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Olmsted Center
for Landscape Preservation

Condition Report and Treatment Plan for Truro Highlands Historic District

Cape Cod National Seashore



Condition Report and Treatment Plan for Truro Highlands Historic District

Introduction

Existing Conditions

Analysis

Treatment

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INTRODUCTION

PURPOSE OF THIS REPORT

This report has been prepared based on previous documentation of the cultural landscape and provides an updated evaluation of the condition of the property, as well as updated guidance for both day-to-day and long-term management and interpretation. This report consists of a historical overview, an inventory of existing conditions and an analysis and evaluation of landscape characteristics and features. Based on this information, the report assesses previous treatment recommendations for the site and examines current issues and alternative solutions. Based on that evaluation, the report provides an updated treatment plan that outlines recommendations consistent with the *Secretary of Interior's Standards for the Treatment of Historic Properties.*

Located on the Lower Cape in North Truro, the Highlands area overlooks the Atlantic Ocean and extends across 85 acres of a windswept landscape known as the Highlands Plain (Figure 0.1). The area includes the Highland Light, Highland House, Highland Golf Links and numerous associated structures. European settlers first used this area for farming, but in the late nineteenth century, Isaac Small developed the area as a successful summer resort. The Small family retained ownership of the Highlands Resort property until 1947. The National Park Service acquired most of the former resort in 1964 as part of the Cape Cod National Seashore. Subsequently, many structures associated with the resort were demolished in the 1960s and 1970s.

In 1974, the historical significance of the Highlands area was documented as part of National Register nominations for the Highland House and Highland Golf Links. In 1980, the Highland Light was documented within the "Lighthouses of Massachusetts" Thematic Group Nomination. However, recognition of the entire area did not take place until 1993, when a National Register nomination was prepared for the Truro Highlands Historic District. In correspondence dated January 13, 1994, the Massachusetts Historical Commission concurred that the Truro Highlands Historic District was eligible under Criterion A as an intact district representative of early tourism on the Lower Cape with a period of significance of 1898 to 1947. However, the area has not yet been formally listed in the National Register. At the same time, Historic Structures Reports were prepared for the Highland House in 1993 and Highland Light in 1994. The Olmsted Center prepared a *Cultural Landscape Report for Truro Highlands Historic District* (1995) and the *Preservation Maintenance Plan for the Highland Golf Links* (1998), which documents the district in greater detail.

Since the mid 1990s there have been several major changes within the district. The Highland Light, on the verge of toppling down the clay cliffs, was moved inland in 1996. The relocation included the removal of the parking lot associated with the lighthouse. New parking lots were added near the Highland House to accommodate visitors for the lighthouse, museum and golf links. In addition a paved area was expanded for golf carts. Numerous small projects to improve and expand golf course amenities have resulted in incremental changes to the historic district. In addition, encroaching vegetation and accelerated erosion due to heavy pedestrian traffic have altered the area.

Current management direction for this area within the Cape Cod National Seashore is provided by the park's 1998 General Management Plan, which establishes priorities, goals and guiding strategies, much of which can be applied generally to the Truro Highlands. Part of the management philosophy for the park states, "Management of the seashore is a delicate balance in which the human needs of today and tomorrow must be addressed within the context of both preservation and tradition." Furthermore, the General Management Plan states "a collaborative approach to stewardship among the six Outer Cape towns and all seashore partners is essential."[1] Several sections of the plan reference the Highlands area, including the park's goal to "identify, manage and maintain cultural landscapes that are on or eligible for listing on the National Register of Historic Places" and to prepare cultural landscape reports to manage significant landscapes.

Management goals for the cultural landscape broadly stated in the General Management Plan are addressed more specifically in the *Cultural Landscape Report for Truro Highlands Historic District* (1995) and the *Preservation Maintenance Plan for the Highland Golf Links* (1998), which both identify preliminary treatment recommendations to respond to threats to historic integrity, significance, and/or individual site features. However, both reports indicate that completion of a treatment plan is necessary to prior to implementation of any suggested treatment options. This Condition Report and Treatment Plan provide greater detail on the historic significance of landscape characteristics and features and whether or not they contribute to the character of the historic landscape. This document also provides treatment recommendations, which will inform ongoing management of the property.

SCOPE AND METHODOLOGY

This Condition Report and Treatment Plan builds upon previous documentation for the Truro Highlands area and provides a current assessment of the landscape, as well as current and projected management issues. In the spring of 2006, the

Olmsted Center initiated the report in cooperation with the park. The report summarizes the site history from previous documents and provides an updated description of the existing conditions, analysis and treatment. In the fall of 2006, the project team met with concession managers and members of the Truro community that have been instrumental in the ongoing management and preservation of the property. Issues, alternative treatment approaches and recommendations are compiled in the final section of the report. Specifically, the report addresses the following objectives relative to documentation of the Highlands District:

- Evaluate the historic integrity of the landscape characteristics and features
- Evaluate whether previous treatment recommendations have been implemented and identify any barriers to implementing them
- Identify methods for achieving appropriate management practices
- Develop guidelines that can be incorporated into concession leases
- Provide documentation that supports park consultation responsibilities under Section 106 of the National Historic Preservation Act.

Following the general format of a Cultural Landscape Report as outlined in the National Park Service's *Guide to Cultural Landscape Reports: Contents, Process and Techniques,* this condition report is organized in three chapters: existing conditions, analysis and evaluation and treatment.

EXISTING CONDITIONS

This chapter provides narrative text, a site map and photographs which describe and illustrate current boundaries, landscape condition, circulation, parking and landscape characteristics and features. Contemporary site functions, visitor services, site operations and maintenance are discussed to the degree that they influence the treatment of the landscape.

ANALYSIS AND EVALUATION

This chapter re-examines the Analysis of Character Defining Features presented in the *Cultural Landscape Report for Truro Highlands Historic District* (1995), yet goes into a greater level of detail in order to aid park Section 106 consultation responsibilities. By comparing the historic condition with the existing conditions of landscape characteristics and features, the report presents a list of characteristics and features that contribute or do not contribute to the historic character of the Historic District, which has been determined eligible for the National Register of Historic Places.

TREATMENT

This chapter reviews the preliminary treatment recommendations presented in the *Cultural Landscape Report for Truro Highlands Historic District* (1995) and *Preservation Maintenance Plan for the Highland Golf Links* (1998). For the entire district, the treatment plan includes guidelines for preserving the historic character of the landscape that can be incorporated into future concession leases. The plan looks at broad treatment principles, as well as specific current issues such as the current parking lot configuration, vehicular and pedestrian circulation and guidelines for signs, restrooms and storage structures. For the Golf Links, the treatment chapter compares with current management practices at the Highland Golf Links with those used on historic links courses in an effort to identify practices that will preserve the character of the historic landscape.

SUMMARY OF FINDINGS

The Truro Highlands Historic District period of significance extends from 1898, when the Highland Links was built, until 1947, when the Small family sold the resort to the Conklin family. Despite major changes in the historic district, including the relocation and demolition of several structures, the district retains sufficient integrity to convey its significance as an early tourist resort on the Lower Cape. Minor changes could collectively diminish the integrity of the district, including the introduction of the golf carts, paving of the cart paths between the links, construction of a maintenance building, paving of the new parking lots and the planting and self-seeding of non-native trees and shrubs. The treatment section provides guidance on methods for mitigating or reversing these changes.

Natural processes are also diminishing the integrity of the district. Cliff erosion has fundamentally changed the landscape since the early 1980s. Significant landscape features including roads, buildings and golf holes have been lost due to erosion. In response to erosion, the Highland Light was move inland in 1996. Relocated into the Truro Highlands Historic District, the lighthouse altered the spatial organization and circulation within the Highlands area.

The Truro Highlands Historic District has not been formally listed in the National Register. In addition, while it may be listed as part of the "Lighthouses of Massachusetts" Thematic Group Nomination, the relocation of the Highland Light within the historic district in 1996 requires that existing National Register documentation to be updated. Currently, these revisions have not been completed, but are scheduled to be addressed by the National Park Service History Program.

In an effort to preserve the integrity of the historic district, treatment recommendations were developed to guide the future management of the historic resource. Recommendations include reducing paths on the Highland Links, relocating the golf cart parking area, reconfiguring the Highland Road parking facilities, unifying surface materials found on paths and roads, screening the maintenance building with native vegetation, establishing a consistent district-wide signage system and selectively removing trees and shrubs from the historically open fairways. Collectively, these treatment actions will ensure the preservation of the cultural landscape character as well as the protection of natural heathland areas.

HISTORICAL OVERVIEW

The history of the Truro Highlands Historic District is detailed in the *Cultural Landscape Report for Truro Highlands Historic District* (1995) and historic structures reports for the Highland House (1993) and Highland Light (1994). The following overview is extracted from the Cultural Landscape Report.

Inhabited by Native Americans prior to the early 1600s, the first recorded permanent resident to the Truro Highlands was Reverend John Avery. He established residence on a small farm just north of the Highland House location after his graduation from Harvard in 1709. Avery served as minister for the settlement of Truro, also working as a smith and farmer until his death in 1754.

The Small family settled in the Truro Highlands in the 1700s and would eventually develop the area as a tourist destination. Although the exact date of settlement is unknown, the family of Isaac Small had already been residing there at his birth in 1754. Through several generations, the Small family established the pattern of land use for the Highland Historic District. The property began as a family farm and evolved into a tourist resort with privately owned cottages and eventually became a part of Cape Cod National Seashore.

Isaac Small (1754-1816) built his first home, called "Tashmuit" after a local Native American name, on the west side of present South Highland Road in the late 1700s. Small's property, on which he raised corn, livestock and hay, extended across the Highlands to the Atlantic. In 1785, he constructed a wind powered gristmill on the site, near the current Highland House, for use in grinding the corn into meal (Figure 0.2, 0.3 and 0.4).[2]

In 1797, the United States Government purchased 10 acres of Isaac Small's land along the Atlantic Ocean for the construction of the Highland Lighthouse. The location was ideal due to the prominent bluff, soils conducive for building and its

ability to support livestock and a garden for the light keeper. Due to the convenience of already being a resident to the area and being self supporting, reducing the need to rely solely on a government salary, Isaac Small was appointed keeper of the light and served until 1812.

Following the death of Isaac Small in 1816, his farm was divided between his oldest sons. Joshua Small (1792-1850) received the house and land on the west side of the South Highland Road and James Small (1787-1874) received land to the east of the road, which is the location of the Highland Historic District.[3]

In 1835, James built a large farmhouse on the northeast corner of South Highland Road and Highland Road (Figure 0.5 and Figure 0.6). Continuing in the tradition of his father, James farmed the land and operated the gristmill while serving as keeper of the light for several years (Figure 0.7). It was during his tenure that writer/philosopher Henry David Thoreau began making visits to the area. During his visits between 1849 and 1857, Thoreau frequently stayed with the Smalls in the keeper's cottage. His accounts of the area provide a written record of the condition of the landscape during the middle of the nineteenth century, prior to the site's development as a tourist destination in the late nineteenth and early twentieth century. His writings describe the rapid coastal erosion, naturally occurring ponds called "clay pits" extreme weather conditions and oppressive saltiness of the air. He also recorded much of the native vegetation, saying that the "Shadbush *(Amalanchier)*, Beach Plums *(Prunus maritima)* and Blueberries *(Vaccinium pennsylvanicum)*, like the apple trees and oaks, were very dwarfish, spreading over the sand, but at the same time very fruitful."[4]

Following Thoreau's visits and the extension of the railroad into Provincetown in 1873, tourists were drawn to the Highland area. The railroad made Truro and the Highlands easily accessible to more and more people wanting to recreate on the Outer Cape (Figure 0.8). With an increase in tourism, the construction of large resort hotels started to occur. The Smalls took advantage of this growing trend and began to focus on the tourism possibilities of the Highlands. Upon the death of James Small in 1874 his son, Isaac Morton Small (1845-1934), added a two-story wing to the farmhouse that he inherited from his father. The building, which was used for many years as a hotel, became known as the Highland House (It was later referred to as the Highland Lodge when the currently existing Highland House was built). This was the first structure built in the Highlands and probably in Truro, exclusively used for tourism. Although the Highland House was a good distance away from the railroad line in Truro, visitors were drawn to its natural attractions and hotel facilities. Small would meet the train with a wagon and shuttle the guests to the Highlands.

In 1880, Isaac M. Small built the Cliff House just north of the Highland Light property line (Figure 0.9). Isaac and his family used the house as their primary residence and used the Highland House exclusively for tourists. His residence at the Cliff House gave him a base for observing merchant marine activity, which he reported to the Boston Chamber of Commerce, allowing ship owners to know when their vessels were expected to port. He also took advantage of his close proximity to the Highlight Light by becoming the unofficial guide for interested tourists (Figure 0.10).

In 1894, Isaac M. Small began a development project in the Highlands that was intended to take advantage of the increase of tourism. In 1872, he purchased 17 acres of land along the cliffs just south of Highland Light in a joint venture with his cousin Edward E. Small. After waiting two decades, possibly due to an economic recession, they decided to subdivide the property into individual tracts, offering them for sale to individual owners to build cottages. Very few of the lots, if any, were sold and Isaac turned in a new direction. He began to expand his own tourist facilities in order to capture the growing tourist market. He constructed several cottages on the property during the next few years, including the Millstone on the site of his father's gristmill and the Rock and Beacon, just south of Highland Road, after buying Edward's share of the joint property (Figure 0.11 and Figure 0.12).[5]

It was during this period that the recreational facilities, including the Highland Golf Links, were constructed under the direction of Isaac's son, Willard M. Small. Willard took over the general operation of the resort after graduating from college in 1892 or 1893. With a keen interest in sports, he introduced several additions to the property, including a pool table at the Highland House, a skating rink, the Highland Golf Links in 1898, a combined indoor bowling alley and pool room and an informal ball field located on the same site as the golf course (Figure 0.13 and Figure 0.14).

In 1906, Isaac M. Small embarked on his biggest venture with the construction of a large new hotel on elevated land just east of Millstone cottage. Originally called the Highland House Annex, the two-story facility was renamed Highland House after its opening in 1907. To avoid confusion, the original Highland House was renamed Highland Lodge (Figure 0.15 and Figure 0.16). Upon completion of the new accommodations, the Small's resort could hold just over 100 guests at one time in one of several facilities including the Highland Lodge, Highland House, the Millstone, Rock and Beacon cottages.[6]

In the first decades of the twentieth century, tourism on the Cape continued to be a profitable enterprise for the Small family. However, with many obligations

including, marine activities, civic duties and farming, Isaac Small was probably not very involved in the day to day activities of the resort. Willard Small continued serving as manager of the resort until his untimely death in 1911, when Hayes Small (1876-1939), a younger brother of Isaac's second wife, succeeded Willard in the management of the resort.

During Hayes Small's tenure as manager of the resort, many additions to the resort were made which included, the reconfiguration of the Highland Links in 1913 by J.H. McKinley of New York; construction of the Haven cottage, located between the Rock and Beacon cottages, in 1915; installation and renovation of the Coleraine (Figure 0.17), a salvaged deckhouse from a grounded barge; and the construction of the Margaret Adams cottage north of Highland Road in 1917 (Figure 0.18). This cottage is currently used as a clubhouse for the golf course. In 1920 Isaac's wife, Lillian J. Small, moved a building she had inherited in North Truro to the north side of the road leading to the lighthouse. The building was originally a general store and post office; however it was converted into a five-room cottage known as the Pilgrim. The final addition to the Small's resort complex came in 1928 with the completion of the eight room Mayflower cottage.[7]

Throughout the 1920s and 1930s, additional cottages were constructed within the vicinity of the lighthouse. These were built on lots sold to Henry M. (Harry) and May D. Aldrich of Lexington, MA, by Isaac M. Small. The Aldrich's also acquired adjacent lots from others that Small had sold during the early years of the century. By 1932, they owned 25 lots and had built or acquired five cottages, two as large as the Rock and Beacon. Henry is better known for adding the Jenny Lind Tower south of the golf course in 1927. Even though Isaac sold some of the property, he was still concerned about keeping the tourist amenities intact. He included, within the purchase agreement, a clause that stated "No structure of any kind shall be erected... that shall interfere with play upon Highland House Golf Links as they are laid out at the deed is given, so long as the present eastern holes of said links shall be kept as a part of said golf links."

Throughout the period of significance, agricultural production and farming were still prevalent within the Small family. Historic photographs from as late as the 1939s show large gardens near the Highland House (Figure 0.19). While the main barns were not located on Highland resort property, a variety of farm structures stood on land connected to the resort at different points in its history.

Isaac M. Small's wife, Lillian J. Small died in 1933 with Isaac following in 1934. Lillian M. Small, Isaac's only surviving child, took over ownership of the Highland resort property after the death of Isaac. Although Lillian lived in

Buzzards Bay, the resort was managed by Willard M. Small's two daughters, Evelyn Morton Stevens and, to a greater extent, Hazel D. Shorey. In 1935, Hayes Small sold the Highland Farm (located along South Highland Road south and west of the golf course) to Sumner Horton. The purchase included the Adams cottage, which became the Horton's primary residence. The land continued to be farmed for several seasons until it was later turned into a campground.[8]

World War II forced decisions that had been deferred for several years. With Nazi submarines lurking off the coast and normal travel patterns disrupted, the Highland resort did not open for the 1942 season. By then Lillian M. Small was in her mid sixties; with no children and living elsewhere, it was time for her to reconsider the status of the family resort. A formal survey of the property in 1945 signaled her intention to sell, but she died in March of the following year (Figure 0.20).

Fred C. Small, her husband and executor, sold the Highlands property to Harold J. Conklin of Paterson, NJ, on June 25, 1947. This transaction comprised nearly 88 acres, consisting of all the land in the area owned by Isaac Small's family, with the notable exception of the Cliff House. Under a 1937 deed from Lillian M. Small which carried out a provision of Isaac M. Small's will, Olive M. Williams, longtime assistant to Isaac Small, was given life tenancy in the Cliff House.

Olive survived Lillian and was still living at the time of the transfer to Conklin in 1947; she died in September 1948. It was probably during this period that the Cliff House was divided into apartments. When Hal Conklin and his wife Estelle reopened the Highland House resort in 1947, the complex still retained an appearance characteristic of the second period of tourism on Cape Cod (Figure 0.21).

Except for the removal of the bowling alley, the main structure of the complex had remained unchanged since the 1920s if not earlier. It soon became evident, however, that changing social patterns would make it impossible for the resort to operate successfully on the old basis. The resort had reached a point where it would have to be adapted to new conditions if it were to survive.

In 1950, only three years after acquiring the property, Conklin sold the Highland Lodge (minus its large wing, which was gone by that time), to a couple from Provincetown. To protect his interests, Conklin added a restrictive clause that "the said premises shall not be used for any commercial purpose of any kind, nature or description." After passing through the hands of an intermediate owner, the Lodge was moved by its owners Stanley and Esther Chamberlain to a new location on Old County Road, South Truro, in 1962. It remains at that site.

In 1952, Fred M. Small completed the disposal of the Highlands resort property by selling the Cliff House and its surrounding lots to William B. Spink of Boston. Spink created a small resort separate from Conklin's, around the nucleus of the Cliff House, that was known as the Cliff House Colony.[9]

In the mid 1950s the Coloraine Cottage was demolished owing to the severe deterioration of its roof. Since the Coleraine had previously housed the resort's only bar, the Conklin's created a new bar facility in the Highland House by replacing the north-facing section of the wraparound porch, which had offered the most striking views, with a shed-roofed addition to house the bar. The bar became increasingly popular with local residents, but the large dining room was closed due to lack of business.

In 1955, the Conklins reconfigured the Golf Course, expanding it to the north side of Highland Road. By the mid-1950s, there was a clear change in clientele and operation of the resort. Most of the earlier recreational, service and agricultural structures were gone. Of the multitude of organized recreational structures once offered by the Smalls, only the golf course survived. It endured because of Hal Conklin's personal devotion and because it was open to the public and did not rely on guests staying at the hotel.

With more and more casual sightseers driving to the lighthouse, concession emphasis shifted to offering souvenirs and snacks. To better serve this emerging market, Conklin moved the Pilgrim cottage to the south side of the road near the edge of the lighthouse lot, where it was used as a hot dog stand. It was not especially successful and in 1957 two of Conklin's employees, Joe Colliano and Bill Hastings, purchased it, moved it back to the north side of the road and converted it to apartments. Colliano and Hastings also purchased the hot dog stand/souvenir shop that had stood near the lighthouse and moved it to the north side of the road, as well. There it formed a compact cluster with the Pilgrim cottage and the Jobi pottery shop (which they built) on a lot of slightly less than one acre.

Further fragmentation of the former Highland resort occurred in the early 1960s, perhaps in anticipation of the establishment of the Cape Cod National Seashore. Legislation to create the Seashore had been introduced by that time, but the outcome was by no means certain, nor could the extent or manner of land taking be predicted. In 1960 the Conklins subdivided the cottage cluster on the south side of Highland Road into five tiny lots all but one of which included a building. Four of the lots contained 9,375 square feet and one had 6,785 square feet; collectively they totaled slightly more than one acre. All were soon sold to persons from urban areas of the Northeast.[10]

On July 30, 1964, the Conklins sold their remaining holdings to the National Park Service. These included the Highland House, the Millstone and Mayflower cottages, the former Sumner/Horton farmhouse (former Adams cottage, which the Conklins had purchased in 1955 as their residence) and the golf course. With the proceeds from the sale of the Highlands, the Conklins purchased a similar summer resort in Laconia, NH.

Some of the Aldriches' cottages had survived in a derelict condition into the early 1950s, at which time they were demolished. Around 1958, Samuel Aldrich, son of Henry and May, built a four-room cottage on the tract. He died soon thereafter, however and in 1965 his widow also sold their family's 9.1 acres to the National Park Service.

The arrival of the National Park Service did not bring an immediate end to the Highland House's resort role (Figure 0.21). The Conklins had reserved a right to continue to operate the Highland resort for three more years, with a right to renew for two years beyond that. The Conklins transferred these rights to Hal Conklin's former employees, Joe Colliano and Bill Hastings. The two men exercised both options, operating the property as a resort through 1969. This twilight period was known as the "Jobi" era (Figure 0.22).

Many of the characteristics of the resort under the Small's ownership persisted during these years. The Highland House and the remaining cottages continued to be used largely for their original purposes. Colliano and Hastings even resumed operation of the dining room. They divided the large first-story room by means of a plywood partition that created a separate lounge/breakfast nook in the section nearest the lobby.

There was a distinct hierarchy of renting during this period, based on the availability of bath facilities, with the second floor of the Highland House last on the list. Normally it was used by the help or by young people who could not afford the better rooms and was rented to ordinary guests only as a last resort. This reversal of priorities due to the relative accessibility of indoor plumbing is reflected in the room rates. During the Jobi period (1964-1969), rooms in the Highland House were rented to young persons for $10 per week, while the rate in the cottages was $12 a night, double occupancy, including maid service. In contrast, Marshall reports that in 1919 the $6-a-week rate at the Highland House was equal to the Adams, Haven and Millstone cottages, while the old Highland Lodge was at the lower end of the scale at $2.50.[11]

Just prior to the end of their era of active management at the Highlands, with the trend of events unmistakably clear, Colliano and Hastings gave the Truro Historical Society space in the Millstone cottage's relatively primitive rear wing, in an effort to increase the chances of the cottage's survival. This established the Historical Society's presence at the resort, which would enable the society to ask the National Park Service in the early 1970s for the use of the Highland House as a museum.

Following the approval of the Cape Cod National Seashore's first General Management Plan in 1970 a specific Development Concept Plan (DCP) was prepared for the Highland Light. Intended to "ensure a particular environment through an orderly system of Planned Actions including land acquisitions, development, building retention and removal and interpretation," the 1970 DCP included the following recommendations:

1. Acquire the northeastern half of the Coast Guard Property (lighthouse site) or, if this is not possible, acquire rights to construct a trail and movable interpretive shelter.

2. Acquire Highland Road and the town parking lot from the Town of Truro. Construct a 50-car parking area in the vicinity of the Highland House along Highland Road. Leave vehicular access to the private homes, the Jobi shop and Pilgrim House, the Lighthouse, Little Jobi Shop and the cottages.

3. Acquire and remove the Jobi Shop. Remove the town parking area.

4. Acquire the private homes on the south side of Highland Road and remove all except the one closest to the ocean. Convert this structure into a pro-shop clubhouse for the golf course. Remove the existing pro shop.

5. At such time in the future that the owners of the Jobi Shop and Pilgrim House vacate these structures they should be acquired and removed. At this time the ninth hole of the golf course should be extended.

6. All of the Coast Guard Property should be acquired at such time that the Coast Guard is willing to transfer it.[12]

While the National Park Service has not carried all of the actions outlined in the DCP, it did direct the management of the Highlands over approximately the next two decades. After the initial establishment of the National Seashore, the National Park Service was primarily interested in acquiring open land. It therefore pursued a policy of auctioning off the buildings on the properties that it

purchased, with the stipulation that the new owners move the buildings elsewhere. This was the case with the Millstone and Mayflower cottages in 1971. Millstone cottage went to Pond Road, while Mayflower became an office and additional rooms for a motor inn on Route 6, both in North Truro.

Also in accordance with the DCP, in 1972 the Park Service bought two other of the resort's properties that had not been acquired in 1964—Pilgrim cottage and the Cliff House. Joe Colliano and Bill Hastings sold the land beneath the Pilgrim cottage and the Jobi shop to NPS, but retained ownership of the buildings themselves. The next year, they relocated the cottage (and the Jobi shop) yet again to another location on South Highland Road, where it remains today.

The Cliff House was purchased by the Park Service from William Spink on February 1, 1974. Spink reserved the right to move the building by May 31, 1974. He failed to do so by the deadline and the Park Service assumed control. The house then stood vacant for almost a decade until a Board of Survey process was initiated in 1983. By then the structure was only 20 feet from the edge of the eroding cliff. An auction of the building took place on April 29, 1983 and on May 12, the bid of Daniel Del Gizzi was accepted. The house was moved between August 3 and August 16, 1983, traveling about 1 1/4 miles to a new location on Alden Road. It currently stands in this location, although it has been extensively altered.

During the 1980s, the National Seashore continued, albeit at a slower pace, to implement the recommendations set out in the 1970 DCP. In 1970 a well for irrigating the golf course was re-drilled 1600 feet south of the Highland Light. In 1982 the southeast well on the Highland House was removed owing to serious deterioration. In the late 1980s the Park Service acquired The Beacon and rather than removing it, is currently using it for park housing. The Rock and Haven cottages remain in private ownership. The Adams cottage serves as the current golf course pro shop (Figure 0.23).[13]

The most recent alteration to the landscape at the Highlands was the relocation of the Highland Light. Cliff erosion has continued to proceed at an accelerated rate over the decades, leaving the lighthouse in serious danger of being lost. Planning studies were initiated by the National Park Service in the early 1990s, seeking recommendations for the best alternatives for relocation (Figure 0.24). The final plan to relocate the lighthouse and adjacent keeper's cottage was implemented in 1996. Both structures were relocated approximately 570 feet from the cliff, southwest of their original location. The old parking lot was removed and Highland Road terminated at the new lighthouse location. The relocation of the lighthouse had a direct impact on the extant landscape of the

Highland Historic District (Figure 0.25). Alterations to the landscape as a result of the relocation include: a change in the circulation system due to the shortened distance along Highland Road to the lighthouse; increased pedestrian visitor traffic to the cliff overlook between the seventh and eighth holes of the golf course; an additional parking lot; altered views to the lighthouse from other site elements including the Highland House, cottages and the golf course; and the introduction of visitor and resource safety concerns due to the lighthouse's closer proximity to the seventh tee.[14]

HISTORY OF LINK COURSES

As described in the Preservation Maintenance Plan (1998), the traditional golf links is the earliest type of golf course. Throughout the history of the sport, course design has evolved from the early, naturally-inspired links to the modern courses we know today. Throughout the country, a course that is treeless, flat and within a few miles of a natural body of water, is often referred to as a "links-style" design, however, a true linksland is much more complex and is rare in the United States.

There are properties in the United States that come close to capturing linksland elements, like the Highland Golf Links, which still bears a remarkable similarity to the traditional links course. The term "links" was originally derived from the courses' location, the natural terrain of the Scottish linksland. Generally, linksland refers to the native sandy, hilly landforms located next to the sea. A more accurate definition of linksland, however, includes terrain consisting of a sandy base, or sand dunes formed by a receding sea, covered by alluvial deposits of fertile soil left by an ancient river on its course to the ocean. Early golf links in Scotland fit within the latter description, as they were typically on or near river estuaries, with the first courses being laid out along the Eden, Tay and Forth rivers. Additionally, the term "links" refers to the land near the sea that was not adequate for farming. This strip of land was the "link" between the sea and the fertile farmland.[15] Since the Middle Ages, links were the common place for sports, including archery, bowling and golf. Eventually, the term "links" gained a broader usage and became associated with any course located on the natural landscape adjacent to an ocean or other water body.

These early courses relied solely on the natural environment for their form and difficulty of play. Natural landforms determined the layout, design and routing of the course. Hazards included such obstacles as overgrazed bare spots, livestock bedding areas, small game nests, holes and barren sand dunes. There were no manicured tees, fairways, or greens. Water hazards consisted of only naturally occurring sites. Changing winds and extreme weather conditions

contributed to the challenge of the game. Native vegetation that could survive the sandy, windswept terrain predominated. Trees or shrubs were rare in the harsh landscape. Typically, bentgrass, with a small amount of fescue mixed in was the prevailing turf. The coarse, stiff leaves of the bentgrass were especially hardy near the salt water environs and provided a good support for the early leather bound, feather-stuffed balls. These naturalistic courses had little or no maintenance. Rain, typically abundant in Scotland, provided the irrigation. Grazing sheep or other livestock kept the minimal turf in check and if it grew too tall, the golfers simply stopped playing.

