three cultural loci. In the Merrimack River valley, Paleoindian resources are known from two Thornton's Ferry sites (27-HB-1 and 27-HB-2) in Merrimack and two Merrimack State Forest sites (27-MR-129 and 27-MR-146) in Boscawen (Wheeler et al. 2003). In the city of Manchester, at the deeply stratified sites of Neville and Smyth, fluted points were recovered near the basal levels of excavations. In the seacoast region, Paleoindian resources are rare, but investigation in the past five years has revealed at least two sites. Archaeologists recently discovered what may be a Paleoindian spoke shaver of Jefferson rhyolite in Barrington, New Hampshire (Wheeler and Hannum 2003), and in Eliot, Maine, a Paleoindian encampment was identified at the Neal Garrison site (Kellogg and Simmons 2000).

Early Archaic (9,000-8,000 B. P.)

It is generally thought that by the end of the Early Archaic period bands of people were occupying lake shores and lake outlets as well as river terraces, particularly those associated with major falls (Bunker 1994). Movement was based on seasonality, probably depending upon resource predictability. In southern New England and in New York, the tool assemblage in the Early Archaic is characterized by a variety of corner-notched, stemmed, or bifurcate base projectile point, such as Kirk or LeCroy types. In eastern Massachusetts and most of New Hampshire and coastal Maine, Brian Robinson (1992) has identified the Gulf of Maine tradition, comprised of large amounts of quartz debitage, cores, and steep-bitted quartz scrapers. Spatially, the Gulf of Maine tradition encompasses the watersheds of the Merrimack, Saco, Androscoggin,

Kennebec, Penobscot, St. Croix, and Saint John Rivers, and spans the period between 9,500 and 6,000 B. P. [Before Present]. As Robinson notes, the technological tradition

...is characterized by a flaked stone industry dominated by core and unifaces technology and by the early development of a diverse assemblage of ground stone tools, including full-channeled gouges, adzes and ground stone rods (Robinson 1992: 64).

Several of the best-known Early Archaic sites are located at natural falls or confluences. The Eddy Site (27-HB-78) is located just below Amoskeag Falls in Manchester, where more than 2 m (6 ft) below ground surface, archaeological investigations revealed a Gulf of Maine component at its basal level. In central Maine, multiple Early Archaic features were discovered at the Sharrow site (ME 90-2D) at more than 3 m (10 ft) below ground surface (Petersen 1991). The Sharrow site is located near the confluence of the Sebec and Piscataquis Rivers in the Penobscot River drainage basin.

Middle Archaic (8,000-6,000 B. P.)

During the Middle Archaic, indigenous peoples lived in more widely distributed locations (Bunker 1994), but settlement was still located along major waterways, falls, and lakes, and had developed a decided reliance on aquatic resources. Unlike the Early Archaic period, the Middle Archaic period is marked by a warmer and drier climate. The tool assemblage during the Middle Archaic period was comprised of a variety of stemmed projectile points including the Neville, Neville variant, and Stark. In association with these tools are bifacial preforms, unhafted flake scrapers, tiny quartz scrapers, wedge-shaped unhafted flake knives, perforators, winged atlatl weights, full grooved axes, cobble hammers, and heavily flaked choppers. Expedient or only slightly modified tools also make up a portion of the tool assemblage. Heavy woodworking tools, such as ulus, bifacial chipped knives, plummets, and gouges, arise in the Middle Archaic period, suggesting that the dugout canoe may have originated during this time.

At Amoskeag Falls, the Neville Site (27-HB-77) has long served as a base line for interpreting Middle Archaic components in northern New England and has given its name to its most characteristic biface type (Dincauze 1976). Occupation at the Neville site began in the Middle Archaic and continued to the Contact period. The site is considered archaeologically significant because it clearly represents a temporal sequence for the Archaic Period projectile point forms. Other major Middle Archaic sites at natural falls include the Smyth (27-HB-76) and Eddy sites (27-HB-78) in Manchester, and the Sewall's Falls (27-MR-58) and Garvin's Falls (27-MR-78) sites near the city of Concord (Kenyon 1985; Starbuck 1982, 1984, 1985a, 1985b; Winter 1985).

Garvin's Falls is about five km from the project area, just northwest of the confluence of the Soucook and Merrimack Rivers. This site contained components dating from the Middle Archaic culture period through the Middle Woodland period, a span of about 7,000 years. Periodic occupations of the same area were possible because of the availability of natural resources, namely fish, easy transportation, dry and level areas to camp, and a population of Native Americans to make use of the resources.

In the Lakes Region of New Hampshire, several well-known Middle Archaic sites are present in the Lochmere Archeological District along both sides of the river as it descends between Lake Winnisquam and Silver Lake, including the Drake site (27-BK-16), 27-BK-60, and the Lodge site (27-BK-51) [Gengras and Bunker 1998]. During the Middle Archaic period, hunters and gatherers were exploiting resources from wetland settings. At the Tasha-Bodwell site (27-RK-202) in East Kingston, archaeologists speculate that a high and dry knoll in the middle of the

swamp was used for procurement of food resources and the expedient preparation of stone tools brought to the knoll.

Late Archaic (6,000-3,000 B. P.)

Like the Early and Middle Archaic periods that preceded it, the Late Archaic is marked by a continuation of the traditions of hunting and gathering, and exhibits increased adaptation to local conditions and resources. There also seems to be a marked division between interior lake and forest-based economies and coastal resource oriented activities. Burial ceremonialism is an important feature of this period (Bunker 1994; Dincauze 1975), and steatite bowls are a component of the material culture.

The Late Archaic period of New Hampshire is marked by wide diversity that has been well documented but poorly understood. It is not clear if the three main technological traditions of the Late Archaic – the Small Stemmed, the Laurentian, and the Susquehanna (or Broad Blade) – are temporally distinctive, or if they are overlapping traditions deriving from different regions of the country. In several cases, two or more of the traditions have clearly co-existed (Dincauze 1975; Ritchie 1971).

The Small Stemmed tradition is most commonly comprised of small triangular or stemmed bifaces manufactured from local lithic sources, inferring a population very familiar with its territory (Dincauze 1976:25; Robinson 1985:66). This intensive use of local materials, especially quartz, is evident in the many diagnostic projectile points such as the Squibnocket Triangles, Squibnocket Stemmed and in an assortment of small stemmed varieties. Locally available argillites and felsites are minor elements of the raw materials used.

In 1938, the Laurentian tradition was first identified by William Ritchie in New York, and he associated the tradition with the Upper St. Lawrence River Valley; hence, the name “Laurentian” (Funk 1988). Ritchie outlined the main characteristics of the Laurentian tradition as being consistent with a hunting-fishing food-gathering economy, with assorted gouges, plummetts; multiple types of scrapers, and bone and antler implements (Ritchie 1938). The Laurentian tradition is perhaps best well known for Otter Creek, Brewerton and Vosburg projectile point types.

Between 4,000 and 3,000 B.P., a sequence of broad-bladed points appear along with steatite vessels and the first ceramic vessels (Carini 1994:III-6). Toward the end of the Small Stem Tradition, a new group of people from the southwest apparently migrated into New England, bringing with them a distinct material and mortuary culture, which has been identified as the Susquehanna Tradition. The material culture of the Susquehanna Tradition is found from extreme southern New England and Long Island to the central Maine coast and includes Susquehanna and Perkiomen bifaces.

Late Archaic sites are found virtually everywhere in New Hampshire (Bunker 1994). The Smyth, Neville, and Eddy sites, all located at Amoskeag Falls on the Merrimack River, have substantial Late Archaic components. At the Smyth site, “Late Archaic point types constitute 31% of the temporally diagnostic biface sample” (Foster, Kenyon, and Nicholas 1981:14) and includes Squibnocket and small stemmed points, Brewerton, Normanskill, Otter Creek, Vosburg, Susquehanna, and Atlantic point types. Archaeological evidence reveals that sites were repeatedly visited to carry out seasonal activities. Artifact assemblages and features show signs of tool manufacture and fish processing.

Early Woodland (3,000-2,000 B. P.)

By about 3,000 B. P., Native peoples incorporated the manufacture of ceramics into their subsistence and economic strategies, and the period from 3,000 B. P. to ca. 450 B. P. is known as the Ceramic or Woodland period. The Woodland period is well represented by a number of sites and is subdivided into Early, Middle, and Late Woodland periods, each with a distinctive style of ceramic production and decoration. Most commonly associated with the Early Woodland period is the Vinette I ceramic type. In the Early Ceramic period, the Beaver Meadow Brook site at Sewall's Falls in Concord yielded a radiocarbon date of 3,150 +/- 125 B. P. (Howe 1988), and the Eddy site returned a radiocarbon date of 3,315 +/- 90 B. P. (Bunker 1992).

