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CULTURAL LANDSCAPE REPORT FOR FORT HILL

Cape Cod National Seashore



Olmsted Center for Landscape Preservation

National Park Service

CULTURAL LANDSCAPE REPORT FOR FORT HILL

Cape Cod National Seashore

by
Lynn Kneedler-Schad,
Katharine Lacy,
and Larry Lowenthal

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FOREWORD

For most of us, a visit to Fort Hill is a memorable experience. Its proximity to the shoreline, its 50-foot height, and its lack of covering forest make this hilltop an ideal platform for viewing Nauset Marsh and the Atlantic Ocean. Not surprisingly, it is one of the most heavily visited places in Cape Cod National Seashore, after the six ocean beaches and the two visitor centers.

When Fort Hill became part of the National Seashore in 1963, it had been deforested since prehistoric times. Agriculture that began with the Native Americans and did not end until 1950 established and continued the openness; mowing has maintained it since. Two old farmhouses (both still privately owned) and a system of stone walls survive as reminders of Fort Hill's agricultural heyday.

We in the National Park Service became aware during the early 1980's that maintaining this magnificent visual setting would require conscious and specific efforts. Our recognition of the historical significance of the cultural landscape—and our efforts to protect its characteristics—date from 1989, when the Park Service began taking measures to preserve and protect what remained of the stone walls. Archeological sites that correspond to Native American villages reported by Champlain became part of a National Historic Landmark in 1992. The previous year, Hurricane Bob had extensively damaged groves of black locust trees throughout Cape Cod. At most locations within the National Seashore, the downed trees and uprooted stumps were left in place for nature to recycle. Superintendent Andy Ringgold chose a different course at Fort Hill. Here, two storm-damaged groves of black locusts, which had been encroaching into the historically open landscape since the 1970's, were removed.

As Superintendent Ringgold recognized when he commissioned this report, research is the essential basis for resource management. The study team carefully documented the activities and patterns of the past, improving our understanding of the landscape and enabling us to be its responsible stewards in the future. It will be my role, as Andy Ringgold's successor, to act on the recommendations put forward in this report. I approach that responsibility with confidence, grateful for the high quality of the research that underlies those recommendations.

Maria Burks

Superintendent

Cape Cod National Seashore

ACKNOWLEDGMENTS

The Cultural Landscape Report for Fort Hill was sponsored by the Cape Cod National Seashore, National Park Service (NPS). We would like to thank Superintendent Ringgold and his successor, Superintendent Burks, for their support of this project. Special thanks are also due to G. Frank Ackerman, Chief of Interpretation and Cultural Resource Management, Cape Cod National Seashore, for his advocacy of the project and his guidance through the development of the report.

We would like to thank NPS employees Margie Coffin, Catherine Evans, Lauren Meier, Hope Morrill, Mike Reynolds, Mark Tabor, and Paul Weinbaum, who reviewed early drafts of this report, and Heidi Hohmann, for editorial and production assistance. Special thanks are due to Nora Mitchell, Director, Olmsted Center for Landscape Preservation, and Phyllis Andersen and the Arnold Arboretum for administrative support and direction.

We are also indebted to the many persons who provided assistance with additional research for this report, specifically Margie Coffin, Catherine Evans, and Charlie Pepper of the Olmsted Center for Landscape Preservation; Mark Adams, David Crary, Jr., Hope Morrill, Mike Reynolds, Dennis St. Aubin, and Jamie Bell, all Cape Cod National Seashore employees; Mark Tabor, on-site planner from the NPS Denver Service Center; Lillian Lamperti, Eastham Town Clerk; Helen Mourton, Eastham Historical Society; Robert N. Oldale, U.S. Geological Survey geologist and author; and the staffs of the Town of Eastham Public Library and the Barnstable County Registries of Deeds and Probate. We also thank the individuals who gave personal and telephone interviews. These include Herbert Olsen, Marjorie Burling, Jim Bowman, Walter Brady, James Killian, and Joe Stephens, all retired Cape Cod National Seashore employees, and Charles A. Gunn, Jr., son of the last person to farm the Knowles properties.

This report was edited and prepared for publication by Sharon K. Ofenstein, Technical Publications Editor for the Cultural Resources Center, NPS.

INTRODUCTION

The subject of this report is a tract of land in the Town of Eastham, Barnstable County, on the outer part of lower Cape Cod (fig. 1). It encompasses about 100 acres of salt marsh and upland located south of Hemenway Road, west of Nauset Harbor, northwest of the Town Cove, and east of U.S. Route 6 (fig. 2). This report refers to the entire tract as "Fort Hill," after its most prominent feature. However, the subject area of the report extends well beyond Fort Hill proper; e.g., it includes part of nearby Skiff Hill, to the north. The tract is essentially comprised of the two large farms formerly owned by the Knowles family, and the Captain Edward Penniman property. It is currently part of the Cape Cod National Seashore.

Fort Hill boasts a long and rich history of settlement and use. It was visited in 1605 by the explorer Samuel de Champlain, who reported that the land was partially cleared and inhabited by Native Americans. Two distinguished figures in the Colonial history of Cape Cod and Massachusetts, Governor Thomas Prence and Samuel Treat, both owned land in the vicinity of Fort Hill. Despite these illustrious associations, Fort Hill is most distinguished for its uninterrupted ownership by members of a single family for more than 200 years. This was the Knowles family, who owned Fort Hill from 1742 to 1943. During their long tenure, the Knowleses—with their relatives by marriage, the Pennimans—made a substantial if sometimes subtle mark on this landscape.

A fortunate series of circumstances has allowed Fort Hill to undergo only minimal change since the end of Knowles ownership in 1943. The surrounding Town of Eastham and all of Cape Cod, by contrast, have experienced dramatic development and change during this period. The remarkable constancy of the Fort Hill area gives it special value, and makes its protection and stewardship of critical importance.

This Cultural Landscape Report for Fort Hill was initiated by a direct request from the Superintendent of the Cape Cod National Seashore. He and his park management staff were seeking guidance on the protection and long-term maintenance of the landscape at Fort Hill. It was also realized that a Cultural Landscape Report could inform the Development Concept Plan being prepared for the Fort Hill area in association with the forthcoming General Management Plan for Cape Cod National Seashore. Of particular concern was the need to balance the protection of landscape features in the open, eastern portion of the site (field patterns, stone walls, trails, and ponds) with current maintenance, safety, and visitor needs. Indeed, when this project was initiated, it was assumed that the property to be addressed was limited to this formerly agricultural area. Only well into the preparation of the site history was it determined that the appropriate boundaries for the study area should encompass all of the NPS-owned land in this area. Thus, the focus of this report gradually expanded to include the Penniman House property, the Red Maple Swamp, and the privately owned Avery and Burrill residences.

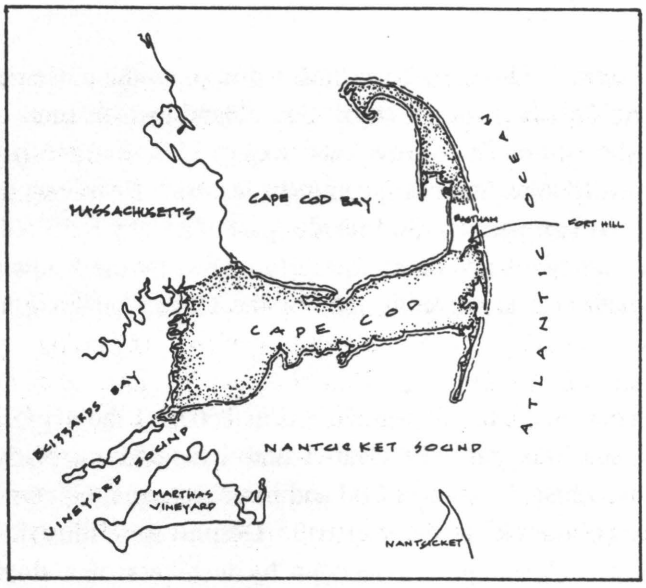


Figure 1. Location Map.

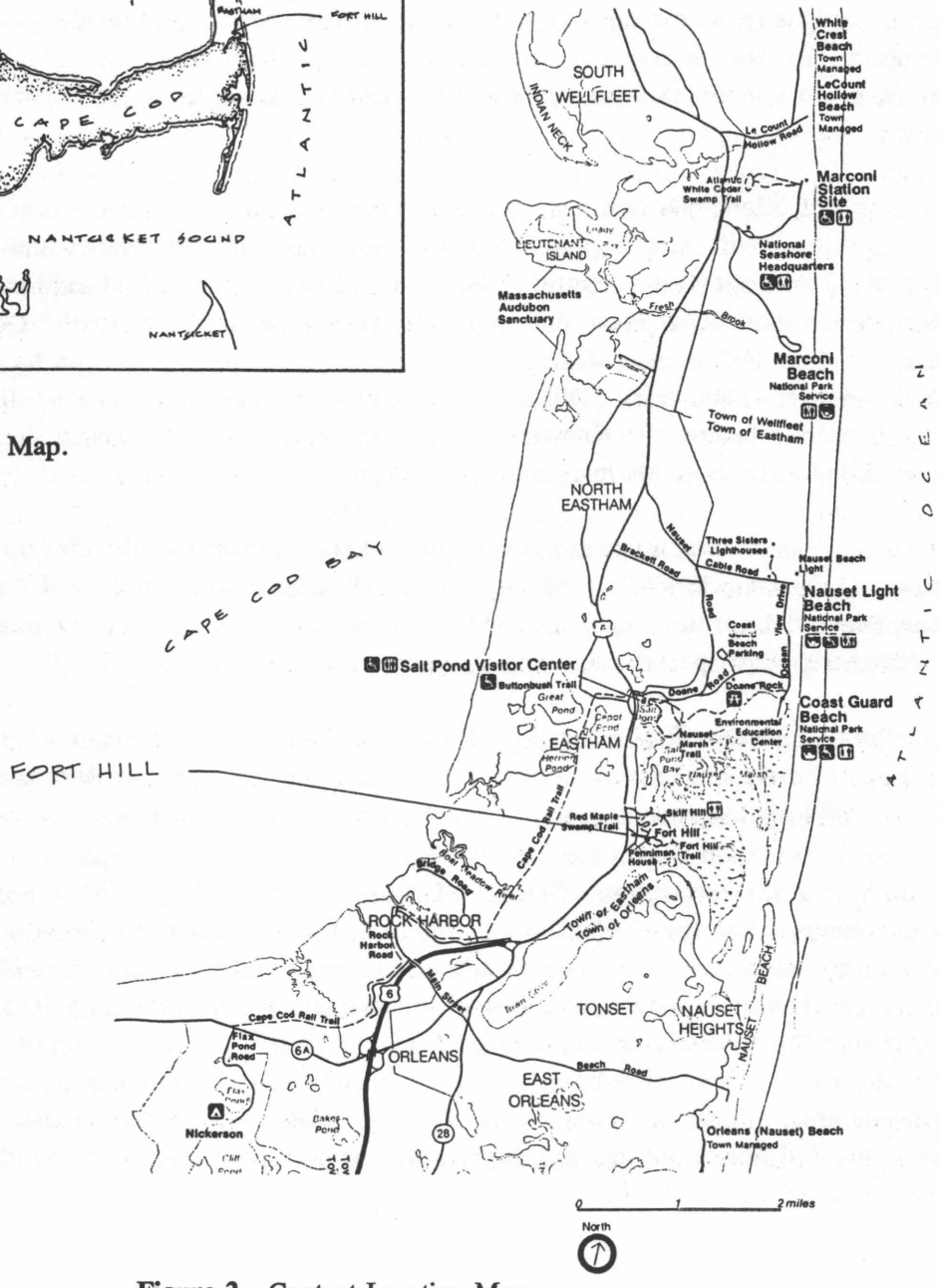


Figure 2. Context Location Map.

METHODOLOGY

The development of the site history began with a review of earlier historical and archeological studies of Cape Cod National Seashore in general, and the Fort Hill area in particular. Published histories of New England, Barnstable County, and the towns of Eastham, Wellfleet, and Orleans were examined, as were personal and family histories found in the collections of the Town of Eastham's Historical Society. (These are housed in the Vivian Andrist Room of the Eastham Public Library.)

While the Penniman House and Barn have been well-documented through the preparation of the 1985 historic structure report on that property, there is notably less information available regarding the surrounding landscape. Fortunately, the curatorial collection of Cape Cod National Seashore includes an extensive collection of historic photographs of the Penniman House and grounds dating from 1880-1913. These were printed from glass-plate negatives found in the house when it was acquired by the National Park Service. These historic photographs, reputed to have been taken by Captain Penniman's daughter Betsey (Bessie) Augusta Penniman, were very useful in the study of historic site conditions.

The story of ownership and land use for the site was developed from primary source materials such as the records at the Eastham Town Clerk's office and the Barnstable Country Registries of Deeds and Probate. Unfortunately, a fire in 1827 destroyed the Barnstable County Land Records. Replacement records for the period before the fire consist of donated copies of deeds and documents, and are therefore incomplete. Nevertheless, it was possible to piece together the chain of title for the site. Helpful in this regard was the examination of records of the Massachusetts State Archives at Columbia Point, Boston, and the Federal Archives at Waltham, MA. Changes in land use also were documented through examination and charting of the Town of Eastham's assessors' records.

An understanding of the site after its acquisition by the National Park Service was gained from an analysis of the administration of the site. This was done using largely National Park Service documents, and interviews conducted with current and former Fort Hill residents, neighbors, and NPS employees.

Based on the information compiled in the site history, and gleaned from the historical maps, plans, and aerial photographs, periods of significance were identified and illustrative period plans were developed. These period plans then allowed for a comparative analysis of the historical versus the existing conditions. The comparative analysis achieved the goal of determining the overall integrity of the site, and identifying character-defining features of the landscape.

The preparation of this report involved extensive site visits to Fort Hill. Initially, site notes were made. Later, a photographic record of existing conditions was created. Finally, field investigation helped to confirm or refute research findings.

Once the level of integrity and character-defining features were established, it was possible to analyze Fort Hill's potential eligibility for listing on the National Register of Historic Places. Finally, in close consultation with the management and staff of Cape Cod National Seashore, and in accordance with the Secretary of the Interior's Standards, a treatment was selected and specific recommendations were devised.

SITE HISTORY

ORIGIN OF THE NAME "FORT HILL"

The "Fort Hill" area studied by this report has never been defined by formal boundaries. Rather, it is a group of areas that have been linked over time by related uses and ownership. This combined acreage is commonly known as "Fort Hill," after an elevated portion of the area. The traditional explanation of the name "Fort Hill" derives from an act passed by the Plymouth Colony court on June 9, 1653:

> It is ordered by the court that betwixt this prsent day and the first Tusday in october next; The townesmen of every towne within this government shall make and fully finish a place or places for defence of theire said towne...videlecett [videlicet: namely] a brest worke with flankers unto every such worke as shall bee made.... And if any towne shall neglect to pforme the worke according to this order they shall forfeite the summe of ten pounds.... [modern forms of "u" and "v" substituted][1]

The occasion for this act was a renewed naval war between the English and the Dutch, and the colonists' resultant fear of attack by the Dutch colony of New Amsterdam. Friction between New England and New Amsterdam had already arisen concerning trade relations with the Indians. It seems improbable that colonies whose own existence was rather tenuous could have threatened others. Nevertheless, even a cursory examination of the Plymouth Colony records shows that a great deal of attention was given to foreign relations. For example, a "Fort Hill" was designated in both early Plymouth and Boston.

If defensive works were constructed in Eastham, Fort Hill would have been a logical location for them. The core of Eastham, within the expansive original boundaries of the town, lay just to the south and west; artillery on Fort Hill could have commanded the entrance to Nauset Harbor. There is no evidence in town or colony records that fortifications were ever constructed, much less provided with artillery.[2] (Interestingly, there is no record that the 10-pound penalty was forfeited, either.) However, it seems reasonable that the name Fort Hill derived from this 17th-century legislation. An early grant that conveyed land to Plymouth Governor William Bradford referred to a "fort hill":

> A parcell of Land Granted to Mr William Bradford Senior for a house Lott containing five acres more or less bounds Viz a white oak tree marked above the fort hill nigh the common To a stump marked at the corner of Nicholas Snowes meddow; and soe running to a stake by John Smalys Meddow, soe running by ye meddow and the high way to the corner of Steven Woods [probably Stephen

---

[1] David Pulsifer (ed.), *Records of the Colony of New Plymouth: Laws 1623-1682* (Boston: 1861), p. 62.

[2] There is no evidence that artillery was present in Eastham in the 1650's.

> Atwood's] house So thirty-six feet being left for a high way and Soe upon a straite line to the first bound specified....[3]

This is one of only two specific references to Fort Hill found in the old records. The other dates from 1695 and refers to the same piece of land. The bounds of the tract were lost, and a committee was delegated to examine the land and renew the bounds.[4] The precise description of the "upland lying about the fort hill" was given as follows:

> beginning at a stone marked E set into the ground neere the easterly corner of the medow formerly granted to Nicholas Snow: and from thence ranging easterly along by the side of the medow 31 pole to a stone marked E set into the ground at the turning of the point of upland and from thence northerly 24 pole to another stone set into the ground marked E and from thence 32 pole westerly to another stone marked E set into the ground on the westerly side of the fort hill and from thence 25 pole southerly to the stone first mentioned.[5]

No other early references to Fort Hill have been found, nor is the name known to have appeared on any subsequent deed or map. There is even a hint that the name was unfamiliar, and possibly suspect, in the 19th century. In 1855, H. Doane II laboriously transcribed the original early land grants, including the 1659 Bradford grant. Doane noted the name with an "x", and in a footnote preferred to read "fort" as "first."[6] Doane's work probably made him more familiar with the grants than anyone else in his day. The fact that he was suspicious of the name may indicate that it was not then in common use. However, the existence of the two 17th-century citations rules out the idea that the term was a creation of romantic 19th-century historians.

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[3] Land Grants, 1659-1710 (Eastham Town Records). The surmise that this land lay just to the west of Fort Hill is based largely on information derived from subsequent transfers.

[4] Land Grants, Book I (Eastham Town Records), p. 152. This is a bound, transcribed volume.

[5] Land Grants, Book I (Eastham Town Records), August 7, 1695. The "E" probably stood for Eastham, since the land was owned by the town.

[6] Land Grants, Book I (Eastham Town Records).

PRE-CONTACT AND CONTACT-PERIOD SETTLEMENT AT FORT HILL

Thorough research into pre-contact or contact settlement of Fort Hill was not within the scope of this project. It is nevertheless important to note that Fort Hill was part of an area in which there was long-term Native American presence (fig. 3). The French explorer Samuel de Champlain paid an extended visit to the Nauset Harbor area in 1605. He documented his visit with a narrative, in which he described the harbor as "entirely surrounded by little houses, around each one of which there was as much land as the occupant needed for his support."[7] He also prepared a map, part of which is shown as figure 4.[8] The indigenous settlement depicted by de Champlain shows the land around Nauset Harbor to have been cleared, and the Indian residents to be engaged in the practice of agriculture. A small expedition of Pilgrims also noted the presence of permanent Native American settlements around Nauset Harbor in 1620, though no specific mention is made of Fort Hill.[9]

In 1993 the Nauset Archeological District, which includes Fort Hill and five other sites, was designated a National Historic Landmark for "yielding or possessing the potential to yield nationally significant information on Historic Contact in the Northeast" (Appendix E). According to the nomination form, the overall distribution of the six sites "roughly corresponded to the dispersed pattern of individual wigwams and cornfields depicted by Samuel de Champlain on his 1605 map of the area."[10] Investigations associated with this nomination revealed that Fort Hill contains a large, multi-component prehistoric site dating from the Late Archaic to the Late Woodland period. This confirms the intuitive perception that Fort Hill, with its rich soil, commanding location, and proximity to shell fisheries, was an especially attractive site for native habitation.

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[7] W.L. Grant, ed., *Voyages of Samuel de Champlain* (New York: Barnes & Noble, 1959), p. 70. Champlain named the place "Port de Mallebarre"; by the 19th century, however, this name had been shifted to the Monomoy Point area in Chatham, two towns farther south. [Ref., Charles P. Otis, trans., *Voyages of Samuel de Champlain* (New York: Burt Franklin, 1966), vol. 2, p. 11, fn. 167.

[8] A comparison of this map and modern ones shows that Nauset Harbor has changed a great deal since 1605. The entrance has moved southward, and the whole interior channel has been altered.

[9] Nauset Archeological District, National Historic Landmark Nomination, 1993, p. 8. From Dwight Heath, ed., *A Journal of the Pilgrims at Plymouth: Mourt's Relation (1622)* (New York: Corinth Books, 1963), p. 37.

[10] National Historic Landmark Nomination, Nauset Archeological District, 1992, p. 4.

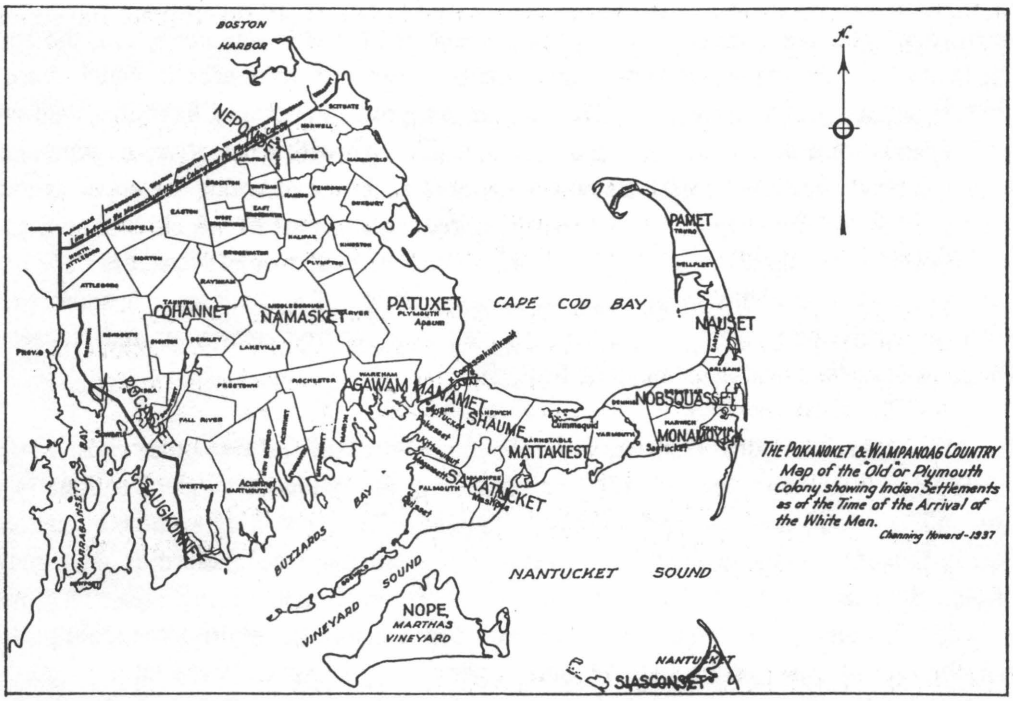


Figure 3. Principal Indian Tribes of Cape Cod (map drawn 1937).

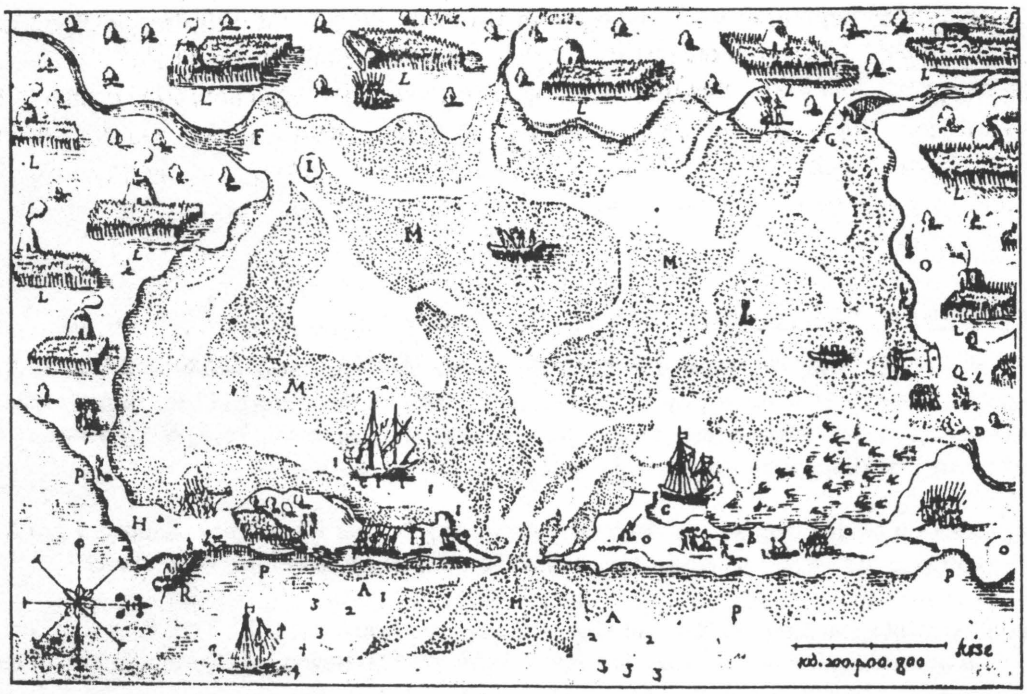


Figure 4. Detail of Map by Samuel de Champlain, 1606, showing Nauset Harbor.

Archaeologists Francis P. McManamon and James W. Bradley performed the work on which the National Historic Landmark nomination was based. They summarized the nature of pre-contact and contact period Native American settlement around Nauset as follows:

> Our conclusion is that the Native Americans who lived at Nauset enjoyed a relatively stable cultural adaptation to an environment rich in subsistence resources. They had a subsistence economy that included a wide range of types of food, some of which varied seasonally. Their economic activities probably included horticulture, but the fruits of this labor did not dominate their diets.
>
> They lived in locations like those surrounding Nauset Marsh and Wellfleet Harbor. These locations allowed easy access to a variety of micro-environments ranging from tidal flats and salt marsh to freshwater wetland and wooded upland. Each environment contributed to subsistence and other parts of the economy. Extraction of the needed natural resources did not require movement of the principal residences. The plans of the villages are more dispersed than those commonly known among the Iroquois and Huron. These settlements were smaller and far less aggregated than those of their intensely horticultural Midwestern contemporaries.[11]

EARLY SETTLEMENT OF NAUSET BY GOVERNOR PRENCE AND THE PLYMOUTH COLONY

Scarcely 20 years after beginning their endeavor in the New World, the Pilgrims in Plymouth were already becoming disillusioned with the territory they had chosen. In the words of Rev. James Freeman, "[T]hey discovered in a few years, that they had built their town in the neighbourhood of one of the most barren parts of New England...rendering it improbable that Plymouth could ever be raised into a flourishing and opulent capital."[12] The communal impulse was still strong, and the Plymouth councils debated whether it would be preferable to relocate in a body, rather than see the community drained by individual departures.

The Pilgrims' initial exploration of Massachusetts Bay, before they settled at Plymouth, had acquainted them with Nauset (later known as Eastham). Contacts with the native inhabitants there had been

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[11] Francis P. McManamon and James W. Bradley, "The Indian Neck Ossuary and Late Woodland Prehistory in Southern New England." From McManamon, Bradley, and Ann L. Magennis, *The Indian Neck Ossuary: Chapters in the Archeology of Cape Cod., V*, Cultural Resources Management Study 17 (Boston: Division of Cultural Resources Management, North Atlantic Region, NPS), p. 1-47.

[12] Rev. James Freeman, "Description and History of Eastham," *Collections of the Massachusetts Historical Society, First Series, Vol. VIII* (Boston: Munroe and Francis, 1802), p. 163. Rev. Freeman relied on original documentary sources for Plymouth Colony and cited them copiously.

maintained, and food supplies from that area helped sustain Plymouth during times of scarcity.[13] This gave Nauset a reputation, improbable as it may seem today, as "an agricultural land of plenty."[14] William Bradford, an early governor of Plymouth Plantation, wrote that the Nauset soil "is for the most part a blakish [sic] and deep mould, much like that where groweth the best tobacco in Virginia."[15] Nauset was therefore one of the locations suggested for resettlement.

Two committees from Plymouth went out to examine the area. After careful investigation, the second committee concluded that Nauset would not be able to accommodate even the current population of Plymouth. This brought an end to discussion of relocating the entire town, but individuals were given permission to move. In 1644 a group of 49 people left Plymouth to begin the settlement of Nauset.[16] The migrants included most of the men who had composed the second exploratory committee. This suggests that these individuals were among those most discontented with Plymouth, or most impressed by Nauset.

The prominent leader of the migrants was Thomas Prence, who had been governor of the Plymouth colony for two years, and assistant governor many other years. Those who accompanied Prence were also considered to be among the most respectable families of Plymouth.[17] Possibly they were also among the most ambitious, less willing to be hindered by the limited economic prospects of Plymouth. Thomas Prence was obviously devoted to the Eastham settlement. Chosen governor again in 1657, he resisted moving back to the seat of government at Plymouth and received a special dispensation that allowed him to continue living in Eastham.[18] This meant that Eastham, although relatively isolated on the eastern fringe of the colony, was in effect the political center of Plymouth for several years.

The migration to Nauset was one of the earliest and purest examples of a phenomenon that became characteristic of New England history—"hiving." In this process, as in a bee hive, part of the colony

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[13] J. Freeman, "Description and History of Eastham," p. 162.

[14] Berle Clemensen, *Cape Cod National Seashore Historic Resource Study* (Denver: Denver Service Center, NPS, 1979), p. 71.

[15] William Bradford, *History of Plymouth Plantation, 1620-1647*, Vol. I (Boston: Houghton Mifflin, 1912), p. 208.

[16] Alice A. Lowe, *Nauset on Cape Cod: A History of Eastham*, 2nd ed. (Eastham, MA: Eastham Historical Society, 1968), p. 13.

[17] J. Freeman, "Description and History of Eastham," p. 166.

[18] Clemensen, *Historic Resource Study*, p. 72, and Rev. Enoch Pratt, *Eastham, Wellfleet and Orleans* (Yarmouth, MA: W.S. Fisher, 1844), p. 13.

splits off under new leadership, while the original settlement continues.[19] The metaphor is especially apt because it expresses the communal aspirations of early New England. The Nauset migration was noteworthy for the homogeneity of its members. A recent study has found that "just over ninety percent of Eastham's population in 1659 had a bond with Plymouth, either the colony or the town."[20] As a result, "Eastham was a direct example of the expansion of Plymouth in a way that no other Cape Cod town could claim."[21] The similar origins, seriousness of purpose, and the leadership of competent men such as Prence spared Eastham the puerile dissension that disrupted the development of many other early towns. Eastham thus seems to approach the ideal of the "Peaceable Kingdom" described by historian Michael Zuckerman in his *History of New England Towns in the Seventeenth Century.*[22]

The Plymouth government's Nauset grant embraced the present towns of Eastham, Orleans, and Wellfleet. Nauset was incorporated as a town in 1646, and in 1651 it changed its name to Eastham. At that time, it was the only organized town beyond Yarmouth, and so by default functioned as the center of religious and political life for the whole Lower Cape. In keeping with colonial practice, the original settlers were given tracts of land, part of which they used and part of which they reserved for future need. However, the settlement pattern of Eastham differed from other early colonial patterns in that it lacked any concentration of structures that might have been called a village center.[23]

The ownership of the land around Fort Hill under the Plymouth Colony is unclear. Characteristically, it seems to have been parceled out in small tracts, and the names of some of the owners are evident as abutters in grants that have been cited. The precise use of this land is uncertain, but its consistent description as "upland," rather than woodland, furnishes a clue. Typically, the New England settlers made use of lands the Indians had already cleared, and there is no reason to suppose Eastham was an exception.

The numerous surviving records of Eastham land grants show that few, if any, exceeded 20 acres; many parcels were five acres or less. The intention probably was to maintain the ideal of the clustered communal settlement that had motivated the original Plymouth settlers. Under this arrangement, with

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[19] Bruce C. Daniels, *The Connecticut Town: Growth and Development, 1685-1790* (Middletown, CT: Wesleyan Univ. Press, 1979).

[20] H. Roger King, *Cape Cod and Plymouth Colony in the Seventeenth Century* (New York: University Press of America, 1994), p. 81.

[21] King, *Cape Cod and Plymouth Colony*, p. 81.

[22] Michael Zuckerman, *Peaceable Kingdoms: New England Towns in the 18th Century* (New York: Knopf, 1970).

[23] Marlene Rockmore, *A Documentary Review of the Historical Archaeology of the Cape Cod National Seashore* (1979), p. 6; copy in the Division of Cultural Resources Management, NPS, Boston, and the Marconi Visitors' Center Library, Cape Cod NS.

farming as the nearly universal source of livelihood, families lived close together and worked land scattered throughout the township. The varied geography of Eastham favored this approach. Perusal of early land records indicates that it was intended to grant each resident an assortment of land in each of the main categories needed for subsistence: meadow (by which was meant salt meadow, or marsh), upland (cleared pasture or tillage), and woodland.

It has been claimed that Governor Prence owned a farm of 200 acres in Eastham, extending from Cape Cod Bay to the Atlantic Ocean, and including land at Fort Hill. Like several other assertions of dubious validity, this seems to have originated with a 19th-century historian, Rev. Enoch Pratt of Brewster.[24] Two circumstances makes the existence of such a large land holding unlikely, not only at Fort Hill, but also anywhere on Cape Cod. First, there is no record of such a large grant. Admittedly, a fire in 1827 destroyed many of the Barnstable County land records, making it impossible to reconstruct a complete history of ownership. If Prence did not own land on Fort Hill during this period, it is difficult to determine who did. Second, as explained previously, a huge single tract of 200 acres was not the customary method of distributing land in Eastham.[25]

Numerous land grants were made to Prence, but most were for land back in Plymouth. The historical records suggest that he did in fact own some land in the vicinity of Fort Hill. One of the few land transactions involving Prence that survives in the early Eastham records describes land south of Fort Hill, but not on it. On April 19, 1659, a land transfer from Josiah Cooke to Prence described the property as:

> The house and lots of Josiah Cooke, bounded on the northerly side with a town brook; on the westerly side with the common highway from said brook to a stone pitched by a swamp to the northwest of the meetinghouse and from the said stone down to the Cove in the southerly bounds and bounded on the easterly side with the Cove, ranging along to the mouths of the forementioned town brook; all these lands of both these house lotts lying within these limits is of upland twenty acres more or less of meadow two acres and half more or less possessed purchased and granted to the said Thomas Prince withal and singular the appurtenances thereunto belonging to have and to hold....[26]

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[24] Pratt, *Eastham, Wellfleet and Orleans*, p. 12; Pratt makes a similar claim with respect to another settler, John Doane.

[25] Another consideration, though not explicitly stated, may be that with the primitive methods then available to measure and mark land, long boundaries other than those defined by natural features, would tend to compound errors.

[26] Land Grants, 1661-1703 (Eastham Town Records).

The "town brook" cited in the description was probably the brook running into the inlet that forms the southern boundary of Fort Hill.[27] This parcel is said to be the same as that conveyed by Prence to his daughter Mercy and her husband Samuel Freeman in 1662, and which remained in Freeman ownership long afterward.[28] Prence's will, dated March 13, 1672, does not mention any land at Fort Hill or in Eastham. However, the accompanying inventory lists two parcels in Eastham, including "20 acres of land and 3 acres of Meddow att Tonsett" [Tonset, in present Orleans] and 8 acres "lying on Pochey Iland" [Pocha, modern Pochet, also in present Orleans].[29]

There is general agreement that Prence's house was not actually located on Fort Hill, but nearby. Writing about it in 1844, historian Enoch Pratt uses the past tense, suggesting that it was gone by that time. He stated that it "stood about forty rods to the eastward of the road, on the farm of the late Samuel Freeman."[30] Relating the description to modern landmarks, Clemensen concludes that it "stood about 300 feet east of the present site of Eastham's information booth near the junction of Governor Prence Road and Highway 6."[31] In her recent history of Eastham, Alice A. Lowe describes the Prence residence as:

> a little "half" Cape Cod which had been built on the hillside below the church. It stood in ruins for many years after it was last occupied, its wide floor boards and enormous corner posts mute proof of the mighty oaks and cedars hewn down by the settlers. The door-stone was removed in 1910 and placed in the threshold of the west entrance to the Pilgrim Monument at Provincetown.[32]

By June 1, 1663, the colony had provided Prence with another residence at Plymouth. The Governor's services were so highly regarded that the citizens defrayed his expenses and granted him various other

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[27] Historical files, Cape Cod NS. These handwritten notes are said to be copies of a transcription made in 1883 of early Eastham town records. The Eastham records are confusing because, in addition to original volumes that survive, the clerk's office retains volumes of transcriptions made by a former town clerk, H. Doane II, in 1855-56. The transcriptions often duplicate one another, as well as the original. Furthermore, the originals are often confusing because of overlapping chronology caused when later entries were made on blank portions of pages already used. Although the 1883 volume of transcriptions was extant around 1969, when internal evidence indicates the notes were taken, its location is now unknown.

[28] Historical files, Cape Cod NS.

[29] Anna C. Kingsbury, *A Historical Sketch of Thomas Prence* (Privately printed, 1924), p. 12.

[30] Pratt, *Eastham, Wellfleet and Orleans*, p. 12; Freeman was a descendant of Prence.

[31] Clemensen, *Historic Resource Study*, p. 71.

[32] Lowe, *A History of Eastham*, p. 17. Her description implies that at least part of the house was still evident in 1910, which contradicts Rev. Pratt's observation in 1844. Pratt would seem to be the more reliable source, being earlier, but his work is known to contain many inaccuracies.

inducements to persuade him to return to Plymouth. Presumably he relocated to the capital in early 1663 and remained there until his death in 1673.[33]

THE SAMUEL TREAT PERIOD AT FORT HILL (CIRCA 1672-1716)

Samuel Treat (1648-1717) was the first white settler whose permanent residence at Fort Hill has been confirmed. He came from a distinguished family of colonial New England. His father, Robert (ca. 1624-1710) was a governor of Connecticut and one of the founders of the Puritan settlement of Newark, NJ. Samuel Treat had graduated from Harvard College, and was apparently living in the home of his father in Milford, Connecticut, when he received the call from Eastham to serve as its minister.[34] Some disagreement exists about the year in which Treat began his service at Eastham. Most sources say that he received and accepted the call in 1672; others claim it was in 1675. The different dates probably reflect confusion between when he arrived in Eastham and when he was formally ordained.[35] Whatever the date, Samuel Treat's remarkable tenure as minister lasted nearly 45 years—a period that at the time of his death comprised more than 60% of Eastham's recorded history. A 45-year association with Treat's craggy personality had a powerful impact on the Eastham settlers. However, he is probably best known for his work with Native American Indians, who were still numerous in his sprawling parish. He learned their language, traveled great distances to preach the gospel to them, and trained assistants from their people.

Samuel Treat was not the first minister of Eastham; he was not the first trained minister there, or even the first paid minister to serve the community. As would be expected from the values of the Pilgrims who had journeyed to Plymouth and continued on to Nauset, the ecclesiastical history of the town began with its settlement. Treat's importance in the history of Eastham lies in the fact that he was the first person called from outside the town to be a full-time pastor, in the expectation that the town would furnish most or all of his support. It took nearly 30 years, from the settlement of Nauset to 1672, before the town felt prosperous and secure enough to make such an offer to a minister. Although events proved that their confidence was premature, the invitation represents an important milestone.

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[33] Kingsbury, *Historical Sketch*, p. 28, and Pratt, *Eastham, Wellfleet and Orleans*, p. 13; for reasons he does not explain, Pratt gives a date of 1665 for the transfer of residence.

[34] John Harvey Treat, *The Treat Family* (Salem Press, 1893), p. 167.

[35] Alice A. (Mrs. Horace P.) Lowe stated in June 1967 that "Samuel Treat became the first ordained Eastham minister in 1672 (Harwich historian [Josiah] Paine claims 1675 was the more likely date.)"; Cape Cod NS files. In *A History of Eastham* (p. 75), Lowe resolves the problem by stating that Treat "went to Eastham in 1672, being ordained there in March 1675." The date of ordination is confirmed by Plymouth records, and by Josiah Paine, "Rev. Samuel Treat and His Ministry," *Library of Cape Cod History & Genealogy*, No. 55 (Yarmouth Port, MA: C.W. Swift, 1914), p. 4.

The compensation of ministers was a persistent issue in the Puritan church. Eastham in the 1670's was only marginally able to support a full-time minister, so land grants were added to the clergy compensation package. The town's invitation to Treat offered to pay him 50 pounds, to build him a house, and to bring him a supply of wood. The town also proposed to grant Treat several tracts of land, which would enable him to provide part of his family's subsistence. The six tracts of land granted to Treat, which represented various types of land scattered around the township, were:

> a piece of upland and meadow given to the town by Manasseth Kempton,
> as also a parcel of upland and meadow bought by the town of John Young,
> as also three acres of meadow called the Mill Meadow,
> as also the island at Billingsgate called Leutenant's Island with the meadow about it,
> as also the broken marsh in the Great Meadows that is not already laid out,
> as also twenty acres of upland at the head of the cove called the Town Cove.[36]

The first parcel named was a five-acre "house lott" that had been given to the town for church use by Manasseth Kempton in 1662.[37] The parcel was apparently the same five-acre tract at Fort Hill that had been granted to William Bradford in 1659.[38] The second parcel named was smaller, about three-quarters of an acre in size. It was adjacent to and west of the Kempton parcel, and had been owned by John Smaly [Small?] prior to John Young.[39]

The proposal to Treat stated explicitly that "It is the mind of the town if they build one [house] to sett it up att the head of the Town Cove, upon land there reserved for that use."[40] However, Treat decided not to settle there. Historian Josiah Paine refutes the notion that Treat ever lived at the Town Cove, noting correctly that:

> The town cove lot, which is now included in the town of Orleans, was the tract upon which the town intended to build the minister's house, but Mr. Treat, upon his settlement, having decided to reside upon another lot which was nearer to the

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[36] *Record of Town Meetings, 1654-1745* (Eastham Town Records, Vol. I, April 11, 1673), p. 17. The John Young parcel was actually purchased by Josiah Cook(e) for the town; it is not known if Cooke was acting as an agent for the town, or was merely a munificent citizen.

[37] Letter written by Manasseth Kempton, September 5, 1662; historical files, Cape Cod NS. Rev. Pratt stated that "Compton" [Kempton] was an Indian, but he was mistaken. Kempton was a "yeoman" who lived in Plymouth; he owned land in Eastham but never moved there (ref., Land Grants 1659-1710, Eastham Town Records, p. 38 [?]).

[38] The letter from Kempton to the church was prefaced by a description of the lot, which referred to the prior Bradford ownership, and also described the adjacent acquired by the town from John Young.

[39] Based on the preface to Kempton's letter, which describes this parcel as lying between the Bradford/Kempton parcel and the highway.

[40] *Record of Town Meetings, 1654-1745* (Eastham Town Records).

> meeting house, between the land of Nicholas Snow and Stephen Atwood, he was allowed the privilege.[41]

The lot on which Treat did choose to live was the Kempton/Bradford parcel on Fort Hill. This is based on Paine's description of the lot as lying between land owned by Nicholas Snow and Stephen Atwood. (Both of these names appear as abutters of the Bradford grant in the 1659 description of this land.)

The status of Treat's land was a sensitive subject, and one that recurs frequently in town records. If the town granted Treat outright (fee simple) ownership, Treat would be free to dispose of the land, and the town, which had strained its resources to provide for him, would be forced to repeat the process for a successor. These concerns were expressed in a revealing document of 1677 in which the town, acknowledging that it was "straightened in support of accommodations for that end, having been at charge to purchase and hold a house and to purchase certain parcels of upland and meadow," resolved that these properties should be reserved for ministerial use, "never to be sold, given or any ways alienated...."[42] This restriction covered all the parcels that had been granted to Treat except the Town Cove lot and the "broken meadow," both of which had been given to him the year before in fee simple but reserved to the town the right to repurchase.

An important adjustment took place in March 1702, when the town granted Treat "all the upland and meadow belonging to the house lot where he now lives" (on Fort Hill), in exchange for surrendering "the twenty acres of upland at the head of the Town Cove and also all the meadow in the great meadow" granted him earlier.[43] However, the town reserved the right to repurchase "if the said Mr. Samuel Treat shall leave the work of the ministry and remove out of town...."[44]

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[41] Josiah Paine, "Rev. Samuel Treat and His Ministry," p. 5.

[42] Land Grants, 1661-1703 (Eastham Town Records), pp. 80-81.

[43] *Record of Town Meetings, 1654-1745* (Eastham Town Records), p. 69.

[44] The date given in Land Grants, Book I, is March 5, 1702; the date March 3, 1702/03 is given in Land Grants 1661-1703 (p. 105).

The location of Treat's ca.-1673 house on the five-acre parcel on Fort Hill is uncertain. The physical remains of a Treat house site were still visible well into the 19th century, and the location remained a matter of common knowledge. In 1884, in the course of preparing the family genealogy, John Harvey Treat visited this site and described it:

> The house was built a little southeast of the present residence of Seth Knowles [now the Burrill house], near the brook which ran from Cedar swamp to the Town cove, and not far from an excellent spring of water. The ground where the house once stood has been levelled, so that no trace of the foundation now remains, though as late as 1832, remains of the cellar could still be seen. The house stood a little back of the main road.[45]

However, 19th-century observers did not realize that Samuel Treat may have built a second house in the same vicinity circa 1704. This is based on a grant from the town on March 15, 1703/4, which gave him "a smale piece of land to set his house on near the entering in of the land that goes down to his now dwelling house."[46] Apparently Treat planned to build a new house; although not known for certain, it is likely that he did so. His ca.-1673 house may not have been very substantial, given the town's limited finances. (Records indicate that it soon needed repairs to its "underpinnings.") By 1703, he would have had both the motive and the means to build a new, better house.[47]

The second house (if such existed) was probably at the east end of Fort Hill Road, near the present Burrill house. This is based on the language of the grant, which places the site "near the entering in of the land that goes down to his now dwelling house." Given the limited size of the five-acre parcel, the first house was probably no more than a few hundred feet away. However, the language of the grant suggests that it was downhill from the site proposed for the second house. This would correspond to John Harvey Treat's description of the known Treat house site, "near the brook which ran from Cedar swamp to the Town cove."

After additional land acquisitions in 1711 and 1712, Treat owned a substantial part of the southern portion of Fort Hill. There is little information on the early use and appearance of Fort Hill, but it appears that Treat engaged in farming. One of the 1711 grants refers to his barn, and other land records speak of seemingly extensive fences and stone walls. However, agricultural activity at that time by a man in Treat's position would have been entirely for subsistence.

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[45] Treat, *The Treat Family*, p. 168.

[46] Land Grants, 1659-1710, p. 89 [?].

[47] In 1700, he had remarried to Mrs. Abigail Willard Estabrook. She was the daughter of a Boston minister, some 17 years his junior and accustomed to urban comforts. He also had the money to build; despite his preaching of an uncompromising brand of Calvinism, he "engaged in trade" in the latter part of his life and left a sizeable estate (ref., J. Freeman, "A Description and History of Eastham," p. 183).

Clues about the general appearance of Fort Hill in the 17th and early 18th centuries can be gleaned from descriptions of Nauset made during this period. The earliest accounts confirm that Nauset, speaking of its large original boundaries, was wooded with trees of superior size and quality. Early land descriptions refer to red and white oaks and walnut trees as bounds. Measures in town meetings suggest that wood was even exported from Eastham to other settlements. This changed very quickly, and the town records become filled with increasingly anxious regulations concerning the harvest of timber. By the end of the 17th century, the loss of prime woodland, and resultant damage to the soil, was well advanced. This is indicated by the following excerpt from town records:

> The Selectmen of the Town of Eastham, taking into serious consideration the great damage which doth accrue to the town by reason of persons cutting of cordwood and timber upon the commons and transporting it out of the township...doe order and enact that from and after the tenth day of Aprill next ensueing.... No person or persons whatsoever shall cut any wood or timber whatsoever upon any of the town's commons or undivided land [underscoring in original].[48]

THE ARRIVAL OF THE KNOWLES FAMILY AT FORT HILL

Among the early settlers of Eastham, though not in the first group, was the Knowles family. They were initially a "head of the cove" family, "none of them moving down to the north side of Town Cove until the third generation."[49] At some point between the death of Samuel Treat (1716-17) and the mid-18th century, the Treat homestead came into their possession, and the Knowles came to Fort Hill.

The deed marking precise date of this transition from the Treat to the Knowles era on Fort Hill has not been found. According to John Harvey Treat, Samuel Treat's property was purchased from his widow Abigail Treat in 1742 by Col. John Knowles (1673-1757), a member of the third generation.[50] However, the Rev. Pratt asserts it was purchased in 1723 by Willard Knowles (1711-86), Col. John's son, from "a son of Mr. Treat, after the death of his mother."[51] Examination of all of the evidence indicates that the Treat property on Fort Hill was indeed purchased in 1742, but by Willard Knowles.

The best evidence for the 1742 transfer date is Samuel Treat's will. The records, though incomplete, indicate that Samuel Treat's real estate was left to his second wife and their two children, rather than to

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[48] Entry dated March 27, 1695, *Record of Town Meetings* 1654-1745, Vol. I, p. 50 (Eastham Town Records).

[49] Virginia Knowles Hufbauer, comp., *Descendants of Richard Knowles, 1637-1973* (San Diego: Ventures International, 1974), p. 20.

[50] Treat, *The Treat Family*, p. 168.

[51] Pratt, *Eastham, Wellfleet and Orleans*, p. 36.

the 10 surviving children from his first marriage. Treat's land was to be divided when "my little son Robert" came of age in 1728.[52] Robert thus could not have sold the land in 1723. In fact, he died the next year, while his mother Abigail continued to live until 1746.

One argument in favor of Willard as the purchaser involves age: Col. John Knowles was nearly 70 years old in 1742, whereas Willard was 31, a reasonable age at which to be buying land. Still more compelling evidence is found in the will of Col. John Knowles, dated August 13, 1757.[53] Hufbauer, the Knowles family genealogist, cites the will as proof that Col. John bought Treat's house and land and passed them on to Willard. However, a careful reading of the will indicates otherwise. First, the will shows that Willard already owned land at Fort Hill by 1757. The will leaves to Willard "one half of a piece of land being about six acres...lying on the southerly side of the Long Swamp, between my son Willard's land and my grandson James Knowles' land."[54] Second, the will states that Willard was also to receive his father's house after the death of his mother. However, the inventory of Col. John's estate makes it clear that this house was not at Fort Hill, but rather in Orleans (then called "Stage").[55]

Willard Knowles' detailed will, and the inventory of his estate after his death in 1786, are highly important sources for the history of Fort Hill real estate (see Appendix A). The will is also the only known document that refers to boundary stones at Fort Hill marked with a "T" for the former owner Rev. Treat. These documents establish conclusively that Willard Knowles owned most or all of what we now know as Fort Hill, representing the first time the area was unified under one ownership.

The fate of the former Treat house after Willard's purchase of the property is unknown. It is quite possible that Willard lived in it, especially if it was a second house built circa 1704. Hufbauer asserts that Willard lived in Eastham, in the vicinity of the later Knowles homes.[56] This would correspond to the proposed location of the second Treat house, which should have been habitable in the 1740's and beyond. Coastal maps dated 1780 show only one house on Fort Hill, which would presumably have been the residence of Willard Knowles.[57] The structure appears to be in the vicinity of the later Knowles farmhouses, rather than at the known Treat house site. Thus, this house could have been Treat's second

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[52] Treat, *The Treat Family*, p. 174.

[53] Barnstable County Registry of Probate.

[54] The town's grant to Treat on March 5, 1702, which describes the Fort Hill land where Treat already lived, gives as one of the bounds "another stone marked S.T. near the western end of a little swamp, called the Long Swamp...."

[55] Barnstable County Registry of Probate.

[56] Hufbauer, *Descendants of Richard Knowles*, p. 55.

[57] Eastham is depicted on several of the atlas sheets by Joseph F.W. DesBarres, 1780, in the Massachusetts Historical Society. An earlier (1776) map by DesBarres that was cited by Clemensen could not be found.

house, inhabited by Willard, or a new house that Willard had built to replace Treat's house. However, these coastal maps are intended as aids to navigation, and may be somewhat less accurate in their depiction of land features.

Willard Knowles was a man of obvious prosperity, and was probably among the most affluent residents of Eastham. The inventory of his estate included large and varied landholdings scattered around the town. Thirteen separate parcels for which a size is given are listed, totaling 210 acres, although no single one was more than 25 acres. In addition, there were six other parcels for which no acreage was shown. Considering the extent and diversity of his land, Willard Knowles owned few livestock: five cows, three heifers, one ox, two horses, two swine, and 16 sheep.[58] It cannot be determined how many of these were kept at the Fort Hill homestead, though probably most were. With the possible exception of the sheep, the number of animals would have been sufficient for a family, but it does not represent a significant commercial operation.[59]

The inventory also shows that Willard was raising grain on his land: 48 bushels of Indian corn and rye, and eight bushels of wheat, are listed among his assets. This is not a fair indication of productivity, since the inventory was conducted in June, with only the remains of the previous year's harvest being listed.

Following the death of Willard Knowles in 1786, his land on Fort Hill was divided between his youngest sons Seth and William (see figures 5-6). Seth Knowles (1753-1821) was granted the homestead buildings of Willard Knowles, listed as dwelling house, barn, corn house, and "out Houses."[60] In lieu of her dower rights, Willard granted his wife Bethia Atwood Knowles the use and improvement of the buildings on Seth's land during her lifetime.[61] Bethia died only three years after Willard (in 1789), at which time Seth gained unrestricted ownership of the house and farm buildings.

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[58] Barnstable County Registry of Probate, Book 26, pp. 170-84.

[59] Mitchell T. Mulholland, with Richard D. Holmes and Carolyn Hertz, "Archeological Reconnaissance Survey of Fort Hill"; draft report prepared for the North Atlantic Region, NPS, by the University of Massachusetts Archeological Services, Amherst, MA, January 1994), p. 14. The nature of agriculture on Fort Hill from the early 18th to the early 19th century is not entirely certain. One may assume that corn and other grains, potatoes, and salt hay were produced. It is also probable that Fort Hill showed declines in agricultural productivity caused by soil depletion, overuse, and erosion. Sheep bones have been found in archeological test pits excavated during the late 1970's; however, the age of these bones has not been determined.

[60] Barnstable County Registry of Probate, Book 26, pp. 170-84.

[61] Because of this provision, some historians have mistakenly concluded that Willard's will gave Seth only a half-interest in the homestead buildings.

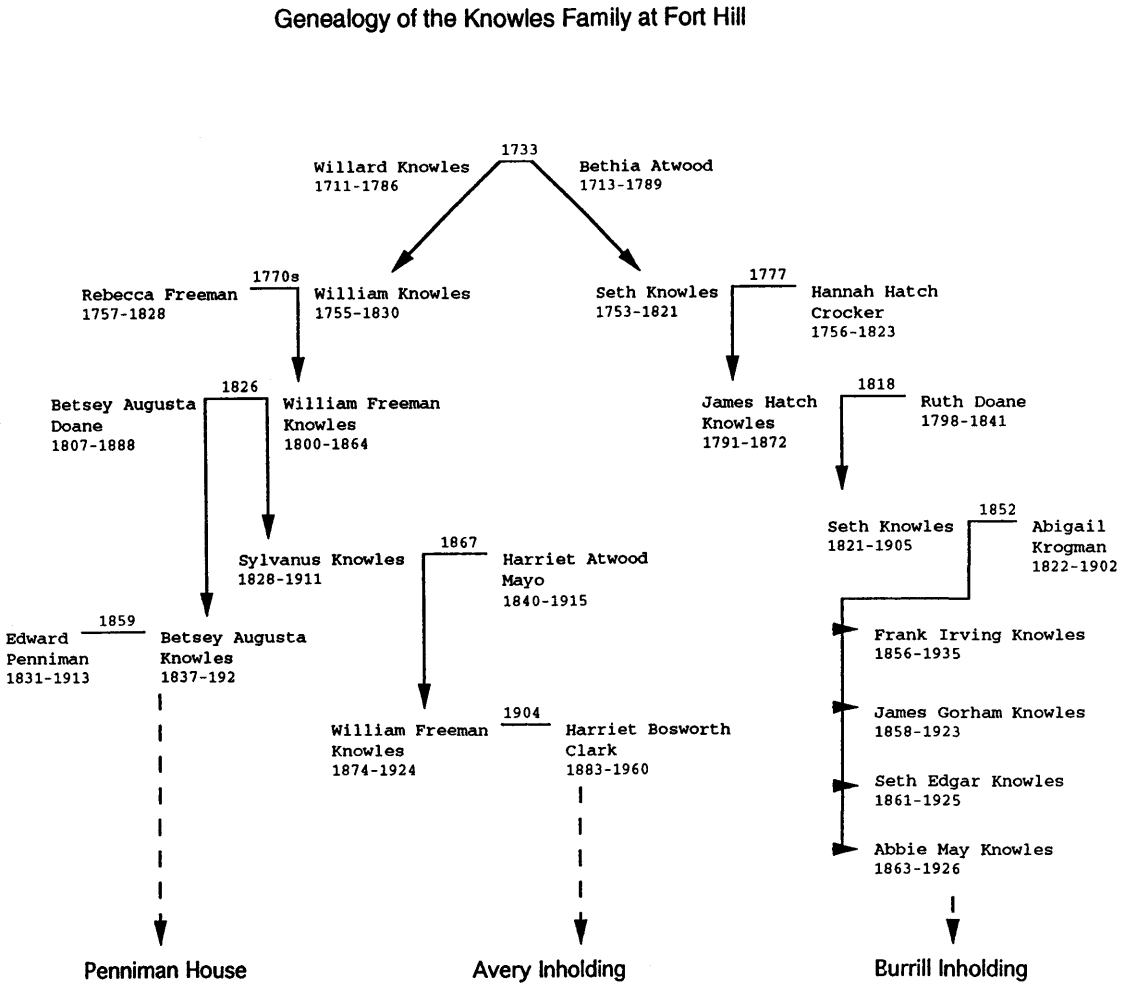


Figure 5. Genealogy of the Knowles Family of Fort Hill.