One of the most famous golf links is St. Andrews in Scotland. It was established as early as 1414 on naturalistic seaside linksland. Upon competing in the 1946 British Open, Sam Snead made the following observation of the course:

> The grass was all scraggly and the greens looked like they weren't maintained and the bunkers looked like they had never been raked. And I asked the gentlemen sitting across from me, "What old abandoned golf course is that?" And the gentlemen took off his hat and stood up with a horrified look on his face and said, "I'll have you know that's the Royal and Ancient Golf Club of St. Andrews!"[16]

The early course had twenty-two holes consisting of playable grassy areas bordered by heather-covered sand bunkers. In the 1700s, greens first made their appearance on the links and two holes were redesigned, leaving a total of eighteen holes. In 1834, King William IV recognized St. Andrews as "Royal and Ancient" and the Royal Society of St. Andrews Golfers proclaimed it the "Home of Golf." Later referred to as "The Royal and Ancient Golf Club of St. Andrews", it became the standard by which to measure all future courses. Eighteen-holes were established as the norm.

The term "golf course" also owes its origin to St. Andrews. The linksland setting was considered the best locale for future course development. As result of St. Andrews' "Home of Golf" designation, any course that was not built on linksland could not call itself a links and therefore a new term was needed for newly created inland courses. The term "golf courses" was coined to refer to a course which was not located on naturally occurring linksland.

Another course that may have influenced the design and construction of the Highland Links was Preswick, described by famous golf writer Bernard Darwin in 1910 as notable for its "pleasurable uncertainty" and heralded as one of the world's best links courses. Preswick was the host of the very first Open

Championship in 1860 and regularly used for the competition up until 1925 when crowd control was no longer possible. Like St. Andrews, the Preswick links are set along the coast with wild roughs, deep bunkers and small greens. Set in "natural golfing country," Preswick is described as "great sand hills bristling with bents and little nesting valleys beyond them, a rushing burn and a stone wall and it is perfectly clear that man was meant to hit a ball over them." The fairways are described as a "smooth avenue mowed out of a big field."[17]

The links course was considered to be the archetype of course layout. The emphasis on naturalism in the layout and play was thought to provide the best golfing experience. According to golf historians Cornish and Whitten, "In the early development of the game of golf, its players, its rules and its implements all had to adapt to fix the existing conditions of nature as found on the links. As man began laying out and building golf courses, however, the opposite soon resulted. While the avowed purpose of course designers throughout history have been to imitate nature, the actual practice of golf architecture has demanded modifications of existing terrain and soil to create conditions resembling those found on the links."[18]

Golf began to increase in popularity in America in the mid 1800s. The course designs were still being influenced by the links style, but there was a limited amount of linksland in the States upon which to build these courses. Between 1896 and 1900, over 900 courses were constructed, many by experienced designers from Europe who immigrated to take advantage of the growing interest in the sport. Some of these courses were laid out in the links style adjacent to the ocean or other water bodies. Most, however, were inland courses, designed by "people who could barely play the game and who knew nothing about building a golf course."[19] Many of these early courses were staked out in one afternoon by amateur designers, who were paid $25 per job, no matter how long the job took, giving rise to the popular phrase of the day, "Eighteen stakes on a Sunday."[20]

Although Highland Golf Links was not the result of an experienced European designer's work, its original design in 1898 recalled the ancestral courses of the Scottish Highlands. Upon examination of the current layout of the course, evidence is seen that Small took advantage of the rolling landforms, views to the ocean and naturally occurring hazards when siting the holes. Photographs of early links courses reveal the similarities between Small's design and the traditional European links pattern that was predominant in early golf course construction in the United States. Other clues that Small was following the links pattern are his use of local materials both in construction and planting. Written documentation indicates that he relied upon readily available sand gravel for the construction of the tees and greens. He also used native plants to vegetate the

fairways and rough areas of the course, taking advantage of their natural tolerance of the extreme environmental conditions. The Highland Links is an important surviving example of early links style golf course design in the country. Given its historical importance and continued usage as a recreational facility, careful consideration needs to be given to how best to preserve both the site's character and integrity. The aspects of the character and integrity of the historic links landscape is described in further detail in the analysis and treatment chapters.

ENDNOTES FOR INTRODUCTION

[1] Cape Cod National Seashore, *General Management Plan*, 1998, 17.

[2] Katherine Lacy et al, *Cultural Landscape Report for Truro Highlands Historic District* (Boston, Massachusetts: National Park Service, 1995), 4.

[3] Tracy J Stakely, *Preservation Maintenance Plan: Highlands Golf Links, Cape Cod National Seashore* (Cape Cod National Seashore: National Park Service, 1998) 9.

[4] Ibid, 9.

[5] Ibid, 11.

[6] Ibid, 12.

[7] Ibid, 12.

[8] Ibid, 13.

[9] Ibid, 15.

[10] Ibid, 15.

[11] Katherine Lacy et al, *Cultural Landscape Report for Truro Highlands Historic District* (Boston, Massachusetts: National Park Service, 1995), 4.

[12] Ibid, 33.

[13] Ibid, 34.

[14] Stakely, 19.

[15] *Golf History*, Definition of a 'links' course (USGA, 2006).

[16] *Golf Guide Europe* (France: DPS Suresnes, 1991).

[17] Bernard Darwin, *The Golf Courses of the British Isles* (London, Duckworth & Co., 1910).

[18] Geoffrey S. Cornish and Ronald E. Whitten, *The Architects of Golf* (New York: Harper Collins, 1993) 9.

[19] Ibid, 37.

[20] Ibid, 37.

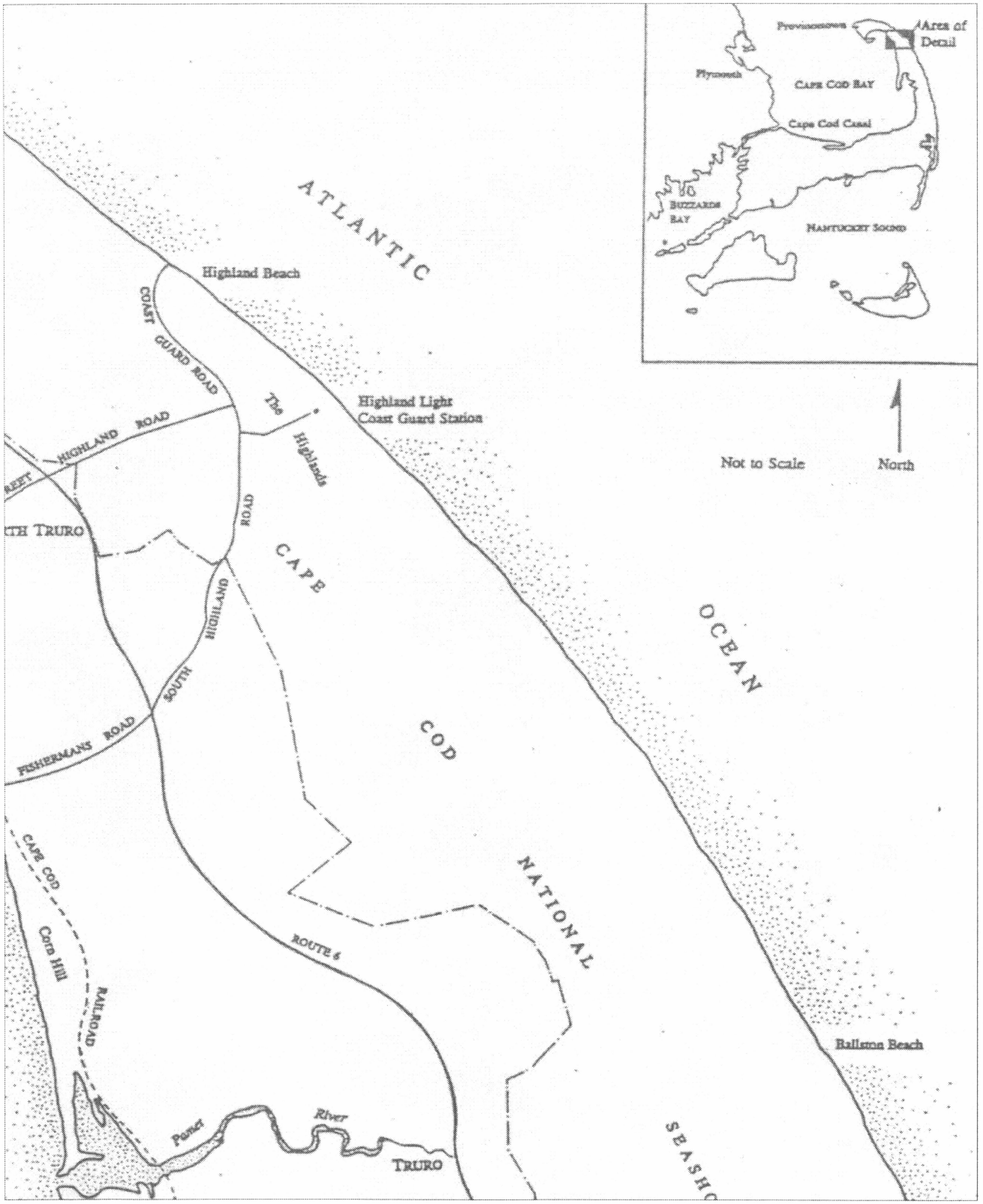


Figure 0.1: Vicinity Map, Truro Highlands. Source: Catherine Evans, Olmsted Center for Landscape Preservation, 1993.

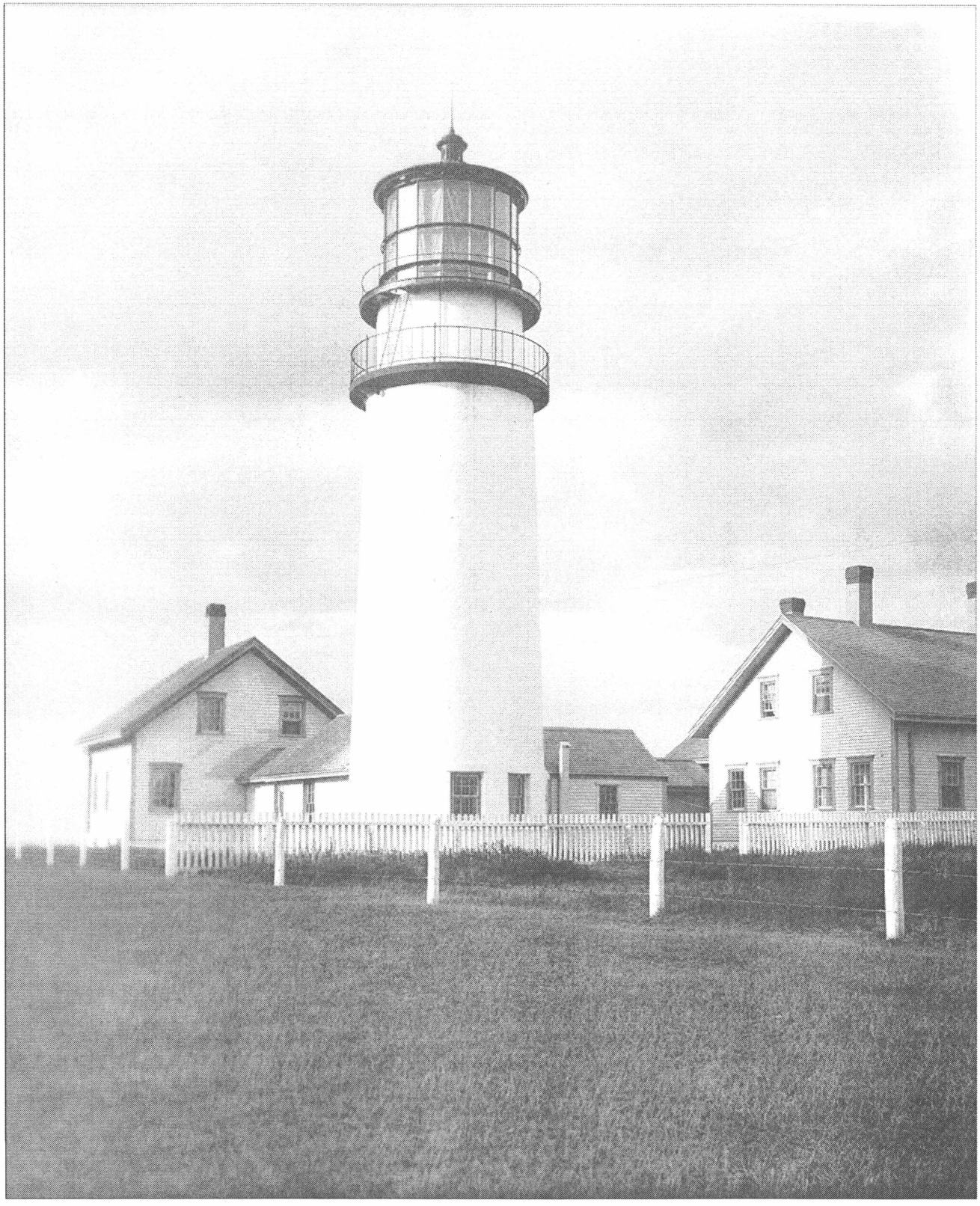


Figure 0.2: Highland Lighthouse, Truro, in 1891. Source: Cape Cod National Seashore (H14-028).

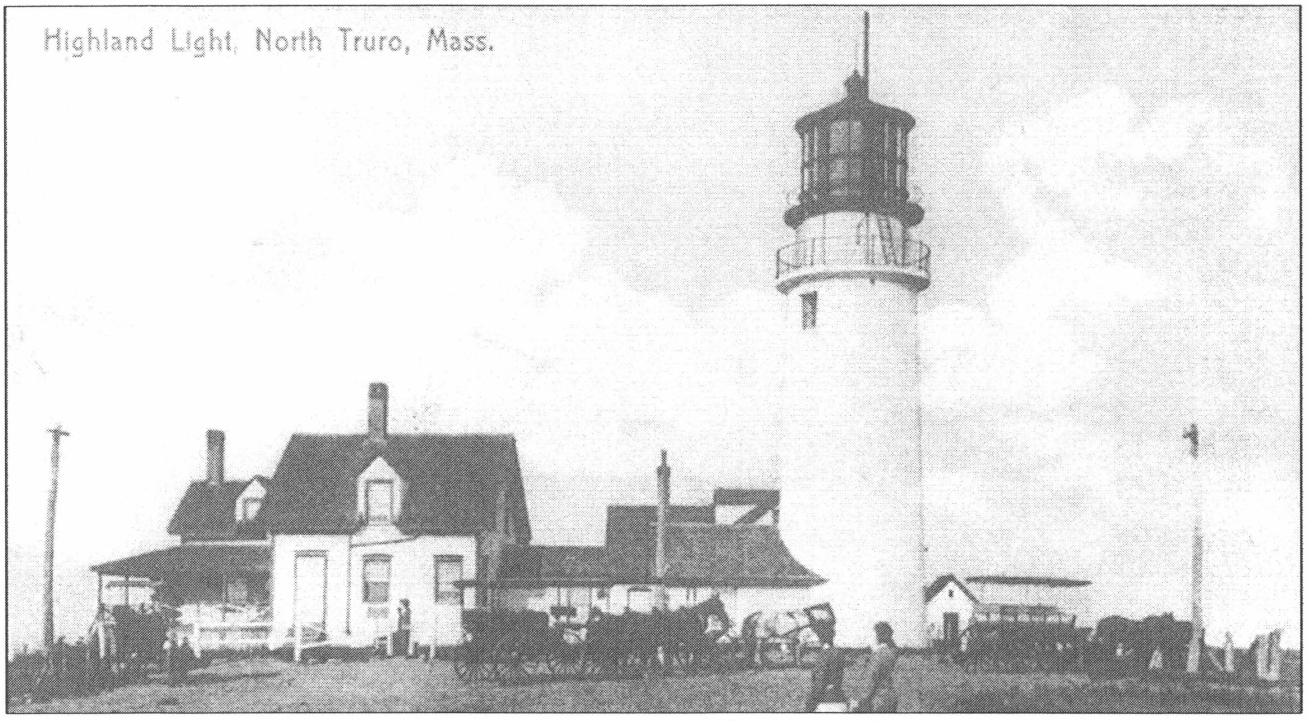


Figure 0.3: Photo of Highland Lighthouse and associated buildings, c. 1900s. Source: Cape Cod National Seashore. (H14-071).

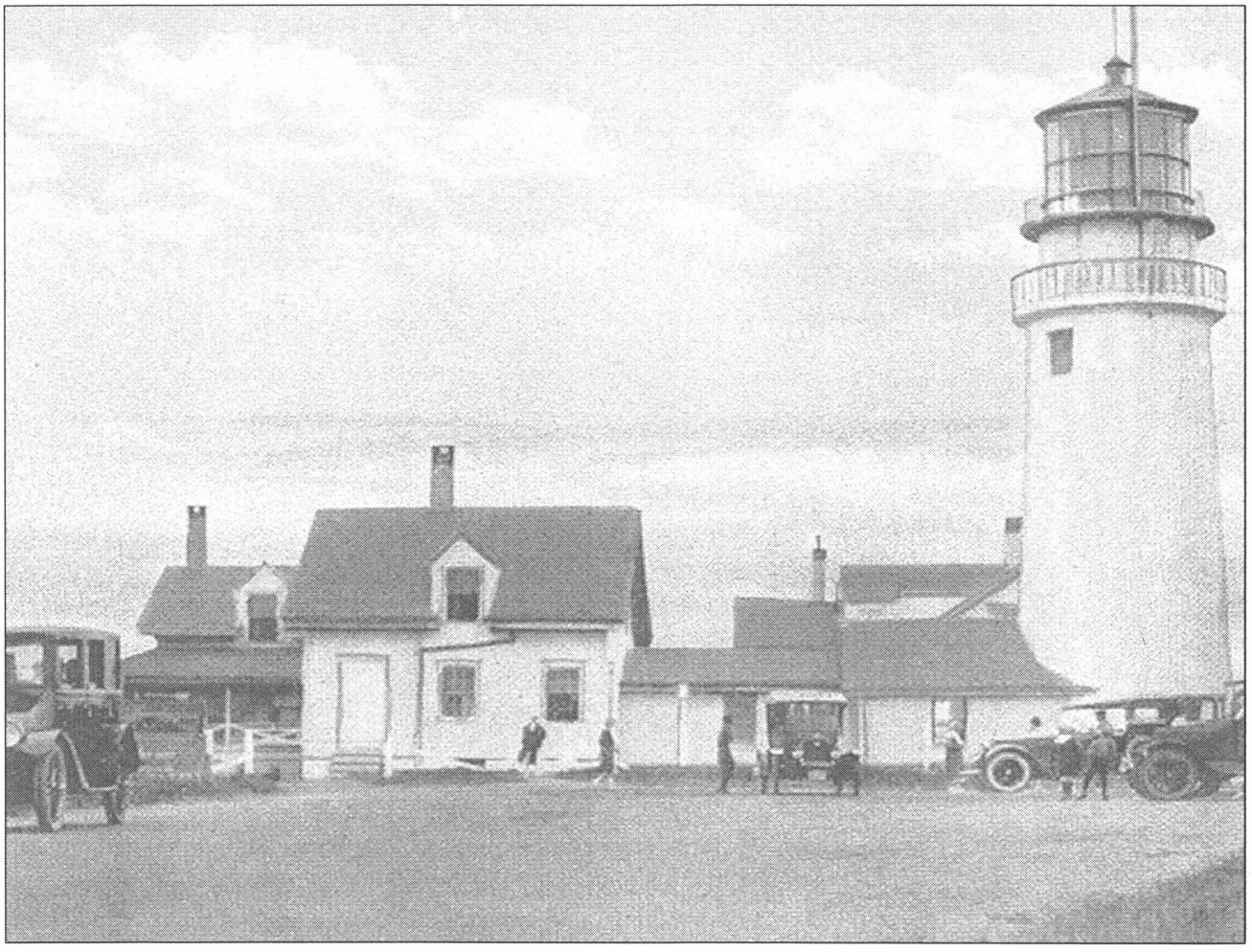


Figure 0.4: The Highlight Light and Keepers Cottage, c. 1920s. Source: Cape Cod National Seashore. (H14-038).



Figure 0.5: Photo of Highland Lodge c.1900s, formerly the original Highland House. Source: Cape Cod National Seashore. (H26-045).

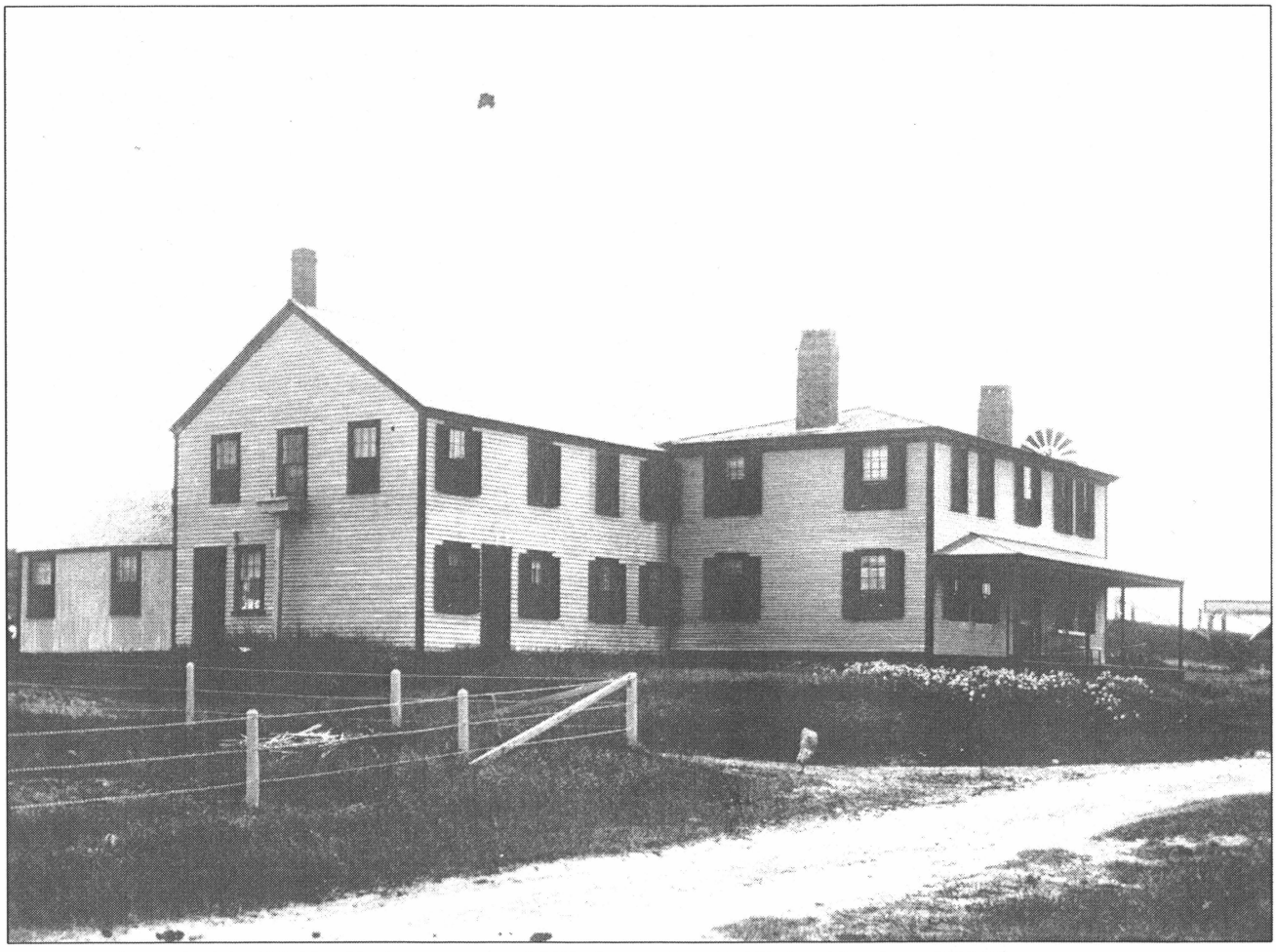


Figure 0.6: Photo of original Highland Lodge, constructed 1835. Source: Cape Cod National Seashore. (H26-06).

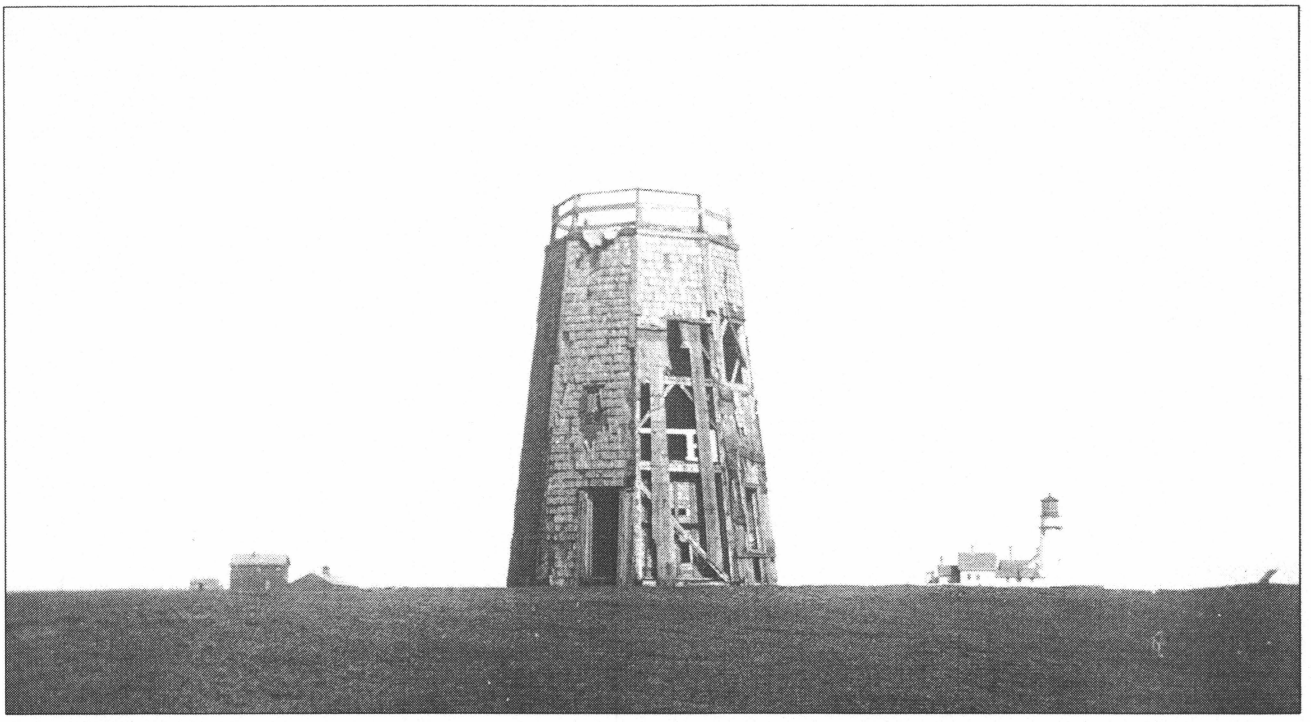


Figure 0.7: Ruins of the wind powered gristmill at Truro Highlands. (1856-1888) Highland Lighthouse can be seen in background. Source: Cape Cod National Seashore. (H14-034).

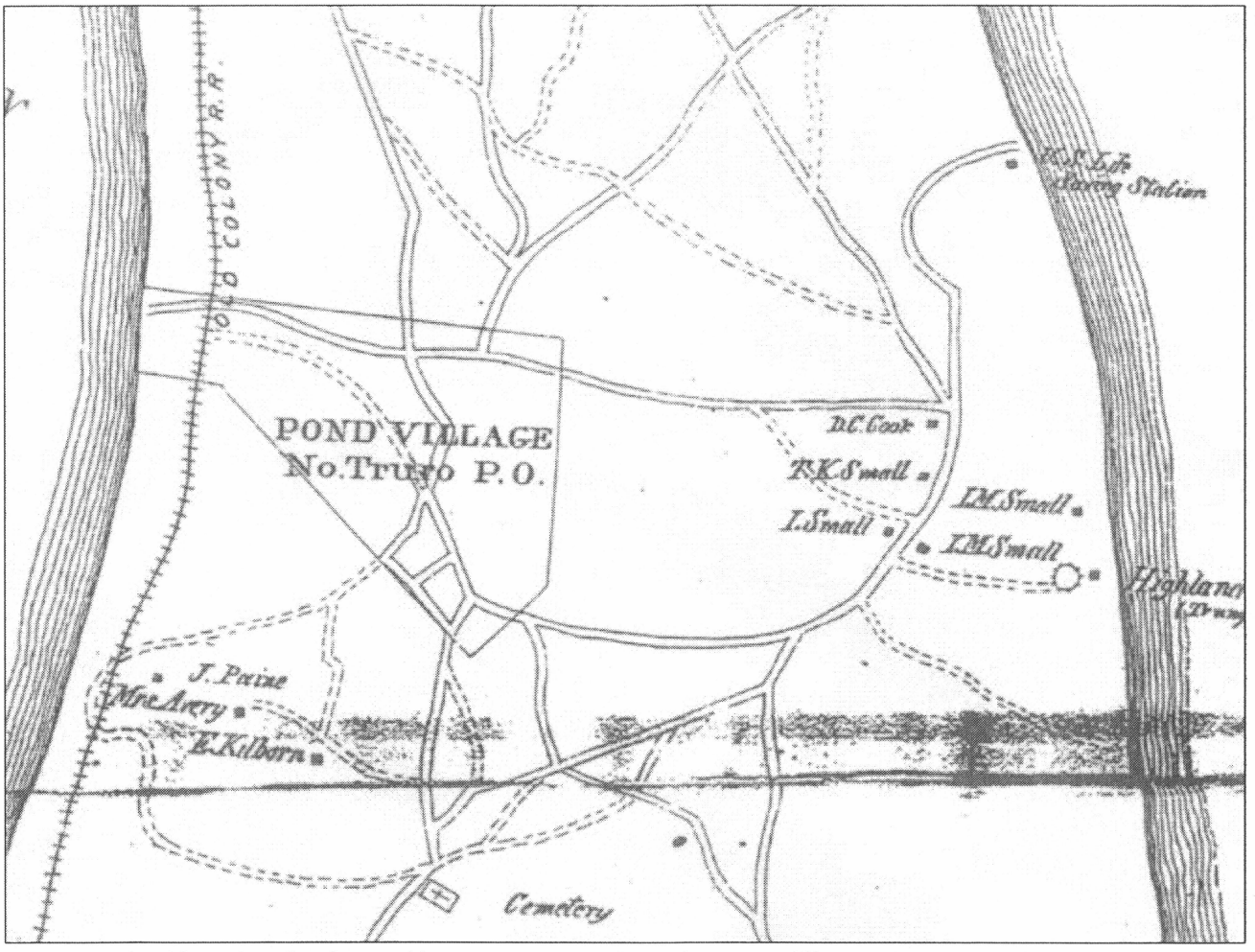


Figure 0.8: A detail from The Atlas of Barnstable County, George Walker and Co.,1888. Cliff House shown North of Highland Light.