The Eddy Site encompasses many cultural chronologies, including the Early Woodland. The site contains Vinette I pottery in association with the oldest radiocarbon date for northern New England, thus making the site one of the earliest for ceramic production. The full horizontal extent of the site is unknown, but it probably extended from the river bank to the steep terrace above. The site was occupied from as early as the Middle Archaic through the Woodland periods, with the earliest occupation predating the Neville site. Archaeologists recovered Vinette I pottery and Meadowood, Rossville, and Stubenville points from the Smyth site (Foster, Kenyon, Nicholas 1981:14).

The Wadleigh Falls Site in Lee (NH-39-1) and the open habitation site in Raymond (27-RK-93) both have small Woodland components, consisting of a scatter of potsherds. An additional early radiocarbon date for this period, 2,640 +/- 60 B.P., is documented from the Pennichuck Wetland site (27-HB-28) located in Merrimack (Carini 1994: V-18). This site seems to have been occupied at different times from the Late Archaic into the Early Woodland period. No ceramics were recovered here however; the Early Woodland designation is based on the radiocarbon date.

Middle Woodland (2,000-1,000 B. P.)

Climatic stabilization around A. D. 150 led to a chain of events ultimately creating a significant population growth during this time. The Middle Woodland period is known for its dentate stamped and cord-wrapped stick impressed ceramics, Jack's Reef pentagonal and corner-notched points, Woodland stemmed, and lanceolate points. Middle Woodland sites are found along the central Merrimack River at Garvin's Falls in Concord, at the Neville and Smyth sites in Manchester, and at the Smolt site in Litchfield (Dincauze 1976; Foster, Kenyon, and Nicholas 1981; Kenyon 1983; Starbuck 1985).

The North River Road site (27-HB-85) was located on the east bank of the river on a high terrace overlooking the Amoskeag Falls. Flakes, pottery dating to the Middle Woodland period, and chipped stone tools were recovered. The major Smyth, Eddy, and Neville sites each contained significant evidence of the Middle Woodland period.

Late Woodland (1,000-400 B. P.)

In the Late Woodland period, the primary research questions revolve around horticulture and settlement patterns. Much of the debate involves the timing of the arrival of cultigens and the actual impact, if any, that this new subsistence resource had on existing Native American lifeways. It is generally agreed that tropical cultigens, maize, beans, squash and sunflower, arrived in New England around 1,000 B.P. spreading from the south and west (Bendremer et al. 1991:344; McBride and Dewar 1987). Habitation sites tend to be larger (as if supporting a greater population density) with some indications of sedentary lifestyles, such as storage pits and

semi-permanent structures. A drastic reduction in exotic lithic material is noted in northern New England, perhaps indicating that people were staying much closer to home than in the previous Early and Middle Woodland periods.

Late Woodland sites in the Merrimack Valley generally co-occur at locations of earlier (particularly, Paleoindian and Middle Archaic) occupations, indicating a continuation of earlier settlement patterns. Such sites are located at Amoskeag Falls, Sewall's Falls, and at the Smolt site (Kenyon 1983; Starbuck 1982).

Contact Period (A. D. 1600 to present)

European exploration of the New World resulted in contact with indigenous peoples, beginning in the 1500s. The Contact period continued through the end of the Colonial Wars in the 1760s, as local groups had to accommodate a new population while they suffered from decimating diseases, a new weaponry, and metal technology. European manufactured goods such as iron or brass kettles, metal tools and utensils, sheet copper and brass, clay pipes, textiles and glass bottles begin to appear in the archaeological record of the Native Americans, although many of these items were recycled into traditional forms. Levanna shaped projectile points made of brass were recovered from early Contact period components, along with their lithic counterparts, at both the Hormel and Rocks Road sites in New Hampshire (Robinson and Bolian 1987; Boisvert, Spiess, and Fulton 1994:6).

The adoption of European materials had a profound impact on Native lifestyles, as traditional techniques of lithic tool and ceramic manufacture were lost. By about 1630, lithic use in northern New England virtually disappears from the archaeological record, although native ceramic use persists for some time after the introduction of metal vessels. As a result of this loss of traditional technology, Native Americans became increasingly dependent on economic ties to the Europeans. Palisaded villages began to appear, located at strategic positions, perhaps as a result of trade-related warfare. Epidemic disease between 1616 and 1617 exacerbated a cultural collapse, virtually eradicating many Native populations.

In the early post-Contact period, it is assumed that Native Americans were quietly integrated into the Euroamerican culture, but various avenues of research in northern New England have brought to light many examples of continued struggle, resistance, and desire to maintain a separate cultural identity (e.g., Calloway 1990). These struggles often continue to the present day and take expression in the call for federal recognition of tribes.

The Hormel site (27-CA-0015) near Lake Ossipee has a significant contact-period component, which yielded a European gunflint, a white clay pipe bowl, triangular metal arrowpoints, a copper arrowhead, and a pit feature dense with mammal bone "...apparently butchered for their pelts" (Boisvert, Spiess, and Fulton 1994:2).

Expected Native American Archaeological Resources

As mentioned above, the New Hampshire model for Native American settlement has been built from research conducted primarily along the Merrimack River and the lakes district of Laconia, Belmont, and Tilton, which is directly adaptable to the current project area. Archaeologists have defined four primary factors in human decisions about where to camp, hunt, and fish, including proximity and easy access to water, flat terrain, well-drained soils, and access to natural resources (i. e. plants, animals, and raw materials).

These four criteria are most often met in alluvial settings along major rivers, or along the shorelines of present-day lakes and ponds or pro-glacial lakes. Some sites are selected for raw

lithic materials, as at the Jefferson Paleoindian quarry sites. In assessing sensitivity for Native American archaeological resources, archaeologists consider the landform, available natural resources, distance to water, vantage, and slope within a project area, based on cartographic analysis and field data collected during the site inspection.

A review of site files at the New Hampshire Division of Historical Resources (NHDHR) showed seven Native American sites within a two-km radius of the project area (Figure 3), and eight more between two and four km distant. All of these sites have been located in areas meeting the modeling criteria of flat, level terrain, well-drained soil, and access to water and other natural resources. The sites are primarily located along rivers, or on a smaller tributary of a river. Near the project area, this includes the Merrimack, Soucook and Suncook Rivers. All of the nearest sites are of unknown cultural periods, providing minimal data in terms of cultural affiliation for these nearby sites.

Within the project area (on the property of the Concord Municipal Airport), three sites are known, including the Karner Blue site (27-MR-0317), the Goulet site, and the Boyajian site (Table 1). These three sites are discussed at length below. Two other sites (27-MR-0107 and 27-MR-0127) fall within 2 km of the project area but are, again, of unknown culture periods. These latter two sites are known from a map of Native American archaeological sites developed in the mid twentieth century by avocational archaeologist Solon Colby, and little is known about the sites aside from simple locational information. The Yellow Jacket site is southeast of the project area on the west side of Route 106 and about 50 m from the Soucook River. This undated Native American resource was represented by quartz debitage. One certainty gleaned from the five nearest Native American sites is that they tend to be adjacent to the Soucook River or along a smaller tributary. Parts of the project area are of analogous settings and thus highly sensitive.

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Figure 3. Recorded Native American sites within 5 km of the project area.

Table 1. List of known Native American archaeological sites within 2 km of project area.

NHDHR Site #	Site Name	Culture Period
27-MR-0317	Karner Blue	unknown
No # given	Boyajian	unknown
No # given	Goulet	unknown
27-MR-0107	Moses Brook	unknown
27-MR-0127	Yellow Jacket	unknown

Eleven (11) Native American sites are recorded 2-5 km of the APE (Table 2). Of most importance is Garvin's Falls, a multi-component site located near the mouth of the Soucook River. Unlike sites identified by Colby (which here includes sites 27-MR-0101, -0102, -0103, -0104, and -0105), the Garvin's Falls site has been extensively excavated and reported (Kenyon 1985; Starbuck 1985b, 2006; Strauss 1985; Winter 1985), providing contextual information for sites in this area.

Table 2. List of known archaeological sites within 2-5 km of project area.

NHDHR Site #	Site Name	Culture Period
27-MR-1	Planetarium Site	unknown
27-MR-78	Garvin's Falls	Middle Archaic to Late Woodland
27-MR-81	Charlie Burial	unknown
27-MR-82	NH Technical Institute	Middle to Late Woodland
27-MR-84	Wattanamen	unknown
27-MR-85	Fort Eddy	unknown
27-MR-102	Soucook River Mouth North	unknown
27-MR-103	Soucook River Mouth North Burial	unknown
27-MR-106	Chickering Brook South	unknown
27-MR-108	French's Brook North	unknown
27-MR-109	French's Brook North Burial	unknown

At Garvin's Falls, archaeologists excavating in the 1960s and 1970s found lithic artifacts of a variety of materials including quartz, felsite, argillite, rhyolite, and chert (Winter 1985: 12). Projectile point types include Neville, Atlantic, a possible Beekman Triangle, and possible Squibnocket Stemmed point (Winter 1985:13), indicating both Middle and Late Archaic occupations. Archaeologists also recovered several styles of pottery and over 1,000 sherds. The majority of these ceramics dated to the Middle Woodland period and includes such decorations as smoothed surfaces, cord-wrapped paddle impressions, dentate and fabric-impressed patterns

(Winter 1985:12-13). Excavations in the 1980s recovered additional projectile point styles, including a Brewerton Eared-Triangle, Jack's Reef, Corner-Notched, Wading River, Small Stemmed II, Normanskill and untyped points (Starbuck 1985b: 26, 28).

