# ARCHAEOLOGICAL MONITORING OF THE PROPOSED DRIVEWAY AND STORMWATER MANAGEMENT SYSTEM NORTH CEMETERY, OLD SUDBURY ROAD WAYLAND, MASSACHUSETTS



Prepared For The Town of Wayland 41 Cochituate Road Wayland, MA 01778

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#### ARCHAEOLOGICAL MONITORING

## OF THE

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## WAYLAND, MASSACHUSETTS

By

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Cover Photo: Looking northerly at completed installation of Leaching Pit 6 and gravel filling the hole.

#### ABSTRACT

The survey included documentary research and archaeological monitoring of excavated, ground-disturbing work associated with a 3.97 acre expansion of the cemetery. These activities included construction of driveways and a stormwater management system. The majority of the impacts were limited to the top 18 inches of the soil horizon. For the stormwater management facilities, excavation up to nine feet below current grade was required. In one location, a thin burn lens that measured 66 cm by 33 cm was noticed at the top of the B horizon. The lens contained charcoal flecks. Four artifacts (three sherds of whiteware and a modern golf ball) were found. As no significant features or artifacts associated with the pre-Contact period, the early Colonial period, or burials associated with either time period were identified during the archaeological monitoring, the cemetery expansion project was implemented as planned. The remaining sections within the 1972 expansion area are considered to have a low potential for archaeological resources.

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#### MANAGEMENT SUMMARY

The Town of Wayland Park, Recreation & Cemetery Department planned for the expansion of the North Cemetery (WAY.800) into a parcel to the north that was purchased by the town for that purpose in 1972. Proposed expansion plans include completing the driveways and the stormwater management system.

Archaeological monitoring of the project was conducted to identify any significant artifacts or features, including unmarked burials, associated with Native American and early Colonial activity that may be located in areas witnessing below-ground disturbance. Excavation was completed using machinery that included excavators and graders. The majority of the activities were limited to the top 18 inches of the soil horizon. For the areas of the stormwater management system, deeper excavations up to 9 feet below current grade was required.

As no significant features or artifacts associated with the pre-Contact period, the early Colonial period, or burials associated with either time period were identified during the archaeological monitoring, the cemetery expansion project was implemented as planned. The remaining sections within the 1972 expansion area are considered to have a low potential for archaeological resources.

## 1.0 GENERAL INFORMATION

The Town of Wayland Park, Recreation & Cemetery Department planned for the expansion of the North Cemetery (WAY.800) into a parcel to the north that was purchased by the town for that purpose in 1972 (Figure 1). The North Cemetery (WAY.800) was recommended eligible for National Register listing individually or as part of a larger district in 2002 (Schuler). At that time the Massachusetts Historical Commission (MHC) concluded that the North Cemetery (WAY.800) was individually eligible under Criteria A and C at the Local level, but the expansion plot to the north would not be considered as part of any nomination (Petrisko 2002).

Proposed expansion plans include: completing the driveways and the stormwater management system (Figures 2 and 3). The proposed driveway section will consist of an 18-foot wide bituminous pavement with a 3-inch base and binder layer, over an 18-inch gravel base compacted for optimum density. To accomplish this the topsoil and subsoil will be removed within an 18-foot wide driveway layout to suitable natural subgrade soil. The removed soil will remain onsite to be used elsewhere.

The stormwater management system consists of the collection of surface runoff from the paved areas in two catch basins. The catch basins provide preliminary treatment of the stormwater through a deep sump (4-foot minimum depth) and hood over the outlet, which will allow floatables to be retained in the catch basin for removal by the Department of Public Works. The catch basins are approximately 4 feet in diameter and have an overall height of 8 feet. The flow from the catch basins will be directed to three infiltrators, which are 8 feet in diameter with an overall height of approximately 8 feet. The infiltrators utilize perforations and a stone surround to allow the stormwater to be infiltrated into the ground. The top of the stormwater management system will be catch basin grates and manholes castings that will be installed at the top of the structures.

The stormwater management system will be installed using a surface excavator. An excavation of size slightly larger than required to install the system will be created. The overall excavation for a catch basin will be approximately 5 feet in diameter by 9-feet deep. The overall excavation size for the infiltration system will be 18 feet in diameter (8 feet for infiltrator and 5 feet outside for stone media). Excess soil/material from the excavation will be used as rough grading material or stockpiled on-site for off-site use at other Town facilities.

Archaeologist Barbara Donohue was retained by the Town of Wayland to conduct the archaeological monitoring of excavated, ground-disturbing work associated with the completion of the proposed driveways and stormwater management system in compliance with M.G.L. c. 9, s. 27C, 950 CMR 70. The archaeological monitoring was conducted on May 16, 17, 21, 22 and 23, 2018 under State Archaeologist permit # 3825. Following are the results of the archaeological monitoring.





Archaeological Monitoring at the North Cemetery



Figure 3. Aerial view of North Cemetery with proposed driveways added. (Phase I was previously constructed).

## 2.0 PROJECT CONTEXT

## 2.1 Environmental Context

(The following environmental context is taken from *Preservation Management Plan for the North Cemetery Wayland, Massachusetts* (Donohue et al 2015).