Figure 0.9: The Cliff House, 1880-1900. View looking northwest. Source: Cape Cod National Seashore. (H26-07).

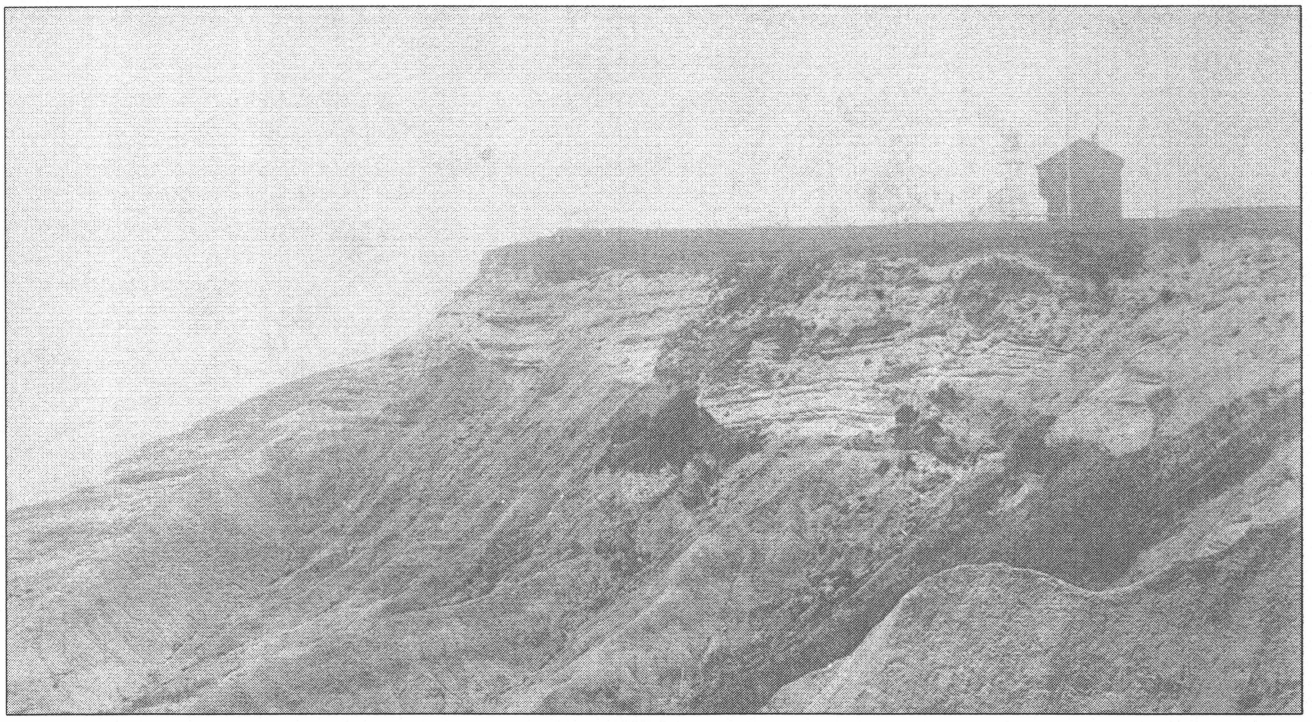


Figure 0.10: The Highland Light and Cliff House, 1900-1910. View looking south. Source: Cape Cod National Seashore (H14-030).



Figure 0.11: Photo of Highlands Resort Showing Highland House, the Millstone, and Rock and Beacon Cottages, c. 1908. View looking west. Source: Cape Cod National Seashore (H26-49).

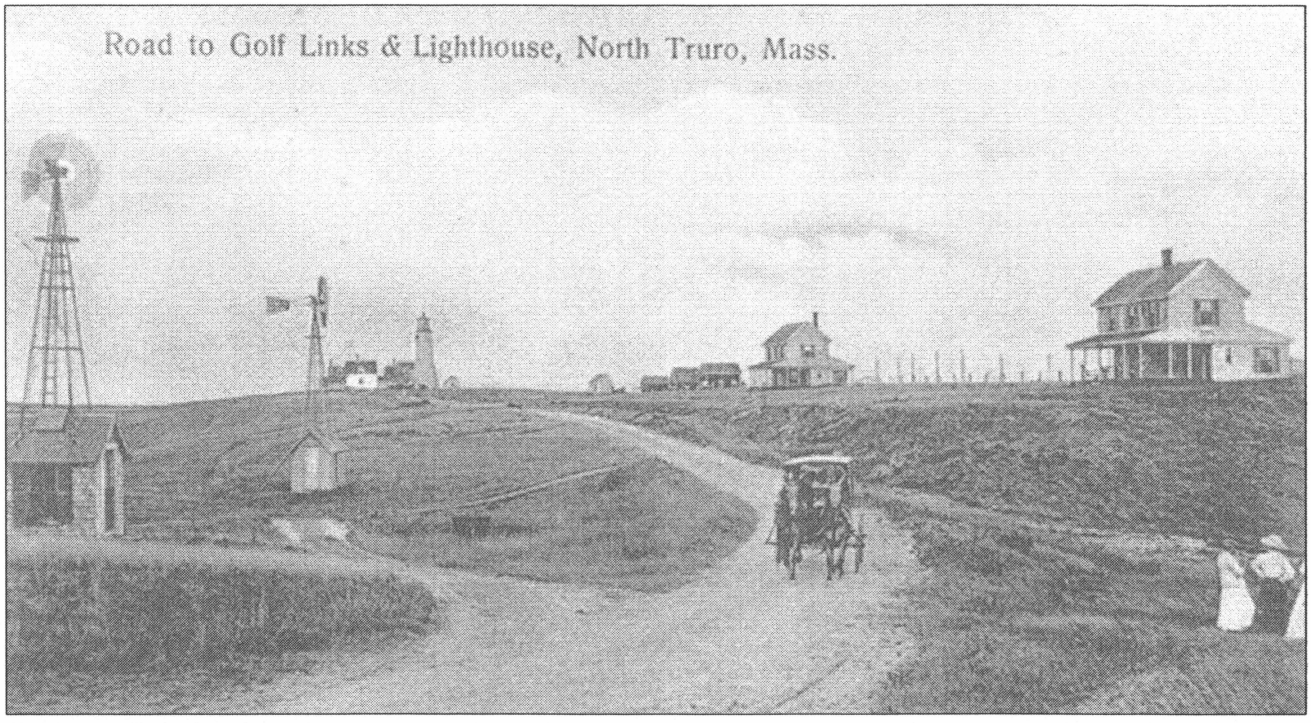


Figure 0.12: Photo of Highland Road, with "Beacon" and "Rock" cottages, facing east to the Highland Light, c.1900s. Source: Cape Cod National Seashore. (H26-23).



Figure 0.13: Photo of ballplaying in the field southwest of Highland Light,1910-1920. Source: Cape Cod National Seashore. (H14-040).

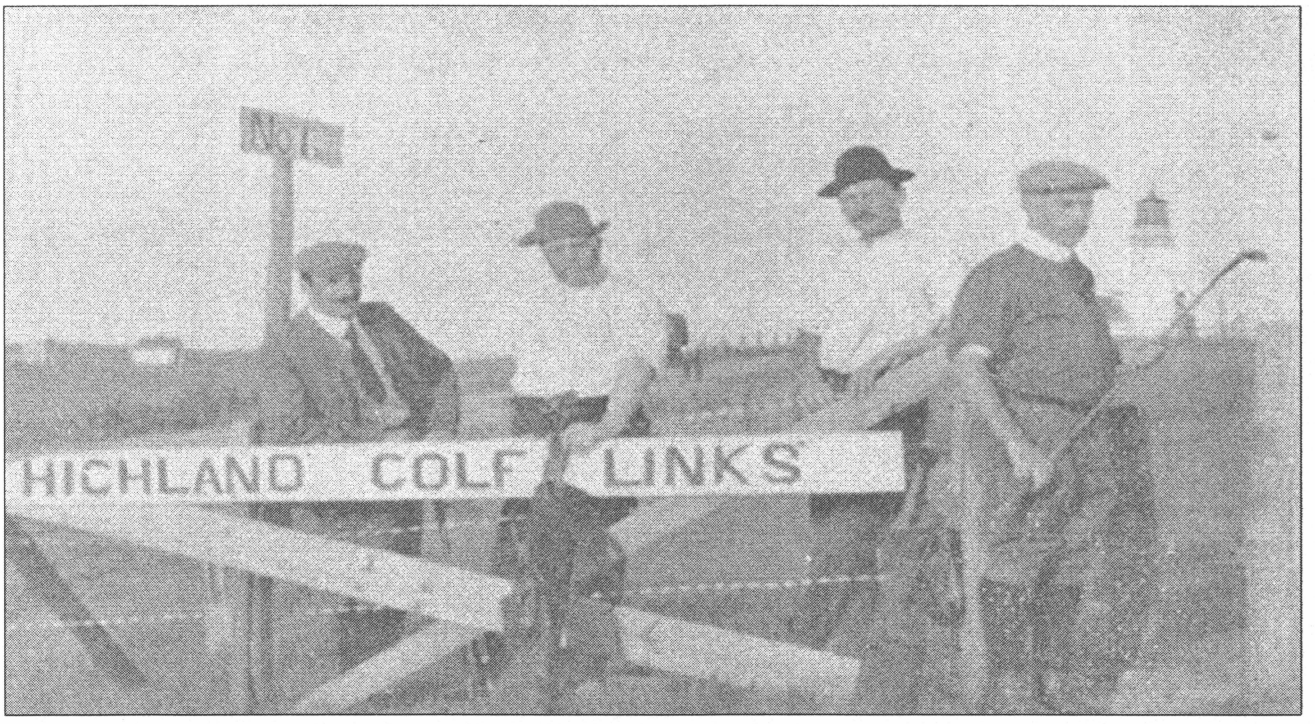


Figure 0.14: Four men playing golf on hole one of the Highlands Links, c.1930s. Source: Cape Cod National Seashore. (H26-42).

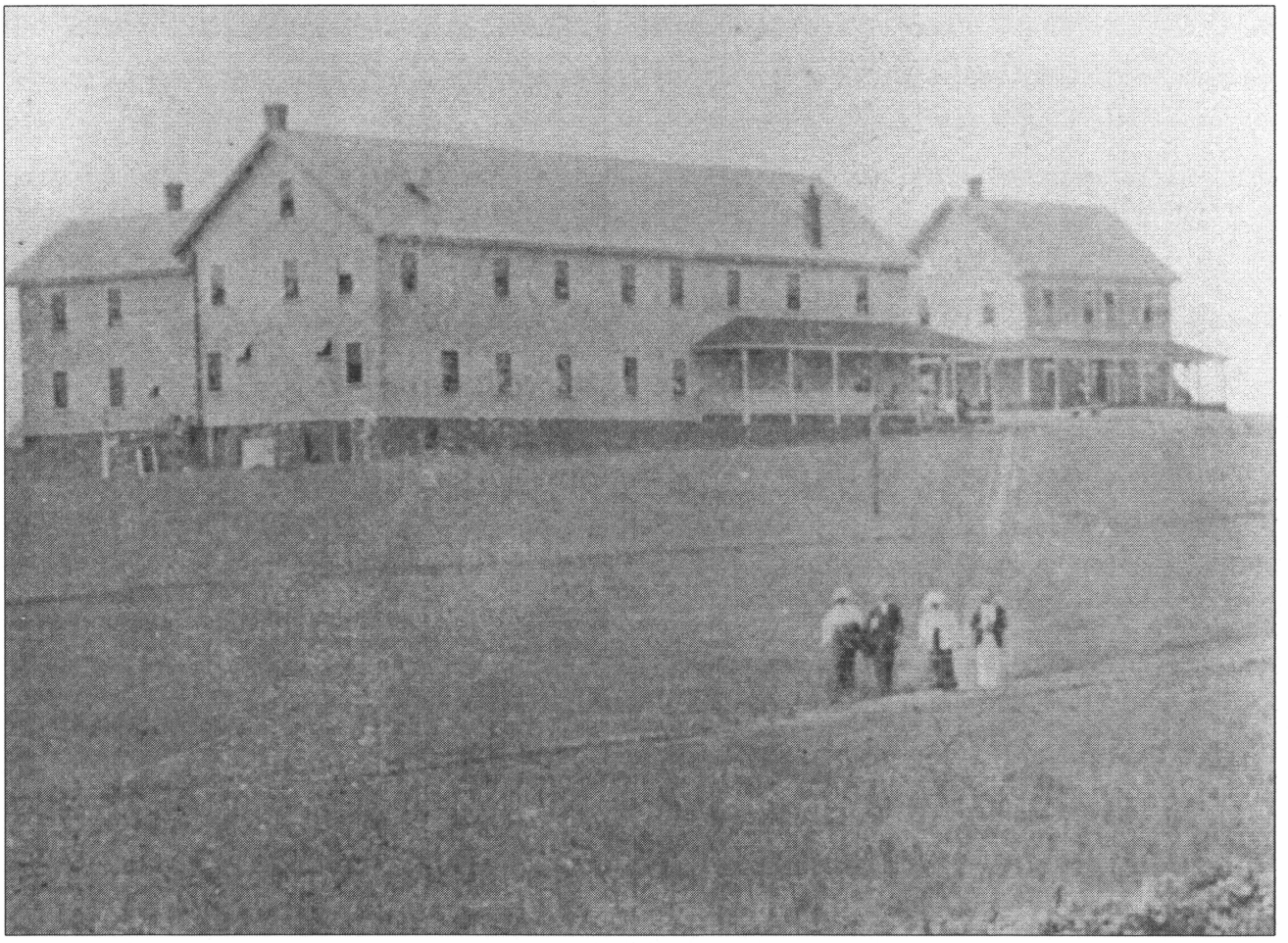


Figure 0.15: Northeast view of Highland House and Millstone Cottages, prior to 1922. Source: Cape Cod National Seashore. (H26-50).

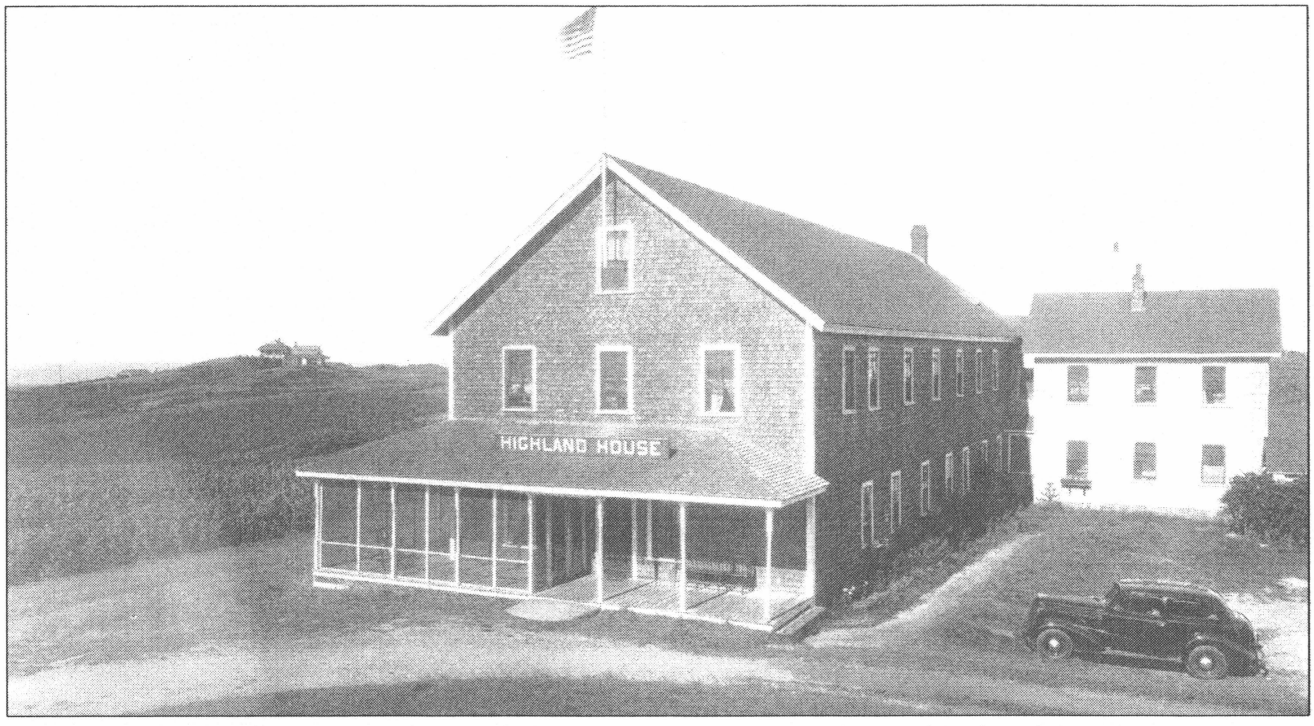


Figure 0.16: Photo of Highland House, c.1930s. View looking northeast. Source: Cape Cod National Seashore. (H26-046).

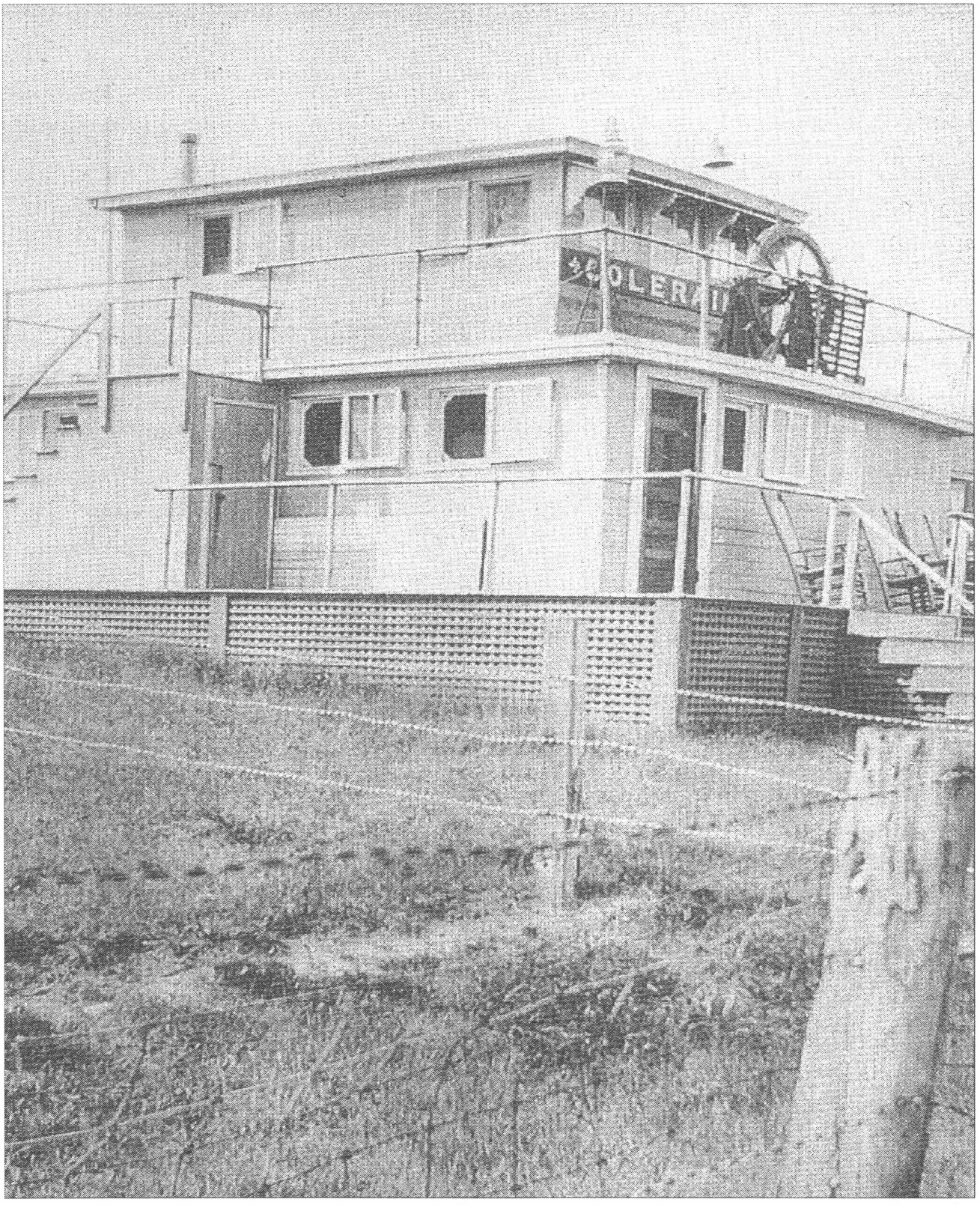


Figure 0.17: Photo of the Coleraine, a salvaged deckhouse from a grounded barge, c.1920s. Source: Truro Historical Society.



Figure 0.18: The Adams Cottage and surrounding buildings in the Highland District, c.1920s. View looking east. Source: Truro Historical Society (9-11).



Figure 0.19: Photo of Highland House and associated gardens, 1907-1920. View looking northeast. Source: Cape Cod National Seashore. View looking northeast. (H26-047).

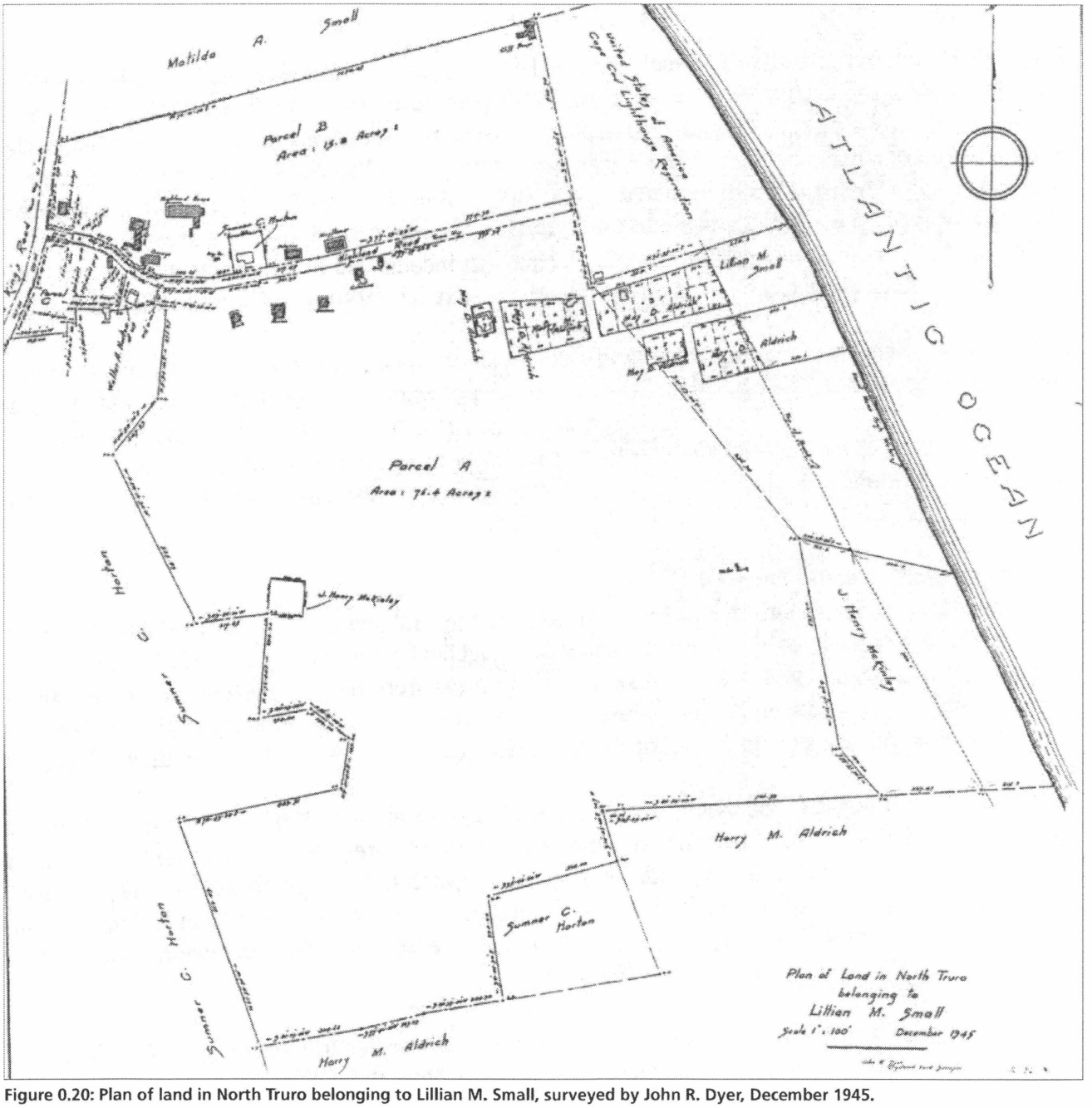


Figure 0.20: Plan of land in North Truro belonging to Lillian M. Small, surveyed by John R. Dyer, December 1945.

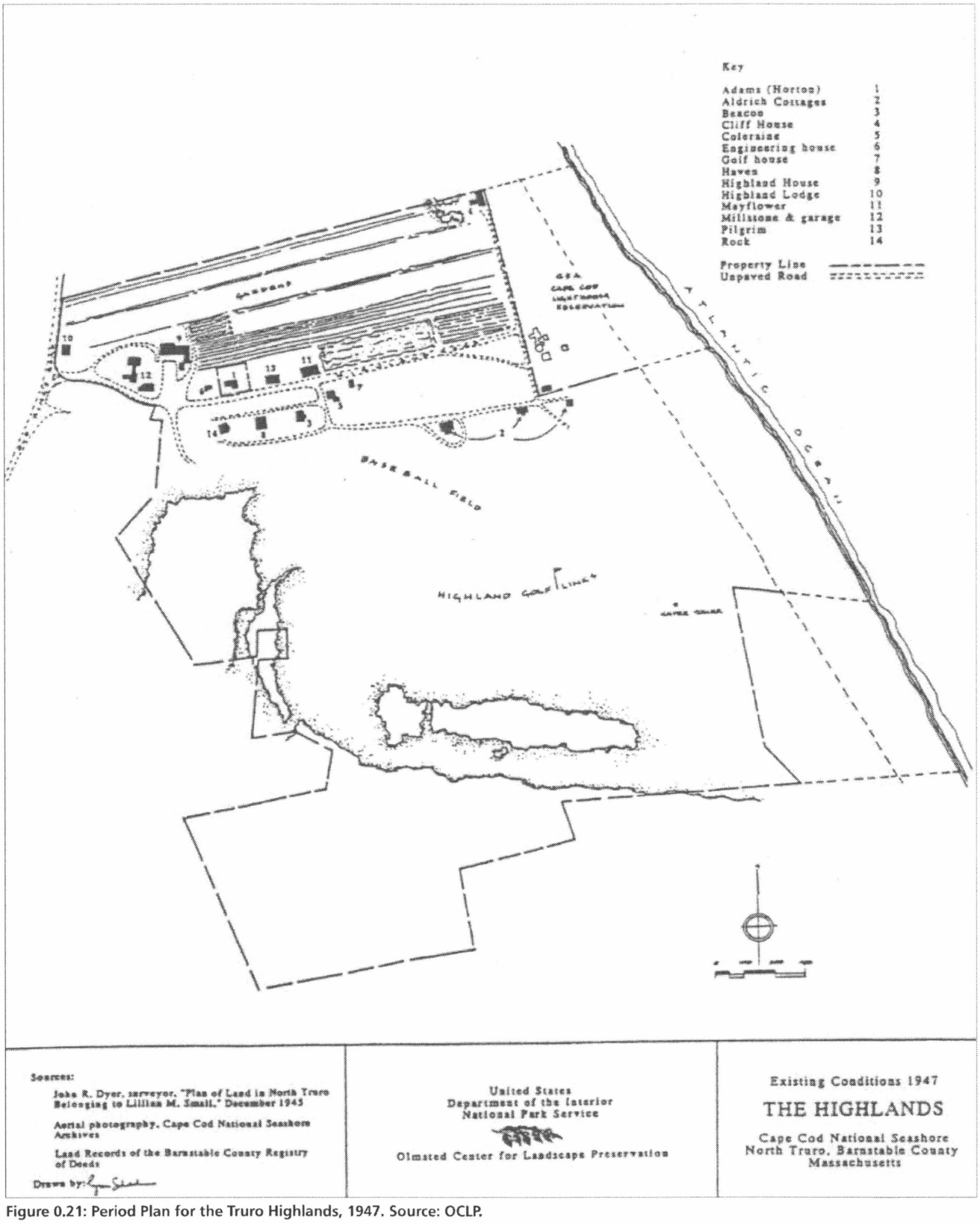


Figure 0.21: Period Plan for the Truro Highlands, 1947. Source: OCLP.