Table 3. Pre-Contact-period sites just slightly more than 5 km from project area.

NHDHR Site #	Site Name	Culture Period
27-MR-89	Bow Bog Brook	unknown
27-MR-100	Vaughn and River Roads North	unknown
27-MR-101	Burial at Vaughn and River Roads North	unknown
27-MR-104	Soucook River Mouth South	unknown
27-MR-105	Soucook River Mouth South - Burial	unknown
27-MR-110	Plausawa Hill West	unknown

Noteworthy sites along the Merrimack and Soucook Rivers beyond 5 km are the Beaver Meadow Brook site (27-MR-0003) and the Sewall's Falls site (27-MR-0058). Both are multi-component and date to the Archaic and Woodland periods at or near Sewall's Falls in Concord. The Sewall's Falls site is approximately 6.5 km (4 miles) to the northwest, while the Beaver Meadow Brook site is about 7.4 km (4.6 miles) to the northwest.

Three new sites were discovered by archaeologists from the New Hampshire Division of Historical Resources (NHDHR), working with the NHARNG at the Concord Municipal Airport property during the spring of 2006. The spatial layout of sites – numerous on the western bank of the river but nonexistent on its eastern shore (Figure 4) – has led DHR archaeologists to speculate on site formation processes that affect preservation of Native American archaeological resources. These findings also assisted in predicting site location and evaluating the sensitivity of various facets of the airport.

NHDHR testing near the main stem of the Soucook River, or at the mouths of tributaries to the Soucook River, yielded no Native American archaeological resources. Testing was completed along the edge of a high ravine overlooking a minor drainage to Soucook River, Test Area 1. All six shovel test pits were negative. Airport Test Area 2 included 16 negative shovel test pits along a ravine overlooking the Soucook River and a tributary near its mouth. Airport Test Area 3 was along a ravine edge approximately 460 m upstream from the mouth. Fourteen shovel test pits were negative. As testing approached the heads of ravines in Airport Test Areas 4, 5, and 6, however, three new sites were found: from south to north, the Boyajian site, the Goulet site and the Karner-Blue (27-MR-0317) site.

Considering that three sites were found in six test areas – where all six areas were within 60 m of active or relict drainages – Dr. Richard Boisvert of the New Hampshire Division of Historical Resources hypothesizes that sites remain along edges of ravines only at drainage heads (personal communication, Richard Boisvert to Kathleen Wheeler, November 9, 2006). He believes that

active downcutting of drainages over the past millennia have eroded sites that were once along ravine edges. The pace of erosion has intensified in the nineteenth and twentieth centuries, leaving twenty-first-century archaeologists with the challenges of finding only the latest sites at the heads of ravines. Where the ravine meets the main stem of rivers like the Soucook, Dr. Boisvert speculates that the edges have been eroded away.

Overall, 14 of 16 known sites fall within 120 m of water such as the Merrimack River, the Soucook River and smaller brooks and unnamed streams. The location of three Native American sites on the CMA property and a number of sites within four km of the project area suggests Archaic- and Woodland-period native archaeological resources exist in other areas of the airport property. Expectations for these resources are that they will be on dry, level terraces bordering the Soucook River, or on the edges of the outwash plains adjacent to relict drainages. The presence of so many sites within 8 km of the project area indicates that Native Americans have inhabited the area for the past 8,000 years, utilizing the Soucook River drainage as both a settlement locus and transportation corridor.

For areas further removed from drainage channels, Patricia Blevens notes that pine barrens may have served as an optimal foraging area for ancient Native Americans (2005), even when these are not immediately accessible to water in modern times. While pine barrens have been poorly exploited by Euroamericans – who found the poor soils unsuitable for agriculture – these areas provided berries for food and medicine, nuts, sweet fern, and faunal species who also feed from these resources (Blevens 2005:34). The Concord Municipal Airport project area is located on one such outwash plain covered in a pine barren.

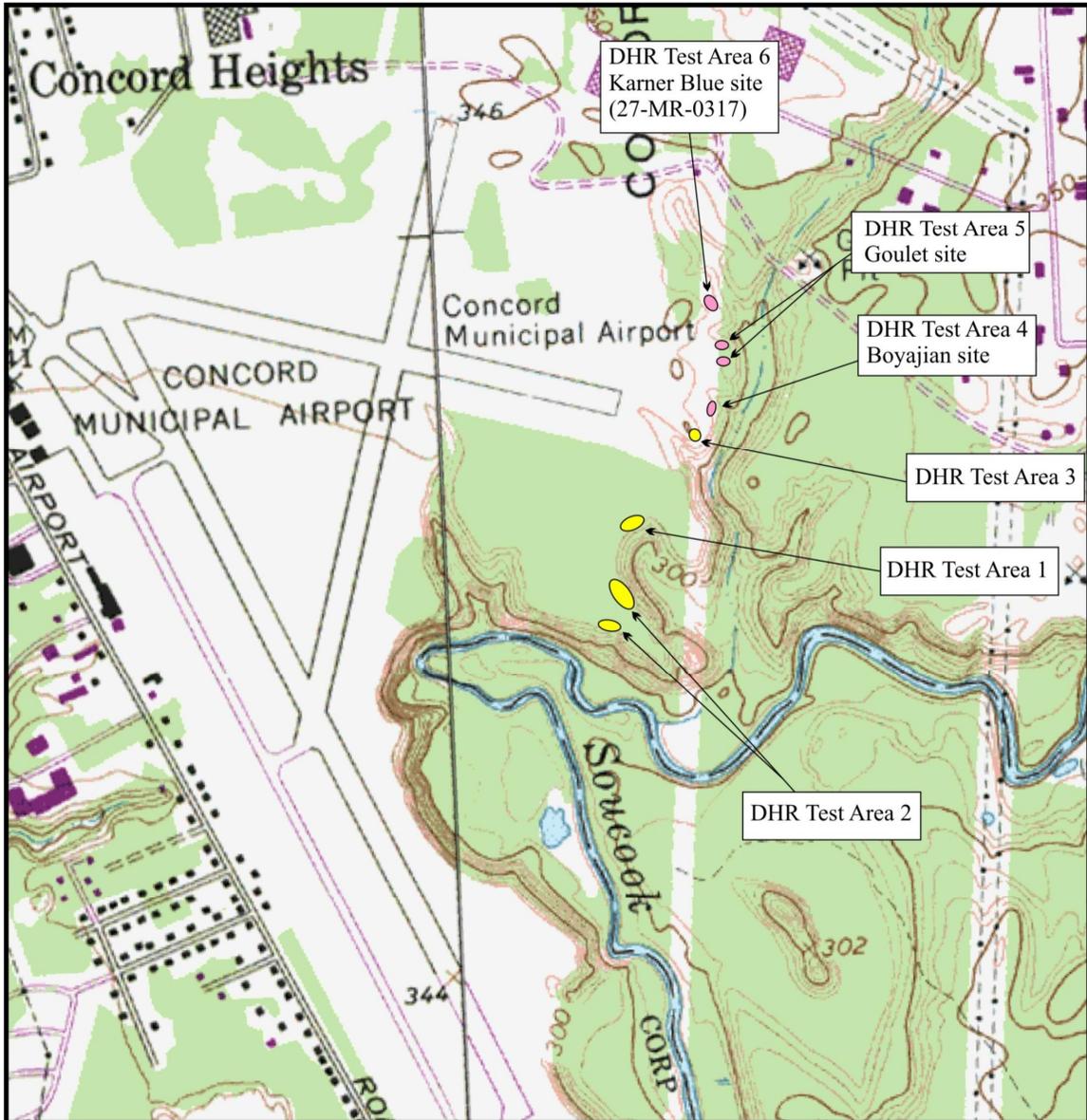


Figure 4. Detail of archaeological site locations discovered at the Concord Municipal Airport by NHDHR in April of 2006.