Wayland is situated in what is known as the Seaboard Lowland Section of the New England Physiographic Province. It is lower in elevation than the New England Upland Section which it borders to the west. The lowlands are usually viewed as the sloping margin of the uplands. Topographic relief is typically less than 200 feet above mean sea level (AMSL). Small streams and rivers generally flow toward the coast along this land-surface slope. The Sudbury River dominates both the drainage and the landscape with with extensive marsh areas along its banks. Major bodies of water in the southern section of the town that drain north by way of the Sudbury River into the Merrimack River include Lake Cochituate and Dudley Pond.

The North Cemetery (WAY.800) is situated on a ridge at an elevation of about 150 feet AMSL. To the east the topography drops dramatically into a valley terminating in a tributary of the Sudbury River. To the west topography descends more gradually to the meadows along the Sudbury River, about 2,500 feet from the cemetery. Bedrock in the cemetery area consists of Precambrian sedimentary and volcanic rocks. The surface deposits have been shaped by glacial activity with the cemetery found in an area of fill deposition plus stratified drift in small, narrow valleys.

The cemetery is found in the Glaciated Section of Braun's (1974) Oak-Chestnut Forest Region. In many areas the chestnut has been nearly eliminated as a dominant, replaced by trees such as chestnut oak, red oak, white oak, hard maple, and red maple.

Only two soil series are present in the cemetery. The most common soil in the cemetery area is Merrimac fine sandy loam, 3-8% slopes (254B). Merrimac fine sandy loam is a very deep, nearly level, somewhat excessively drained soil found on terraces overlooking major stream valleys. The soils are strongly acidic and seasonal high water tables are at depths of about 6 feet. The soil in the expansion area is Windsor loamy sand, 0-3% slopes (255A). Windsor loamy sand is very deep, nearly level, excessively drained soil found on deltas, dunes, outwash plains and outwash terraces. It is considered farmland of statewide importance.

## 2.2 Prehistoric Context

The purpose of this introductory section is to sketch the main trends of Massachusetts pre-Contact era in order to provide the pre-Contact background necessary for assessing the potential for archeological resources within the project area. The pre-Contact era of eastern North America is divided into three major chronological stages of cultural development: Paleoindian (12,000-9,000 Before Present or BP), Archaic (9,000-3,000 BP), and Woodland (3,000-450 BP). The Archaic and Woodland periods are further divided into Early, Middle, and Late sub periods.

For most of the pre-Contact period in the region, river drainages define physiographic units within which human communities operate. This pattern follows from the longitudinal diversity of habitats that occurs along drainages, forming ecologically unique wetland habitats, together with the transportation routes afforded by their water courses. In the clearest examples, rivers provide access to maritime and upland resources at each end of the drainage, and to the diverse habitats in between. The exploitation of those habitats can be integrated into a seasonal round that differs at various historical moments.

## Paleoindian (12,000-9,000 BP) and Early Archaic (9,000-8,000 BP)

The late Pleistocene geological period witnessed major environmental changes which, in time, impacted the peopling of the Americas, and thus the earliest Native American occupations in the New England area. Southern New England was covered by a sheet of ice 1.5 km. thick, which extended over what are now Long Island, Martha's Vineyard and Nantucket. At this time, the sea level was about 100 m. lower than it is at present due to an enormous amount of water tied up in the glacial ice sheets. Only when the ice sheet began to melt, beginning ca. 15,000 BP, was southern New England habitable; by ca. 13,000 BP the ice sheet had retreated to expose Connecticut, Rhode Island, and southeastern Massachusetts; and by ca. 12,000 BP all of New England was uncovered (Stone and Borns 1986).

The physical landscape of New England in the terminal Pleistocene period was very different from that of today. The coastline was well seaward of its present position, and the modern coastal configuration was not reached until about 3000 BP when sea levels were still several meters below those of the present. Deglaciation created large lakes in the Hudson-Champlain drainages and in the Connecticut Valley and many other smaller bodies of water in Massachusetts (Curran and Dincauze 1977, Dincauze 1974, Koteff 1982, Larsen and Hartshorn 1982, Stone and Peper 1982). The major lake systems were drained by 12,500 BP, while the smaller bodies of water gradually filled with sediment, leaving marshes, bogs, ponds and small lakes. With progressive deglaciation and rising regional temperatures, vegetation changed relatively quickly. The human communities that initially colonized southern New England were faced with a rapidly changing landscape, one in which resources were of low density and relatively unpredictable.

This condition resulted in a very generalist adaptation, with emphasis on flexibility, mobility, large and probably loosely defined foraging territories, and maintenance of wide kinship ties (Dincauze 1980; Snow 1980). While subsistence strategies for Paleoindians have not been determined, Snow (1980) has argued that Paleoindian subsistence was focused on migratory big game animals such as caribou, mammoth or mastodon, while exploiting other food resources as the people chanced upon them. An alternate view by Dincauze (1981) is that the Paleoindians were generalist foragers. One proposed model for this period postulates that glacial lake basins were the focus of occupations; these areas included a mosaic of habitats that provided richer subsistence possibilities than elsewhere in New England (Nicholas 1988). In New England, Paleoindian sites often reflect occupations of the recently drained proglacial lake bottoms and wetlands (Thorbahn 1982, Thorbahn and Cox 1983). Another model proposes the possibility that Paleoindians may have used pioneering or staging areas from which large, more-or-less permanent groups sent out smaller groups to colonize or pioneer the newly deglaciated terrain (Dincauze 1993, 1996). As the physical environment began to stabilize human groups grew less generalized in adaptation and settled into more restricted foraging territories.