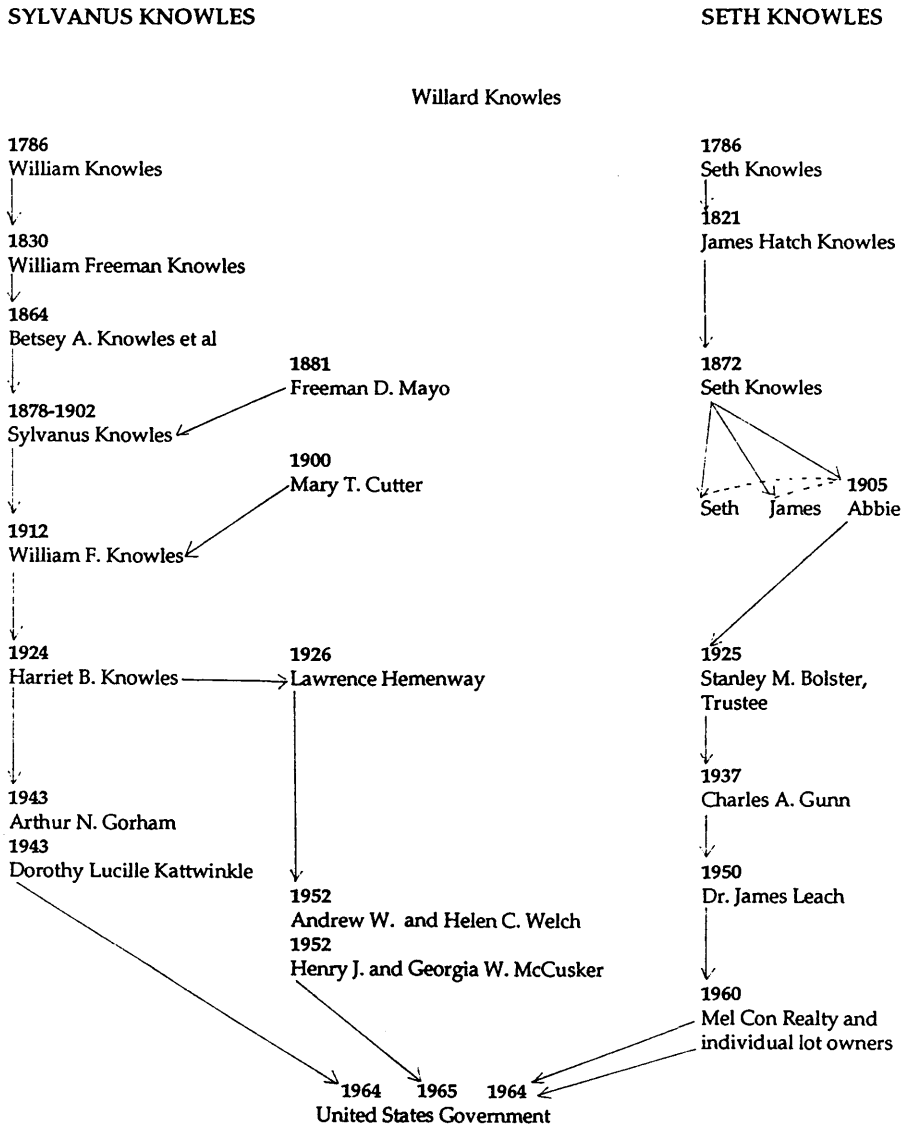


Figure 6. Chain of Title for Fort Hill.

The northern portion of the property was granted to William (1755-1830). William already had a house nearby, although the extent of his land holdings is unknown.[62] Hufbauer states that "his house stood a little to the west from his father's house on part of the homestead."[63] Its location was pinpointed by Eastham historian Alice A. (Mrs. Horace P.) Lowe as follows:

> The old part of William's house which was in my grandfather (Sylvanus) share was between what is now Dr. Kattwinkel's [the Avery house] and Seth's [the Burrill house]. This was a Cape Cod style. The panelling from the living room was sold to W.W. Kent of Orleans for $100. The new part was two stories high—toward Grandpa's. This was moved to Nauset Road—Arthur Brown's house.[64]

If the 1780 coastal map is accurate, "the old part" of William's house was built after 1780 and before 1786. As will be explained later, it is likely that the "new part" was added by William F. Knowles when he inherited the northern farm in 1830. The house appears in photographs from the 1880's (e.g., fig. 7), and was reported to have survived until around 1904.[65]

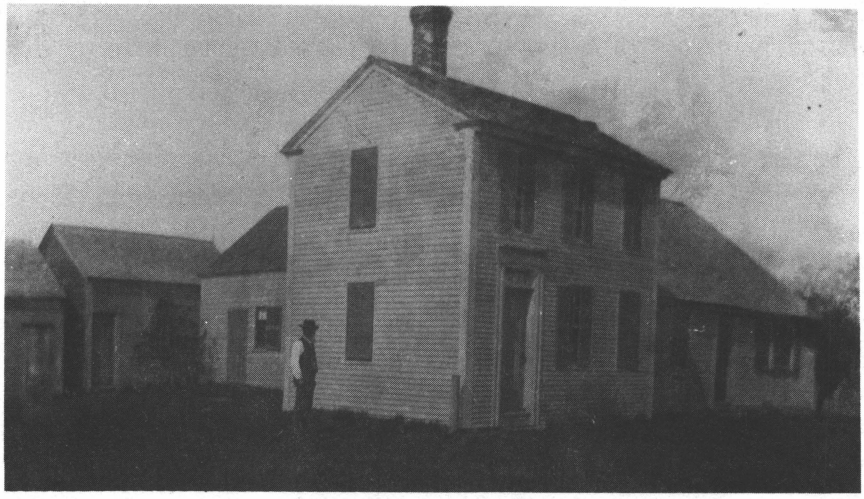


Figure 7. Old House on the Northern Farm, seen ca. 1880.

[62] Willard Knowles' 1786 probate inventory.

[63] Hufbauer, *Descendants of Richard Knowles*, p. 55.

[64] Notes in Cape Cod NS files.

[65] Eastham Historical Society, "Old House" file, 75 Fort Hill Road. Eastham assessors' records confirm that the old house stood to about that time.

Willard Knowles' division of his land between Seth and William created two Knowles family farms at Fort Hill, which would remain the most dominant and significant features of the site well into the 20th century. Figures 5 and 6 show the genealogy of owners and the chains of title for the two Knowles farms from the 18th to the 20th centuries. At some point, the two farms became known by the names of their respective owners in the late 19th century, when they reached their highest and most characteristic development. Thus, the southern farm became known as the "Seth Knowles" farm, named for the son of James H. Knowles. The northern farm became known as the "Sylvanus Knowles" farm, named for the son of William F. Knowles.

THE 19TH CENTURY: KNOWLES FAMILY FARMING AT FORT HILL

Background

Eastham at the beginning of the 19th century was an agricultural town, primarily by default. Wellfleet and Orleans had split off in the 18th century, taking with them the former town's best harbors.[66] It remained a predominantly agricultural town well into the 20th century, although its population as such peaked in 1830. As summarized by Bradley for the Massachusetts Historical Commission, "Eastham lost population and saw little development, although it remained one of the region's chief agricultural towns."[67] However, the types of activities conducted by Eastham farmers changed continually throughout the 19th century in response to external economic factors.

These changes were part of a general trend seen on the Cape from the earliest years of settlement. This trend was comprised of two seemingly contradictory themes: family continuity and economic adaptability. The names of Cape Cod residents that appear on 17th-century maps are largely the same as those on maps from the late 19th century. However, Cape Codders' relatively isolated and often risky environment has always required them to be flexible in seeking a livelihood. Sometimes land-based activities were the most rewarding; at other times maritime pursuits were more lucrative. Many residents combined the two in varying proportions. Even Governor Prence obtained a permit to carry on bass fishing, and he was a partner in an operation that made spermaceti.[68] Cape Codders have had to cope with rapidly changing conditions on both land and sea, relinquishing failing ventures and seizing new opportunities. For example, when the arrival of the railroad in the mid-19th century opened new markets, Cape Cod farmers were quick to expand both the types and quantity of their agricultural offerings. At the same time, they

[66] On a map, Nauset Harbor looks to be an excellent harbor, but shifting sandbars at its mouth severely limit its usefulness.

[67] James Bradley et al., *Historic and Archeological Resources of Cape Cod and the Islands* (Boston: Massachusetts Historical Commission, 1987), p. 366.

[68] Kingsbury, p. 6; Clemensen, p. 71.

continued to cut salt hay as their forebears had done in the 17th century, because it continued to be economically rewarding.

Cape Codders' option of turning to the sea to supplement farming income became increasingly necessary as much of the Cape's initially arable soil became exhausted. Periods when the maritime option was largely not available, such as during the Revolutionary War, put extreme pressure on the fragile farmlands. By 1800 about a thousand acres on the west, bay side of Eastham had become a sandy wasteland; observers reported that the topsoil had blown away, in many places to a depth of 10 feet.[69] However, on the east, ocean side of Eastham remained "a tract of very good land, containing about 200 acres, probably the best in this county...."[70] According to Rev. James Freeman, "Three cedar swamps on the west...guard it in a great measure against the irruptions of the sand."[71] The Knowles farms comprised about a quarter of this fertile tract.

At the beginning of 19th century, James Freeman noted that traditional grain-growing was "the principal business to which the [Eastham] farmers attend."[72] Corn, or maize, was the primary crop, with about 1,000 bushels being sent to market. Even so, this crop may have been in decline: 25 years earlier, three times that amount had been produced.[73] Freeman also stated that "a little wheat and flax are raised"; another visitor, Timothy Dwight, found apple orchards.[74]

Obtaining salt from seawater became an important industry on Cape Cod during the first half of the 19th century. The crude boiling process used in the late 18th century was replaced by simple but effective technical improvements around 1800. This changed the business dramatically and created a genuine boom, in which nearly all the towns on Cape Cod participated to some degree.

By 1850, the 18th-century activity of sheep raising was in serious decline. This was part of a trend that was visible elsewhere in southern New England, especially in similar coastal areas such as Nantucket.[75]

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[69] Timothy Dwight, *Travels in New England and New York* (4 vols.) (New Haven, CT: Timothy Dwight, 1821-22; reprinted Cambridge, MA: Harvard University Press, 1969), vol. 1, p. 66.

[70] Dwight, *Travels in New England and New York*, p. 57.

[71] J. Freeman, "Description and History of Eastham," p. 157. Dwight actually visited Cape Cod in 1800, before Freeman's article was published. However, he made various revisions to his text, which did not appear in print until considerably later. Similarities in the texts suggest that his revisions relied heavily on Freeman's account.

[72] J. Freeman, "Description and History of Eastham," p. 157.

[73] J. Freeman, "Description and History of Eastham," p. 157.

[74] J. Freeman and Timothy Dwight.

[75] Russell, *A Long, Deep Furrow*, pp. 352-53.

Wheat growing, another activity noted in the 18th century, was also fading in southern New England in the 1860's, due to disease and competition from western states.[76] Instead, Eastham farmers were relying more on dairying (production of butter and cheese), poultry raising, growing vegetables for nearby markets, and peat harvesting. The assessors' records began listing "peat swamp" as a separate category in 1839-40. Peat was apparently valuable as a fuel: peat land was assessed at $100 an acre through the 1860's and 1870's, at a time when good tillage land was valued at $40 an acre.[77] Until the 1880's, land producing peat had a higher assessed value than land producing any other commodity, including cranberries.

In the latter half of 19th century, peat harvesting declined, but dairying and poultry raising increased. This was largely due to the arrival of the Cape Cod Central Railroad extension from Orleans through Eastham to Wellfleet in 1870.[78] The railroad enabled Eastham farmers to participate in the market for fresh milk in the Boston metropolitan area, which had begun in the 1840's and had burgeoned by the 1860's.[79] The farmers expanded their operations accordingly: they shipped eggs directly to Boston, while fresh milk was sent to Provincetown and then by boat to Boston.) The farmers also began to focus on growing specialty crops such as cranberries and asparagus for the newly expanded market. Cranberry growing became important between 1855 and 1865.[80] Later, Eastham found that its soil and climate were well suited to asparagus production. By 1920 Eastham had 150 acres of "grass."[81] This would be an unimpressive total for many kinds of agriculture, but for a crop requiring the close cultivation and harvesting of asparagus, it is substantial.

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[76] Russell, *A Long, Deep Furrow*, pp. 334-35.

[77] Eastham assessors' records.

[78] Robert H. Farson, *Cape Cod Railroads* (Yarmouth Port, MA: Cape Cod Historical Publications, 1990), p. 20. In 1855, James H. Knowles and William F. Knowles each owned four shares of stock in the Cape Cod Central Railroad. This was probably new stock that had been issued to finance the extension from Sandwich to Hyannis. Presumably the Knowleses invested in the hope that the line would be extended down the Cape. It was also a good investment financially, since the railroad was reasonably successful (ref., Farson, p. 6).

[79] Russell, *A Long, Deep Furrow*, pp. 355-56, 438-40.

[80] Bradley et al., *Historic and Archeological Resources*, p. 235.

[81] Donald G. Trayser, "Eastham's Three Centuries," *Eastham, Mass. 1651-1951* (Eastham: Eastham Tercentenary Committee, 1951), p. 83.

Knowles Family Activities

Through the 19th century and into the 20th centuries, the Knowles farms clearly exhibited the Cape-wide themes of continuity and adaptability. Continuity, for example, marked the farms' inheritance patterns. The two brothers who inherited Willard Knowles' Fort Hill land in 1786, Seth and William, were two years apart in age. Successive generations remained roughly synchronized, and the farms were transferred at similar intervals. Each farm was occupied by four full generations of Knowles families, for a total of five, including Willard Knowles (see figure 5).

The history of this property, by contrast, was characterized by a wide variety of constantly changing uses, as the Knowles family adjusted to changing markets and environmental conditions. Rather than focusing on the actions and achievements of each individual owner over time, the following section discusses the broad patterns of land use on the two farms throughout the 19th century.

The first year for which Eastham assessors' records are readily available is 1824. At that time a relatively unrefined system of evaluation was used, in which "Buildings, Land and Meadow" were combined. The southern farm was then owned by Seth's son James H. Knowles; it was considered to be worth $2806. The northern farm was still owned by William Knowles; it was valued at $2020. An evaluation in 1833 showed a decline in the value of both farms, but the earlier relationship persisted, with the south and north valuations being $2427 and $1500, respectively. The absolute decline was probably part of a broad trend, as the southern farm retained its relative ranking of third place in the town.[82] These early figures set the trend for the period of Knowles ownership, in which the southern farm remained the more prosperous of the two.

The Knowles family updated old buildings and erected new ones throughout the 19th century at Fort Hill. On the northern farm, William F. Knowles is thought to have added a two-story wing to the cape-style house that he inherited from his father William. Assessors' records indicate that another dwelling (the current Avery home) was built in 1864 (fig. 8), the year that William F. Knowles died. It appears that this house was built by William F.'s son Sylvanus, who gave up a seafaring life and came home to run the family farm at that time.[83] Presumably William F.'s widow Betsey continued to live in the old house.

[82] Eastham assessors' records.

[83] According to the Knowles genealogy, Sylvanus D. Knowles (1828-1911) went to sea as a young man. He was listed as master mariner in the census of 1855; he does not appear to have engaged in farming until the mid-1860's (ref., Eastham assessors' records).



Figure 8. Present House on the Northern Farm (now the Avery house), seen ca. 1880.



Figure 9. Present House on the Southern Farm (now the Burrill house), seen ca. 1880.

The history of the farmhouse (the present Burrill house) on the southern farm is less clear. One opinion is that it was built by James H. Knowles in 1821, the year that he inherited the farm from his father Seth (1753-1821).[84] However, the present house looks to be very old, with its five-bay facade and center chimney (fig. 9).[85] Two scenarios are possible:

- The house could have been built by Seth circa 1790, after he inherited the farm from his father Willard in 1786. It would have replaced Willard's old house, which may have been Samuel Treat's former house.

- The house could have been built by Willard sometime after 1742, when he purchased the former Samuel Treat homestead from Treat's widow. It would have replaced Treat's old house, whether from circa 1704 or 1673. It is even possible that part of Samuel Treat's former house was retained and incorporated into the present structure by whichever man built it. Architectural investigation of the Burrill house would undoubtedly shed light on this subject.

A variety of utilitarian structures also stood on the Knowles farms during the 19th century, though their exact locations are uncertain. An 1856 map of the area shows various outbuildings of indeterminate functions. At the southern farm, James H. Knowles' son Seth was considered to be a joint owner with his father until the latter's death in 1872. However, Seth is listed as a shoemaker in the census of 1855, and assessors' records list a "shoe shop" on the southern farm in 1861. This building persisted as a "shop" at least into the 1870's.[86] Assessors' records confirm that a small "store house," later possibly listed as "shop and shed," also stood on the property into the 1870's, but its function is not specified. The northern farm had a barn that stood until it burned in 1934.[87]

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[84] Transcript of interview in Eastham Historical Society's "Old House" file, 150 Fort Hill Road. This claim is based on the supposition that an early Penniman rented or bought the previous house on the southern farm, which seems improbable for a number of reasons. Chief among these is the fact that the Pennimans bought and occupied an existing house on a lot separate from the southern farm, and the fact that Jesse Collins owned that lot after the Knowles family and before the Pennimans.

[85] The cross gable is a later addition, as will be explained shortly.

[86] Eastham assessors' records.

[87] Eastham Historical Society, "Old House" file.

Salt-making was one of the land uses practiced by the Knowles family during the 19th century at Fort Hill (fig. 10).[88] Eastham had an ample shoreline and was involved in this activity, but was never in the forefront among Cape towns.[89] However, Deacon Edward Knowles, a nephew of Col. John, was said to have been the "first to introduce into Eastham the manufacture of salt by solar evaporation."[90]

The early Eastham assessors' records provide a valuation for saltworks, although they do not list the size of the works. Of 43 saltworks in Eastham in 1824, the southern Knowles farm had the eighth largest valuation for saltworks in the town; the northern Knowles farm ranked around 20th.[91] In 1850, the first year that the assessors' reports provided the size of individual saltworks in linear feet, salt-making was already in decline. Nevertheless, the northern farm had 2,400 feet and the southern one had 2,000 feet. Thereafter, a prolonged, steady decline of the industry was visible at Fort Hill. Saltworks disappeared from the southern farm in the late 1850's; they are last listed for the northern farm in 1865.

Maps from 1831 and 1856 depict the locations of the saltworks in a general way. Iardella's 1856 coastal map (fig. 11) shows that they were situated, as would be expected, in low, flat areas reasonably close to the water. There are no archeological or above-ground remains of these ephemeral structures: indeed, none are known anywhere on Cape Cod.[92] This is due to two factors. First, the construction of saltworks did not require major disturbance of the ground. Second, reliable tradition says that unused saltworks tended to be dismantled and their lumber reused elsewhere. This is supported by the visible evidence of salt weeping from boards in houses and other structures all over the Cape. One account indicates, in fact, that roof boards in the shed of the Sylvanus Knowles house may have come from a nearby saltworks.[93]

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[88] Mulholland, with Holmes and Hertz, "Historic Contexts of the Lower Cape. A Study of the Historical Archeology and History of the Cape Cod National Seashore and the Surrounding Region"; draft report prepared for the North Atlantic Region, NPS, by the University of Massachusetts Archeological Services, Amherst, MA, August 1994.

[89] Dwight, *Travels in New England and New York*, p. 55.

[90] Hufbauer, *Descendants of Richard Knowles*, p. 43.

[91] Assessors' records provide clear evidence about the ways in which the land of the two Knowles farms was being used during the 19th century. The Eastham assessors' report for 1824 show that William F. Knowles was credited with owning saltworks worth more than twice as much as those of his father. This indicates that, although he did not yet own the Fort Hill farm, he owned saltworks elsewhere in town. This is supported by the fact that in 1833, after inheriting his father's Fort Hill farm, the overall value of his saltworks more than doubled.

[92] Bradley et al., *Historic and Archaeological Resources*, p. 295.

[93] Eastham Historical Society, "Old House" file, 75 Fort Hill Rd.

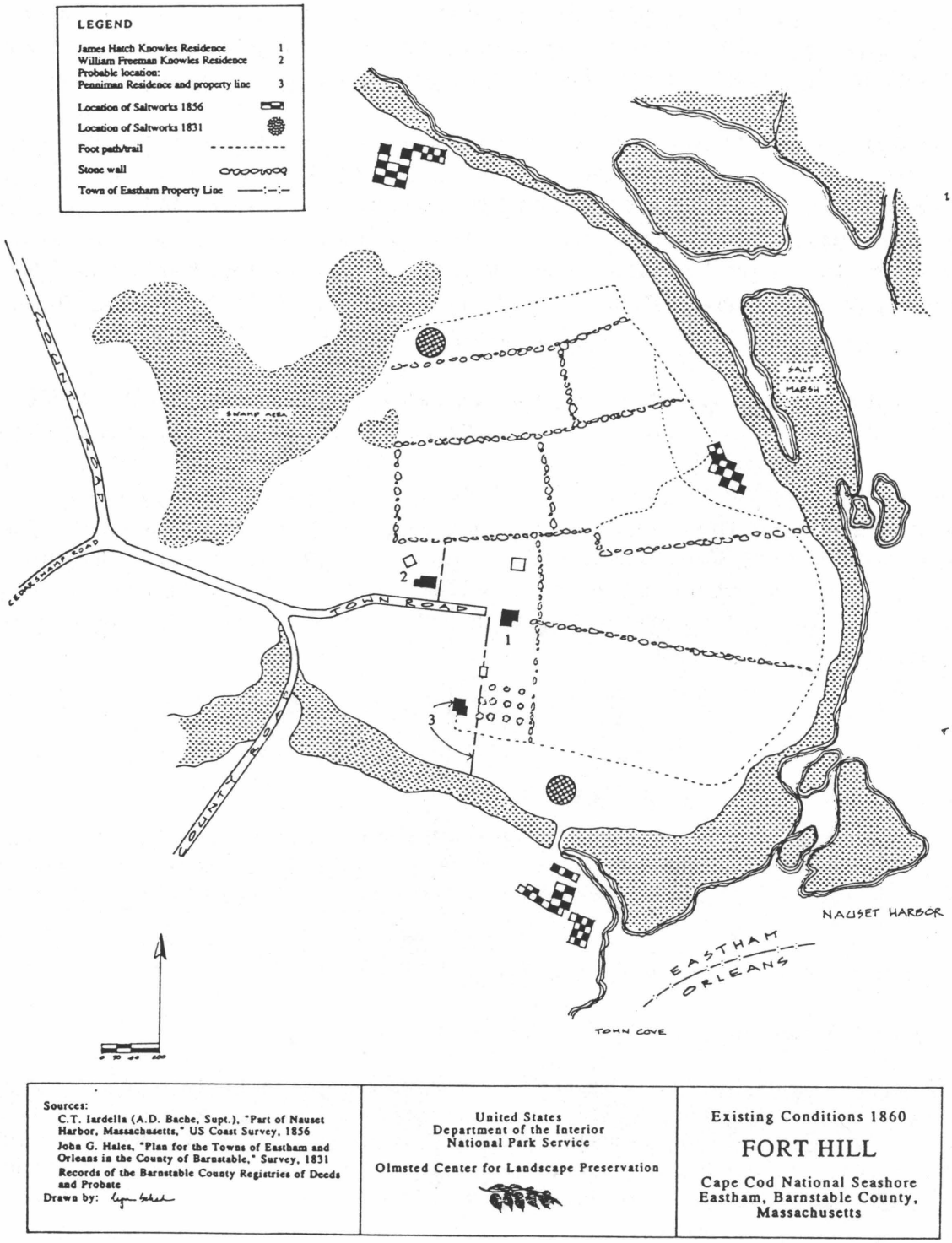


Figure 10. Period Plan 1: Fort Hill Existing Conditions, ca. 1860.



Figure 11. Iardella's Coastal Map of Cape Cod, 1856.

As just described, salt-making was one of the few ways in which both Knowles families at Fort Hill used the sea. Having farms more prosperous and secure than most of their neighbors', they had less incentive to do so. However, the sea's potential could never be ignored. Other branches of the Knowles family produced mariners whose exploits were celebrated in Cape Cod lore.[94] Even when a young man chose not to make the sea a career, it was common for him to make a voyage or two, for the experience and the money. As stated earlier, William F. Knowles' son Sylvanus went to sea as a young man before taking up farming in the mid-1860's.[95] Seth's son Seth Edgar Knowles (1861-1925) also went to sea, but suffered brain damage when he fell from a mast.[96]

A less direct but economically important connection to the sea was investment in vessels. Residents of both the southern farm (James H. and Seth Knowles) and the northern farm (William F. and Sylvanus Knowles) owned shares ranging from an eighth to a thirty-second interest in various types of ships.[97] William F. last owned a small interest in a vessel in 1861, but Seth retained shares until 1882. Sylvanus owned a minor share (1/128) of a schooner until that date.[98]

Eastham assessors' records from the 1860's show that both Knowles families raised grain and potatoes and had orchards. Iardella's 1856 coastal map (fig. 11) shows a sizable orchard located south of the house on James H. Knowles' southern farm.[99] Each farm showed a corn house among its outbuildings, indicating the continued importance of corn.[100] James and his son Seth also owned a share in a windmill at least as far back as the 1850's. This windmill may have ground corn. Its location is unknown; perhaps it was the one formerly near Salt Pond.

Peat swamps also were listed on both farms from the time the assessors' records began showing that category of land in 1839-40. Peat swamps encompassed three-quarters to one acre on each of the two Knowles farms. Peat ceased to be listed for the southern farm after 1877, but it continued on the northern farm until about 1920.[101] The locations of the peat swamps are not specified. Logic would

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[94] Trayser, "Eastham's Three Centuries," p. 75-79.

[95] Eastham assessors' records.

[96] Hufbauer, *Descendants of Richard Knowles*, pp. 281, 285.

[97] These figures are for 1850, when the assessors began itemizing this category of personal property.

[98] Eastham assessors' records.

[99] This was a south-facing slope; in inland areas, the preference was to locate orchards on north-facing slopes, but in the milder climate of Cape Cod, unseasonable frost was less of a concern.

[100] Eastham assessors' records.

[101] Eastham assessors' records.

indicate that the peat would be found in settings similar to cranberries; extant seasonal swamps, or ponds, on both properties may be the remains of old peat diggings.

The assessors' records also indicate that two to three cows, and the same number of young stock, were kept on each farm around the middle of the 19th century. These numbers of cattle would produce more milk than the ordinary family could consume; in the absence of a market for raw milk, one would surmise that butter and cheese were produced. This is confirmed by the agricultural portion of the 1860 census, which shows that William F. Knowles sold 200 pounds of butter, while James H. Knowles sold 150.[102]

In 1873 the number of cows on both Fort Hill farms more than doubled.[103] As indicated previously, this reflects the fact that the completion of the Cape Cod Central Railroad extension through Eastham in 1870 had expanded the market for fresh milk.[104] Details of how milk shipping from Eastham began are not well known. Alice A. Lowe notes that "Several men who conducted dairy or chicken farms, began to use the new railway express service for sending their milk to Provincetown or their eggs to Boston."[105] She adds that Freeman Doane Mayo was probably the first in Eastham to conduct this business, "but because of old age, soon sold [it] to the cousins Seth and Sylvanus Knowles." This could have occurred any time in the 1870's: even though Sylvanus did not obtain full ownership of the northern farm until 1878, he was already occupying it. Knowles genealogist Hufbauer states that Sylvanus and Seth "were the first in town to take advantage of the railroad when in 1872 they began sending their milk cans twice a day to Provincetown."[106]

Hogs appear sparingly in the assessors' records. During the late 1860's and 1870's the southern farm usually counted one hog. This represented animals to be slaughtered each year to provide fresh and preserved meat for the family, and not a commercial activity.

The Knowles family was only modestly involved in the production of specialty crops. Beginning around 1860 the northern farm lists a small "cranberry swamp," never exceeding half an acre. By 1890 this had dwindled to one-sixteenth of an acre. The southern farm devoted a somewhat larger area to this activity,

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[102] Eighth Census of the United States, Agricultural Census, Massachusetts State Archives.

[103] Eastham assessors' records.

[104] Farson, *Cape Cod Railroads*, p. 20.

[105] Lowe, *History of Eastham*, p. 42.

[106] Hufbauer, *Descendants of Richard Knowles*, p. 285. This cannot literally be true, since the first train through to Provincetown did not run until July 23, 1873 (Farson, *Cape Cod Railroads*, p. 42).

sometimes reaching an acre.[107] Land planted to asparagus is first listed on both farms in 1895. In this case the northern farm was more prominent, with up to an acre being listed in some years, while the southern farm never exceeded one-quarter acre. With both crops, the area in production was larger than that required for a family's needs, but not large enough to represent a significant commercial quantity.

Assessors' reports do not indicate the actual locations in which these crops were raised, nor do most maps. Certain inferences are nonetheless possible. Cranberries would likely be grown in the low swampy areas on the freshwater margins of both properties. In fact, the 1938 U.S. Coast and Geodetic Survey map shows drainage ditches on the southern border of the southern farm that could be the remains of a cranberry bog. Asparagus beds, because of the attention they require at certain seasons, probably would have been kept close to the houses, or near the barns, which would have provided a supply of manure for their culture.

Rather than focusing on specialty crops, the Knowles family concentrated on poultry raising. Hen houses are first listed on the southern Knowles farm around 1880, and on the northern farm in the early 1890's.[108] Fowl are not cited on either farm until 1894, probably due to the fact that the regulations did not require them to be counted prior to that time. The numbers of fowl fluctuated widely due to temporary marketing factors. However, the total number of fowl on the northern farm exceeded 300 between 1910 and 1920, while it exceeded 200 on the southern farm in the early 1900's.[109]

While both farms had a number of hen houses, the southern farm appears to have had even more substantial and permanent poultry buildings. Beginning around the time of Seth's death in 1905, when the farm was listed under the name of his daughter Abbie May Knowles, hen houses were the only remaining outbuildings except the barn. Indeed, these were actually valued more highly than the barn on the adjacent northern farm. For a period extending from at least 1906 to 1915, a "brooder house" is also listed for the southern farm, testifying to a serious poultry operation.[110]

DEVELOPMENT OF THE PENNIMAN PROPERTY

The Penniman family, neighbors on the west side of the southern Knowles farm, were not among the early families of Cape Cod. Their first recorded appearance in Eastham seems to have occurred in May

[107] Eastham assessors' records.

[108] Eastham assessors' records.

[109] Eastham assessors' records.

[110] Eastham assessors' records. In examining the records, not every year was consulted, so the precise date a feature first or last appears was not determined in every case.

1829. In that month, Scammell Penniman purchased from Jesse Collins a homestead lot just west of the southern Knowles farm, then owned by James H. Knowles.[111]

The lot purchased by Scammell Penniman was described as "all the homestead formerly owned by Thomas Knowles," and probably comprised six to seven acres.[112] This Thomas Knowles (1777-1820) was almost certainly the oldest son of Seth (1753-1821) and brother to James H. Knowles.[113] Thomas probably earned his primary living from maritime activities, judging by the small size of his homestead, and the fact that two of his sons later entered the "whale fishery business."[114] Thomas' homestead was then acquired by Collins, a sea captain who was related to the Knowles family by marriage. The loss of early land records makes it impossible to determine if Thomas' homestead was originally part of his father Seth's land—and therefore part of Willard's.

Scammell Penniman, then 56, was a carpenter who had become a merchant; he "had a large West Indian store on Commercial Street at the north end of Boston and accumulated quite a property."[115] There is no evidence that Scammell Penniman ever lived in Eastham. His purchase of the homestead was apparently on behalf of his son Daniel (1802-71). It is not known what initially attracted Daniel to Eastham, but on April 30, 1829, he married an Eastham woman, Betsy Mayo.[116] The purchase of the homestead was concluded the day after the wedding; Daniel was a witness to the transaction; and it was he and Betsy who actually lived in Eastham. Thus, Scammell Penniman's purchase of the property could have been a wedding gift, or at least a means of providing a residence for the couple.

The property contained a house, outbuildings, and an orchard.[117] Eastham assessors' records list it under the name of Daniel Penniman, although his father Scammell actually owned it. In 1834 Scammell

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[111] Barnstable County Registry of Deeds, Book 2, p. 120; a transcription on p. 29 of *Captain Edward Penniman House: Historic Structure Report* (HSR) by Andrea M. Gilmore (Boston: North Atlantic Region, NPS, 1985) lists Jefse Collins as grantor and Daniel Penniman as grantee; the correct names are Jesse Collins and Scammell Penniman, respectively.

[112] The deed (Book 2, p. 120) does not state the size of the parcel conveyed, but its acreage may be estimated based on data in other deeds and assessors' reports.

[113] Hufbauer, *Descendants of Richard Knowles*, p. 150.

[114] Hufbauer, *Descendants of Richard Knowles*, p. 151.

[115] Rev. George Wallace Penniman, with additions by Paul Bigelow, *The Penniman Family, 1631-1900* (Baltimore: Penniman Family, 1981), pp. 215-16.

[116] Rev. George Wallace, *The Penniman Family, 1631-1900* (Baltimore: Penniman, 1981), p. 359.

[117] Barnstable County Registry of Deeds, Book 2, p. 120; Jesse Collins reserved the right to remove "furniture, provisions, stock, wood, counter and shelves" from one room of the dwelling, suggesting that he may have been running some kind of business there.

Penniman purchased five more acres adjoining his existing property on the west.[118] He died in 1836; in June 1838, his widow Hannah Pope Hammond (his second wife) signed a quitclaim deed transferring her rights to Daniel and his sisters Fanny and Maria.[119] Later in the same year, the sisters also conveyed their interests to Daniel.[120]

In many respects the Penniman property resembled a miniature version of the Knowles farms, with the same categories of land, buildings, and livestock present on a smaller scale. During the 1850's and 1860's, Daniel Penniman managed to enlarge his landholdings to 16-17 acres.[121] As with the Knowles farms, the bulk of the land was listed as tillage (10-12 acres). Penniman also owned smaller amounts of salt meadow and fresh meadow (two acres each). The parallel was complete even to the presence of the specialized categories of peat (not shown after 1860) and cranberry bog (one-quarter acre beginning in 1861). Firewood was obtained from small parcels of land he acquired elsewhere in town. When buildings began to be itemized in 1861, Daniel was shown as owning a small barn, a wood house, and—until 1864—a store house.

Daniel's daughter Elvira (b. 1829) was the first member of his family to be born in Eastham. His second child, Edward, was born in 1831. Edward married Betsey Augusta Knowles in 1859. She had lived across the road on the northern Knowles farm, being the daughter of William F. Knowles and the sister of Sylvanus D. Knowles. Edward enjoyed great success as a whaling captain, and Betsey accompanied her husband on several long whaling voyages.[122] His success was doubly rewarded: in addition to his remuneration as captain, assessors' records show that he owned an interest in the vessel he commanded. From 1861 (when this class of property began to be listed in detail) through 1870, he owned three thirty-seconds of his ship the *Minerva*.[123]

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[118] Barnstable County Registry of Deeds, Book 18, p. 1; in the Penniman House HSR, the grantee is given incorrectly as Daniel, rather than Scammell, and in the county records the name is incorrectly transcribed as Samuel.

[119] Barnstable County Registry of Deeds, Book 17, p. 267.

[120] The mortgage deed from Daniel Penniman to his sisters in 1846 (Book 38, pp. 89-91) recites that the transaction took place on October 6, 1838. The mortgage deed is not cited as such in the Penniman House HSR and is not filed in the Barnstable County Registry of Deeds, as happened occasionally with transactions within a family.

[121] Eastham assessors' records. Acreage figures vary slightly from year to year.

[122] Gilmore, *Captain Edward Penniman House*, p. 13.

[123] Eastham assessors' records. The assessors must have monitored closely the fluctuating fortunes of this vessel, since the valuation of the same share ranges from $250 to $800 over that relatively brief span.

In February 1866, Edward purchased from his father Daniel a property that included 12 acres of land south of Fort Hill Road, a simple dwelling house, two barns, and several outbuildings.[124] The house was the old Thomas Knowles house that had been part of Scammell Penniman's original purchase for Daniel. Archeological investigations have not determined the exact location of these structures. Local history states that the house was located southeast of the existing Penniman house, so evidence of its foundation may have been obliterated by the building of the present barn in 1880. Likewise, evidence of some of the other structures may have been destroyed when Captain Penniman built the existing house in 1868. This is a distinct possibility, because the house was built on an 8-foot-high mound; the mound itself covered a large area, and it was formed from soil excavated from other areas.[125]

Edward and Betsey Augusta Penniman returned from a whaling voyage in April 1868.[126] It had been a lucrative venture: in the assessors' report for that year Edward is credited with "cash and notes" worth $4,000. This was in addition to his real estate, livestock, and his share of the *Minerva*, so his total valuation was $5,475.[127] Accompanied by other data, these records make it obvious how the money was used and when the Captain Edward Penniman house was built. In 1868, Edward owned a dwelling house valued at $300 and the $4,000 in cash and notes; in 1869, his dwelling was valued at $3,000 and there was no listing for cash and notes.[128]

Captain Penniman's new house (fig. 12) was an impressive French Empire-style residence built by master builder Nathaniel Nickerson. The house presented a marked contrast to the simple, neighboring Knowles farmhouses.[129] Additionally, the property's character as a gentleman's farm was evident from details not evident on the Knowles "working farms." For example, the Pennimans had a greenhouse from the late 1890's until the 1920's, when it was destroyed in a hurricane.[130] From the mid-1880's to nearly the end of the century, the records also credit them with owning a boat house. Many other features are visible in photographs by 1880, including a whalebone gate, terraced yard, decorative wooden fence, hitching posts, retaining walls, and row of cottonwood trees. These indicate a level of attention focused on the grounds that distinguished the Penniman property from the Knowles family's simple farmyards (figs. 13-15). Despite this finery, the Pennimans kept still kept chickens, because a hen house is shown from the mid-1880's into the 1920's. They also kept a vegetable garden.

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[124] Barnstable County Registry of Deeds, Book 90, p. 162.

[125] Gilmore, *Captain Edward Penniman House*, p. 24.

[126] Clemensen, *Historic Resource Study*, p. 4.

[127] Eastham assessors' records.

[128] Eastham assessors' records. These valuations were made in the spring.

[129] See Gilmore, *Captain Edward Penniman House*, for more information on this property.

[130] Gilmore, *Captain Edward Penniman House*, p. 24.

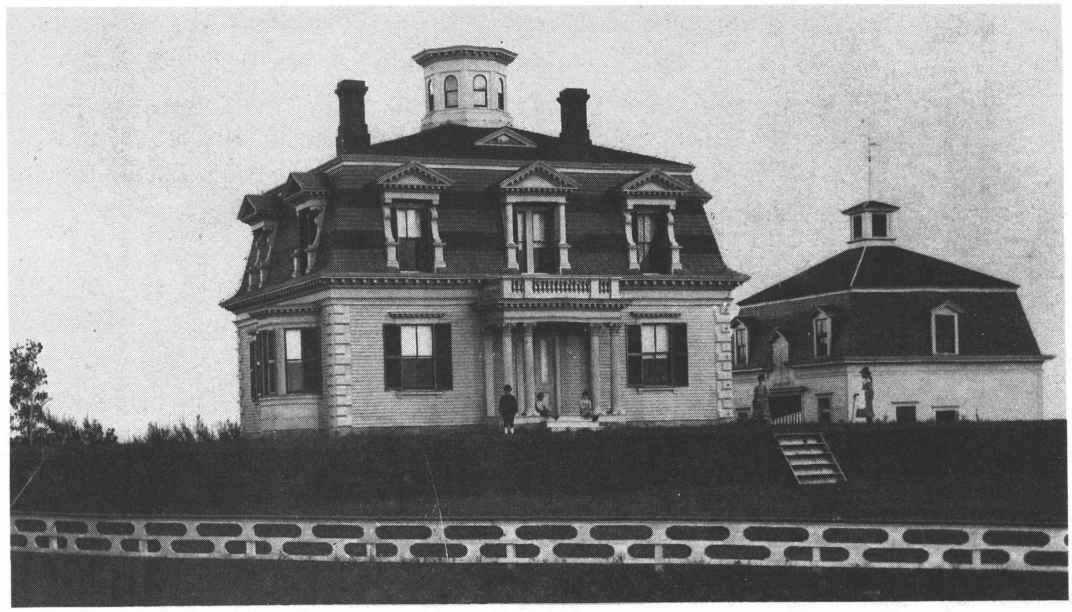


Figure 12. Captain Edward Penniman House, seen ca. 1880.



Figure 13. Penniman House Grounds, from the east, seen ca. 1880. Note cleared area east of house and greenhouse.



Figure 14. Penniman House Grounds, seen ca. 1880.

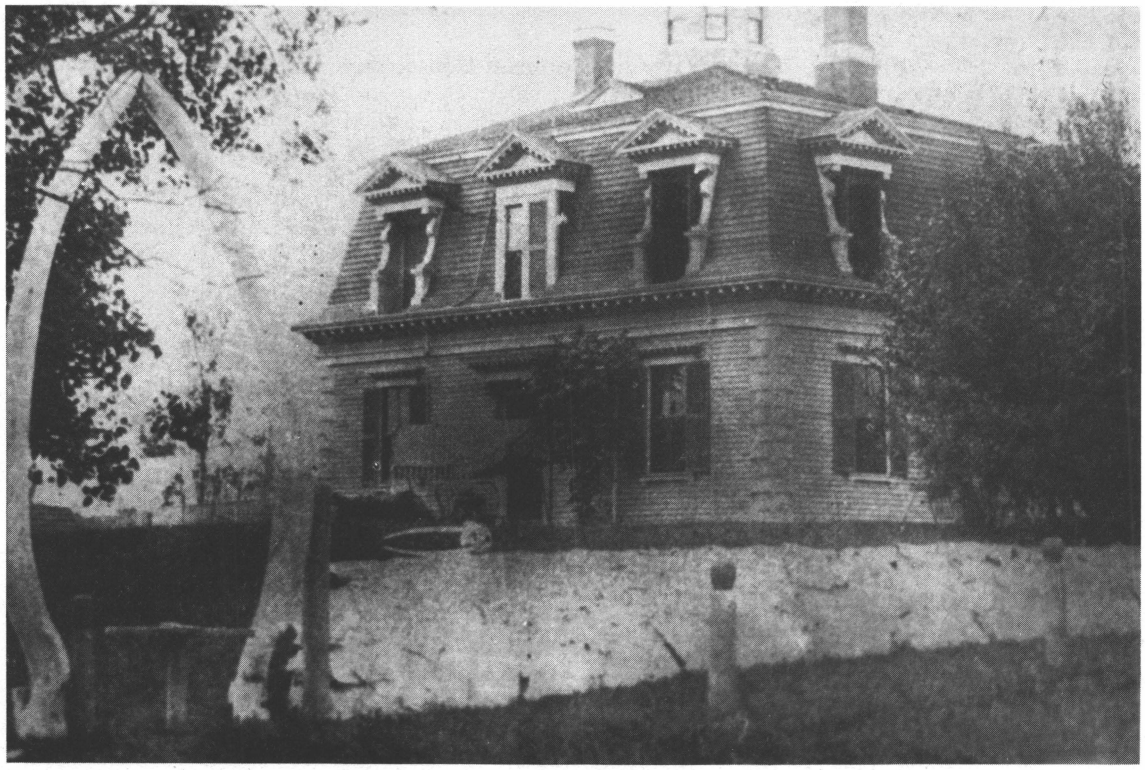


Figure 15. Penniman House, east elevation, seen ca. 1880. Note flowers below south window.

Two other buildings were later added to the site. A new barn was built between 1880 and 1882; it had a valuation of $350, compared to $50 for the old one. This is the existing barn on the property. The earlier barn survived briefly after the construction of the new one, but disappeared after 1882.[131] Also, beginning around 1888, a small dwelling is shown on the property. (In some years it was described as a cottage.) This was probably a new structure, rather than the old house that was standing on the property when Scammell Penniman purchased it from Thomas Knowles. (As stated previously, that house was presumably demolished when the new house was built 20 years earlier.[132]) In 1910 this house was listed as the George Penniman house. George was the mentally incompetent younger brother of Edward.[133] He died in 1911, but listings for the cottage continued into the 1920's.

Captain Edward Penniman died at his home in Eastham on October 16, 1913. The property passed to his wife, Betsey, and then to their daughter, Betsey Augusta Penniman. She was an amateur photographer and took many pictures of the Penniman property. She died in 1957, leaving the property to her niece, Irma Penniman Broun Kahn (the granddaughter of Captain Edward Penniman), who had spent a great deal of time at the house during her childhood.

The following excerpts from a letter written by Irma Kahn in 1983 provide a great deal of information about the appearance of the grounds around the Penniman House prior to its acquisition by the National Park Service:

> The stone wall along the street and in the courtyard were kept immaculately white by a coat of whitewash each Spring. The painted posts along the road which had large hitching post rings. There were at least eight posts where guests could hitch their horses. There was a pebble stone walk from the stone steps at the road to the kitchen door and no trodden earth on the grass around the house as there is now, it makes the place look quite run down, but I suppose it cannot be helped. My grandpa had the house built on an elevated terrace to make the house high enough to enable him to view the ocean and Cape Cod Bay from the cupola where he spent much of his time in his later years.
>
> Until the Park bought the property, trees were not allowed to grow in the field facing the ocean. We had a beautiful view of the Town Cove, the ocean and the sand dunes. The views were the prime reason for building the house where it stands.... Now all that is gone as the trees have been allowed to grow [fig. 16]. The land was clear and planted to hay which was harvested for our golden Guernsey Cow, and our horse, Molly....[fig. 17].

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[131] Gilmore, *Captain Edward Penniman House*, p. 24.

[132] There is some uncertainty about the fate of the old house. The Penniman House HSR states that "The old house apparently was pillaged for building materials for the 1868 house," but conversely notes an assessors' report that suggests some portion of it may have been standing in 1878 (p. 24).

[133] Gilmore, *Captain Edward Penniman House*, p. 94.

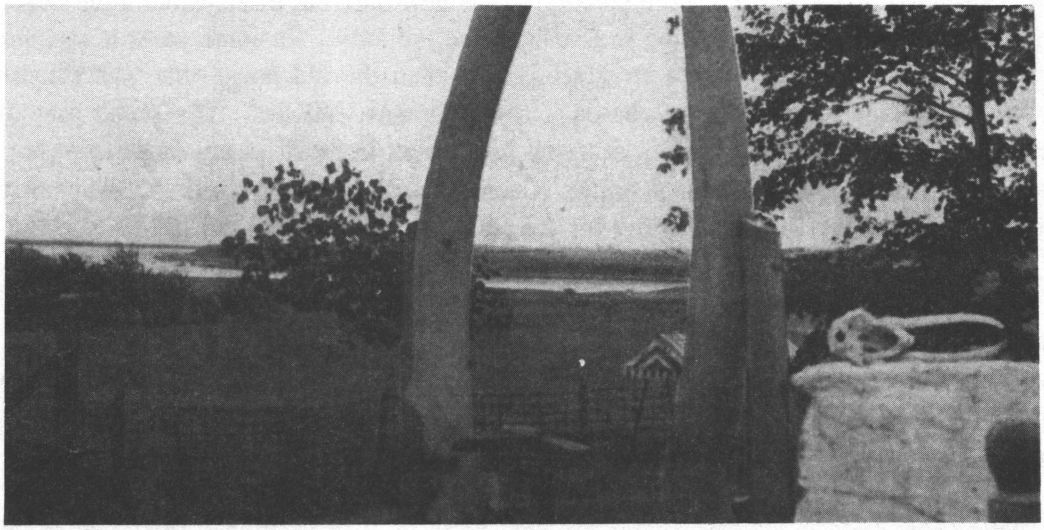


Figure 16. Penniman House, looking south through whalebone gate, ca. 1880.



Figure 17. Haying at Fort Hill, apparently looking north.

> There was a hen house in back of the barn where Rhode Island red chickens lived. A large vegetable garden flourished south of the barn. East of the house was a fruit orchard. It had apples, pears, grapes and plums. A good sized strawberry patch was south of the barn....
>
> There was a greenhouse set against the north wall in the courtyard where my grandfather grew chrysanthemums. It was destroyed in a hurricane when I was a child. At that time three of the huge Cottonwood trees came down into the barn, one crushing the wood shed attached to the front of the barn. It was then rebuilt.[134]

SALE OF THE KNOWLES FARMS

Continuity reigned on Fort Hill as the 20th century opened. The two Knowles farms had reached their highest and most characteristic development by this time. Thereafter, a fairly rapid unraveling took place. Seth, owner of the southern farm, died in 1905 at the age of 83. He had four children, none of whom married. He willed the farm to two of them, Seth Edgar and Abbie May, both then in their forties. Since Seth Edgar had suffered brain damage while at sea, operation of the farm devolved on Abbie May. Around 1906, assessors' records show an increase in the value of the dwelling, from $1,200 to $3,000. This could indicate a reassessment after Seth Knowles' death in 1905, or a major addition such as the cross gable. The records also indicate that Abbie May continued to keep some fowl, but the number of cows dropped to two or three.[135] When Abbie died in 1927, the farm passed out of the immediate family and was administered by her executor until its sale to Charles A. Gunn in 1936.[136]

Sylvanus, owner of the northern farm, died in 1911. He was succeeded by his son William Freeman Knowles. William continued to farm, but he died in 1924 at the age of 50. The farm passed to his wife Harriet, after which farming was no longer conducted on a significant scale. In 1926, Harriet Knowles sold to Lawrence Hemenway 10 acres of swamp south of Hemenway Road that had been acquired by Sylvanus Knowles in 1888.[137] Harriet continued living at the farm through the 1930's, but sold it in 1943 to Dorothy Lucile Kattwinkel, wife of Dr. Egon Kattwinkel.[138] The remarkable parallelism of the two farms had persisted for nearly 140 years (fig. 18).

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[134] Letter, Irma Penniman Broun Kahn to Andrea Gilmore, November 4, 1983 (in *Captain Edward Penniman House*, Appendix E).

[135] Eastham assessors' records.

[136] Barnstable County Probate Case No. 20837; Barnstable County Registry of Deeds, Book 523, p. 83.

[137] Barnstable County Registry of Deeds, Book 438, p. 96; Cape Cod NS land records at National Archives, Waltham, MA. This area later became part of NPS Tract 35-6500.

[138] Barnstable County Registry of Deeds, Book 605, p. 521. The transfer was actually by an intermediary, Arthur N. Gorham, to whom Harriet had conveyed the property.

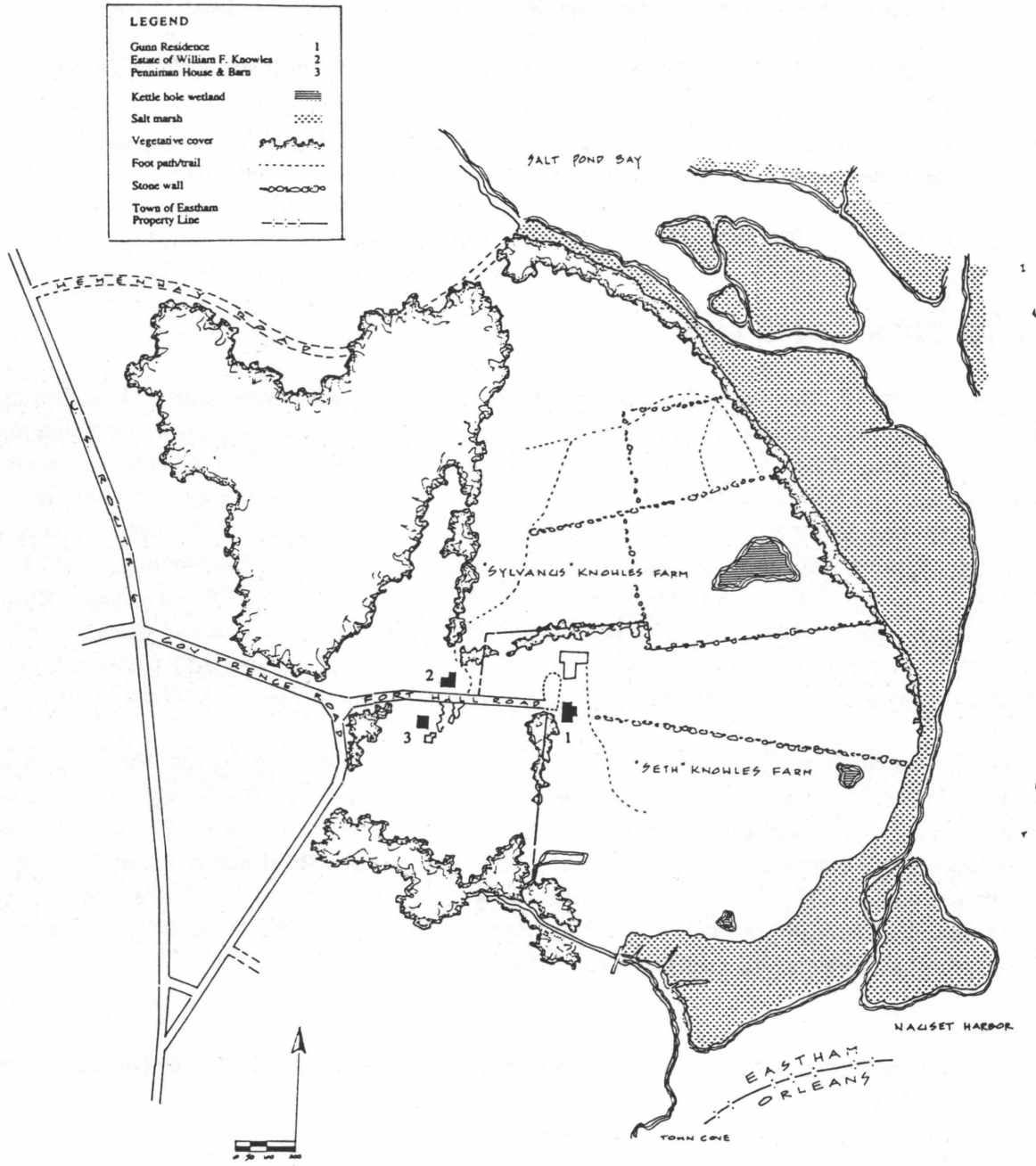


Figure 18. Period Plan 2: Fort Hill Existing Conditions, 1943.

FARMING DURING THE GUNN OWNERSHIP

The 1930's were a time when the usual problems of eking out a living on Cape Cod were compounded by the national economic distress. In 1936, however, Charles A. Gunn purchased the southern Knowles farm and began a rather unexpected revival of agriculture.[139] Charles Gunn was a native of Nova Scotia, another coastal land like Cape Cod that only grudgingly concedes a livelihood to its residents.[140]

Gunn's career had displayed a versatility not often encountered today. He came to Cape Cod by virtue of buying an ice business in Wellfleet.[141] Later he became the caretaker for the Albert Greene Duncans, a family from Boston who owned a large farm on the road to Nauset Beach, not far from Fort Hill. Upon Mr. Duncan's death in 1928, Gunn expected to be given a choice of money or the farm. Duncan's widow did not act on her husband's intentions, however, and Gunn was required to purchase the farm.[142] Though not a Cape Cod native, Gunn displayed the traditional Cape Cod ability to piece together a subsistence from a variety of sources. According to his son, he tried asparagus, turkeys, hogs, and dairying, in whatever proportions seemed promising.

Meanwhile, Gunn had acquired the right to take hay off the nearby Knowles farms. He probably had to bring in his own equipment, since only horse-drawn equipment remained on the Knowles farms. This haying was presumably responsible for keeping the land on Fort Hill open. Maps and photographs from 1927 and 1938 (fig. 19) confirm that the area remained open. In fact, a 1938 aerial photograph shows clear land extending uninterrupted to Skiff Hill, including the area between Fort Hill and Skiff Hill that has since grown up into a largely cedar scrub. A 1937 land-utilization map prepared by the WPA (fig. 20) shows Fort Hill as comprising a significant chunk of the small amount of cropland remaining in Eastham. By then the total amount of cropland in the town was reduced to essentially the 200 acres of "very good land" noted in the early 19th century.

Gunn negotiated to purchase the southern Knowles farm, but the Knowles heirs continued to refuse his offers. Finally, trustee Bolster effectively pressured the Knowles heirs to accept Gunn's offer, leading to the 1936 sale.[143] Gunn registered the farm under the name of "Nauset Moors Farm."

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[139] Barnstable County Registry of Deeds, Book 523, p. 83.

[140] Larry Lowenthal interview with Charles A. Gunn, Jr., June 21, 1994; see Appendix B for a fuller version of this interview.

[141] Lowenthal-Gunn interview, June 21, 1994.

[142] Lowenthal-Gunn interview, June 21, 1994.

[143] Lowenthal-Gunn interview, June 21, 1994.

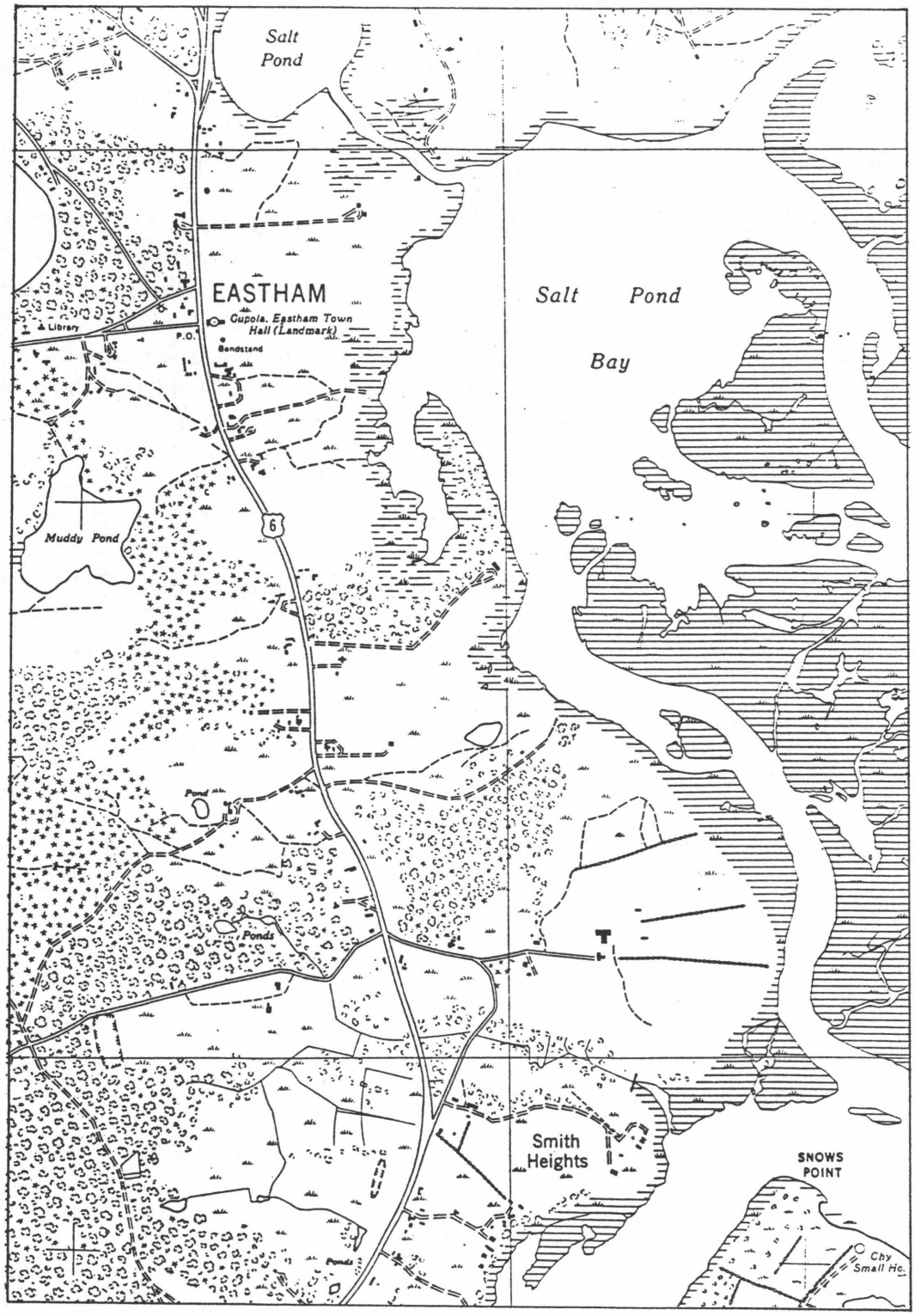


Figure 19. 1938 Map of Fort Hill.