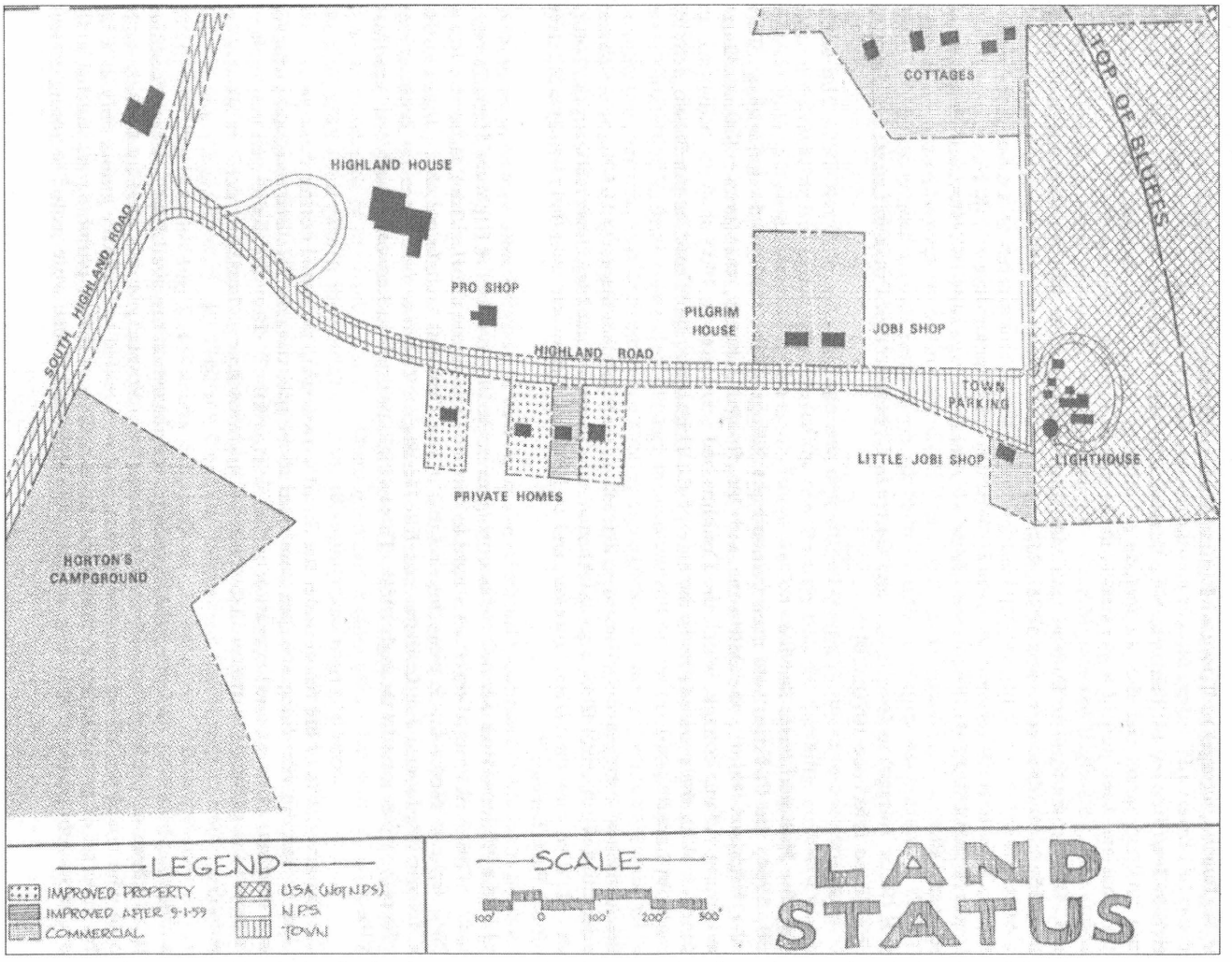


Figure 0.22: The Truro Highlands shortly after it was acquired by the National Park Service showing the location of the plots subdivided by Conklin, south of Highland Road, and the Jobi shop, north of Highland Road. Source: NPS, Development Concept Plan. *Highland Light, Cape Cod National Seashore. 1970.*

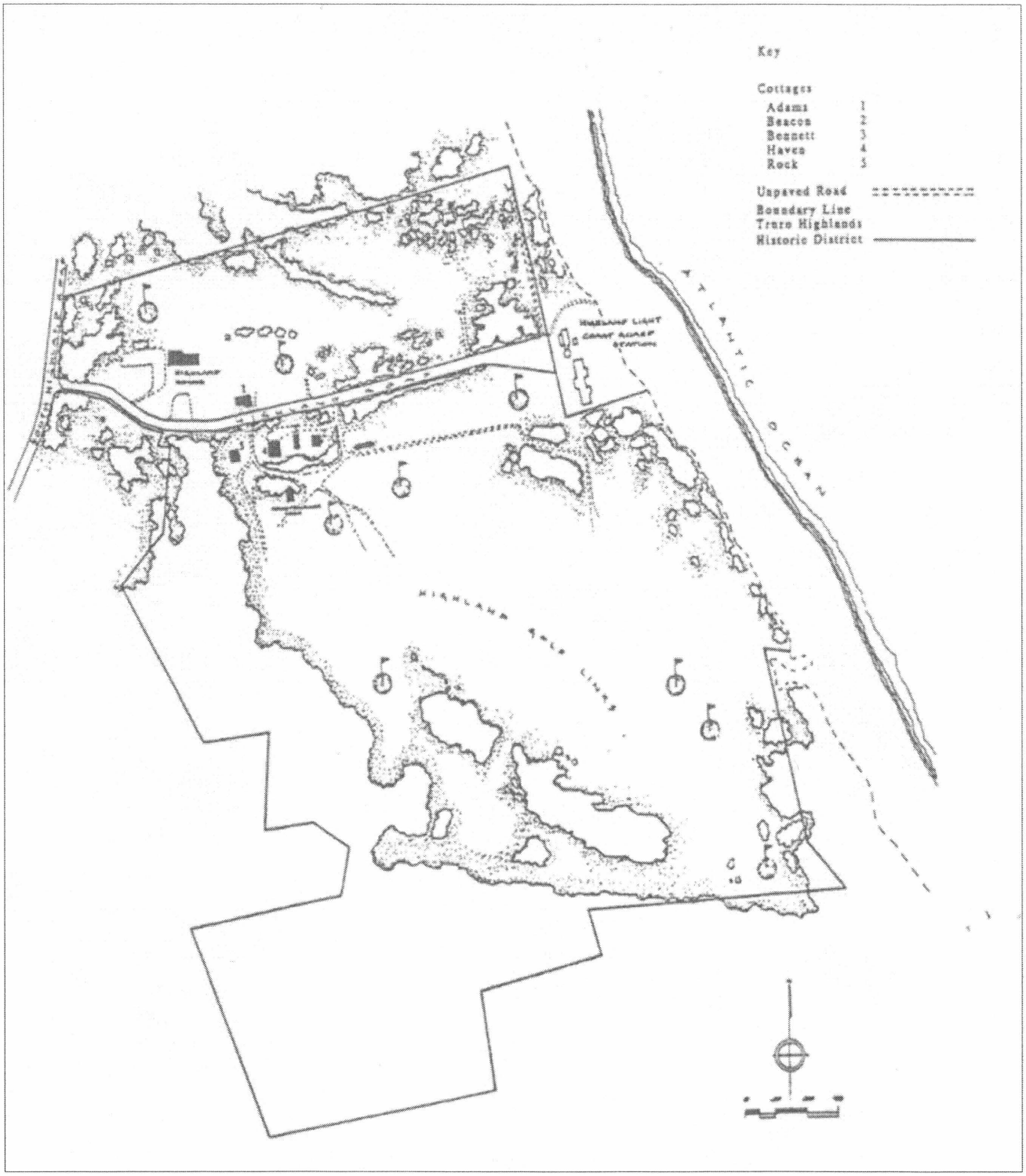


Figure 0.23: Existing Conditions of the Truro Highlands, 1994. Source: OCLP.

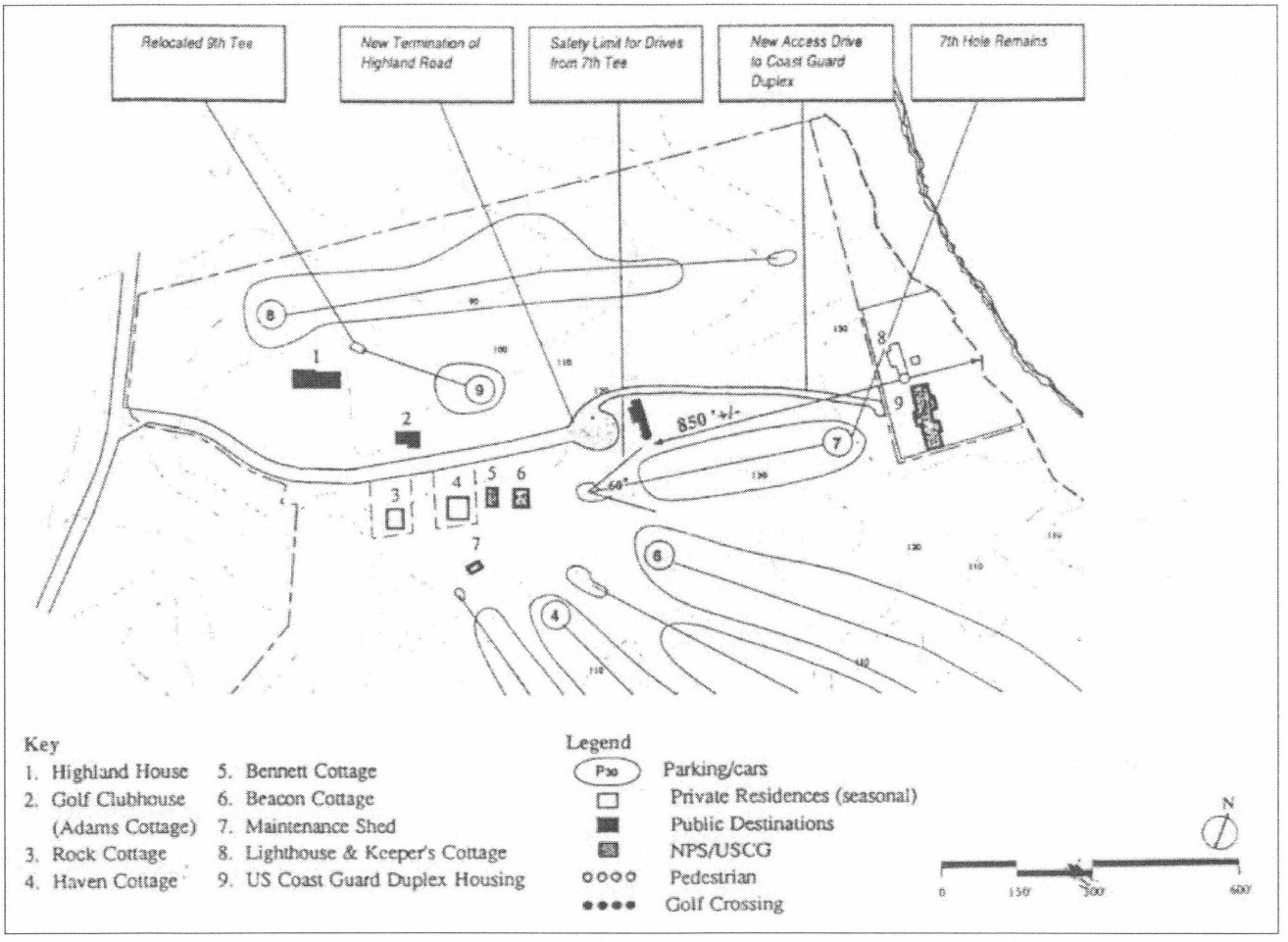


Figure 0.24: Relocation plan for the Highland Light. Source: *Highland Light Relocation Planning Study: Relocation Alternatives Report.* April, 1994.

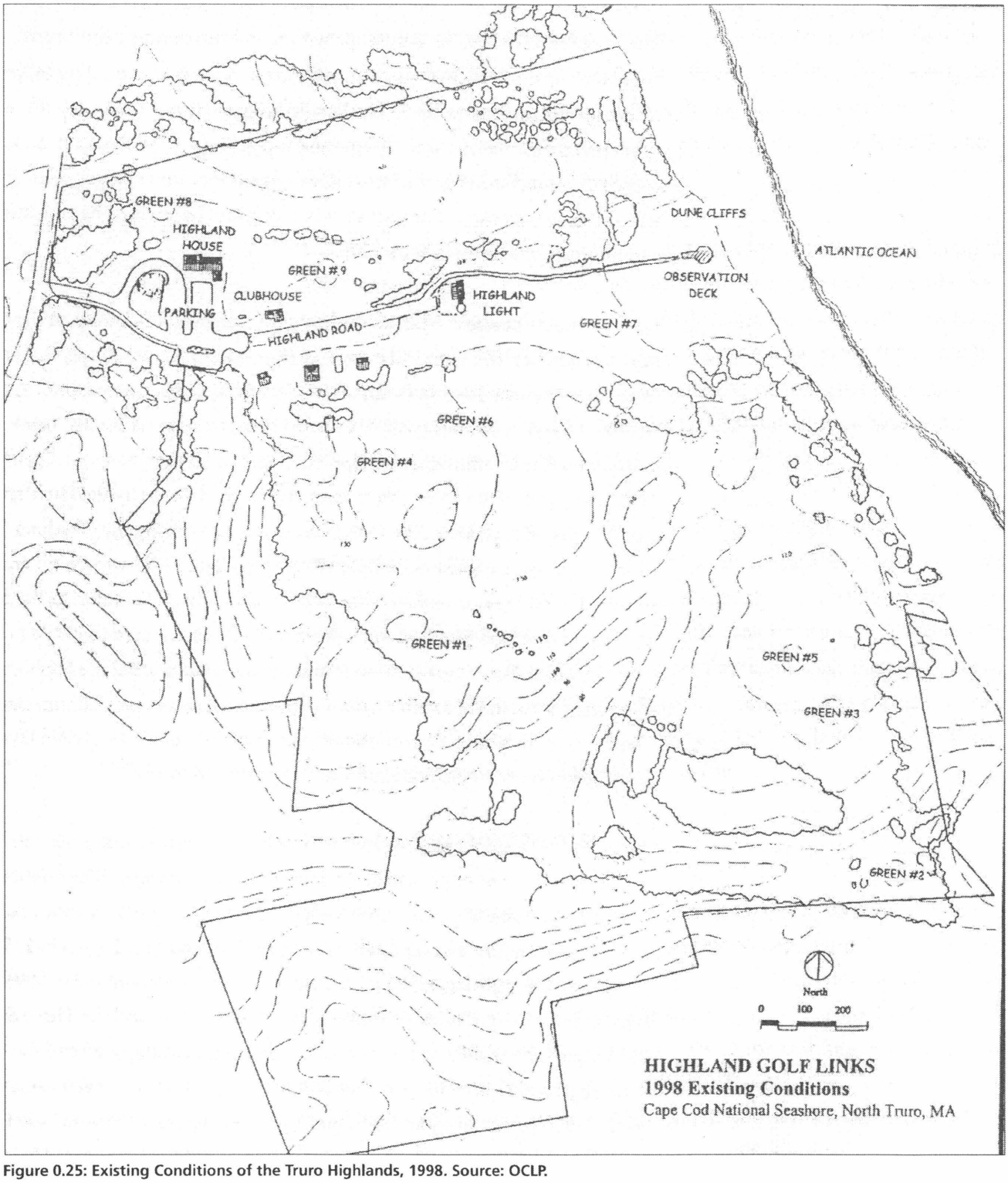


Figure 0.25: Existing Conditions of the Truro Highlands, 1998. Source: OCLP.



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

1947 Period Plan

Drawing 0.1

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Period Plan for the Truro Highlands, 1947. Source: OCLP, 1994.
2. Aerial Photography, Cape Cod National Seashore Archives
3. Dorthy Small Garfield Recollection of Highland Golf Links, 1994. Source: Highland Links Pro Shop.

NOTES

Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

The location of golf holes and the direction of play at the Highland Golf Links in 1947 are both speculative and are based on written accounts of Mrs. Dorthy Small Garfield in 1994 of her recollection of the links course in the mid-1900s. With the lack of fertilizers employed on tees, fairways, and greens, golf holes are indistinguishable in 1947 aerial photography.

LEGEND

- Golf Hole
- Tee Box
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- 2004 District Boundary
- 1947 Property Boundary

CHAPTER ONE: EXISTING CONDITIONS

This chapter describes the landscape within and surrounding the Truro Highlands Historic District in 2006. The site is described according to the landscape characteristics as defined in the National Park Service *Guide to Cultural Landscape Reports* and includes natural systems and topography, spatial organization, land use, circulation, buildings and structures, vegetation, views, small-scale features and archeological sites. The narrative is supported by an existing conditions plan and photographs taken in June 2006 (Figure 1.0 and Drawing 1.0).

Located in southeastern Massachusetts within Barnstable County, at the northern portion of Cape Cod known as the Outer or Lower Cape, the Truro Highlands Historic District occupies an elevated and open area fronting the Atlantic Ocean. The site is part of North Truro, a village within the town of Truro, which is a community of approximately 2,180 year-round residents. Most of the land area of the 85.9-acre historic district is covered by the Highland Links, one of two golf courses on the Outer Cape, the other being the Chatham Seaside Links. Claiming establishment in 1892, the Highland Links brochures and website herald the course as the oldest of some thirty golf courses located over the entire Cape Cod area including Plymouth. Research carried out as part of the 1993 Historic District nomination found documentation that the Highland Links was constructed in 1898, and thus is the fourth oldest course. On Cape Cod Cummaquid Golf Club, located in within Yarmouthport, was established in 1895, while Hyannis Port Club and Osterville's Seapuit Club were started in 1897.

Prominently located near the center of the historic district is the relocated Highland Light, one of nine light stations on the Outer Cape. The Highlands is recognized as the site of the Cape's oldest lighthouse, a wooden tower built in 1797. This structure was replaced in circa 1831 and replaced again in 1856 with the current brick structure, which was lifted and relocated inland in 1996. Race Point Light is located to the northwest and Nauset Light and the Three Sisters Lighthouses are located to the south. Also located near the center of the district is the Highland House, built in 1906 to 1907 and now a historical museum and one of several attractions in Truro for Cape Cod history; others include the Jenny Lind Tower, Highland Light Museum, and Wreck of the Frances at Head of the Meadow Beach.

NATURAL SYSTEMS AND TOPOGRAPHY

The Truro Highlands Historic District occupies a portion of the Highland Plain, commonly known as the Highlands. The district is bounded on the east by clay cliffs rising a hundred feet above the Atlantic Ocean and on the south by a steep

wooded ravine. To the west, the land rises and falls over rolling hills as it descends towards the Cape Cod Bay and to the north, the land descends gradually to sea level at the Highland Life Saving Station. Within the district topography generally slopes down from the northern portion of the area around Highland Road, to the southern edge of the golf course. A ridge on the south side of Highland Road, where the Rock, Beacon, Haven and Bennett cottages are located, provides excellent views towards the Atlantic Ocean and Provincetown to the north.

The 35/36-par nine-hole golf links are laid out along the rolling sand and clay hills. Its natural topography and geologic characteristics make the site the perfect location for a links course. The tees and greens are placed on natural rises, and fairways extend along broad flat areas and across valleys. While modern golf courses include dog-legs and water hazards, the Highland fairways are relatively straight. Its challenges include the variable wind conditions, changes in topography, intervening bunkers and roughs.

Shoreline erosion continually contributes to the decreased total land area of the Highlands. Because of the soil types—a mix of sand and clay covered by a thin layer of loam—most of the natural precipitation quickly percolates into the soil. Small ponds and wet areas are located along the eastern edge of the district, near the sixth tee, and north of the district beyond the eighth fairway. Water also seeps from the cliffs. Laden with moisture, large chunks continue to break away from the cliff and drop down to the beach below—a process which is particularly evident near the sixth tee.

SPATIAL ORGANIZATION

The district is distinguished from its surroundings largely by its concentration of buildings in an open landscape. One of the central organizing features of the historic district is Highland Road, which connects South Highland Road to Highland Light and serves as a spine around which structures and facilities associated with the resort are arranged. Five of the buildings included in the district are concentrated on Highland Road. The Highland House and Golf Clubhouse (Adams Cottage) are on the north side of the road. The Rock Cottage, Beacon Cottage and Haven Cottage on the south side of the road. The road also bisects the golf course, which currently extends roughly to the district boundaries on either side of the road with seven of nine holes on the south side of the road, and two on the north.

The relocated Highland Light, just beyond the terminus of the Highland Road, is a focal point and backdrop to the resort buildings. Prior to its relocation, the light house was visible yet set apart from the resort cluster. Now the buildings

appear as one dispersed cluster along the east-west spine of the Highland Road. Beyond the structures the landscape to the north, east and west is open, with isolated trees and shrubs dotting the golf course landscape of mowed turf and bands of native scrubby vegetation.

LAND USE

The primary land use within the Truro Highlands is tourism and recreation. A typical tourist's visit within this space consists of driving down Highland Road enroute to the Truro Historical Museum (located in the Highland House), Highland Light and attached keepers house or Highland Links Golf Course. Prior to the relocation of the Highland Light, multiple parking lots were located along the Highland Road. Now parking is consolidated within three lots on the western edge of the historic district. Surrounding land uses include the former location of the Highland Life Saving Station to the north, private residences to the north and west, a campground to the west, and the Highlands Center (formerly the North Truro Air Force Station) to the south.

CIRCULATION

The Highland Road was shortened and partially returned to an aggregate surface in 1996 when the Highland Light was relocated. The paved section of the road, resurfaced in the 1990s, extends from the South Highland Road to a cul-de-sac near the Highland House. Three parking areas are located on the western end of the road. A parking lot on the south side of Highland Road is paved with asphalt and contains 41 parking spaces including ADA and bus spaces. There are two paved parking lots on the north side of Highland Road, located on the west and south sides of the Highland House. The parking lot on the west side contains 18 parking spaces and the lot on the south side contains 23 spaces. Currently, inadequate signage has caused the improper use of the parking facilities.

Visitor vehicular access is limited to the paved western end of Highland Road, with exception to the additional handicap parking located at the lighthouse. From the cul-de-sac to the lighthouse, the road is a chip-sealed aggregate over an asphalt base and serves mainly as a pedestrian/golf cart route with limited vehicular service access to the lighthouse and links' maintenance area. Along this section of the former road, a fleet of golf carts detracts from the historic setting of the Highlands resort buildings and lighthouse. Golfers pick up their carts at this location near the club house and drive across the Highland Road pedestrian path at this point to reach the first tee.

Highland Road from the lighthouse east to the ocean cliffs is now strictly pedestrian access and is separated from the links by a split-rail fence on both the

north and south sides. Midway between the lighthouse and cliffs, is a second north/south crossing point for golfers to travel from the seventh to the eight hole. Small concrete paths and steps lead from various cottages on the south side of the road down to Highland Road. These steps are still visible but in poor condition.

Circulation on the Highland Golf Links proceeds logically from one hole to the next. Narrow, semi-paved paths for golf carts and pedestrians provide access out onto the northern and southern portions of the golf course. According to the documentation for the National Register, asphalt was added to stabilize sections of the golf cart paths in 1988. The paths are now constructed of various materials including asphalt, crushed oyster shells, and gravel. The mix of materials and their colors—black asphalt, white oyster shells, and blue and brown gravel, plus light brown sand and clay—calls attention to the paths and detracts from the natural surroundings. Many paths are in poor condition due to erosion. There are several unnecessary and parallel pathways throughout the links, as well as inadequate signage, which cause confusion about correct direction and location of travel. Pedestrian access trails have been worn in some rough areas of the course by consistent cut-through traffic.

BUILDINGS AND STRUCTURES

Buildings and structures that are currently located along Highland Road include the Highland House (1907), Rock and Beacon Cottages (1902), Haven Cottage (1915), Adams Cottage/Club House (1917) and Highland Light. The Highland House, constructed between 1906 and 1907 by S.D. Nickerson, is a two-story wood frame building with a two-story gabled-roofed ell at the east end of the south side. Built in 1902, the Rock and Beacon Cottages are simple Victorian style wood frame buildings. The Haven Cottage, constructed in 1915, is a simple wood frame "box" structure with a hip roof and wood shingles. The Adams Cottage was built in 1917 and is a two-story wood frame structure. It currently is utilized as the golf course club house. Relocated 570 feet inland in 1996, The Highland Light and Keeper's Cottage was the first lighthouse on the Cape. The lighthouse originally was built in 1797, but was reconstructed in 1857. It is conical shaped, constructed of brick and stands sixty-six feet. The Keeper's Cottage, constructed in 1857, is a wood frame Queen Anne styled building with wood shingles. A detailed description of buildings and structures can be found in the 1993 Determination of Eligibility for the Truro Highlands Historic District, List of Classified Structures, and the "Lighthouses of Massachusetts" Thematic Group Nomination.

The two buildings associated with the golf course are the Adams Cottage/Club House (1917) located along Highland Road and the one-story, three parking bay maintenance shed, which was built in 1988.

VEGETATION

The Highlands area contains four of the sixteen distinct vegetative habitats on Cape Cod, including Pitch Pine and Scrub Oak Barrens, Sand Plains Grasslands, Heathlands and Grassy Heaths.[1] The northern, southern and western portions of the district are bounded by large expanses of pitch pine *(Pinus rigida)* and scrub oak *(Quercus ilicifolia)* barrens. This vegetation partially screens a few private homes visible to the north and a campground to the west.

A Heathland plant community exists on the eastern boundary. This ecosystem consists of low growing shrubs that form a dense vegetative mat. The typical species found in coastal Heathlands are particularly adapted for the harsh environment and include bearberry *(Arctostaphylos uva-ursi)*, beach heather *(Hudsonia tomentosa)*, black huckleberry *(Gaylussacia baccata)*, bushy rockrose *(Helianthemum dumosum)* and broom crowberry *(Corema conradii)*. Heathlands on the western side of the links, farther inland, may also contain golden heather *(Hudsonia ericoides)*.[2]

Buildings and structures located along Highland Road generally lack any flower beds or foundation plantings. However, a large clump of Wisteria (*Wisteria sinensis*) exists across the road from the Highland House and covers the site of the former Millstone Cottage. The vine has clearly spread beyond its initial ornamental purposes.

Between the forested edge and maintained golf links areas are strips of vegetation representative of a successional community typically found at the site of an abandoned field or pasture. The many species of low growing, shrubby vegetation enhances the character of the rough areas around the golf links while assisting in the prevention of erosion. Vegetation found in the rough include native species found in the Heathlands, such as bearberry *(Arctostaphylos uva-ursi)* and broom crowberry *(Corema conradii)* as well as several other native coastal plants including fescue, beach plum *(Prunus maritima)*, shadbush *(Amelanchier spp.)*, and blueberries *(Vaccinium spp.)*, and sedges *(Carex spp.)*.

The greens and tees consist of velvet bentgrass *(Agrotis canina)* and non-native bluegrass *(Poa spp.)* varieties. Bluegrass mixes are being used on the tees and fairways in an effort to establish a thicker and more consistent turf cover. Turf cover is sufficient on tees, greens and fairways with little or no disease/pest problems. However, in areas of high erosion, such as golf cart and walking paths, turf cover is thin or absent.

VIEWS

From the western end of the Highland Road, near the parking areas, there are limited views of the Highland Links course and distant ocean because of the undulating topography. As visitors walk east from the parking areas towards the Highland Light, their view includes a fleet of golf carts parked adjacent to the Club House. Once pedestrians walk east beyond the lighthouse to the coastline, an observation deck offers unobstructed, spectacular views of the Atlantic Ocean.

For golfers, views to and from the Highland Golf Links are an important part of the experience of the site. Expansive views to the Atlantic Ocean have remained relatively unchanged over the course of history. Views onto holes one through seven from Highland Road are limited due to the ridge along the south side of the road, increased vegetation surrounding buildings south of the road, and the reduced length of the road. Views to holes eight and nine are unobstructed from the majority of Highland Road. Views to nearby and distant buildings including the Highland Light, Highland House, Jenny Lind Tower, and the former North Truro Air Force Station have become focal points for views from the links. The sparse vegetation on the course allows unobstructed on-site views across the links. In contrast, pines have been planted to obscure views of the maintenance garage and surrounding storage area near tees one and five and green four. The maintenance building and surrounding equipment area remains highly visible from the first and fourth fairways.

SMALL-SCALE FEATURES

The historic district contains many small-scale features. Old wooden utility poles extend along the Highland Road. Sections of split-rail fencing, added when the Highland Road was shortened, separate the pedestrian walking route from the golf links along the Highland Road. Numerous informational and regulatory signs of varying sizes surround the cul-de-sac on the Highland Road. A marker memorializing the "Portland" steamer that sank along the coast in the vicinity of the Highlands is located near the light house. Another marker identifying the previous location of the Highland Light is located near the observation deck. An anchor is located on the west side of the Highland House across from the entrance.

Small-scale features found within the Highland Golf Links are generally located near the tee and green locations on all eight holes of the golf course. Features at each tee include a hole identification marker and ball washer. Occasionally, a water cooler or bench will be located near the tee, but they are not found on every hole. On every green, flags are placed to identify hole locations.

ARCHEOLOGY

An archeological investigation was not part of this study, however, existing documentation notes the presence of several archeological sites. In some cases there may be no physical remains. The sites include: James Small house site, located at the intersection of Highland and South Highland roads; Highland Lodge site; Highland House extension site; Coloraine cottage; Millstone cottage site; Mayflower cottage site; bowling alley site; golf house site; miniature golf course site; concrete foundations and steps located on the north side of Highland Road adjacent to the former lighthouse site; baseball field site; water tower site; Pilgrim cottage site; Cliff house site; Aldrich cottage site; and the vegetable garden site (current location of eighth and ninth holes). The next chapter compares the existing condition of the landscape characteristics and features with the district to the historic appearance in order to evaluate the historical integrity and condition of contributing features.

ENDNOTES FOR CHAPTER ONE: EXISTING CONDITIONS

[1]Tracy J Stakely, *Preservation Maintenance Plan-Highland Golf Links, Cape Cod National Seashore* (Boston, MA: National Park Service, Olmsted Center for Landscape Preservation) 1998.

[2] Ibid.