The nearest well-documented Paleoindian site is the Bull Brook site in Ipswich, Massachusetts, which covered an area of about 20 acres (Dincauze 1996). Bull Brook is one of six large Paleoindian non-quarry sites that have been documented in the Northeast. Paleoindian artifacts include fluted points as well as a variety of other tools, including scrapers, (presumably for working animal hides), gravers and bifacial blades. Lithic materials consisted primarily of fine quality microcrystalline rock, often from sources more than a hundred miles away.

The Early Archaic period is still being evaluated as to whether the changes in artifacts used to define this period represent continuity of Paleoindian populations. Dincauze (1990) used the common term pioneers for Paleoindian and Early Archaic populations (Pioneers and Late Pioneers, respectively). Snow (1980) considered that there was continuity from the Paleoindian Period into the Early Archaic Period, with "restricted wandering" of groups within territories during the Early Archaic. As the physical environment began to stabilize (i.e., changed less quickly and became more predictable) into a closed boreal environment dominated by spruce, fir and birch, human groups grew less generalized in adaptation and settled into more restricted foraging territories (Dincauze 1980, Meltzer 1988).

A major change in artifacts from the Early Archaic period was that fluted points were no longer used. Late Paleoindian diagnostic artifacts include Dalton-like points and unfluted Eden lanceolate points; the latter are rare in Eastern Massachusetts, while the former may date into Early Archaic times (E. Johnson and Mahlstedt 1984). Early Archaic diagnostic points include Bifurcate Base, Kirk Stemmed, and Kirk Corner Notched points. Overlapping dates for the late Paleoindian and Early Archaic as well as the small number of Early Archaic sites in the Northeast still challenge this research issue. At least one significant habitation site utilizing a similar quartz tool technology has been found in southern New England; this latter site had deep pit features, interpreted as pit houses, with an abundance of charred hazelnut shells (Forrest 2000; Jones and Forrest 2003).

Most Early Archaic sites have been discovered in southern New England and in coastal areas. Several Early Archaic sites identified in Massachusetts contained evidence suggesting that small hunting groups returned to camps with seasonal regularity. Deep pit features that may have been used for storage were discovered in the Taunton and Shawsheen River drainages (Simon 1982; Harrison and McCormack 1990, Glover and Doucette 1992). These sites contained material suitable for radiocarbon dating and stone tools diagnostic of the Early Archaic Period, or both.

During the Paleoindian and Early Archaic periods, most diagnostic tools were made of non-local or exotic stone, a pattern that generally is predominant throughout southern New England. Locally, the stone use pattern changed during the Middle Archaic period, when points were almost all made from local or near-local materials and exotic stones were rarely used.

## The Middle Archaic (8000-6000 BP)

Throughout southern New England, human occupation becomes more evident and apparently more complex during the Middle Archaic. Stemmed bifacial points; atlatls (spear-thrower weights); pecked, ground and polished woodworking tools, such as axes, adzes and celts; and plant-processing tools, such as mortars, pestles, grinding stones and nutting stones are new forms in use during this time.

The predominant settlement pattern would be one of small sites oriented toward seasonally abundant resources, including spring fish runs. The earliest documented or inferred harvesting of anadromous fish during spring runs up the Connecticut (Thomas 1980) and the Merrimack (e.g., Dincauze 1976, Barber 1980) rivers, marks both a fundamental adaptation to foraging possibilities and a seasonal determinant of site location, meaning spring occupations at rapids, falls and constrictions on larger river courses. Exploitation of anadromous fish would continue throughout the rest of the regional pre-Contact era as a principal component of aboriginal economies.

During the Middle Archaic period, there is a wide variety of environmental settings for sites, including the margins of bogs, swamps, rivers, lakes and ponds, with differentiation of sites based on size and apparent function. Site types include semi-permanent base camps along rivers, streams or wetlands, special-purpose camps in uplands or near wetlands, rockshelters, stone quarries, and workshop areas.

## Late Archaic Period (6000-3000 BP)

Many attributes of this period are well rooted in the Middle Archaic, but become much more evident in the Late Archaic. In the Northeast, pottery did not come into use until around 3200 BP, while soapstone vessels were in use during the latter part of the Late Archaic into the Early Woodland, from about 3700 to 2400 BP (Sassaman 1999).

Another marker of the period is the proliferation of archeological tool traditions and phases. The Late Archaic is the most visible period of the Massachusetts pre-Contact era, in terms both of numbers of sites and of typological attribution of materials. Late Archaic patterns in Massachusetts indicate unprecedented population density, with communities well settled into narrow foraging territories defined by drainages and highly specialized to the habitats within these drainages. Sites were located in a wide variety of topographic situations -- river banks; margins of lakes, ponds, bogs and springs; around meadow lands; in rockshelters and at quarries; and along the coastline. The differentiation of site sizes suggests use of a radiating, seasonally-dynamic settlement pattern (Dincauze 1974, 1975, 1980; Thorbahn and Cox 1983). Although some technological innovations (e.g., the stone bowl) are apparent in this period, and some long-distance exchange of materials occurred, emphasis seems to have been placed increasingly on locally available raw materials for chipped stone tools, often distributed within river drainages.