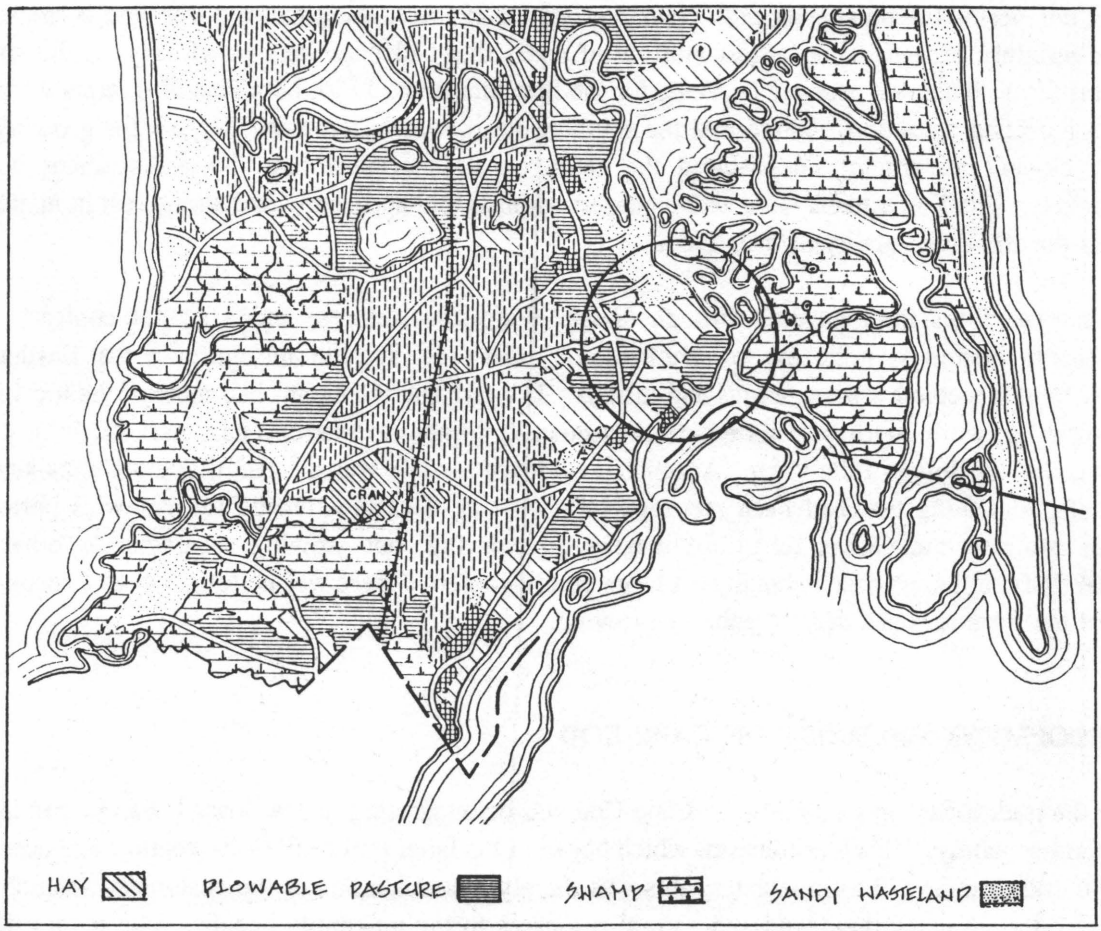


Figure 20. 1937 Land Utilization Map of Fort Hill.

Charles A. Gunn's son, Charles A. Gunn, Jr., says that in its final years under the Knowles, the farm had been a "gentleman's" farm, used primarily for keeping horses. The senior Gunn intended to emphasize dairying, so considerable effort was required to convert the barn for occupancy by milk cows. Since some time was required to prepare the house and barn, the Gunns did not actually move into the Knowles house until around 1938.

During this period the number of milk cows reached 20-25, with about half a dozen young stock. This almost certainly exceeded the largest number of cattle that had been kept previously on the southern Knowles farm. This was possible because, for the first time since 1786, both Knowles farms were being used in a unified operation. Gunn used the southern farm, which he owned, largely for growing high-quality clover and alfalfa; he pastured the cattle on the northern farm by arrangement with the Kattwinkels. The Kattwinkels were active conservationists and apparently had an interest in maintaining the traditionally open quality of their land.

Gunn marketed his milk locally, through door-to-door sales, stores, and a school contract. Milk shipments to Boston by rail seem to have ceased by that time, and the only produce that Eastham was sending by this method was asparagus and turnips. The fact that the Gunns had most of the local market to themselves, while there was not a sufficient quantity to ship to metropolitan markets, indicates that dairying was declining in the town. Additional evidence for this was the fact that the Gunns kept their own bull, something that had been recorded only on rare occasions during the Knowles period. In another contrast, the Gunns relied exclusively on dairying, not growing asparagus or other crops commercially, although they maintained a large family garden. There was no longer even a recognizable trace of the former, small-scale cranberry growing.

DEVELOPMENT PRESSURE ON CAPE COD

While the traditional rural economy on Cape Cod was disintegrating, a new force began to dominate the Cape Cod economy. This was tourism, which began in the latter part of the 19th century and accelerated into the 20th century. To some extent this was merely a continuation of the customary adaptability of Cape Codders in using their land and natural resources to the maximum benefit. The main difference was that the effects of tourism and residential development on the land seemed to be irreversible.

The trend was unmistakable, and perhaps irresistible, but the process was often contentious. This was the case with Nauset Moors Farm (the former southern, or "Seth," Knowles farm), where reaction to the expansion of tourism precipitated a family crisis. As related by the younger Charles Gunn, as he was coming of age around 1950, his father inquired about his intentions toward the farm. The young man replied that he would divide it into lots and build cottages. His father was unwilling to submit to the forces of change, however powerful, and sought to preserve the farm in which he had invested so much

effort. "This farm will never be developed," he swore. He therefore almost immediately sold the farm to outsiders. The buyers were James H. Leach, a veterinarian, and his wife Frances.[144]

As the senior Gunn had hoped, the Leaches maintained some semblance of farming and kept the land open. They sold Gunn's milk route, but they did keep cows for awhile. They hired a herdsman and also let young Charles Gunn continue to live and work on the farm. In the waning days of agriculture on Fort Hill, the stables were converted for occupancy by horses that were rented for recreational purposes.[145] However, in 1960 the event that the elder Gunn had feared and attempted to defer came to pass. The Leaches sold the former Seth Knowles/Nauset Moors farm to developers.[146] The development company, Mel-Con, planned to divide the property into 33 lots, to be linked by a system of private roads with communal boat landings (fig. 21).

By May 1961, Mel-Con had registered its subdivision, and had started regrading the land and laying out roads. It had sold 10 of the 33 "Fort Hill Estates" lots.[147] One lot, which contained the Seth Knowles farmhouse on 30,200 square feet, was sold to Robert and Sarah P. Burrill, the present owners.[148] This house, at least a portion of which may date to the 18th century, was the only building on the tract at that time. There would be no others, as it happened: further development was halted by the creation of Cape Cod National Seashore in 1961.

[144] Barnstable County Registry of Deeds, Book 770, p. 591.

[145] Lowenthal-Gunn interview, June 21, 1994.

[146] Barnstable County Registry of Deeds, Book 1080, p. 410, June 15, 1960.

[147] Cape Cod NS Land Files, Tract 35-6502, National Archives, Waltham, MA.

[148] Barnstable County Registry of Deeds, Book 1130, p. 300.

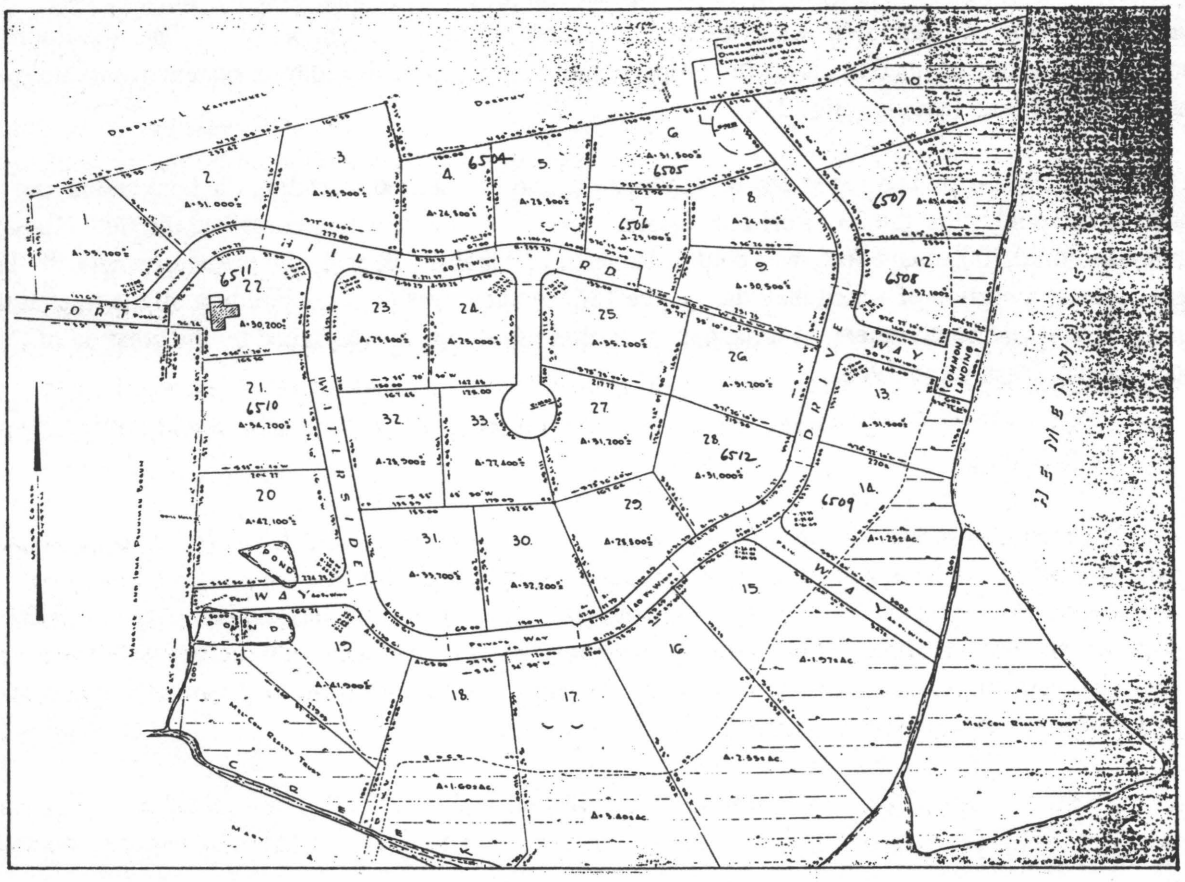


Figure 21. Proposed Development Plan for the Southern Knowles Farm, 1960.

FORT HILL UNDER NATIONAL PARK SERVICE OWNERSHIP

The initial planning to establish the Cape Cod National Seashore apparently did not include either of the two former Knowles farms in the Fort Hill area. The congressman representing Barnstable County, Rep. Hastings Keith, was reluctant to see an expansion of federal land-taking.[149] While the boundaries of the future park were still under discussion, however, a decision was made to include the threatened southern (Seth) Knowles farm. Francis P. Burling, then Managing Editor of *The Cape Codder*, was instrumental in the formation of the National Seashore. Burling arranged a helicopter tour of the farm in May 1961 for members of the relevant House and Senate subcommittees. During this visit, Burling arranged to have the helicopter land on Fort Hill. There the members saw the beginnings of the Mel-Con subdivision, with stakes marking the future location of houses. One senator told Burling, "That decided it for me," and the southern farm at Fort Hill was thereafter included within the proposed boundary.[150] Later Burling recalled, "I'm sure glad I was with them."[151]

The decisive helicopter landing occurred not a moment too soon. NPS acquisition of the former southern Knowles farm (CACO Tract 35-6502) involved nine separate transactions—eight lots and the balance of the tract, which had been subdivided but not yet sold. This was accomplished despite some opposition: several persons who had purchased lots argued that the Fort Hill Estates were "developed on the basis of statements made by Congressmen to the effect that the Fort Hill Estates area would not be included within the Seashore."[152]

Once the decision was made to include the southern (Seth) Knowles farm in the National Seashore, it seemed sensible to add the rest of the Fort Hill area. The Captain Edward Penniman house, barn, and farmland was purchased by the Cape Cod National Seashore on June 7, 1963. The price was $28,000, and the sellers were Maurice Broun and Irma Penniman Broun. Included with the property were a few of the Penniman family's household furnishings. These were removed from the house and are presently stored at the Salt Pond Visitors Center.[153]

The northern (Sylvanus) Knowles farm was the third part of Fort Hill to be added to the National Seashore (CACO Tract #35-6501). The owners of the property, Dr. and Mrs. Kattwinkel, wanted to

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[149] Larry Lowenthal interview with Marjorie Burling, September 7, 1994.

[150] Francis P. Burling, *The Birth of the Cape Cod National Seashore* (Plymouth, MA: Leyden Press, 1979), p. 50.

[151] Lowenthal-Burling interview, September 7, 1994.

[152] George H. Thompson, Land Acquisition Officer, to Chief, Division of Lands, October 17, 1962. Cape Cod NS Land File 35-6502.

[153] Gilmore, *Captain Edward Penniman House*, p. 1.

retain the old farmhouse, but were eager to sell the bulk of the farmland surrounding it to the government. In a letter dated February 12, 1963, Dr. Kattwinkel noted that "Skiff Hill is taking a beating," and concluded that "the sooner the National Seashore acquires this beautiful spot, the better."[154] The sale was concluded on October 1, 1964.[155] The Kattwinkels retained title to a lot of three acres around their house (which is now owned by the Gordon and Jean Avery family). Thus, both of the former Knowles farmhouses remained in private ownership. Finally, in 1965, the National Park Service also acquired title to the 10 acres that had been conveyed out of the Knowles family by Harriet Knowles in 1926.

Although the Fort Hill area had not seen serious agricultural use for several years at the time the National Seashore was created, it retained much of the openness that had characterized it during most of its recorded history. A 1964 appraisal described the Sylvanus Knowles farm as being "About one third...heavily wooded with pitch pine, small cedar and spruce, the remainder is cleared with a few widely scattered small cedar and spruce trees."[156] Similarly, George H. Thompson, an NPS Land Acquisition Officer, wrote the following in March 1963 about the "Seth" Knowles farm: "There are no trees or overgrowth on the tract, the characteristics being pasture or mowing meadow with good grass cover."[157] These summations are confirmed by photographs accompanying the appraisals.

An appraiser observed that the Seth Knowles farm "was probably in the same condition in 1950 [when it was purchased by James H. and Frances O. Leach from Charles Gunn] as it was 100 years ago."[158] By the time the National Seashore was established, this was no longer entirely true due to the land-development scheme. This had caused, for the first time in nearly two centuries, a divergence in the character of the two former Knowles farms. As part of the development plan, Mel-Con had laid out a 40-foot wide roadway ("Waterside Drive") through the tract, with side roads leading to the shore, to a "Common Landing," and to a cul-de-sac on the summit of Fort Hill. By the time the NPS became interested in the property, most of this private road had been defined by grading with a bulldozer. George Thompson's 1963 description found that the property included "about 2,500 feet of sandy-gravel surfaced roadway."[159]

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[154] Dr. Egon E. Kattwinkel to Robert F. Gibbs, Superintendent, Cape Cod NS. CACO Tract 35-6501, Land File, Cape Cod NS.

[155] Barnstable County Registry of Deeds, Book 1274, p. 541.

[156] Frank B. Rogers, Appraisal. Cape Cod NS Land File 35-6501.

[157] Thompson to Chief, Division of Lands, March 13, 1963. Cape Cod NS Land File 35-6502.

[158] John C. Kiley, Valuation, December 1, 1962. Cape Cod NS Land File 35-6502.

[159] Thompson to Chief, Division of Lands, March 13, 1963.

Although some gravel may have been brought in, the road was by no means heavily graded; a later maintenance foreman described it as "just a scrape," intended to mark where the permanent road was to go.[160] According to some town residents, topsoil removed during this grading was trucked off site to grade other development tracts.[161] Attempts were made to obliterate the developers' optimistic "Waterside Drive."[162] The minutes of the Cape Cod NS Advisory Commission for May 15, 1964, reported that the subdivision road had been disked, planted, and closed. Nevertheless, the route of that road is still visible in aerial photography and on the ground today (see figure 22).[163]

Land Officer Thompson's letter of March 13, 1963, also refers to "about 1,000 feet of asphaltic surface roadway." Although neither he nor the appraiser describes the location of this roadway, it may have been the section leading to the summit of Fort Hill. A map dated December 1962 depicting "Existing Conditions, Penniman House & Fort Hill" shows the side road to the summit as being an asphalt road, and photographs accompanying the appraiser's report seem to show this section of road as having a hard surface.[164] Except for the roads, there is no evidence that the developers did any grading of the terrain. A maintenance foreman who first saw the area in 1965 recalls a pile of topsoil at the curve of the road near the Burrill house. This was apparently a result of the road grading; the foreman saw no other signs of earth-moving.[165]

Under National Park Service administration, management policy toward Fort Hill was governed generally by the 1963 Master Plan for Cape Cod National Seashore, and specifically by the detailed language contained in the Developed Area Narrative of August 1965. This report offered the following description of the Fort Hill area:

> To the northeast, old field vegetation, with grass and red cedar the predominant species, occurs. To the southeast, the landscape is one of grassy, open fields. The few houses are for the most part large and old, and fit well into the landscape.

While implicitly acknowledging the effects of human activity in creating this landscape, the plan sent a mixed message by going on to recommend that "The desired character to be maintained is that of a scene in which the pervading activity is that of nature, with which the few visible works of man harmonize."

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[160] Larry Lowenthal interview with Walter Brady, September 6, 1994.

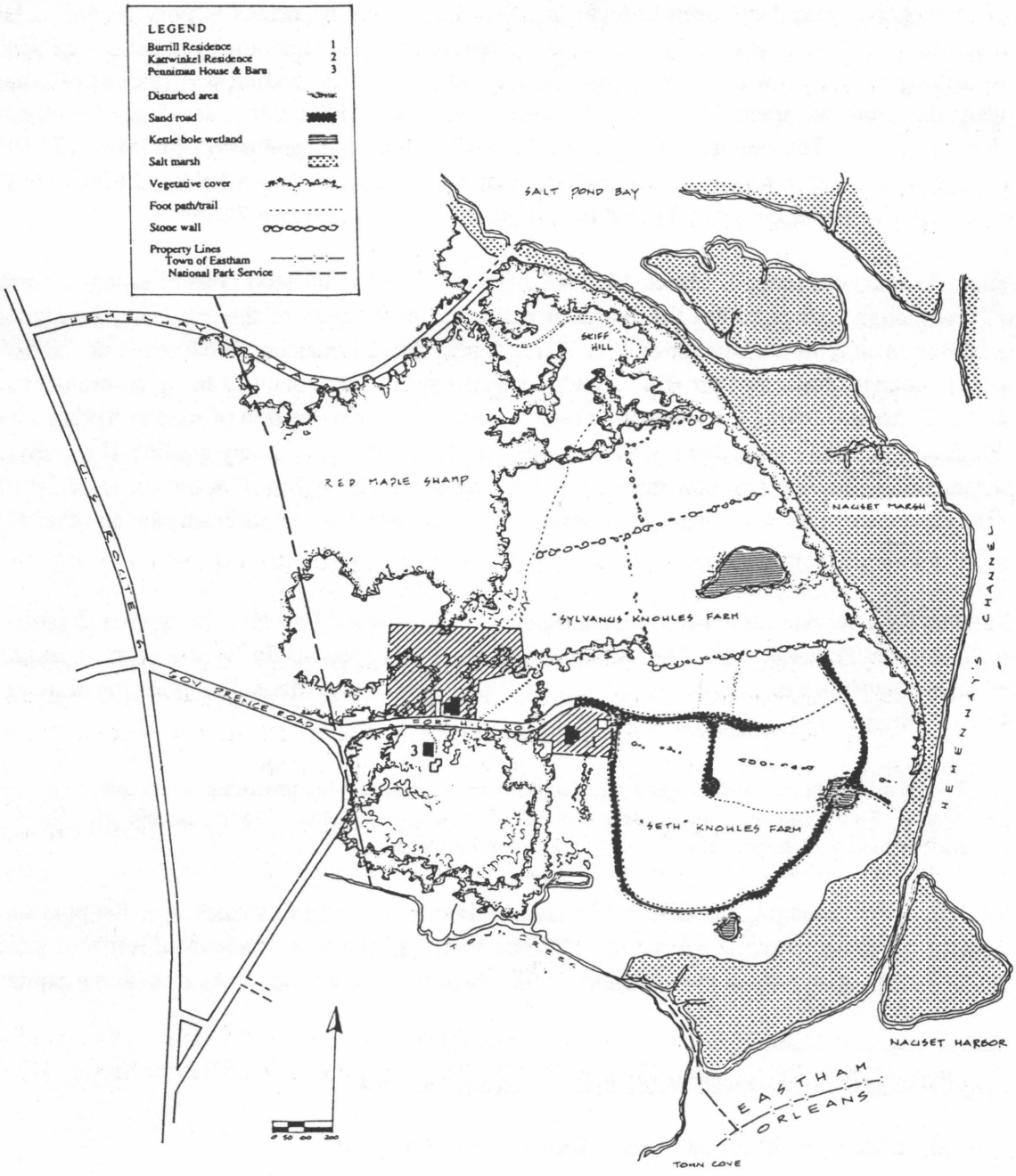
[161] Hope Morrill to Lynn Schad and Frank Ackerman, December 22, 1994.

[162] Lowenthal-Brady interview, September 6, 1994.

[163] Aerial photographs, 1987. Cape Cod NS files.

[164] Map #3028 (Cape Cod NS microfiche map files); appraisal by John C. Kiley (Cape Cod NS Land File 35-6502); the map shows the other roadways as being "sand roads."

[165] Lowenthal-Brady interview, September 6, 1994.



Sources:	United States Department of the Interior National Park Service	Existing Conditions 1965
Aerial photography dated 1960 and 3/14/65, Cape Cod National Seashore / National Park Service Files Land Records of the Barnstable County Registry of Deeds Drawn by:	Olmsted Center for Landscape Preservation	FORT HILL Cape Cod National Seashore Eastham, Barnstable County, Massachusetts

Figure 22. Period Plan 3: Fort Hill Existing Conditions, 1965.

The Developed Area Narrative called for continued use of the existing boat launching ramp and parking area provided by the town at Hemenway Landing. It also included a map that showed several other facilities that would benefit the site. Some of these already existed; others would have to be created. These facilities were:

1. a self-guided trail through the Red Maple Swamp;
2. a trail from Hemenway Landing to Skiff Hill;
3. an interpretive shelter, with exhibits, at Skiff Hill;
4. an interpretive sign at the Penniman House;
5. a parking area at the Penniman House;
6. a trailside exhibit interpreting Indian shell heaps at Fort Hill; and
7. a trail along the edge of Nauset Marsh connecting Skiff Hill and Fort Hill.

The Interpretive Prospectus, approved in 1966, contained similar recommendations. All of these proposed actions were achieved in subsequent years, except for (6), as follows:

1. The Red Maple Swamp Trail was reported as having been planned and marked in June 1965, and constructed by Job Corps personnel by July 1967.[166]

2. A trail from Hemenway Landing to Skiff Hill already existed by July 1965, according to the map accompanying the Developed Area Narrative. (Hemenway Landing is a parking area along Hemenway Road, being opposite the entrance from Hemenway Road to the Fort Hill area.) The plan proposed paving the trail, which did happen.

3. The Kattwinkel overlook at Skiff Hill was retained and improved. An interpretive shelter, built adjacent to the overlook, was completed in December 1965.[167]

4. Cast-aluminum interpretive signage was installed at the Penniman House in 1966. It was replaced by the current signage ca. 1984.[168]

5. Circulation to the Fort Hill area was a subject of much discussion, related to providing parking and access to the Penniman House. The Developed Area Plan emphasized access

[166] Minutes, Cape Cod NS Advisory Commission, June 4, 1965. Also, memorandum from H. Reese Smith, Chief, PSC-DC, to Regional Director, Northeast Region, July 18, 1967; Cape Cod NS file D22, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[167] Minutes, Cape Cod NS Advisory Commission, December 10, 1965. At that time, the shelter was reported to be 95% complete.

[168] Larry Lowenthal interview with Frank Ackerman, Chief, Interpretation and Cultural Resources Management, Cape Cod NS, March 1, 1995.

from Hemenway Road, although the Fort Hill Road extension to the parking area on the summit of the hill was retained. A 1963 drawing showed a new approach: a proposed loop road behind the Penniman House, with a parking area for 20 cars east of the house, as well as a loop road encircling the parking area at Fort Hill summit.[169] This concept was expanded in a proposal by the Regional Master Plan team, which advocated a loop road entering at the Penniman House and exiting via Hemenway Road.[170] This idea persisted into the following year, as the Coordinating Engineer, Area I, after a trip to Cape Cod, observed that "Newly acquired NPS lands make feasible the possibility of connecting the Fort Hill overlook to a proposed interpretive shelter (adjacent to the existing Town Landing) and to the Red Maple Swamp. The Fort Hill parking area may not be required."[171] None of these proposals resulted in new construction, although a temporary parking area was provided in the rear of the Penniman House beginning in the summer of 1967.[172] This temporary lot was replaced by another temporary lot on the site of the present parking lot on the north side of Fort Hill Road. This lot was paved in 1984.

7. Visitor traffic had already worn a trail along the edge of Nauset Marsh from Skiff Hill to the Fort Hill overlook. This trail was shown on the map accompanying the Narrative, and was retained and later improved.

Additional facilities not shown on the Narrative's map were added around this time. A trail running from the Kattwinkel property to an overlook at Skiff Hill had existed prior to 1938, based on aerial photographs taken that year. The Kattwinkels used this trail, and drew a sketch of its route for the Park Service.[173] It appears that the NPS retained the trail to connect the parking lot east of the Avery house with Skiff Hill. A south extension was added to route the trail around the east side of the Kattwinkel (now Avery) inholding.

Another activity that occurred in this same period was the moving of the so-called Indian Rock from the water's edge below the cliff up onto the cliff. (The rock then sat at the edge of the water below the cliff;

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[169] Preliminary Project Drawing, "Roads, Parking & Walks, Pennimen[sic] House & Fort Hill," January 1963. Map #3033, Cape Cod NS microfiche map files.

[170] Memorandum from NAR Master Plan Team to Chiefs, Division of History and Archeology and Division of Natural History, February 20, 1963. D22 file, Cape Cod NS records, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[171] Memorandum from Walter Saladik, Coordinating Engineer, Area I, to Chief Engineer, Area I, July 24, 1964. Cape Cod NS files, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[172] Minutes, Cape Cod NS Advisory Commission, July 7, 1967.

[173] Sketch accompanying letter from Kattwinkel to Gibbs, February 12, 1963. Cape Cod NS Land File 35-6501.

it was presumed to have fallen there from the cliff when the ground under it was undermined.) This action was recommended by the Kattwinkels in their letter of February 12, 1963, and had also been recommended in the Interpretive Prospectus. The rock was moved, despite some local opposition, to the overlook next to the Skiff Hill shelter by November 1965.[174]

A comfort station was also proposed for a location along the trail from the Hemenway Road entrance to Skiff Hill. It first appeared as part of the fiscal year 1967 construction program, and was nearing completion in May 1969.[175]

At some point during this period, the extension of Fort Hill Road and the parking area at the top of Fort Hill were paved. Previously, pavement had ended at the Burrill house, which was also the boundary of town ownership. It has not been possible to determine the exact date of this work; individuals who arrived in 1972 remember the road as already being paved, and the first Chief of Maintenance recalls that it was paved in 1965 or 1966.[176] He says it was done by a local contractor, without benefit of detailed engineering plans.[177]

From the outset, the National Seashore administration had the Fort Hill area mowed periodically in an effort to maintain its open appearance. This mowing, which was performed by a tractor or brush hog, generally occurred once a year. There is some disagreement as to whether spring or fall was the customary season—perhaps it varied over the years.[178] A later Superintendent, Herbert Olsen, said he tried to discourage mowing in the spring, to protect wildlife habitat.[179] There was also discussion from time to time of burning the fields, and it appears that burning took place at least twice, once prior to 1975 and again around 1977-78.[180] All present and former maintenance staffers who were interviewed recall cutting brush and replacing stones that had rolled off the stone walls. However, all are unanimous in affirming that they did not extend the walls or relay them in places where they had presumably become buried.

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[174] Minutes, Cape Cod NS Advisory Commission, November 19, 1965.

[175] Minutes, Cape Cod NS Advisory Commission, May 2, 1969.

[176] Larry Lowenthal interview with Jamie Bell, Maintenance Foreman, Cape Cod NS, September 1, 1994; also Lowenthal interview with James Killian, former Land Officer, Cape Cod NS, September 13, 1994.

[177] Larry Lowenthal interview with Jim Bowman, September 13, 1994.

[178] Lowenthal interviews with Brady, Bell, Bowman, and Joe Stephens.

[179] Larry Lowenthal interview with Herbert Olsen, September 12, 1994.

[180] Lowenthal interviews with Brady, Bell, and Bowman.

Few staffers remember any marked boundary stones. However, Dennis St. Aubin—a native Cape Codder and current member of the park staff—has stored in his office a boundary stone marked with a "T", presumably referring to Samuel Treat (see Appendix A). Prior to 1993, the stone was embedded beside the Fort Hill Trail northwest of the Burrill house; it was not known if this was its original location. In 1993, vandals partially excavated the stone, and park rangers removed it for safekeeping.[181] Based on research done for this report, the stone's position beside the trail has been validated, and the park plans to reinstall it. No other marked boundary stones have been found.

An aggressive program of "meadow reclamation" on 30 acres at Fort Hill was proposed by the park Superintendent in 1964.[182] This prompted pointed questioning by a regional office official, who asserted:

> It is not clear to anyone here whether the Cape Cod meadowland referred to is manmade meadowland, natural wet or dry meadow. It is not known from what sources, historical or natural history, this project could be justified. It is not known whether the purpose is primarily one of aesthetics or ecological processes. Nothing is known of the type of plant life to be encouraged or of that to be eradicated.[183]

This seems to have ended further discussion of intervention of that magnitude, although later an expenditure of $5,200 was proposed for "vista clearing."[184] This implies that, even in the absence of agriculture, one of the primary attractions of the area was the views it provided. This, of course, was the feature that had earlier convinced the Congressmen to include Fort Hill in the National Seashore.

A more ambitious program for the Fort Hill area was envisioned in the revised Developed Area Plan of November 1968. This plan called for the obliteration of the road to the Fort Hill summit, and for a campaign of scene restoration for part of the area. The latter would feature saltworks, a hay barge, and limited agriculture. These activities were to be concentrated in an area generally due east of Fort Hill Road. Parking for the complex would be centered behind the Penniman House.[185] These concepts

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[181] Larry Lowenthal conversation at Cape Cod NS with Dennis St. Aubin, Hope Morrill, and Lynn Schad, August 17, 1994.

[182] Memorandum from Superintendent, Cape Cod NS, to Regional Director, Northeast Region, April 30, 1964. D18 file, Cape Cod NS records, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[183] Memorandum from J. Carlisle Crouch, Assistant Regional Director for Operations, Northeast Region, to Superintendent, Cape Cod NS, May 12, 1964. D2215 file, Cape Cod NS records, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[184] Tentative Construction Program, FY 1969, prepared March 16, 1966. Cape Cod NS records, Accession 76-0395, RG 79, National Archives, Waltham, MA.

[185] "Skiff Hill-Pennimen[sic] House Developed Area Schematic." Map No. 609/40,003, Cape Cod NS microfiche map files. The plans did not elaborate on the kind or extent of agriculture to be practiced.

were embodied in the 1970 Cape Cod NS Master Plan, which stated that the scene to be restored would represent the period 1850-90.

Elaborating on these guidelines, the park's Resources Management Plan prepared in April 1969 recommended an extensive program for what it termed the "Eastham Kame Unit," which embraced the Fort Hill/Skiff Hill area. (A "kame" is a hill or mound formed by glacial meltwater.) The plan recognized that "With only minor interruptions this land has probably been under cultivation for several hundred years." It proposed prescribed burning and a systematic program of tree removal to "perpetuate the open type appearance" of the Fort Hill pastures. This was intended to facilitate creation of an "interpretive exhibit depicting a farming scene."

The RMP also noted that upland game hunting had created conflicts with visitor use, and recommended that it be eliminated. As its appearance suggests, the Fort Hill area provides excellent habitat for game species. Hunting had been a traditional activity on Cape Cod, but as population increased it became less prevalent. "Hunters few and people many," summarized one former Seashore employee.[186]

As the plans for scene restoration proceeded, vital questions were being raised. A number of these were expressed to the park's Superintendent in a 1974 letter from the Regional Director of the recently formed North Atlantic Region of the National Park Service. These concerns, which had been raised earlier by Regional Architect Blaine Cliver, were as follows:

- There are no traces of the original saltworks, nor is there any specific information as to where the site actually was located.

- Although the general history of the salt-making industry may be known, specific information about this saltworks is lacking. The HABS drawings available are of another saltworks, and do not meet the criteria for information related specifically to this site.

- The proposed construction of a shelter for the hay barge should be reconsidered, since the site might be subject to vandalism.[187]

Following Cliver's recommendations, the Regional Director urged that the funds would be better spent on the restoration of existing buildings, such as the interior of the Penniman House. These criticisms seem to have broken the momentum of the landscape restoration proposals, although the concepts were

[186] Lowenthal-Bowman interview, September 13, 1994.

[187] Memorandum, Jerry D. Wagers, Regional Director, NAR, to Lawrence C. Hadley, Superintendent, Cape Cod NS, August 19, 1974: H30 file, Cape Cod NS records, Accession 88-0002, RG 79, National Archives, Waltham, MA. Cliver's recommendations were presented in a memorandum to Ross Holland, July 23, 1974: D22 file, Cape Cod NS records, Accession 83-0001, RG 79, Waltham.

not formally removed from the Master Plan and, in fact, were mentioned again in a low-key memorandum from a Denver Service Center planner in 1978.[188] Instead, as instructed by the Regional Director, the park focused its energies in the mid-1980's on a detailed restoration of the Penniman House, with the assistance of the North Atlantic Historic Preservation Center.[189]

The decision not to conduct a major restoration program on the landscape at Fort Hill probably means that there have been no significant changes in the landscape at Fort Hill since the 1970's. The changes that have occurred are of a more subtle nature, such as the gradual replacement of pasture grasses by coarser vegetation, even though the practice of mowing to a height of about 6 inches has preserved a superficially consistent appearance. Similarly, the kettle-hole wetlands that remain on the site have become drier due to natural processes of vegetative filling.

The general restoration of the Penniman House in the 1980's included the restoration of the decorative wooden fence surrounding the Penniman lawn. The retaining wall was stabilized at the same time, through the removal of trees that had grown on top of it. The late 1980's and early 1990's saw an effort made to remove vegetation and locust trees that had encroached on formerly clear areas south and southeast of the Penniman House, and to the east of the former Sylvanus Knowles house.

In general, Fort Hill under NPS management has maintained the open appearance that has characterized the area through most of its recorded history, and for a considerable—if indefinite—time prior to that.

[188] Memorandum from Gerhard R. Tegeder, Planner, Mid-Atlantic/North Atlantic Team, Denver Service Center, to PIFS, M-A/NA Team, DSC, October 12, 1978. D18 file, Cape Cod NS records, Accession 88-0002, RG 79, National Archives, Waltham, MA.

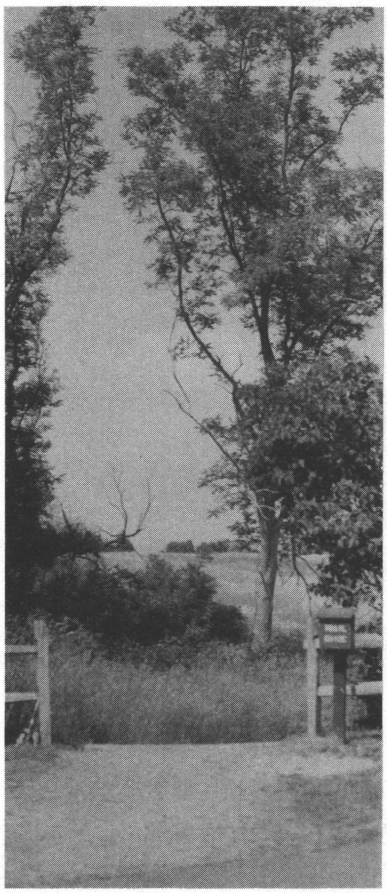
[189] Later the Cultural Resources Center. See Gilmore, *Captain Edward Penniman House.*

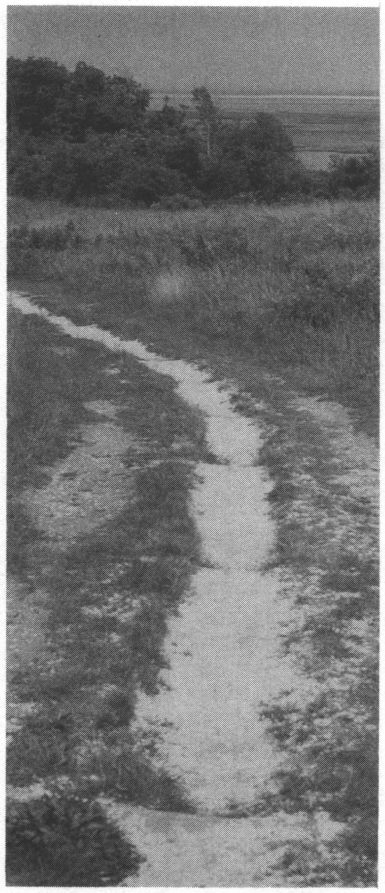
DESCRIPTION OF EXISTING CONDITIONS

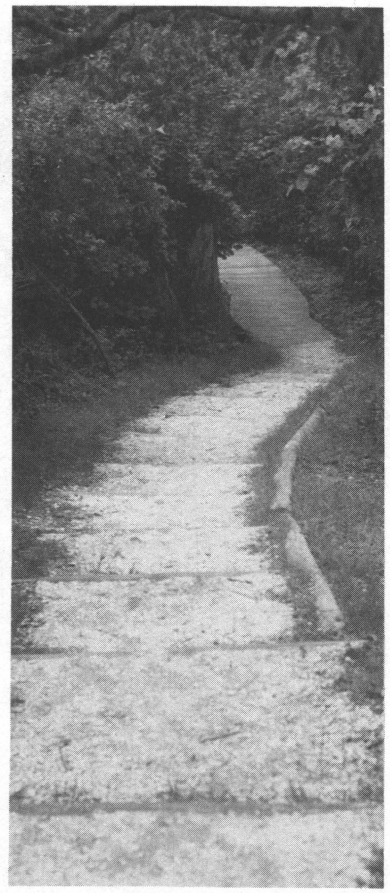
The intent of this section of the report is to provide a general description of the existing landscape features of the Fort Hill area as recorded during the summer and fall of 1994. Existing conditions are also depicted graphically on figure 23.

The Fort Hill area includes approximately 100 acres of field, forest, and salt marsh. It is located east of U.S. Route 6 on the ocean side of lower Cape Cod in the Town of Eastham. The landscape of the Fort Hill area includes three distinct zones. These are, pictured below from left to right, the west end of Fort Hill Road; the open, east portion of the site; and the Red Maple Swamp. These three distinct zones are linked by the Fort Hill Trail.

Visitation to the site in 1994 was 370,221 persons, based on records from the NPS traffic counter located at the east end of Fort Hill Road.







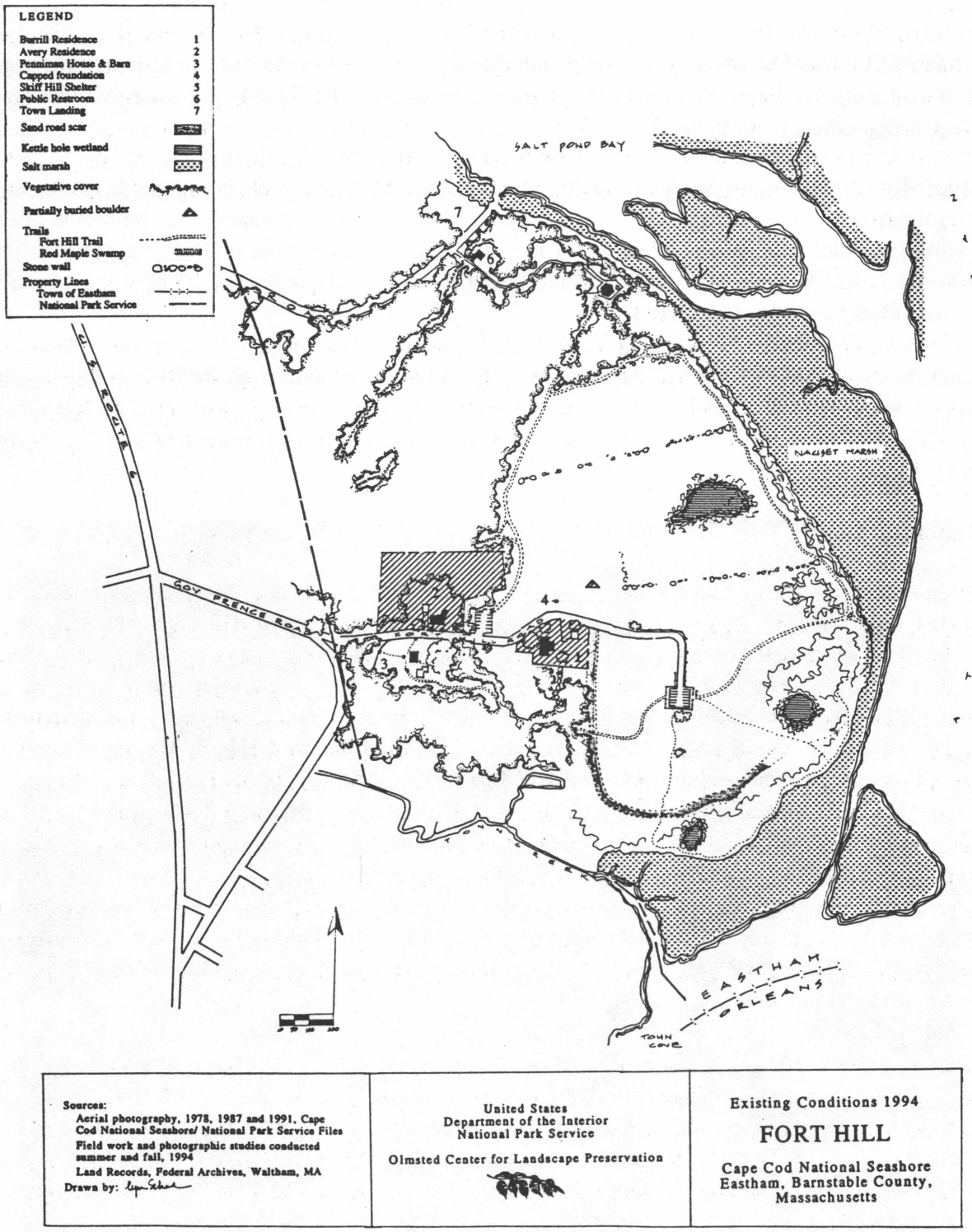


Figure 23. Period Plan 4: Fort Hill Existing Conditions, 1994.

THE FORT HILL ROAD ZONE

The Fort Hill Road zone lies astride the main, west half of Fort Hill Road. This section of road begins at the intersection with Governor Prence Road, which provides access to the area from Route 6; it ends at the Burrill property line. The north boundary of the zone is the Red Maple Swamp; the south boundary is the creek flowing into Town Cove. The zone's primary features are a cluster of three historic houses and their outbuildings, and a NPS parking lot (fig. 23). The three houses are the Captain Edward Penniman House, the Avery (formerly Sylvanus Knowles) house, and the Burrill (formerly Seth Knowles) house.

The Entrance

The main entrance to the Fort Hill area from Route 6 is Governor Prence Road; it is marked by National Park Service signs. Governor Prence Road leads east to connect with the west end of Fort Hill Road. Road edges at the intersection of these two roads are moderately to heavily vegetated. With the exception of one line of declining eastern red cedars planted six feet on center, this roadside vegetation is largely opportunistic.

The Penniman House

The Penniman House is located on the south side of Fort Hill Road, east of the intersection with Governor Prence Road (fig. 23). It is owned by the Park Service, and is open to the public on a seasonal basis. In 1994, 8,176 persons entered the Penniman House for interpretive tours or open houses. The grand, French Second Empire-style house faces west high atop a terraced lawn, presenting an imposing facade to visitors arriving in the Fort Hill area (figs. 24-25). The west lawn is defined by a semicircular, decorative wooden fence. Two sets of wooden stairs lead from the west side of the upper terrace, through a break in the fence and down to Fort Hill Road. The north side of the lawn slopes down to a stone retaining wall, broken on center by another set of wooden steps leading down to the road. A distinctive whalebone gate is located at the east end of the retaining wall, through which one passes to an informal path leading up the north lawn. A row of former hitching posts stands 10 feet on center in a line between Fort Hill Road and the north edge of the Penniman property. The terraced lawn on which the house and barn sit is free of formal plantings, though three of four terrace edges are currently overgrown with opportunistic vegetation. A flagpole socket is located approximately 20 feet from the northwest corner of the house.

The lawn on the east side of the house slopes down to a gravel drive. Four large cottonwood trees line the west side of the driveway. Southeast of the house is a two-story barn, which matches the Penniman House in style and appearance, and a small, depressed parking area surfaced with gravel. The parking area is bordered on the west by the exposed foundation of the Penniman House, on the north by a retaining wall, and on the south by the front of the barn. Wooden steps lead from the east terraced lawn down to the parking area.

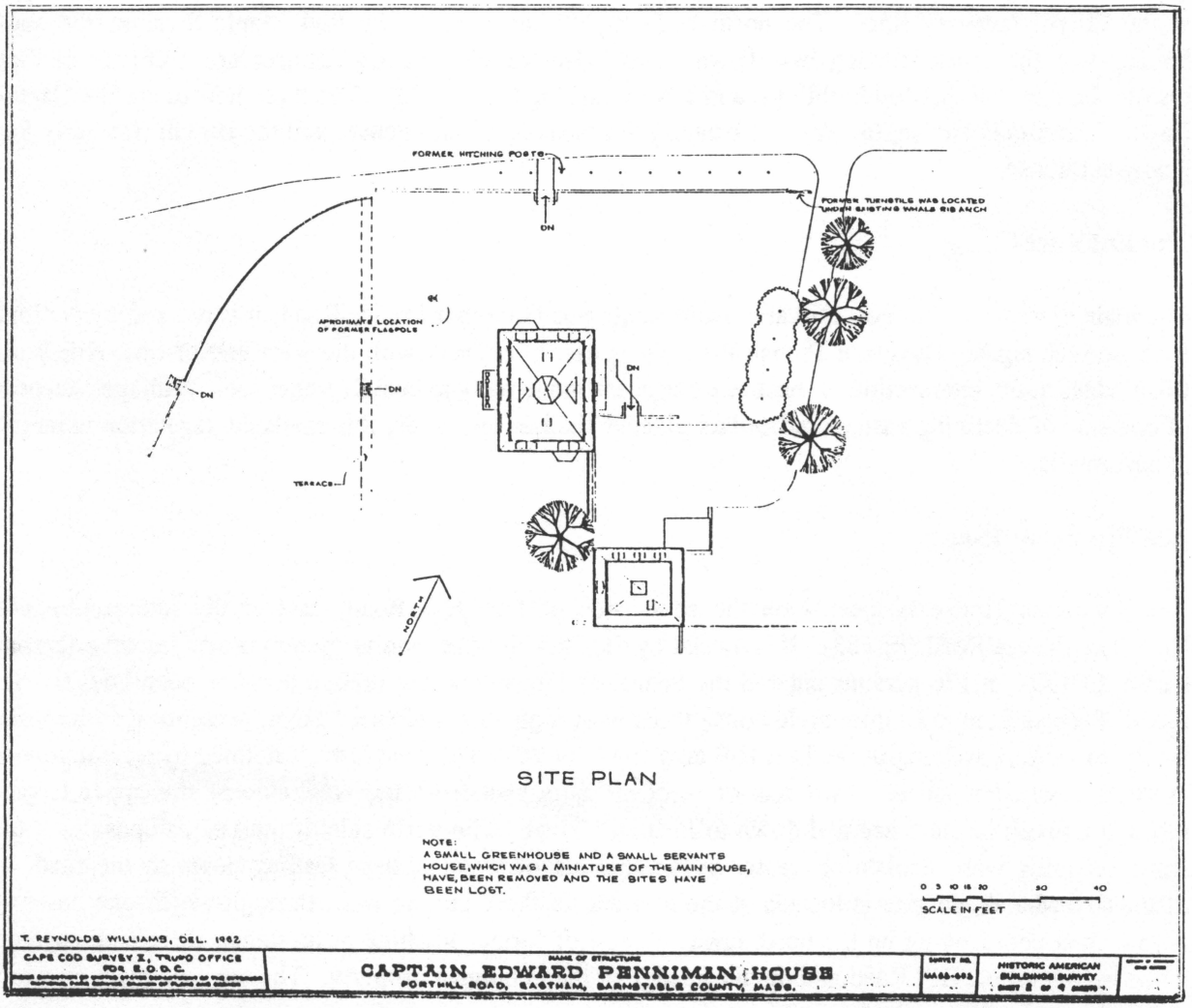


Figure 24. Penniman House Site Plan.

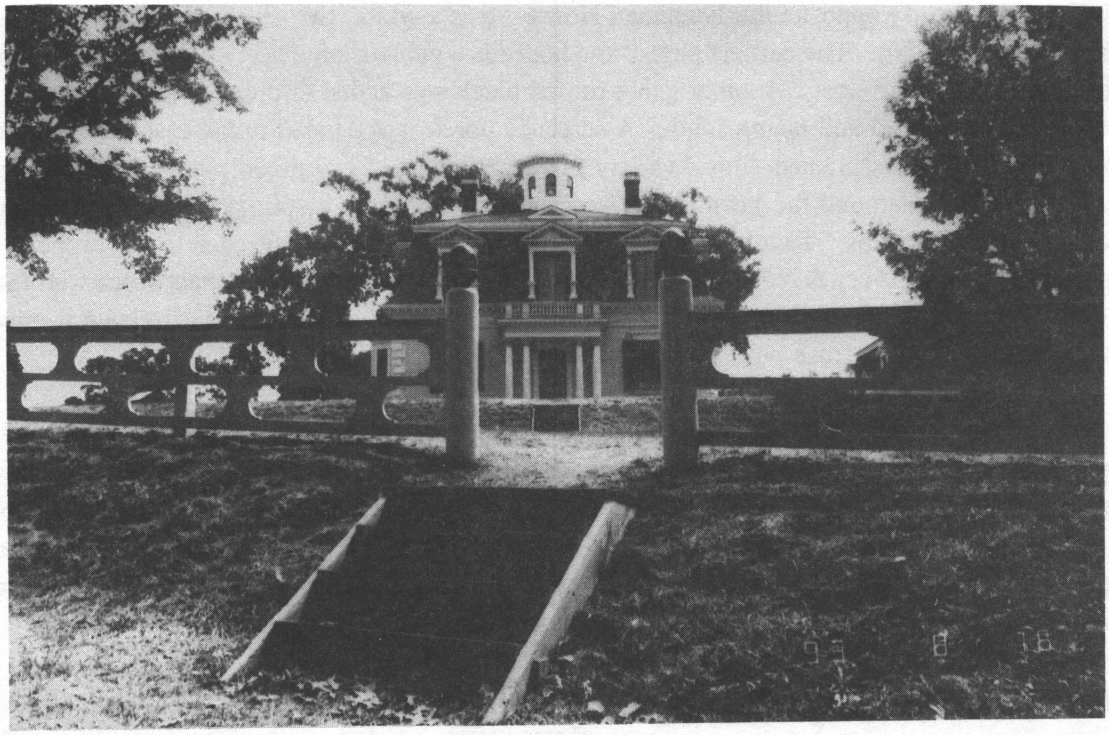


Figure 25. Penniman House and West Lawn, 1993.

The land south of the Penniman House slopes down to the creek that flows into Town Cove. A trailhead for the south loop of the Fort Hill Trail runs behind the barn and continues eastward. South of the trail is thickly overgrown vegetation. The land east of the Penniman House, extending to and south of the Burrill inholding, used to be equally overgrown. However, the Park Service has cleared much of this area, leaving only a narrow buffer between the Penniman House and the Burrill inholding.

The Avery and Burrill Houses

The Avery and Burrill houses are owner-occupied inholdings. The Avery house is on the north side of Fort Hill Road, directly opposite the Penniman House. It is a white, two-story, clapboarded house that now faces south (fig. 26). The earliest part of the house is a gable-roofed section that sits perpendicular to Fort Hill Road, facing west. Another gable-roofed block was added to the rear (east) of this section, parallel to Fort Hill Road and facing south. A screened porch is appended to the east end of the house. The front of the house is planted with a variety of neatly trimmed evergreen plants, both marking the foundation and dotted around the lawn. The front lawn is edged by a split-rail fence and buffered by additional evergreen shrubs. Two tall, conical evergreen trees mark the entrance to the property. The area to the west of the Avery driveway is heavily wooded, and a portion of a remnant stone wall (perhaps marking the boundary of the Avery property) is hidden in the woods. The rear (north) lawn is open, and enclosed for privacy by a dense buffer of red maples.

The Burrill house (fig. 27) is located at the east end of the residential cluster, facing west. It is situated largely in line with Fort Hill Road, which curves sharply around the north of the house. This structure is a two and one-half story frame house with both clapboard and shingle siding. It has a gable roof with a center chimney and a large center cross-gable. Evergreen shrubs create a foundation planting around the front of the house. The front, west lawn is planted in grass, and marked only by a large cottonwood tree and a single flowering hydrangea. The rear, east lawn is also largely open.

As explained previously, the Penniman tract southwest of the Burrill House was overgrown until recently cleared by the National Park Service. A clump of vegetation was left south of the Burrill property; the south loop of the Fort Hill Trail passes through it on its route eastward. The clump covers a long stone wall that runs south from the Burrill property line to the trail. This wall consists of three unmortared courses; it is clearly visible only in the fall and winter.

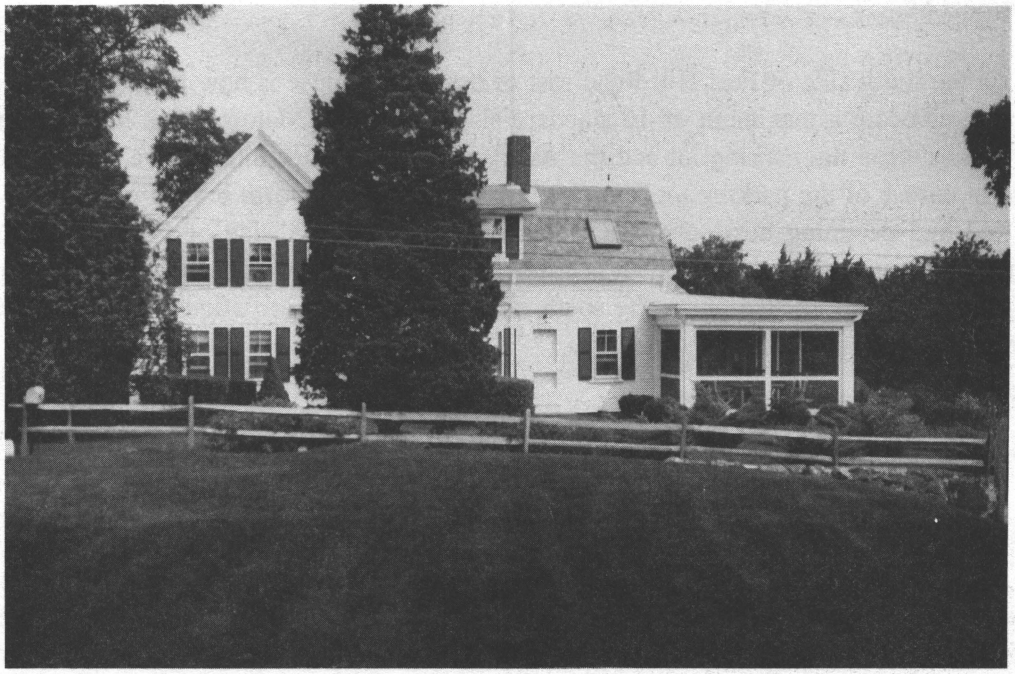


Figure 26. Avery House, 1994.



Figure 27. Burrill House, 1994.

The Parking Lot

The area on the north side of Fort Hill Road east of the Avery house is now a Park Service parking lot that can accommodate a maximum of 16 standard-sized vehicles. Mature black locust trees mark the property line between the parking lot and the Avery inholding. Park interpretive signage is located at the northeast corner of the parking lot, marking a trailhead for the north branch of the Fort Hill Trail. A single old and declining horse-chestnut tree stands on the south side of Fort Hill Road, directly opposite the entrance to the parking lot. It is possible that this tree is the sole survivor of a line of horse-chestnut trees that once existed along the south side of Fort Hill Road (figure 14, rear), between the Penniman House and the Burrill inholding.