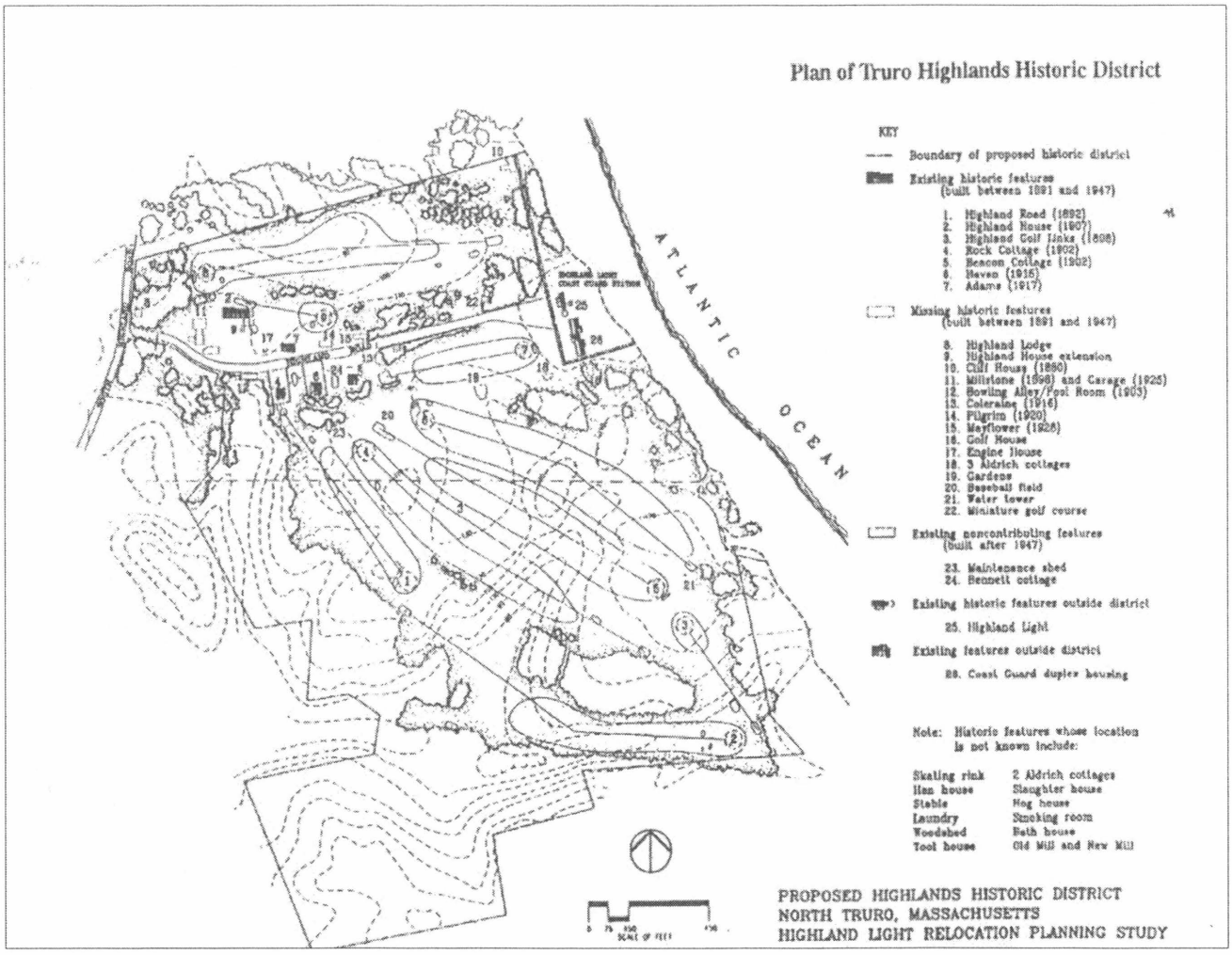


Figure 1.0: Truro Highlands Historic District. Prepared by David Dixon/Goody Clancy and Associates, 1994.



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Existing Conditions

Drawing 1.0

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- District Boundary
- Wooden Split-Rail Fence

CHAPTER TWO: ANALYSIS AND EVALUATION

This chapter reviews the historical significance of the Truro Highlands area and evaluates the condition and historical integrity of the landscape. The first section describes the significance of the landscape at the Truro Highlands Historic District based on the National Register criteria for the evaluation of historic properties.[1] It includes a review of the National Register status, statement of significance and period of significance. The second section examines landscape characteristics - natural systems, topography, spatial organization, land use, circulation, buildings and structures, vegetation, views, small-scale features and archeology - and identifies which contribute or do not contribute to the property's historical significance. Individual features that comprise each landscape characteristic are then analyzed with respect to how they contribute or do not contribute to the historic character of the landscape. Based on this evaluation, the report assesses the overall condition and historical integrity of the landscape as well as issues that threaten or potentially threaten the historical integrity of the property.

Within the Highland area, existing documentation for the National Register includes one Determination of Eligibility and one listing which is no longer accurate. The Highlands Resort structures and Highland Links have been determined eligible as part of the Truro Highlands Historic District and the Highland Light and keepers house are listed as part of the "Lighthouses of Massachusetts" Thematic Group Nomination, though the documentation refers to the former lighthouse site.

TRURO HIGHLANDS HISTORIC DISTRICT

In 1974 (1977), the historical significance of the Highlands area was documented as part of National Register nominations for the Highland House and Highland Golf Links. In 1980 the Highland Light was documented within the "Lighthouses of Massachusetts" Thematic Group Nomination. However, recognition of the entire area did not take place until 1993, when a National Register nomination was prepared for the Truro Highlands Historic District. In correspondence dated January 13, 1994, the Massachusetts Historical Commission concurred that the Truro Highlands Historic District was eligible under Criterion A within the context of tourism as an outstanding example of an early resort on the Lower Cape and with a period of significance of 1898 to 1947. Associated park service correspondence notes that the areas of significance are Entertainment/Recreation and Social History and that in 1974 (1977) the golf links were also recognized under Criterion C as significant in the areas of Engineering and Landscape Architecture as an early links courses. The Truro Highlands Historic District, however, has not yet been formally listed in the National Register.[2] The period of significance extends from the establishment of

the Highland Golf Links in 1898 to the sale of the Highlands property by the Small family to the Conklin's in 1947.

The district contains elements of a formerly extensive family-owned summer resort complex.[3] It originated in the late 1800s, during the first period of tourism on Cape Cod, before the coming of the railroad and reached its fullest development in 1920. As such, it was a compact, largely self-contained entity which raised some of the food and provided most of the recreation for its guests. The resort complex was closely associated with Isaac Morton Small, a prominent local official, businessman, writer/storyteller and marine reporter. Buildings were added to the complex through the 1920s and the property remained in the ownership of Small's daughter until 1947.

The road to Highland Light served as a spine around which the facilities were arranged and this orientation is still evident. A links course, originally laid out in 1898, is the oldest extant feature and one of the earliest golf courses on Cape Cod. Laid out on terrain little modified, it resembled early golf links in Scotland. The most prominent building is the Highland House, erected in 1906-07, which provided centralized dining facilities for the complex, as well as guest rooms. Four former guest cottages also remain.[4]

Within the historic context of tourism, the Massachusetts Historical Commission defines three major periods in the development of tourism within the region. Prior to 1870, the railroad made relatively little impact on resort development, which was characterized chiefly by the individual purchase of second homes and the adaptive use of large homes and inns for seasonal guests. Between 1870 and 1920 the popularity of railroad travel encouraged the construction of large resort hotels, frequently oriented towards the railroad customer. After 1920, the tremendous increase in automobile usage permitted seasonal visitors to build anywhere they chose. It also resulted in the reorientation of hotels and other service facilities toward the rapidly expanding highway network.

In the late 1800s and early 1900s, the Small Family focused their energies on the development of an almost completely self-sufficient resort typical of the railroad-based period of tourism on Cape Cod, including the vastly expanded Highland House, tourist cottages, skating rink, bowling alley, pool-room, baseball diamond and nine-hole golf links. The increasing popularity of the automobile would ultimately doom resorts of the style of the Highland House, because of the insulation and independence it provided. However, a clear termination of the railroad-based resort era at the Highlands was provided by the sale of the property to Harold Conklin in 1947, thus promptly ending its lengthy association with the Small family. Though the resort lingered on for nearly two more

decades, its distinct character as a largely self-sufficient, family owned and operated resort was irrevocably lost.

While there is some confusion about Criterion C in the determination of eligibility, park service correspondence in 1993 also notes that there are discrepancies in the boundary demarcation for the district. The proposed boundary would include the extent of NPS land associated with Highland Resort and Highland Links.

HIGHLAND LIGHT

A further complication to be addressed associated with National Register status is the relocation of Highland Light. The original site was a ten-acre tract of land facing the Atlantic Ocean that was deeded to the federal government in 1797. When the property was listed as part of the "Lighthouses of Massachusetts" Thematic Group Nomination in June 1987, only 6.47 acres of the land remained due to coastal erosion. The Highland Light was relocated from this eroding site in 1996 and is now located within the Truro Highlands Historic District. The Thematic Group Nomination describes lighthouses along the coastline, including the Highland Light, which meet Criteria A, B and C of the National Register of Historic Places. The first lighthouse, a wooden structure, was built in 1797, this was replaced in circa 1831 and then again in 1856 to 1857 with a brick structure. In 1996, this brick structure and the Queen Anne-style keepers' house were moved 570 feet inland due to coastal erosion.

Along 750 miles of coastline, the Massachusetts lighthouses mark rocky outcrops, shoals, harbor entrances and the navigational paths between harbors. Perhaps better than any other class of structure they represent the scenic qualities of the coast and reflect the state's maritime heritage. Many of the individual lighthouses and complexes are associated with specific persons and events and reflect important advances in technology and engineering. The Highland Light, also known as Cape Cod Light was the seventh lighthouse constructed by the U.S. Government and the first constructed on Cape Cod.

ANALYSIS OF LANDSCAPE CHARACTERISTICS

The analysis of landscape characteristics describe changes that occurred throughout the history of the Truro Highlands Historic District. Landscape characteristics are the general aspects of the landscape that define its historic character and aid in understanding its historic significance. They include, but are not limited to:

Natural Systems and Topography: Natural aspects that often influence the development and resultant form of a landscape. They are discussed in terms of geology, hydrology, flora and fauna and climate.
Spatial Organization: Arrangement of elements creating the ground, vertical and overhead planes that define and create spaces.
Land Use: Organization, form and shape of the landscape in response to land use.
Circulation: Spaces, features and materials that constitute systems of movement.
Buildings and Structures: Three-dimensional constructs such as houses, barns, garages, stables, bridges and memorials.
Vegetation: Indigenous or introduced trees, shrubs, vines, ground covers and herbaceous materials.
Views and Vistas: Features that create or allow a range of vision which can be natural or designed and controlled.
Small-Scale Features: Elements that provide detail and diversity combined with function and aesthetics.
Archeology: Sites containing surface and subsurface remnants related to historic or prehistoric land use.

The analysis consists of a comparison between historic and existing conditions for each extant (still present) landscape characteristic within the Truro Highlands Historic District. Individual landscape features that comprise each landscape characteristic are analyzed. Table 2.0 provides a list of the features, their associated inventory numbers and whether they are contributing or non-contributing to the significance of the historic district. The format of the analysis is described as follows:

Historic Condition:
A brief synopsis of the feature's history as documented in the site history section up to the end of the period of significance in 1947.

Existing Condition:
A brief description of the feature as it has changed from 1947 to the present.

Evaluation:
A determination of whether the characteristic or feature is extant and whether it contributes to the historic significance of the property based on a comparison of historic and existing conditions. Features are determined to be "contributing" if they were present during the period of significance, possess historic integrity and are related to the areas of historic significance. Features are determined to be "non-contributing" if they were not present during the period of significance, no longer possess historic integrity, or are unrelated to the areas of historic significance. The historic integrity of each feature is evaluated against the seven

aspects established by the National Register: location, design, setting, materials, workmanship, feeling and association.

NATURAL SYSTEMS AND TOPOGRAPHY

Historic Condition:
The District is located on an area known as the Highland Plain. Because of the varied topography of the continental shelf, the retreat of the glaciers from the Cape after the ice age was uneven. The South Channel lobe occupied a lower elevation of the shelf area and consequently extended further south and remained longer in place than the other lobes during the retreat of ice during deglaciation. As the Cape Cod Bay Lobe retreated northward, the South Channel lobe remained in place. In this fashion a large proglacial lake was formed bounded by the Cape Cod Bay Lobe to the north, the South Channel lobe on the east and previously formed glacial sediments on the south and west. Sediments transported by streams flowing off the wasting ice were carried westerly and deposited as outwash plain sediments (known as plains) into the proglacial lake.

In general, the stratigraphy resulting from this deposit process consists of three parts. At the base of the cliff outcrops of iron stained, medium to coarse grained sand are overlain by layers of dark gray and silty clay with some distortions visible and this, in turn, is overlain by fine to very fine grained layered sand capped by podsol and eolian (wind blown) sand.

The Highland Plain is distinguished by dense middle layers of clay, which trap infiltrating rainwater and retain it or channel it to points of drainage from the cliff front. Indeed, it may be that these trapped layers of water provided the source of the famous spring, Tashmuit, after which the area was named. Large amounts of clay in the soil (thus its traditional name, The Clay Pounds) also greatly enhanced the area's potential for human settlement. The high clay content of the area's thick outwash plain soils made it excellent for agricultural uses.

In contrast, the continuous drainage and seepage resulting from the presence of the underlying layers of clay contribute in great measure to the rapid, erratic and occasionally catastrophic erosion from slope failure which occurs in the area. The area's vulnerability is further compounded by the fact that it is made up of unconsolidated, stratified sediments, which are highly susceptible to erosion by wind or waves, or stress induced by gravity. Erosion has been measured along the coastal side of the Highland Plain at regular intervals since 1796.

Topography generally slopes down from the northern portion of the area around Highland Road, to the southern edge of the golf course. A ridge on the south side of Highland Road, where the Rock, Beacon, Haven and Bennett cottages are

located, provides excellent views towards the Atlantic Ocean and Provincetown to the north.

Existing Condition:
Rapid cliffside erosion has had a marked impact on the overall character of the area. It has decreased the total land area of the Highlands, causing the relocation of the golf holes eight and nine in 1955, the Cliff House in 1983 and the Highland Light in 1996. Currently, the rate of erosion appears to vary from about one foot per year to about five feet per year. In addition to coastline erosion, erosion on the Highland Links continually occurs from cart paths, altering the landforms and reduces groundcover, which increases wind erosion and dune migration.

Evaluation: Contributing
Natural systems and topography contribute to the historic significance of the Truro Highlands District. Although naturally occurring erosion along the coastline has resulted in the relocation of structures within the district, the character of the area has remained the same since the period of significance.

Terrain of Highland Golf Links

Historic Condition:
As noted in the Preservation Maintenance Plan (1998) a true links course can only occur on linksland and the landscape of the Highlands falls within this definition. The site is situated high on a seaside bluff with rolling, sandy hills covered with a thin layer of loam. The "links style" of golf course design was predominant in the late 1800s when the Highland Golf Links was established in 1898. Willard Small took advantage of this when designing the Highland Golf Links. Although there is no historical documentation regarding Small's design intent, it is evident from the link's configuration that the native environment was a major determinant in Small's scheme.

Existing Condition:
Shoreline erosion has decreased the total land area of the Highlands Golf Links and historic resort area. Due to coastal erosion, Holes 8 and 9 were relocated to the north side of Highlands Road in 1955. Some minor erosion on the site has altered landforms and created new hazards both for golf difficulty and visitor safety, including Hole 6 which is now extremely close to the cliff edge.

Evaluation: Contributing
The rolling topography and the placement of the golf course elements within this topography contribute to the significance of the property. The location of many of links' elements, including tees on natural rises or hills, fairways across broad flat areas or along valleys and greens at the base of hills or partially obscured by

landforms, follows the natural terrain of the site and establishes the character of the course.

SPATIAL ORGANIZATION

Highland Road

Historic Condition:
Along with the ocean itself, Highland Road, which leads directly from South Highland Road to the lighthouse, serves as the central organizing feature of the Highlands District. Throughout the period of significance, the road served as a central spine around which all of the structures and facilities developed during the resort era were organized. Interestingly, the earliest development of tourist facilities at the Highlands, including the enlargement of Highland Lodge (1876) and the construction of Millstone Cottage (1898) appear to have been oriented towards South Highland Road. However, the majority of later development by the Smalls was organized along Highland Road. Owing to a slight rise that the road traverses, each cottage along the road was afforded an excellent view of the Atlantic Ocean and Provincetown to the northwest.

Existing Condition:
Currently, the linear organization of buildings found along Highland Road has been somewhat weakened through the removal of so many buildings, resulting in a less orderly, "missing tooth" effect.

With the relocation of the lighthouse in 1996, the spatial organization of the district was altered. The relocation of the lighthouse introduced a central focal point to the resort setting, which historically was off in the distance.

Another ongoing change to the spatial organization of the overall area is the gradual disappearance of a secondary, north-south axis created by the short road leading from the previous location of the lighthouse northward to the remnants of the Cliff House and marine reporting station and perhaps continuing on towards High Head.

Evaluation: Contributing
The resort complex retains its overall configuration along the Highland Road, with the adjacent links course. The placement of the lighthouse in the resort setting alters the feeling and setting, yet overall the resort area retains its spatial organization and contributes to the character of the district.

Highland Golf Links

Historic Condition:
The Highland Golf Links were originally laid out in 1897 as a nine-hole golf course located entirely on the south side of Highland Road. Although the course was described as "greatly improved and enlarged" in 1903, early tax records state that the 200-yard course occupied unimproved land. The fairways were grass and sand, the greens were gravel and sand, except for the seventh green which was a thin layer of sand over concrete. The rough consisted largely of the native grasses and low, heath-like shrubs. The greens were planted with turf by 1934 and possibly as early as 1911-1912.

Existing Condition:
The expansion of the golf course to the north side of the road in the 1950s resulted in a significant change in the overall organization of the site. Throughout the period of significance the golf course was located entirely on the south side of Highland Road and the resort had two distinct zones: road resort facilities and gardens to the north and the golf course to the south. Following the expansion, the golf course came to dominate the entire area, divided by the road and associated resort facilities. Another change which appears to date from the 1960s was the introduction of golf carts and the construction of the various semi-paved paths providing access for the carts around the course.

Evaluation: Contributing
The Highland Golf Links possesses the character of a true links style golf course. Located on the Atlantic Ocean coastline, the Highland Links lacks trees and uses native vegetation for the fairways and roughs. The golf course is interspersed with a network of paths and trails for pedestrians and golf carts.

The organization of the golf course on the south side of the road contributes to the historic character. The expansion of the golf course to the north side of Highland Road postdates the period of significance (1898-1947) and thus does not contribute to the historic setting. The golf carts and cart paths were installed after the period of significance and do not contribute to the historic character of the landscape. The parking area and fleet of golf carts visible on the Highland Road detracts from the historic character.

LAND USE

Tourism

Historic Condition:
Tourism at the Truro Highlands Historic District has remained the primary land use since the period of significance. Previously mentioned in *the Cultural Landscape Report for Truro Highlands Historic District (1995)*, the significant differences between the nature of the railroad-based period of tourism on Cape Cod (1870-1920) and today's automobile-based tourism, while the land use may have theoretically stayed the same, its characteristics have changed dramatically over time.

During the period of significance, most of the guests at the resort were couples or families. Visitors tended to stay for an extended period of time, ranging from a week to the entire summer and many guests returned year after year. Resort life had a highly collective nature, characterized by group meals and activities.

Existing Condition:
Currently, tourists typically travel through the Highland Road space in order to visit the Lighthouse, Museum (formerly the Highland House) or go to the golf course. Trips to the area are short and never go beyond a day.

Evaluation: Contributing
The continued use of the site for tourism contributes to the significance of the area.

Recreation

Historic Condition:
According to the *Cultural Landscape Report for Truro Highlands Historic District (1995)*, recreational activities were prevalent during the historic period. Bowling, skating, baseball, pool, croquet and golf were available to visitors. The Highland Lodge contained a pool table and a combined indoor bowling alley and pool room were located on the south side of Highland Road across the Highland House.

Built in 1898, the Highland Golf Links were built on the southern portion of Highland Road. Baseball, croquet and golf were available to visitors in the area of the Highland Golf Links. Baseball and croquet appear to have been played on a portion of the golf course south of Highland Road. On a more informal level, visitors were also able to traverse a rough staircase down the cliffs and bathe in

the ocean below. Finally, visiting the lighthouse was another attraction at the Highlands.

Existing Condition:
Visitors to the Highland Road space still have the opportunity to observe the scenic views from atop the cliffs and view the Highland Light, however, other recreational activities that once were available are no longer present. Continuing into the present day, golf is available to tourists in the Truro Highlands Historic District.

The general appearance of the links appears to have changed considerably since it was constructed. Holes are located on both the northern and southern sides of Highland Road.

Evaluation: Contributing
The present recreational activities that occur at the Truro Highlands Historic District, specifically golf, visiting the Highland Light and viewing the ocean, contributes to the historic significance of the area.

CIRCULATION (FIGURES 2.0-2.15)

Highland Road

Historic Condition:
An access road to the Highland Light has existed presumably since the Highland Light was built in 1797. The earliest depiction of a road is on an 1831 plan of Truro. By 1892, the road was defined at a width of 18 feet and graded to its present configuration by the Town of Truro. Photographs from 1892 and 1920 show the edges on either side of the road as somewhat more steeply banked than today. Post and wire fencing lined portions of the north side of the road and both sides of the portion of the road near the light house. The road appears to have been surfaced with a mix of sand and gravel. The road was paved with concrete or asphalt between 1938 and 1960.

Existing Condition:
The terminus of Highland Road was reconfigured as a result of the light house relocation in 1996. In addition, parking was moved to the west end of the road. Three parking lots now exist, two to the north at Highland House and one to the south across Highland Road. Access to the coastline, east of highland Light, can only be accessed by pedestrians. Erosion has been a problem with the newly installed sand/aggregate paving mix. A binding agent was incorporated into the mix to create a more stable surface, but it has not alleviated the erosion problem.

Evaluation: Existing, contributing
Although altered through time, Highland Road contributes to the historic character of the site. The aggregate surfaced section, which was sand and gravel, but possibly paved by the 1940s, evokes the historic materials, feeling and setting of the Highland Road. The new cul-de-sac and asphalt parking lot are non contributing features.

Cottage Concrete Paths and Steps

Historic Condition:
It is unclear when the concrete paths were constructed.

Existing Condition:
Concrete steps and paths are located on the south side of Highland Road connecting to existing cottages.

Evaluation: Undetermined
Additional research is needed to determine the approximate construction dates of the concrete paths and steps.

Pedestrian / Golf Cart Paths

Historic Condition:
Isaac Small recalled that the golf course was redesigned in 1913 to the specifications of a prominent guest, J. H. McKinley of New York. No documents have been found. According to Mrs. Dorothy Small Garfield, a former resident of the site and daughter of the golf facility manager in the early 1900s, the direction of play was reversed at some point in time. Early play started near the Coleraine clubhouse, near the current 7th tee, then proceeded east and south around the course. All of the holes were located south of Highland Road. Later, the direction of play changed, making the 9th hole the 1st hole. Holes 8 and 9 were moved to the north side of the road. Historically the course was traversed on foot, which did little damage to the vegetation. Golf carts were introduced in the 1950s.

Existing Condition:
Golf cart paths provide access out onto the northern and southern portions of the golf course. It can be assumed that these cart paths overlay pedestrian paths and date from no earlier than the 1950s, at which time golf carts were introduced to the course.

Evaluation: Existing, non-contributing
While pedestrian paths were extant during the period of significance, the golf cart paths, introduced over pedestrian paths in the mid twentieth century, do not contribute to the significance of the district.

BUILDINGS AND STRUCTURES (FIGURES 2.16-2.22)

Highland House

Historic Condition:
Constructed by S.D Nickerson of Provincetown between 1906 and 1907, the Highland House originally consisted of a two-story gable-roofed main block oriented east-west and a two-story gabled-roofed ell at the east end of the south side. The main building sat on a brick foundation approximately six feet high. The southeast ell sat on brick piers. An extension on the east face was apparently added at an early date to accommodate kitchen and laundry facilities. The building was of wood-frame construction and had a belt of decorative shingles which ran around the main building at the level of the second floor. A one-story porch originally ran across the entire front (west elevation) of the main building. It wrapped around the northwest corner of the structure and continued along the north wall for a distance of approximately forty feet. The window openings were asymmetrically placed, due to interior features. The windows on the west side contained two over-one double-hung sashes and the remaining windows were two over two double-hung sashes. Over the years, the east extension and southeast ell had deteriorated substantially and had to be removed in 1974 and 1982.[5]

Existing Condition:
Since the period of significance, the Highland House has had many windows replaced, a portion of the wrap around porch was enclosed and the southeast ell was reconstructed. The Truro Historical Society currently occupies the building and it is used as a repository and museum. According to the List of Classified Structures Database, the house is in poor condition with numerous maintenance problems including leaks, cracked plaster, trim deterioration and drainage issues. Future plans include replacing the roof and removing the enclosed porch.

Evaluation: Existing, contributing
The Highland House, constructed in 1906-1907, contributes to the significance of the Truro Highlands Historic District.

Rock and Beacon Cottages

Historic Condition:
Built in 1902 by S.D Nickerson, the Rock and Beacon cottages are sister cottages were built of wood-frame in a simple Victorian style. Both contained broad front porches siding was of weathered wood shingles. Each provided six guest rooms.[6]

Existing Condition:
Currently privately owned, the Rock and Beacon cottages have both undergone extensive renovations while retaining the original character of the buildings. The Beacon had a shed-like addition on the south side constructed and significant interior improvements shortly after acquisition by the National Park Service in 1987. The List of Classified Structures Database has identified the building as in good condition. The Rock, listed in good condition, under went a complete rehabilitation in the early 1990s.

Evaluation: Existing, contributing
The Rock and Beacon cottages, both constructed in 1902, contribute to the significance of the Truro Highlands Historic District.

Haven Cottage

Historic Condition:
Constructed in 1915, the Haven was a simple one-story, wood-frame "box" structure with wood shingles and a hip roof.

Existing Condition:
The windows and doors have all been replaced, although the original form and massing is still intact. The building is in fair condition and is privately owned.

Evaluation: Existing, contributing
The Haven Cottage, constructed in 1915, contributes to the significance of the Truro Highlands Historic District.

Adams Cottage/Highland Club House

Historic Condition:
Built as the Adams Cottage in 1917, the building was a two-story, wood frame structure with a one-story garage wing. During most of its history it was used as a residence for operations of the resort or the adjacent farm, with rooms being rented occasionally.[7]

Existing Condition:
Presently, the building is used as the club house for the golf course. Since being converted to a club house during the period of NPS administration, it has undergone extensive modifications. Decks on the north and east sides were constructed, which provide ADA accessibility and the restrooms were relocated in 1991.

Evaluation: Existing, contributing
The Adams Cottage, constructed in 1917, contributes to the significance of the Truro Highlands Historic District.

Highland Light and Keeper's Cottage

Historic Condition:
Originally situated on a cliff 183 feet above sea level, Highland Light was the first of the lighthouses of the Cape. Due to numerous shipwrecks in the area, George Washington authorized its construction in 1796. The government purchased ten acres of land for the lighthouse from Isaac Small. The lighthouse was completed in 1797. The lamp consisted of 15 Argand lamps, which were surrounded by a revolving eclipser. This flashing light, the first in the US, was shown to differentiate from Boston Light.[8] By 1857, the original structure would be replaced three times. The new 1857 light featured a first-order Fresnel lens, which was replaced in 1901 by an even larger room-sized Fresnel lens, supported on a bed of mercury. In 1932, a 1000-watt electric lamp was installed, which was said to be visible 45 miles away. Highland is currently lit by a pair of Fresnel-lensed aerobeacons. Each beacon contains two 1000-watt lamps (one flips on should the other fail). The light was automated in 1986.[9]

Existing Condition:
With the threat of being lost to erosion, the Truro Historical Society spearheaded an effort which, including federal and state funding, raised $1.5 million to move the lighthouse and keeper's house. In a span of 18 days in July 1996, International Chimney Inc. of Buffalo, New York and Expert House Movers of Maryland moved the lighthouse to a new position 570 feet from the cliff.

As a result of its relocation, the Highland Lighthouse is now located within the Truro Highlands Historic District. Contained within the Highland Road area, the Lighthouse is individually listed in the National Register as being historically significant. Still a functioning U.S. Coast Guard light, the lighthouse is conical shaped constructed of brick and stands sixty-six feet. The Keeper's Cottage, constructed in 1857, is a wood frame Queen Anne styled building with wood shingles. Both structures are in good condition.

Evaluation: Existing, contributing
The Highland Light and Keeper's Cottage are both individually significant for their associations with the state's maritime heritage but, they also contribute to the significance of the Truro Highlands Historic District. The nomination should be amended to include the lighthouse and keeper's cottage.

Maintenance Building

Historic Condition:
Not applicable

Existing Condition:
The one story maintenance building, built in 1988, is constructed of wood and has wood shingles. It has a shed roof and three parking bays. The building is in good condition.

Evaluation: Existing, non-contributing
The existing maintenance building did not exist during the period of significance and negatively affects the historic character of the landscape.

VEGETATION (FIGURES 2.23-2.27)

The Highlands area contains four of the sixteen distinct vegetative habitats that have been identified on the Cape including Pitch Pine/Scrub Oak Barrens, Sandplain Grasslands, Heathlands and Grassy Heaths. Fifty years ago, most of the land within the historic district was devoid of woody vegetation due to active farming. Since the abandonment of this use, trees and shrubs have grown up along the northern edge of the property. In addition, trees and shrubs have been planted along the sides of the golf links fairways and to screen the maintenance building. Vegetation cover is critical to hold the highly erosive soil, however, views are key characteristic that contribute to the integrity of setting and feeling within the historic district.

Highland Road Vegetation

Historic Condition:
Prior to settlement by the Pilgrims, much of the Cape, including the Truro area, was heavily forested. With the arrival of English colonists land clearing, burning, poor agricultural practices and grazing by animals markedly reduced the vegetation and by the mid-nineteenth century the Cape was the bare of most forest. While it is speculative, at the time of Thoreau's visit to the Highlands (around 1850), the vegetation exhibited its very highest level of modifications by humans. By the Great Depression land uses that had perpetuated clearings were

declining and forest-successional species such as pitch pine had begun to reestablish themselves. In general, the loss of agricultural vegetation represents the major difference between the types of vegetation in the early twentieth century noted and that currently present.[10]

Existing Condition:
The vegetation along Highland Road contains native plant species common to the Highland Plain area. They include blueberry, huckleberry, bearberry, sheeplaurel and shadbush.