As sea levels approached those of the present, shorelines stabilized and extensive shellfish beds developed, while anadromous fish populations may have benefited from the expanded continental shelf (Luedtke 1985).

In the Sudbury-Assabet region, the number and diversity of Late Archaic sites and their distribution in riverine and inter-riverine, upland settings suggest a "broad-base [collecting, see Binford 1980] approach to resource use and considerable attention to small scale environmental features," including "bogs and kettle-hole swamps" (D. Ritchie 1983a). Duncan Ritchie's work in the Sudbury-Assabet area indicates that patterns of upland use became more intensive about 4,500 years ago; more activities were now taking place there and some localities began to be reused time and again. Evidently, these shifts were shaped by ongoing environmental histories; as the region's deciduous forest ecosystems became more varied and productive, longer settlement occupations became possible (D. Ritchie 1983a, 1983).

The Late Archaic archeological record in the uplands of the Assabet and Sudbury rivers reveals that a greater range of activities took place on a seasonal, multiseasonal, or even year-round basis. Along the upper reaches of the Assabet in Marlborough, a complex of sites discovered near I-495 suggests a pattern of upland adaptation. Features such as hearths and concentrations of chipping debris (stone-tool manufacture, repair, and resharpening) from the Robin Hill, Cook, and Howe sites are evidence of the periodic use of particular localities by successive generations during the Late Archaic (D. Ritchie et. al. 1984). Similarly, multiple surface hearths, tool-making workshops, and activity areas at the Old Stony Brook site near Crane Swamp in Marlborough are cited as evidence of recurrent use of a short-term campsite (Dudek, Trubowitz, et. al. 2001). The archeological record at the Flagg Swamp Rockshelter,

excavated in 1980 as part of a larger study of Route 85 in Hudson and Marlborough, suggested a "winter camp repeatedly inhabited by small, complete social and economic groups," who went there to hunt deer and turtle, to fish, and then to return to their base settlements, possibly located along the Concord or lower Merrimack rivers, or along the nearby coast (Huntington 1982). Further east, a town historian in the 1890s described a site next to a small wetland in Sudbury where hundreds of points, some woodworking tools, and burned rock features were found (D. Ritchie 1980).

Late Archaic cemetery sites also suggest that native communities were well established within river drainages and upland areas. The Mansion Inn and Vincent sites, both located in the uplands above the Sudbury River, are cremation cemeteries about 3,500 years old. Habitation areas do not seem to be directly associated with either site. At each, assemblages of burned artifacts, cremated human remains, and burned wood and reddened earth (both from the nearby crematories) were deposited into shallow pits; some pits were used only once while others were the locus of multiple reburials. Typically, the artifacts in the pits included a full range of household and subsistence technologies such as wood- and hide-working tools, projectile points and knives, pestles, and hammer stones. Less abundant were single specimens or sets of finely flaked bifaces, known as Mansion Inn blades (Dincauze 1968). At Mansion Inn, the archeological data indicate "the cemetery was used repeatedly through a fairly long span of time" (Dincauze 1968), leading one to infer that the surrounding region was home to generations of Native people.

## The Woodland Period (3000-450 BP)

The Woodland is traditionally divided into Early (3000-1700 BP), Middle (1700-1000 BP) and Late (1000-500 BP) periods, defined by changing artifact types.

This period is marked by basic technological and economic changes, notably the production and use of pottery and a gradual shift to food production (maize, beans, squash, sunflower and other vegetables). Within Massachusetts generally, the Woodland periods are best known in the coastal regions and in the Connecticut River Valley. In both cases, this higher visibility may be ascribed to local opportunities for increasing sedentism and larger communities – in the former area due to a combination of horticulture with rich marine resources and in the latter area due to large expanses of soils well suited to horticulture in combination with rich fishing, harvesting and other terrestrial resources.

## The Early Woodland Period (3000 to 1700 BP)

The shift from the Late Archaic period to the Early Woodland period includes several changes on which archeologists generally agree. These changes consist of the introduction of ceramics, the formation of stable estuaries with tidal flats (Cross 1996), an apparent increase in the amount of exotic raw materials used such as non-local chert, red ochre, and copper (especially in mortuary contexts), and an inferred increase in formalized trade and communication.

## The Middle Woodland Period (ca. 1700-1000 BP)

This period is marked by a decrease in the number of exotic finished goods, indicating long-distance trade, and by changes in mortuary practice (increase in secondary interments, less use of ocher, fewer grave goods, and more variation in preparation of the dead). While the roots of ceramic and lithic variability are found in the preceding periods, more rapid variation in sequence through time and more regional variation characterize this period. Ceramics vary more in decoration and form. Lithic projectile points are less

important in the tool kit, and bone and antler tools are preserved at some sites where matrix conditions are appropriate (Shaw 1996). By the end of the period there is evidence of maize horticulture (Thorbahn 1982).

Settlement and subsistence are similar to the Early Woodland period, but sedentism increases. Stays at large sites along waterways increase in duration, while upland areas are used short-term for procurement. Long-distance communication and exchange appear to shut down by the end of the period. Middle Woodland sites in coastal areas and New York have produced house remains. These sites also tend to have more pit features, which vary greatly in shape and size, and are frequently dug out and reused for trash (Shaw 1996).