EUROAMERICAN CULTURAL CONTEXT AND EXPECTED ARCHAEOLOGICAL RESOURCES

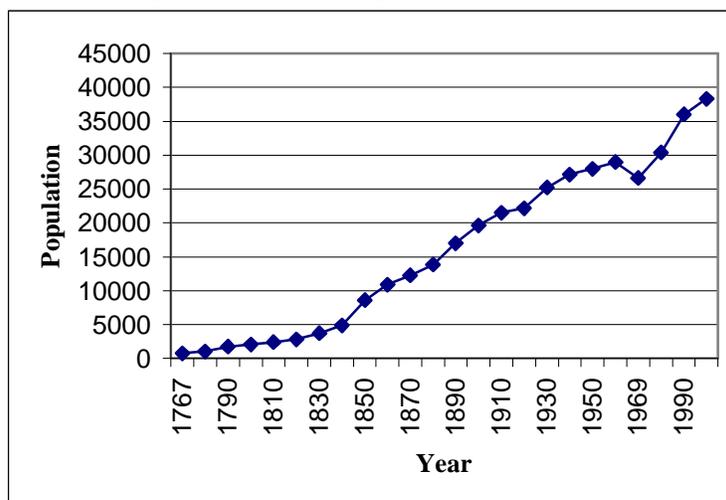
Concord, in Merrimack County, is the state capital of New Hampshire. The towns of Canterbury and Boscawen border it to the north; Loudon and Pembroke lie to the east; Bow and Hopkinton are to the south; and Hopkinton and Boscawen are to the west (Fogg 1874). Concord was first granted under the name “Penacook” in 1721, after an earlier grant in 1663 was forfeited due to lack of settlement. The state officially incorporated it in 1733 as “Rumford,” and the name changed a third and final time to “Concord” in 1765. Today, the city of Concord is roughly eight miles square and contains 39,000 acres. Concord supported five villages within its boundaries in the nineteenth century – Concord, East Concord, West Concord, Millville, and Fisherville. Most of the town’s population was concentrated in the main village of Concord.

Waterpower is one of the most important resources in Concord and has been harnessed since the 1700s. A multitude of streams drain the town’s ponds into the Merrimack River, which is the town’s largest and contains two substantial falls suitable for dams. Other major rivers include the Soucook River, which forms the town’s southeastern border; the Contoocook River, which joins the Merrimack River at the northern town line with Boscawen; and the Turkey River, which drains Great and Small Turkey Pond. All of these rivers and many of their tributaries furnished plentiful waterpower for mills throughout the eighteenth and nineteenth centuries in Concord. Descriptions of Concord mention a multitude of mills, and maps from the nineteenth century also depict mills along the many of the streams and rivers in the area (Badger 1855; Fogg 1874; Hayward 1839).

Other natural resources drawing settlers to Concord were timber, clay, and granite (Lyford 1903). The granite was especially notable, because it was of a very high quality, easily quarried, and located just above the Merrimack River about 2.4 km (1.5 miles) from downtown Concord (Hayward 1839). Euroamericans easily transported these resources and products to other markets via the Merrimack River.

The population of Concord has always enjoyed steady growth since its inception. In 1767, there were 752 inhabitants, increasing 40% by 1775, and another 66% by 1790 (Figure 5). The beginning of the nineteenth century saw 2,052 inhabitants, and moderate growth continued through 1830 when the population numbered 3,720. The pace of growth began to accelerate in 1840 when the population grew to 4,897, almost doubling in 1850 to 8,576 and reaching 19,632 in 1900. By 1999, 38,318 people lived in the city.

Figure 5. Concord Population, 1767-1999.



Year	Population	Change	% Change	Year	Population	Change	% Change
1767	752			1890	17004	3161	22.8%
1775	1052	300	39.9%	1900	19632	2628	15.5%
1790	1747	695	66.1%	1910	21497	1865	9.5%
1800	2052	305	17.5%	1920	22167	670	3.1%
1810	2398	346	16.9%	1930	25228	3061	13.8%
1820	2838	440	18.3%	1940	27171	1943	7.7%
1830	3720	882	31.1%	1950	27988	817	3.0%
1840	4897	1177	31.6%	1960	28991	1003	3.6%
1850	8576	3679	75.1%	1969	26635	-2356	-8.1%
1860	10896	2320	27.1%	1980	30400	3765	14.1%
1870	12241	1345	12.3%	1990	36006	5606	18.4%
1880	13843	1602	13.1%	1999	38318	2312	6.4%

The population increase, especially after 1840, can be attributed to Concord’s role as a lucrative center of trade and its status as state capital. In 1839, Concord was a busy thoroughfare for travelers, and the number of freight and baggage wagons traveling through town was described as “immense” (Hayward 1839: n. p.). The amount of traffic moving through Concord made it a profitable location for railroads. By 1856, four railroad lines operated through the city – the Concord Railroad, incorporated in 1842; Portsmouth and Concord Railroad, opened in 1845; and the Northern Railroad, founded in 1846. Two others opened in 1848 – the Boston, Concord, and Montreal Railroad, and the Concord and Claremont Railroad (Bouton 1856). These rail lines made Concord an important connection between cities to the north and to Boston, and facilitated an enormous amount of traffic through the city.

The Concord Municipal Airport lies in what was formerly called the “Dark Plains,” presumably due to the tall pine trees that once shaded the outwash plain. Level terrain made it an ideal place to construct an airport. The area was first used as a runway in 1920 when it was part of the State Militia (National Guard) Muster Grounds, but it was not until 1936 that the city acquired the land to build an airport. Land was cleared and buildings and runways were constructed in 1937. Additional land alteration occurred as the airport expanded in the 1940s and later in the twentieth century. Most of the development impacting the land surface went into extending the main runway (Number 35) to the south, and paving. The construction of the chain link fence in 1979

and drainage improvements in 1983 also impacted the ground surface (Concord Municipal Airport Master Plan Update Project Number 046312.23 April 2006).

A review of maps and gazetteers show little development in the area prior to 1920. The earliest available map (Badger 1855) shows a road near the project area, in the location of Runway 35 (Figure 6). This road was an early extension of what is now East Side Drive. West of this road was the “New Road to Pembroke,” which appears to be the Airport Road. North Pembroke Road is the nearest road north of the project area and Sheep Road, now Route 106 or Sheep Davis Road, is to the east. The “Old Mill” south of the project area was the Soucook Mills, which operated in the eighteenth and early nineteenth centuries. The road leading to the mill was, in 1727, a trail to Penny Cook, the name of Concord at the time. It led to a bridge built around 1730 that crossed the Soucook and apparently connected to the southern end of East Side Drive, in the vicinity of Runway 35. The word “Placer” is written over the brook in the project area, suggesting that was its name. Later maps do not offer a name for the brook.

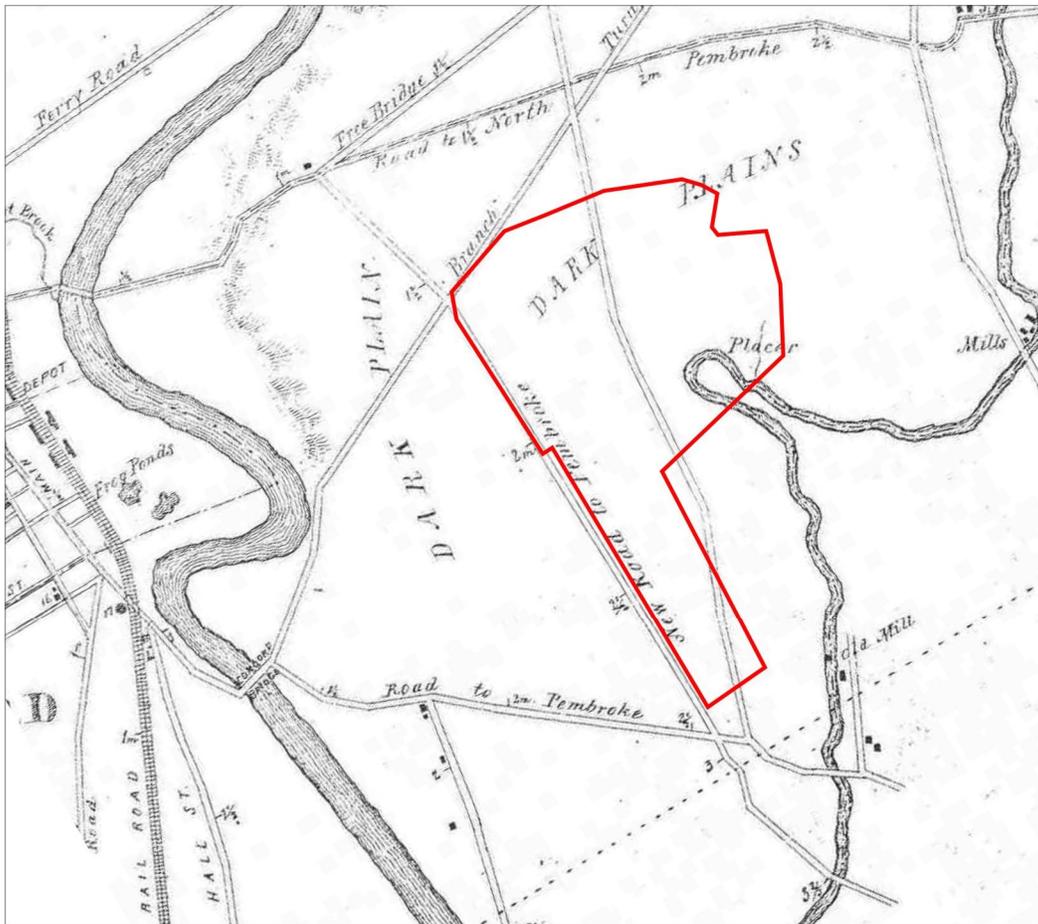


Figure 6. Concord Municipal Airport project area in 1855 (after Badger).