THE OPEN-FIELD ZONE

The open-field zone surrounds the east end of Fort Hill Road. It extends from the Fort Hill Road zone eastward to the Nauset Marsh, and from the wooded edge of the Red Maple Swamp and Skiff Hill southward to Town Cove. Distinctive characteristics of this landscape include undulating folds of pasture and abandoned field divided by stone walls, kettle-hole wetlands, unobstructed views in every direction, and opportunistic vegetation presenting itself at every edge. Geologist Robert Oldale describes the area as exhibiting "classic, collapsed ice-age topography."[190]

The east end of Fort Hill Road, which extends into the field area, terminates at a paved parking lot and overlook at the top of Fort Hill. This is an elevation of more than 40 feet (fig. 28). The view from here is panoramic (fig. 29). The land slopes away gently to the south, where it meets the creek and the marshy edge of Town Cove. Across the cove is visible the residential development known as Smith Heights. The view to the east looks over Nauset Marsh to the Atlantic Ocean. To the northwest and west, the open fields extend to the woodland edge of the Red Maple Swamp zone, and to the wooded property lines of the three houses of the Fort Hill Road zone.

The overlook is crossed by the Fort Hill Trail. As described previously, the south loop of the Fort Hill Trail runs eastward through the woods south of the Penniman House and the Burrill inholding. When this path reaches the open-field zone, it becomes a grass path mowed to a width of about 6 feet that curves up to the Fort Hill overlook. The overlook also features the trailheads of two lesser paths. These are trampled-grass paths that lead south to the marshy edge of Town Cove, then turn and travel along the edge.

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[190] Robert N. Oldale to Frank Ackerman, December 1994. Oldale is geologist emeritus with the U.S. Geological Survey, Branch of Atlantic Marine Geology, Center for Coastal and Marine Geoscience, Woods Hole, MA. He also wrote *Cape Cod and the Islands: The Geologic Story* (East Orleans, MA: Parnassus Imprints, 1992).

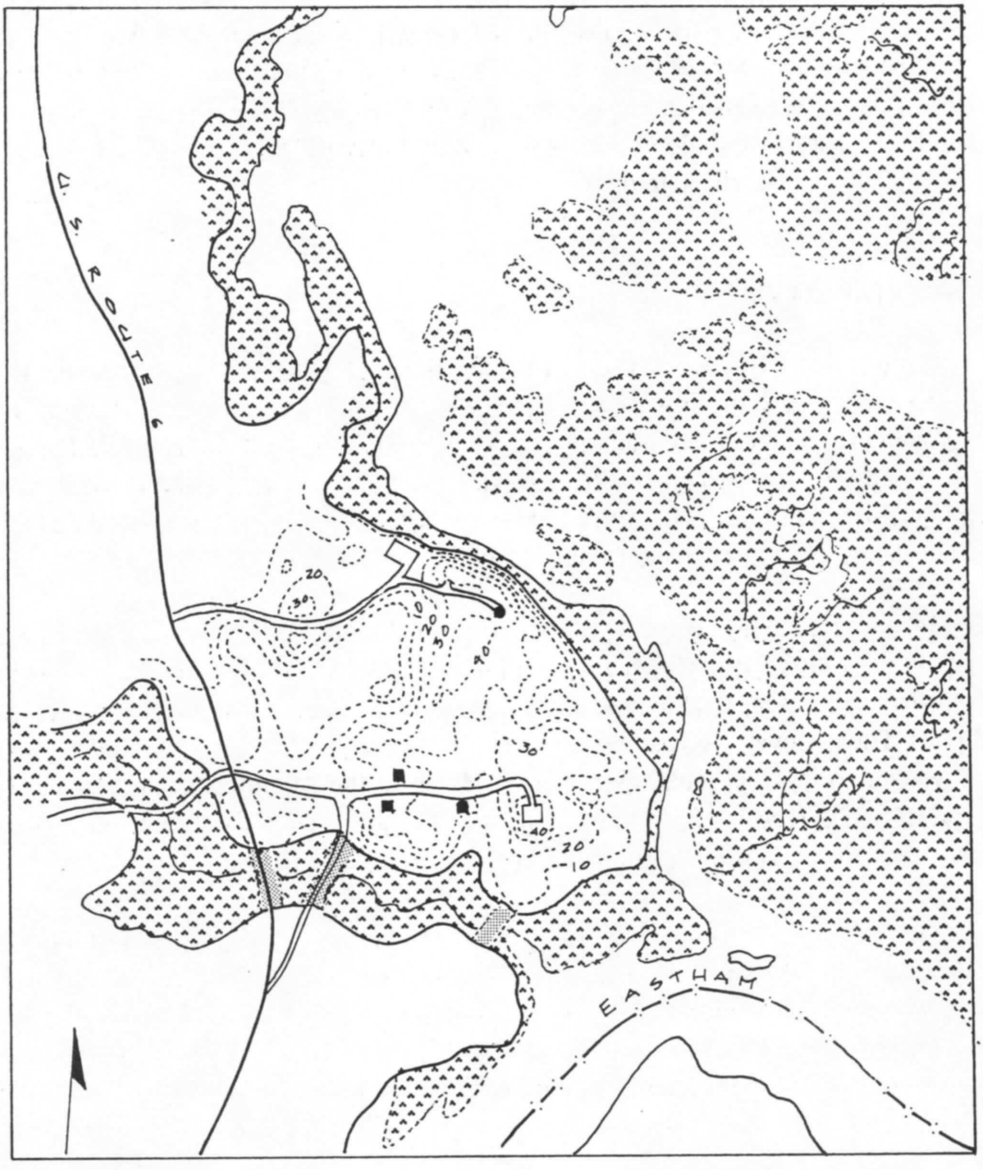


Figure 28. Topographical Map of Fort Hill, 1994.



Figure 29. Panoramic View from Fort Hill, 1994.

East of the overlook, the south loop of the Fort Hill Trail continues eastward to the edge of Nauset Marsh. Its construction reflects the fact that it is the most heavily traveled of the four overlook paths: the middle of the mowed path consists of crushed-shell surface reinforced with split logs. When it reaches the edge of Nauset Marsh, this path turns north and travels along the marsh to the edge of the woods south of Skiff Hill. Here the trail divides. One path continues north to the Skiff Hill Shelter. The other turns west to intersect the north branch of the Fort Hill Trail, which runs between Skiff Hill and the Fort Hill Road parking lot.

A scar that is visible from the air and on the ground 30 years later remains from the roadwork conducted as part of the subdivision layout circa 1960. This is a depressed area along the west and south flanks of the property. The track is between 20 and 30 feet wide and, in some places, is as much as 4 feet lower than the surrounding field. Nevertheless, it is difficult to perceive the course of this abandoned roadbed from the overlook during the growing season, when grasses are tall.

Three kettle-hole wetlands stand out from the surrounding field setting (fig. 30). Each is edged and partially filled with encroaching vegetation, which makes access and inspection difficult. However, surface water is visible within each of the three wetlands, and the presence of wildlife is evident. In addition, debris such as oversized timbers can be found in the wetland areas. It is not clear whether this represents off-site dumping or storm stranding.

Three stone walls are located in the open-field zone (fig. 31). These are similar in size and appearance to the one south of the Burrill property line. All three run westward from Nauset Marsh (see figure 22). The northernmost of the three runs for 115 feet before reaching a gap of 115 feet. After that point, the line continues in the form of some isolated cobbles. The middle wall consists of two segments. The east segment is comprised of two to four courses of unmortared stone, and is 139 feet long. The west segment dwindles to one course, shows some gaps, and runs for 669 additional feet. The southernmost wall consists of two to four courses of unmortared stone and runs 718 feet.[191] On the south side of the west end of this wall is an area of surface disturbance, but it does not appear to have affected the stone wall. There was once a fourth stone wall in the open-field zone, which extended due east from the Burrill house to Nauset Marsh. No trace is visible of this wall today.

[191] Wall measurements are taken from Mulholland et al., "Archeological Reconnaissance Survey," p. 28.



Figure 30. Kettle-Hole Wetlands at Fort Hill, 1993.

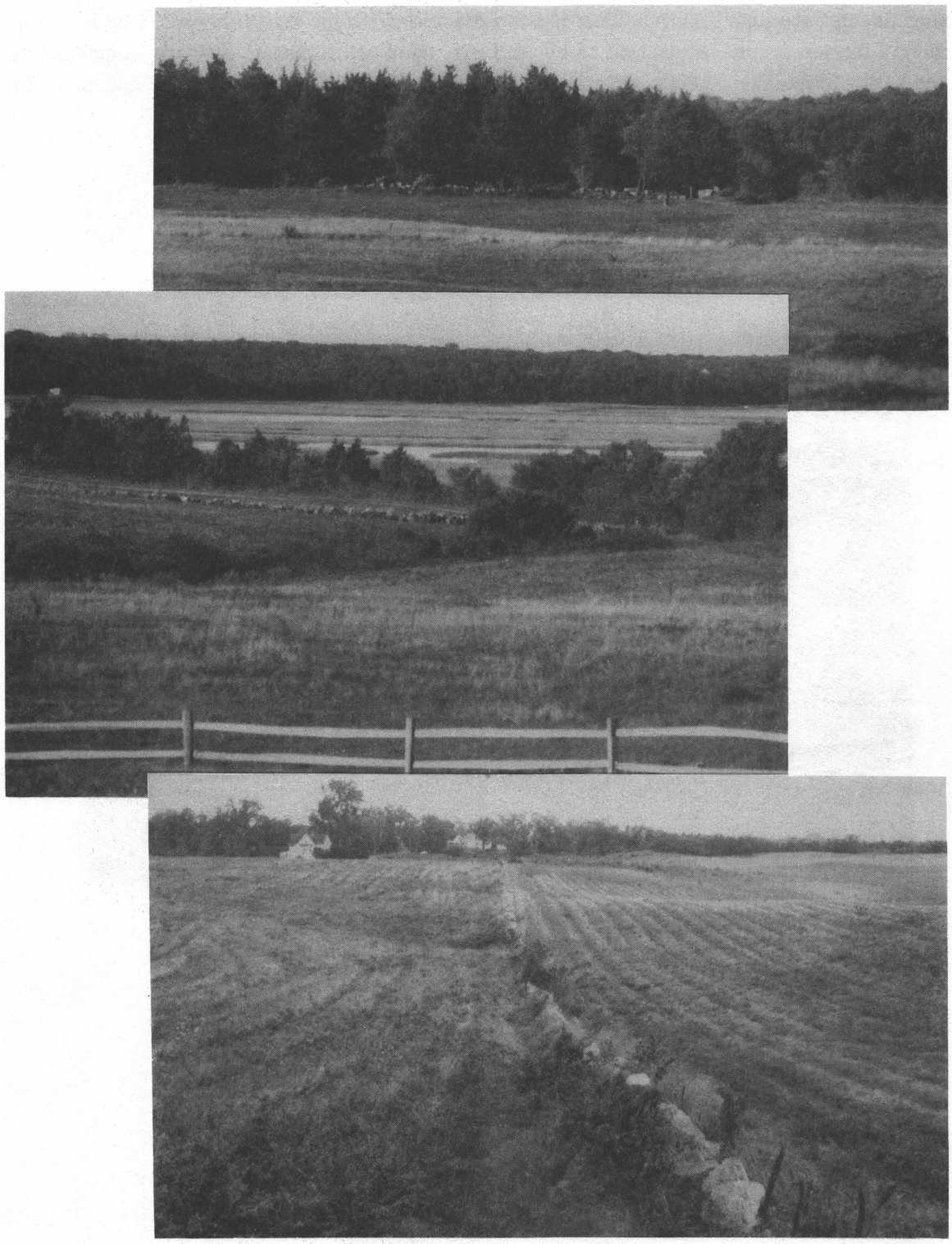


Figure 31. Stone Walls at Fort Hill, 1993.

Two other features are found north of Fort Hill Road across from the Burrill house. One is a capped foundation of mortared stone, measuring 15 by 16.5 feet, upon which part of the large Gunn dairy barn once stood (fig. 32). The other is a partially buried boulder that shows drill holes, and in which a fragment of metal remains lodged.[192]

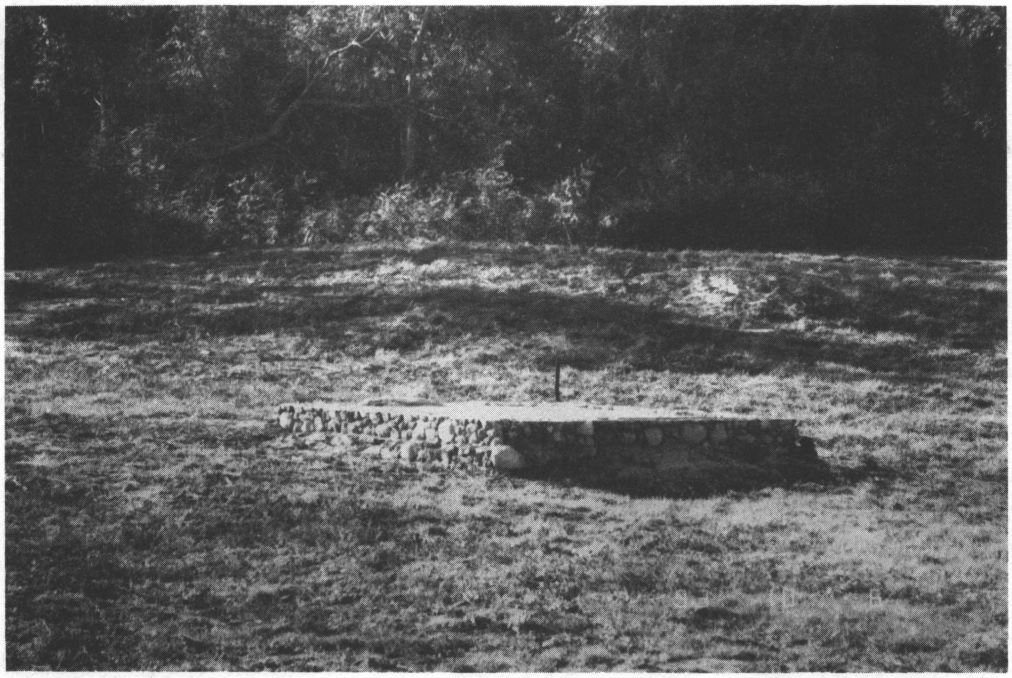


Figure 32. Capped Barn Foundation East of Avery House, 1993.

[192] Mulholland et al., "Archeological Reconnaissance Survey," p. 28.

THE RED MAPLE SWAMP ZONE

The Red Maple Swamp zone comprises the northern portion of the site. It extends south from Hemenway Road to the open-field zone, and east from the Park Service property line to the Nauset Marsh. It includes, in addition to the Red Maple Swamp, a public entrance from Hemenway Road, the elevation known as Skiff Hill, a public comfort station, an interpretive shelter, and two overlooks. This whole portion of the site is wooded, and often heavily canopied; it offers a very different experience from that provided by the other parts of Fort Hill.

The public comfort station is situated near the Hemenway Road entrance, and is of concrete-block construction. The Skiff Hill interpretive shelter (fig. 33) is farther south. The shelter is of open hexagonal design; it contains a wayside exhibit. Just east of the shelter is an overlook that features the Indian Rock (fig. 34). The rock is believed by some to have been used as a sharpening stone by early inhabitants of the region. It was moved by the NPS to the overlook from a location in front of the cliff, in Nauset Marsh, where it had fallen due to cliff erosion. This erosion also destroyed any archeological deposits that may have existed in association with the rock in its original location. Therefore, its actual history and specific use cannot be determined. The wooded area east of the shelter and overlook has been cleared and kept open, providing an unobstructed view of Nauset Marsh and Salt Pond Bay (fig. 35).

The Red Maple Swamp Trail and the Fort Hill Trail wind through the entire area. The Swamp Trail travels over a low 4-foot-wide boardwalk constructed partially of recycled material. It runs southwesterly from the Hemenway Road entrance, then serpentines eastward to join the Fort Hill Trail in the open-field zone.

Likewise, the Fort Hill Trail in the open-field zone divides south of Skiff Hill. One leg continues north to the Skiff Hill shelter and overlook; it continues north past another overlook and on to the Hemenway Road entrance (fig. 36). The other leg turns west and travels along the edge of the Red Maple Swamp; it eventually intersects the north branch of the Fort Hill Trail. This completes the pedestrian circulation system around the Fort Hill area.



Figure 33. Skiff Hill Shelter, 1994.



Figure 34. Indian Rock, 1994.



Figure 35. View of Nauset Marsh, 1994.



Figure 36. Hemenway Road Entrance to Red Maple Swamp, 1994.

ELIGIBILITY OF FORT HILL AS A HISTORIC DISTRICT IN THE NATIONAL REGISTER OF HISTORIC PLACES

The purpose of this discussion is to demonstrate that the entire Fort Hill area is eligible for listing in the National Register of Historic Places as a rural Historic District, having significance and integrity in one of the four criteria used to evaluate such eligibility. A formal determination of eligibility remains to be performed.

NATIONAL REGISTER CRITERIA

The significance of a property in American history is determined through a process of identification and evaluation defined by the National Register program. Historical significance may be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, materials, workmanship, feeling, and association, and which meet at least one of the following National Register criteria:

> A: That are associated with events that have made a significant contribution to the broad patterns of history; or
>
> B: That are associated with the lives of persons significant in our past; or
>
> C: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> D: That have yielded or may be likely to yield information in prehistory or history.[193]

[193] NPS Interagency Resources Division, U.S. Department of the Interior, *Bulletin 16A: How to Complete the National Register Nomination Form* (Washington, D.C.: Government Printing Office, 1991).

EVALUATION OF SIGNIFICANCE

Established Significance of Certain Resources

Nauset Archeological District

Two portions of the Fort Hill area, comprising some 17.5 acres of NPS land, are listed in the National Register for their archeological significance. They are part of the Nauset Archeological District (see Appendix E), which consists of six discontiguous properties. All of these sites were identified by project archeologists as possessing high potential to contain deposits dating to the Historic Contact period (National Register criterion "D").

Furthermore, Nauset was one of the areas visited by the explorer Samuel de Champlain during his expedition to the area in 1605. The overall distribution of archeological resources found at the six Nauset sites corresponded roughly to the dispersed pattern of individual wigwams and cornfields depicted by de Champlain on his 1606 map of the area. As a consequence, the Nauset Archeological District was designated a National Historic Landmark in 1993.[194] The Nauset Archeological District has also been included in a larger multiple-property National Register listing that includes resources linked by the theme "Historic Contact: Early Relations Between Indians and Colonists in Northeastern North America, 1524-1783."

The Captain Edward Penniman House

The Penniman House and its barn were listed in the National Register in 1975 (NR # 76000155) (Appendix F). Acknowledging the importance of the whaling industry to Cape Cod history (criterion "A"), the nomination emphasizes that "this is the only whaling captain's house in Eastham, and the only one inside the Seashore's boundaries." The house and barn were also deemed significant as outstanding examples of French Second Empire-style architecture (criterion "C"). The nomination includes one (1) acre of associated land, but provides minimal description or historical information about the associated grounds or larger setting.

[194] The Nauset Archeological District would seem to have been eligible for the National Register on the basis of criterion "A" as well as "D," but the latter criterion was not listed on the nomination (see Appendix E).

Potential Significance of the Entire Area

As shown, parts of the Fort Hill area have already been determined to have historical and/or archeological significance. The following discussion is intended to determine if the entire Fort Hill area is eligible for listing in the National Register as a rural Historic District.

The National Register criterion most applicable to this effort is "C." Application of this criterion determines whether or not a property

> Embodies the distinctive characteristic of a type, period, or method of construction; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.

The Fort Hill area clearly meets the definition of a rural historic landscape, according to information contained in National Register Bulletin 30: *Guidelines for Documenting and Evaluating Rural Historic Landscapes*.[195] This evaluation thus relies heavily on that bulletin's interpretation and adaptation of standard National Register criteria for the purposes of evaluating rural historic landscapes.

Based on Bulletin 30, the Fort Hill area does appear to have significance under criterion C in the category of Community Planning and Development, as a property that "reflects important patterns of physical development, land division, or land use which represent traditional practices unique to a community or region."[196] The area of significance includes all of the land within the National Park Service boundary (i.e., the Fort Hill Road corridor, the large open fields, and the Red Maple Swamp). The period of significance extends from 1786-1943: during these years, the property was owned by the descendants of Willard Knowles, and the property attained its characteristic physical qualities.

First, the grouping of the Knowles and Penniman houses, with the adjacent expanse of interdependent fields and woods, represents a pattern of settlement and land division characteristic of farms on Cape Cod from approximately 1750 to 1900. (This general organization of the site endured at Fort Hill from the time of Willard Knowles' death in 1786 to the end of the Knowles ownership in 1943, and is still largely visible today.) The relationship illustrates a regional trend that moved from communally based farming toward family farm clusters. Prior to 1750, the idea of *landschaft*—houses surrounded by common fields worked communally—was prevalent. By the time that the Knowles family began to work its Fort Hill holdings in the second half of the 18th century, however, *landschaft* had been replaced with a new social and economic order. This new system viewed land ownership as a calculated individual investment,

[195] Linda Flint McClelland et al., *Guidelines for Documenting and Evaluating Rural Historic Landscapes*, National Register Bulletin 30 (Washington: Government Printing Office, 1989).

[196] McClelland et al., *Guidelines for Documenting and Evaluating Rural Historic Landscapes*.

under which innovation was rewarded with greater profits. It was characterized by clusters of extended families who jointly farmed adjacent parcels of individually held land.[197]

The evolution of the family farm cluster occurred gradually during the 18th and 19th centuries. It appears to have been motivated by an undesirable trend: as original land allotments were divided among sons, individual allotments became smaller and smaller. Jointly farming adjacent parcels of land provided the necessary area for a viable agricultural operation. On the Cape, where farmers such as the Knowles were required to continually adapt to changing market forces with the production of different crops, a larger expanse of land provided additional flexibility to pursue whatever was considered profitable at the moment.[198] The clustering of residences on one part of the family land helped free the maximum amount of acreage for farming. The family farm cluster also offered protection from undesirable neighbors whose lack of husbandry skills could jeopardize the well-being of the family farm.

Family farm clusters appear to have been common in southern New England and the Cape during the 19th century. The Small family in Truro farmed adjacent properties at the Highlands through much of the 19th century. Its farming practices followed a pattern of land division and use similar to that developed by the Knowles family.[199] Indeed, 19th-century maps of the Town of Eastham show several settlements made up of adjacent properties owned by members of the same family (fig. 37).

The field pattern at Fort Hill, with land divided into rectangular fields of varying size, represents a distinctive regional method of agricultural land division characteristic of late 18th- and 19th-century New England farms.[200] According to historian John Stilgoe, New England's small fields reflected the gradual process by which land was cleared when first settled by Europeans. It also reflected the need to cultivate a wide variety of crops: "A husbandman needed not one but several fields, and he needed them immediately. He needed one for corn and wheat, another for meadow, and a third for pasture."[201]

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[197] McClelland et al., *Guidelines for Documenting and Evaluating Rural Historic Landscapes*, pp. 54-55.

[198] McClelland et al., *Guidelines for Documenting and Evaluating Rural Historic Landscapes*, p. 206.

[199] Katy Lacy and Larry Lowenthal, draft "Cultural Landscape Report for Truro Highlands Historic District" (North Atlantic Region, NPS, 1994).

[200] John Stilgoe, *Common Landscape of America, 1580-1845* (New Haven: Yale University Press, 1982), p. 185.

[201] Russell, *A Long, Deep Furrow*.

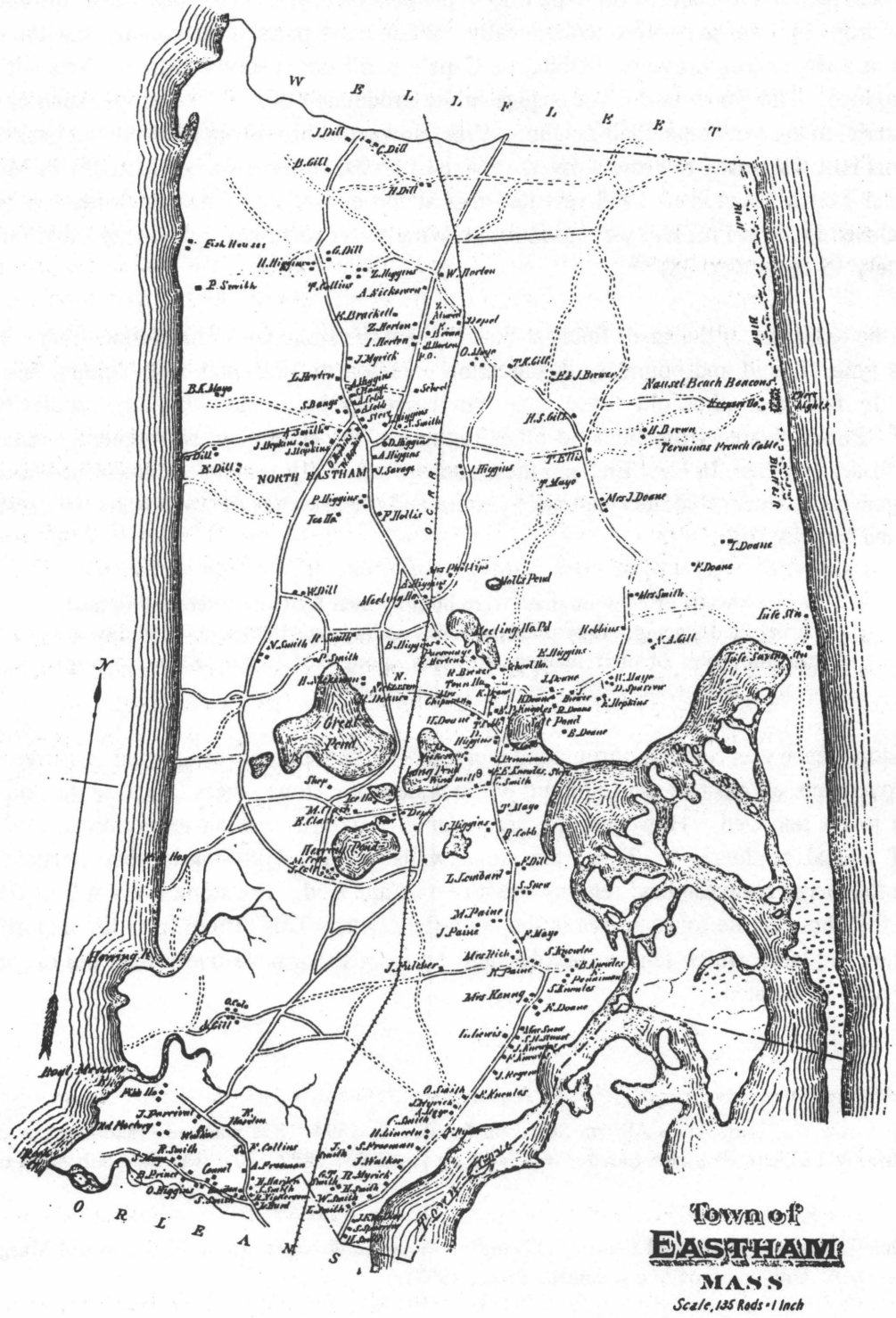


Figure 37. Detail from *The Atlas of Barnstable County*, George Walker and Co., 1888.

The small-field pattern has endured on Cape Cod to the present day, partially because of the need to grow a variety of crops in order to survive economically. While other parts of the country saw the large-scale production of a single crop prove profitable, the Cape's small farms served local markets with a variety of fresh produce. The Knowles did not engage in the production of specialty crops, such as asparagus or strawberries, to the extent that their neighbors did. However, throughout the Knowles period the small fields at Fort Hill were used to grow a diverse range of crops. Interviews conducted with Mrs. Horace P. Lowe and Mercy Lawton in 1968 revealed that at the end of the Knowles ownership (1943), the various enclosed fields at Fort Hill were used for growing sweet corn, hay, and turnips, and for pasturing approximately 15 cows (fig. 38).[202]

Integral to the character of the small fields at Fort Hill are the stone walls that define them. Stone walls represent a type of field and boundary demarcation common to 18th- and 19th-century farms in New England. In fact, no other old fence type can currently be found with any regularity in New England.[203] Rocks cleared from fields in other regions of the country were frequently removed from the site or tossed in piles. In New England these rocks were neatly assembled into stone walls. Indeed, historians generally concur that the small-field pattern and the presence of stone walls both resulted from New England's rocky soil:

> The stone walls of New England were built by men far more interested in land clearing than fencing. They piled the rocks not in heaps but in rows equidistant from the center of their rectangular fields, along each edge. Rock clearing explains, in part, the small size of colonial fields.[204]

While the stone fence was common throughout most of New England, it was unusual on lower Cape Cod. Field improvements on most of the Cape did not include many stone fences, because the soil contained few stones to be removed. However, the area around Fort Hill was an exception to this, having a number of glacial boulders.[205] Thus, the stone walls at Fort Hill—while characteristic of farms throughout the larger New England region—are rare on Cape Cod. The stone walls at Fort Hill are also unusual in that three of the four survive in the open-field zone. This differs from the majority of stone walls in New England, which tend to be obscured by woods that have overgrown the originally open fields they once delineated.

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[202] Mrs. Lowe was born Alice Alberta Stone on January 6, 1894. She was the granddaughter of Sylvanus Knowles. Mercy Lucretia Knowles Lawton was born on April 25, 1877. She was the sixth child of Sylvanus Knowles.

[203] Wilbur Zelinsky, "Walls and Fences," *Changing Rural Landscapes*, Ervin H. Zube and Margaret Zube, ed. (Amherst, MA: University of Massachusetts Press, 1977).

[204] Stilgoe, *Common Landscape of America*, p. 175.

[205] Mulholland et al., "Historic Contexts," pp. 66-67.

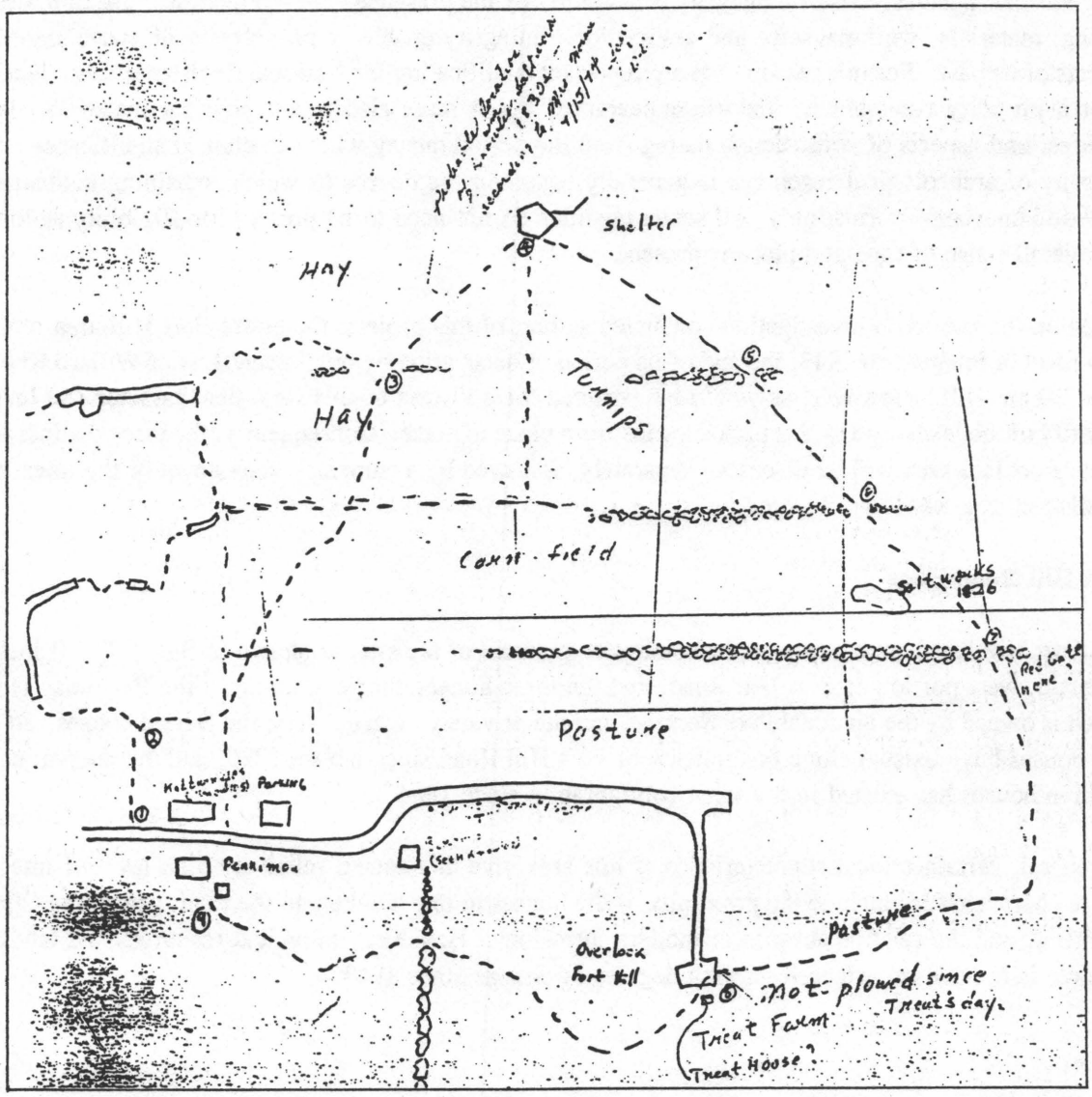


Figure 38. Schematic Map of Fort Hill Farm, based on the memories of Mrs. Lowe and Mrs. Lawton, 1968.

EVALUATION OF INTEGRITY AND CHARACTER-DEFINING FEATURES

Integrity, as defined by the National Register program, is the authenticity of a property's historic identity, which is enhanced by the survival of physical characteristics that existed during the property's historic or prehistoric periods. Historic integrity is measured by the presence of seven qualities: location, design, setting, materials, workmanship, and association. Integrity enables a property to illustrate significant aspects of its past. For this reason, it is an important qualification for National Register listing. Not only must a property resemble its historic appearance, but it must also retain physical materials, design features, and aspects of construction dating from the period during which it attained significance. (The integrity of archeological resources is generally based on the degree to which remaining evidence can provide important information.) All seven qualities do not need to be present for eligibility as long as the overall sense of time and place is present.

Based on the historical investigation conducted as part of this project, the entire Fort Hill area retains a high level of integrity to 1943, the end of its period of occupation by the descendants of Willard Knowles (figs. 39 and 42). However, as would be expected for a district of this size, the character and level of integrity of the landscape to this period varies from place to place. Consequently, the three distinct zones of the Fort Hill area will be discussed separately, followed by a summary assessment of the integrity of the district as a whole.

Fort Hill Road Zone

The Fort Hill Road zone occupies the southwest quadrant of the site, as shown in figure 23. It includes the main, west portion of Fort Hill Road, and the three houses clustered along it: the Penniman House, which is owned by the National Park Service, and the privately owned Avery and Burrill houses. At least two houses have existed along this portion of Fort Hill Road since before 1786, and the current cluster of three houses has existed in the same configuration since 1864.

In general, certain critical characteristics of this area give this zone a relatively high level of integrity. These characteristics include the proximity of the houses to one another, to the road, and to the adjacent farmland, and the relative absence of modern intrusions. However, individual resources and landscape features here have experienced varying degrees of change since 1943.



Figure 39. Aerial photograph of Fort Hill, taken November 21, 1938.



Figure 40. Aerial photograph of Fort Hill, taken April 20, 1960.



Figure 41. Aerial photograph of Fort Hill, taken February 21, 1974.

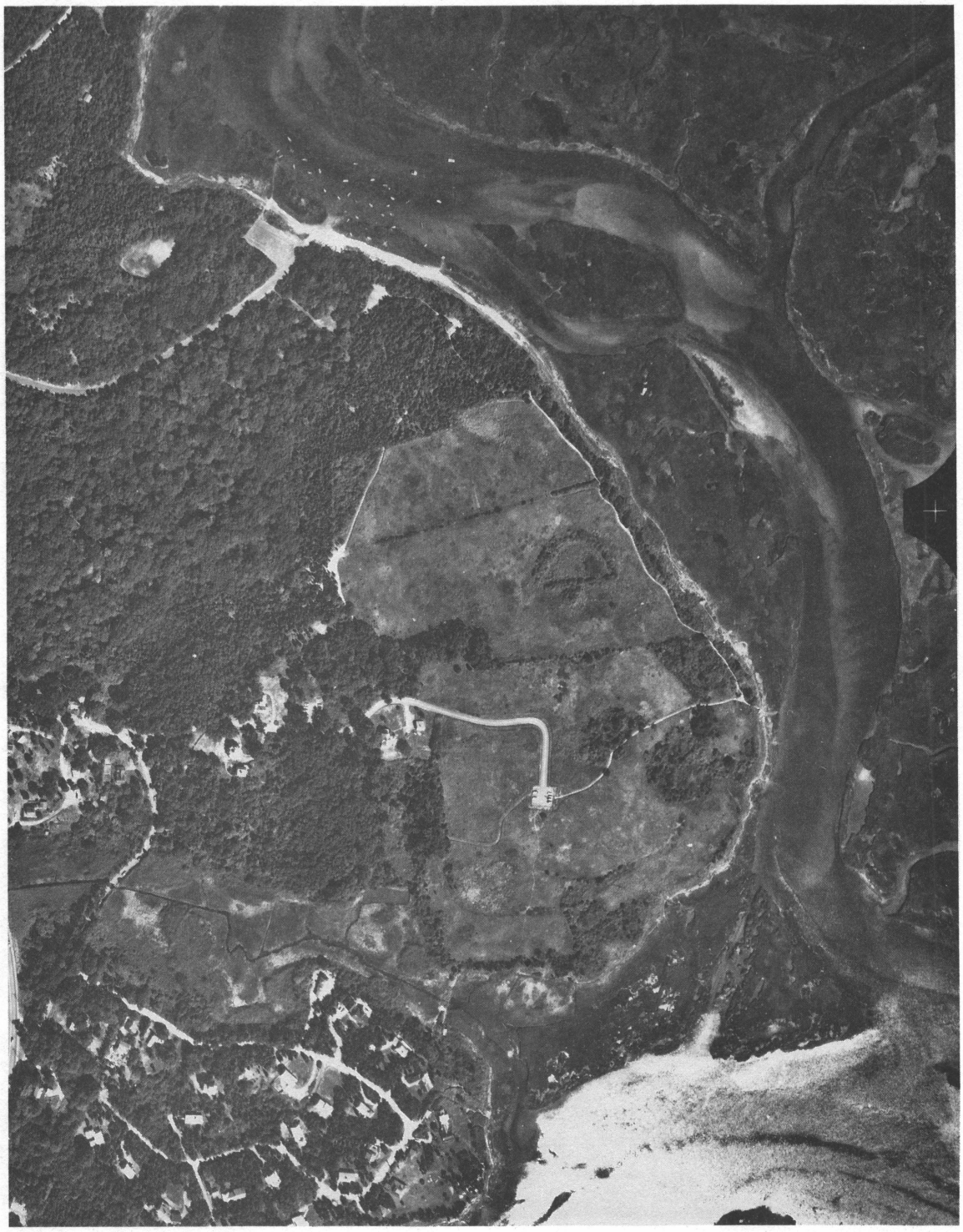


Figure 42. Aerial photograph of Fort Hill, taken September 16, 1987.

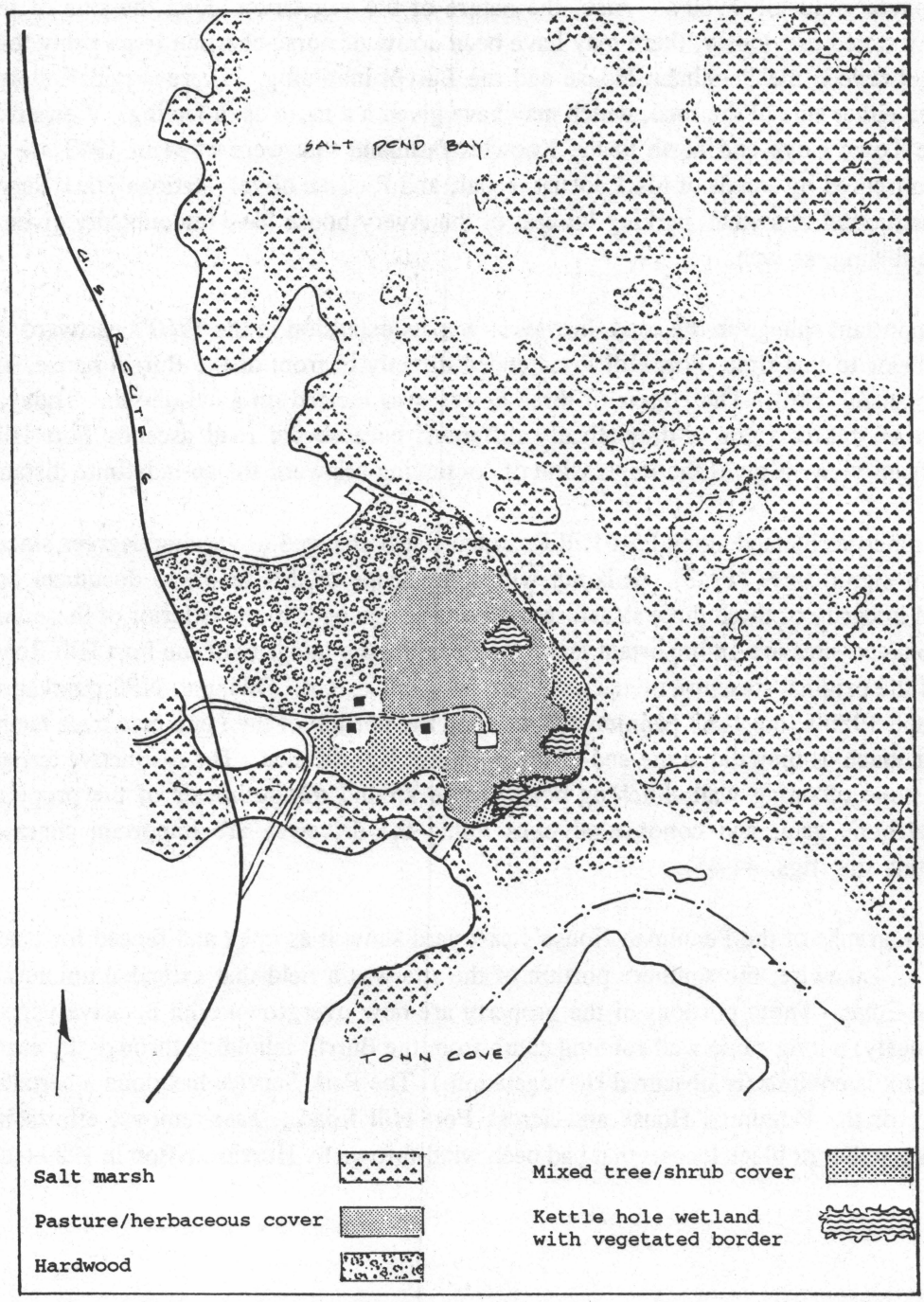


Figure 43. Fort Hill Land Use Map, 1994.

Both the appearance and alignment of Fort Hill Road itself have changed in the past 50 years. Park files indicate that the portion of Fort Hill Road from the Penniman House to the Burrill inholding may not have been paved until the 1960's. Also, the nature of the vegetation along the side of the road has changed. As stated previously, there may have been a row of horse-chestnut trees along the south side of the road, between the Penniman House and the Burrill inholding. There was definitely less scrub vegetation on either side of the road, which may have given it a more open feeling. Views from the road south to the Town Cove and north to the Knowles farmland that were open in 1943 are now almost completely obscured by stands of black locust, cedar, and Russian olive. National Park Service signage and the construction of a small parking lot east of the Avery house have undoubtedly given this road a more public feeling, as well.

The most important change in the road, however, was its extension in the 1960's eastward to the top of Fort Hill. Prior to that time, Fort Hill Road ended directly in front of the Burrill house, as shown on the period plan for 1943. The cluster of three houses was located on a cul-de-sac. Today, the spatial organization of this corridor is dramatically different: because the road ascends Fort Hill and then disappears from view, it gives the impression of continuing eastward for an indefinite distance.

The three properties located along Fort Hill Road have also changed to varying degrees since the end of the period of significance (1943). It is not within the scope of this report to document or assess the architectural integrity of these three structures. However, changes to the exterior of these buildings and to their associated sites are an important factor in assessing the integrity of the Fort Hill Road zone. At least part of the original structure of each of these homes is extant. Owing to NPS renovation efforts in the 1970's and 1980's, the 1868 Penniman House and the portion of the Penniman tract facing Fort Hill Road appear much as they did at the end of the period of significance. The distinctive terracing around the house, stone retaining wall, hitching posts, fence around the perimeter of the property, flagpole socket, whalebone gate, and cottonwood trees lining the driveway are important character-defining features of this site (figs. 44-45).

Historic photographs of the Penniman House's east yard show it as open and fenced for use by animals (figs. 46-47). Likewise, the southern portion of the site was a field that extended uninterrupted down to the Town Cove. These portions of the property are now overgrown with invasive vegetation. (As stated previously, a long stone wall running south from the Burrill inholding through the east part of the Penniman tract is completely obscured by vegetation.) The Park Service has done a certain amount of clearing east of the Penniman House and across Fort Hill Road. Tree-removal efforts included the disposal of a number of black locusts that had been wind-thrown by Hurricane Bob in 1989 (see Appendix G).



Figure 44. Penniman House, looking north to whalebone gate, showing driveway lined with cottonwood trees, ca. 1880.

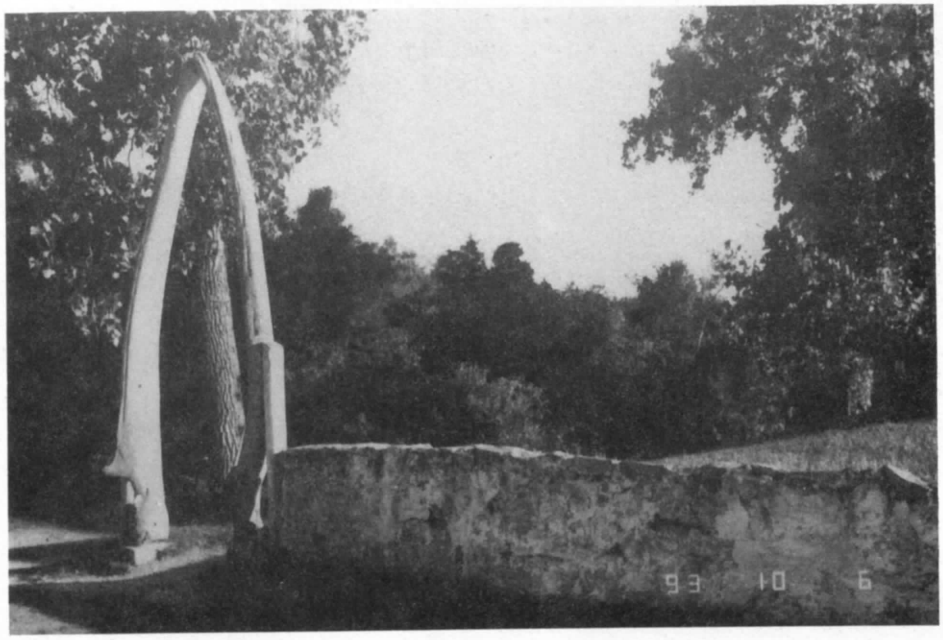


Figure 45. Penniman House, looking south through whalebone gate, 1993.



Figure 46. View looking east from Penniman House, ca. 1880.



Figure 47. View looking north from Penniman House, ca. 1880.

The Avery property, formerly the Sylvanus Knowles farmhouse (1864) and yard, has also undergone a significant amount of change. The house was substantially enlarged in 1988-89 by the construction of an addition at its northeast corner (see Appendix C). A small garage has been built northwest of the house, and a mixed group of evergreens and perennials was planted in front of the house. The area north of the house was open in 1943. Currently, a dense mass of vegetation encloses the north yard of the Avery property, providing a useful buffer between it and the adjacent NPS park land.

The Burrill house, formerly the Seth Knowles farmhouse (before 1821), appears to retain a high degree of integrity. Like the Avery property, the Burrill property has been modified by the addition of new foundation plantings, and by the construction of a small garage. Nevertheless, the west facade of the house basically appears much as it did in photographs taken at the end of the 19th century. The larger setting around the Burrill house, however, has been significantly changed by the developments of the past 50 years, and particularly since 1960. As noted, the extension of Fort Hill Road changed the status of the Burrill house from being the prominent eastern terminus of the road, to being simply a house alongside the road. The large dairy barn located north of the house in 1943 is no longer standing; it is not clear when it was demolished. A capped foundation (fig. 32) from a part of the barn is all that remains. Finally, the construction of a small parking lot north of Fort Hill Road—clearly in view of the Burrill house—has certainly had an impact on the character of the setting of this house.

The Open-Field Zone

The fields at Fort Hill encompass all of the open, eastern portion of the site (fig. 43). This is the most frequently visited and recognizable area within the proposed Fort Hill Historic District. While this zone has changed moderately over the past 50 years, it retains certain characteristics—such as its dramatic open quality—from the Willard Knowles period (1742-86) and perhaps even earlier. Consequently, the overall level of integrity of this zone is fairly high. It is nevertheless important to note how this portion of the site has changed since 1943.

Largely owing to the presence of Nauset Beach, which has acted as a protective barrier, the Fort Hill open-field zone has been protected from the dramatic erosion characteristic of so many coastal areas on Cape Cod. Its coastline has thus experienced only moderate change over the past century. However, aerial photographs and historic maps indicate that encroaching vegetation has reduced the overall size of the field area since the 1940's. Whereas in 1938 these fields were open as far north as the current site of the Skiff Hill shelter, they now extend only to the northernmost stone wall. This zone's northern edge, which was formed by an irregular line of vegetation in 1938, is currently a straight wall of vegetation extending west from the shore.

Probably the most distinctive character-defining feature on this site is its distinctive pattern of small rectangular fields defined by stone walls. This pattern is found on 19th-century maps and in records from as early as 1800. The records indicate the existence of at least four long, east-west stone walls extending to the water's edge, and several north-south walls of lesser length. Aerial photography dating from 1938 shows that all of these walls were extant at that time. Road grading done for the proposed ca.-1960

development crossed the southernmost east-west wall in three places, damaging it severely. Parts of it, most of the other east-west walls, and some of the north-south walls were still extant in 1965 (see figure 22). Today, only the three east-west walls remain; nothing remains visible of the southern east-west wall, or of any of the north-south walls. Some of the missing stones may have been taken from the site; others may only be buried.

Three ponds or wet areas first appear in the historic documentation of the site in a 1938 aerial photograph. Despite their absence from earlier documentation, it seems highly likely that these were natural ponds that formed in kettle holes left from the Ice Age, which are characteristic of the geology of Cape Cod. The three ponds are today being filled with grasses and shrub growth, and they are edged with encroaching vegetation. While certainly representing a character-defining feature of this site, their appearance has probably changed since the end of the historic period as the vegetation in and around them has grown more dense.

A major change to the Fort Hill open-field zone since the end of the Knowles period was the creation of roads in the 1960's. The private development proposed for the Seth Knowles farm circa 1960 called for the eastward extension of Fort Hill Road; it also specified the construction of a spur leading from that extension to the summit of the hill, and of another road around the perimeter of the hill (fig. 21). These roads were roughly graded, and several areas were leveled for house lots, before work was stopped by the creation of the Cape Cod National Seashore.

The eastward extension of Fort Hill Road and the spur to the summit were retained by the Park Service and paved, and a parking lot/overlook was added at the highest point of the hill. The new road and overlook has certainly increased the number of people who enjoy the view from Fort Hill, but it detracts somewhat from the historic character of the zone. The trails developed by the Park Service around the perimeter of the Fort Hill area are far less intrusive. These paths tend to follow the natural features of the land; most of them were developed from trails that had been in use since the 1800's, and which may have existed since the pre-Contact period.

The perimeter road proposed as part of the private development was not retained by the NPS, which tried to obliterate its track. Much of the route remains visible, however, as a depression in the land. Fortunately, the uniform texture and height of the grass throughout the area today serves to soften and mask this scar.

In summary, views both to and from the Fort Hill open-field zone have changed remarkably little since its occupation by the descendants of Willard Knowles (1786-1943). Fortuitous circumstances have caused the site's acres of cleared, open land to remain intact, securely buffered from Route 6 by a woodland. Likewise, its uninterrupted views of the Town Cove, Nauset Marsh, and the Atlantic Ocean across open fields remain largely unchanged. The single most significant change to the view from Fort Hill is the cluster of modern residences visible on the southern shore of the Town Cove. However, this visual intrusion is somewhat mitigated by the fact that residences have existed there since the 19th century, according to historic maps of the area.

The Red Maple Swamp Zone

The Red Maple Swamp encompasses roughly the northwestern quadrant of the site. It includes not only the large wooded swamp itself and the trails that pass through it, but also the Skiff Hill shelter and overlook, the public comfort station, and the Hemenway Road entrance to the Fort Hill area. As noted in the chapter "Description of Existing Conditions," this area needs to be considered separately because of its heavily wooded quality, which makes it visually and experientially distinct from the rest of Fort Hill.

Historic maps and descriptions of the Fort Hill area indicate the presence of a wooded swamp in this location as far back as the middle of the 18th century. Aerial photographs confirm that such an area still existed in 1938. Consequently, the Red Maple Swamp as a whole represents a character-defining feature of the Fort Hill landscape. However, this area has experienced a moderate amount of change since the end of the period of significance, resulting in a somewhat diminished level of integrity. It is not clear how vegetative succession has affected the composition of these woods. However, it has certainly resulted in its gradual expansion into the adjacent farmland over the last half century. In general, aerial photographs indicate that the Red Maple Swamp area is both larger and denser than it was at the end of the Knowles period.

As noted in the section "Site History," a variety of changes were made to this area during the 1960's after its acquisition by the National Park Service. A system of trails was cut to provide access from Fort Hill and Hemenway Road through the formerly inaccessible wooded area. A wooded site on Skiff Hill that was open during the historic period was cleared, and an overlook station with interpretive shelter was built here. The open view from this overlook through the woods out over the marshes—although recently created—is a character-defining feature because it existed historically.

EVALUATION SUMMARY

This evaluation indicates that the Fort Hill area appears to warrant nomination as a rural Historic District for its significance under National Register criterion C. The primary period of significance extends from 1786-1943, the period when the property was owned by the descendants of Willard Knowles, and when it attained its characteristic physical qualities. The proposed rural Historic District boundary should include all of the land owned by the National Park Service in the Fort Hill area, including the Fort Hill Road corridor, the large open fields, and the Red Maple Swamp and Skiff Hill.

As noted, the three diverse zones within the proposed Fort Hill Historic District all exhibit moderate to high levels of integrity to the end of the period of significance (1943). However, combining the zones into a single district produces an overall level of integrity that is higher than that of any single zone. One of the most important characteristics of the district is the juxtaposition of the diverse zones, from the residential cluster along Fort Hill Road, to the spacious open fields on Fort Hill, to the dark and enclosed Red Maple Swamp. This relationship appears to have been present by the early 1800's, and is clearly visible in maps and aerial photographs from the end of the period of significance. Fort Hill is unique in that all three of these distinct areas have survived together, relatively intact, until the end of the 20th century. This is in sharp contrast with so many of the remnants of Cape Cod's farming heritage, where the buildings may survive but not the surrounding land, or vice versa.

Integrity of location, design, setting, workmanship, and association are all present to a large extent at the proposed Fort Hill Historic District. Integrity of *location* and *association* are basically intact. Integrity of *design* is visible on a large scale in the overall organization of the site, and in the relationship of its three distinct zones to one another and to the scenic environment. Indeed, the most notable detraction from the site's overall design is the extension of Fort Hill Road and the parking lot on the highest point on Fort Hill. On a smaller scale, integrity of *design, workmanship*, and *materials* are apparent to varying degrees in the three contributing residential properties and the four stone walls within this district. The evocative natural *setting*—including views of the Town Cove, Nauset Marsh, and the Atlantic Ocean; the rolling topography and distinctive kettle holes; and the woodland buffer of the Red Maple Swamp—appears to have changed relatively little since 1943, contributing to the integrity of this site. Only the *feeling* of the site has changed significantly: no longer a working farm, with its characteristic activities, sounds, and smells, it is now a tranquil piece of parkland.

TREATMENT AND MANAGEMENT RECOMMENDATIONS

This cultural landscape report was prepared to serve two distinct but interrelated purposes. First, it was intended to inform the development concept plan being prepared for the Fort Hill area in association with the forthcoming general management plan for Cape Cod National Seashore. Second, it was prepared in response to a direct request from park management for guidance regarding the protection and long-term maintenance of the landscape at Fort Hill. This section of the report includes recommendations considered appropriate for the treatment and management of the Fort Hill Historic District. These recommendations are intended to guide the future maintenance of Fort Hill, in keeping with the goal of ensuring—to the fullest extent possible—the protection of the features that convey its historic character.

TREATMENT ALTERNATIVES

Treatment Alternatives Considered

Because Fort Hill is a federally owned property considered to be eligible for listing on the National Register by the National Park Service, decisions regarding treatment must be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1992). Furthermore, the application of these decisions must conform with *NPS-28: Cultural Resource Management Guideline* (Release Number 4, 1994). Four approaches are currently recognized by the Secretary of the Interior for the treatment of historic resources: preservation, rehabilitation, reconstruction, and restoration. *NPS-28* provides the following definitions of the four treatment alternatives for cultural landscapes:

> **Preservation** maintains the existing integrity and character of a cultural landscape by arresting or retarding deterioration caused by natural forces and normal use. It includes both maintenance and stabilization. Maintenance is a systematic activity mitigating wear and deterioration of a cultural landscape by protecting its conditions. In light of the dynamic qualities of a landscape, maintenance is essential for the long-term preservation of individual features and integrity of the entire landscape. Stabilization involves re-establishing the stability of an unsafe, damaged, or deteriorated cultural landscape while maintaining its existing character.
>
> **Rehabilitation** improves the utility or function of a cultural landscape, through repair or alteration, to make possible an efficient compatible use while preserving those portions or features that are important in defining its significance.
>
> **Restoration** accurately depicts the form, features, and character of a cultural landscape as it appeared at a specific period or as intended by its original constructed design. It may involve the reconstruction of missing historic features, and selective removal of later features, some having cultural value in themselves.