Evaluation: Contributing
Although the Highland Road Space has loss vegetation associated with agricultural use during the period of significance, the native vegetation associated with the Highland Plain exists and contributes to the significance of the Truro Highlands Historic District.

Wisteria Vine at the Site of Millstone Cottage

Historic Condition:
Not applicable

Existing Condition:
Wisteria, located at the site of the Millstone Cottage, has spread beyond its initial ornamental purposes.

Evaluation: Non-contributing
The wisteria vine does not contribute to the significance of the district.

Pitch Pine, Oak and Scrub Oak Barrens around the Perimeter of the District

Historic Condition:
Pitch pine, oak and scrub oak barrens existed around the perimeter of the district throughout the historic period.

Existing Condition:
Since the historic period, the native vegetation of the Highland Plain has become denser around the perimeter of the district.

Evaluation: Contributing
Pitch pine, oak and scrub oak barrens contributes to the significance of the historic district.

Fairways

Historic Condition:
As noted in the Preservation Maintenance Plan (1998), when Willard Small laid out the golf course in 1898, he relied on native turf for the fairways on the links. He likely used bunch grasses that are dominant on the Outer Cape's sand plain grasslands today, particularly little bluestem (*Schizachyrum scoparium*) and poverty grass (*Danthoria spicata*). Other plants that may have been present include bird's foot violet (*Viola pedata*) and sandplain gerardia (*Agalinis acuta*).

Existing Condition:
The fairways have been overseeded with bluegrass mixes in an effort to establish a thicker, more consistent turf cover.

Evaluation: Non-contributing
The present appearance of the fairways with blue grass mixes and irrigation systems detracts from the historic setting, materials and feeling of the historic golf links.

Tees and Greens

Historic Condition:
The early course had no turf on the tees or greens. Sand and gravel were the preferred covers. By 1934, possibly as early as 1911-12, the sand and gravel greens were replaced with a non-native grass, velvet bentgrass (*Agrostis canina*). By 1947, the tees and greens were overseeded with other non-native bluegrass varieties (*Poa spp.*).

Existing Condition:
The tees and greens currently have a highly maintained turf cover. The current management practice is to overseed the tees and greens with velvet bentgrass in order to reestablish this turf cover and reduce usage of high-maintenance bluegrass varieties.

Evaluation: Contributing
The velvet bentgrass turf is a character-defining vegetative feature which contributes to the historic materials and setting of the golf course.

Rough Areas

Historic Condition:
In his visits to the area between 1849 and 1957, philosopher Henry David Thoreau wrote about the vegetation of the Highlands area in Cape Cod,

"Shadbush, Beach Plums and Blueberries, like the apple trees and oaks, were very dwarfish, spreading over the sand, but alt the same time very fruitful." When the golf links was established in 1898, it is likely that many of the same native shrubby species dotted the landscape, including beach plum (*Prunus maritima*), shadbush (*Amelanchier spp.*) and blueberries (*Vaccinium pennsylvanicum*).

Existing Condition:
Some rough areas contain a mix of species while others do not. In addition to the species noted by Thoreau, common species include bearberry (*Archstaphylos uva-ursi*), sedges (*Carex spp.)* and broom crowberry (*Corema conradii*), a Massachusetts state-listed and protected species. Atypical of a traditional links course, some rough areas have been mowed on a frequent schedule, reducing native vegetation and producing a manicured look.

Evaluation: Contributing
Traditional linkslands were not mowed at all. Mowing reduces the areas of native, low growing, shrubby vegetation. This shrubby vegetation also prevents erosion and enhances the character of the roughs that are associated with the link-style golf course.

Trees and Shrubs within Links Course

Historic Condition:
Trees were not a factor in Small's 1898 design and layout of the golf links. For years the site remained open and devoid of large plant species. Small native trees, such as pitch pine (*Pinus rigida*) and scrub oak (*Quercus ilicifolia*), have been planted on the links over the years to provide spatial separation between the holes. A second-growth forest containing pitch pine, scrub oak and various hardwoods and shrubs has become a part of the natural landscape surrounding the Golf Links, particularly along the southern and western boundaries. The continued openness and relative lack of large vegetation within the course is evident in a series of aerial photographs taken of the site in 1938, 1960, 1977, 1986 and 1994.

Existing Condition:
There are currently no large trees on the links. Groups of small native trees have been planted or allowed to grow on their own in some areas of the golf links, especially between the fairways, near tees and greens and on the perimeter of the course. Some shrubs have been planted between the fairways to provide spatial definition, although few currently remain.

Evaluation: Non-contributing
Planted trees and shrubs to not contribute to the character of the golf links and detract from the open historic character. The increased growth of trees and shrubs are beginning to obscure views to the north and east.

Heathland

Historic Condition:
Although heathland communities are globally a rare collection of plants, they have been common on the Outer Cape since early deforestation occurred and open lands became prevalent (Appendix 1).

Existing Condition:
Both development on the Outer Cape and reforestation of undeveloped areas have reduced the total area of heathland on the Outer Cape. Several areas on the perimeter of the golf links, primarily on the eastern side, contain heathland plant communities. These areas have been reduced by coastal erosion.

Evaluation: Contributing
The openness of the Highland Golf Links provides one of the few remaining sites where the heathland community can thrive. Extant during the period of significance, heathlands contribute to the significance of the historic district.

VIEWS AND VISTAS (FIGURES 2.28-2.31)

Views from Highland Road

Historic Condition:
Throughout the historic period, views of the Highland Light, Atlantic Ocean and surrounding areas could be obtained from Highland Road. Buildings constructed by the Small family on Highland Road were afforded an excellent view of the Atlantic Ocean and Provincetown to the northeast.

Existing Condition:
Visitors to the Truro Highlands Historic District can still obtain excellent views of the Highland Golf Links, Highland Light, and surrounding areas. The observation deck, located on the eastern side of the Highland Light, captures unobstructed views of the Atlantic Ocean. Unpleasant views found along Highland Road area are the large amounts of golf carts located on the north side of the road at the club house and the unnecessary signage along the cul-de-sac.

Evaluation: Contributing

While views from the Highland Road area are limited, the views that are obtained contribute to the significance of the Historic District. It is imperative that features introduced into the area in the future avoid obstructing any views that may be obtained from along the road.

Views from Highland Golf Links

Historic Condition:

While there is no documentation that Willard Small intended to establish certain views when laying out the links, it is evident that these views and related focal points have become important site features that help define and establish character of the site.

Existing Condition:

The elevated location of the links provides a panoramic view of the Atlantic Ocean from nearly every hole, with the view changing slightly as players' progress through the course. Off-site features including the Highland Light, Highland House, "Jenny Lind Tower" and old Truro Air Force station have become prominent focal points and aid in creating interesting views from the links. The lack of large vegetation on the course allows these views to be uninterrupted across the course. It also provides the opportunity for visitors to the surrounding Highland Historic District to have an unobstructed view onto the links.

Evaluation: Contributing

The views associated with the Highland Golf Links are significant to the Truro Highland Historic District and contributes to the character of the cultural landscape. The views obtained within this area allow visitors to experience the sense of openness and natural beauty that is traditionally associated with links golf courses. However, newly planted trees and shrubs may block significant views if planted in an inappropriate location. In addition, existing trees and shrubs may block significant views if allowed to become overgrown or invasive and unpleasant on-site views such as the maintenance building, may continue to detract from the links experience.

SMALL-SCALE FEATURES (FIGURES 2.32-2.36)

Wood Utility Poles

Historic Condition:

As early as the 1860s all of the life saving stations and lighthouses on the Cape were linked by a government maintained, private telephone service, which would explain the presence of telephone poles in early photographs of the area around

the lighthouse. These stations were linked by the "trunk line" of utility poles installed along what is now Route 6. However, it appears that the line connecting the main line along Route 6 to the Highland Light did not run down Highland Road, but, rather, through the northern portion of the Small property.

According to Cape Cod Historian Simeon Deyo, public telephone service was established on the Cape in 1882, with the first lines reaching Barnstable, Hyannis, Cotuit and Marston's Mills and by 1883 the New Bedford Telephone Service had reached Truro. However, Truro historian Anthony Marshall noted that most area families did not have telephones in the early 1900s. Consistent with that observation, a photograph of Highland Road taken in 1910 shows no poles. However, a 1937 photograph of the area, taken by Cape photographer Samuel Chamberlain, appears to show utility poles running down Highland Road to the lighthouse. It may have been that the installation of private utility/telephone service coincided with the development of private resort cottages by the Aldrich family during the 1920s.

Existing Condition:
The existing wood utility poles found on the south side of Highland Road were installed at some time between 1910 to1937.

Evaluation: Existing, contributing
The wood utility poles that exist within the district contribute to the historic significance of the property. The installation of utility poles within the Highlands influenced the additional development that occurred within the historic district after ownership by the Small family.

Highland Road Area- Split-Rail Fencing

Historic Condition:
Wooden split railing fencing did not exist during the period of significance.

Existing Condition:
In the 1990s, split rail fencing was added along the north side of Highland Road to the lighthouse. On the east side of the Highland Light, the fencing is found on the north and south sides of the pedestrian trail to the observation deck.

Evaluation: Non-contributing
The wooden split railing does not contribute to the historic significance of the district, however it harmonizes with the historic coastal setting.

Highland Road Area- "Portland" Memorial Marker

Historic Condition:
The "Portland" memorial marker was not present during the historic period. The marker was installed after the relocation of the Highland Light in 1996. It memorializes the "Portland" steamer, which sank in the vicinity of the Truro Highlands.
Existing Condition:
The marker currently exists along the west elevation of the Keeper's Cottage.

Evaluation: Non-contributing
The marker does not detract from the historical significance of the district.

Highland Road Area-Highland Light Relocation Marker

Historic Condition:
The Highland Light relocation marker was not present during the historic period. Installed after 1996, the Highland Light relocation marker provides interpretive information identifying the previous location of the Highland Light.

Existing Condition:
The Highland Light relocation marker currently exists in previous location of the lighthouse.

Evaluation: Non-contributing
Although non-contributing to the historic district, the marker provides valuable information in interpreting the significance of the district.

Highland Road Area- Anchor

Historic Condition:
Not applicable

Existing Condition:
The anchor exists on the west elevation of the Highland House.

Evaluation: Non-contributing
Although non-contributing to the historic district, the anchor does not detract from the significance of the district.

ARCHEOLOGY

Historic Condition : During the historic period, the following buildings, structures and small-scale features existed within the historic district: James Small house site - located at the intersection of Highland and South Highland roads; Highland Lodge site; Highland House extension site; Coloraine cottage; Millstone cottage site; Mayflower cottage site; bowling alley site; golf house site; miniature golf course site - concrete foundations and steps located on the north side of Highland Road adjacent to the former lighthouse site; baseball field site; water tower site; Pilgrim cottage site; Cliff house site; Aldrich cottage site; and the vegetable garden site (current location of eighth and ninth holes).

Existing Condition: The previously listed buildings, structures and small-scale features no longer exist within the Highlands area.

Evaluation: Contributing
The archeological sites identified within the Highlands area contribute to the significance of the historic district.

ANALYSIS OF INTEGRITY

The National Register identifies seven aspects of integrity (location, design, setting, materials, workmanship, feeling and association).[11] Retention of these qualities is essential for a property to convey its significance; however, not all seven qualities of integrity need to be present to suggest a sense of past time and place.

LOCATION

With exception to the relocated eight and nine golf holes, the features that exist within the Truro Highlands Historic District have not changed since the period of significance. Due to severe erosion and the possibility of being lost, the Highland Light was relocated in 1996. The new location is approximately 570 feet west from its original location.

DESIGN

Design is the combination of elements that create the form, plan, space, structure and style of a cultural landscape. Since the historic period, the lands that include the golf course and important buildings retain their original design schemes and features including materials, proportion, scale, site placement and ornamentation. The Highland Light also retains its original design schemes and features.

SETTING

The aspect of setting refers to the physical environment of a property, or how the site is situated and its relationship to surrounding features and spaces. Since the period of significance, the setting of the Truro Highlands Historic District and Highland Light has remained the same due to its location along the coastal bluffs of North Truro.

MATERIALS

Materials are the physical elements that when combined or deposited during the historic period. All types of construction materials, including paving, plants and other landscape features are included under this aspect of integrity. Although many of the buildings and structures have been rehabilitated within the Highlands Historic District, the original materials have been retained. In addition, the Highland Light, with the relocation and rehabilitation, retains original materials. However, many present historic walks and roads throughout the historic district, including the golf course, have been paved and are undistinguishable from the paved non- historic routes. In addition, the introduction of golf carts has adversely affected the character of the Highland District. Due over seeding the golf course with non-native species of vegetation for the fairways and rough, native vegetation has been reduced.

WORKMANSHIP

This aspect of integrity refers to the physical evidence of the crafts of a particular period. Although the majority of the buildings within the Truro Highlands Historic District have been renovated or rehabilitated, they are all in good condition and the workmanship during the period is evident. Due to the reconfiguration of the golf course and the introduction of non-native vegetation, the workmanship of the Highland Golf Links has been diminished. The Highland Light was rehabilitated in the late 1990s, but still possesses the workmanship of the period.

FEELING

Feeling is a property's expression of the aesthetic or historic sense of a particular time period. The historic feeling of the historic district has been diminished because of: 1) loss of structures along Highland Road; 2) changes in circulation (asphalt surfaces and the reconfiguration of Highland Road); 3) addition of golf carts on the golf course; 4) Relocation of the Highland Light. The next chapter will provide recommendations for improving the historic feeling of the district. The tables that follow summarize the characteristics and features that contribute to the historic landscape character of the Truro Highlands Historic District.

SUMMARY OF EARLY SCOTTISH LINKS CHARACTERISTICS

The following table provides a description of characteristics and features found on early Scottish links golf courses.

TABLE 2.0 EARLY SCOTTISH LINKS CHARACTERISTICS	
TYPE	DESCRIPTION
LANDSCAPE	Early links were usually situated along a seashore, or oceanside land. They were relatively flat or undulating, often with lines of sand dunes or dune ridges. They made use of the existing topography and natural environment for form and difficulty of play. At the Highland Golf Links, the landscape is emblematic of an early Scottish Links course. Its rolling terrain is situated alongside the Atlantic Ocean.
CLIMATE	Due to their coastal location links courses have ever-present wind, occurring from many points on the compass. [12] Many links courses consist of an "outward" nine in one direction and an "inward" nine which returns in the opposite direction. The ever-present wind and opposite wind patterns affect the required style of play. As a result of its close proximity to the ocean, the climate conditions at the Highland Links are similar to the coastal locations of early links courses.
SOIL	Links courses are built on low-lying land of well-drained, sandy soil and have sandy turf-covered ground. At the Highland Links, the soil is sandy with a thin layer of loam.
TREES & SHRUBS	Links courses characteristically have very few trees and shrubs. Too many trees would interfere with the characteristic views and ever-present wind. The Highland Links is relatively open with a few scatterings of trees and shrubs.
ROUGHS	Roughs utilize native vegetation, which in Scotland includes broom, gorse, heather and fescues. They should be unimproved, botanically rich areas of grass that have not been subject to fertilizer or re-seeding. Roughs contribute a significant role in maintaining the traditional appearance of the landscape and ecological value of the unimproved grassland. The landscape identity of a golf course is determined to a large extent by the characteristics of the out-of play areas. [13] Vegetation found in the rough at the Highland Links includes, beach plum (*Prunus maritima*), shadbush (*Amelanchier spp.*), blueberries (*Vaccinium spp.*), bearberry (*Arctostaphylos uva-ursi*), sedges (*Carex spp.*) and broom crowberry (*Corema conradii*).
TEES	Historically, golf tees were non-existent. Players often located their balls near the place they had previously putted. At the Highlands Links, readily available sand gravel was used for the construction of early tees. Presently, tees are sophisticatedly constructed features, similar in design and maintenance as greens. Modern standards recommend around 1,076 to 3,229 square feet per teeing grounds, with potentially several at each hole. Maximum cross fall, from front to back, of around 1:100. [14] A teeing surface today must be even flatter than greens. The tees at the Highland Links consist of velvet bentgrass (*Agrostis canina*) and other non-native bluegrass varieties (*Poa spp.*) and reflect modern standards rather than the historic character.
GREENS	Historically, in order to avoid the difficulty associated with the surrounding contours and substantial earthworks, relative flat areas were used for greens in early golf courses. Greens were commonly designed to be visible from where shots are played. Native grasses were used which were the same color as the surrounding course.. The Highland Golf Links originally used readily available sand gravel for the construction of the greens. While modern golf courses are around 5,380 to 6,456 square feet and in a variety of free-forms, the early links courses had relative small greens and were mostly rectangular shaped. Gradients of the putting surface must be relative flat, generally between 1:12 and 1:60. [15] Around the hole, the area should be two to three feet in radius and be as level as possible. The hole location should be at least five paces from any edge of the green and there should be enough putting green surface between the hole and the front and the sides of the green.

	Early links courses used bentgrass for turf, which is hardy near salt water environs. Link course greens are generally characterized by the fine texture and growth pattern of fescue and bent grass species combined with the dry and firm medium they grown in. The result is that it is not easy for golfers to stop the ball on the green. Greens at the Highland Links consist of velvet bentgrass (*Agrostis canina*) and other non-native bluegrass varieties (*Poa spp.*).
FAIRWAYS	In the rules of golf, the term 'through the green' is used instead of fairway. This is because a critical concept was that the golf hole wasn't meant to have different playing surfaces to each part, but rather a consistent uniformity allowing for the ball to react the same on the approach as much as the green. The whole concept is flawed if there is a different texture and resilience on the approach than on the green. Links courses tend to be characterized by uneven fairways with an infinite variety of stances and lies. Early courses used bentgrass for turf, which is hardy near salt water environs. At the Highlands, the fairways originally consisted of native turf particularly little bluestem (*Schizachyrum scoparium*) and poverty grass (*Danthoria spicata*). Other plants that may have been present include bird's foot violet (*Viola pedata*) and sandplain gerardia (*Agalinis acuta*). Presently, the fairways are overseeded with bluegrass mixes.
BUNKERS	Scottish farmers used the term "bunkers" with regards to areas where sand was exposed by erosion and wind, where local residents quarried seashells, or behind hillocks where livestock went for shelter from wind, resulting in trampled grass scars. The typical links sand bunkers were relatively small irregular shaped features, devoid of vegetation. They were normally deeply recessed into the earth, known as 'pot bunkers', to avoid the wind blowing sand clean out of the bunkers. Because of the difficulty in integrating bunkers into the landscape, they are often poorly designed and constructed on modern links courses. Reducing the visual impact should be the goal for constructing bunkers on links style courses. Although visibility may be appropriate for golfers, bunkers should not be elevated and views of these features should be limited.[16] The bunkers found at the Highland Links are not deeply recessed and very few, if any, are elevated.

SUMMARY OF LANDSCAPE CHARACTERISTICS AND FEATURES

The features in this table are organized by landscape characteristics which include natural systems and topography, spatial organization, land use, circulation, buildings and structures, vegetation, views and vistas, small-scale features and archeological features.

TABLE 2.1 SUMMARY OF LANDSCAPE CHARACTERISTICS AND FEATURES

FEATURE NAME	EVALUATION	CONDITION 1998	CONDITION 2006	COMMENTS
Natural Systems and Topography				
Geology, hydrology, flora and fauna, seaside bluff, gently-rolling sandy hills	Contributing	Fair/Poor	Fair/Poor	Present during and after historic period with natural and man-made changes. Cliff erosion continues to reduce the total land area. Within the golf course, cart and pedestrian traffic causing erosion.
Terrain of Highland Golf Links		Good/Fair	Good/Fair	Shoreline erosion has decreased the total land area of the links course.
Spatial Organization				
Highland Road	Contributing	-	Fair	Erosion of the coastline, removal of buildings and relocation of the lighthouse in 1996 has altered the spatial organization of the road.
Highland Golf Links	Non-contributing North of Highland Road	-	Good	Expanded in the 1950s, the golf links on the north side of Highland Road postdates the historic period (1898-1947).
	Contributing South of Highland Road	-	Good	Present during and after the historic period (1898-1947). Links were improved in 1903, reconfigured in 1913 and planted with turf in 1934, possibly as early as 1911-1912.
Land Use				
Tourism	Contributing	-	Good	Present during and after historic period.
Recreation	Contributing	-	Good	Present during and after historic period, however recreational activities have changed. Built in 1898, golf remains the only recreational activity.
Circulation				
Highland Road	Contributing	Fair	Fair	Constructed by 1831, improved in 1892, paved with asphalt between 1938 and 1960 and reconfigured in 1996 due to lighthouse relocation. Eastern end changed to path in 1996.
Cottage concrete paths and steps	Contributing	-	Poor	Date of construction unknown.
Pedestrian/golf cart paths	Contributing/Non-contributing	Poor	Poor	Constructed c.1900s as pedestrian paths, paved 1950s to accommodate golf carts. Multiple surfacing materials and poor condition detract from historic appearance.
Buildings and Structures (MHC Inventory #, LCS Inventory #)				
Highland House (TRU. 1, 007499)	Contributing	-	Poor	Constructed between 1906 and 1907, rehabilitated in the 1990s
Rock Cottage (TRU.7)	Contributing	-	Good	Constructed in 1902, rehabilitated in the early 1990s.
Beacon Cottage/Slade House	Contributing	-	Fair	Constructed in 1902, rehabilitated in 1987.

(TRU.6, 040461)				
Haven Cottage	Contributing	-	Good	Constructed in 1915
Adams Cottage/ Highland Club House (TRU.5, 040460)	Contributing	-	Good	Constructed in 1917, altered in 1991.
Highland Light and Keepers Cottage(20, Light=040462, Keepers Cottage=040463)	Contributing	-	Good	Constructed between 1796 and 1797, reconstructed in 1857, relocated in 1996.
Maintenance Building	Non-contributing	-	Fair	Constructed in 1988. Incompatible views of structure from golf links first, fourth and fifth holes.
Vegetation				
Highland Road Vegetation: Blueberry, huckleberry, bearberry, sheeplaurel and shadbush	Contributing	Fair	Fair	Native vegetation throughout historic district. Present during and after historic period.
Wisteria vine at site of Millstone Cottage	Contributing	-	Poor	Wisteria has spread beyond its initial ornamental purposes and should be pruned.
Pitch pine, oak and scrub oak barrens around perimeter of Highland Links	Contributing	Fair	Good	Native vegetation of the Highland Plain located around perimeter district. Much denser growth that during historic period, helps to screen surrounding development.
Fairways	Non- contributing	Poor	Poor	Areas are frequently mowed, historically less green and manicured and possibly more intervening roughs. Native vegetation reduced in areas of frequent mowing.
Tees and Greens	Contributing	Poor	Fair	Planted in 1934 in place of sand and gravel greens and tees; overseeded with bluegrass in the 1980s; then shifted back to overseeding with velvet bentgrass in the 1990s to reduce use of high-maintenance grass varieties.
Rough Areas	Contributing	Good	Fair	Typical of traditional links courses. This shrubby vegetation prevents erosion and enhances character of the links course.
Trees and shrubs within links course	Non-contributing	Fair	Fair	Trees and shrubs added to screen non-historic maintenance building and to separate fairways. Historically the area was open.
Heathland	Contributing	Fair	Fair	Present during and after historic period. 1998 Pres. Maint. Plan notes small amount of existing heathland in good health and self-sustaining.
Views and Vistas				
Views from Highland Road	Contributing	Good	Good	Views of Highland Light, Highland Golf Links and surrounding areas can be obtained from Highland Road.
Views from Highland Golf Links	Contributing	Good	Good	Views of the Jenny Lind Tower, old Truro Air Force Station, the Highland Light and Atlantic Ocean can be obtained from the Highland Golf Links.
Small-Scale Features				
Wood utility poles	Contributing	-	Fair	Built between 1910 and 1937. Pole near Millstone Cottage site laden with Wisteria vine.
	Non-contributing	-	Good	Added in the 1990s, harmonizes with

Split-rail fencing				historic coastal setting
"Portland" memorial marker	Non-contributing	-	Good	Installed after 1996, provides interpretive information.
Highland light relocation marker	Non-contributing	-	Good	Installed after 1996, provides interpretive information.
Anchor	Non-contributing	-	Good	Date of installation unknown.
Archeological Features				
James Small House Site	Contributing	-		Located at the intersection of Highland and South Highland roads.
Highland House Extension Site	Contributing	-		
Coloraine Cottage	Contributing	-		
Millstone Cottage Site	Contributing	-		Relocated in 1971
Mayflower Cottage Site	Contributing	-		Removed in 1971
Bowling Alley Site	Contributing	-		
Golf House Site	Contributing	-		
Miniature Golf Course Site	Contributing	-		
Water Tower Site	Contributing	-		
Pilgrim Cottage Site	Contributing	-		Removed c.1970s.
Cliff House Site	Contributing	-		Relocated in 1983
Aldrich Cottage Site	Contributing	-		
Vegetable Garden Site	Contributing	-		Current location of 8th and 9th holes.

ENDNOTES FOR CHAPTER TWO: ANALYSIS AND EVALUATION

[1] The National Register of Historic Places Program determines a historic property's significance in American history through a process of identification and evaluation. Significance may be present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling, or association and which meet one or more of the following criteria for evaluation: (A) Association with events that have made a significant contribution to the broad patterns of our history; or (B) Associated with the lives of persons significant to our past; or (C) Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that poses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (D) Have yielded, or may likely yield, information important in prehistory or history. National Park Service, "National Register Bulletin 16: Guidelines for Completing National Register of Historic Places Forms, Part A." Washington DC: US Department of Interior, National Park Service, Cultural Resources, National Register, History and Education, 1997.

[2] There is some confusion regarding the Criteria for which the district is to be listed. The Criteria Statement Form includes a checked box under "A" but includes a statement "meets Criteria A and B of the National Register at the Local level." Correspondence from the Massachusetts Historical Commission State Historic Preservation Officer concurs with Criterion A.

[3] A Determination of Eligibility (DOE) for a proposed Highland Historic District encompassing, the Highland Golf Course and the Highland House was submitted to the Massachusetts State Historic Preservation Officer in November, 1993. This new DOE was prepared in response to the proposed relocation of the lighthouse in order to determine whether the area was eligible for listing on the National Register. In correspondence dated January 13, 1994, the Massachusetts Historical Commission concurred that the Truro Highlands Historic District was eligible under Criterion A with a period of significance of 1898 to 1947.

[4] A nomination for the Highland House (1907) was prepared by the Park Historian at Cape Cod National Seashore on February 25, 1974 and entered on the National Register June 5, 1975. This nomination includes the building only. It states that the acreage is "less than one acre," but does not provide specific boundaries.

A nomination was prepared for the Highland Golf Course, classified as a site, on March 7, 1974. It was determined eligible on August 2, 1977, but has not been entered on the National Register. This nomination includes 89.5 acres, corresponding to the boundaries of a parcel of land acquired by the National Park Service in 1964 (CACO Land File 16-2500) and based on a 1945 Survey. The boundary does not correspond exactly with the area currently used for golf. The Highland House is included within this boundary and is discussed to some extent in this nomination.

[5] Massachusetts Historical Commission. "Determination of Eligibility for the Truro Highlands Historic District." 1993

[6] Ibid

[7] Ibid

[8] Clark, Admont G. *Lighthouses of Cape Cod, Martha's Vineyard, Nantucket.* (Parnassus Imprints Inc, Hyannis MA) 23.

[9] Thompson, Frederic L. *The Lightships of Cape Cod* (Congress Square Press, Portland, ME) 73.

[10] Lacy, Katherine and Larry Lowenthal. *Cultural Landscapes Report for Truro Highlands Historic District*. Boston, MA: National Park Service, North Atlantic Region, Division of Cultural Resources Management, 1995.

[11] Robert Page, Cathy Gilbert and Susan Dolan. *A Guide to Cultural Landscape Reports: Contents, Process and Techniques*. Washington DC: US Department of Interior, National Park Service, 1998:72

[12] Links Golf (Wikipedia, 2006).

[13] *Guidance on Golf in Historic Parks and Landscapes* (London: English Heritage, 2005), 50.

[14] Mike Wood, *Landscape Guidelines for Golf Course Development* (The Scottish Golf Environment Group, 2005), 17.

[15] Ibid, 16.

[16] Ibid, 18.



Figure 2.0: Circulation
View of South Highland Road looking northeast. (OCLP, 2006).



Figure 2.1: Circulation
View of South Highland Road looking southwest (OCLP, 2006).

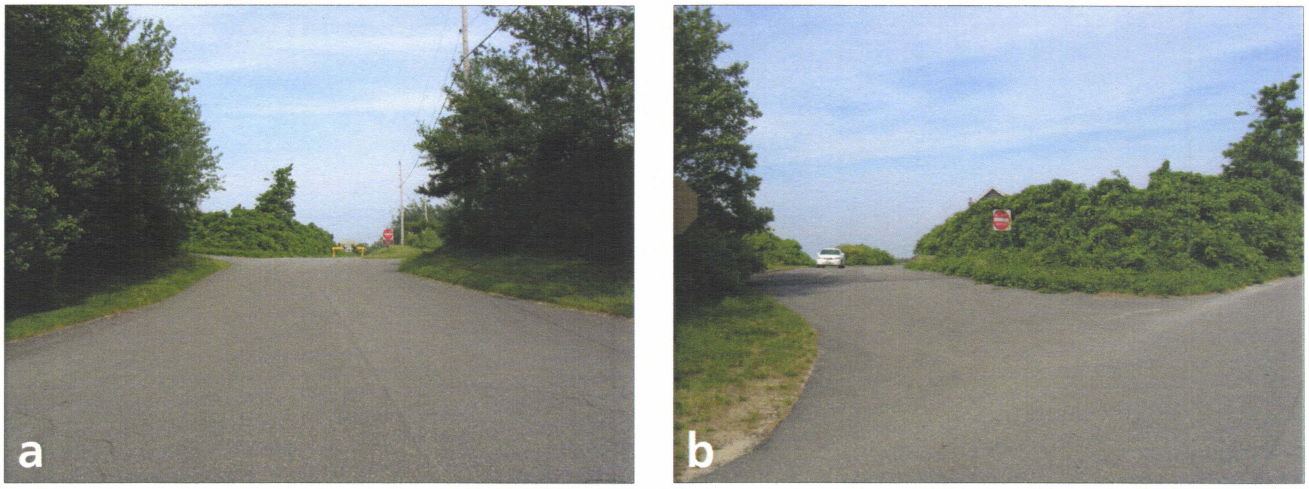


Figure 2.2: Circulation
(a) View of Highland Road entrance looking southeast; (b) View of parking area entrance on north side of Highland Road looking northeast (OCLP, 2006).