The 1855 map depicts few houses in the Dark Plains area and three years later the 1858 (Walling) map of Concord also shows few buildings in the project area (Figure 7). Both maps label the area as the “Dark Plain(s),” and portray the same road system and few houses, none in the immediate vicinity of the airport. The nearest buildings are located on the Soucook River to the east, and include a sawmill and two houses.

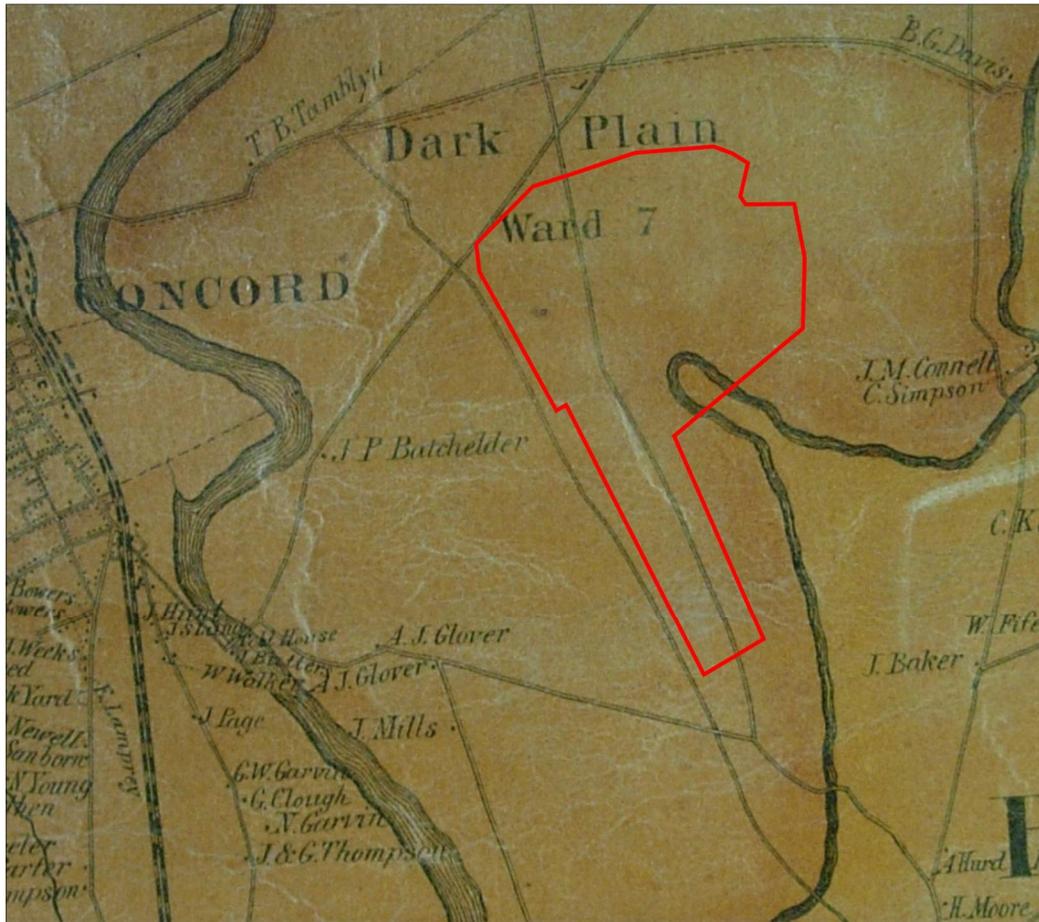


Figure 7. Concord Municipal Airport Project Area in 1858 (after Walling).

By 1892, the Hurd map indicates that rudimentary development had begun in the Dark Plains, with some buildings and roads (Figure 8). In particular is a road that runs southeast from the intersection of Branch Turnpike, North Pembroke Road and East Side Drive. Along this road, and a smaller branch, are houses belonging to an E. Grover and W. H. Gay. IAC documented the E. Grover Farmstead (27-MR-334) during earlier testing of the airport property in 2006 (AMEC 2007) and again in 2009 (Wheeler and Tumelaire 2009), marked with a green circle on the 1892 map. Archaeologists recorded the mid-to-late-nineteenth-century Euroamerican site with photographs and maps prior to limited subsurface testing. IAC found no other evidence of Euroamerican occupation of the airport parcel, confirming the sparsely-populated conditions depicted on historic cartographic resources.

METHODOLOGY AND RESULTS

The Phase IA archaeological sensitivity assessment identified parts of the project area as having either high, moderate or low archaeological sensitivity based on Pre-Contact settlement model criteria, background research and field inspections. Native American site potential is based on a location's topography, natural soils and the availability of natural resources. Predictive settlement models distinguish the following criteria as conducive to ancient human habitation: level living surfaces of well-drained soil in close proximity to fresh water and associated natural resources including fish, game, plants and lithic raw materials. Raised landforms with commanding vantage over the surrounding landscape is also a common condition of highly sensitive areas. Riverside terraces tend to be preferred loci for Native American peoples of New England, as evidenced by the quantity and distribution of known archaeological sites along the Merrimack River and its tributaries, including the Soucook River as near as 152 m (500 ft) to sections of the project area. More recently, continuing research into the study of pre-Contact-period site distribution has found correlation between outwash plains and pine barrens, even when these areas are not immediately adjacent to water (e. g., Blevens 2005).

Background research includes cartographic resource study as well as a review of site files at NHDHR to identify known archaeological sites in the vicinity of the project area, both of which suggest high archaeological sensitivity for sections of the airport property. The facility sits atop a wide, level terrace of sandy soil perched high above the Soucook River at the eastern edges of the APE. This landform conforms to all aforementioned criteria for Native American occupation by providing raised, flat and well-drained living surfaces in close proximity to the Soucook River, a source of potable water and aquatic wildlife as well as a reliable transportation corridor. The sheer quantity of known Pre-Contact occupation sites near the airport is testament to the desirability of this rich environment. NHDHR archaeological testing in 2006 identified three Native American archaeological sites within 220 m (725 ft) of the eastern end of the cross-wind runway, two of which are within 160 m (520 ft) of the paved surface (see Figure 4). Such documented ancient human use of the landform indicates a high potential for archaeological resources within the bounds of the APE. The subsequent walkover survey allowed archaeologists to ascertain the integrity of the landform in order to adjust the initial cartographic sensitivity based on existing conditions.

A second component of archival research was the study of the development of the Concord Municipal Airport through the review of engineering plans. Dr. Wheeler visited the Public Works Department of the City of Concord, where she met with Ms. Martha Drukker. Ms. Drukker pulled engineering plans of the main construction periods to demonstrate the breadth and depth of impacts for the construction of the airport facilities. Primary among these was the 1947 improvement of runways and taxiways, as shown in Figures 9 and 10. A large horizontal area was graded in order to lay out the taxi- and runways. For the runway itself, the corridor is stripped of parent material and overlaid with 12-24" of a compact sub-base material that will withstand the weight and impact of airplanes. The runway is then covered with pavement.

On either side of the runway are a series of leach basins placed at every 100 ft (personal communication to Kathleen Wheeler from Martha Drukker, November 23, 2010). The excavation of this drainage system is undertaken as a single, continuous trench, 80 ft off both sides of the pavement, into which leach basins are placed and hooked up with drainage pipes. A 1937 plan shows the leach basins buried at a depth ranging from 3.5 to 7.5 ft below the 1937 grade.