> **Reconstruction** entails depicting the form, features and details of a non-surviving cultural landscape, or any part thereof, as it appeared at a specific period or as intended by its original constructed design. Reconstruction of an entire landscape is always a last-resort measure for addressing a management objective and will be undertaken only after policy review in the regional and Washington offices.

As outlined in the draft *Guidelines for the Treatment of Historic Landscapes*, the process for making treatment decisions for historic landscapes is the same as it is for other historic resources. The exact process of preserving a historic landscape will vary from site to site. However, every choice of a preservation treatment for a site must be based on thorough research and the identification of its character-defining features. The park's enabling legislation and management objectives for the site, along with other applicable National Park Service standards, must also guide all recommended treatments.

One "primary" treatment is usually selected for a property. A "primary" or property-wide preservation treatment is one that provides a broad philosophical framework, within which specific recommendations for individual features are made. While the proposed treatment of individual features may not be the same as the primary treatment, the end result should be compatible with property-wide treatment goals.

Treatments Alternatives Not Selected: Preservation, Restoration, and Reconstruction

Preservation would cause the Fort Hill area to remain largely as it appears today. This would seem to be a viable and appropriate treatment alternative for the site. However, a preservation treatment could be inconsistent with actions that the forthcoming planning documents might recommend. For example, preservation has already been selected as the approved treatment for the NPS-owned Penniman House. This treatment would permit the "limited and sensitive" upgrading of mechanical, electrical, and plumbing systems, allowing the house to be used as a residence or office space. However, the construction of a new parking lot to implement this use would not be consistent with preservation as a treatment. Another consideration is the fact that no treatment selected by the NPS for the Fort Hill area would be binding on the owners of the Avery and Burrill inholdings. This situation could conceivably undercut the effectiveness of any preservation treatment selected for the NPS property surrounding the inholdings.

In the open-field zone at Fort Hill, features such as the stone walls could be stabilized and repaired. Intrusive and/or encroaching vegetation that detracts from the property's historic character could be removed. However, preservation would preclude the future removal of intrusive nonhistoric features such as the extension of Fort Hill Road and the parking lot at the overlook. It would be inconsistent with the construction of new visitor services such as new trails, bathrooms, or a picnic area. The introduction of new crops such as hay would have to be carefully considered to insure that materials, features, spaces, and spatial relationships that currently characterize this property are protected.

Preservation would require no initial capital expenditure. However, it would limit the extent to which the forthcoming development concept plan could propose changes to this area, including the removal of intrusive features, and the addition of new facilities for visitors or park staff. Further, it would limit new methods for keeping the fields open, and probably entail the continuation of current time-consuming and costly maintenance practices.

Restoration to a particular period in time was also considered but deemed an inappropriate treatment for Fort Hill. First, while there is a significant amount of information about the general historic appearance of the site, there is not sufficient specific physical or documentary evidence for a restoration. Second, restoration would require the removal of intrusive features such as the two parking lots and the extension of Fort Hill Road, and the reconstruction of missing features such as the southernmost east-west stone wall. These measures are not feasible in light of visitor use and current staff and budget constraints. Finally, as with the preservation alternative, a restoration treatment for the NPS land could conflict with changes made to the Avery and Burrill inholdings by their owners.

Reconstruction is appropriate only for a historic landscape that: 1) has lost most, if not all, of its integrity; and 2) has sufficient specific physical or documentary evidence for a reconstruction. The landscape at Fort Hill meets neither of these requirements. It retains many of its character-defining features, and exhibits a high level of integrity. Further, as with restoration, there is not adequate documentation of this landscape to complete a truly accurate reconstruction. Finally, the costs associated with even a partial reconstruction of this large and complex site preclude its consideration as an appropriate option.

Treatment Alternative Recommended: Rehabilitation

> When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate, Rehabilitation is considered appropriate.[206]

After consultation with park management and staff, *rehabilitation* was recommended as the preferred treatment alternative for the proposed Fort Hill Historic District. Rehabilitation allows for "improvements and modifications to a historic property to make possible an efficient contemporary use, while preserving those portions or features of the property which are significant to its historic or cultural value."[207] In the case of Fort Hill, rehabilitation was selected to allow for changes that would facilitate the regular maintenance of this area and enhance the interpretation of the historic landscape, while protecting its unique historic character.

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[206] *Secretary of the Interior's Standards for the Treatment of Historic Properties*, revised 1992. Government Printing Office.

[207] Draft *Guidelines for the Treatment of Historic Landscapes* (National Park Service, 1992), p. 11.

The rehabilitation recommendations given for the Fort Hill area generally emphasize the preservation of individual features through stabilization, maintenance, and repair, with the goal of maintaining the site as it has evolved over time. However, several circumstances peculiar to this property made rehabilitation, and not preservation, the preferred alternative. These circumstances include the current status of planning for the Fort Hill area and its ownership arrangements.

Treatment for a historic property is typically identified in the park's general management plan (GMP), with specific development recommendations being provided in the development concept plan (DCP). According to *NPS-28: Cultural Resource Management Guideline*, "A development concept plan should be coordinated with the preparation of a CLR [cultural landscape report]."[208] In the case of Fort Hill, a cultural landscape report was prepared prior to the development concept plan, in response to a need for maintenance guidelines and in an effort to inform the planning process. The treatment alternative of "Rehabilitation" would allow the DCP far more flexibility in its development recommendations than the other alternatives, while still ensuring the protection of significant features.

Another important factor considered in the selection of rehabilitation as an appropriate treatment for Fort Hill was the existence of the Burrill and Avery inholdings within the proposed district boundaries. A district-wide treatment of preservation, restoration, or reconstruction would not prevent owner-funded changes to these private properties. However, a rehabilitation treatment would make such changes easier to accomplish. At the same time, a rehabilitation treatment could provide guidelines to protect the historic character of these properties.

Thus, rehabilitation was selected because it represented the most flexible and practical approach to the treatment of this particular site. A rehabilitation treatment would mean that historic materials, features, spaces, and spatial relationships would be retained to the maximum degree possible. Deteriorated historic features, such as the stone walls, could be stabilized and repaired. The construction of additions and new facilities would be permitted, as would be adaptive uses such as the cultivation of new crops. However, such new work could not "destroy historic materials, features, and spatial relationships, and should be compatible with the site's historic character."[209] A rehabilitation treatment would allow intrusive, nonhistoric features to be removed if necessary. This treatment would also allow for the limited restoration of some missing historic features.

[208] *NPS-28*, p. 99.

[209] *NPS-28*, p. 104.

RECOMMENDATIONS FOR REHABILITATION

General Standards for Rehabilitation

The recommendations included in this report, and all future proposed development plans for Fort Hill, must comply with the following standards. These are based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, and adapted from *NPS-28: Cultural Resource Management Guideline*.

Any new or adaptive use should maximize the retention of historic materials, features, spaces, and spatial relationships.

The historic character of the landscape at Fort Hill should be retained and preserved.

Changes to the cultural landscape that have acquired historical significance in their own right should be retained and preserved.

Historic materials and construction techniques that characterize the landscape at Fort Hill should be preserved.

Changes that create a false sense of historical development, such as adding conjectural features from other landscapes, will not be undertaken. Work needed to stabilize, consolidate, and conserve historic materials and features is physically and visually compatible, identifiable upon close inspection, and properly documented.

Deteriorated historic materials should be repaired rather than replaced. Where the severity of deterioration requires repair or replacement of a historic feature, the new feature matches the old in design, color, texture, and, where possible, materials.

Chemical or physical treatments that cause damage to historic materials should not be used.

Archeological and structural resources should be protected and preserved in place. If such resources must be disturbed, mitigation measures should be undertaken, including recovery, curation, and documentation.

Additions, alterations, or related new construction should not destroy historic materials, features, and spatial relationships which characterize the cultural landscape. All new work should be differentiated from the old and be compatible with the historic materials, features, size, scale, proportion, and massing of the landscape.

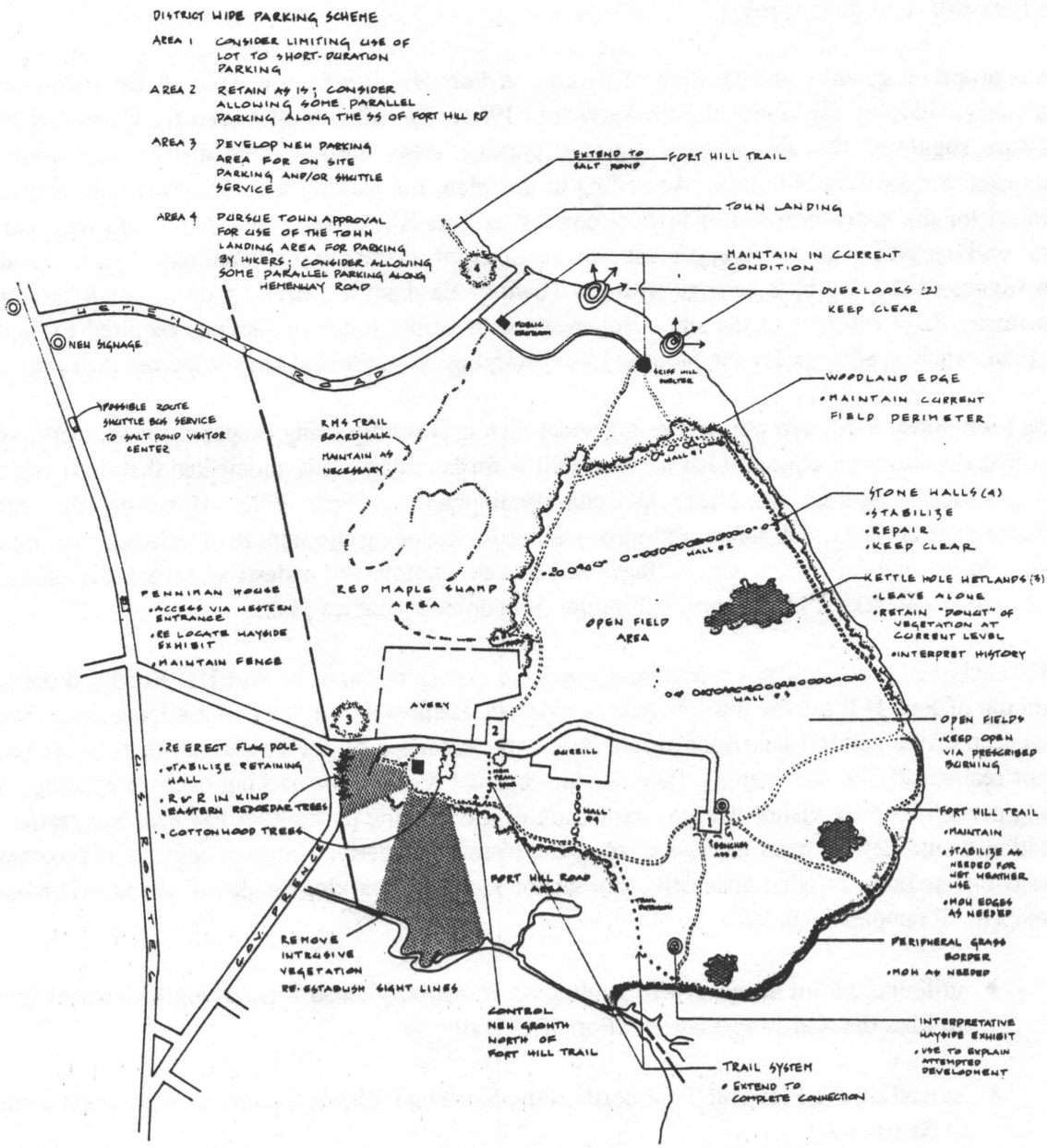
Additions and related new construction should be undertaken in such a manner that if removed in the future, the essential form and integrity of the landscape would be unimpaired.

Specific Rehabilitation Recommendations

The following recommendations are intended to guide the future development and maintenance of the landscape at Fort Hill. Because of the size and complexity of this landscape, the specific recommendations are grouped to address the following:

- the Fort Hill area as a whole, focusing particularly on the reconfiguration of current parking and circulation patterns;
- the Fort Hill Road zone, including the Penniman House and the Burrill and Avery inholdings;
- the open-field zone, including the Fort Hill overlook, fields, stone walls, trails, and kettle-hole wetlands; and
- the Red Maple Swamp zone, including Skiff Hill and the Hemenway Road entrance.

These recommendations are intended to enrich the visitor experience at Fort Hill, and to enhance the interpretation of the site. They are depicted graphically in figure 48.



Notes:	United States Department of the Interior National Park Service	Treatment Recommendations March 1995
Annotations reflect the Treatment Recommendations outlined in the Cultural Landscape Report for Fort Hill, dated March 1995.	Olmsted Center for Landscape Preservation	FORT HILL
Drawn by:		Cape Cod National Seashore Eastham, Barnstable County, Massachusetts

Figure 48. Annotated Treatment Plan, 1995.

The Fort Hill Area as a Whole

The appropriate quantity and location of parking at Fort Hill has been a topic of discussion since the area's acquisition by the National Park Service in 1963. The 1963 master plan for Cape Cod National Seashore suggested the use of three separate parking areas for the three distinct recreational uses anticipated for the Fort Hill area. According to this plan, the parking lot at the Fort Hill overlook was intended for the short-term use of visitors coming to Fort Hill to enjoy the view from their car. The lower parking lot east of the Avery house was intended for visitors to the Penniman House. Finally, the plan suggested that the park arrange with the Town of Eastham to provide parking for hikers near the Hemenway Road entrance to the site. However, many of the follow-up actions required to implement this plan—such as signage for the parking lots specifying the suggested use—were not pursued.

It has been noted that a new general management plan is currently being prepared for the park, and that a specific development concept plan for Fort Hill is forthcoming. It is anticipated that these documents will specifically address the future use and development of Fort Hill. However, the following recommendations represent some preliminary ideas for reducing the impact of vehicular traffic on the historic scene, and for improving parking, vehicular circulation, and pedestrian access and safety, all of which will be addressed in greater depth in the development concept plan.

As the analytical portion of this report points out, the eastern terminus of Fort Hill Road and the parking lot on top of Fort Hill are the most evident nonhistoric features within the cultural landscape. Although restoration of the cultural landscape would be greatly enhanced by their removal, that course of action cannot realistically be considered. Indeed, since current demand for parking exceeds existing capacity during periods of peak visitor use, the expansion of the existing parking lot has been suggested. Such an action would detract from the character of the historic property. Consequently, it is recommended that a complete range of other alternatives for visitor access and parking be identified and, when possible, developed. Examples include:

- utilizing the lot at the Town Landing on Hemenway Road for parking by visitors intending to hike the Red Maple Swamp/Fort Hill Trail;
- extending the Fort Hill Trail north to the Salt Pond Visitor Center, so that hikers could park at Salt Pond;
- providing shuttle-bus service from the Salt Pond Visitor Center to Fort Hill for special events at the Penniman House or during periods of peak visitation; and
- constructing a modest-sized new parking lot in the western portion of the Fort Hill area to minimize the impact on the historic scene, and to direct Penniman House visitors to the front door, which faces west. Any new parking lot should have a minimal impact on historic features, minimize grading, and include adequate screening for adjacent properties.

The current route, extent, and varied surface treatments of existing Fort Hill trails should be maintained. Expansion of the trail system might include the following: adding a trail spur from the lower parking lot on Fort Hill Road to the trail from the Penniman House to the top of Fort Hill; and extending the Fort Hill Trail along the southerly edge of the site to connect with the trail leading to the Penniman House. Consideration should be given to the installation of seating at appropriate viewpoints along the trails for the convenience of trail users.

The Fort Hill Road Zone

The following rehabilitation recommendations for the Fort Hill Road zone pertain only to NPS-owned property, including the entrance from Route 6 along Governor Prence Road, the western section of Fort Hill Road, and the Penniman property. Although the privately owned Burrill and Avery properties are also located in this portion of the proposed historic district, rehabilitation recommendations are not intended to include or to apply to these properties.

- The current width and alignment of Fort Hill Road should be preserved and maintained.

- The planting of a line of horse-chestnut trees along the southern edge of Fort Hill Road between the Penniman House and the Burrill inholding should be considered, if further research or photographic evidence can prove that a line of such trees existed there at the end of the historic period (1943).

- Seedlings for the cottonwood trees along the driveway of the Penniman House should be cultivated in a nursery using root stock from the existing trees for future use. When it is necessary to replace these trees, they should all be replaced at the same time, so that their even-aged character continues.

- To re-establish the historic sight lines from the Penniman House to the Town Cove, and to restore the historically open condition of this area, intrusive vegetation west and south of the Penniman House should be removed entirely. Removal should be accomplished through manual clearing followed by prescribed burning in accordance with a prescribed burn plan (PBP). Following the removal of vegetation, the area should be hydro-seeded as soon as possible, to avoid erosion and the possible consequential disruption of archeological material.

- Cleared areas south and west of the Penniman House should be kept open through haying and/or prescribed burning.

- Vegetation covering and concealing the stone wall south of the Burrill property line should be removed, and kept off through prescribed burning in accordance with an approved prescribed burn plan.

- Opportunistic new woody growth reappearing between the Burrill inholding and the Penniman House on the north side of the Fort Hill Trail should continue to be controlled by park staff, as it is now, through mechanical methods or prescribed burning.

- The retaining wall along the north side of the Penniman property bordering Fort Hill Road should be stabilized and repaired or, if necessary, reconstructed; regular whitewashing should be resumed as part of preservation maintenance.

- The wooden fence surrounding the Penniman front lawn should be preserved and maintained in accordance with the information included in the historic structure report for the Penniman House (1989).

- A flagpole should be erected on the Penniman lawn at the site of the existing flagpole socket, in accordance with existing historic photographs.

- Because the Penniman House is only open to the public on a limited schedule, just two percent of those who visit the Fort Hill area get to go inside the house. Nevertheless, many of the other tens of thousands who visit when the house is closed are also interested in seeing its interior. Visitors circle the house to look into each first-story window, causing soil compaction on the north, west, and south sides of the building. To rectify this situation, the following combination of actions is advocated:

  Dramatically increase the number of hours that the house is open to visitors.

  Install window shades or blinds. First-story windows could be fitted with shades that would be drawn whenever the house was closed to the public.

  Install signage or "symbolic" fencing. Signs instructing and/or requesting visitors to refrain from walking up to the foundation could be installed in the grass areas extending out from each building elevation. To be effective, signs would have to be of sufficient size or number to be noticed. Likewise, "symbolic" fencing consisting of chain and bollard or rope and stanchion could be installed around the perimeter of the house or along the sides of paths. However, the impact of the addition of signage or fencing of any type on the appearance and integrity of the house and grounds would have to be carefully assessed.

  Install foundation plantings. Plantings in keeping with those seen in historic photographs of the house (e.g., figure 15) could be added. In accordance with the historic documentation, plantings should be restricted to areas along the east and south sides of the house. Plant material should include only low annuals or perennials; plant selection would be based on horticultural requirements. Shrubs, tall grasses, and evergreen ground covers were not present historically and should not be used. The use of plantings to

prevent trampling by visitors should be carefully weighed against installation costs, required maintenance, and off-season aesthetics.

The Open-Field Zone

The broad strategy recommended for this portion of the Fort Hill area is the preservation of the current size, configuration, and open quality of the large fields. Park goals for this zone focus on the cultivation of hay, preferably through an agricultural lease. The production of hay by an independent lessee would, in the long term, reduce the amount of routine maintenance currently performed here by park staff. However, the potential agricultural use of Fort Hill is complicated by its proximity to one of the most important estuarine marshes on the Cape. Agricultural practices such as tilling, the application of fertilizers and pesticides, or even the presence of domestic animals, offer special problems in terms of run-off, sedimentation, and other impacts to the marsh.

In light of this potential conflict, cultural- and natural-resource management staff from the park worked together, with assistance from the Olmsted Center for Landscape Preservation, to develop appropriate rehabilitation recommendations for this portion of Fort Hill. The following recommendations are intended to allow for the successful production of hay while insuring the protection of significant cultural and natural resources to the greatest extent possible.

- The current configuration, size, and open character of the fields should be preserved and maintained. The border with the Red Maple Swamp woodland to the north is currently kept in place through periodic mechanical clearing and cutting. This work should continue, using prescribed burning if necessary.

- The fields should initially be cleared through prescribed burning in accordance with an approved prescribed burn plan, to removed unwanted invasive woody plants.

- Lime should be applied to the soil following the burn to restore proper alkalinity in accordance with NPS integrated pest management (IPM) procedures, and as specified in a preservation maintenance plan. The purpose of the lime is to stimulate and encourage growth of hay and grass species, and to discourage woody vegetation, without tilling and large applications of traditional agricultural fertilizer and herbicides. Periodic soil testing would be done to determine the amount of lime needed.

- According to the District Conservationist with the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service), hay production could be accomplished without tilling or seeding, by simply encouraging grasses already growing in the fields.

- Burning would occur between February and April; mowing of hay would occur in July.

- Hay production will be carefully planned, and some grassland areas will be left fallow, to provide for ground-nesting birds such as bobolinks that use the open grassland areas at Fort Hill. Nesting areas and habitat use should be considered in treatment regimes relative to burning and mowing schedules for the site.

- A strip of grass 10 to 15 feet wide will be retained along the edges of fields that border Nauset Marsh. This buffer zone will prevent bank erosion, and will filter any run-off going into the marsh. This buffer area will not receive applications of lime, in order to prevent the leaching of nitrogen into the marsh. It will require regular mowing on an as-needed basis (probably three to four times a year) by park staff.

- Areas along trails, parking lots, paved roads, and woodland edges will require mowing on an as-needed basis (probably three to four times a year) by park staff.

- Walls should be kept clear through regular prescribed burning in accordance with an approved prescribed burn plan.

- The portions of the stone walls that have collapsed should be rebuilt by placing stones back onto the walls in the locations from which they probably fell.

- The three ponds, or kettle holes, at Fort Hill are natural wetlands that represent an important part of the hydrologic cycle for this part of the Cape. As such, they are continuously evolving in a pattern of natural succession. Consequently, the management strategy for these wet areas is not "preservation," which would require an attempt to somehow artificially stall their natural evolution. Instead, the preferred management strategy is conservation (leaving them alone), accompanied by interpretation to explain how they were utilized during the site's earlier agricultural era.

- The existing ring of woody vegetation around the ponds should be limited to its current extent through prescribed burning in accordance with an approved prescribed burn plan, and mechanical treatment.

- Road scrapes south and west of the overlook parking lot remaining from the circa-1960 subdivision roads should be mowed, burned, and hayed like the rest of the field area. No special effort needs to be made to maintain or remove them. However, interpretation of the Fort Hill area should include information regarding the proposed development of the site circa 1960.

The Red Maple Swamp Zone

- The current size, configuration, and density of the Red Maple Swamp woodland should be maintained. Fortunately, the Red Maple Swamp is a climax forest, and so is largely self-maintaining.

- The encroachment of woody vegetation from the Red Maple Swamp zone into the adjacent open fields should continue to be prevented through routine maintenance by park staff.

- The views of Nauset Harbor from the Skiff Hill overlook and the Fort Hill Trail overlook should continue to be kept open through appropriate pruning and cutting by park staff.

ADDITIONAL WORK

Planning for Prescribed Burning

Use of prescribed burning at Fort Hill would require the following:

- the development of a prescribed burn plan by the designated Fire Management Officer at Cape Cod National Seashore;

- the application for an air-quality exemption permit from the Massachusetts Department of Environmental Management (DEM);

- the preparation of an environmental assessment, addressing prescribed burning, agricultural-lease impacts, and adjacent and on-site wetland issues;

- pre-fire and annual monitoring of floral and faunal (specifically avian) species, as they respond to periods of burning; and

- a public meeting (part of the environmental assessment) and other informational meetings for residents, NPS officials, and visitors.

Preparation of Other Documents

A National Register nomination should be prepared for the proposed Fort Hill Historic District, which would include all of the land owned by the National Park Service in this area, along with the Burrill and Avery inholdings.

A preservation maintenance guide should be prepared for the Penniman tract and the fields, to provide more in-depth information on the day-to-day maintenance of these areas.

An accurate base map for the proposed Fort Hill Historic District should be prepared by a licensed surveyor.

The possibility of conducting additional architectural investigations for the two former Knowles houses, now owned by the Burrill and Avery families, should be pursued.

If additional information on the sedimentary history of the kettle-hole ponds is desired, a paleolimnologist should be contracted to conduct core sampling and analysis.

If the use of herbicides or pesticides is being considered for Fort Hill, an integrated pest management plan must be approved by WASO IPM staff.

COMPLIANCE ISSUES

The National Park Service will need to comply with all applicable laws, regulations, and executive orders prior to implementing a rehabilitation plan or development concept plan for Fort Hill. Some of these are listed below.

Compliance with the National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) of 1969, as amended, states that the federal government must make it possible for the nation to "preserve important historic, cultural, and natural aspects of our national heritage." In accordance with this act, all federal agencies must prepare an environmental assessment (EA) or environmental-impact statement (EIS) for proposed actions and permits that might affect the environment. In the case of Fort Hill, a draft EIS for the development concept plan (DCP) will be prepared with the draft EIS for the general management plan (GMP). The final plan will respond to public comment on the draft document. The National Park Service will prepare a record of decision and make it available to interested parties to complete the NEPA process.

Cultural Resource Compliance

Fort Hill is included in a National Historic Landmark District as one of the sites visited by the explorer Samuel de Champlain in 1605. Additionally, based on an evaluation by the Olmsted Center for Landscape Preservation, it appears that Fort Hill is individually eligible for nomination as a significant rural historic landscape, as defined in National Register Bulletin 30. The concurrence of the Massachusetts State Historic Preservation Office is now being sought. Because the proposed Fort Hill Historic District is partially owned by the federal government, any proposed changes to the area must comply with Section 106 and Section 110 of the National Historic Preservation Act of 1966, as amended, and the implementing regulations for Section 106.

Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470, et seq.), applies to the head of any federal agency having jurisdiction over a federal, federally assisted, or federally licensed undertaking. The agency head must consider the effects of the undertaking on properties that are included in, or eligible for inclusion in, the National Register of Historic Places. The agency head must also give the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking prior to approving the undertaking.

The Advisory Council seeks through the Section-106 process to balance historic preservation concerns with the need for various federal undertakings. The process is designed to identify potential conflicts between the two, and to help resolve such conflicts in the public interest. The Council encourages this accommodation through consultation among the agency official, the State Historic Preservation Officer (SHPO), and other interested persons during the early stages of planning. The Council regards the consultation process as an effective means for reconciling the interests of consulting parties. Of particular concern at Fort Hill is the need to include "consulting parties" and other interested persons in decision-making about proposed modifications. These include members of the public and representatives of local Indian tribes (the Mashpee and Wampanoag tribes, in particular).

Section 110(f) of the act applies to the same federal agency head described previously. That person must, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by the proposed undertaking. Again, the agency head must afford the Advisory Council on Historic Preservation a reasonable opportunity to comment prior to approval of the undertaking.

The National Park Service will complete a Section-106 form (Assessment of Actions Having an Effect on Cultural Resources) prior to implementing any proposed actions. All ground-disturbing activities will be preceded by an archeological evaluation to determine the level of archeological investigation required before any such activities can begin. Should any resources be identified, the SHPO and the National Park Service will evaluate the resources' potential for inclusion in the National Register of Historic Places; if eligible, appropriate measures will be undertaken to preserve them. Archeological testing will be carried out prior to, or in conjunction with, construction.

Natural Resource Compliance

Section 118 of the Clean Air Act requires all federal facilities to comply with existing federal, state, and local air pollution-control laws and regulations. The National Park Service will work with the State of Massachusetts to ensure that all site activities, such as fire management, meet the requirements of the state's air-quality implementation plan.

Executive Order 11988 ("Floodplain Management") requires that all federal agencies avoid construction within the 100-year floodplain unless no other practicable alternative exists.

Executive Order 119900 ("Protection of Wetlands") requires that all federal agencies avoid construction within wetlands unless no other practicable alternative exists.

Section 7 of the Endangered Species Act of 1973, as amended (16 USC 1531, et seq.), requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agencies does not jeopardize the continued existence of "listed species of critical habitat." The DCP/EIS will address this requirement. Prior to implementation of any landscape modifications, appropriate federal and state clearances will be obtained.

During the design phase of project implementation, the National Park Service will comply with any pertinent state permitting procedures, such as the Massachusetts Wetlands Protection Act.

APPENDICES

APPENDIX A.

The Treat Boundary Markers

THE TREAT BOUNDARY MARKERS

The "T" marker stone traditionally associated with Rev. Samuel Treat is important for two reasons. First, it provides a tangible link to 18th-century Eastham, when the town's social and economic life was based on agriculture. It is an artifact that recalls the people and the land-use practices prevalent at that time. Second, it might help determine the 19th-century boundaries of the northern and southern Knowles farms.

THE ORIGIN OF THE "T" MARKERS

Early Eastham land records make frequent use of incised stones as boundary markers in land descriptions. This differs in degree from the usual practice in inland areas of Massachusetts, in which a "stake and stones" is the more common method, although in both areas the use of stumps or living trees is frequently encountered. It is possible that in Eastham, with the glacial origins of its landforms, stones of suitable characteristics are common enough to be feasible for this purpose while unusual enough to be conspicuous. As noted previously, the town itself used stones marked "E" to set off the "ministerial lot" that it owned.[210]

The town records suggest that each landowner had a distinct and unique letter, roughly analogous to a cattle brand, for marking his bounds. The same personal letter would occur only once within the limits of the town (which then embraced Orleans and Wellfleet), even where there seemed to be little possibility of confusion due to individuals who might share the same mark owning abutting tracts. Thus we find that in 1679, a time when Samuel Treat was already residing in Eastham, a Thomas Bills received a grant in Pocha (present-day Orleans) bounded in part by a stone marked "T."[211] Perhaps because of the prior use of this letter, land granted to Samuel Treat in 1702 was described in part by stones marked "S.T."[212] This occurred even though the land in question was near Treat's residence and could not have been confused with land at Pocha. However, given the pattern described earlier—in which individuals owned parcels of different types of land scattered around the town—one could never be certain that a conflict would not arise.

In fact, none of the known grants to Samuel Treat seem to make use of a "T" mark. This does not necessarily raise doubts about the traditional attribution of the "T" stone to Treat, since the letter could have been used in later transactions involving the farm Treat had assembled, even after his death.

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[210] Land Grants, Book I, 1695 (Eastham Town Records).

[211] Land Grants, Book I, 1695 (Eastham Town Records).

[212] Land Grants, Book I, 1695 (Eastham Town Records).

Only one documentary reference has been found to the "T" stones. It is reasonable to suppose that there were others, but that they were destroyed along with most Barnstable County records in the fire of 1827. The sole existing reference is the 1786 will of Willard Knowles, which uses "T" stones as boundary reference points nearly 70 years after the death of Samuel Treat.

THE "T" STONES AS 19TH-CENTURY BOUNDARY MARKERS

The 1786 will of Willard Knowles reads in part as follows:

> Item. I give and bequeath to my well beloved Son Seth Knowles and to his Heirs and assigns forever all my Homestead bounded as follows
> (1) beginning two Rods from the Northwest corner of my Dwelling House;
> (2) thence running northerly as the fence now stands till it comes to the NW corner of the old Hay yard to a stone marked T in the corner of the fence,
> (3) thence running easterly till it comes to Joshua Knowles's land,
> (4) thence running by the Southerly side of said Knowles land down to the water side to a rock marked K,
> (5) thence running southerly by low water mark till it comes to the mouth of the Towns Creek,
> (6) thence running westerly up said Creek till it comes to the Ministerial lot,
> (7) from thence northerly to the first mentioned bound....
>
> Item. I give and bequeath to my well beloved Son William Knowles and to his heirs and Assigns forever all that Parcel of land that I bought of Paul Knowles bounded as follows: viz,
> (1) beginning two rods from the Northwest corner of my Dwelling House,
> (2) from thence running northerly as the fence now stands till it comes to the Northwest corner of the old hay yard to a stone marked T,
> (3) thence running easterly by the stone wall till it comes to Joshua Knowles' land,
> (4) thence easterly by the said Joshua Knowles' land down to the water side to a rock marked T,
> (5) thence northerly by low water mark till it comes to Smith's fence,
> (6) thence running by said Smith's fence westerly as the Fence now stands in Smith's range till it comes to Samuel Snows range,
> (7) thence southerly in Snows range to the road,
> (8) thence easterly by the road to the first mentioned bound....[213]

[213] Barnstable County Registry of Probate, Book 26, pp. 172-73; numbers and punctuation were added for clarity.

This document indicates the following information about the 19th-century boundaries of the two Knowles family farms at Fort Hill:

- the south, "homestead" lot to be given to Seth corresponded to the former Treat parcel, purchased by Willard in 1742;
- the north parcel to be given to William had been purchased from Paul Knowles by Willard at some unknown date;
- there was a third parcel of land, owned by a Joshua Knowles, sandwiched in between the eastern portion of these two parcels; and
- there were at least two "T" stones and one "K" stone used as boundary markers in 1786.

Willard Knowles' inventory lists the parcels of land he owned at the time of his death in 1786. This list includes 20 acres of upland and an unspecified quantity of meadow "adjoining the dwelling House" and the same amount "Adjoining Willm Knowles House."[214] These tracts comprise a reasonable nucleus of the two later farms, especially if Joshua Knowles is assumed to have owned a sizable intervening parcel that was subsequently added to one or both of the Knowles farms. Additionally, since William already had a house near his father's in 1786, he may have owned additional adjacent land.

It is quite likely that the "T" stone now stored in Dennis St. Aubin's office at Cape Cod NS is the "T" stone cited by Willard's 1786 will as being at the northwest corner of the hay yard. Ascertaining the stone's historic (1786) location would determine if the present boundary line between the two Knowles family farms is the same as the historic one. It would also help determine the fate of the old Willard Knowles house; was it remodeled into, or replaced by, the current Burrill house? The location of the "T" stone prior to its removal for safekeeping is known: northwest of the Burrill House, in a collar of crude and obviously old mortar. The question is: was this location the historic one? This discussion will attempt to determine the historic location of the stone without reference to the most recent location. The two locations can then be compared.

The 1786 will says that the hay-yard "T" stone was located on the boundary line between the north and south land bequests. The boundary line between the two tracts today is marked by an old east-west stone wall that runs all the way to the bay. There is no record of formal land transfers that would have changed the line from its position in 1786. One would therefore assume that the historic boundary was the same as the present one.

Two circumstances, however, make such an assumption risky. First, existing local land-transfer records are not at all complete, due to the Barnstable County courthouse fire of 1827. As indicated previously, Willard's 1786 will indicates that there was a third parcel of land owned by one Joshua Knowles wedged

[214] Barnstable County Registry of Probate, Book 26, p. 184.

between the eastern portion of the two farms.[215] The first three courses of Willard's south and north bequests are roughly identical. After the third course, the boundary running eastward between the two farms divides and runs along the north and south sides of Joshua Knowles' land. The description of this third tract is vague, but seems to imply a wedge-shaped parcel with frontage along the shore.[216] The "K" and "T" stone markers along the shore cited by Willard Knowles' will have not been located, despite persistent efforts.[217]

The exact location where the 1786 boundary diverged to accommodate the intervening Joshua Knowles parcel is not known. However, northeast of the Burrill house is an unusual jog in the stone wall that marks the present boundary between the north and south farms. It is possible that this jog remains from a time when the stone wall had to veer southward around the south edge of the Joshua Knowles parcel.

At some point, the Joshua Knowles tract must have been incorporated into the northern or southern farm, or else divided between them.[218] However, the existing land-transfer records have no record of such a conveyance, to either Seth or William or their heirs. Thus, the east portion of the present boundary line between the two farms on Fort Hill is not the original one. The farms did not attain their familiar dimensions until some later date, despite official records to the contrary.

The west portion of the boundary line between the two Knowles farms on Fort Hill might be equally suspect. This is because no formal surveys were performed during the 150-year period of continued Knowles ownership via inheritance. Under such circumstances, boundary lines often "creep" (primarily because of gradual shifts in fence lines), even while there is a continuity of legal description. It was only in the 1950's and 1960's, with the division of one farm for development and the arrival of the National Park Service, that new legal descriptions of boundaries at Fort Hill were formulated. Even these,

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[215] This Joshua Knowles could have been either Willard's older brother (1686-1786), or the brother's son, also named Joshua (b. 1730). Both were alive at the time Willard prepared his will, and it cannot be determined which one owned the tract of land in question.

[216] In his will of 1757, Col. John Knowles gave his sons Joshua and Willard half ownership each of a tract of approximately six acres "lying on the southerly side of the Long Swamp" (Barnstable County Probate Records, Book 9, pp. 309-11.) It has been established that the historic Long Swamp corresponds to the present-day Red Maple Swamp. The description of this tract would seem to place it too far north to fit between the lands granted to Seth and William. Perhaps Joshua traded his half interest in the six-acre tract to Willard for a full interest in another piece of land farther south.

[217] Notes left by Alice A. Lowe in the Cape Cod NS historical files indicate that she knew the location of at least one of these stones, but that location is not specified. A "T" stone is reportedly incorporated into a wall adjacent to the Burrill house. The 1786 description does not provide for two stones so close together, so that if both are authentic 18th-century artifacts, one must have been moved. The stone near the Burrill house is the more likely to have been moved. Its relation to the "T" stone originally along the shore is not known.

[218] If the present boundary wall is the historic boundary wall that ran along the north edge of the southern farm, then all of the Joshua Knowles tract would have been added to the northern farm.

however, relied largely on abutters, fence lines, and geographical features, rather than accurate surveys. As a result, there are no known citations of the "T" stone subsequent to 1786.

However, it is likely that the west portion of the historic boundary line did not "creep," and that it was essentially the same as the present line.[219] This is because, as indicated in the south bequest, this section of the boundary line was defined by a stone wall. Such a stable boundary greatly reduces the likelihood of "creep," since it is not subject to the kind of gradual unintentional shifting that can occur with less permanent fences. The stone walls at Fort Hill today appear in 19th-century maps of the area, and are probably much older. As stated previously, there is one such old wall along the west portion of the present boundary line, and it is reasonable to suppose that it is the boundary wall cited in 1786.

Willard's will says that the hay-yard "T" stone was aligned with this boundary wall; it probably sat at the west end of the wall.[220] Thus, the stone's position in a north-south direction can be determined with considerable certainty. Ascertaining the east-west location is much more problematical, since it depends on knowing the location of the old Willard Knowles farmhouse. Willard's will used the northwest corner of his house as a starting point for his boundary descriptions. If Willard's house survives as part (or all) of the present Burrill house, the "T" stone could be placed by measuring two rods from the oldest part of the house, then extending a line from that point perpendicular to the line of the east-west stone wall. The point at which these lines intersected would be the most reasonable location for the stone.

If the process outlined in the preceding paragraphs postulates a location for the "T" stone fairly close to the point from which it was removed, then the location from which it was taken should be considered correct.

[219] The very west end of the wall seems to have been removed or buried, but its location could presumably be determined by simply extending the existing part of the wall westward.

[220] Considering the lot lines of the north farm as described in the will, there is no reason to think that the wall extended westward beyond the "T" stone.

APPENDIX B.

Telephone Interview with Charles A. Gunn, Jr. Conducted by Larry Lowenthal, June 21, 1994

[Note: A summary of the interview was reviewed and additional comments were made by Mr. Gunn, his older sister Leona MacBride, and his younger sister, Charlotte I. Walker.]

TELEPHONE INTERVIEW WITH CHARLES A. GUNN, JR.

FAMILY BACKGROUND

- Charles now 66 years old.
- His father, Charles A. Gunn, was born Feb. 8, 1895, in Nova Scotia; he may have had a general store in Weymouth or Quincy, and served in WWI.
- Father came into the area by buying an ice business at Wellfleet; he went into the ice business with his brother-in-law.
- He ran an ice and express business; he had an ice route, with ice ponds at Wellfleet and Orleans.
- He also expressed fish caught in weirs to Boston.
- He had an old chain-drive, solid-tire Oldsmobile truck.
- He used scales located at Nickerson Lumber Co., Orleans, and met his wife, Esther Crosby, there.
- Father later sold the Boston express route to Shuster Express and the Eastham-Orleans ice route to "Uncle Tom" Brown.
- He then became caretaker for Albert Greene Duncan of Boston, who had a farm on Nauset Road near Coast Guard Station.
- Father mentioned in Crosby, *Blue Water Men*, p. 224 (written by a cousin of Charles's mother). Old Cape Codders never really accepted father; called him a "damned upstart."

THE PERIOD AT NAUSET, AND CONSTRUCTION OF THE YOUNG HOUSE

- Mr. Duncan gave Gunn, Sr., choice of the farm or money; father chose to take farm. However, Duncan died in 1928, and widow required Gunn, Sr., to pay for farm. Farm contained about 100+ acres.
- Gunn family had lived in the caretaker's apartment. In 1927, his father built a house (known in Cape Cod NS records as the Young House). Charles A. Gunn, Jr., was born in this house in 1928.
- The caretaker's dwelling was later moved across street and made into a house.
- The Richardson house was next door; the Milliken House was nearby; there were two Bartlett houses further away, facing the ocean.
- Farm grew and shipped asparagus; also tried turkeys, hogs, dairying.
- A barn was located in back of the "Young house"; there was a garage for farm equipment to the left of the house, and a generating house between the asparagus house and the dwelling.

ACQUISITION OF THE KNOWLES FARM

- Father took care of the "Seth" Knowles farm, and cut upland hay on it for seven years before buying it; he probably brought in equipment, since only horse-drawn equipment was left on the Knowles farm.
- He made offer for the Knowles farm in a probate court case; the family initially would not accept; finally forced to do so by the estate's trustee.
- The Knowles House had been unoccupied; father had to repaint, wallpaper, etc. The floors were varnished; his father had to pour ammonia, scrape with broken glass, then run outside for air. (First floor was bird's-eye maple; father wanted to clean down to bare wood.)
- Family then moved into the Knowles House in 1938. Father sold the Duncan farm as one lot between then and 1940; he sold the house he had built to Young ca. 1941.
- Father was told that the Knowles House was built ca. 1790, and that it had seaweed insulation in the walls.

DAIRY OPERATION ON KNOWLES FARM

- Family's entire living came from the Knowles farm after 1938.
- Father brought his equipment to the Knowles farm right away, but kept his cows at the Duncan farm during first summer because the Knowles barn was not ready for them. (The farm had previously been a "gentleman's farm," with the barn set up mainly for horses; cow stalls had to be built.)
- Father generally kept 20-25 milkers—mainly Guernsey at first, then a cross between Guernsey and Holstein—plus at least half dozen young stock. He obtained breeding bulls from the Barnstable prison farm.
- He leased or rented the Kattwinkel land to keep it clear; the cows were mostly pastured on this land.
- He grew good-quality hay (clover and alfalfa) on the land that he owned; only one cutting of hay.
- He picked up loads of hay grown by a cousin in Nova Scotia at the RR siding at Nickerson's.
- The Gunns called their farm Nauset Moors Farm. (They had used the same name previously for the farm on Nauset Road.)

APPEARANCE OF THE BARN ON KNOWLES FARM

- Father changed barn to support a dairy operation.
- Stone foundation under portion where cows kept; rest wood.
- Roof timbers one piece, roughly 3 by 14, 30 ft. long.
- Barn L-shaped, almost equal sides approx. 100 ft. long by 30 wide. Main side faced Kattwinkels'; side of ell faced his house.
- Back side below ground level had place to drive loads of hay; short line of cows down to corner; rest of cows on short side. There was a well in the northwest corner on this level, and a shower and changing room. Old wooden horse ramp, with cleats so horses wouldn't slip, went up to ground level front.
- The ell of the barn that faced the house had a stairway in the center, with stairs leading from the ground-level entrance to the upper and lower (cow) levels. To left on ground floor: cream separator,

desk. Workshop on right; old harness room on right made into milk room with sinks, steam boiler for pasteurizer.

- From harness room to back were birthing stall for mares + 2-3 horse stalls. Used birthing stall as pasteurizing room. Horse stalls used as walk-in cooler and compressor room and for other machinery.
- Big room 30-40 ft. sq. where milk truck could be driven in; farm equipment, excess milk cases, etc., stored there. A hay mow took up considerable space on this level.
- Half basketball court upstairs.

FARM OPERATIONS AND AGRICULTURAL ECONOMY

- Nauset Moors Farm was a complete dairy farm.
- The milk was delivered door-to-door, and father also had a school contract; milk was also sold in stores—T.A. Smith was a big customer.
- No one in Eastham was then sending milk to Boston. Asparagus and turnips were the only crops being sent to Boston, but they were not grown on Nauset Moors Farm.
- Family had a big kitchen garden between the house and creek.
- Family sometimes rented rooms in house during summer; during these times the children slept in the end of the barn facing the house (Charles had two sisters). This taking in of guests was done mainly during the three-year period when Gunn, Sr., was trying to sell the farm on Nauset Road. The extra income helped pay the taxes on the two properties.

SALE OF FARM AND SUBSEQUENT EVENTS

- When Charles was about 21 (in 1949), father asked about his intentions toward farm. Charles replied that he would subdivide it and build cottages. Father then swore "This farm will never be developed."
- Angered by son's reply, father sold farm to Jim Leach ca. 1950. About a year later, Leach sold milk route but kept cows for awhile longer and retained a herdsman. Young Charles, a deliveryman for the milk route, continued until it was sold.
- Leach changed cow stables to horses, for rental.
- Land later subdivided into lots and some sold; surveyor and engineer were paid with two lots each.
- Father died 1968, age 72.

LANDSCAPE FEATURES OF FORT HILL; INDIANS

- Name "Fort Hill" known but not in common use. Pun that this was first time there were Gunns on Fort Hill.
- No sign of cranberry bogs on farm; nearest cranberry growing was on Nate Clark property.
- There was swampy area that did not dry out straight down from house. Larger one on Kattwinkel property was used as a skating pond in winter; pretty well grown up with brush.
- Does not remember "T" stone. Remembers hook in boulder, thought to be for hay barge.
- Green circles toward Town Cove visible in spring; said to be edges of wigwams of Indians, where they threw garbage.

- Indian burial ground located back from barn toward marsh on last rise overlooking water; plowing would not remove the indentations in ground.
- Arrowheads were found in all parts of the farm, and often appeared after plowing.

APPENDIX C.

Alterations to the Avery House

August 25, 1988

A-90
Tract No. 35-6531

Mr. and Mrs. Gordon Avery
49 Gibbs Avenue
Wareham, MA 02571

Dear Mr. and Mrs. Avery:

We have reviewed your revised schematic showing the proposed use of space in the plan for expansion of the Kattwinkel house. The proposed expansion appears to meet the guideline with a total livable space of 3,493 sq. ft.

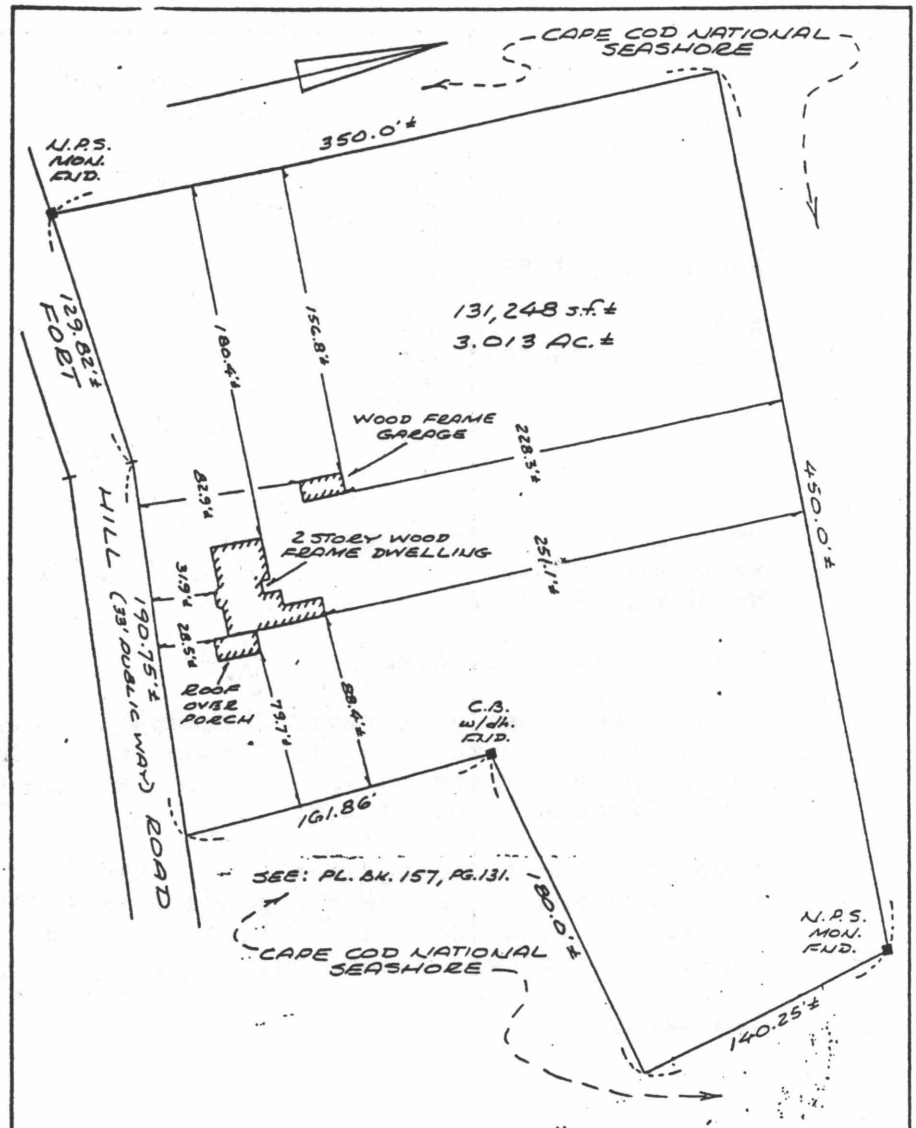
A copy of the building area computation for the existing structure and 50 per cent expansion is enclosed for your use. A total of 3,631 sq. ft. of livable space would be permitted under the approved guideline.

Sincerely,

Herbert Olsen
Superintendent

Enc.

JCKillian/jhk/8/25/88



PREPARED FOR : THE SANDWICH COOPERATIVE BANK

CERTIFIED PLOT PLAN

LOCATION: EASTHAM, MASS.
SCALE: 1"=60' DATE: 8-30-1988
REFERENCE LOT: TOWN MAP # 18
P.B. (NONE) P. PARCEL "B6-55A
~~L.C.P.~~ DEED BOOK 1274, PAGE
FLOOD ZONE: "C"

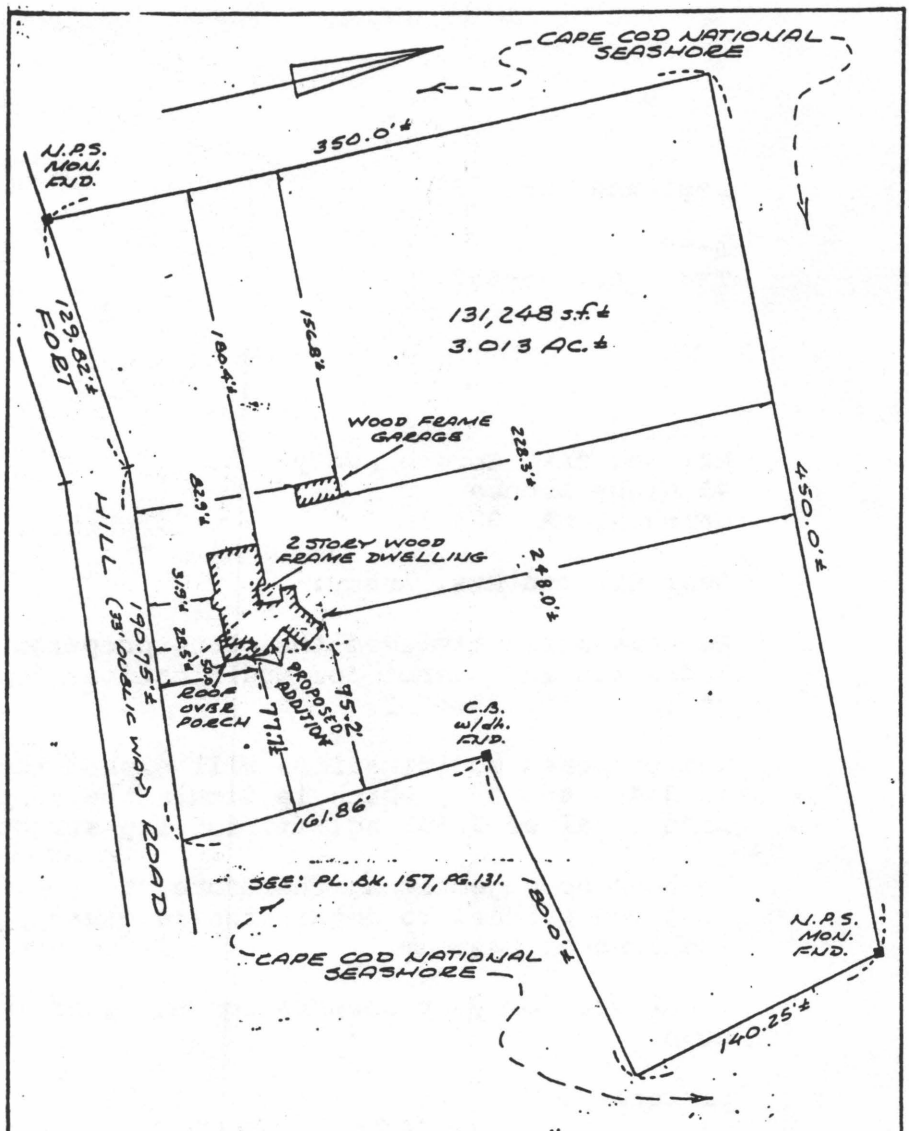
I HEREBY CERTIFY THAT THE BUILDING SHOWN ON THIS PLAN IS LOCATED ON THE GROUND AS SHOWN HEREON, AND THAT IT DOES CONFORM TO THE ZONING BY-LAWS OF THE TOWN OF EASTHAM WHEN CONSTRUCTED.

COMMONWEALTH OF MASSACHUSETTS
EVERETT H. HINCKLEY
1787
REGISTERED LAND SURVEYOR

LOW & WELLER, INC.
714 MAIN STREET
YARMOUTH, MASS.

DATE

88-138



PREPARED FOR : THE SANDWICH COOPERATIVE BANK

CERTIFIED PLOT PLAN

LOCATION: EASTHAM, MASS.
SCALE: 1"=60' DATE: 8-30-1988
REFERENCE LOT: TOWN MAP # 18
P.B. (NONE) P. PARCEL "B6-55A
~~L.C.P.~~ DEED BOOK 1274, PAGE
FLOOD ZONE: "C"

I HEREBY CERTIFY THAT THE BUILDING SHOWN ON THIS PLAN IS LOCATED ON THE GROUND AS SHOWN HEREON, AND THAT IT DOES CONFORM TO THE ZONING BY-LAWS OF THE TOWN OF EASTHAM WHEN CONSTRUCTED.

EVERETT H. HINCKLEY 1707 REGISTERED LAND SURVEYOR COMMONWEALTH OF MASSACHUSETTS

LOW & WELLER, INC.
714 MAIN STREET
YARMOUTH, MASS.

DATE

88-138

September 29, 1988

A-90
Tract No. 35-6531

Mr. and Mrs. Gordon Avery
49 Gibbs Avenue
Wareham, MA 02571

Dear Mr. and Mrs. Avery:

We have again reviewed the plans prepared for you by Sanders, Wadsworth and Chenot for modifications to the existing structure on Tract No. 35-6531.

The proposed modifications will expand the total livable space to 3,493 sq. ft., which is within the 50 percent expansion guideline total of 3,631 sq. ft. for the structure.

We have no objections, therefore, to your proposal and suggest that you proceed to obtain the necessary building permit from the Town of Eastham.

Thank you for your cooperation and good luck to you in your new home.

Sincerely,

Herbert Olsen

cc: Building Inspector, Town of Eastham

HOlsen/jhk/9/29/88

A-90
Tract No. 35-6531

Mr. and Mrs. Gordon Avery
49 Gibbs Avenue
Wareham, MA 02571

Dear Mr. and Mrs. Avery:

Our review of the livable space and accessory space areas requires correction as the attached wood shed containing 144 sq. ft. of accessory space was removed in the fall of 1988.

The proposed construction of a barn (plan submitted January 10, 1989) containing 1200 sq. ft. and the existing garage containing 242 sq. ft. provides for a total of 1,442 sq. ft. of accessory space which is within the guideline (1,815 sq. ft.).

We have no objection to your proposal to construct a barn.

Sincerely,

Herbert Olsen
Superintendent

cc: Mr. Kenneth Bates
Building Inspector
Town of Eastham
Eastham, MA 02642

JCKillian/jhk/1/25/89

APPENDIX D.

Alterations to the Burrill House

Info

ROUTING		
No.	Initial	Date
1	CAD	5/20
2	File	

Cape Cod National Seashore
Box 428
Eastham, Massachusetts 02642

A903

May 19, 1964

Mr. Robert M. Burrill
Fort Hill Road
Eastham, Massachusetts

Dear Mr. Burrill:

The purpose of this letter is to grant approval for the construction of a two-car garage on the northeast corner of the lot on which your residence is located on Fort Hill Road in Eastham, Massachusetts.

We also approve the request for improvements to your dwelling, consisting of a new chimney and fireplace and expansion of the living room as outlined in your letter of May 16. Approval is also granted for the replacement of five windows in the house with wire lath and plaster.

The approval granted above is with the understanding that all of the proposed work conforms to the town of Eastham Building Code, and that all applicable local regulations are observed.

A copy of this letter may be filed with the Certificate of Suspension of Condemnation of Improved Property which you now hold.

Sincerely yours,

By ROBERT F. GIBBS

Robert F. Gibbs
Superintendent

In Triplicate

cc: Building Inspector, Eastham, Mass.

cc: Chief Ranger w/cpy incoming

RFGibbs:lb

Cape Cod National Seashore
South Wellfleet, Massachusetts 02663

A90

April 17, 1969

Mr. Robert M. Burrill
Fort Hill Road
Eastham, Massachusetts 02642

Dear Mr. Burrill:

This will acknowledge your request for permission to add on to your existing dwelling structure Tract 33E651. This situation was reviewed on the ground on April 11. The proposed construction does not appear to be inconsistent with the preservation and development of the National Seashore although not in compliance with the Town Seashore District zoning regulations as far as set-back requirements are concerned.

No objection will be made on the part of the National Park Service when this comes before the Board of Appeals for work to be done as indicated. A variance granted by the Board for this work will not result in a withdrawal of the suspension of the Secretary of the Interior's authority to condemn.

If we can be of further help, please let us know.