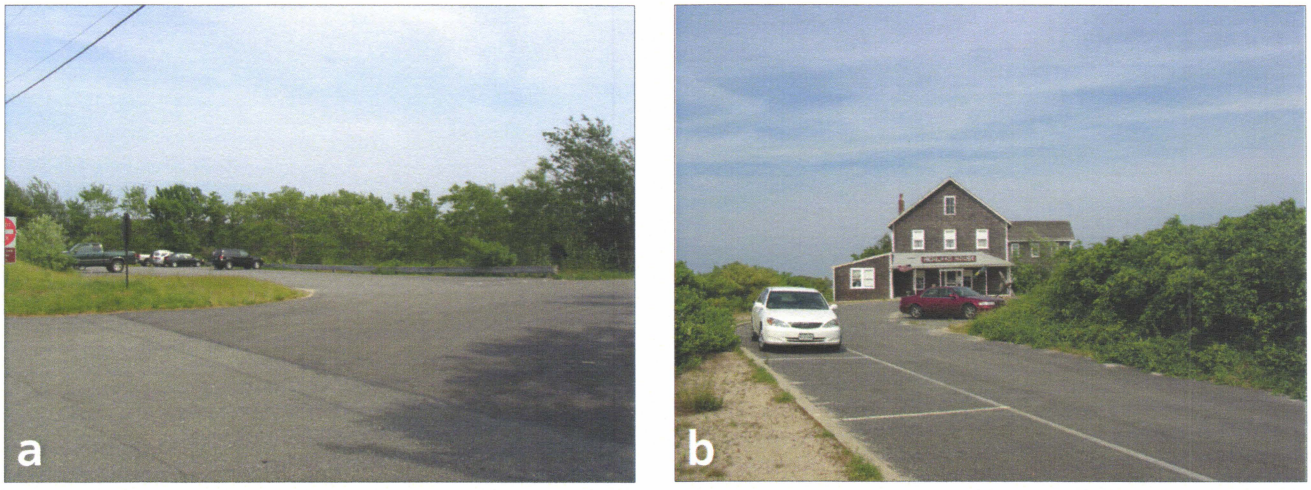


Figure 2.3 Circulation
(a) View of parking area entrance on south side of Highland Road looking southeast; (b) View of parking area entrance, west of Highland House, on north side of Highland Road looking east. Highland House can be seen in the background (OCLP, 2006).



Figure 2.4: Circulation
(a) View of parking area entrance, west of Highland House, on north side of Highland Road looking south; (b) View of parking area entrance on north side of Highland Road looking west (OCLP, 2006).



Figure 2.5: Circulation
(a) View of parking area, west of Highland House, on north side of Highland Road looking north; (b) Highland Road looking east (OCLP, 2006).



Figure 2.6: Circulation
(a) View of parking area entrance, south of Highland House, on north side of Highland Road looking north; (b) Highland Road and Highland Golf Links club house (Adams Cottage) looking east. The Highland Light can be seen in background (OCLP, 2006).



Figure 2.7: Circulation
(a) View of Highland Road looking northwest. Highland House can be seen in seen in background; (b) Highland Road Links looking east. The Highland Light can be seen in background (OCLP, 2006).



Figure 2.8: Circulation
(a) Highland Road and Highland Golf Links club house (Adams Cottage) looking west; (b) Highland Light parking area looking southeast (OCLP, 2006).

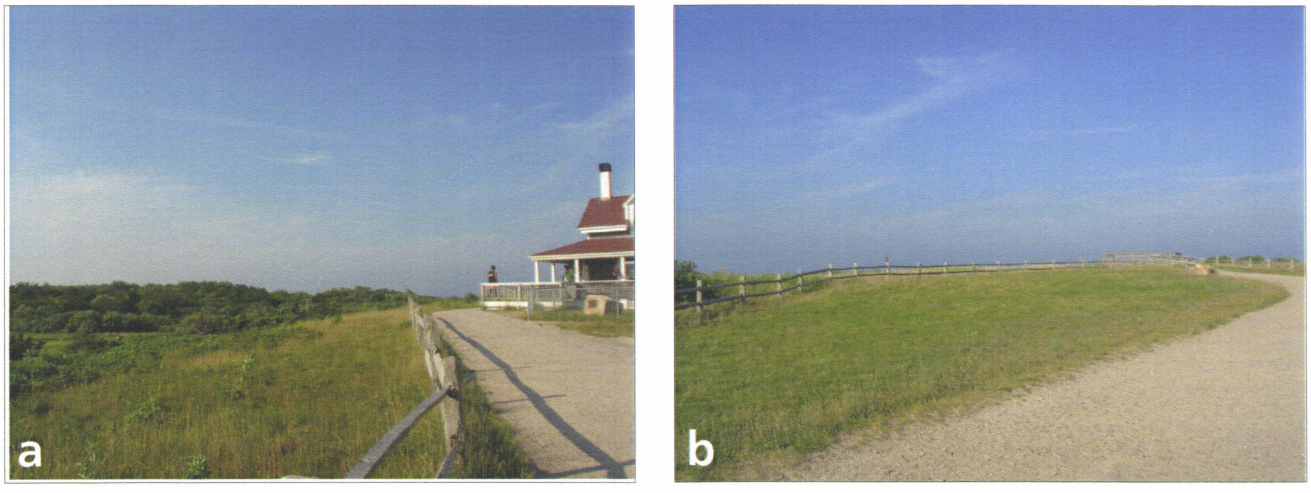


Figure 2.9: Circulation
(a) Photo of Highland Road corridor, presently walking path to Lighthouse. View looking east; (b) View of walking path to observation deck, east of Highland Light, looking southeast (OCLP, 2006).

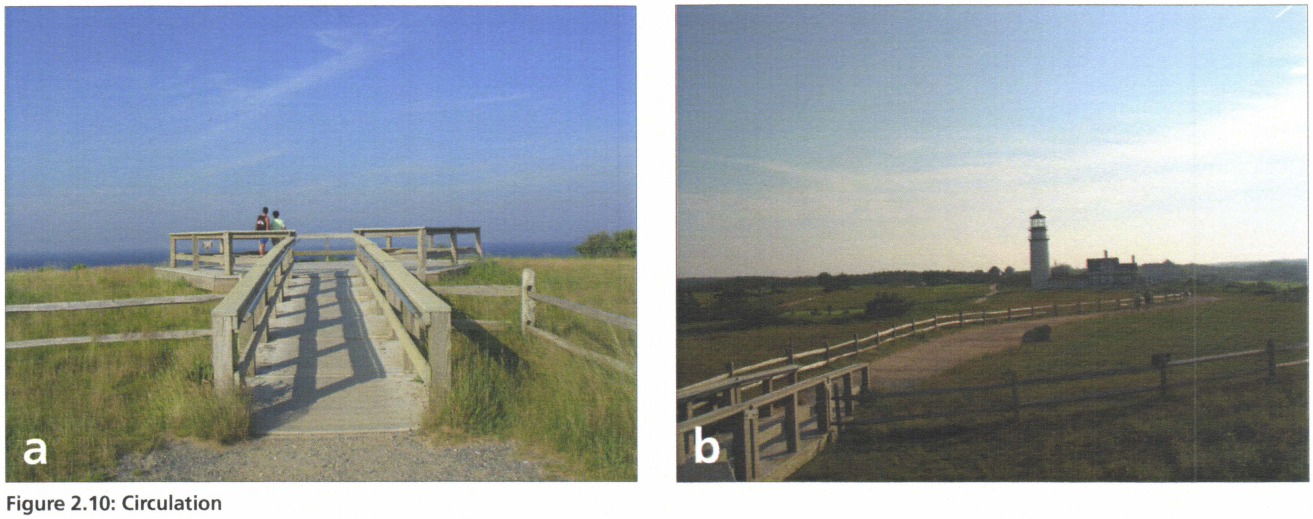


Figure 2.10: Circulation
(a) View of observation deck looking east; (b) View from observation deck looking west. Highland Light can be seen in background (OCLP, 2006).

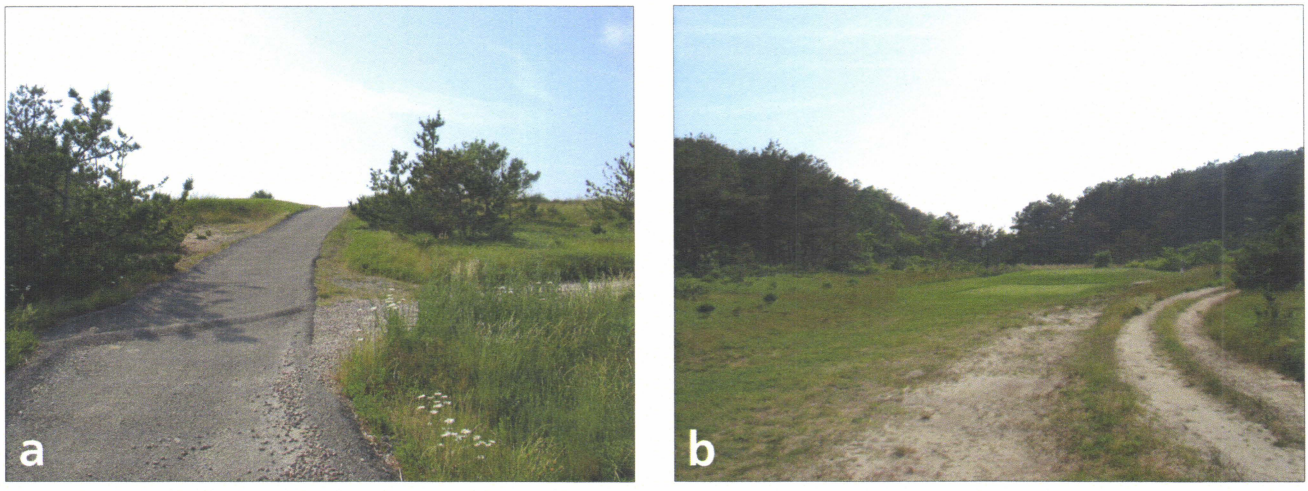


Figure 2.11: Circulation
(a) View of asphalt cart path located on hole #2 looking northwest; (b) View of parallel pathways, naturally formed, located on hole #2, looking northwest (OCLP, 2006).



Figure 2.12: Circulation
(a) View of cart path on hole #3 looking southeast. Path consists of crushed oyster shells and gravel; (b) View of cart path on hole #4 looking northwest. Path consists of crushed oyster shells and gravel (OCLP, 2006).

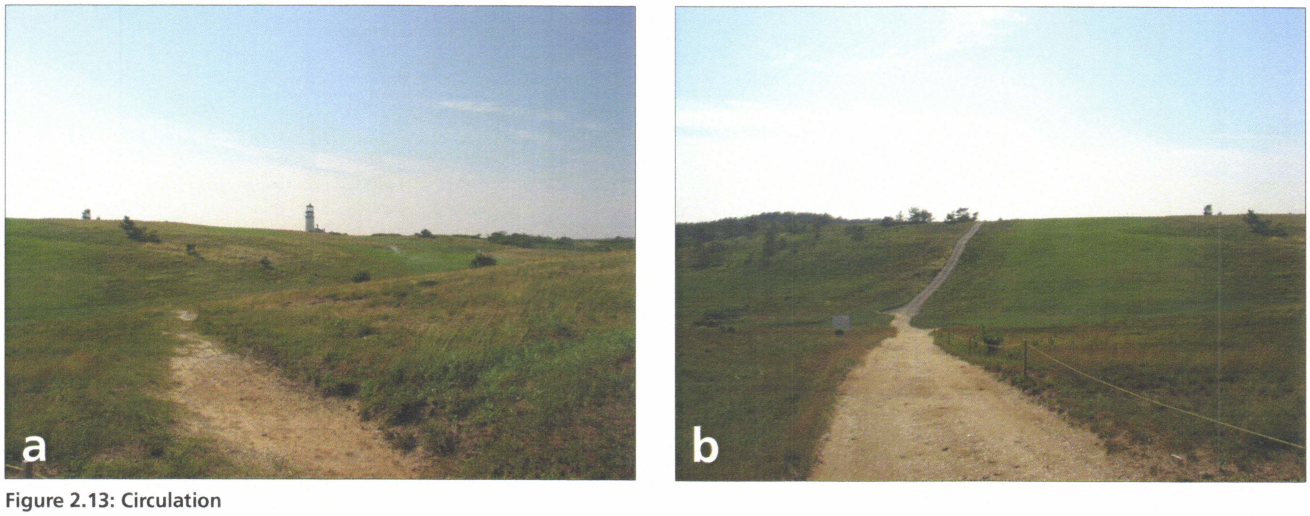


Figure 2.13: Circulation
(a) View of pedestrian access trail located on hole #4 looking southeast; (b) View cart path located on hole #4 looking northwest. As shown in this photograph, cart paths are constructed of many different materials (OCLP, 2006).

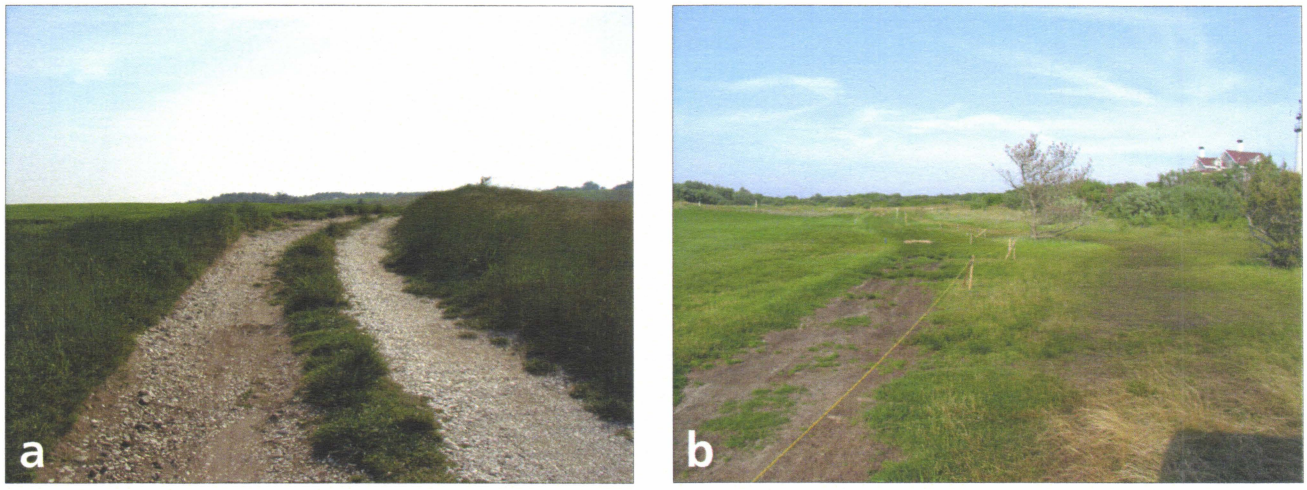


Figure 2.14: Circulation

(a) Photo of cart path, consisting of crushed oyster shells, located on hole #5. View looking northwest ; (b) View of temporary cart path along hole #8 on the Highland Golf Links looking southeast. (OCLP, 2006).

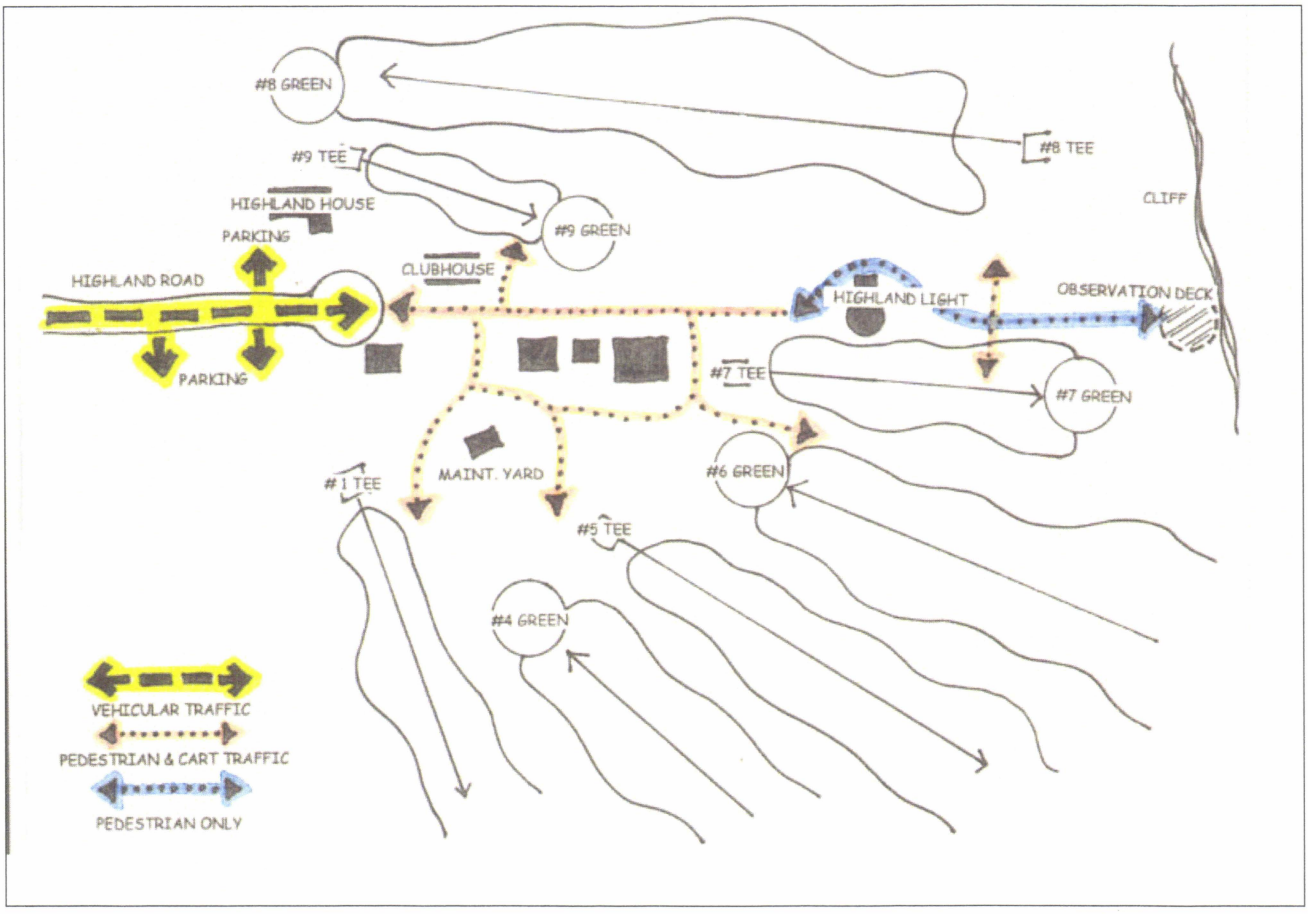


Figure 2.15: Current circulation pattern of the Highland Road area. Source: Tracy Stakely, OCLP.



Figure 2.16: Buildings and Structures
View of Rock Cottage, constructed in 1902, looking southwest (OCLP, 2006).



Figure 2.17: Buildings and Structures
View of the Haven Cottage, constructed in 1915, looking southeast (OCLP, 2006)



Figure 2.18: Buildings and Strcutures
View of the Highland Lighthouse and keepers cottage, originally built in 1797 and reconstructed in 1857, looking east. The lighthouse and keepers was moved south along Highland Road looking northeast (OCLP, 2006).



Figure 2.19: Buildings and Structures
View of the Highland House, constructed in 1906-1907, looking northeast. (OCLP, 2006).



Figure 2.20: Buildings and Structures
Photo of the golf course club house, formerly the Adams Cottage, constructed in 1917. View looking northeast (OCLP, 2006).



Figure 2.21: Buildings and Structures
View of maintenance building looking north (OCLP, 2006).



Figure 2.22: Buildings and Structures
View of Beacon Cottage, constructed in 1902, looking southwest (OCLP, 2006).



Figure 2.23: Vegetation

(a) Photo of large clump of wisteria located in the previous location of the Millstone House across the road from the Highland House. View looking northwest; (b) Photo of Pitch Pine/Scrub Oak Barrens surrounding the Highland Golf Links. View looking south (OCLP, 2006).

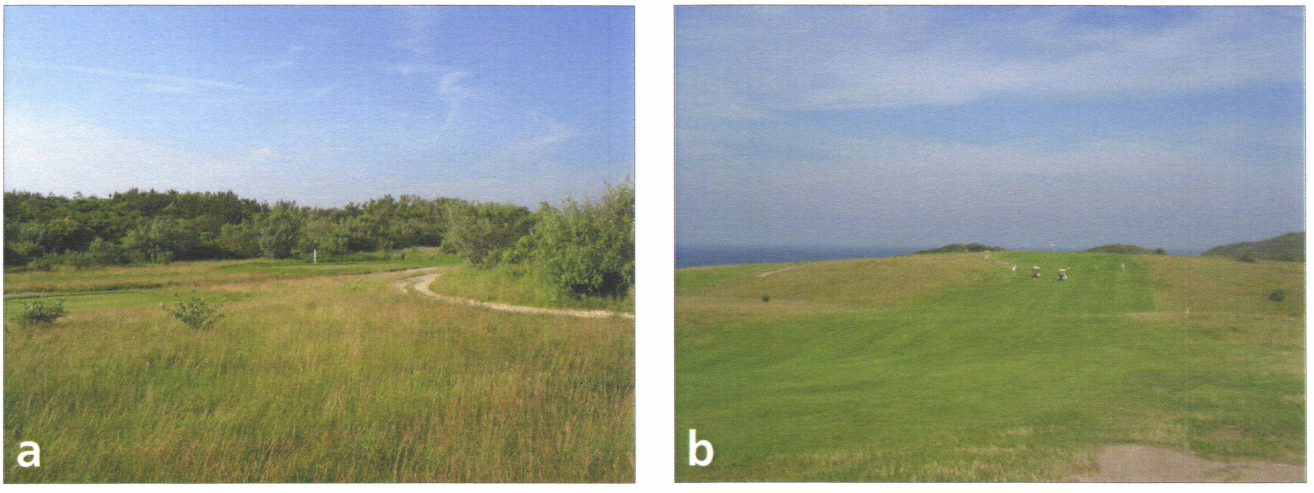


Figure 2.24: Vegetation

(a) Photo of sandplain grasslands with sporadic tree/shrub groupings within highland Golf Links; (b) View looking southeast of fairway, rough and surrounding native vegetation within the Highland Golf Links (OCLP, 2006).

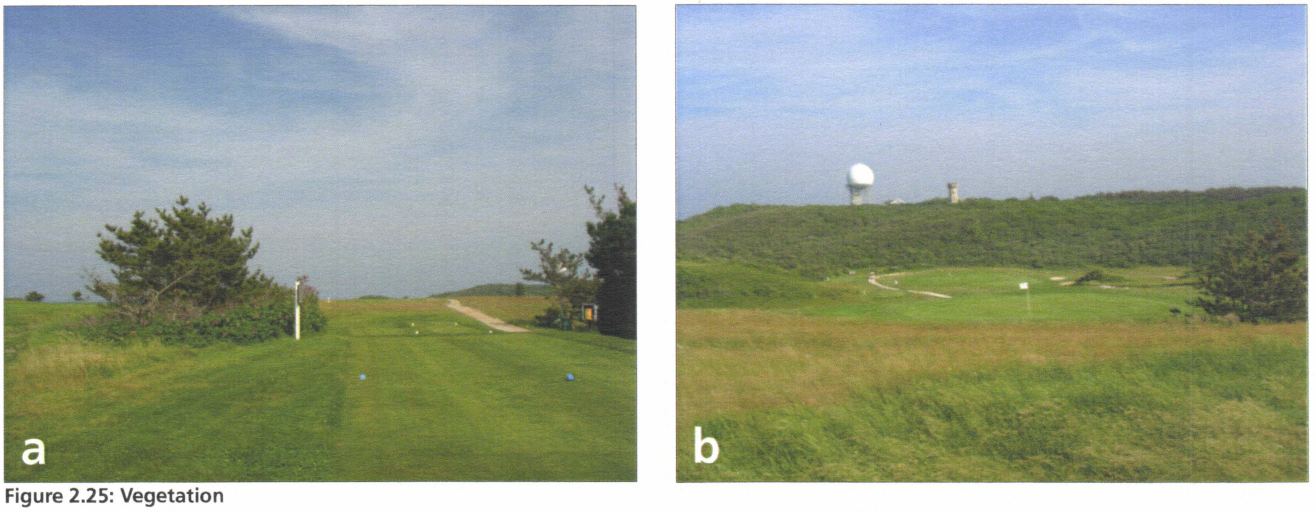


Figure 2.25: Vegetation

(a) View looking southeast of the tee box at hole #4 and a grouping of bushy rockrose (*Helianthemum dumosum)*; (b) Photo of sandplain grasslands with sporadic tree/shrub groupings within highland Golf Links. Pitch pine/scrub oak barrens can be seen in the background (OCLP, 2006).

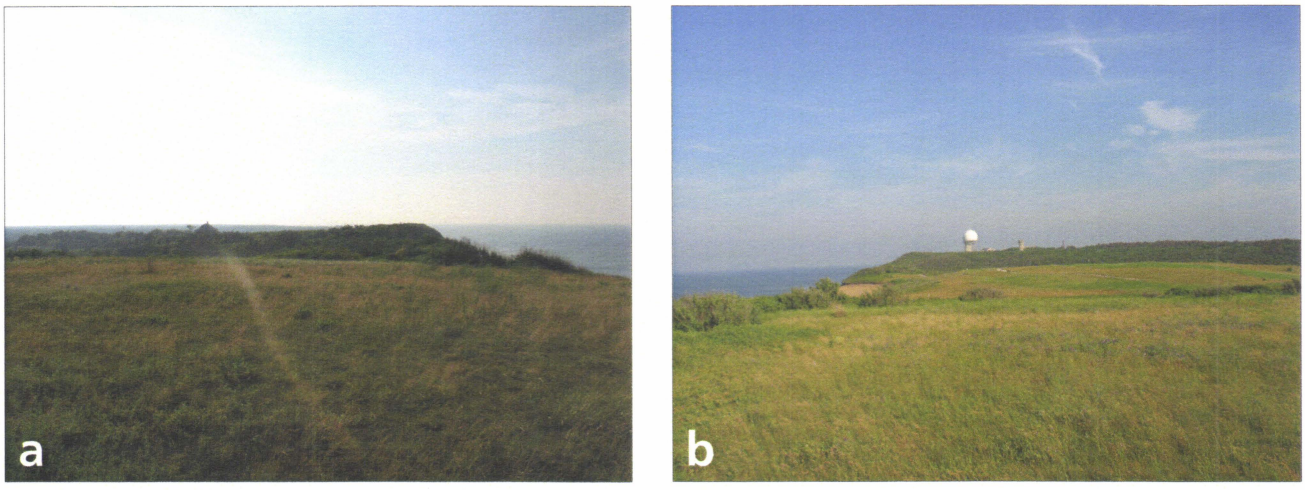


Figure 2.26: Vegetation
(a) View looking north of the heathlands surrounding the western edge of the Highland Golf Links; (b) View looking south of the heathlands, pitch pine/scrub oak barrens, sandplain grasslands and sporadic tree/shrub groupings (OCLP, 2006).



Figure 2.27: The major vegetation types present on the links are identified on this 1994 aerial photograph. The lighthouse was relocated in 1996 and there has been some additional shoreline erosion, but the general vegetation zones remain constant. Source: Cape Cod National Seashore; Tracy Stakely, OCLP.

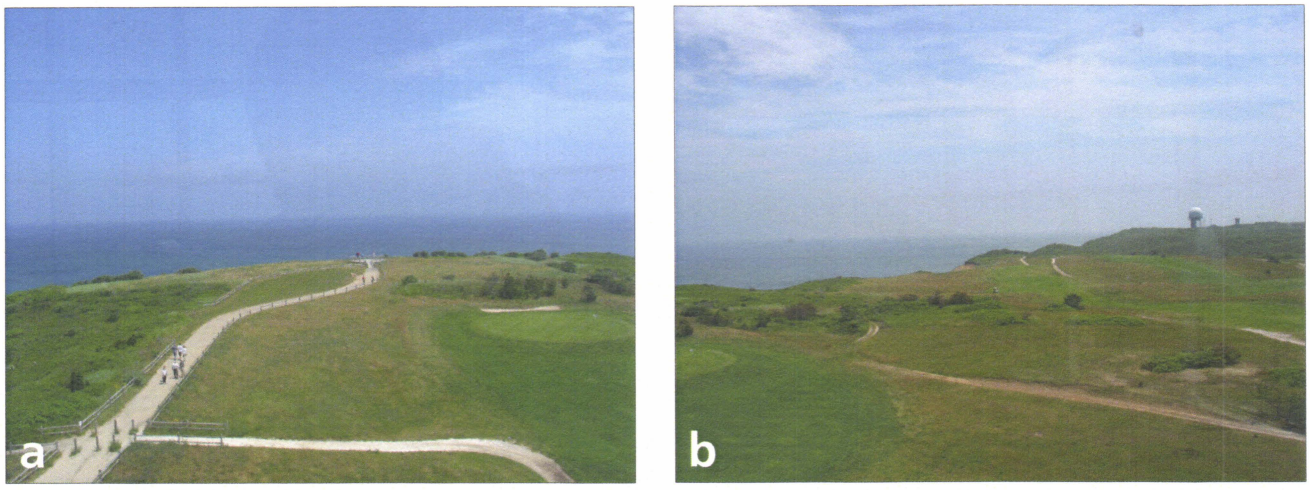


Figure 2.28: Views
(a) View from Highland Light looking east of walking path and observation deck; (b) View from Highland Light looking southeast of Highland Golf Links. Tower at North Truro Air Force Station and Jenny Lind Tower can be seen in background (OCLP, 2006).