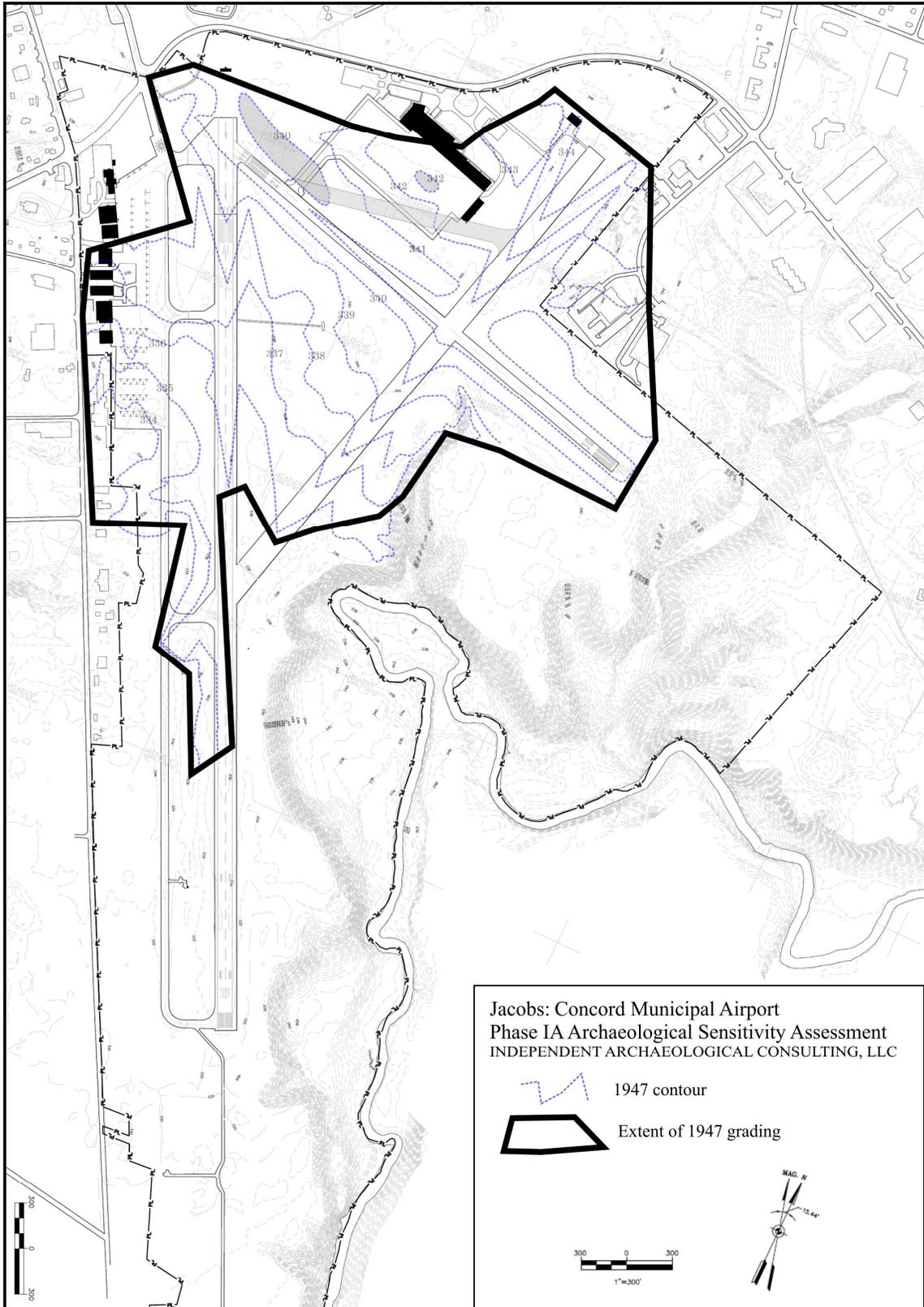


Figure 9. View of extent of grading (shown in bold line), adapted from 1947 plan.

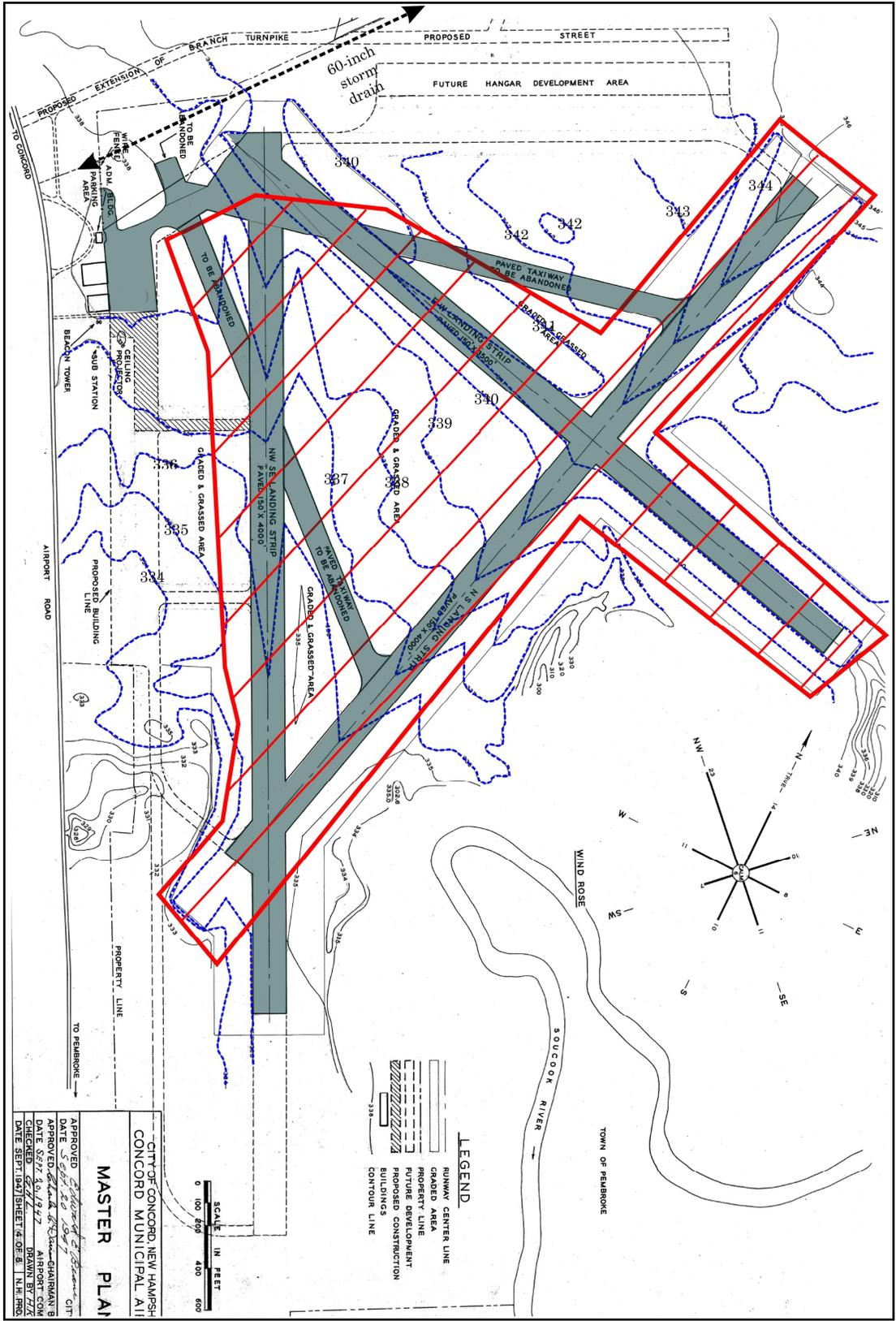


Figure 10. Modified plan of 1947 grading, with red hatching showing extent of area graded.

Figure 9 shows the area graded in 1947, as gauged by the contour lines shown on a 1947 plan (see Figure 10). Although there was no information about the original elevation or contours before grading, we understood the engineering plan showed the full horizontal extent of grading in order to build Runway 2. We drew a polygon around the edge of the contours in a bold black line in both Figures 9 and 10, and overlaid that same polygon on a modern aerial of the project area, as shown in Figure 11. Figure 11 portrays the archaeological sensitivity of project components, considering the effects of previous construction episodes, including the 1947 grading and the construction of the runways and parallel drainage systems. The areas on Figure 11, inside or outside the previous project grading limits, with existing buildings and pavement are considered to have low archeological sensitivity because of the previous disturbances.

In June 29, 2010, Principal Investigator Kathleen Wheeler and Field Supervisor Jacob Tumelaire conducted a site inspection. Field crew needed to be cognizant of airport traffic, so they walked much of the project area along the periphery of paved taxi- and runways. Archaeologists were also constrained by the presence of Karner Blue butterflies and other endangered species (flora and fauna), whose territory was being surveyed by Fish & Wildlife personnel at the time of the survey. The purpose of the walkover survey was to study the landscape to assess the level of disturbance and the potential for intact natural soils and associated archaeological deposits. Archaeologists documented the results of the walkover using photographs and detailed notes. Dr. Wheeler identified two portions of the Area of Potential Effect (APE) as sensitive for Pre-Contact archaeological resources (Figure 11). The results of the inspection are presented below, separated by the color-coded project plans for ease of interpretation. No evidence of Euroamerican occupation was identified within the bounds of the project area. As a result, all areas to be affected are assessed with low sensitivity for Euroamerican archaeological resources.