Sincerely yours,

Original Signed by

Norton M. Bean
Acting Superintendent

cc:
Regional Director, NE w/cpy incoming (2)

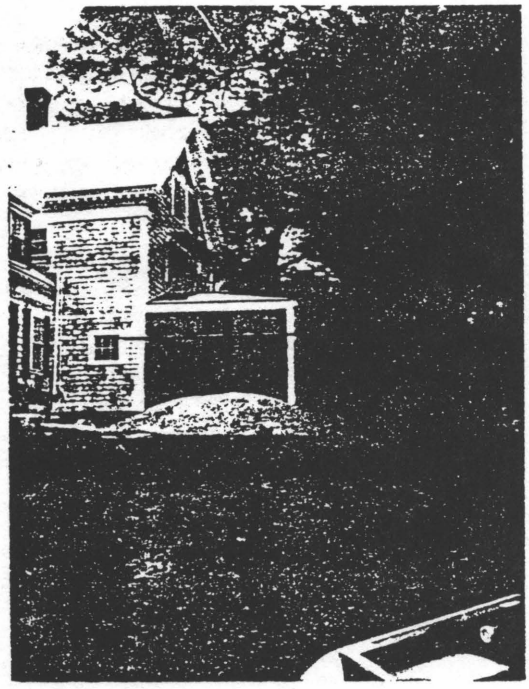
NMBean:lb 4/17/69

Building Permit Information

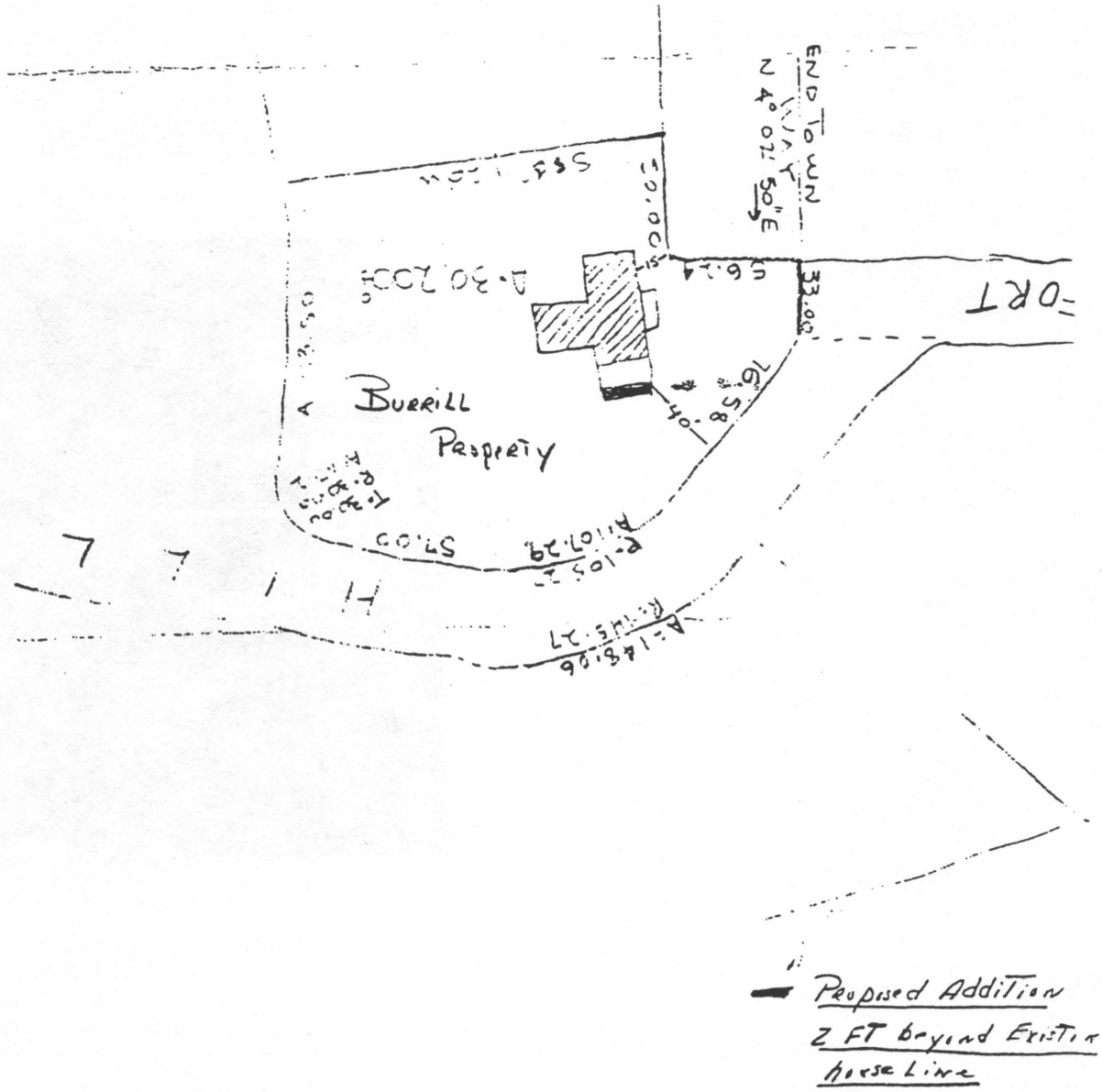
Name Burrill, Robert M. Tract No. 35-E-6511

Location Skiff Hill Road

Before After 7/7/69



Date	Action
5/14/69	Board of Appeals Hearing - no objection
6/28/69	Building permit issued by town 6/23/69 for addition.


Burrill
Property
Proposed Addition
2 FT beyond Existing
House Line

APPENDIX E.

Nauset Archeological District
National Historic Landmark Nomination Form

1. NAME OF PROPERTY

Historic Name: NAUSET ARCHEOLOGICAL DISTRICT

Other Name/Site Number: Coast Guard Beach Site, 19BN374
North Salt Pond Site, 19BN390
South Salt Pond Site Complex, 19BN274/339 and 19BN341
Fort Hill Site Complex, 19BN308 and 19BN323

2. LOCATION

Street & Number: Cape Cod National Seashore Not for publication: X

City/Town: Eastham Vicinity: ___

State: MA County: Barnstable Code: MA 001 Zip Code: 02663

3. CLASSIFICATION

Ownership of Property		Category of Property	
Private:	___	Building(s):	___
Public-local:	___	District:	X
Public-State:	___	Site:	___
Public-Federal:	X	Structure:	___
		Object:	___

Number of Resources within Property

Contributing	Noncontributing	
____	____	buildings
6	____	sites
____	____	structures
____	____	objects
6	____	Total

Number of Contributing Resources Previously Listed in the National Register: N/A

Name of related multiple property listing: Historic Contact: Early Relations Between Indians and Colonists in Northeastern North America, 1524-1783.

4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

_____ _____
Signature of Certifying Official Date

_____
State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

_____ _____
Signature of Commenting or Other Official Date

_____
State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I, hereby certify that this property is:

____ Entered in the National Register _____
____ Determined eligible for the _____
National Register
____ Determined not eligible for the _____
National Register
____ Removed from the National Register _____
____ Other (explain): _____

_____ _____
Signature of Keeper Date of Action

6. FUNCTION OR USE

Historic: Domestic
Sub: Camp
Village Sites

Current: Recreation and Culture
Landscape
Sub: Outdoor Recreation
Park

7. DESCRIPTION

Architectural Classification:

Materials:
Foundation:
Walls:
Roof:
Other Description:

Describe Present and Historic Physical Appearance.

PROPERTY LOCATION AND HISTORY

Unless otherwise noted, all information in the following section is abstracted from McManamon (1984):

The Nauset Archeological District (hereinafter referred to as Nauset) consists of the following six discontiguous properties; 19BN374 (the Coast Guard Beach Site), 19BN390 (the North Salt Pond Site), 19BN274/339 and 19BN341 (the South Salt Pond Site Complex), and 19BN308 and 19BN323 (the Fort Hill Site Complex). These properties collectively encompass 37.70 acres of archeologically-sensitive land located on the northern and northwestern shores of Nauset Marsh (Figures 7.1-7.3 and 7.5). Nauset Marsh borders upon Nauset Harbor, a large 1,350 acre tidal lagoon on the east coast of the Cape Cod National Seashore in Eastham Township, Barnstable County, Massachusetts. The Harbor's tidal range varies from 2.2 to 7 feet. Extensive mudflats and shellfish beds along the shoreline are exposed at low tide. District sites occur on sandy loam soils on low headlands ranging from just above sea level to 40 feet AMSL. All are located within 650 feet of the marsh boundary.

Cape Cod National Seashore was established by Act of Congress in 1961. National Park Service North Atlantic Regional Office archeologists conducted a survey of archeological resources within park boundaries between 1978 and 1985 (Figure 7.1). Investigators examined 214 sample units comprising 1,048.6 acres of the 44,600 acre National Seashore. Two hundred archeological properties dating to prehistoric and historic sites were discovered during these operations. Twenty of these properties, including all of the sites nominated in this theme study, were subjected to systematic sub-surface testing.

Project archeologists identified six sites possessing high potential to contain deposits dating to the Historic Contact period among the ten sites surveyed along the shores of Nauset Harbor (Figure 7.5). The overall distribution of these resources roughly corresponded to the dispersed pattern of individual wigwams and cornfields depicted by Samuel de Champlain on his 1606 map of the area (Figure 7.4). Running counterclockwise from the northeastern corner of the District, these properties include the Coast Guard Beach site (19BN374 in Figure 7.6), the North Salt Pond site (19BN390 in Figure 7.11), sites 19BN274/339 and 19BN341 (hereinafter referred to as the South Salt Pond site complex in Figure 7.11), and sites 19BN308 and 19BN323 (hereinafter referred to as the Fort Hill site complex in Figure 7.19).

Some or all of these sites may have been occupied when Samuel de Champlain drew his map. Although Europeans may have visited Nauset Bay earlier, Bartholomew Gosnold's account of his 1602 voyage to New England represents the first documented encounter between Indian people and Europeans on Cape Cod (Winship 1905:34-44). Five years later, a young Champlain sailing from Port Royal

with an expedition under the command of French mariner Sieur de Poutrincourt penned the first direct written references to Nauset in European literature. On July 21, 1605, Champlain and his compatriots arrived off Nauset where "they perceived a bay with wigwams bordering it all around" (Champlain 1922-1938(1):348-349). Recording his impressions of the area, he wrote that:

> before reaching [the Indian's]... wigwams [they] entered a field planted with Indian corn...[which] was in flower, and some five and a half feet in height. There is some less advanced, which they sow later. We saw...Brazilian beans, many edible squashes... tobacco, and roots which they cultivate... There were also several fields not cultivated for the reason that the Indians let them lie fallow. When they wish to plant them, they set fire to the weeds and then dig up the field with their wooden spades (Champlain 1922-1938(1):351-352).

Noting that their "wigwams are round, and covered with heavy thatch made of reeds," Champlain went on to observe that Indian men and women in the area wore clothes woven from grasses and hemp and covered their private parts with loin clothes of animal skin. He also wrote about their hair styles, facial paint, and noted that men carried spears, clubs, bows and arrows (Champlain 1922-1938(1):352-357). Stating that the French named the harbor "Mallebarre" (Bad Bar) after its many shoals, Champlain went on to note that they sailed away on July 25 shortly after one of the ship's sailors was killed in a fight with the local inhabitants (Champlain 1922-1938(1):358).

> Information presented in the following pages is extracted verbatim with minor editorial emendation from McManamon and Bradley (1986:25-31):

"The French returned to the southern coast of Cape Cod in the autumn of 1606. In early October they again anchored at Nauset. The French leader, Poutrincourt '...paid a visit to the port in the shallop. There came to meet him some 150 Indians, singing and dancing in accordance with their custom (Champlain (1922-1938(1)::405).' So, again the French had found substantial numbers of natives at Nauset, this time during the fall of the year. Champlain reported seeing large numbers of natives and their habitations and fields at many locations along the New England coast during both the 1605 and 1606 expeditions. In fact, after leaving Nauset Harbor in mid-October 1606, the French sailed farther south along the Cape's ocean coast, eventually putting in at Stage Harbor in present-day Chatham, about twenty miles from Nauset. In this embayment they were confronted by '...five or six hundred Indians... (Champlain 1922-1938(1):411).' Champlain (1922-1938(1):410) noted that

> all the inhabitants of this place are much given to agriculture, and lay up a store of Indian corn for the winter.

"He further described the manner in which the corn was preserved in large subsurface storage pits.

> In the sand on the slope of the hills they dig holes some five to six feet deep more or less, and place their corn and other grains in large grass sacks, which they throw into the said holes, and cover them with sand to a depth of three to four feet above the surface of the ground. They take away this grain according to their needs, and it is preserved as well as it would be in our graineries (Champlain 1922:410-411).

"These are only snippets from Champlain's observations of native life in southern New England, but they underline two aspects of human adaptations frequently associated with sedentary settlements--horticulture and food storage. Both of these were practiced by Cape Cod natives by 1600.

"Champlain and the French never returned to southern New England after these two trips in the early 1600's; their efforts were directed to the north and west. The English were next to visit southern New England, and in November 1620 the first English group to succeed in settling there permanently arrived. The Pilgrims settled in Plymouth eventually, but for over one month after they made landfall, the *Mayflower* anchored in what is now Provincetown Harbor. From there the English staged three short explorations of outer Cape Cod. Their intent was to learn whether the land and available fresh water in this area were sufficient to support them, and to ascertain the disposition of the natives living there already. In addition, the accounts of their expeditions (e.g., Bradford 1961; Heath 1963) provide rich lodes of data about the precolonization landscape. It is possible to derive from these accounts further information about the Native American patterns of settlement.

"The first exploration of the Pilgrims from the 25th to the 27th of November covered from the northern shore of Provincetown Harbor to the southern bank of the Pamet River in present-day Truro, Massachusetts. Along the way the English encountered a pattern of vegetation that sounds remarkably like that of today. Patches of dense underbrush that "tore their armor" were interspersed with sections of open woodland. The open woodland probably was the result of deliberate burning of underbrush by the natives to increase food for deer (e.g., see Day 1953).

"Other, more obvious evidence of human modifications were apparent to the English. They reported clearly marked, well-used paths and land that showed signs of having been cleared and cultivated within the last few years, 50 acres in one area by one estimate. They noted a series of smaller cornfields that had been cultivated that very year. At one of these they found the remains of a wigwam that had been erected near the fields. They also found a buried cache of corn, probably the result of that year's work. It was covered by a 'newly done' heap of sand that covered '...a fine great new basket full of fair corn of this year' (Heath 1963:27). A description that sounds remarkably

close to Champlain's quoted above. The basket contained three or four bushels of corn. The explorers found the remains of '...an old fort or palisade' and native graves with grave goods as well (Heath 1963:27). To complete their encounter with the cultural landscape of the resident natives, one of the English, William Bradford, the future, many-term governor of Plymouth Colony, accidently ensnared himself in a native trap intended for deer.

"The English explorers hadn't found native villages similar with the highly concentrated and enclosed settlements of the Huron or Iroquois, or the large ceremonial and residential settlements of the highly aggregated prehistoric horticultural societies of the Midwest and Southeast. They had, on the other hand, encountered many examples of extensive, regular uses of the land by the current residents. The only inhabitants that they had sighted had been on the beach along Provincetown Harbor at the outset of their venture, and these natives had fled before the approaching English.

"Between December 7th and 10th the Pilgrims undertook a second exploration. This time a small party of men sailed by shallop to the mouth of the Pamet River in present-day North Truro. This was near the furthest extent of their first trip. They hiked up and down the Pamet River, reporting nothing of interest. Then they returned to the Corn Hill area, probably where they had found the corn cache during their first reconnaissance. There they dug up more corn caches, expropriating in all about ten bushels of corn. During their digging they also discovered a grave containing an adult and child and grave goods.

"Again on this trip the explorers found '...beaten paths and tracks of the Indians.' One very broad track turned out to be a deer drive. In addition, this time several wigwams were found. These were unoccupied, but they must have been abandoned very recently, perhaps only upon the approach of the Pilgrim explorers. The contents of one included a virtual catalog of items for daily use by a native family. Inside the house were:

> wooden bowls, trays and dishes, earthen pots, handbaskets made of crabshells wrought together, also an English pail or bucket; it wanted a bail, but it had two iron ears. There was also baskets of sundry sorts, bigger and some lesser, finer and some coarser; some were curiously wrought with black and white in pretty works, and sundry other of their household stuff. We found also two or three deer's heads, one whereof had been newly killed, for it was still fresh. There was also a company of deer's feet stuck up in the houses, hart's horns, and eagles' claw, and sundry such like things there was, also two or three baskets full of parched acorns, pieces of fish, and a piece of a broiled herring. We found also a little silk grass, and a little tobacco seed, with some other seeds which we knew not. Without was sundry bundles of flags, and sedge, bushes, and other stuff to make mats. There was thrust into a hollow tree two or three pieces of

> venison, but we thought it fitter for the dogs than for us. Some of the best things we took away with us, and left the houses standing still as they were (Heath 1963:29).

"Following this reconnaissance the explorers returned again to the *Mayflower*. They set out once more on 16 December. Their third exploration was aimed further south along the shore of Cape Cod toward present-day Eastham and Wellfleet. After landing south of it, part of the group walked north reconnoitering the shore of Wellfleet Harbor. They did not note any native habitations or other structures, although they came upon the carcasses of several 'blackfish,' pilot whales that often are stranded along that part of the Cape Cod shore. The stranded blackfish had been butchered and much of the meat removed by the natives.

"Finding a path, the explorers next struck inland, following the path south and east, away from the bay shore, heading in the general direction of Nauset Marsh. After some time they noted many signs of recent settlement and activities along the path. Fallow cornfields and four or five native dwellings were reported, although unlike the wigwam found at Corn Hill, these had been abandoned and stripped of their mat covering. They also discovered two caches of parched acorns stored underground exactly as the corn they had discovered earlier had been. The most fascinating and potentially illuminating observation of this expedition is the description of 'a great burying place.' The burial area was partially enclosed by a palisade. Within the large palisade burials of varying size were noted, some had smaller individual palisades around them, others had 'Indian-houses' over them, others were not enclosed or covered. These burials, they noted, were 'more sumptous than those at Corn Hill.' Outside the palisade, other burials were noted but these were described as simpler, 'not so costly' as those within (Heath 1963:37).

"Throughout this trek the explorers saw no natives, only extensive, even pervasive, evidence of them in the cultural landscape they observed. As the sun began to set, the Pilgrim band hastened back to the bay shore and their shallop. There they spent the night. Early the next morning they had their first face-to-face encounter with the native population. Unfortunately, but not necessarily unexpectedly, the contact was an attack on the Europeans' camp by the natives. The attack was repulsed and the explorers quickly left to seek a more hospitable place to settle, which they soon found at Plymouth.

"During their explorations the Pilgrims noted and recorded many physical indicators of permanent settlement by Native Americans on outer Cape Cod. They followed native trails that, from the ease with which the explorers were able to use them, seem to have been frequently and heavily utilized by the aboriginal inhabitants. Ample evidence for storage of a range of food -- corn, beans, and acorns -- at a substantial scale, was noted widely by the Pilgrims. Perhaps most importantly, the large

burial ground found on the third reconnaissance indicated a close longterm association between the human population resident in the area and the location itself.

"What the Pilgrim explorers, and Champlain, did not report were the kinds of clearly delimited villages, with dense, aggregated populations such as the Jesuits and other French discovered and reported among the Huron and Iroquois in northwestern New York and adjacent Canada, or the villages and mound complexes encountered archeologically in the midwestern and southeastern United States. These kinds of settlements and their archeological manifestations have been most commonly interpreted to indicate permanent residence and sedentary settlement systems. The recognition that these types of ethnohistoric and archeological sites are not necessary, only clear and common, indicators of sedentary settlement has not been realized widely. Therefore, in regions where such manifestations are not found, sedentary settlement systems often are presumed not to have existed.

"The variety of cultural features that have been recounted here indicates a wide range of activities. The substantial caches of food and the presence of large numbers of natives in the fall and winter suggest year-round settlement of the area very strongly. The absence of detailed references to trade by Champlain and the overtly hostile reception of the Pilgrims argue against the natives having been at the coast primarily to trade with Europeans (Ceci 1982). In addition, there is a rather striking absence of sites with archeological evidence of early trade (Bradley 1986). Axtell (1985:34-35) has identified the lack of attention to trade by natives in coastal southern New England as one reason that the French turned to the west and north after their early explorations south."

The following two paragraphs contain information abstracted from Rubertone (1985):

Although data are scant, Indian people continued to live in and around Nauset until several chiefs put their marks to a deed conveying land in the area to Plymouth settlers in March, 1645. The Indian signatories insisted on reserving their rights to collect shellfish and retained a share of the blubber of whales washing up on Nauset beaches. Seven families of English colonists shortly thereafter established the first permanent European settlement at Nauset on the western shore of Town Cove.

Successive landowners continued to plant crops on most parts of the four Nauset District properties until the National Park Service began acquiring land containing the sites after 1961. Earlier developments, such as the construction of the Cedar Banks at Nauset Golf Course in 1928 and the construction of the Coast Guard Beach Lighthouse during the late 1930s, disturbed portions of site deposits at 19BN341 and 19BN374 respectively. Plowing, erosion, early road construction, and more recent National Park Service construction of paved roads and a parking lot at Coast Guard Beach and Fort Hill also have disturbed archeological

resources. Despite these disturbances, Cape Cod National Seashore Archeological Survey investigators identified archeological deposits capable of yielding nationally significant information on relations between Indian people and colonists in Nauset properties. Tested and inventoried by project archeologists, all Nauset District sites are protected by laws safeguarding federal property and regulated by Section 110 of the National Historic Preservation Act of 1966.

The concluding three paragraphs of this section are extracted with minimal emendation from McManamon and Bradley (1986:40):

"Our conclusion is that the [Native Americans] who [lived at Nauset] enjoyed a relatively stable cultural adaptation to an environment rich in subsistence resources. They had a subsistence economy that included a wide range of types of food, some of which varied seasonally. Their economic activities probably included horticulture, but the fruits of this labor did not dominate their diet.

"They lived in locations like those surrounding Nauset Marsh and Wellfleet Harbor. These locations allowed easy access to a variety of microenvironments ranging from tidal flats and salt marsh to freshwater wetland and wooded upland. Each environment contributed to subsistence and other parts of the economy. Extraction of the needed natural resources did not require movement of the principal residences. So, year-round residence at these locations was possible. The plans of their villages were more dispersed than those known commonly among the Iroquois and Huron. These settlements were smaller and far less aggregated than those of their intensely horticultural Midwestern contemporaries.

"The patterns that we have summarized here are at odds with some of the other current interpretations of Late Woodland prehistory in coastal areas of southern New England. We believe that the prehistoric adaptation was very stable and well suited for the natural and social environment in which it developed. That certain parts of the adaptation survived the disruptions caused by the arrival and colonization of Europeans illustrates this point. As the quincentenary of the Columbian discovery approaches more and more attention will focus on the intensive encounter between Europeans and Native Americans that began in the 15th century. To effectively interpret the events and outcome of this encounter we must understand correctly the states of native adaptations at that time. We hope that we have advanced our understanding of this topic for southern New England in this presentation."

ARCHEOLOGICAL RESOURCES

Historic aboriginal occupation documented at Nauset by Champlain and the Pilgrims is reflected in radiocarbon dated archeological deposits associated with diagnostic Late Woodland period chipped stone projectile points and shell-tempered pottery found in

plowzone and intact subplowzone contexts in nominated district sites. Nauset site plowzones generally extend an average of from 8.5 inches to 10 inches below the surface (Figures 7.8; 7.16; 7.25). Intact truncated midden layers averaging between 1.7 inches and 5.1 inches in thickness occur at various points beneath plowzone deposits in most nominated District sites (Figure 7.25). Radiocarbon samples recovered from deposits associated with these artifacts at site 19BN323 have produced dates of A.D. 1440 +/- 110 and A.D. 1770 +/-115 (Figure 7.31 and Borstel 1984b). The latter date is regarded as too recent and may reflect contamination caused by slopewash redeposition of later historic materials into earlier deposits. The former assay, however, represents documentation of protohistoric occupation at Nauset.

Floral and faunal evidence recovered from these sites suggests that many Nauset settlements were occupied year-round during the early Historic Contact period. Although temporary special-use camps occupied by these people have not yet been clearly identified, Nauset sites probably served as bases for exploiting resources along the outer Cape at various times from the Late Archaic period to the earliest years of Historic Contact in the North Atlantic region. The following property type site reports more fully describe the content and condition of these resources.

PROPERTY TYPES

General Habitation Site: Decentralized, Large, Multiple Structure, Long-Term Town

The four resources described below collectively represent components associated with the large decentralized settlement observed by Champlain and other chroniclers along the edges of Nauset Marsh during the first decades of the 17th-century.

Site Reports

Coast Guard Beach Site (Figures 7.5 and 7.6-7.9)

This site, bearing the trinomial designation 19BN374, is located on 6.8 acres of land at the northeastern corner of the District on a neck of land facing Nauset Harbor to the west and the Atlantic Ocean to the east (Borstel 1984a; McManamon and Borstel 1981). This site is a multi-component resource containing diagnostic artifacts associated with periodic occupations ranging from Late Archaic to Late Woodland times. Plowzone and slopewash deposits averaging 10.2 inches in thickness cover most areas of this site. Intact archeological deposits survive beneath these layers and within uncultivated kettle holes at several places in this locale.

Private development, construction of a Coast Guard Lighthouse in 1936-37, roadbuilding, and path construction have disturbed portions of site deposits. Coastal erosion, which has been increasing significantly in recent years, has exposed and threatened early prehistoric archeological deposits at an

adjacent site along the outer beach to the east of 19BN374. A sand dune moving slowly inland from the outer beach, by contrast, is protecting intact site deposits along the eastern edge of 19BN374.

Survey archeologists have recovered 3,863 lithic artifacts representing early and late manufacturing stages from seven concentrations at this site. Several triangular chipped stone projectile points have been found with the 64 shell-tempered sherds associated with seven pots dating to Late Woodland times. These deposits show that people had been living in small settlements at this locale during late prehistoric and protohistoric times.

North Salt Pond Site (Figures 7.5 and 7.10-7.14)

Site 19BN390 is another multi-component resource containing materials dating from the Late Archaic to the Late Woodland periods. The site is located on 4.6 acres of land situated on the northern bank of Salt Pond Bay. An undisturbed layer of intact cultural deposits underlies portions of the 10.2 inch thick layer of plowzone and golf course landscape fill covering this locale. Survey archeologists testing this site have recovered 625 lithic artifacts representing late manufacturing stages and tool maintenance activities from four concentrations. Three Late Woodland pots have been identified from an assemblage of 27 shell-tempered sherds. Abundant floral and faunal remains, including specimens of northern flint corn kernels, also have been found. Radiocarbon assays and diagnostic assemblages from this site suggest that the site primarily was occupied during Late Archaic and Middle Woodland times.

M. mercenaria and somewhat smaller amounts of *Mya arenaria* and *Crassostrea virginica* dominate site shellfish assemblages. Analysis of seasonality indicators indicates that site occupants generally collected *M. mercenaria* during the winter and spring months.

South Salt Pond Site Complex (Figures 7.5; 7.11; and 7.15-7.18)

Sites 19BN274/339 and 19BN341, two neighboring loci separated by a private landholding, comprise this site complex. Collectively, these sites encompass 8.8 acres of land. Site 19BN274/339 is located on a low hill just south of Salt Pond. Site 19BN341 is located immediately to the north and east of 19BN274/339. Both of these sites is a multi-component resource containing archeological deposits dating from Late Archaic to Late Woodland times. Each generally is covered by a plowzone extending from 8.5 inches to 9.5 inches below the present soil surface. Ground disturbances associated with construction of the former Cedar Banks of Nauset Golf Course in 1928 identified at 19BN341 have not been found at 19BN274/339.

Survey archeologists have recovered 2,484 lithic artifacts at site 19BN274 in three concentrations representing all stages of manufacture and maintenance. Archeologists also found 10,292

lithic artifacts representing all stages of manufacture and use in four concentrations at site 19BN341. A number of chipped stone triangular projectile points have been recovered from both of these locales. Eighty-three cord-marked shell-tempered sherds representing another five pots dating to Late Woodland times have been recovered from 19BN274/339 deposits. Sherds believed to represent the remains of 16 shell-tempered pottery vessels were recovered from site 19BN341 deposits.

Intact subplowzone deposits tested at 19BN341 contained large amounts of shell and a small but well preserved assemblage of fish, mammal, and bird bones and carbonized seeds and nutshells. *M. mercenaria* and lesser quantities of *M. arenaria* have been found with small numbers of other shellfish species in site 19BN274/339 excavation units and concentrations. Analysis of seasonally indicators identified on M. mercenaria samples from 19BN274/339 suggest that site occupants gathered shellfish during the late winter and early spring months.

The discovery of a truncated refuse pit containing lithics, bone, fire-cracked rock, burned and unburned shell, charcoal, and carbonized seeds and nuts dating to Middle Woodland times from Concentration 274/339.12 indicates that resources dating to later periods also may survive beneath plowzone deposits at this locale.

Fort Hill Site Complex (Figures 7.5 and 7.19-7.34)

Two nearby sites, 19BN308 and 19BN323, comprise the Fort Hill Site Complex. Site 19BN308 encompasses 16.50 acres near a fresh water spring on Fort Hill overlooking Nauset Marsh (figures 7.19-7.31). Plowzone deposits averaging 9.5 inches in thickness cover most of this locale and overlie three known intact midden deposits. Discovery of shell fragments in water-logged deposits beneath the midden layer in the Auger Hole 802 soil sample indicates that archeological evidence probably remains preserved within marshy areas located near each midden layer identified at site 19BN308. Extensive stratigraphic analysis of deposits at Concentration 33 (Figures 7.24-7.26) reveals a complex stratigraphic sequence at the site.

A large glacial kettle hole separates 19BN308 from site 19BN323 to the south. Site 19BN323 encompasses one acre of land located in a field covered by a thick plowzone averaging 10 inches in depth (Figures 7.20 and 7.27-7.34). Layers of slopewash overlay the plowzone in three locales. Artifacts and radiocarbon dates recovered from three concentrations and several pit and midden features at this locale suggest that it was periodically occupied from Late Archaic to Late Woodland times. A fieldstone wall bisects the site from east to west. Analysis of a soil profile exposed in an excavation unit placed next to the wall indicates that it was built after the field was plowed.

Survey archeologists testing these deposits have recovered 8,057 lithic artifacts in 13 concentrations at site 19BN308 and 3,288 lithic artifacts in the three above mentioned concentrations at

site 19BN323. Collectively, these materials represent all stages of manufacture and maintenance. Artifacts dating from triangular chipped stone projectile points have been found with 66 sherds associated with 21 shell-tempered pots dating to Late Woodland times at site 19BN308. Archeologists have found similar projectile points with another 62 shell-tempered sherds believed to represent remains of 5 pots at 19BN323. A clay pipebowl fragment decorated with a series of punctations found nowhere else in the District also has been recovered at this locale.

Preserved floral and faunal remains were found at both sites. Mammal remains comprise much of the faunal assemblage and *M. mercenaria* predominate shell assemblages recovered from several middens and other deposits at both sites. Archeologists also have found fully mature specimens of northern flint corn kernels at site 19BN323. Analysis of season of death indicators identified in *M. mercenaria* growth-rings samples drawn from several concentrations in Fort Hill site deposits suggest that site occupants generally gathered this species during late winter and early spring. Study of the above mentioned fully mature corn kernels suggest consumption or storage over a period of time stretching from early fall to early spring.

Evidence of food-processing in the form of fire-cracked rocks and charred floral and faunal remains has been identified in several concentrations at this locale. Discoveries of unburned bones and vegetal remains in other concentrations suggest food-storage or refuse.

Radiocarbon samples recovered from intact deposits containing Late Woodland shell-tempered pottery and triangular chipped stone projectile points at site 19BN323 have produced dates of A.D. 1440 +/- 110 and A.D. 1770 +/-115 (Figure 7.31). As mentioned earlier, this latter date is regarded as too recent and may reflect contamination from later historic deposits. Other radiocarbon dates derived from site 19BN308 samples suggest occupations ranging from 3925 +/- 180 B.P. to 900 +/- 145 B.P.

Site Integrity

Intact deposits that have yielded or possess the potential to yield nationally significant information on Historic Contact in the Northeast have been found in all contributing properties in the Nauset Archeological District. All District sites have experienced some degree of disturbance over the course of the past three and a half centuries since Indian people sold their land at Nauset. Portions of each of these sites, for example, have been plowed at various times since Europeans settled in the area during the 1640s. Erosional slopewash and fill have been deposited at various locales at Nauset. Construction further has damaged portions of sites 19BN374 and 19BN308. Golf course development and landscaping has disturbed portions of some deposits at site 19BN390. Despite these disturbances, truncated intact midden layers averaging between 1.7 inches and 5.1 inches in thickness at various points beneath the plowzone in each nominated site at Nauset preserve vital information on Indian

life during the earliest years of Historic Contact on Cape Cod.

Present Appearance

The National Park Service presently maintains all nominated Nauset properties in a semi-wild state. Grasses and scrub brush stabilize landforms at all site locales. Grasses periodically are mown to prevent successional growth. Wooded borders dominated by pine and oak trees line site edges at most locales. Park roads and paths restrict access to most site areas, and Park Rangers patrolling park lands are alert to threats presented by off-road vehicles, site looters, and other potential threats.

SECTION 7 FIGURES

Figure 7.1: Cape Cod National Seashore Archeological Survey (Figure 2.1 in McManamon 1984(1):27).

Figure 7.2: Nauset Archeological District: USGS Quad Map (Figure 3.2 in McManamon 1984(1):47).

Figure 7.3: Aerial Photograph, Northern Nauset Harbor, November 21, 1938.

Figure 7.4: Champlain 1606 Map of Nauset Bay (in Champlain 1922-1938(1):410).

Figure 7.5: Nauset Area Site Locations (Foldout B in McManamon 1984(1)).

Figure 7.6: Coast Guard Beach Site (19BN374) Boundaries, Nauset Archeological District (Boundary lines placed upon Cape Cod National Seashore Property Tract Map 201-34 on file, Mid-Atlantic Regional Office, National Park Service, Philadelphia, Pennsylvania).

Figure 7.7: Coast Guard Beach (19BN374) Concentrations, Nauset Archeological District (Foldout H in McManamon 1984(1)).

Figure 7.8: Stratigraphy at Coast Guard Beach (19BN374), Nauset Archeological District (Figure 7.8 in McManamon 1984(1):219).

Figure 7.9: Location of Concentration 374.63 in the Southeastern Part of 19BN374, Nauset Archeological District (Figure 3.17 in McManamon 1984(1):81).

Figure 7.10: Salt Pond Looking East from the Salt Pond Visitors Center, Nauset Archeological District, May 1991. (Photograph by Frank McManamon).

Figure 7.11: Salt Pond Site Boundaries, Nauset Archeological District (Boundary lines placed upon Cape Cod National Seashore Property Tract Map 204-33 on file, Mid-Atlantic Regional Office, National Park Service, Philadelphia, Pennsylvania).

Figure 7.12: Northern Side of Salt Pond Concentrations, Nauset Archeological District (Foldout F in McManamon 1984(1)).

Figure 7.13: North Salt Pond Site (19BN390), Looking From the West Into the Swale, Nauset Archeological District (Figure 3.15 in McManamon 1984(1):76).

Figure 7.14: Looking at the Area of Concentration 390.33 From the West, North Salt Pond Site (19BN390), Nauset Archeological District (Figure 3.16 in McManamon 1984(1):76).

Figure 7.15: Southern Side of Salt Pond Site Complex Concentrations, Nauset Archeological District (Foldout E in McManamon 1984(1)).

Figure 7.16: South Salt Pond Complex Site Stratigraphy, Nauset Archeological District (Figure 7.5 in McManamon 1984(1):214).

Figure 7.17: 19BN274/339, Concentration .12, South Salt Pond Site Complex, Nauset Archeological District (Figure 3.11 in McManamon 1984(1):69).

Figure 7.18: 19BN341, South Salt Pond Site Complex, Nauset Archeological District (Figure 3.12 in McManamon 1984(1):69).

Figure 7.19: Fort Hill Site Boundaries, Nauset Archeological District (Boundary lines placed upon Cape Cod National Seashore Property Tract Maps 202-35 (upper) and 204-35 (lower) on file, Mid-Atlantic Regional Office, National Park Service, Philadelphia, Pennsylvania).

Figure 7.20: Fort Hill Site Complex Concentrations (Foldout D in McManamon 1984(1)).

Figure 7.21: Nauset Bay Looking Southeast from the Top of Fort Hill, Nauset Archeological District, May, 1991 (Photograph by Frank McManamon).

Figure 7.22: 19BN308, Looking South from the Top of Fort Hill Toward 308.41, .42, and 43, Fort Hill Site Complex, Nauset Archeological District (Figure 3.7 in McManamon 1984(1):63).

Figure 7.23: Base of Fort Hill after Mowing Looking East, Nauset Archeological District, 1982 (Photograph by Frank McManamon).

Figure 7.24: 19BN308 Concentration 33, Fort Hill Site Complex, Nauset Archeological District (Unpublished Illustration Courtesy of Frank McManamon).

Figure 7.25: Generalized Stratigraphy, 19BN308 Concentration 33, Fort Hill Site Complex, Nauset Archeological District (Unpublished Illustration Courtesy of Frank McManamon).

Figure 7.26: Generalized Profile: 19BN308, Concentration 33, EU 300, Fort Hill Site Complex, Nauset Archeological District (Unpublished Illustration Courtesy of Frank McManamon).

Figure 7.27: Deposit/Activity Types, Fort Hill Site Complex, Nauset Archeological District (Figure 16.3 in McManamon 1984(2):371).

Figure 7.28: Spatial Distribution of Lithics, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(a) in McManamon 1984(1):59).

Figure 7.29: Spatial Distribution of Shell Remains, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(b) in McManamon 1984(1):60).

Figure 7.30: Spatial Distribution of Fire Cracked Rock, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(c) in McManamon 1984(1):61).

Figure 7.31: Radiocarbon Dates, Fort Hill Site Complex, Nauset Archeological District (Figure 8.1 in McManamon 1984(1):247).

Figure 7.32: Concentrations in 19BN323, Fort Hill Site Complex, Nauset Archeological District (Figure 9.7 in McManamon 1984(2):19).

Figure 7.33: 19BN323, Looking from the South at the Site in the Middle Distance, Fort Hill Site Complex, Nauset Archeological District (Figure 3.9 in McManamon 1984(1):66).

Figure 7.34: 19BN323, Looking From the West at 323.21, .22, .23, and Nauset Marsh in the Distance, Fort Hill Site Complex, Nauset Archeological District (Figure 3.10 in McManamon 1984(1):66).

8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties: Nationally: X Statewide: ___ Locally: ___

Applicable National Register Criteria: A___ B___ C___ D X

Criteria Considerations (Exceptions): A___ B___ C___ D___ E___ F___ G___

NHL Criteria: 6

NHL Theme(s): I. Cultural Developments: Indigenous American Populations
D. Ethnohistory of Indigenous American Populations
1. Native Cultural Adaptations at Contact
i. Native Adaptations to Northeastern Environments at Contact.
2: Establishing Intercultural Relations.
e. Defending Native Homelands.
3. Varieties of Early Conflict, Conquest, or Accommodation.
b. Forced and Voluntary Population Movements
c. The New Demographics.
d. Changing Settlement Types.

Areas of Significance: Archeology/Historic Aboriginal

Period(s) of Significance: Late 16th and early 17th centuries

Significant Dates:

1605 Samuel de Champlain pens the first written record of Nauset following his visits there as a member of two French expeditions sailing along the southern New England coast in late July, 1605 and October, 1606 (Champlain 1922-1938).

1620 Pilgrims explore Cape Cod and consider Nauset as a potential settlement site as the *Mayflower* lay at anchor in Provincetown Harbor in November and December. Finding Cape Cod unsuitable, they found their colony on the Massachusetts mainland at Plymouth (Bradford 1961; Mourt 1963).

1645 Indian people sign a deed conveying land in and around Nauset to Plymouth settlers in March. The Indians insist on reserving their rights to collect shellfish and obtain a share of the blubber of whales washing up on Nauset beaches. Seven families of English colonists shortly thereafter establish the first permanent European settlement at Nauset on the western shore of Town Cove (Rubertone 1985:39 and 50-52).

Significant Person(s): Samuel de Champlain

Cultural Affiliation: Pokanoket or Wampanoag (Eastern Massachusetts)

Architect/Builder: N/A

State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.

Historic Context Summary Statement

Regional Historic Context: "Historic Contact Between Indians and Colonists in the North Atlantic Region, 1524-1783," in Vol. 1, pp. 36-49.

Sub-Regional Historic Contexts: "Eastern Massachusetts," in Vol. 1, pp. 64-74; "Anglo-Indian Contact in the North Atlantic Region," Vol. 1, pp. 112-114.

Significance and Thematic Representation

Contributing archeological properties within the Nauset Archeological District conform to National Historic Landmark Program significance criterion 6 by yielding or having the potential "to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States" (35 CFR Part 65.4) by providing archeological information of national significance associated with the following NHL thematic elements:

Facet I.D.1.i: Native Adaptations to Northeastern Environments at Contact.

Six properties nominated through this theme study possess intact deposits capable of documenting this facet. Four of these properties, Mashantucket Pequot, Minisink, Nauset, and Ward's Point, are located in the North Atlantic region. The only nominated resource in Eastern Massachusetts, Nauset is one of the few properties in the Northeast containing deposits collectively preserving an almost unbroken 6,000-year sequence of human occupation. It is also one of the few properties to provide extensive information on coastal environments and adaptations. Because of these facts, Nauset assemblages provide unparalleled opportunities to assess causes, consequences, patterns, and processes of development of the Indian culture documented at Nauset by Champlain and other early European visitors during the first decades of the 17th-century.

Facet I.D.2: Establishing Intercultural Relations.

Documentary data link 24 NHLs and NPS park units in the Northeast with this facet. Archeological investigations document aspects of sub-facets associated with this facet at six of these properties; Boughton Hill, Fort Christina, Fort Stanwix National

Monument, Fort Ticonderoga, Old Fort Niagara, and Printzhof. Nearly all properties nominated in the Northeast Historic Contact Theme Study possess archeological values documenting below listed facets. Five nominated properties, Cocumscussoc, Fort Corchaug, Fort Shantok, Mashantucket Pequot, and Nauset are associated with the establishment of intercultural relations in southern New England. Nauset, however, is the only one of these properties directly documented by early European chroniclers. Nauset also represents the only property possessing extensive intact features and other deposits solely dating to the earliest years of contact in the area. Preserving a unique record of the initial phases of intercultural relations in southern New England, Nauset Archeological District site deposits have yielded and continue to possess the potential to yield nationally significant information associated with each of the following sub-facets:

Sub-Facet I.D.2.e: Defending Native Homelands.

Discoveries of chipped stone triangular projectile points similar to those used by Indian people throughout the southern New England coast show that Nauset sites have the potential to reveal new information on native defense of their homelands during the early decades of the 17th-century.

Facet I.D.3: Varieties of Early Conflict, Conquest, or Accommodation.

Sub-Facet I.D.3.b: Forced and Voluntary Population Movements
Sub-Facet I.D.3.c: The New Demographics.
Sub-Facet I.D.3.d: Changing Settlement Types.

Recent studies have shown that decentralized communities of the type documented in Champlain's 1606 map of Nauset were prevalent among Indian people living on the Southern New England coast during the early Historic Contact period (McManamon and Bradley 1986). Further study of intact deposits at Nauset may reveal postmold patterns and other new information directly documenting aspects of still poorly understood demographic and settlement patterns in the region.

9. MAJOR BIBLIOGRAPHICAL REFERENCES

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Other pertinent sources are cited in "Eastern Massachusetts," Vol. 1, pp. 71-72 and listed in the Bibliography, Vol. 1, pp. 337-432.

Previous documentation on file (NPS): N/A

___ Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
___ Previously Listed in the National Register.
___ Previously Determined Eligible by the National Register.
___ Designated a National Historic Landmark.
___ Recorded by Historic American Buildings Survey: #_____
___ Recorded by Historic American Engineering Record: #_____

Primary Location of Additional Data:

___ State Historic Preservation Office
___ Other State Agency
_X_ Federal Agency
___ Local Government
___ University
___ Other(Specify Repository):

10. GEOGRAPHICAL DATA

ACREAGE OF PROPERTY: 37.70 acres

Coast Guard Beach Site: 6.80 acres
North Salt Pond Site: 4.60 acres
South Salt Pond Site Complex: 8.80 acres
Fort Hill Site Complex: 17.50 acres

UTM References:

	Zone	Northing	Easting		Zone	Northing	Easting
A	19	419200	4631500	**B**	19	421200	4632840
C	19	421280	4632810	**D**	19	420100	4629700
E	19	419680	4629700				

Verbal Boundary Description:

Site boundaries conform to those entered on Cape Cod National Seashore Property Tract Maps depicted on Figures 7.6 (Tract Map 201-34), 7.11 (Tract Map 204-33), and 7.19 (Tract Maps 202-35 and 204-35).

Boundary Justification:

All boundaries encompass federally-owned lands shown to contain archeological properties during Cape Cod National Seashore Archeological Survey investigations conducted between 1978 and 1985. Although private in-holdings occur between South Salt Pond Site Complex properties and within the Fort Hill Site Complex, neither these nor any abutting privately-owned lands are included within district boundaries.

11. FORM PREPARED BY

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Telephone: (202)-343-4105

Robert S. Grumet, Archeologist
Cultural Resources Planning Branch
Mid-Atlantic Region
National Park Service
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2nd & Chestnut Streets
Philadelphia, Pennsylvania 19106
Telephone: (215) 597-2337

Date: April 17, 1992

National Park Service/WASO/History Division (418): October 21, 1992

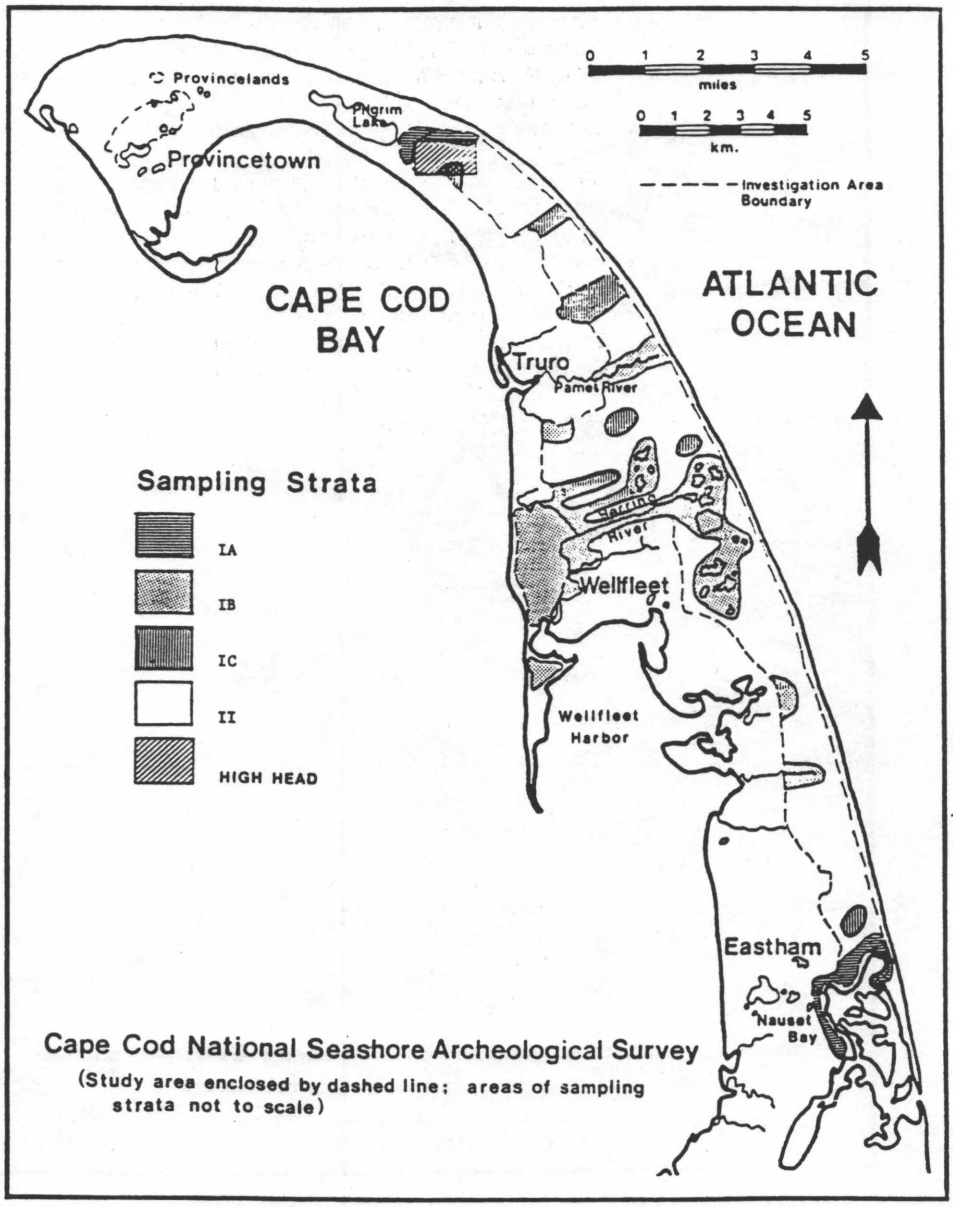


Figure 7.1

Cape Cod National Seashore Archeological Survey (Figure 2.1 in McManamon 1984(1):27).

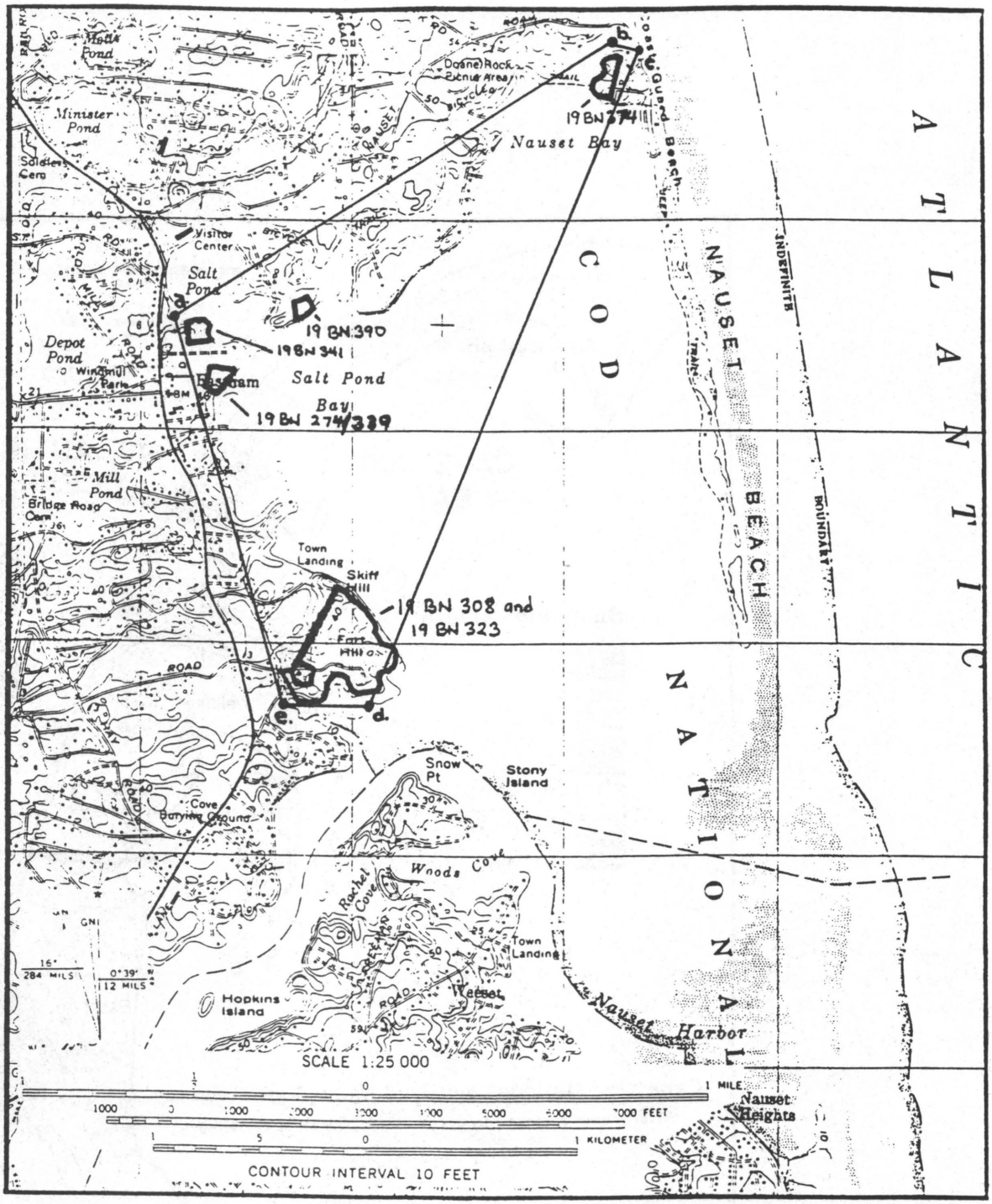


Figure 7.2

Nauset Archeological District: USGS Quad Map (Figure 3.2 in McManamon 1984(1):47).



Figure 7.3

Aerial Photograph, Northern Nauset Harbor, November 21, 1938.

Fig. 74

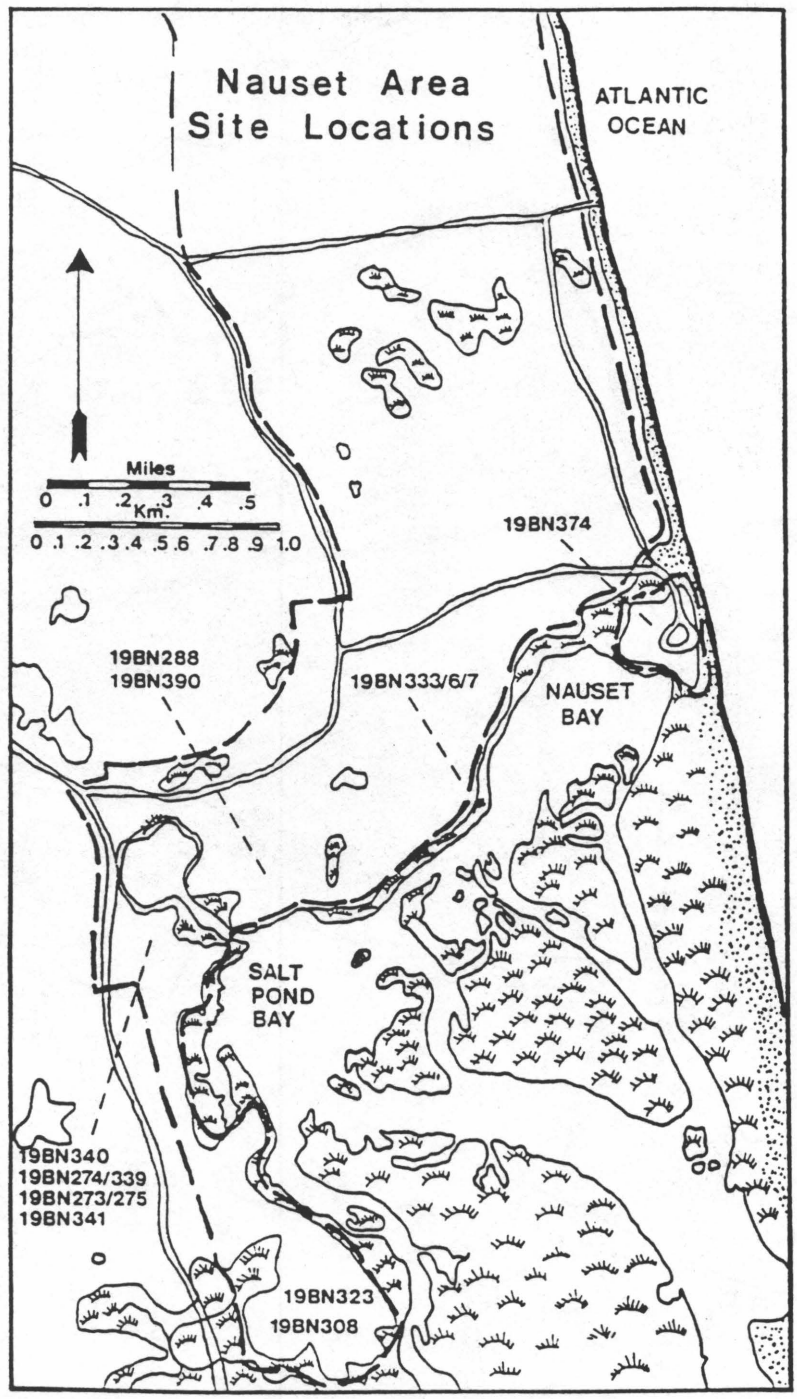


Figure 7.5

Nauset Area Site Locations (Foldout B in McManamon 1984(1)).