## The Late Woodland Period (ca. 1000-500 BP)

The Late Woodland represents the regional demographic peak prior to European contact, a florescence that may be related to increasing food production, sedentism, and population density. The period is characterized by changes in burial ceremony. Burials can be single or mass, as in ossuaries, and can be primary, secondary, or cremation. Group interments tend to be at special mortuary sites, while single burials are usually at habitations.

Ceramics are often shell-tempered or made with fine grit temper and thinner bodied; there is a shift to globular forms, and the addition of collars, sometimes decorated with human faces. Triangular projectile points consisting of smaller Madison points or larger Levanna points are diagnostic for this period. The Late Woodland period is marked by the increasing importance of food production (maize, beans, squash, sunflower and other vegetables) in coastal or riverine zones, which begins by ca. 840 BP on Martha's Vineyard (W. Ritchie 1969). These changes in assemblage, and by implication, adaptation, are attributed to increasing population and concentration of people at larger sites.

## The Contact Period (AD 1500-1620) and post-Contact Native American Presence (AD 1620-1700)

This period marks the initial presence in the region of European explorers and fishermen, followed in the early seventeenth century by English colonization. From the Native viewpoint, the period was one of intense social, economic and demographic disruption and eventually virtual extinction. The Wayland area bordered between traditional Nipmuck territory on the upper Sudbury and Assabet rivers and upland lakes and the coastal tribes, with the Massachusetts to the east (Massachusetts Historical Commission 1980).

Located at the junction of the Sudbury River and the uplands of the Boston Basin, the area was a major connecting point for native trails crossing west around the river wetlands including two regional paths, the Great Trail and the Connecticut Path (today Route 126 through Wayland) (Figure 4). Other Native trails included a northern route that followed Claypit Hill, Training Fields Road, and Gleezen Lane around Mill Brook and Baldwin Pond as well as a number of secondary trails crossing the Sudbury River (Massachusetts Historical Commission 1980).

A review of the pre-Contact online site files of the MHC indicates that while there are 13 pre-Contact Native American archaeological sites within a 1 km radius of the project area, including a site adjacent to/within the North Cemetery (WAY.800), there are a number of sites clustered to the north, east and southwest just outside this radius. Of the pre-Contact sites within the 1 km radius five were identified as find spots, three as chipping stations and one as the location of unmarked burials. Five of the sites have been attributed to a time period. Two are multi-component (the first includes Middle Archaic, Late Archaic, Middle Woodland and Late Woodland time periods and the second includes the Archaic and Contact time periods), one is



attributed to the Archaic Period, one to the Middle Archaic, and one to the Late Archaic.

Figure 4. Native trails in New England (Powell 1963).

The site consisting of the unmarked burials (Old North Cemetery, 19-MD-462) was reported in a nineteenth century local history (Hudson 1891) as Native American burials. According to Hudson (1891) "This land from the settlement of Sudbury, has been known by tradition as the 'Old Indian Burying Ground.'" Following this initial categorization other human skeletons were exhumed from the above-described location ca 1816 that were thought to be those of the early English colonial settlers.

According to Hudson (1891) the Native American population at the time of the English settlement was small. Evidence of Native American activity within the area has been found in the recent past. Both "relics" of native occupation have been discussed and "a cluster of wigwams" has been postulated near the location of the original English settlement. Given the number of pre-Contact sites recorded with 1 km of the project area, undisturbed sections of the project area could have a high potential for pre-Contact sites, and possibly burials, dating from the Archaic through the Late Woodland.

## 2.3 Historic Context

(The following historic context is taken from *Preservation Management Plan for the North Cemetery Wayland, Massachusetts* (Donohue et al 2015).

Wayland, Sudbury and northern Framingham were originally included in a 5-mile land grant issued by the General Court, the official source of power and authority for Massachusetts Bay Colony, on September 6, 1638. Approximately 16 men and their families moved from Watertown to the newly granted land with more settlers arriving in the spring from Watertown, Cambridge and Charlestown. A year later on September 4, 1639 the General Court ordered that "the newe Plantation by Concord shall be called Sudbury." It was the nineteenth town settled in Massachusetts Bay Colony.

English settlers who traveled from Watertown following native trails to find food for their livestock happened upon a large stretch of river meadow in the Musketaquid Valley. The valley whose Algonquin name means "grassy ground" proved to be an ideal location for much needed pasture and meadowland. The first priorities for the new community were the division of land and agricultural management. Peter Noyes, Brian Pendleton and Rev. Edmund Brown were appointed by the General Court to lay out the town lands. They designated North and South fields for farming; a Town Common for grazing livestock; as well as a house lot, meadowlands, and farmland for each family (Figure 5). In 1639 a clustered settlement formed on the east side of the Sudbury River along the town's first road. Highways and cart paths were soon laid out on both sides of the meadows.

Within a year of being settled the town witnessed steady growth petitioning the General Court in 1640 for an additional 3,200 acres along its southern border and was granted six extra miles of territory. Following individual grants of meadow and upland by town officials approximately 89% of the town's total acreage remained common lands. While a half-acre meeting house lot was set apart in 1639, the first church was formally organized in 1640 when the Puritan covenant was signed by the majority of the townsfolk. Three consecutive meeting houses (the first, 1642-1652; the second, 1652-1686; and the third, 1686-1724) and the burying ground were located within the original ½-acre parcel.