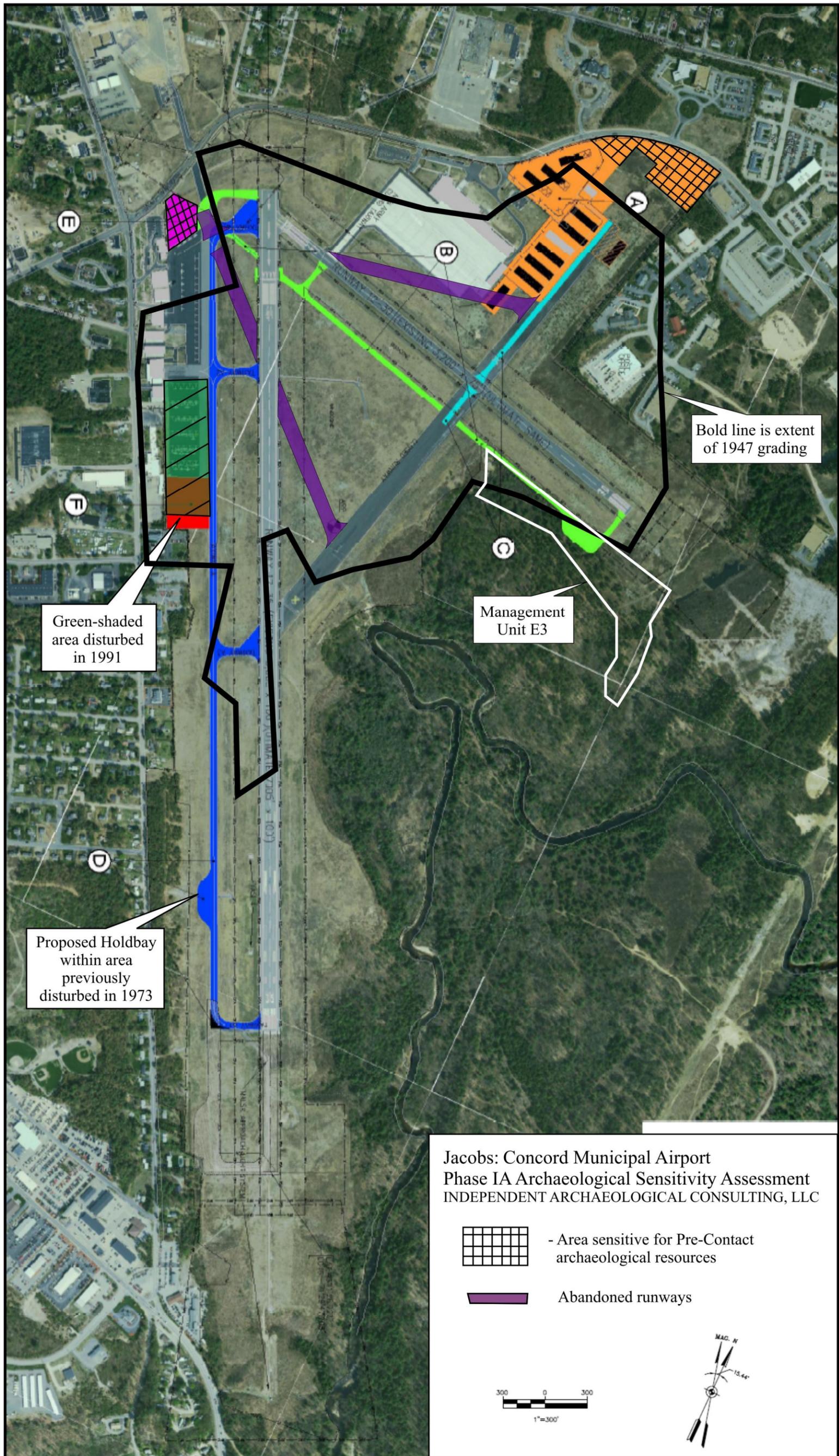


Figure 11. Archaeological sensitivity overlaid onto project plans (Jacobs 2011).

Area A (Orange): T-Hangar Construction

Area A, the orange-shaded area at the north end of the closed runway (see Figure 11), comprises the location of proposed T-hangar construction, as well as non-aviation development, such as commercial or industrial development. Both the hangars and the non-aviation development will be undertaken by private parties, not the City of Concord. Archaeologists found the natural landscape to be significantly disturbed across much of the area, most notably in the immediate vicinity of two large extant structures along the western edge of the runway (Plate 3). The unnaturally level ground surface is evidence of mechanical grading, a common pre-construction endeavor. Dense ferns blanket the undeveloped, undulating land north of the existing buildings. This vegetation delineates extremely wet soils subject to year round saturation, conditions that are not conducive to ancient human occupation.

Archaeologists did identify intact landforms in Area A despite the obvious disturbance to significant portions of the zone. Scattered low trees and brush dot a wide grassy expanse at the northern-most margins of the orange zone, just south of the fence line along Regional Drive (Plate 4). The lack of ferns suggests much drier and better-drained soil, while the gently rolling ground surface shows no signs of alteration. Subsurface testing of this intact section of Area A will allow archaeologists to ascertain the integrity of the natural stratigraphy and the potential for cultural deposits.

Area A is assessed with moderate sensitivity for Pre-Contact archaeological resources. It is an irregular polygon where IAC recommends the excavation of twenty-four (24) 0.5-m-x-0.5-m shovel test pits (STPs) across the northern section of the area to confirm the presence or absence of intact Native American cultural deposits. They also recommend a second transect of 24 STPs for a total of approximately 48 shovel test pits in Area A.



Plate 3. Panoramic view of extant structures in the disturbed section of Area A, view southwest to northwest.



Plate 4. Overview of sensitive section of Area A, view northwest to northeast.

Area B (Green): New Taxiway B parallel to Runway 12-30

Green shading depicts the limits of Area B, the location of new Taxiway B construction approximately 89.9 m (295 ft) south of the existing cross-wind runway measured from the centerline of the existing cross-wind runway to the centerline of the proposed Taxiway B. Low grass blankets the level landscape along the 1,006-meter (3,300-foot) length of the proposed runway (Plate 5). Much of the new proposed runway falls within the area graded in 1947, with a small portion potentially lying outside these bounds (see Figure 11).

The eastern portion of Area B is located within 380 m (1280 ft) of the Soucook River to the south and just 160 m (520 ft) west of three Pre-Contact archaeological sites discovered by NHDHR in 2006 (Plate 6). As part of the Fish & Wildlife management of the Concord Municipal Airport, the property has been divided into Management Units, which primarily correspond to vegetative cover, elevation above the Soucook River, and topography. The east end of Area B is comprised within Management Unit E3, as shown in Figure 11.

In 2006 and 2007, IAC conducted a Phase IA archaeological sensitivity assessment and Phase IB intensive archaeological investigation within Management Unit E3, among others (AMEC 2007, 2008). Archaeologists evaluated Management Unit E3 as having moderate sensitivity for pre-Contact-period archaeological resources. In spite of the favorable setting – level terrain within easy walking distance of the Soucook River – IAC did not recover any pre-Contact-period artifacts in their investigations. In 2009, IAC recommended that Management Unit E3 be cleared from any further archaeological survey, based on negative results (Wheeler and Tumelaire 2009). New Hampshire Division of Historical Resources concurred with this recommendation on July 15, 2009 (Appendix A).

The eastern terminus of Area B falls within Management Unit E3 (see Figure 11), which has been previously sampled and recommended for no further archaeological survey. The remaining portions of Area B lie within area graded in 1947 that have been previously disturbed. We propose no archaeological investigation for any portion of Area B.



Plate 5. Overview of proposed taxiway location south of existing cross-wind runway, view west.



Plate 6. Overview of eastern end of Area B, view east. The Soucook River lay within the trees at the right of the photo.

Area C (Light Blue): Runway Conversion to Taxiway

Project plans call for the resurfacing of an abandoned runway prior to its conversion to an active taxiway. The abandoned Runway 3-21 is colored light blue and designated as Area C. Resurfacing of the runway will have minimal affect on landforms outside the current limits of the

pavement. Soils within the APE of Area C have been previously disturbed by original construction of the runway, a process that has disturbed 0.6-1.0 m (2-3 ft) of natural deposits.

Area C is assessed with low sensitivity for Pre-Contact archaeological resources as a result of disturbance during runway construction. IAC recommends no further archaeological testing in this zone as impacts are limited to the existing runway footprint and should not affect highly sensitive landforms lining the pavement to the east.