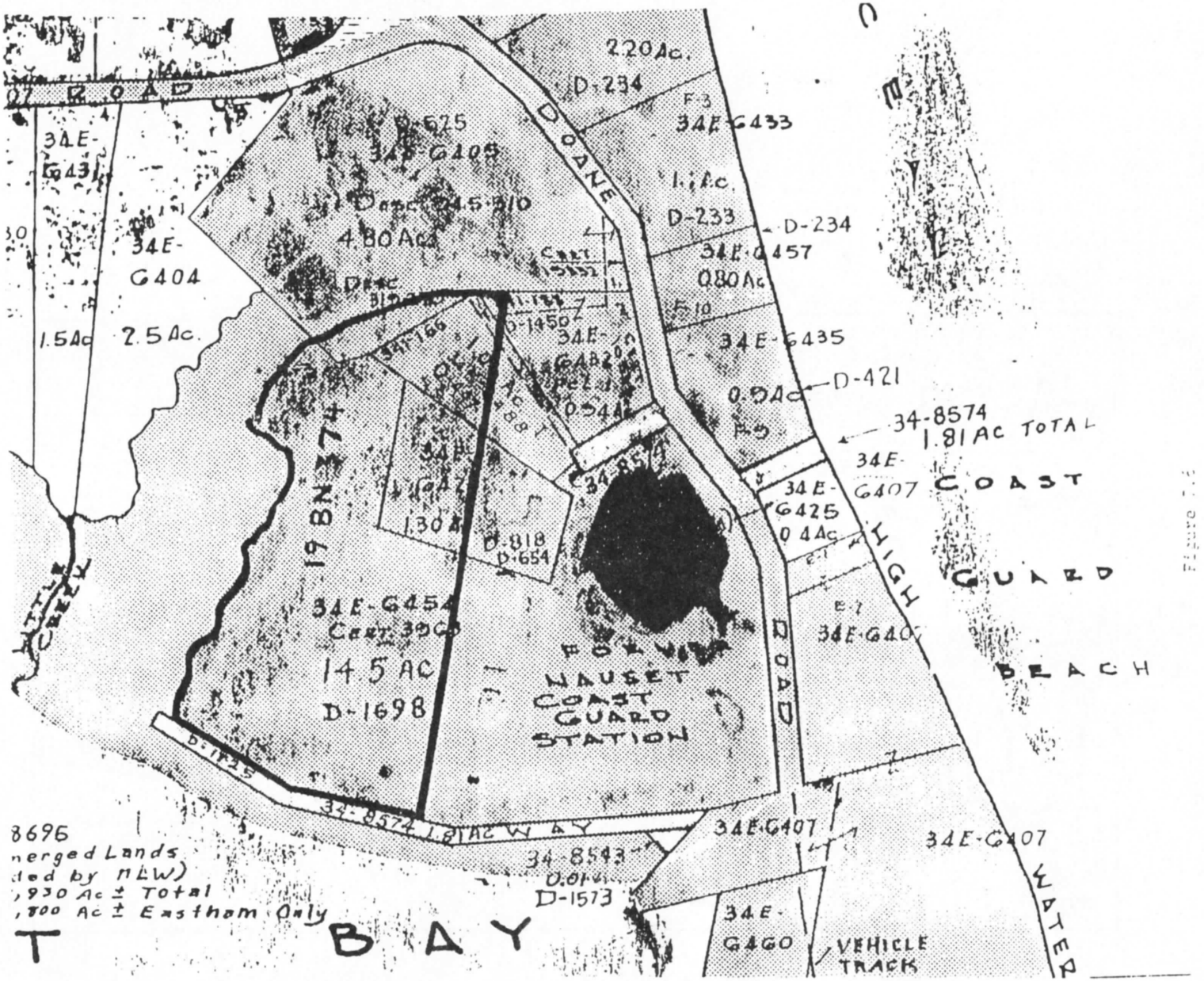


Figure 7.6

Coast Guard Beach Site Boundaries
Nauset Archeological District

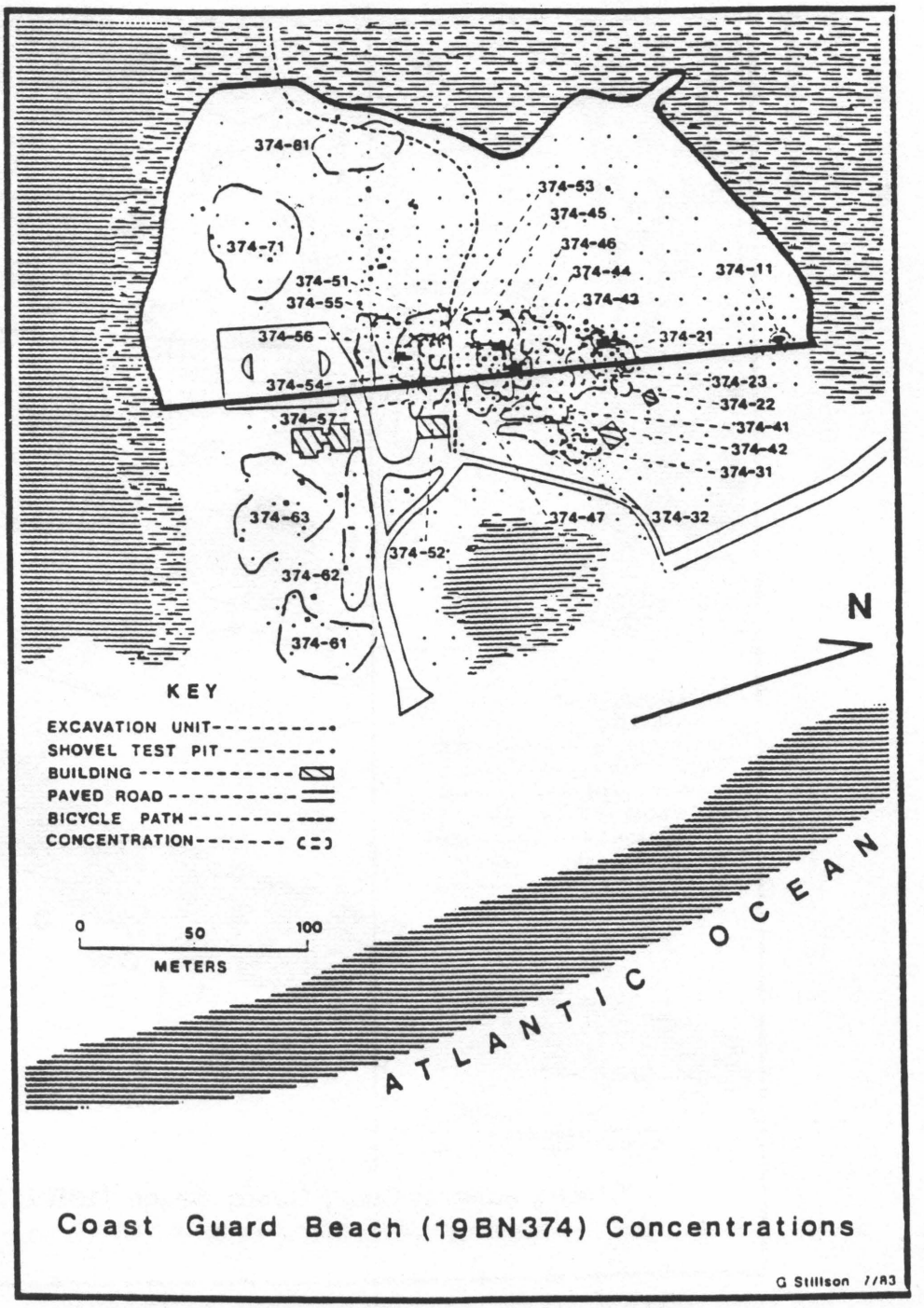


Figure 7.7

Coast Guard Beach (19BN374) Concentrations, Nauset Archeological District (Foldout H in McManamon 1984(1)).

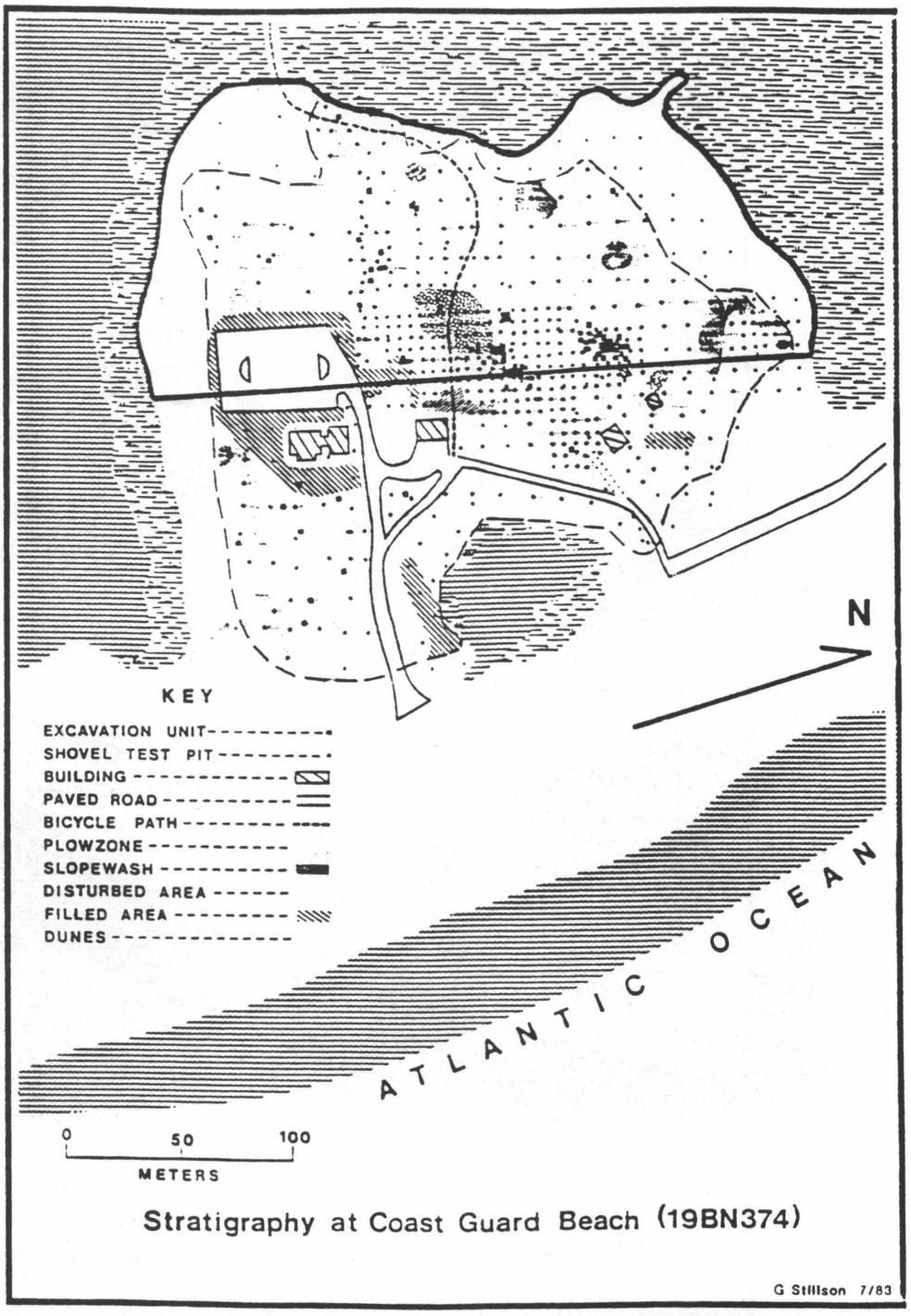


Figure 7.8

Stratigraphy at Coast Guard Beach (19BN374), Nauset Archeological District (Figure 7.8 in McManamon 1984(1):219).

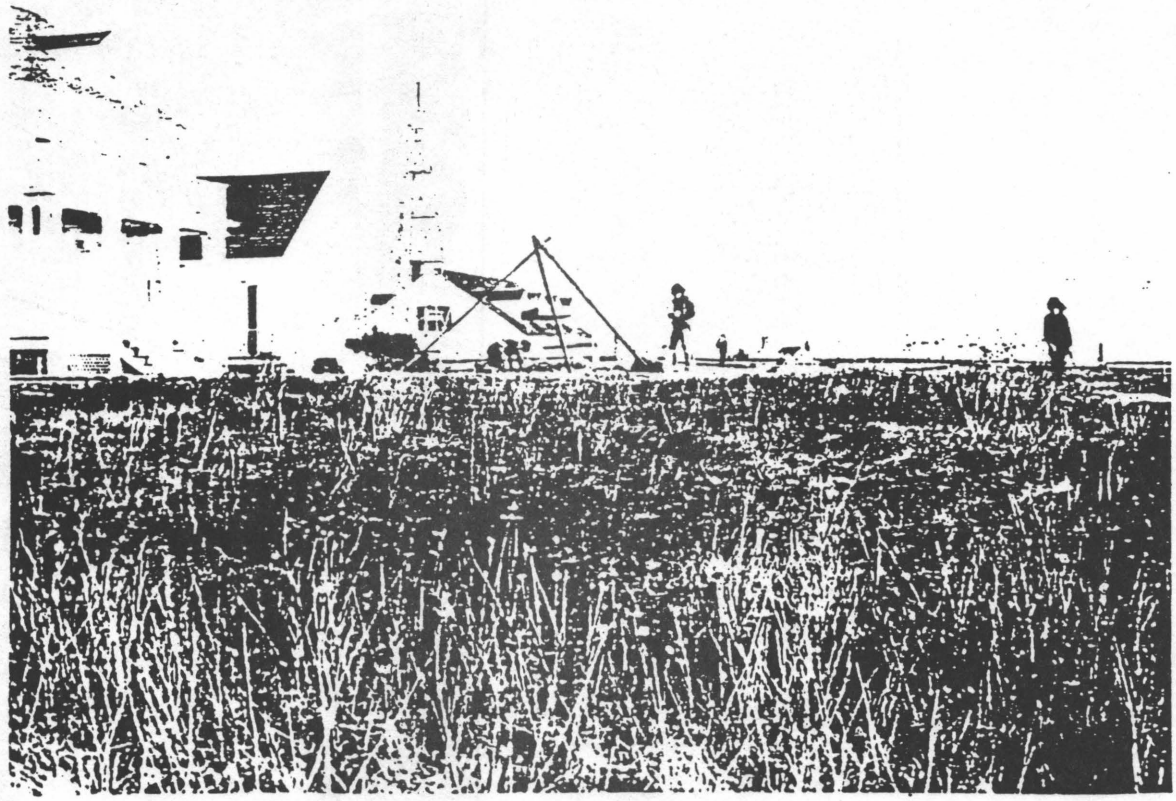


Figure 7.9

Location of Concentration 374.63 in the Southeastern Part of 19BN374, Nauset Archeological District (Figure 3.17 in McManamon 1984(1):81).

Fig. 7.10

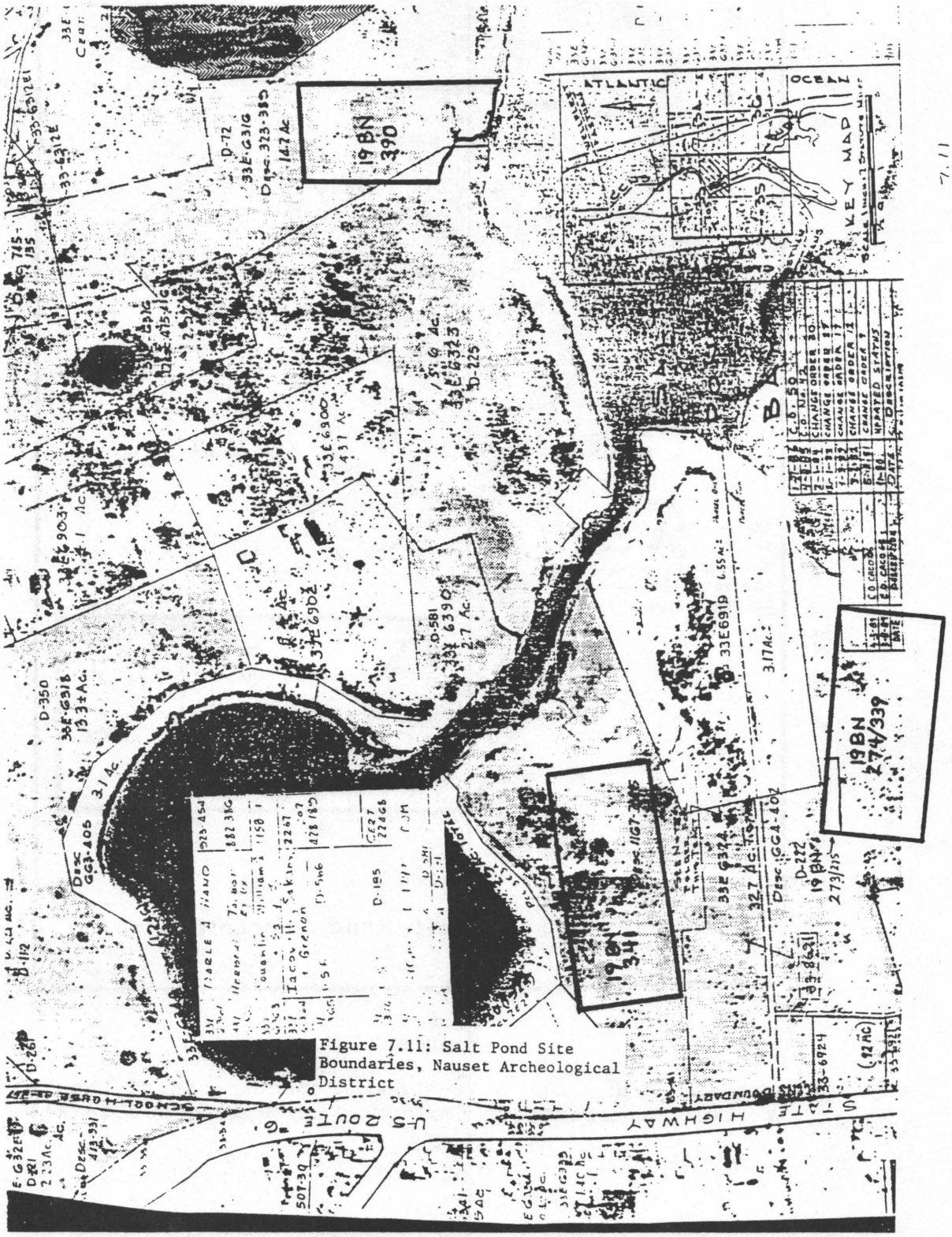


Figure 7.11: Salt Pond Site Boundaries, Nauset Archeological District

7.11

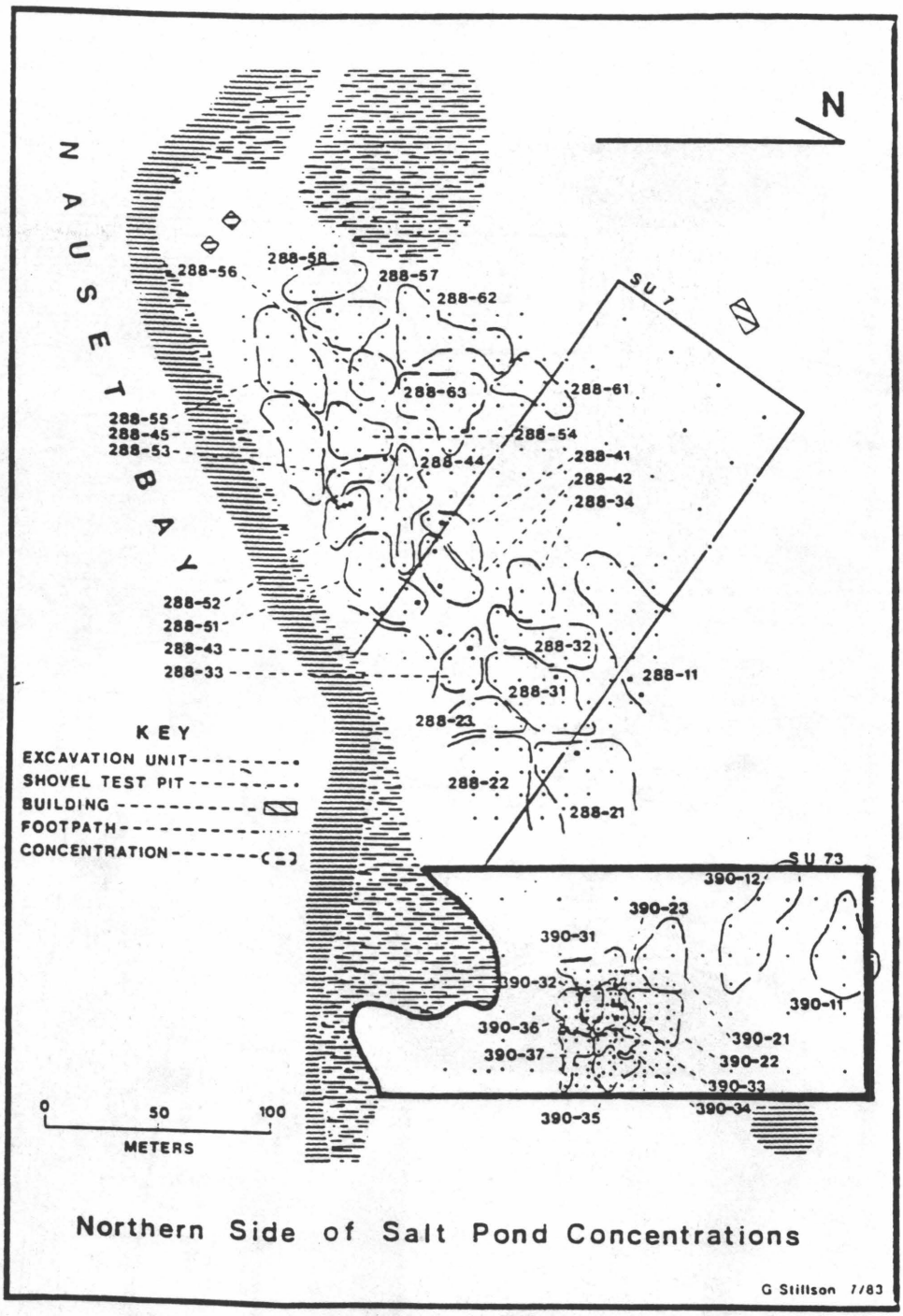


Figure 7.12

Northern Side of Salt Pond Concentrations, Nauset Archeological District (Foldout F in McManamon 1984(1)).

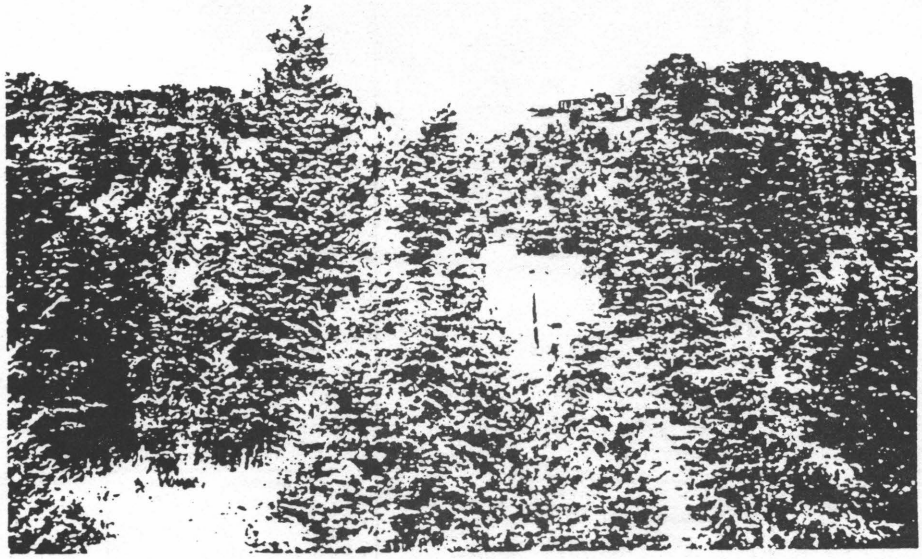


Figure 7.13

North Salt Pond Site (19BN390), Looking From the West Into the Swale, Nauset Archeological District (Figure 3.15 in McManamon 1984(1):76).



Figure 7.14

Looking at the Area of Concentration 390.33 From the West, North Salt Pond Site (19BN390), Nauset Archeological District (Figure 3.16 in McManamon 1984(1):76).

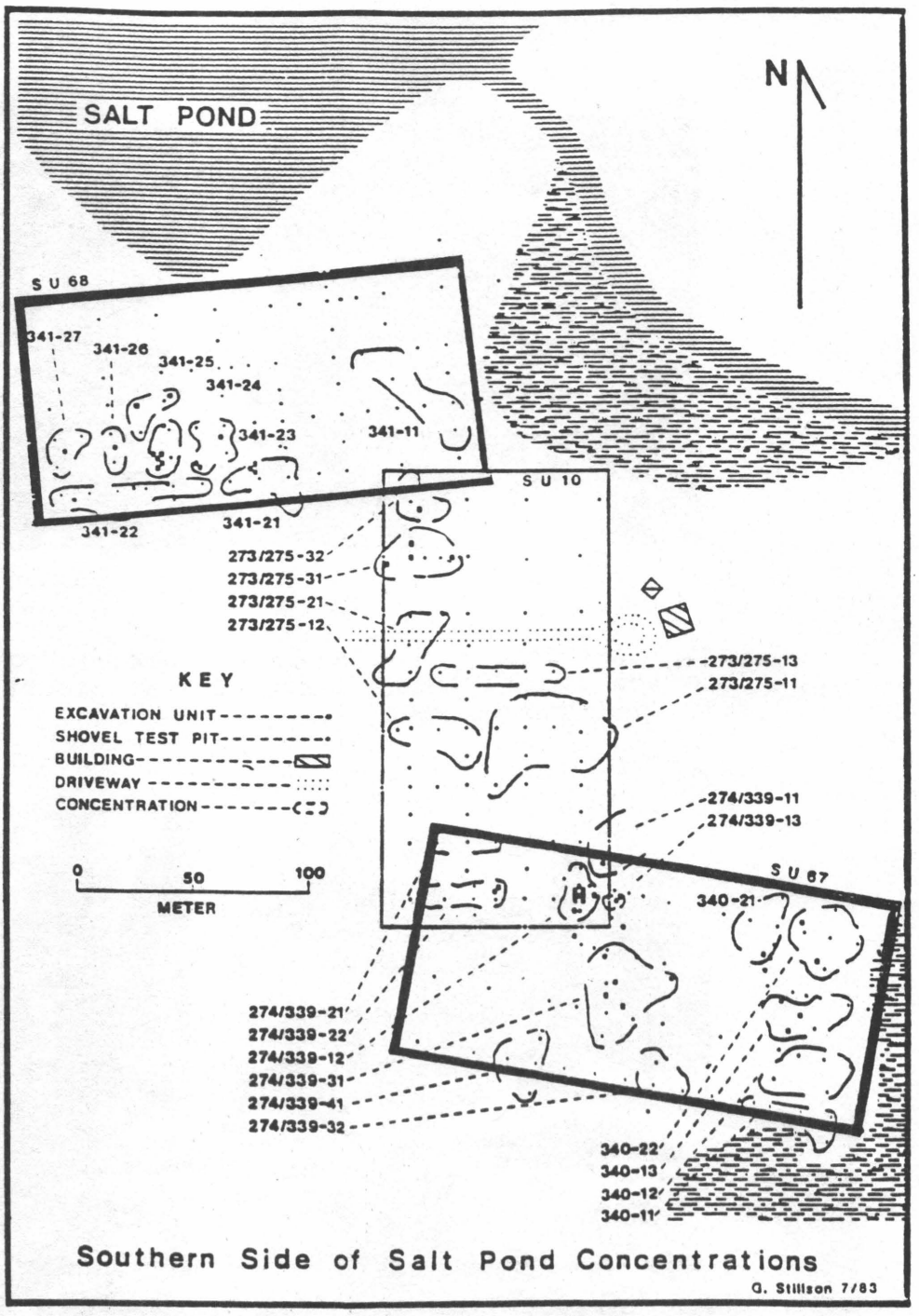


Figure 7.15

Southern Side of Salt Pond Site Complex Concentrations, Nauset Archeological District (Foldout E in McManamon 1984(1)).



Fig. 7.17

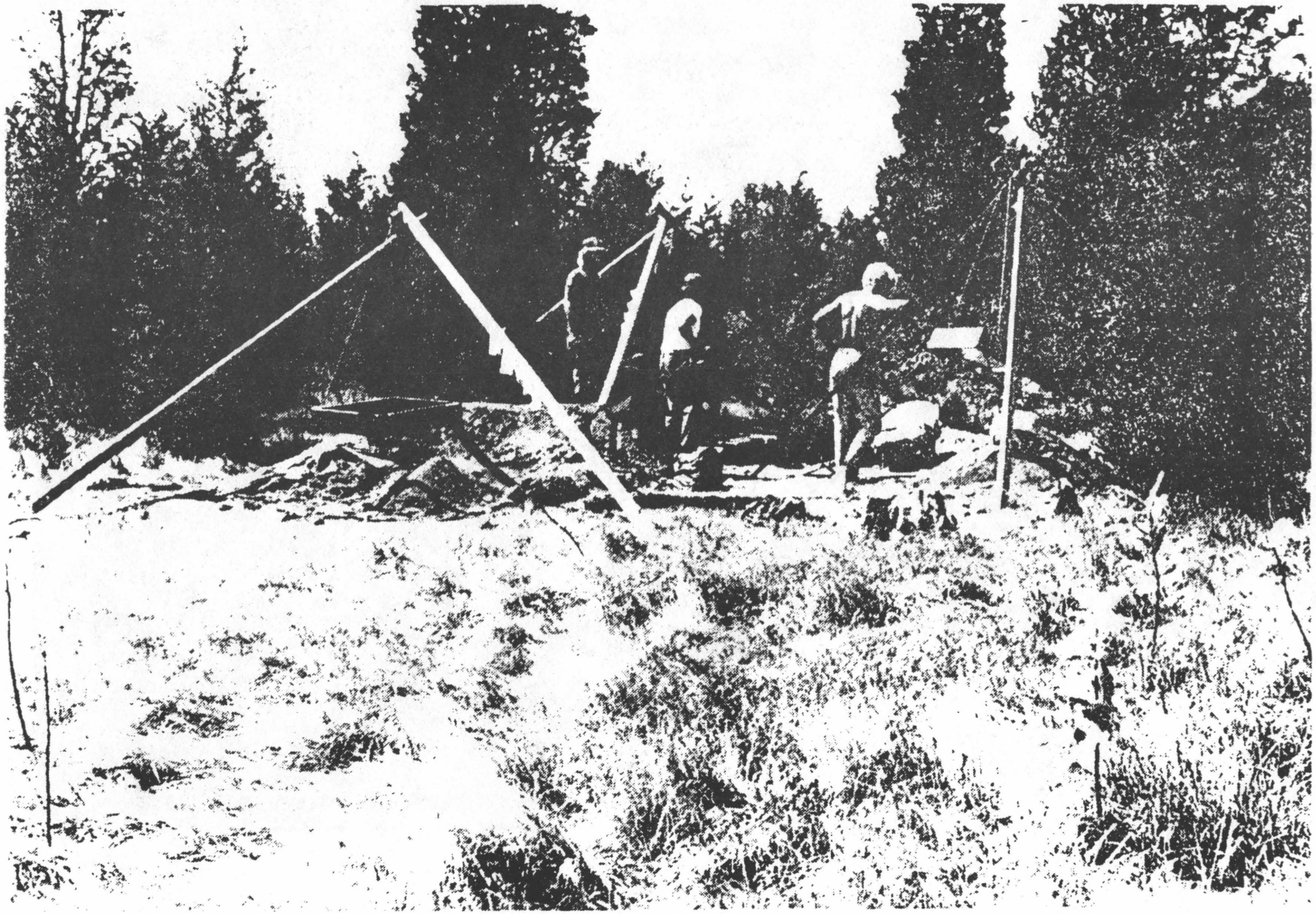


Fig. 7.18

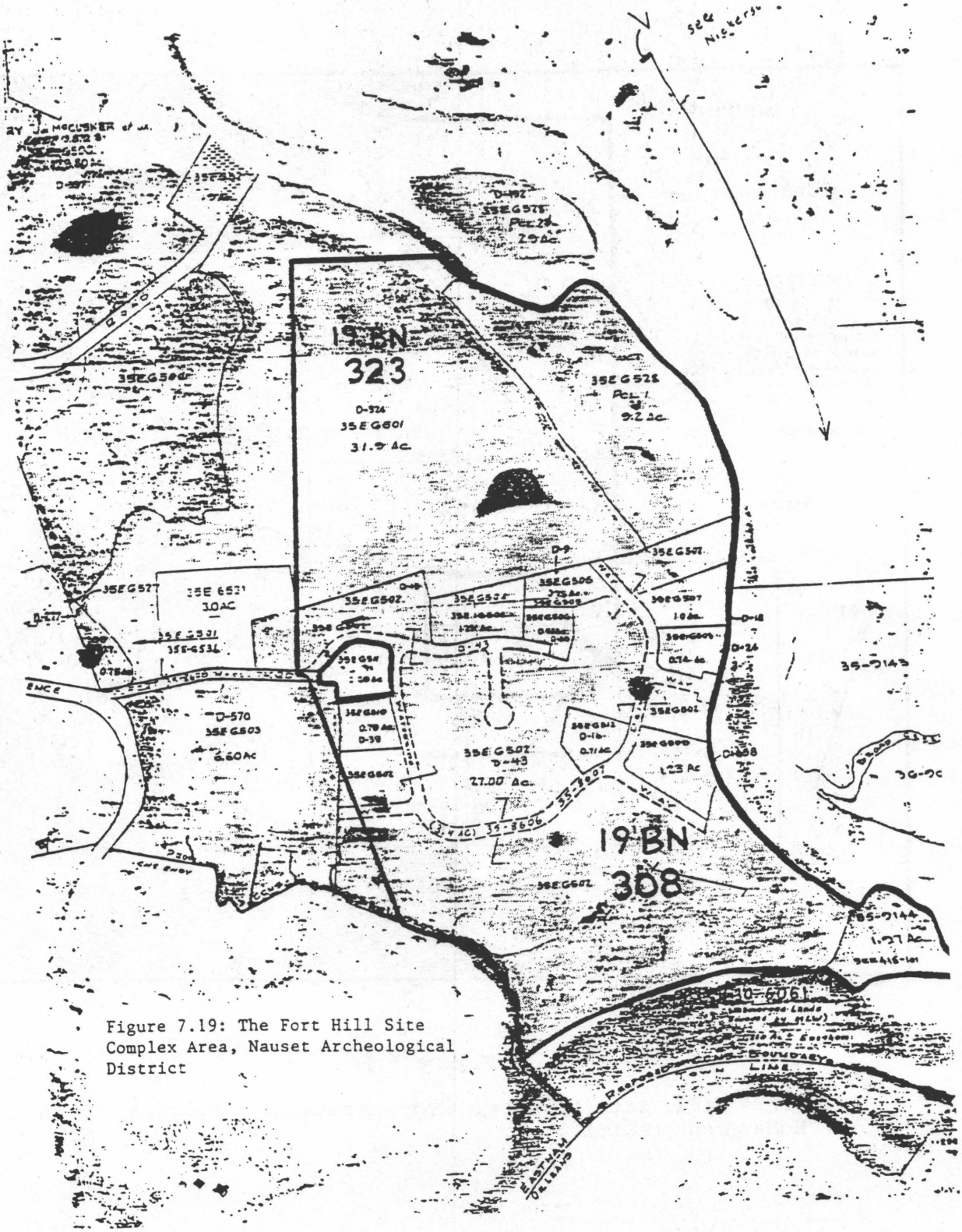


Figure 7.19: The Fort Hill Site Complex Area, Nauset Archeological District

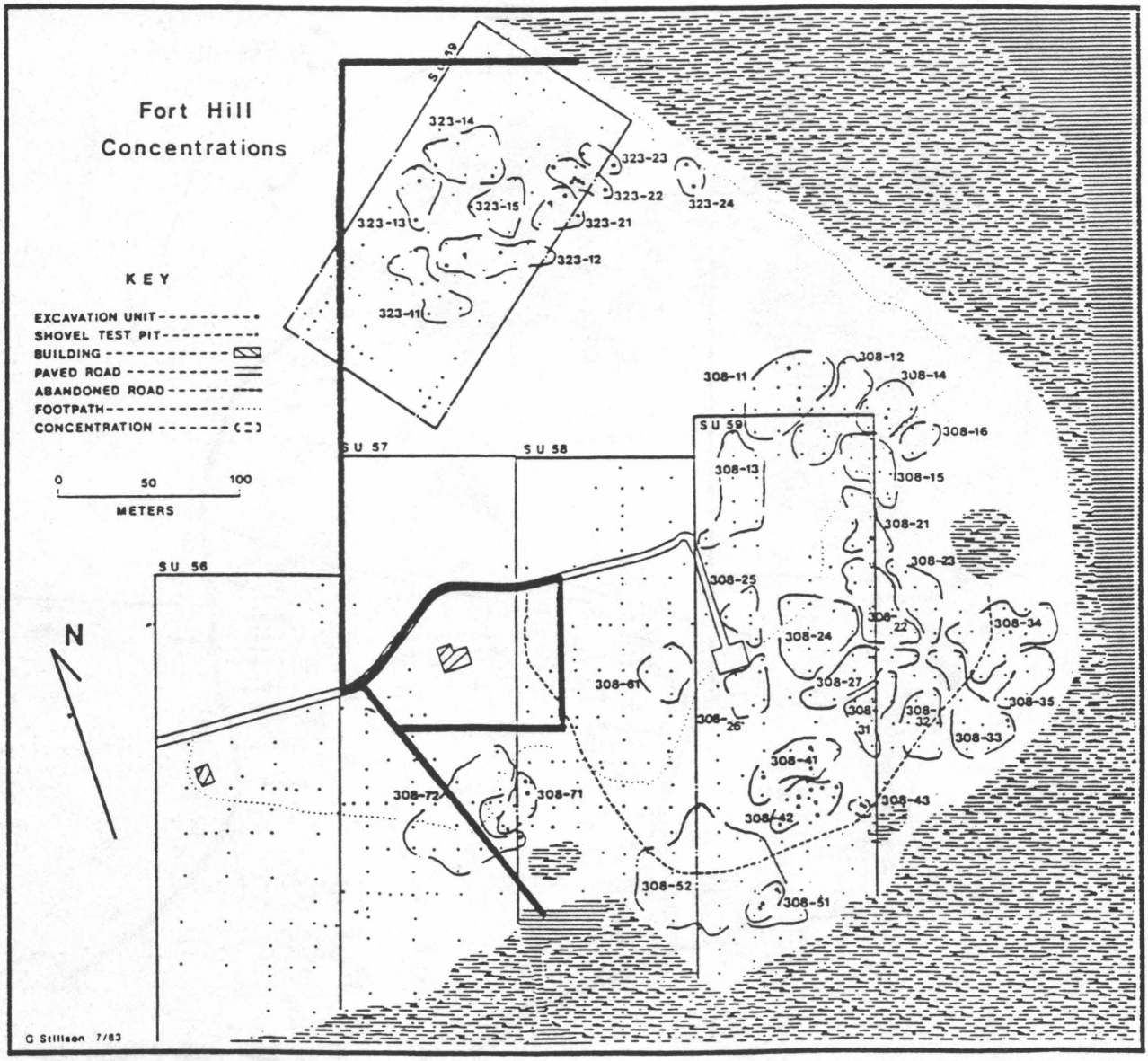


Figure 7.20

Fort Hill Site Complex Concentrations (Foldout D in McManamon 1984(1)).

Fig. 7.21

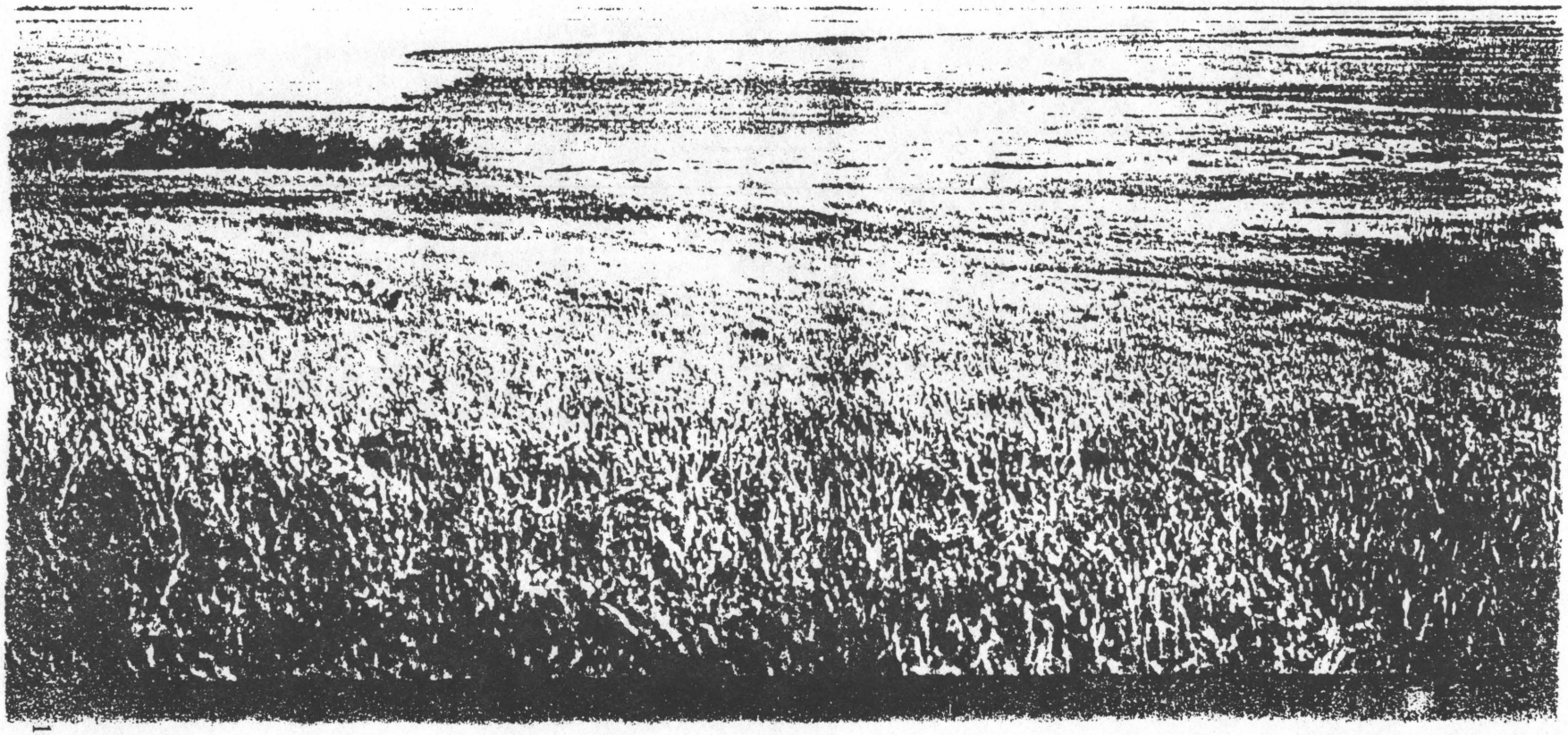


Fig. 7.22

Fig. 7.23



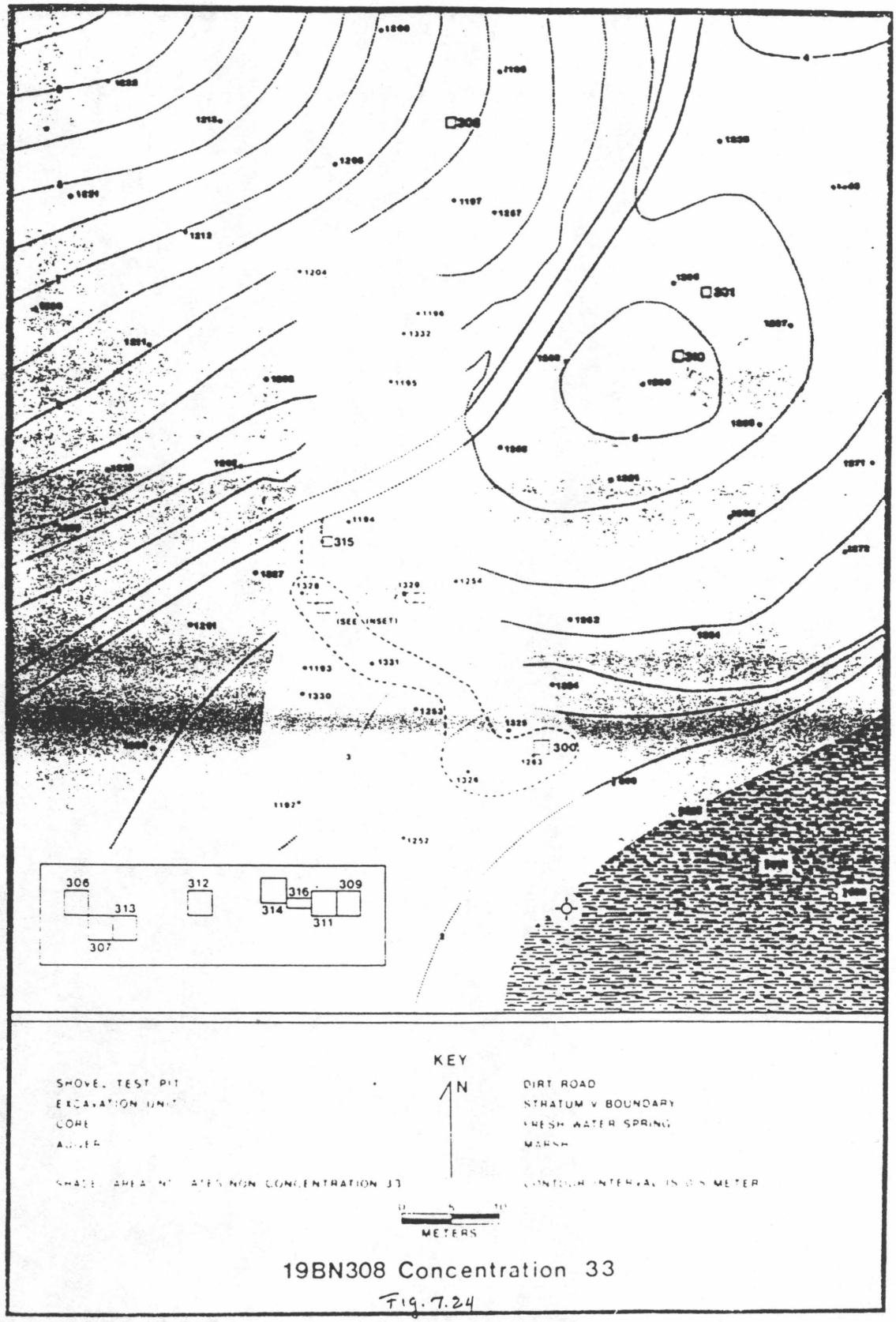
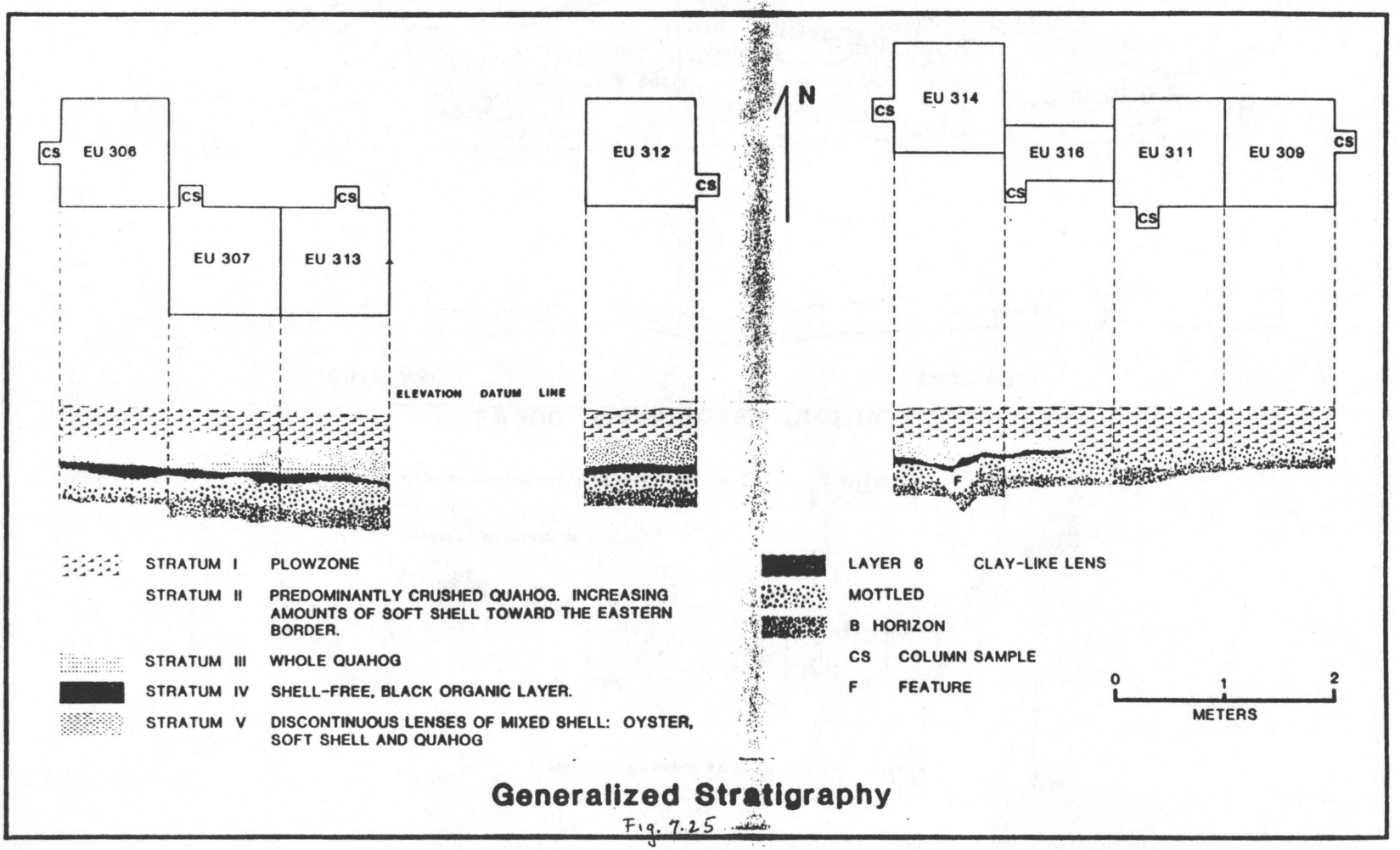

306
312
316
309
313
314
311
307
KEY
N
METERS
19BN308 Concentration 33

Fig. 7.24



Generalized Stratigraphy

Fig. 7.25

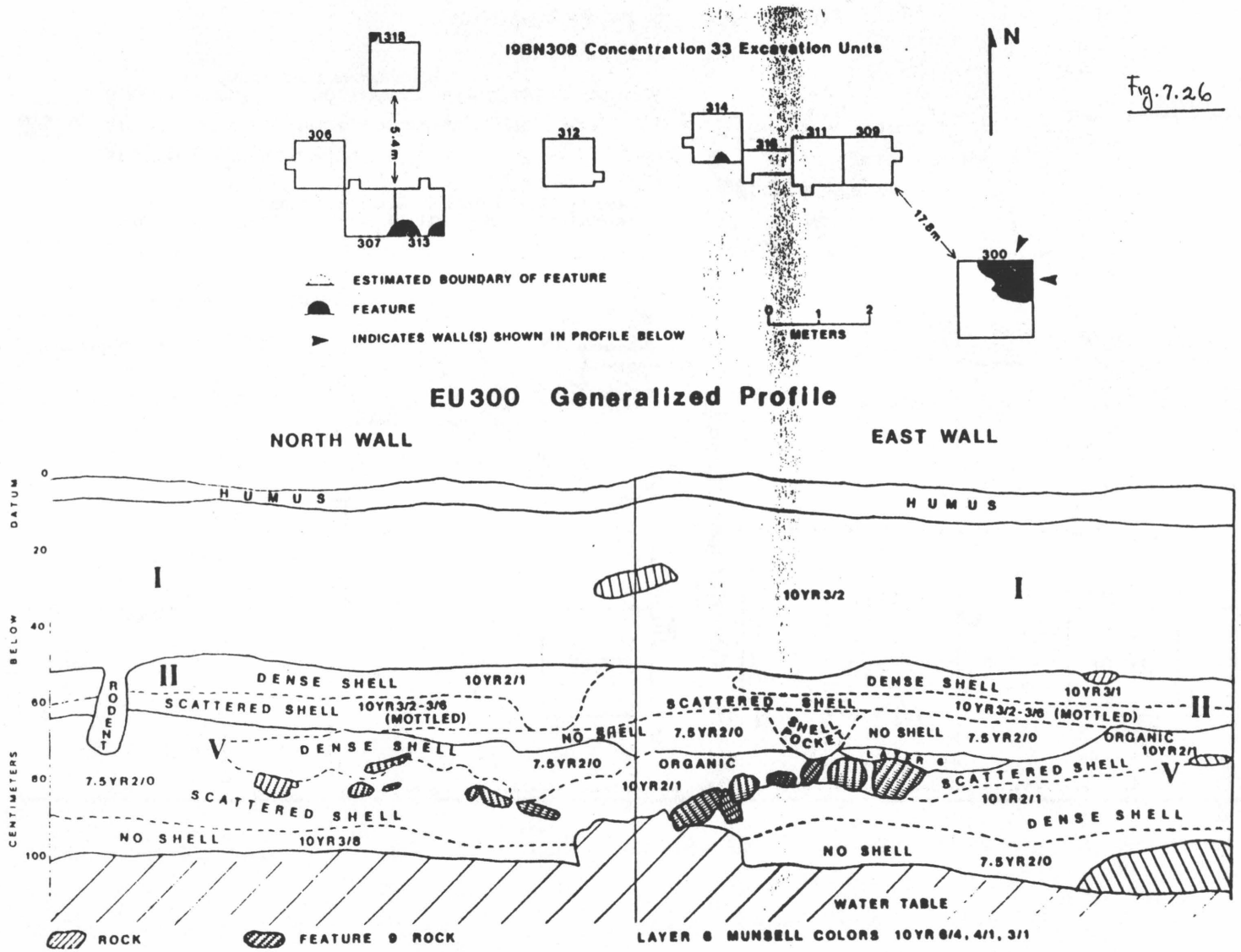

19BN308 Concentration 33 Excavation Units
N
315
306
312
314
311
309
310
307
313
300
5.43
17.8m
ESTIMATED BOUNDARY OF FEATURE
FEATURE
INDICATES WALL(S) SHOWN IN PROFILE BELOW
0 1 2
METERS
EU300 Generalized Profile
NORTH WALL
EAST WALL
DATUM
BELOW
CENTIMETERS
0
20
40
60
80
100
HUMUS
HUMUS
I
I
10YR3/2
II
DENSE SHELL
10YR2/1
SCATTERED SHELL
10YR3/2-3/6
(MOTTLED)
RODENT
V
DENSE SHELL
7.5YR2/0
SCATTERED SHELL
NO SHELL
10YR3/8
7.5YR2/0
ORGANIC
10YR2/1
SHELL POCKET
LAYER 6
DENSE SHELL
10YR3/1
SCATTERED SHELL
10YR3/2-3/6 (MOTTLED)
II
NO SHELL
7.5YR2/0
ORGANIC
10YR2/1
V
SCATTERED SHELL
10YR2/1
DENSE SHELL
NO SHELL
7.5YR2/0
WATER TABLE
ROCK
FEATURE 9 ROCK
LAYER 6 MUNSELL COLORS 10YR 6/4, 4/1, 3/1

Fig. 7.26

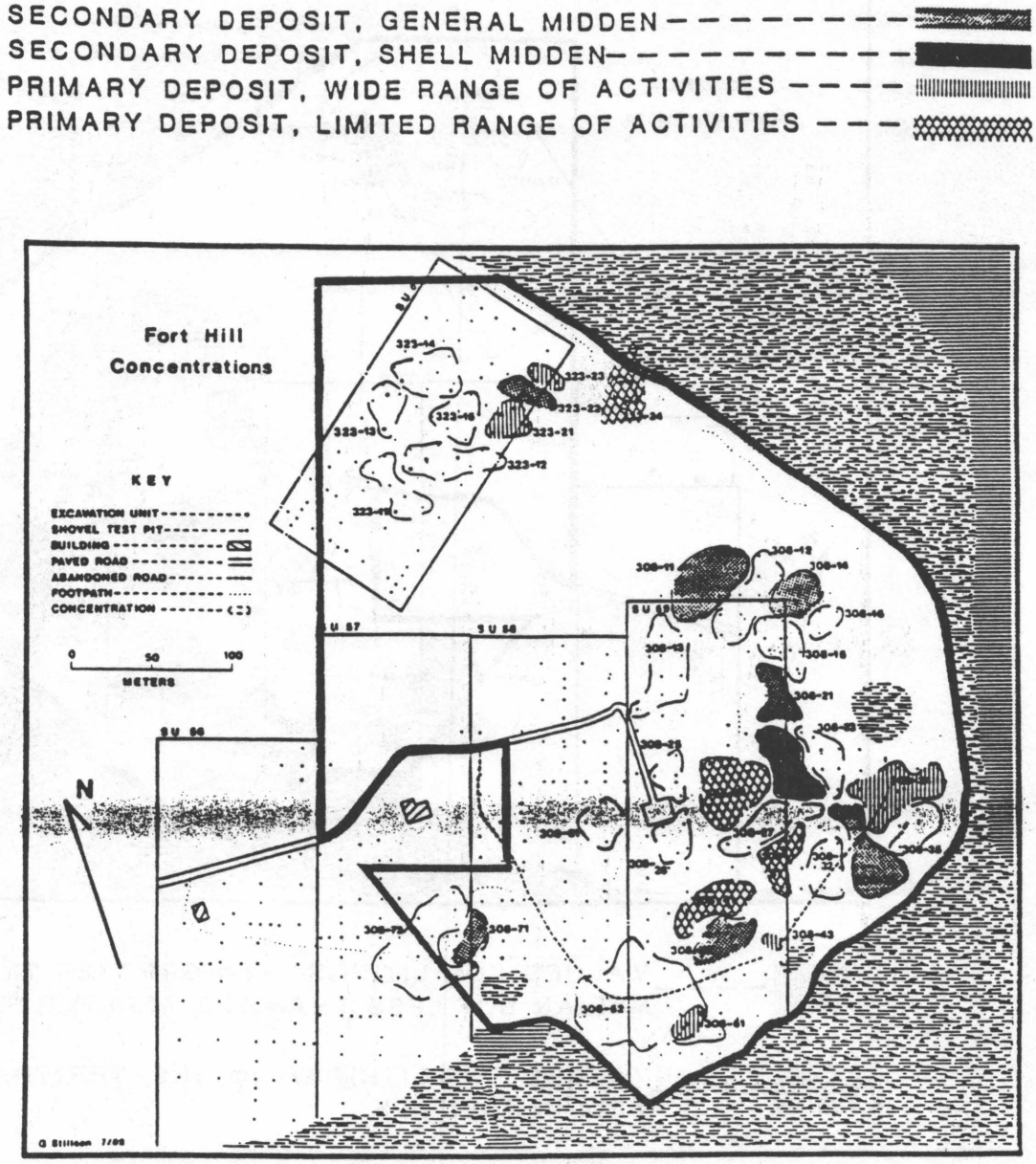
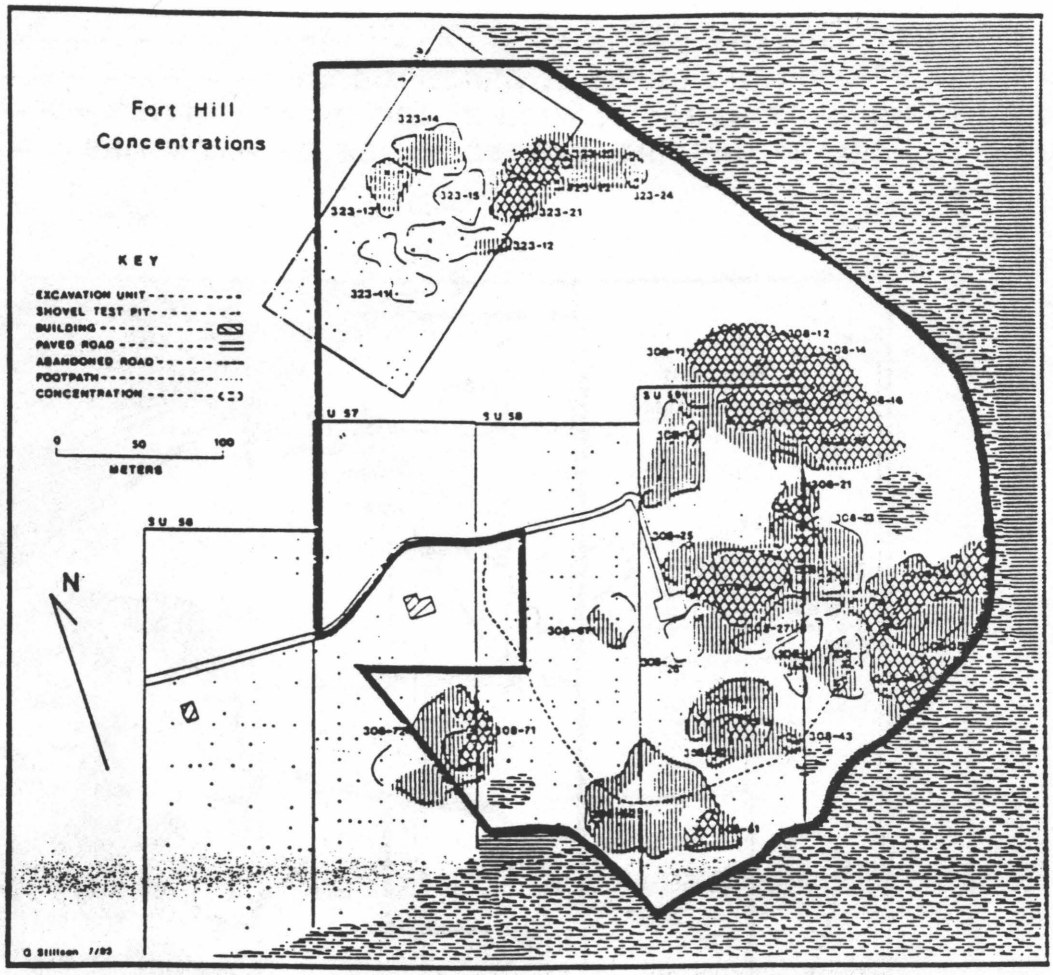


Figure 7.27

Deposit/Activity Types, Fort Hill Site Complex, Nauset Archeological District (Figure 16.3 in McManamon 1984(2):371).