After the beginning of the eighteenth century there was a gradual shift of the village center south to presentday Wayland Center. As the area to the west of the Sudbury River became more populated a burying ground was established there in 1716 and the East and West precincts were established in 1721, present-day Wayland and Sudbury, respectively. After 1723 the population of Wayland Center grew as its location provided convenient access to the Post Road. A new common, town pound and school were soon established in this small village center. With scattered farmsteads throughout, the town remained an agricultural community that was able to prosper due to its strategic location along a major transportation route.

## Expansion of the Burying Ground

Since its inception in 1643 there have been five additions to the original ½-acre parcel that makes up present-day North Cemetery (WAY.800), three in the nineteenth century and two in the twentieth century (Figure 6; please note the boundary between the original parcel and the 1800 addition is unknown so is speculative on Figure 6 as is the western boundary of the Early Settlers/Indian Burial Ground). Following is an account of the development of North Cemetery (WAY.800).





Figure 6. All additions to North Cemetery through 1972 on overlay of 1857 plan on aerial.

In April of 1792 the town voted to choose a committee of three selectmen to see if it was necessary to make an addition to the burying ground (Figure 7). In October of 1794 the town voted for the committee to determine the bounds of the old burying ground and then to see if the town could procure land for an addition. In January of 1800 another committee of three was tasked with seeing if they could purchase or exchange land with Nathan and Luther Gleazen who owned property adjacent to and south of the burying ground along the road. Finally in September of 1800 the town purchased <sup>1</sup>/<sub>2</sub> an acre plus <sup>1</sup>/<sub>2</sub> of a quarter of an acre from Luther Gleazen for \$100 to enlarge the burying ground.



Figure 7. Detail of Wayland in 1776 (Smith 1881).

In 1835 the town make an agreement "for a piece of land to unite the two old Burying grounds together" that is the burying ground (the 1642 parcel and the 1800 addition) to the "ancient Burying Place" (the early settlers/Indian Burying Place). It appears from the deed that part of the purchase was an access pathway from the road to reach the addition that connected the two burying grounds (Figure 8). While a plan of the 1835 addition was made, the plan was updated in 1857 when another addition was added to the burying ground. The updated 1857 plan may be missing some of the detail from 1835 plan.



Figure 8. Detail of Wayland in 1856 (Walling).

In November of 1854 the town again decided to enlarge the old burying ground. Evidently the need for an addition was not pressing as it was not until May 4, 1857 that the town purchased an adjacent parcel of land from William Sherman (Figure 9). It was when the town purchased Sherman's land that the 1835 plan of the cemetery was updated.

In 1948 the Cemetery Commission discussed purchasing a tract of land adjacent to North Cemetery in order to enlarge the area for lots, possibly allowing for the construction of a better avenue for access, building an attractive receiving tomb, and building a store house for tools and supplies. The town then voted unanimously to purchase a 2 <sup>1</sup>/<sub>4</sub>-acre piece of land that was located adjacent to the south and east of the cemetery from Ralph and Helen Stewart. In 1951 the new addition was cleared of the old apple trees and stumps in preparation for grading and laying out lots (Figure 10).



Figure 9. Detail of Wayland in 1875 (Anonymous).



Figure 10. Boundaries of North Cemetery in 1958 (Anonymous).

The first report of the newly created Park, Recreation and Cemetery Department was given in 1968. In 1972 the Department reported that they had purchased 4 additional acres for long range development (Figure 11).

**In summary** the history of the burying ground indicates that from the early nineteenth through the twentieth centuries the boundaries of the burying ground changed at least five times. Changes in the boundaries may have affected the location of gravestones and/or unmarked burials within the former boundaries. Crowded conditions, the construction of tombs, rearrangement of gravestones, and maintenance activities could all have had the effect of not only changing burial locations, but also creating an uneven terrain where burials may be closer to the surface than expected.

Of interest is that the town consciously decided to connect the location of the original burying ground with the 1800 addition to that of the "ancient Burying place" approximately 56 years before Hudson's (1891) history of the town, but within the time period where "tradition" dictated its location. It remains unclear if this connection was due to "tradition" or other documentation.



Figure 11. Plan of property added to North Cemetery in 1972, labeled "proposed transfer" (WED).

## The 1972 Expansion Area

The 1972 expansion area has historically been associated with North Fields a large common area set aside for farming that was located to the east of the first house lots. Figure 5, a reconstructed map of this time period, shows that the town's training field was located close to the eastern boundary of this common land. As it is unclear how far to the east the boundaries of the first house lots extended from the street, it is unknown if the 1972 expansion area was originally included in the back lot of a house lot, included in North Fields or both.

It had been speculated that a palisade dating to the seventeenth or eighteenth century was once located between the east/west boundary line of the former Damon property and the 1972 expansion area. Ca 2014 the town planted trees along the above-described boundary line possibly obscuring/disturbing the palisade if it was indeed constructed there. Documentary research for the *Preservation Management Plan* (Donohue et al 2015) revealed that a palisade had been constructed around the second meeting house during the period of King Phillips War, which may have been the location of the speculated palisade. The use of a palisade has also been documented in seventeenth century house construction (Harper et al 2017).

While the mid nineteenth century additions appear to have provided a buffer between the original seventeenth century ½-acre burying ground parcel and its early nineteenth century addition, one cannot state with certainty that no burials occurred in the 1972 expansion area given the uncertainty of where early burials, of both Native American and Colonial settlers, may have occurred.