Area D (Dark Blue): Re-Paving of Existing Taxiway A and Addition of a Hold Apron

Area D, shaded dark blue on the project plans, encompasses an existing taxiway roughly 87 m (285 ft) west of the 6,000-foot primary runway. Proposed work is limited to the re-paving of the taxiway and will therefore have minimal effect on the surrounding landscape. Potentially intact soils outside of the paved surface should not be damaged by this process, which should impact only previously-disturbed soils beneath the existing pavement. A new Hold Apron serving Runway 35 is also planned within this area. The Hold Apron will consist of approximately 2428 m² (0.6 acres) of new pavement extending 27.4 m (90 ft) west of the existing Taxiway A pavement. This area was previously disturbed during the 1973 extension of Taxiway A.

As Area D work is restricted to previously paved surfaces or previously disturbed areas, it is assessed with low sensitivity for intact Pre-Contact archaeological resources. IAC recommends no further archaeological testing.

Area E (Pink): New Pavement (Aircraft Parking Area)

Proposed airport improvements include installing new pavement in Area E (colored pink), a polygon of level earth west of the northern terminus of the main runway and its companion taxiway, along the northern edge of the existing pavement. Multiple structures and features line the western and southern margins of the area, however the majority of the grassy patch of ground appears undisturbed (Plate 7). Should soils of Area E prove intact, it may yet retain intact deposits of Native American cultural material.

Archaeologists assess Area E with moderate sensitivity for Pre-Contact archaeological deposits. IAC recommends a block excavation of 27 STPs along three transects to test for the presence or absence of Native American cultural deposits.



Plate 7. Overview of Area E, view northeast. Pavement will be extended into the grassy area.
Note the small outbuildings and numerous associated features at the left of the photo.

Area F (Red): Paved Parking Apron (Expand Based Aircraft Tiedown Apron)

Area F includes a 10,323 m² (2.55 acre) plot of level, grassy earth at the southern end of the existing paved parking apron, shaded red on the provided plans. The improvement project includes paving Area E to expand the available parking space. In 1991, the City installed a drainage system for this parking apron, where engineering plans show a series of eight catch basins installed 1.3-2.1 m (4-7 ft) below the 1991 grade. The overall area was cut to a new grade an average of 0.3-0.6 m (1-2 ft) below the 1991 grade, and the system included pipes leading into and out of the catch basins.

We find Area F has low sensitivity for archaeological deposits, because Area F falls within the boundaries of the 1947 grading (see Figure 11), and the area was subsequently disturbed and regarded again in 1991. We recommend no further archaeological survey for the Area F paved parking apron.

CONCLUSION AND RECOMMENDATION

IAC completed a Phase IA archaeological sensitivity assessment of the Concord Municipal Airport Improvement project area, surveying six distinct work areas labeled A through F. Background research and topographic analysis indicated a high potential for Native American resources on the airport property, *wherever prior airport construction has not impacted natural deposits*. While the Soucook River provided many resources to Native peoples of the past, and three pre-Contact-period sites are present in undeveloped portions of the airport property, this present assessment took into account the construction processes for runways, taxiways, and drainage systems. We find that much of the project area probably has been disturbed to some degree, and we recommend no further archaeological survey in these disturbed areas. In what appear to be undisturbed portions of the airport property, we recommend Phase IB intensive archaeological investigation for the presence of Native American archaeological resources. Historic cartographic resources reveal a notable lack of Euroamerican activity in the project area prior to about 1920, which leads to an assessment of low sensitivity for Euroamerican archaeological resources.

The walkover inspection and archival research identified Areas A and E as sensitive for Pre-Contact archaeological resources. This assessment was based on the review of engineering plans and site inspection observations that pointed out undisturbed soils. IAC recommends the excavation of 75 shovel test pits in the two areas to confirm the presence or absence of intact Native American archaeological deposits within the APE (Table 4). For the four other impacts – B, C, D, and F – we recommend no further archaeological survey.

Table 4. Proposed Phase IB testing for the Concord Municipal Airport Improvement project.

Area	Map Color	Native American Sensitivity	Euroamerican Sensitivity	# STPs recommended
A	Orange	Moderate	Low	48
B	Green	High	Low	0
C	Light Blue	Low	Low	0
D	Dark Blue	Low	Low	0
E	Pink	Moderate	Low	27
F	Red	Moderate	Low	0
Total				75

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Concord Municipal Airport Master Plan Update, Project Number 046312.23

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**APPENDIX A: LETTER OF CONCURRENCE FOR NO FURTHER
ARCHAEOLOGICAL INVESTIGATION IN MANAGEMENT UNIT E3 AT THE
CONCORD MUNICIPAL AIRPORT**

PROJECT BOUNDARIES AND DESCRIPTION	
PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION	
REQUIRED	
<input checked="" type="checkbox"/> Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) <i>indicating the defined project boundary.</i> <input checked="" type="checkbox"/> Attach a detailed written description of the proposed project. Include: (1) a narrative description of the proposed project; (2) site plan; (3) photos and description of the proposed work if the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures; and (4) a photocopy of the relevant portion of a soils map (if accessible) for ground-disturbing projects.	
<i>Architecture</i>	
Are there any buildings or structures within the project area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, submit all of the following information:	
Approximate age(s):	
<input type="checkbox"/> Photographs of <i>each</i> building located within the project area along with a photo key. Include streetscape images if applicable. (Digital photographs are accepted. All photographs must be clear, crisp and focused) <input type="checkbox"/> DHR file review conducted on	
Please note that as part of the review process, the DHR may request an architectural survey or other additional information.	
<i>Archaeology</i>	
Does the proposed undertaking involve ground-disturbing activity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, submit all of the following information:	
<input type="checkbox"/> Project specific map and/or preliminary site plan that fully describes the project boundaries and areas of proposed excavation. <input type="checkbox"/> Description of current and previous land use and disturbances. <input type="checkbox"/> Any available information concerning known or suspected archaeological resources within the project area.	
Please note that as part of the review process, the DHR may request an archaeological survey or other additional information.	
DHR COMMENT	
<i>This Space for Division of Historical Resources Use Only</i>	
<input type="checkbox"/> No Potential to cause Effects <input type="checkbox"/> Additional information is needed in order to complete our review <input type="checkbox"/> No Adverse Effect <input checked="" type="checkbox"/> No Historic Properties Affected <input type="checkbox"/> Adverse Effect	
Comments: <i>In Management units (Ck 2, 3, 4 & 5) & (E 3, 5, 6, 7, 9 & 10); all other units require continued survey efforts prior to any proposed impacts</i> If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.	
Authorized Signature: <u><i>Uaida Ray Wilson DSHPO</i></u>	Date: <u><i>7/15/2009</i></u>

* see attached table

March 2009

* **Management Unit**

Management Unit	Ph IB Testing	2009 Sensitivity	Comments	Total STPs	Recommendations
US1	E. Grover Farmstead	High and Moderate	Grover site needs Phase II study	10	Phase II site evaluation
US2	TAs 18 & 19	High and Moderate	area still requires testing	10	continue Ph I survey
US3	None	High	area still requires testing	0	continue Ph I survey
US4	TAs 11 and 12; SCRAP 6	High and Moderate	one known site (Kamer Blue)	13	continue Ph I survey
CL2	TA 5	Low	area tested but no resources found	21	clear CL2
CL3	TAs 15 & 16	High and Moderate	area tested but no resources found	53	clear CL3
CL4	TAs 6 & 20	High and Moderate	area tested but no resources found	69	clear CL4
CL5	TA 20	Low	relict drainage channel, sloping	2	clear CL5
CL6	TAs 13 and 14; SCRAP 3, 4, 5	High	two known sites here	33	continue Ph I survey
E3	TAs 2, 7, 9	Low	area tested but no resources found	44	clear E3
E4	TA 16 & 17	High	area tested, 3 pcs debitage	43	continue Ph I survey
E5	None	High to Low	at base of steep slope along river	0	clear E5
E6	None	Low (sloping)	area is too steep	0	clear E6
E7	TAs 4, 10; SCRAP 1	Low	area tested but no resources found	45	clear E7
E8	TAs 8; SCRAP 2	High	east half of unit still requires testing	30	continue Ph I survey
E9	TAs 1, 3, 8	Low	area tested but no resources found	87	clear E9
E10	None	Low	surrounding areas (7 & 9) tested, but no resources found	0	clear E10
Total Number STPs				460	

* Cleared management units.

Revisions made to the 02-22-2011 report as follows:

1. Changed “three” to “two (2)” in paragraphs 4 and 5 on Page 1.
2. Added sentence at the end of Paragraph 2 on Page 25 as follows: *“The areas on Figure 11, inside or outside the previous project grading limits, with existing buildings and pavement are considered to have low archeological sensitivity because of the previous disturbances.”*

Revisions are noted with a bar at the right side of the paragraph similar to this paragraph. |

Revisions were made by Jacobs Engineering Group, Inc. with the approval of IAC, LLC on March 17, 2011.