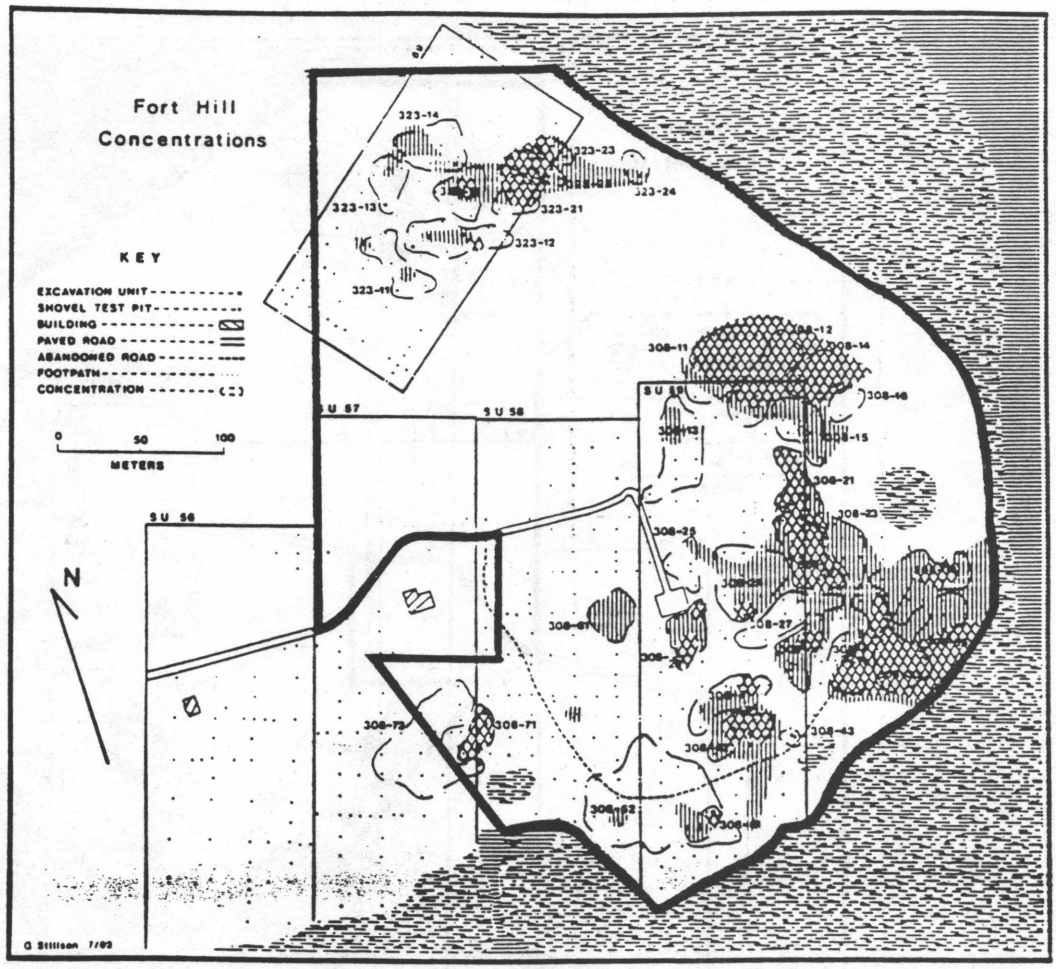


VALUES FOR LITHICS /qcm GREATER THAN THE MEDIAN BUT LESS THAN THE 75th PERCENTILE

VALUES FOR LITHICS/qcm GREATER THAN THE 75th PERCENTILE

Figure 7.28

Spatial Distribution of Lithics, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(a) in McManamon 1984(1):59).

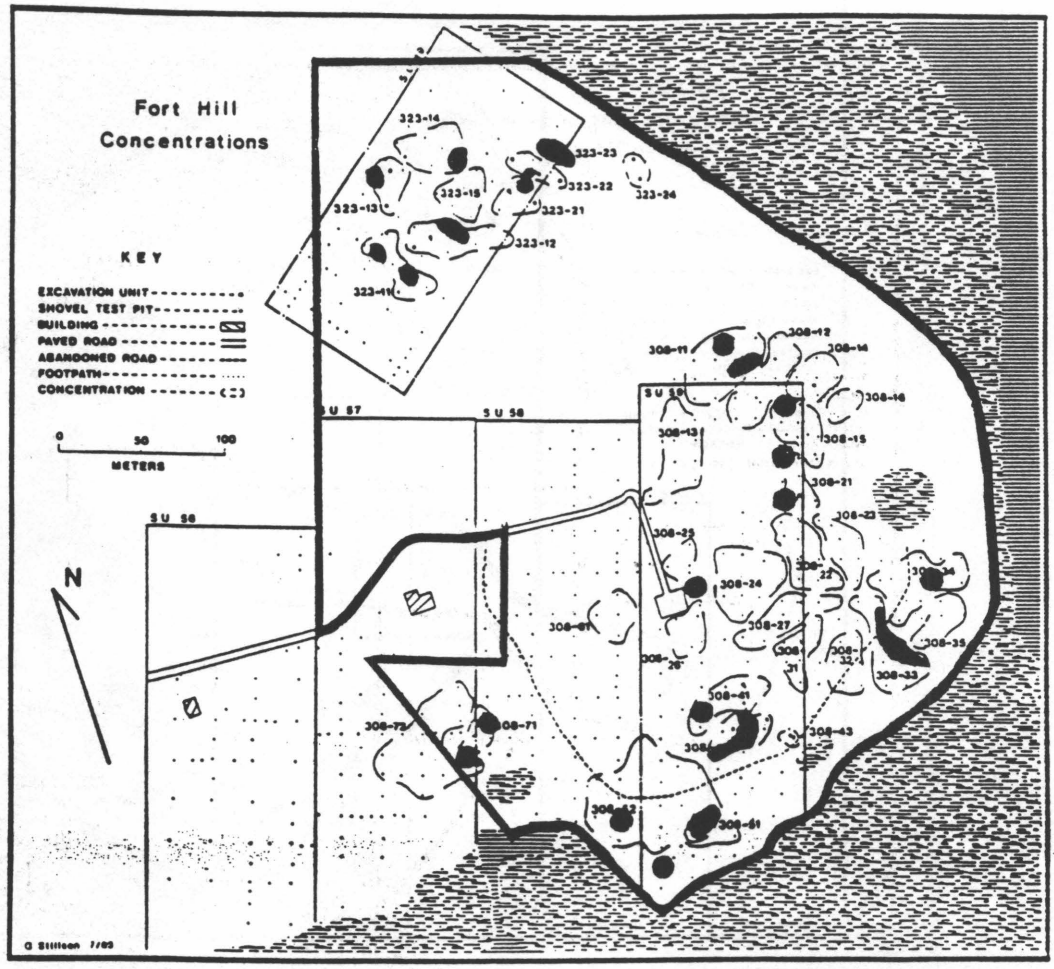


VALUES FOR GRAMS OF TOTAL SHELL/qcm GREATER THAN THE MEDIAN BUT LESS THAN THE 75th PERCENTILE

VALUES FOR GRAMS OF TOTAL SHELL/qcm GREATER THAN THE 75th PERCENTILE

Figure 7.29

Spatial Distribution of Shell Remains, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(b) in McManamon 1984(1):60).



PRESENCE OF FIRE CRACKED ROCK - - - - - - - - - - - -

Figure 7.30

Spatial Distribution of Fire Cracked Rock, Fort Hill Site Complex, Nauset Archeological District (Figure 3.6(c) in McManamon 1984(1):61).

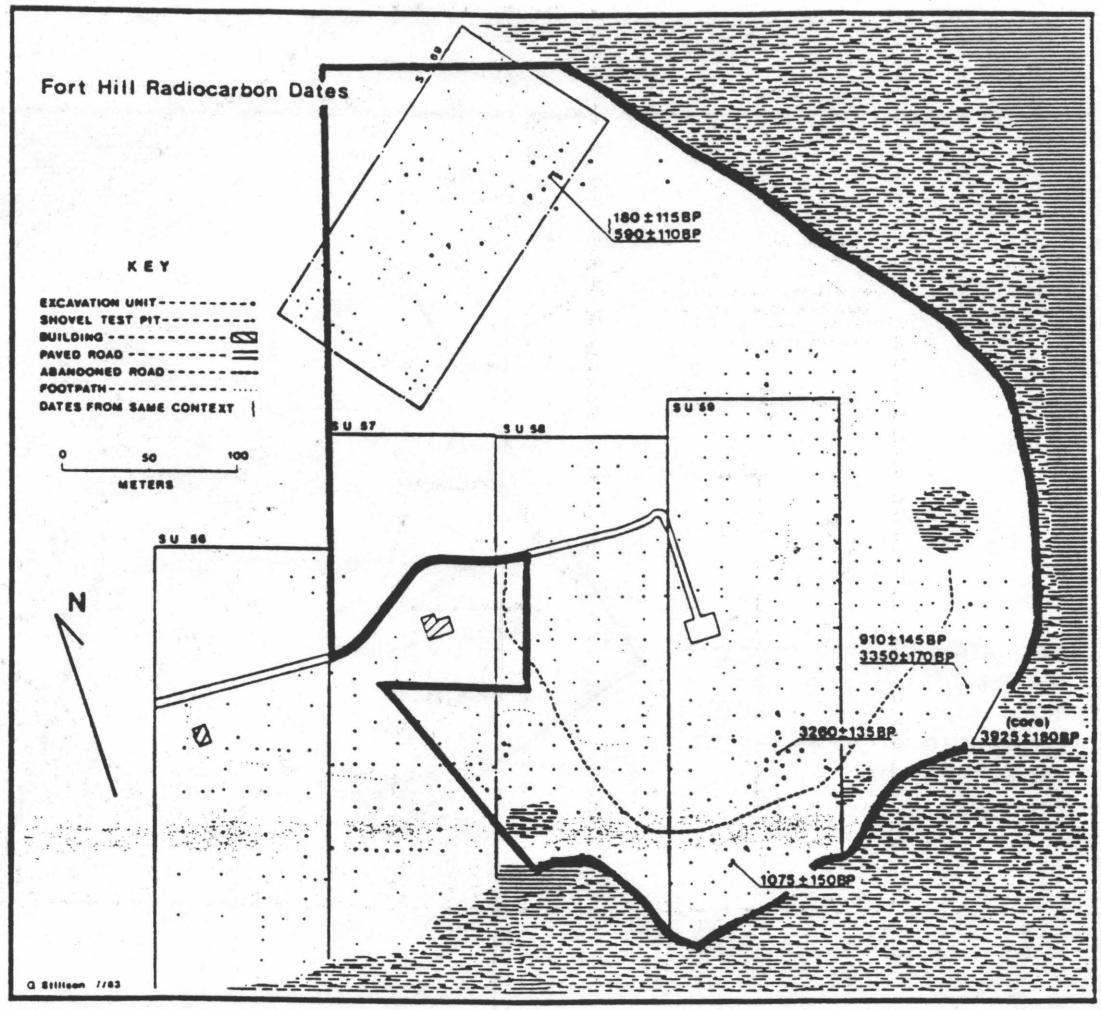


Figure 7.31

Radiocarbon Dates, Fort Hill Site Complex, Nauset Archeological District (Figure 8.1 in McManamon 1984(1):247).

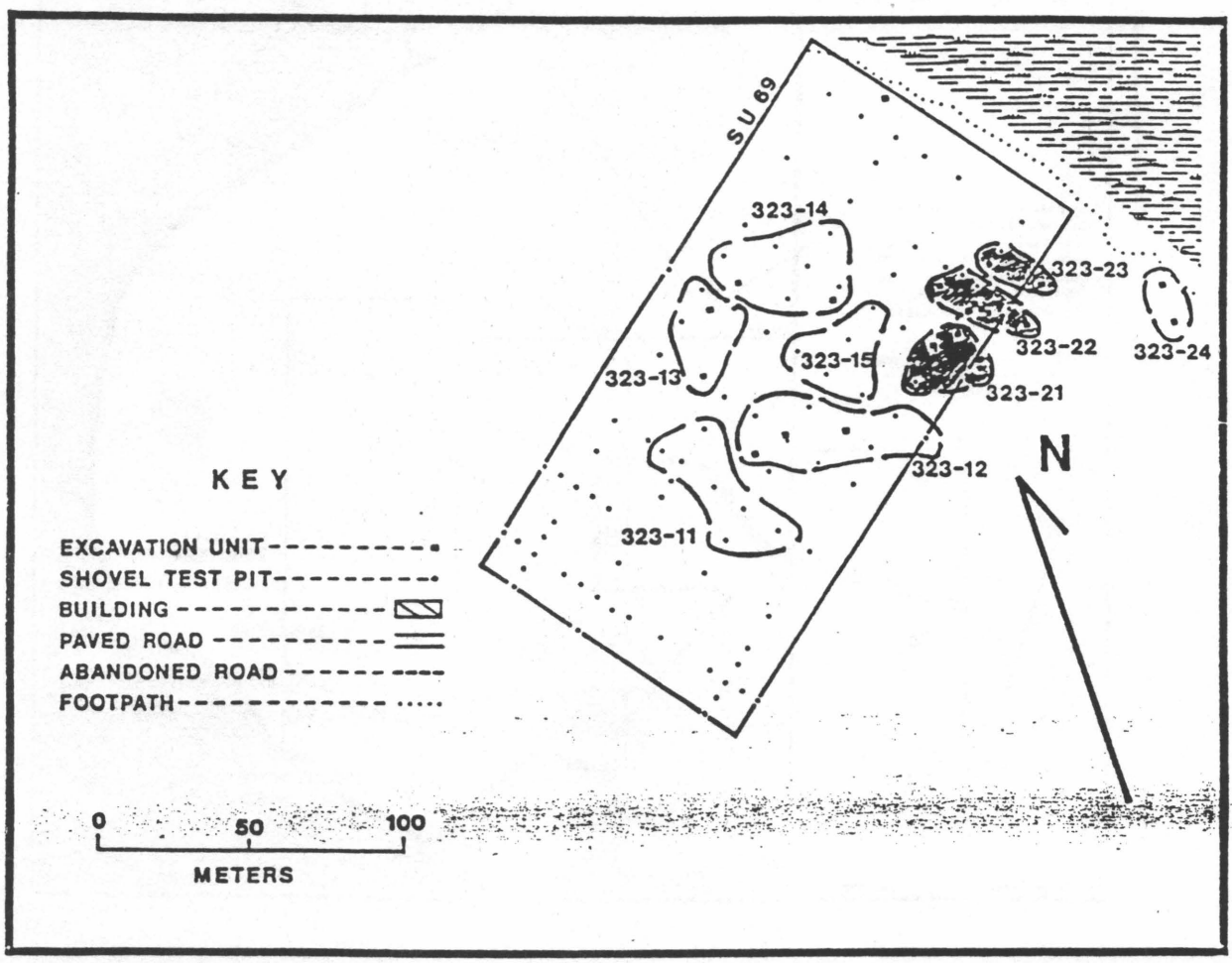


Figure 7.32

Concentrations in 19BN323, Fort Hill Site Complex, Nauset Archeological District (Figure 9.7 in McManamon 1984(2):19).

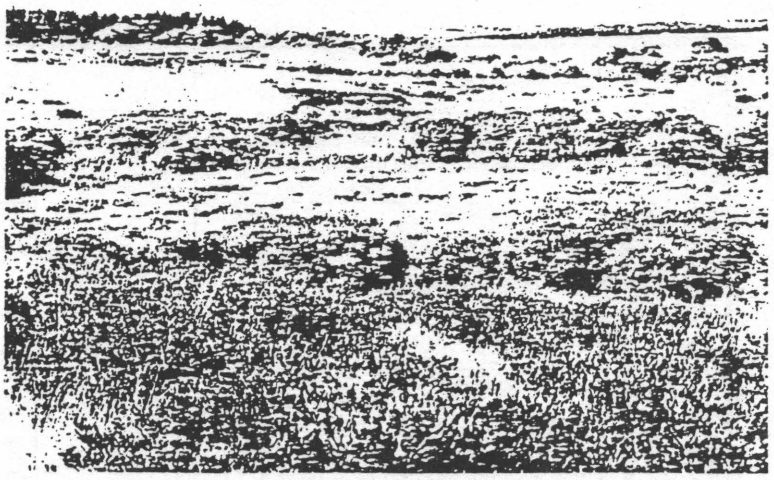


Figure 7.33

19BN323, Looking from the South at the Site in the Middle Distance, Fort Hill Site Complex, Nauset Archeological District (Figure 3.9 in McManamon 1984(1):66).

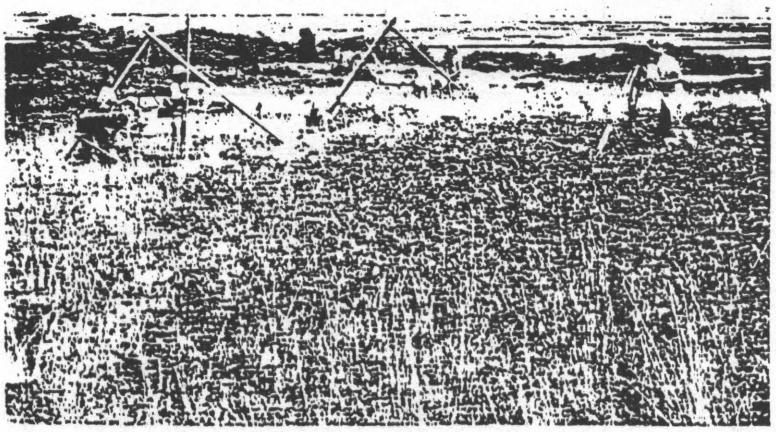


Figure 7.34

19BN323, Looking From the West at 323.21, .22, .23, and Nauset Marsh in the Distance, Fort Hill Site Complex, Nauset Archeological District (Figure 3.10 in McManamon 1984(1):66).

National Historic Landmark Data Requirements	Facet I.D.1: Native Cultural Adaptations at Contact.	Facet I.D.2: Establishing Intercultural Relations.									Facet I.D.3: Varieties of Early Conflict, Conquest, or Accommodation.				Facet I.D.4: Native Contributions to the Development of the Nation's Cultures.			
Nauset Archaeological District Barnstable County, Maine NHL Significance Criterion: 6 Theme I: Cultural Developments: Indigenous American Populations. Sub-Theme I.D: Ethnohistory of Indigenous American Populations. Preparers: Frank P. McManaman & Robert S. Grumet Date: April 17, 1992	Sub Facets I.D.1.i: Native Adaptations to Northeastern Environments.	I.D.2.a: Trapping and Fishing for Newcomers.	I.D.2.b: Whaling and other Maritime Activities.	I.D.2.c: Military Scouts.	I.D.2.d: Guiding Explorers Across New Territories.	I.D.2.e: Defending Native Homelands.	I.D.2.f: Defending Native Religious Systems.	I.D.2.g: Introductions to Foreign Religious Systems.	I.D.2.h: New Native Military Alliances.	I.D.2.i: Trade Relationships.	I.D.3.a: Transfer of Technology to Native People.	I.D.3.b: Forced and Voluntary Population Movements.	I.D.3.c: The New Demographics.	I.D.3.d: Changing Settlement Types.	I.D.4.a: Transferring Native Technology to Newcomers.	I.D.4.b: Native Roles in Decorative and Fine Arts, Literature, and Music.	I.D.4.c: Native Roles in the Development of Humanism, the Social Sciences, and the Law.	I.D.4.d: Native Roles in the Changing Images of America.
Properties proposed for NHL designation must:																		
1. have landowner nomination consent.	✓					✓						✓	✓	✓				
2. possess intact deposits associated with property types that have yielded or are capable of yielding information sufficient to identify:																		
A. period or periods of occupation or utilization.	✓					✓						✓	✓	✓				
B. sociocultural affiliations of site occupants.	✓					✓						✓	✓	✓				
C. site functions.	✓					✓						✓	✓	✓				
Properties possessing these attributes should yield or possess the potential to yield information capable of:																		
3. establishing site activity scheduling.	✓					✓						✓	✓	✓				
4. revealing intrasite variability.	✓					✓						✓	✓	✓				
5. identifying relationships with other locales or communities.	✓					✓						✓	✓	✓				
6. revealing environmental information.	✓					✓						✓	✓	✓				
7. representing thematic values presently not represented or under-represented in the NHL thematic framework.	✓					✓						✓	✓	✓				
8. representing cultures not presently represented or under represented as NHLs or as properties within existing NPS system units.	✓					✓						✓	✓	✓				

APPENDIX F.

National Register Nomination for the Penniman House

Form No. 10-300a (Oct. 1972) — UNITED STATES DEPARTMENT OF THE INTERIOR — NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY — NOMINATION FORM

FOR FEDERAL PROPERTIES

(Type all entries - complete applicable sections)

STATE: Massachusetts

COUNTY: Barnstable

FOR NPS USE ONLY — ENTRY DATE: MAY 28 1976

1. NAME

COMMON: Bomford, Edward, House No. 35-77; Barn No. 35-78 (Cape Cod MS)

AND/OR HISTORIC:

2. LOCATION

STREET AND NUMBER: Dowt Hill and Governor Prence Roads

CITY OR TOWN: Eastham

CONGRESSIONAL DISTRICT: Twelth

STATE	CODE	COUNTY:	CODE
Massachusetts	25	Barnstable	001

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☒ Building	☒ Public	Public Acquisition:	☐ Occupied	Yes:
☐ Site ☐ Structure	☐ Private	☐ In Process	☒ Unoccupied	☐ Restricted
☐ Object	☐ Both	☐ Being Considered	☒ Preservation work in progress	☐ Unrestricted
				☒ No

PRESENT USE (Check One or More as Appropriate)

☐ Agricultural	☐ Government	☒ Park	☐ Transportation	☐ Comments
☐ Commercial	☐ Industrial	☐ Private Residence	☐ Other (Specify) House: Exhibit in place: Exterior viewing only	
☐ Educational	☐ Military	☐ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

SEE INSTRUCTIONS

4. AGENCY

National Park Service

REGIONAL HEADQUARTERS: (If applicable)	STREET AND NUMBER:	
North Atlantic Region	150 Causeway Street	
CITY OR TOWN:	STATE:	CODE
Boston	Massachusetts	25

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: Courthouse, Barnstable, Massachusetts

STREET AND NUMBER:

CITY OR TOWN:	STATE:	CODE
Barnstable	Massachusetts	001

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: HABS House and Barn, CMCO No. 35-77 and No. 35-78, Mass. Sheet (Views) No. 603 and 609

DATE OF SURVEY: 1962 ☒ Federal ☐ State ☐ County ☐ Local

DEPOSITORY FOR SURVEY RECORDS: Office of Archeology and Historic Preservation

STREET AND NUMBER: Interior Building

CITY OR TOWN: Washington, D.C.

STATE: CODE

APR 1 1975

NATIONAL REGISTER

STATE: Massachusetts

COUNTY: Barnstable

FOR NPS USE ONLY — ENTRY NUMBER: MAY 28 1976 — DATE

7. DESCRIPTION

CONDITION	(Check One)					
	☐ Excellent	☐ Good	☒ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One)		(Check One)			
	☒ Altered	☐ Unaltered	☐ Moved	☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

Located on the south side of Fort Hill road near the intersection of Fort Hill Road and Governor Prence Road, and 1/4 mile east of U.S.Mid-Cape Highway 6, the Captain Edward Penniman House is a two and a half story frame house in the Second Empire French style with a matching barn to the rear. The house is rectangular a[illegible] faces west, and is surrounded by residential planting. The building is painted yellow with white trim and has a red roof, striped. This was a sumptuous whaling captain's home of 1867, known historically as the "finest house in Eastham."

The house has been painted several times, and prior to recent outside restoration, was badly "alligatored." Removal of this old paint revealed colors similar to those used in recent restoration. All dentil work was removed, stripped, straightened and replaced.

Over-all dimensions of the house are 40'-5" on the west and 34'-7" on the south. The foundations are of field stone topped with granite. The walls are of frame construction with clapboards on the exterior. The main front door on the west side has a porch with Corinthian columns, fluted shafts and pressed wood capitals. The rear or east door has a plank stoop. The house has two centralized red brick chimneys.

The front door of the house is a heavy wooden door with an arched top and two vertical etched glass panels in the top half. The rear or east door is also heavy, but has a flat top, and one panel of glass. All windows on the first floor are the same size and all of the windows on the second floor are the same size with those on the first floor slightly larger. These windows have 2/2 light double hung sash. In the NW bay there are some colored glass panels. All windows are equipped with exterior blinds, but only a few on the ground floor remain.

Roof is a mansard type. The lower level is covered with wood shingles that at one time were painted in red with brown stripes (restoration has followed this style). The cornice and eaves are heavy and rich in detail. There are dormers for all of the second floor windows--these are rich in details, with pilasters and scrollwork. The cupola is octagonal with arched windows on all sides.

House is set on an artificial terrace on the south side of Fort Hill road. Ornamental wood fence in front (west). There was at one time a high flag pole in yard. A turnstile, not replaced, once existed beneath the whale jaw-bone gateway.

The barn, located just southeast of the house, was constructed about 1800. It has three floors, mansard roof, but omits richly detailed brackets and dentil mouldings at the cornice and quoin blocks at first floor corners. Wooden brackets, left over from the house construction, were used at the corner of the wood shed.

Section of second floor extends over a slope to the south, forming the first floor cover which housed a carriage and stalls for horse and cow.

Significance: 2nd Order
Longitude and Latitude: See Section 10
Acreage: 1. Surrounding new growth woods and fields owned by Fed.Gov.
Recommended treatment: Preservation, exterior, which includes painting on a 4 year cycle, all windows and doors kept in repair, and roof kept free from leaks -- [illegible] annually. Partial Restoration of House:

SEE INSTRUCTIONS

PERIOD (Check One or More as Appropriate)

☐ Pre-Columbian ☐ 16th Century ☐ 18th Century ☐ 20th Century
☐ 15th Century ☐ 17th Century ☒ 19th Century

SPECIFIC DATES (If Applicable and Known)

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

Aboriginal	☐ Education	☐ Political	☐ Urban Planning
☐ Prehistoric	☐ Engineering	☐ Religion/Philosophy	☐ Other (Specify)
☐ Historic	☐ Industry		
☐ Agriculture	☐ Invention	☐ Science	Whaling Captain's
☐ Architecture	☐ Landscape Architecture	☐ Sculpture	home.
☐ Art		☐ Social/Humanitarian	
☒ Commerce	☐ Literature		
☐ Communications	☐ Military	☐ Theater	
☐ Conservation	☐ Music	☐ Transportation	

STATEMENT OF SIGNIFICANCE

The art of whaling originated on Cape Cod, and the art and business reached its peak in the mid-19th century. Like most whaling captains, Penniman operated out of New Bedford, being in charge of several vessels during his long lifetime. He chose to retire in Eastham, and built this house in 1867. Penniman undertook whaling voyages to both southern and Arctic latitudes, being absent some 4 years at times.

Penniman was born in 1831, one of 11 children. He went to sea at eleven. His fourth whaling voyage took place in 1860 in the Minerva. After retirement, Penniman undertook a business venture in Chicago, lost money, and returned to whaling for a time. On one South Atlantic trip, gone 3 years, he came back with 4200 bbls. of oil, one of the largest hauls ever to port at New Bedford. His wife, Betsey Knowles Penniman, accompanied her husband on some trips--(his wife was born in the house directly across the street from the Penniman House). His seventh and last voyage was 1881-1884 in the Jacob A. Howland, a three year's voyage to the Arctic.

Penniman was a typical whaling captain. Records show that he never lost a vessel in his command. He died in 1913, and his son, Eugene, carried on the work for a short time.

The real significance of the house lies in three factors: The unique appearance of the house (plans were said to have been brought back from France by Penniman, personally), the fact that this is the only whaling captain's house in Eastham, and it is the only one inside the Seashore boundaries.

Restoration of the interior will depend on public interest and availability of funds. Much victorian furniture (some of it from this house) is stored at the Seashore. The interior of the house is very plain with the exception of the captain's den, a red-flocked wallpaper and fancy quilt-trim room which will require much money and time to restore.

APR 1 1975
NATIONAL REGISTER

SEE INSTRUCTIONS

Form 10-300a
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

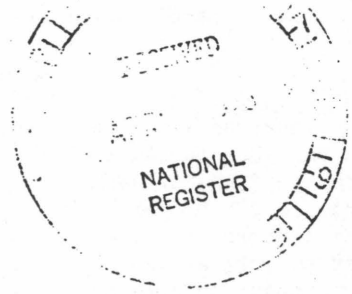
(Continuation Sheet)

STATE	
COUNTY	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
	MAY 28 1976

(Number all entries)

Internal, Captain's Den, $15,000. Remainder of House, plastering and paper, $10,000.
Total $25,000. Barn needs new floors and other internal repairs.
Cost: $4,500.

Photograph enclosed.



9. MAJOR BIBLIOGRAPHICAL REFERENCES

Historic American Building Survey (HABS)

Historic Structures Reports, Architectural and Historical, on file at Cape Cod National Seashore.

History of Barnstable County by Deyo

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY | OR | LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES

CORNER	LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds	LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
NW	°	'	"	°	'	"	41	49	06	69	57	58
NE	°	'	"	°	'	"						
SE	°	'	"	°	'	"						
SW	°	'	"	°	'	"						

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 1

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE: Edison Pike Lohr, Park Historian

DATE: 7/13/73

BUSINESS ADDRESS: Cape Cod National Seashore

STREET AND NUMBER:

PHONE: 349-3785

CITY OR TOWN: South Wellfleet

STATE: Massachusetts

CODE: 001

12. CERTIFICATION OF NOMINATION

State Liaison Officer recommendation:

☒ Yes
☐ No
☐ None

Elizabeth R. Grossman
State Liaison Officer Signature

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Liaison Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The recommended level of significance is: ☐ National ☑ State ☐ Local

MAR 31 1976

Federal Representative Signature — Date

Deputy Assistant Assistant

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Acting
Director, Office of Archeology and Historic Preservation

Date 5/28/76

ATTEST:

Keeper of The National Register

SEE INSTRUCTIONS

Form No. 10-301
Rev. 7-72

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY MAP FORM

(Type all entries - attach to or enclose with map)

STATE	
Massachusetts	
COUNTY	
Barnstable	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
MAY 28 1976	

SEE INSTRUCTIONS

1. NAME

COMMON: Penniman, Edward, House No. 35-77

AND/OR HISTORIC: Same

2. LOCATION

STREET AND NUMBER:
Fort Hill and Governor Prence Roads

CITY OR TOWN:
Eastham

STATE:	CODE	COUNTY:	CODE
Massachusetts	25	Barnstable	001

3. MAP REFERENCE

SOURCE: U.S.G.S., Orleans, Massachusetts, Quadrangle

SCALE: 1: 24,000

DATE: 1972

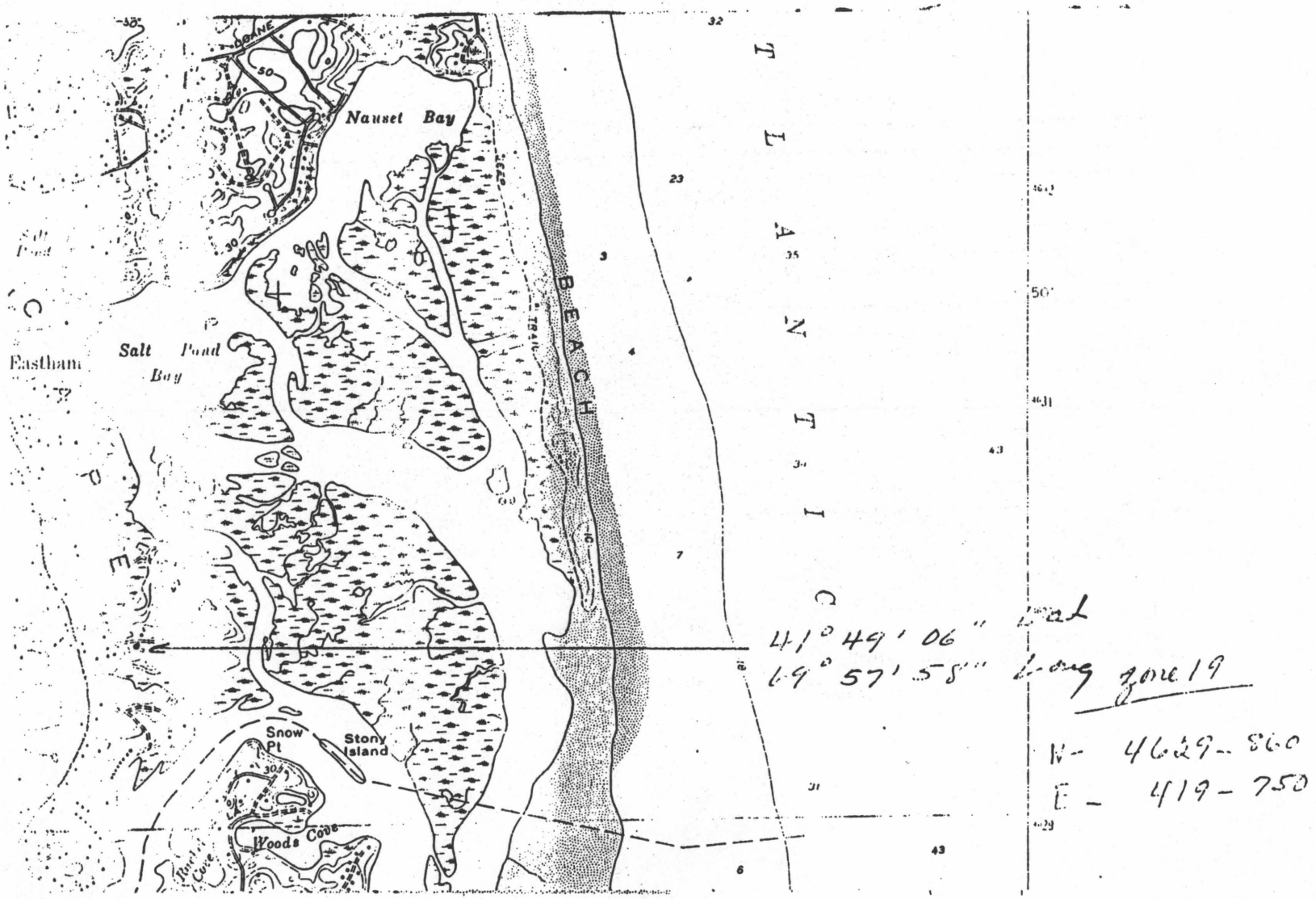
4. REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

1. Property boundaries where required.
2. North arrow.
3. Latitude and longitude reference.

NATIONAL REGISTER

INT: 155-72


Nauset Bay
Salt Pond Bay
Eastham
BEACH
ATLANTIC
Snow Pt
Stony Island
Woods Cove
41° 49' 06"
69° 57' 58"
long
zone 19
N- 4629-860
E- 419-750

APPENDIX G.

Compliance Documents for Tree Removal

United States Department of the Interior

NATIONAL PARK SERVICE
Cape Cod National Seashore
South Wellfleet, Massachusetts 02663

IN REPLY REFER TO:

April 8, 1993

H42-17

Memorandum

To: Regional Director, North Atlantic Region

From: Superintendent, Cape Cod National Seashore

Subject: Form XXX for the removal of trees at Fort Hill

As described in the attached form, we propose to continue the project to restore the historical landscape of the Fort Hill area within Cape Cod National Seashore. Clearance for the first phase of that work, which is now nearing completion, was requested in a form XXX that was completed December 9, 1992 and approved on March 3, 1993.

The site for which the attached XXX is submitted lies between the Captain Edward Penniman House and the Seth Knowles House. In December 1991 the region's cultural resource management specialists visited Fort Hill to review this proposed project. It was recognized during that visit that the removal of the trees between the historic houses was actually of a higher priority than the cutting done to date in the more northerly location covered by the earlier XXX. For a variety of logistical reasons, however, clearing of the other site first was agreed to.

We are now prepared to continue with the balance of the project. We will complete it as rapidly as labor, funding, and other commitments permit.

Andrew T. Ringgold

Enclosure

IDLCS #_____ IDCLI #_____ ARI #_____ REG. ACC. #_____ REG. PROJ. REV. # 2492

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. **ORIGINATING OFFICE**

1. **Park:** Cape Cod National Seashore Park district (optional) CACO 93-18

2. **Work/Project Description:**
a. Project name Remove Locust Trees, Fort Hill, Phase II park project #(s)_____
b. Describe project and area of potential effects (as defined in 36 CFR Part 800.2(c)); explain why work/project is needed.

Remove grove of locust trees, Robinia pseudoacacia, from area southeast of lower Fort Hill parking lot. This is a storm-damage clean-up project that has been pending since November 1991. All trees will be removed (both downed and standing) from an area of approximately three acres. This area contained no trees prior to thirty years ago.

3. **Has the area of potential effects been surveyed to identify cultural resources?**
____ No
__X__ Yes Source or Reference Aerial photograph 1987
____ Check here if no known cultural resources will be affected. (If area has been disturbed in the past, please explain or attach additional sheets to describe nature, extent, and intensity of disturbance.)

4. **Affected Resource(s):**
Name and number(s):_____ location:_____ NR status:_____

Name and number(s):_____ location:_____ NR status:_____
(REPEAT FOR EACH AFFECTED RESOURCE)

5. **The proposed action will:** (Check as many as apply.)
____ Destroy, remove, or alter features/elements from a historic structure
____ Replace historic features/elements in kind
____ Add nonhistoric features/elements to a historic structure
____ Alter or remove features/elements of a historic setting or environment (inc. terrain)
____ Add nonhistoric features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
____ Disturb, destroy, or make archeological resources inaccessible, or alter terrain
____ Potentially affect presently unidentified cultural resources
____ Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
____ Involve a real property transaction (exchange, sale, or lease of land or structures)
____ (OPTIONAL) Meet criteria for Programmatic Exclusion C.1 ___ in the 1990 Servicewide Programmatic Agreement for Section 106 compliance.
__X__ Other (please specify)
Remove post-historic vegetation.

6. **Measures to prevent or minimize loss or impairment of historic/prehistoric fabric, setting, integrity, or data:** Project will be carried out in accordance with guidelines described in the Trip Report dated December 20, 1991 by the Regional Cultural Landscape Specialist, et al.

7. **Supporting Study Data**: (attach if feasible; if action is in a plan, give name and project or page number):

8. **Attachments:** [ ] Maps [ ] Archeological Clearance, if applicable [ ] Drawings [ ] Specifications [ ] Photographs [ ] Scope of Work [ ] Site plan [ ] List of Materials [ ] Samples [x] Other _____

Xerox copy of aerial photograph of proposed worksite.
Area from which trees will be removed is outlined.

9. **Prepared by** G. Franklin Ackerman, Chief I & CRM Date 04/08/93

Title Chief, Interpretation & Cultural Resources Management Telephone 508/349-3785x230

10. I certify that the proposed work conforms to NPS Management Policies and NPS-28.

Signature of Superintendent _____

Date 4/9/93

B. REGIONAL ASSESSMENT

CHCO 23-18

RECOMMENDED ASSESSMENT OF EFFECT (completed by Regional compliance coordinator):

_____No Effect _____No Adverse Effect _____Adverse Effect

COMPLIANCE REQUIREMENTS--PLEASE INDICATE WHICH OF THE FOLLOWING APPLIES.

[ ] 1. STANDARD 36 CFR PART 800 CONSULTATION
Consultation under 36 CFR Part 800 has been carried out subsequent to preparation of this XXX form.

[ ] 2. PROGRAMMATIC EXCLUSION
The above action meets all conditions for a programmatic exclusion under Stipulation C.1 or C.2 of the 1990 Servicewide PA.
APPLICABLE EXCLUSION(s): C.1 _____ [specify a-m] or C.2 addition.

[ ] 3. PLAN-RELATED UNDERTAKING
Consultation about the proposed undertaking was completed in the context of a plan review process, in accordance with the 1990 Servicewide PA, Stipulation E or F, and 36 CFR Part 800. (If Stipulation F of the 1990 PA applied to this case, please so note.)

[ ] 4. MOA-RELATED UNDERTAKING
Consultation about the proposed action was conducted in development of a Memorandum of Agreement or Programmatic Agreement approved by NPS, the SHPO and the Advisory Council.

Contingent upon stipulations developed in the consultation process or listed above, requirements for Section 106 compliance have been met.

STIPULATIONS/CONDITIONS:

Signed T.V. Wells Date 5/5/93

Regional Compliance Coordinator

Approved Robert W. McIntosh, Jr. Date 5/10/93

for Regional Director

C. REGIONAL CULTURAL RESOURCES SPECIALISTS REVIEW

REGIONAL PROJECT REVIEW NO._____

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1990 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and NPS-28. I have stated any additional stipulations that should apply, and I concur in the recommended assessment of effect above.

SIGNED:

_____ 4/14/93

REGIONAL ARCHEOLOGIST Date

Comments:_____

_____ 4/15/93

REGIONAL CULTURAL LANDSCAPE SPECIALIST Date

Comments: see 106 file # 2451 CACO for complete

documentation (materials from 1938 and 1961) 4/16/93

REGIONAL CURATOR Date

Comments:_____

_____ 4/16/93

REGIONAL ETHNOGRAPHER Date

Comments:_____

_____ 4/15/93

REGIONAL HISTORIAN Date

Comments:_____

_____ 15 April 93

REGIONAL HISTORICAL ARCHITECT Date

Comments:_____


Phase I
(Approved 3/3/93)
Phase II
(This project)

IDLCS #_____ IDCLI #_____ ARI #_____ REG. ACC. #_____ REG. PROJ. REV. #_____

ASSESSMENT OF ACTIONS HAVING AN EFFECT ON CULTURAL RESOURCES

A. ORIGINATING OFFICE

1. **Park:** Cape Cod National Seashore Park district (optional)_____

2. **Work/Project Description:**
a. Project name Remove Locust Trees, Fort Hill park project #(s) CACO 93-06
b. Describe project and area of potential effects (as defined in 36 CFR Part 800.2(c)); explain why work/project is needed.

Remove grove of Locust trees, Robinia pseudoacacia, from area northeast of lower Fort Hill parking lot. This is a storm-damage cleanup project that has been pending since November 1991. All trees will be removed (both downed and standing) from an area of approximately three acres. This area contained no trees prior to thirty years ago.

3. **Has the area of potential effects been surveyed to identify cultural resources?**
____ No
__X__ Yes Source or Reference Aerial photographs from 1938, 1962, 1984 and 1991.
____ Check here if no known cultural resources will be affected. (If area has been disturbed in the past, please explain or attach additional sheets to describe nature, extent, and intensity of disturbance.)

4. **Affected Resource(s):**
Name and number(s):_____ location:_____ NR status:_____

Name and number(s):_____ location:_____ NR status:_____
(REPEAT FOR EACH AFFECTED RESOURCE)

5. **The proposed action will:** (Check as many as apply.)
____ Destroy, remove, or alter features/elements from a historic structure
____ Replace historic features/elements in kind
____ Add nonhistoric features/elements to a historic structure
____ Alter or remove features/elements of a historic setting or environment (inc. terrain)
____ Add nonhistoric features/elements (inc. visual, audible, or atmospheric) to a historic setting or cultural landscape
____ Disturb, destroy, or make archeological resources inaccessible, or alter terrain
____ Potentially affect presently unidentified cultural resources
____ Begin or contribute to deterioration of historic fabric, terrain, setting, landscape elements, or archeological or ethnographic resources
____ Involve a real property transaction (exchange, sale, or lease of land or structures)
____ (OPTIONAL) Meet criteria for Programmatic Exclusion C.1 ___ in the 1990 Servicewide Programmatic Agreement for Section 106 compliance.
__X__ Other (please specify)
Remove post-historic vegetation.

6. **Measures to prevent or minimize loss or impairment of historic/prehistoric fabric, setting, integrity, or data:** Project will be carried out in accordance with guidelines described in the Trip Report dated December 20, 1991 by the Regional Cultural Landscape Specialist, et al.

7. **Supporting Study Data:** (attach if feasible; if action is in a plan, give name and project or page number):

8. **Attachments:** [ ] Maps [ ] Archeological Clearance, if applicable [ ] Drawings [ ] Specifications [ ] Photographs [ ] Scope of Work [ ] Site plan [ ] List of Materials [ ] Samples [X]Other _____

Xerox copy of aerial photograph of proposed worksite. Area from which trees will be removed is outlined ingreen.

9. **Prepared by** G. Franklin Ackerman Date 12/8/92

Title Chief, Interp. & Cultural Resources Management Telephone 508/349-3785x230

10. I certify that the proposed work conforms to NPS Management Policies and NPS-28.

Signature of Superintendent _____

Date 12/9/92

B. REGIONAL ASSESSMENT

RECOMMENDED ASSESSMENT OF EFFECT (completed by Regional compliance coordinator):

_____No Effect _____No Adverse Effect _____Adverse Effect

COMPLIANCE REQUIREMENTS--PLEASE INDICATE WHICH OF THE FOLLOWING APPLIES.

[ ] 1. STANDARD 36 CFR PART 800 CONSULTATION
Consultation under 36 CFR Part 800 has been carried out subsequent to preparation of this XXX form.

[ ] 2. PROGRAMMATIC EXCLUSION
The above action meets all conditions for a programmatic exclusion under Stipulation C.1 or C.2 of the 1990 Servicewide PA.
APPLICABLE EXCLUSION(s): C.1 _____ [specify a-m] or C.2 addition.

[ ] 3. PLAN-RELATED UNDERTAKING
Consultation about the proposed undertaking was completed in the context of a plan review process, in accordance with the 1990 Servicewide PA, Stipulation E or F, and 36 CFR Part 800. (If Stipulation F of the 1990 PA applied to this case, please so note.)

[ ] 4. MOA-RELATED UNDERTAKING
Consultation about the proposed action was conducted in development of a Memorandum of Agreement or Programmatic Agreement approved by NPS, the SHPO and the Advisory Council.

Contingent upon stipulations developed in the consultation process or listed above, requirements for Section 106 compliance have been met.

STIPULATIONS/CONDITIONS:

Signed _____ Date 3/2/93
Regional Compliance Coordinator

Approved **Robert W. McIntosh, Jr.** Date 3/3/93
Regional Director

C. REGIONAL CULTURAL R. JURCES SPECIALISTS REVIEW

REGIONAL PROJECT REVIEW NO._____

I have reviewed this proposal for conformity with requirements for the Section 106 process, with the 1990 Servicewide Programmatic Agreement (if applicable), and applicable parts of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, NPS Management Policies, and NPS-28. I have stated any additional stipulations that should apply, and I concur in the recommended assessment of effect above.

SIGNED:

Dirk Ping Hsu — 1/22/93

REGIONAL ARCHEOLOGIST — Date

Comments:_____

Mary J Mitchell — 2/1/93

REGIONAL CULTURAL LANDSCAPE SPECIALIST — Date

Comments: Submit copies of aerial photos from 1938, 1962, 1984 and 1991, indicating the area to be cleared, and define historic period

REGIONAL CURATOR — Date

Comments:_____

_____ _____

REGIONAL ETHNOGRAPHER — Date

Comments:_____

T. D. Thomas — 2/17/93

REGIONAL HISTORIAN — Date

Comments:_____

_____ _____

REGIONAL HISTORICAL ARCHITECT — Date

Comments: W. Lon Bowden — 2 March 93



United States Department of the Interior

NATIONAL PARK SERVICE
North Atlantic Region
15 State Street
Boston, Massachusetts 02109-3572

IN REPLY REFER TO

December 20, 1991

To: Superintendent, Cape Cod National Seashore

Through: Chief, Cultural Resources Management Division, North Atlantic Regional Office

From: Regional Cultural Landscape Specialist, Regional Historical Architect, Regional Archeologist, North Atlantic Regional Office and Supervisory Horticulturist, F.L. Olmsted National Historic Site

Subject: Trip Report and Summary of Meeting on the Cultural Landscapes of Fort Hill Area and Atwood Higgins Complex, Cape Cod National Seashore, November 8, 1991

At your request, we attended a meeting at headquarters and made site visits to Fort Hill and Atwood-Higgins complex. The purpose of this visit was to review the vegetation loss from Hurricane Bob and make specific recommendations for management action, including use of the funding which is currently available for storm damage (an estimated $20,000). In addition, we briefly discussed the relationship between vegetation management related to the storm, fire management, and historic landscape management.

The meeting at headquarters was very useful and produced a consensus for action for both short term and long term (to be discussed below). The meeting was successful because we were able to have the discussion among several regional specialists (Nora Mitchell, Bill Barlow, Dick Hsu, and Charlie Pepper) and among staff at the park representing several divisions (Andy Ringold, Frank Ackerman, Jim Killian, Claude Phipps, and David Manski).

Summary of Discussion and Recommendations:

As Dick mentioned at the meeting, he has submitted a request to Washington Office for funding of a cultural land use history study, parkwide. If funded, this project will provide excellent background information for archeological survey of historic period sites, for evaluating the entire park as a cultural landscape, and for many of the individual cultural landscapes such as Fort Hill and Atwood-Higgins complex. Dick will contact you when he receives additional information on the funding for this project.

NATIONAL PARK SERVICE 225 1916 - 1991

Fort Hill:

It was clear from the discussions that the Fort Hill area has a history of agricultural land use (extant stone walls and remnants of two farm ponds), association with a farm (Knowles (?) house extant and possibly other outbuildings no longer extant, specifically a barn) and possibly association with the Penniman House and several others (Knowles, Avery, others?). If there are historical associations among these families and properties, this area could be considered a "district". The historical interest of the area and the potential for interpretation has long been recognized and the park staff has continued to manage the Fort Hill area to keep it open fields.

Review of the recent aerial photographs and the field visit revealed extensive vegetation loss, in particular, of locust trees. The current question of whether or not to clear the area at Fort Hill arises since the area has never been evaluated as a cultural landscape and there is no specific management plan for this area. (Other areas of vegetation loss in natural zones are being left without disturbance.)

After our discussions with you and the park staff, we recommend:

1. Initiate preparation of a Cultural Landscape Report (CLR) for the Fort Hill area to provide the basis for development of a long-term plan.

a. Define the study area boundaries to include the "district" as described above. It may be useful to begin with some preliminary research to identify relationships among the families and homes within this "district".

b. The CLR should include (1) the history of the site as determined through historical research (including an analysis of all available aerial photographs), (2) an evaluation of existing conditions including an inventory and map of extant features and an inventory of natural resources (specifically but not limited to ground breeding birds and use by monarch butterflies), and (3) a site analysis which would assess the significance and integrity of the "district" (see enclosed National Register Bulletin 30 for additional guidance).

c. This CLR, as described above, will provide the information needed to prepare a Cultural Landscape Treatment/Management Plan which will include options for treatment/management as well as look at the techniques and methods tc be employed (in-house mowing, historic leasing, etc.).

d. In addition, as we discussed, it may be useful during the preparation of the Treatment Plan to collect information on visitor use and parking needs to be able to identify options for addressing those issues in concert with cultural landscape management. If visitor use management and facility development

is included, it would be important to work with the NARO Planning and Design.

As we discussed at the meeting, the scope of this project is ideally suited to a graduate student project or perhaps a 6 month to a year appointment. Unfortunately, at this time, no regional funding is available to support this project. However, we (specifically, Nora) would be happy to assist in working on a more detailed scope of work and in finding someone to do the work. Please let Nora know how you would like to pursue this recommendation.

In addition, we discussed the treatment/management of the stone walls. If there is interest in rebuilding any of the stone walls, Dick and Bill recommend that a report on the stone walls be prepared and the remnants carefully analyzed. Subsequently, a treatment plan can be prepared to guide management of the stone walls. This treatment plan will, of course, be based on and consistent with the Cultural Landscape Treatment Plan (discussed above).

2. Prepare 106 compliance on removal of the vegetation using the storm damage funding as the short-term strategy for this area.

It was generally agreed that although the recommended approach would be to prepare the Cultural Landscape Report first, the opportunity for taking immediate action should not be lost. The requirements for 106 compliance will be able to be met for this short-term action since the park staff already have some knowledge of the documentation for this history of this property. In addition, there is documentation of this area in aerial photographs dating from as far back as 1930s through the 1960s and today. This information base appears to be adequate to support clearing the area of downed vegetation (and possibly of some of the standing vegetation) so that the open area can be maintained by park maintenance staff. Discussions with Paul Weinbaum should be initiated as soon as possible to ensure 106 compliance requirements are clarified and completed prior to any action in the field. We will assist with completing the 106 requirements, please let us know how we can help.

After the field visit, we are concerned that $20,000 may not be adequate to remove all the downed vegetation from the Fort Hill area. Consequently, areas may have to be prioritized. Considering the high fuel level of downed vegetation, removal of all deadwood may be a high priority. We recommend getting some intitial estimates from contractors asking them to give you two separate estimates of (1) removing deadwood including uplifted stump removal and disposal off-site and (2) clearcut remaining standing vegetation, flush-cutting and grinding stumps. We recommend you set size and/or weight limits on equipment to be used (specify maximum Gross Vehicle Weight and wheeled (not tredded) vehicles) and specify certain types of timber practices (such as skidding the logs) unallowable.

If the area is cleared, follow-up maintenance must be designed to preserve the field characteristics of the site and to ensure that woody vegetation does not take over again. The current stand of black locust, Robinia pseudoacacia, when flush cut or disturbed, has a tendency to heavily "sprout". Maintenance practices should be geared to reducing the amount of regrowth.

Immediately after tree removal: Stumps remaining from flush cutting should be mechanically removed by stump grinding. Although we strongly recommend stump grinding, if circumstances do not allow this, all remaining stumps should be treated with a (NARO and WASO-approved) pesticide as part of an IPM program. Chemicals effective for such treatments include Round-up and Tordon RTU (it may be difficult to get approval for Tordon), both of which can be directly applied using hatchet or pole-type injectors. In some cases, a second, follow-up application may be needed. Contact park and NAR IPM Coordinator for advice as soon as possible.

Long-term maintenance: Routine maintenance of the site should include two-three mowings per year to a height of 2-4 inches. Rough-cut mowing equipment such as flail-type mowers, are adequate for this situation.

Atwood-Higgins Complex:

After our discussions and site visit, we recommend:

1. Development of a consistent and comprehensive management approach to this complex.

a. Review documentation for the site; identify all visual and aerial photographic evidence.

b. Document discussion of Bill Barlow and Paul Weinbaum with Massachusetts State Historic Preservation Office regarding period of significance (to the George Higgins period, ca. 1920s, since he was an important early "preservationist" in Massachusetts). As soon as possible, discuss with Paul Weinbaum the need for revision of the existing National Register nomination form to reflect this period of significance.

c. Assess the management implications of this period of significance and develop a management strategy to this complex for both the structures and the landscape.

d. Assess and document existing conditions specifically for the landscape and in relation to the proposed fire management approach for this area. Determine approximate tree age of existing trees by estimating an average diameter growth from cut stumps. Decide which trees should be removed (which are currently flagged as "hazardous") and of those which should be

replaced. Please note that after our site visit, we question the removal of all the trees that are flagged. Several did not appear to present any immediate hazard to the buildings and may date from the George Higgins period.

If any of these recommendations are unclear or prove difficult to achieve, please me to discuss. We would be happy to assist in the implementation of these recommendations.

Nora J. Mitchell
for
Bill Barlow
Dick Hsu
Charlie Pepper

Approved: Dick Ping Hsu Date 12/20/91
acting Chief, Cultural Resources Management

Concurred: MK Tilley Date 12/20/91
Actg ARD, Planning & Resource Preservation

cc: Terry Savage, NARO
Barbara Mackey, NARO
Bill Barlow, NARO
Dick Hsu, NARO
Charlie Pepper, FRLA

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Jim Bowman, September 13, 1994
Walter Brady, September 6, 1994
Marjorie Burling, September 7, 1994
James Killian, September 13, 1994
Herbert Olsen, September 12, 1994
Joe Stephens

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