The online sites files of the MHC revealed one inventoried historic archaeological resource within 1 km of the project area. The site is a nineteenth century railroad complex located in Wayland Center. Though not appearing on the MHC inventory, the project area is the location of the original seventeenth settlement of Sudbury that includes three meeting houses, house lots and common areas.

The 1972 expansion area has witnessed considerable disturbance since it was acquired by the town. Much of this disturbance is associated with previous Phase I construction activities associated with expansion activities, including grading the center area of the property with the graded soil stockpiled in the northeast section of the parcel. While the total depth of the grading is unknown it appears to be deeper than the plowzone would have been. This disturbance likely adversely affected archaeological resources that would be located close to the surface, such as some pre-Contact sites, historic trash middens, and other artifacts/features associated with ephemeral rural activities. Deeply buried features associated with both pre-Contact and historic archaeological features, such as burials, storage pits, post molds, unrecorded structures, foundations may still be present.

## 3.0 RESULTS OF ARCHAEOLOGICAL MONITORING

The purpose of the archaeological monitoring is to identify any significant artifacts or features, including unmarked burials, associated with Native American and early Colonial activity that may be located in areas witnessing below-ground disturbance associated with the construction of the driveways and the stormwater management system. Excavation was completed using machinery that included excavators and graders. The majority of the activities were limited to the top 18 inches of the soil horizon. For the areas of the stormwater management system, deeper excavations up to 9 feet below current grade was required. All excavation was done at the pace established by the archaeologist. The back dirt was examined. All work was documented by digital photography with photos keyed to a base map.

Please note that this is Phase II of the expansion of the 1972 extension. Previously Phase I activities included the removal of a stone wall, the construction of an east-west paved drive with the pavement extending slightly north from its eastern and western ends, the installation of Leaching Pits #1 and #2 and Catch Basin #1 in the southwestern corner, and the installation of Leaching Pits #3 and #4 and Catch Basins #2 in the southeastern section corner. While not reflected in the Site Plan (Figure 2), all components of the stormwater management system for Phase 1 were installed under the pavement that extended slightly north from the east-west paved drive.

## **Construction of the Driveways**

A line of shrubs/evergreens installed by the town several years ago provides the north, east and west boundaries for the 1972 expansions area while the southern boundary blends into the cemetery. Four continuous driveway sections were constructed for this project. For purposes of discussion they will be identified as the West Driveway, Center Driveway, North Driveway, and East Driveway (Figure 3).

The *West Driveway* was excavated from south to north commencing from the north end of the Phase 1 section of pavement (Figure 12). This driveway is located to the east of a houselot that is located along Old Sudbury Road. Two soil profiles (SP1 and SP2) were taken along the west wall of the driveway. Soils along the West Driveway were fairly consistent with an A horizon varying in depth from 33 to 43 centimeters below ground surface (cmbgs) over B horizon soil that was slightly mottled in some areas (Figure 13).

Located in a low lying area that had been graded and otherwise modified in the past the *Center Driveway*, which was excavated from west to east, revealed three diverse contiguous sections of soil (Figure 12). Three soil profiles (SP4, SP5, and SP6) were taken along the north wall of the Center Driveway. For approximately 36 m the soils were similar to those within the West Driveway with the exception of a thin layer of B soil overlaying the ground level in some localized spots. Towards the southeastern end of this section of the driveway a thin burn lens that measured 66 cm north-south by 33 cm east-west was revealed at the top of the B horizon (Figure 12). The lens, which contained flecks of charcoal, disappeared when lightly scraped with a trowel. Following this section for approximately 33 m, a 2 cm level of A horizon soil overlay a gravelly fill that contained small boulders and chunks of asphalt to 50 cmbgs. B horizon soil was not reached. The remaining section of the Oriveway contained what appeared to be natural soils that revealed several plow scars in both the north wall of the driveway in SP 6 (Figure 13) and across the driveway just below the A/B horizon interface.



Archaeological Monitoring at the North Cemetery



Figure 13. Soil profiles SP1 and SP 6

The *North Driveway* was excavated from west to east. The large area of stockpiled soil located adjacent to/on the eastern end of this driveway had to be removed before the driveway could be completed. Two soil profiles were taken along this driveway, one along the south wall (SP3) and one along the north wall (SP7) (Figure 12, Figure 14). While soils appeared natural with A Horizon soil varying in depth from 27 cmbgs to 36 cmbgs overlaying B horizon soil across the western and eastern sections of the driveway, there was a low area in the middle section of the driveway where the A horizon was very thin.

The *East Driveway* was excavated from south to north from the North Driveway to the Center Driveway then from north to south from the northern end of the pavement from Phase 1 to the Center Driveway (Figure 12). Soils appeared natural and similar to those within the eastern section of the Center Driveway. Two soil profiles were taken, one along the eastern wall across from the entrance to the Center Driveway (SP8) and one along the west wall of the drive to the south of the entrance to the Center Drive (SP9) (Figure 14).

Aside from the thin burn stain and various plow scars only four artifacts were identified, but not collected, a golf ball in the Center Driveway and three sherds of whiteware in the West Driveway. See Appendix A for photo documentation.

## Stormwater Management System

The Stormwater Management System consisted of the installation of Leaching Pits # 5 and #6 and Catch Basin #3 in the Center Driveway and Leaching Pit #7 and Catch Basin #4 in the northern end of the West Driveway (Figure 2, Figure 12). Installation of the Leaching Pits was accomplished by further excavation into the driveway. Once the appropriate depth was reached gravel was poured in and spread across the bottom of the excavated hole, the lower section of the structure was placed on the gravel, the top section of the structure was placed on the lower structure and these were then capped with a cover. Fabric was placed around the excavated sidewalls and then the area between the fabric and the structure was filled with gravel to the top of the cover. Leaching Pits #5 and #6 were connected with PVC pipe that was covered with gravel and then topped with fabric. The hole for Catch Basin #3 was then excavated, gravel was poured in and spread across the base, as with the leaching pit structures the bottom, top and cover were placed in the hole. The catch basin was connected to the leaching pit by PVC pipe. Again fabric was placed around the excavated sidewalls and then the area between the fabric and the structure was filled with gravel. The same procedure was followed for Leaching Pit #7 and Catch Basin #4.

Excavation in both areas proceeded through the sandy substratum, no features or artifacts were noted. See Appendix A for photo documentation.



Figure 14. Soil profiles SP7 and SP9

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

While the archaeological monitoring of the completion of the proposed driveways and drainage management system at the North Cemetery (WAY.800) did not reveal any significant archaeological artifacts or features, it did shed some light on present and past landscape activities. During the implementation of Phase I activities considerable disturbance was created around the area of the Center Driveway. Soils that had been excavated were stockpiled on areas that would be completed during Phase 2 (the current project) activities. In areas where the landscape was not disturbed during Phase 1 activities, subsurface conditions reflect the area's agricultural past.

As no significant features or artifacts associated with the pre-Contact period, the early Colonial period, or burials associated with either time period were identified during the archaeological monitoring, the cemetery expansion project was implemented as planned. The remaining sections within the 1972 expansion area are considered to have a low potential for archaeological resources.

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## **APPENDIX A: PHOTOGRAPHS**



#### **List of Plates**

#### **Pre-construction**

- Plate 1. Looking easterly along paved driveway completed in Phase I, note piles of excavated dirt in northeast corner.
- Plate 2. Looking northerly along proposed location of West Driveway, note shrub/evergreen fence along perimeter of the expansion area.
- Plate 3. Looking easterly along proposed location of North Driveway, note piles of excavated dirt in southeast corner.
- Plate 4. Looking easterly along graded/cut out area, the proposed location for the Center Driveway.
- Plate 5. Looking westerly along graded/cut out area, the proposed location for the Center Driveway.
- Plate 6. Looking northerly along the proposed location of East Driveway, note piles of excavated dirt in northwest corner.

#### **Construction of Driveways**

- Plate 7. Looking northerly along completed West Driveway.
- Plate 8. Looking southeasterly near intersection of North Driveway and East Driveway at clearing of excavated dirt.
- Plate 9. Looking easterly along completed North Driveway.
- Plate 10. Looking westerly at gravel to be spread out over North Driveway.
- Plate 11. Looking easterly along completed Center Driveway.
- Plate 12. Looking southerly along completed East Driveway.

#### Installation of Leaching Pits and Catch Basins

- Plate 13. Looking northwesterly at hole being dug and measured for depth for Leaching Pit 6.
- Plate 14. Looking northwesterly at lower section of Leaching Pit 6 being installed.
- Plate 15. Looking northerly at completed installation of Leaching Pit 6 and gravel filling the hole.
- Plate 16. Looking westerly at completed installation of Leaching Pits 6 and 5.
- Plate 17. Looking easterly at location of Leach Pits 6 and 5 and Catch Basin 3 covered with cloth.
- Plate 18. Looking northerly at installation of lower section of Catch Basin 4 by Leaching Pit 7.



Plate 1. Looking easterly along paved driveway completed in Phase I, note piles of excavated dirt in northeast corner.



Plate 2. Looking northerly along proposed location of West Driveway, note shrub/evergreen fence along perimeter of the expansion area.



Plate 3. Looking easterly along proposed location of North Driveway, note piles of excavated dirt in southeast corner.



Plate 4. Looking easterly along graded/cut out area, the proposed location for the Center Driveway.



Plate 5. Looking westerly along graded/cut out area, the proposed location for the Center Driveway.



Plate 6. Looking northerly along the proposed location of East Driveway, note piles of excavated dirt in northwest corner.



Plate 7. Looking northerly along completed West Driveway.



Plate 8. Looking southeasterly near intersection of North Driveway and East Driveway at clearing of excavated dirt.



Plate 9. Looking easterly along completed North Driveway.



Plate 10. Looking westerly at gravel to be spread out over North Driveway.



Plate 11. Looking easterly along completed Center Driveway.



Plate 12. Looking southerly along completed East Driveway.



Plate 13. Looking northwesterly at hole being dug and measured for depth for Leaching Pit 6.



Plate 14. Looking northwesterly at lower section of Leaching Pit 6 being installed.



Plate 15. Looking northerly at completed installation of Leaching Pit 6 and gravel filling the hole.



Plate 16. Looking westerly at completed installation of Leaching Pits 6 and 5.



Plate 17. Looking easterly at location of Leach Pits 6 and 5 and Catch Basin 3 covered with cloth.



Plate 18. Looking northerly at installation of lower section of Catch Basin 4 by Leaching Pit 7.