Figure 2.29: Views
(a) View from Highland Light looking south of Highland Golf LInks. Jenny Lind Tower can be seen in background; (b) View from Highland Light looking southwest of Highland Links Golf Course, Highland House, Rock, Beacon, Haven, and Adams cottages (OCLP, 2006).

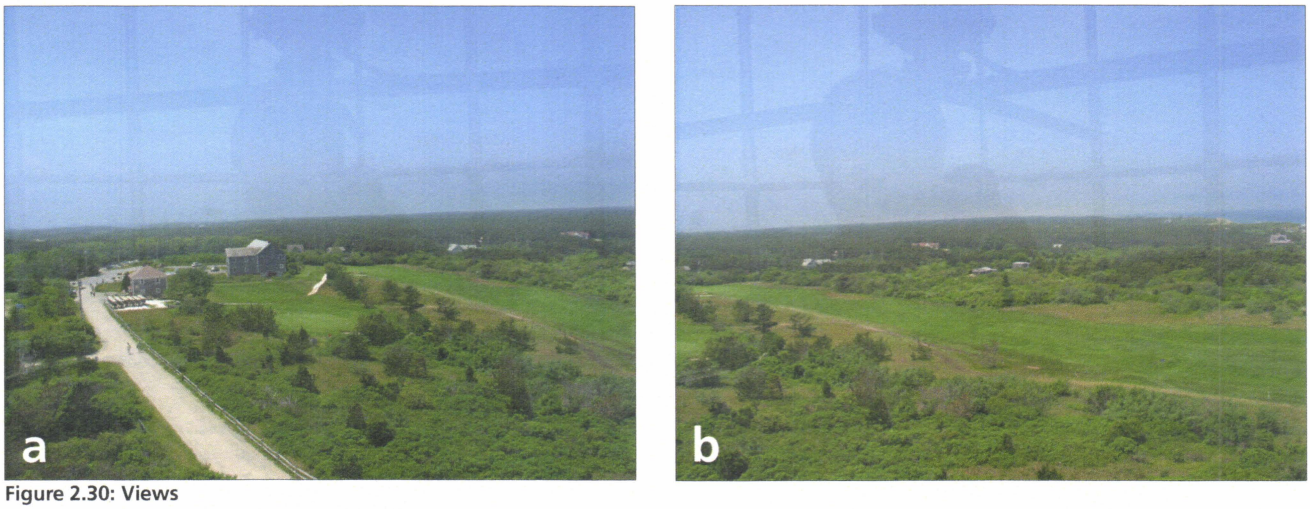


Figure 2.30: Views
(a) View from Highland Light looking west of the Highland Golf Links along the north side of Highland Road. Highland House and club house (Adams cottage) can be seen in background; (b) View from Highland Light looking northwest of the Highland Golf Links along the north side of Highland Road (OCLP, 2006).

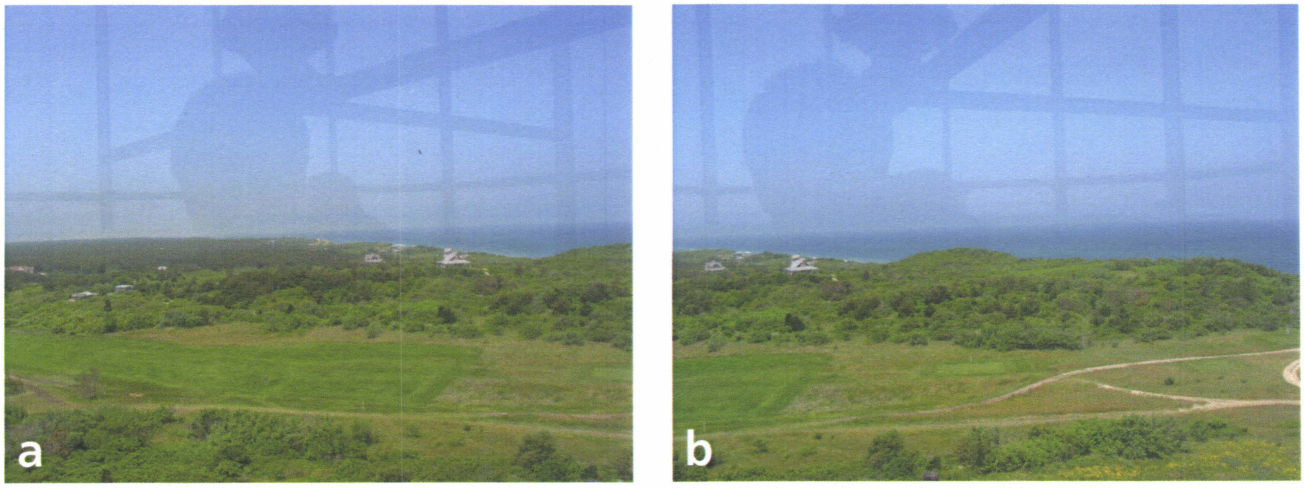


Figure 2.31: Views
(a) View from Highland Light looking north of the Highland Links Golf Course along the north side of Highland Road; (b) View from Highland Light looking northeast of the Highland Golf Links along the north side of Highland Road (OCLP, 2006).



Figure 2.32: Small-scale features- Fences
(a) View of wood post and rail fencing that borders the northern edge of Highland Road from the Highland House to the Highland Light; (b) View of wood post and rail fencing that borders the northern and southern edges of the walking path from the Highland Light to the observation deck (OCLP, 2006).

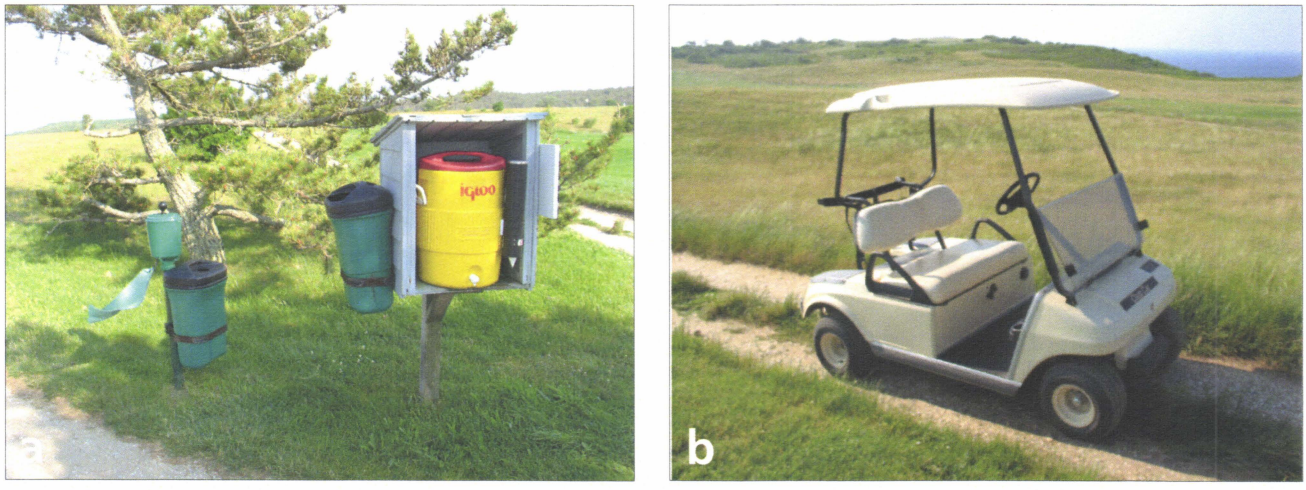


Figure 2.33: Small-scale features- Miscellaneous
(a) View of golf ball cleaner and water cooler. These features are found throughout the golf course; (b) Photo of golf cart (OCLP, 2006).



Figure 2.34: Small-scale features- Miscellaneous
(a) View of bike rack located along Highland Road; (b) View of remnants from miniature golf course located on the north side of Highland Road near the Highland Light (OCLP, 2006).

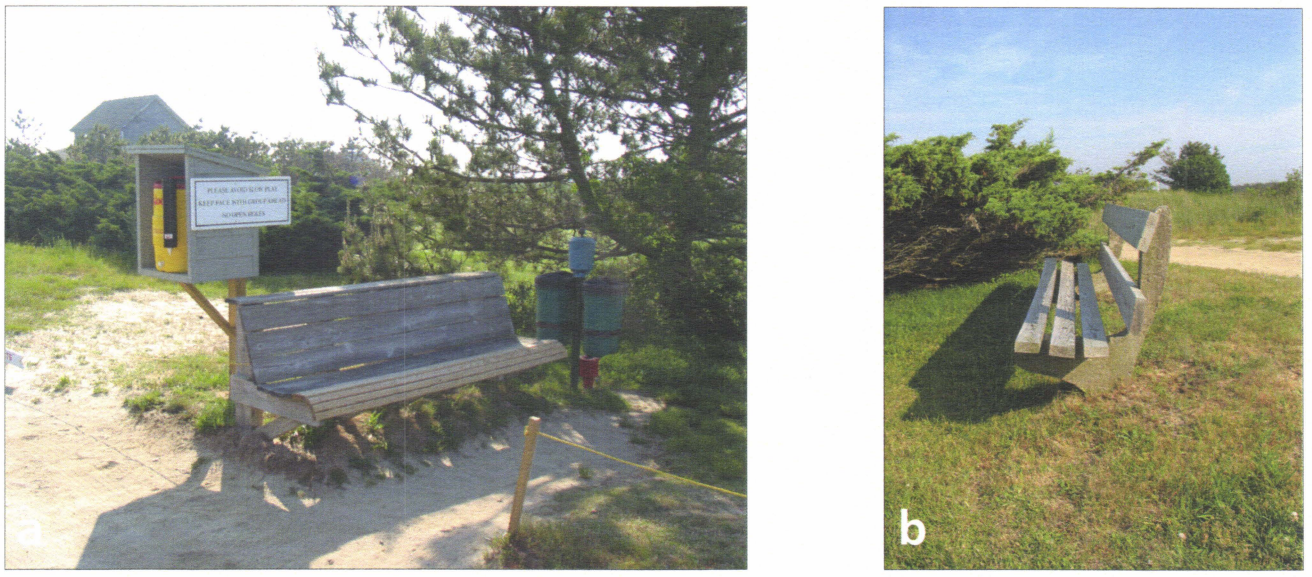


Figure 2.35: Benches
(a) View of a wood bench with attached water cooler located within the Highland Golf Links space; (b) View of bench constructed of concrete and wood located in the Highland Golf Links space (OCLP, 2006)



Figure 2.36: Small-scale features- Signs
(a) View of marker identifying the previous location of the Highland Light. The Highland Light was moved in 1996; (b) View of marker memoralizing the "Portland"; (c) View of hole identification marker located within the Highland Golf Links space. Hole identification markers are placed at the beginning of every hole within the Highland Golf Links space (OCLP, 2006).

CHAPTER THREE: TREATMENT

This chapter provides guidance for the long-term management of the Truro Highlands Historic District cultural landscape. The first section presents a treatment philosophy and principles for the selected treatment, rehabilitation. The second section identifies specific issues and alternative solutions and recommendations. The treatment philosophy, principles and recommendations reinforce the National Park Service's commitment to the stewardship of cultural landscapes and are in accordance with *The Secretary of Interior's Standards for Treatment of Historic Properties* (1996) and National Park Service *DO-28: Cultural Resources Management Guideline* (1997).

This chapter incorporates and expands upon previous treatment recommendations made in the *Cultural Landscape Report for Truro Highlands Historic District (1995)* and the *Highland Golf Links Preservation Maintenance Plan (1998)*, both which cited the need for a treatment plan. Guidance on the long-term management of the cultural landscape is intended to be both broad, encompassing the overall character of the landscape, as well as specific, relating to individual features. The information in this chapter also will guide future compliance with Section 106 of the National Historic Preservation Act.

TREATMENT PHILOSOPHY

Since the end of the period of significance in 1947, major changes have occurred within the Highlands area, which have altered its character. Since 1947, resort lodgings have closed, agricultural operations have ceased, buildings have been moved or demolished and most recently, the lighthouse was moved inland. In addition to these major changes, minor alterations have contributed to change. These changes include the introduction of the golf carts, paving of the cart paths between the links, construction of a maintenance building and paving of the new parking lots. These major and minor changes have collectively eroded the character of the cultural landscape. In an effort to prevent further impacts, a treatment philosophy and a series of overarching principles should guide future management.

Regarding a treatment philosophy for the Highlands area, the park's 1998 General Management Plan states, and "Management of the seashore is a delicate balance in which the human needs of today and tomorrow must be addressed within the context of both preservation and tradition." This philosophy applies well to the Highlands area as the property perpetuates over a century of tourism and recreation, with the public access to Highland Light and keepers house, the reuse of the Highland House as a museum and the continued use of the Highland Links. Furthermore, the plan states "a collaborative approach to stewardship

among the six Outer Cape towns and all seashore partners is essential."[1] In the Highlands area, collaborators include the Town of Truro, the Golf Course Advisory Committee, Highland Museum and Lighthouse, Inc. and the Truro Historical Society. Several sections of the plan reference the Highlands area, including the park's goal to manage and maintain National Register-listed properties. To date, for the Highlands area the park has completed historic structure reports for both the Highland House and Highland Light and *a Cultural Landscape Report for the Truro Highlands Historic District in 1995*. The management philosophy for the Highlands area should balance the ongoing use of the area for tourism and recreation with the preservation of the historic structures and surrounding landscape.

The 1995 Cultural Landscape Report describes the overall recommended treatment as Rehabilitation, which is defined as "the act or process of making possible a compatible use for a property through repair, alterations and additions while preserving those portions or features which convey it's historic, cultural, or architectural values."[2] This treatment option is the most appropriate due to the relocation of the lighthouse, the need for visitor facilities and parking, the reuse of the Highland House and the need to keep the golf course viable.

Below is a list of treatment principles that apply to the Truro Highlands.

- Preserve access to the top of the clay cliff and views to the ocean. The sounds, smells, breezes, expansive views strongly contribute to the character of the area and to the integrity of setting and feeling within the historic district.
- Preserve extant historic buildings and structures. Remaining historic structures should be preserved and maintained, including the Highland House, Rock Cottage, Beacon Cottage, Haven Cottage, Adams Cottage (pro shop), the utility poles along Highland Road and the concrete steps and walks leading to the various cottages.
- Promote rustic character of links course.
- Preserve the historic circulation systems while ensuring systematic and safe routes of pedestrian and vehicular circulation throughout the Highlands including the Highlands Links.
- Preserve the unique vegetation characteristics associated with the historically open landscape, including the Heathlands.
- Balance the historic condition of native, unmanaged vegetation within the golf links, with the need for managed and maintained turf that will withstand the increased the high level of play on the links. Encourage the establishment of native grass species on tees, fairways, greens and roughs.

TREATMENT ISSUES AND RECOMMENDATIONS

Based on the historical development of the Truro Highlands and the existing conditions and current site needs, numerous site issues have been identified. These issues were further defined during a treatment charrette in October 2006, on-site field work and from consultation with project participants.

The treatment recommendations presented in this chapter are intended to guide the rehabilitation of the Truro Highlands Historic District. The treatment recommendations are organized by landscape characteristics, including natural systems and features, spatial organization, land use, circulation, buildings and structures, vegetation, views, small-scale features and archaeology. Key issues related to the ongoing use, condition and rehabilitation of the landscape are described. Many of these issues were identified during the treatment charrette. These issues are followed by recommendations and alternatives. Recommendations will apply to landscape characteristics throughout the district and to specific areas and features.

NATURAL SYSTEMS AND TOPOGRAPHY

Preserve the natural terrain and monitor erosion

Issue: The eroding clay cliffs, fertile soil, high water table, kettle hole ponds, wet areas and rolling topography contribute to the character of the area and to the setting and feeling within the historic district. The oceanfront cliffs in the Highlands area have been eroding at an average rate of one to three feet per year. Water seeps through the clay cliffs. The weight of the water-laden clay, coupled with high winds, heavy rains and intense wave action has caused extensive coastal erosion.

Recommendation: Natural erosion of the ocean cliff should be monitored. This erosive action is particularly apparent near the observation platform, sixth hole and may eventually become a problem for the seventh and eighth holes. Action will be necessary if visitor safety or resource protection is compromised. Relocation of the observation platform or some of the golf links may be necessary in the future.

Mitigate and reduce erosion caused by human impact on the links

Issue: Concentrated areas of vehicle and pedestrian use on unhardened surfaces can lead to erosion. This issue is of greatest concern on the links course, where golfers, golf carts and maintenance vehicles can contribute to a loss of topsoil and subsequent erosion. Once exposed, the soils are susceptible to further erosion by weather and the undulating topography that further accelerates the process.

Pedestrian access trails are worn in some rough areas of the course by consistent cut-through traffic. Pedestrian cut-through paths resulting from a lack of directional signage kills vegetation, thereby increasing erosion and possibly affecting environmentally sensitive plant communities. Use of existing, or creation of additional or duplicate paths creates confusion regarding the correct route of circulation through the course, degrades vegetation, increases erosion and impacts views within the links.

Recommendation: To minimize the threat of erosion, maintenance paths should be alternated to avoid wear. With exception to areas where scattering is allowed, cart users must be informed of the delicate nature of the area and be aware that once on the course, they must strictly stay on the delineated cart routes.

Several unnecessary and parallel pathways throughout the Golf Links should be eliminated to further prevent the threat of erosion. At the fourth and sixth holes, parallel paths should be eliminated to reduce confusion about correct direction and location of travel. Sharp curves on paths should be avoided as erosion tends to occur at these locations. At the eighth hole, the curve in the path near the tees should be straightened for this purpose (Drawing 3.0).

Where erosion occurs in turf areas, repairs to the topsoil should happen as soon as possible to avoid further deterioration. The use of gravel in turf areas as a treatment should be prevented as it increases the erosion process.

Repairs should be made to existing carts paths that have, over the years, eroded and are now depressed into the landscape. These repairs should aim to fill in and lift such paths and shorten them where possible. In addition, paths should not start or finish on a slope. Path sections that currently reside on a slope have the worst erosion problems. Filling in sunken paths with the appropriate materials and shortening selected paths will reduce the visual impact of the path and restore a more authentic links golf character (Figure 3.25 and Drawing 3.0).

If the realignment or reshaping of a path is necessary, newly graded paths should follow the natural contours of the site and blend in with the rest of the path system.

SPATIAL ORGANIZATION

Minimize non-historic features along the Highland Road spine

Issue: Most of the buildings and structures within the Highlands area are sited along Highland Road, a central spine within the district. As a result of continual coastal erosion and the relocation of the Highland Light, Highland Road has been shortened and altered. Because of its importance as the spine of the historic

district, non-historic features, specifically the golf cart parking area, should be located off the road to minimize clutter and views of non-contributing features. The parking area was recently expanded by a third to accommodate the fleet of thirty-one golf carts, which is now at capacity and will not be expanded in the future. In the 1980s, the golf cart area was paved with asphalt, but recently was resurfaced with oyster shells.

Recommendation: Because of related erosion problems associated with locating the golf cart parking area below the 9th tee, it is recommended that the golf cart parking area be setback 10 feet to minimize visual intrusion, screened with native vegetation and resurfaced with natural colored crushed stone (Drawings 3.3 and Figures 3.0 and 3.1).

Delineate sites of former structures and road traces

Issue: There are numerous building and structure sites within the district. However, the lack of interpretative signage makes it difficult for visitors to comprehend the appearance of the area during the historic period.

Recommendation: Former building sites and the traces of former walkways and of the Cliff Road should be kept open by periodic mowing. Waysides with historic photographs should be placed along the pedestrian corridor (Drawing 3.9).

Address safety concerns associated with visitors to the Truro Highlands Historic District

Issue: In recent years, safety has become a primary concern for the Truro Highlands Historic District. Visitors to the observation deck are often seen climbing over the railings of the observation platform to get closer to the edge in hopes of gaining a better view. Although signs stating, "Do not get close to the edge" are clearly posted in the area, the existing signage and practice in preventing users from accessing the cliff are insufficient.

Recommendation: Because of the diversity of people who visit the historic district annually, universal signage should be installed near the observation deck, identifying the dangers associated with the cliff. In addition, prickly vegetation should be established around the observation deck to prevent people from climbing over the railings and wayside interpretive signage should be installed to provide an opportunity for education about the history of the lighthouse and the natural process of erosion along the coast (Drawings 3.4, 3.8 and 3.9).

Assess the relocation of the seventh hole of the Golf Links

Issue: Safety concerns have been raised associated with the seventh hole of the golf links. Errant balls have caused damage to the windows and panels on the Highland Light. There is also a concern that visitors could be hit if they climb

over the fence that surrounds the lighthouse to take photographs of the lighthouse.

A small berm with vegetation was installed north of the seventh tee and adjacent to the fenced lighthouse grounds in the late 1990s. Intended to serve as a buffer between the hole and the lighthouse area, the height of the berm was not large enough to provide protection and the vegetation died. It was recommended that the seventh hole be shifted slightly to the south of its original location and the seventh tee be reoriented away from the lighthouse.

Recommendations: Plastic windows were recently installed at the Highland Light and the relocation of the seventh hole is currently not financially feasible. It is recommended that the seventh hole not be relocated and plantings be established to prevent people from climbing over fences to take photographs near the lighthouse and seventh hole. In addition, universal signage should be installed explaining the dangers associated with the close proximity of the golf course (Drawing 3.4).

LAND USE

Continue to promote tourism and recreational use for the property

Issue: As an active tourist destination and recreational site since the late 1800s, activities within the Highlands area should be encouraged by providing appropriate visitor amenities. Three parking lots currently serve the area and include ADA and bus parking spaces. Restrooms are located in the Highland House and are accessible from the outside of the building. A quasi-public restroom is also located in the Keeper's Cottage at the Lighthouse. A restroom for golf patrons is located in the Adams Cottage club house. Although amenities exist for visitors, the lack of resources has caused the maintenance of these facilities to suffer.

Recommendation: All entities providing services will need to work collaboratively to effectively provide visitors with adequate services. Roles and responsibilities should be identified for both concessions and a routine maintenance schedule should be developed.

CIRCULATION

Address safety concerns associated with circulation of pedestrians, vehicles and golf carts

Issue: Potential conflicts exist between visitor safety and golf carts within the Truro Highlands Historic District. As a result of coastal erosion and the relocation of the Highland Light, the majority of parking was moved to the

western end of Highland Road and the greater part of the road has become a pedestrian route. Used by employees, maintenance vehicles, tourists and golf carts, the parking lots and circulation corridors are accessed by many different users, causing problems and safety concerns. Specifically, concerns exist regarding golfers traveling throughout the parking lots to unload/load their golf equipment and the difficulty for motorists in seeing the golf carts, not to mention, the traffic congestion they cause. Additionally, golf carts have been found traveling in areas around the Highland Light, periodically getting stuck between bollards located on the pedestrian path to the observation deck.

Recommendation: In order to remedy the conflict between the different uses of the historic district, signs need to be developed that warns patrons of the multiple uses of the district and the safety concerns associated with them. To prevent golf cart access in restricted areas, bollards should be constructed at entrance points to the Highland Light and observation deck. Additionally, existing bollards should be realigned to be closer in width (Drawings 3.1, 3.2, 3.4, and 3.8).

Reconfigure Highland Road parking lot area

Issue: The terminus of Highland Road was shortened as a result of the Highland Light relocation 1996. In addition, parking was moved to the west end of the road. The changes made to the road have caused problems related to bus parking and the cul-de-sac. The current spaces delineated for buses are not being utilized and inadequate signage has caused buses to access areas that are not designed for bus traffic. Although the cul-de-sac may be necessary as a drop off area, its current configuration is inefficient and detracts from its historic setting.

Recommendation: To effectively move people throughout the Truro Highland Historic District, it is recommended that regulatory, directional and parking control signage be installed in the parking areas (Drawing 3.1). As a long-term solution, it is recommended that the designated parking areas and cul-de-sac be reconfigured (Drawing 3.2). As shown in Drawing 3.2, improvements include reestablishing Highland Road as a two-way thoroughfare. Besides providing a more pleasurable experience when entering the historic district, reestablishing Highland Road as a two-way thoroughfare would eliminate traffic through parking areas. Other improvements include relocating bus parking, redesigning angled parking to maximize parking spaces and reconfiguring the parking area and cul-de-sac south of the Highland House. Although parking spaces will be reduced, reconfiguring the parking area and cul-de-sac will add more green space, eliminate traffic congestion and improve the historic setting of the Highland House.

Identify appropriate surface for road surfaces and pedestrian / cart paths

Issue: In response to the relocation inland of the Highland Light in 1996, the length of Highland Road was reduced and made accessible only by pedestrian

traffic and for ADA parking near the lighthouse. An accessible path, east of Highland Light, was installed with a sand/aggregate paving mix, the area west of the lighthouse to the cul-de-sac was resurfaced with a chip seal light aggregate and the remaining section of Highland Road was resurfaced with asphalt. With a lack of uniformity, the surface treatments found on Highland Road detracts from the natural surroundings. Additionally, the existing light chip seal aggregate is loose and slippery.

Throughout the Highland Golf Links, pedestrian and cart paths on the Golf Links are severely eroded in some areas. Several cart paths were paved with dark asphalt in 1988. Recent improvements to reduce erosion included applying a topcoat of crushed oyster shells and gravel to some of the paths. There is no evidence or documentation of use of crushed oyster shells as a surface material during the historic period of 1898 to 1947. With a lack of consistency, the surface treatments found on the golf course detracts from the natural surroundings.

Recommendation: Paths and road surfaces should be uniform, retain their historic appearance and not contribute to erosion problems. Prior to the treatment implementation of a path, the appropriate surface should be determined. The diagram (Figure 3.25) provides a chart that will assist in determining the appropriate path surface.

On heavily eroded grass or dirt paths that are used for pedestrian, golf cart and maintenance vehicle use, it is recommended that paths be reseeded and regraded upon initial sign of erosion (Figures 3.2 and 3.3-3.13).

Paths surfaced in gravel or oyster shells were not part of the historic appearance of the district and do not contribute to its significance. It is recommended that eroded paths surfaced with gravel or oyster shells, be reestablished as grass paths. If the desired treatment is not feasible, gravel paths should be repaired with a natural color ½" cut stone binder. Paths top coated with oyster shells should be replaced with a natural color ½" cut stone binder (Figures 3.14 and 3.15). If necessary, install drains along or under the paths to improve drainage.

Asphalt and concrete surfaces detract from the historic setting of the district. It is recommended that new asphalt and concrete paths, parking areas and roads be avoided and wherever possible, reduced. To achieve a more uniform appearance, all asphalt and concrete surfaces should be top-coated with a natural color chip seal aggregate surface. To eliminate the slippery conditions associated with the light chip seal, loose aggregate topping must be swept and removed. Along the sides of the asphalt and concrete golf cart paths, rough grassland should be retained to reduce erosion from water run-off and mowing. In addition, rough grassland will soften the appearance of the asphalt or concrete

path. If necessary, drains should be installed along or under the paths to improve drainage (Figures 3.16-3.23).

While wooden surfaces exist at the club house and observation platform, these surfaces should be limited. Paths and surfaces in wood should be repaired with weathered wood as this material is consistent with recommendations for signage and site furniture (Figure 3.24).

Address erosion associated with excessively steep pedestrian and cart paths

Issue: Asphalt cart paths were added in recent years on two steeply sloping sections of the course along the second and fourth holes. The asphalt paths were not laid out with switchbacks where the original paths had been, but were installed as straight paths descending the hillside. The original path is still evident. The asphalt appears in good condition with no apparent failure. However, there are some erosion problems associated with the asphalt paths.

Recommendation: By establishing roughs at the edge of the asphalt paths, erosion can be reduced. A softer flattened edge to the asphalt is also preferred to make the path blend in better in the setting and appear less urban (Figures 3.18 and 3.19). In the future the straight asphalt path should be removed and reestablished on the original switchback route.

Eliminate unnecessary pedestrian and golf cart paths.

Issue: There are several unnecessary and parallel pathways throughout the Golf Links, causing confusion about correct direction and location of travel, such as at the fourth and sixth holes. Use of existing, or creation of additional or duplicate paths will create confusion regarding the correct route of circulation through the course, degrade vegetation, increase erosion, and adversely impact views within the links. Although it was never implemented, the Preservation Maintenance Plan (1998) recommended that these unnecessary pedestrian and golf cart paths be removed.

Recommendation: It is recommended that unnecessary paths be eliminated (Drawing 3.0).

BUILDINGS AND STRUCTURES

Preserve and maintain buildings that contribute to the historic district

Issue: Historic buildings and structures that contribute to the historic significance of the Truro Highlands Historic District should be preserved and maintained. They include the Highland House, Highland Golf Links, Rock Cottage, Beacon Cottage, Haven Cottage, Adams Cottage (Golf club house) and Highland Light.

Currently, the roof on the Highland House is in poor condition and needs repairs.

Recommendation: It is recommended that the *Historic Structures Report for the Highland House (1993)* be updated to access the current condition of the Highland House. Used as a historical society, improvements to the Highland House will assure the preservation of the building and the valuable archival documents contained within the building.

Provide site interpretation for existing buildings, structures and archaeological sites that contribute to the significance of the district

Issue: Currently interpretive signage has not been developed within the Truro Highlands Historic District.

Recommendation: In accordance with the 1998 General Management Plan, it is recommended that an effective interpretation program be implemented at the Truro Highlands Historic District. The plan states that the National Park Service will "Interpret cultural landscapes to educate the public about their significance," through the techniques of wayside exhibits, guided walks, talks, brochures and publications"[3] (Drawing 3.9).

Assess the relocation and expansion of the golf links maintenance building

Issue: The maintenance building, located within the Highland Golf Links, does not contribute and detracts from the historic setting of the district. No longer adequate for storing the increased amount of equipment, the golf course concession would like the maintenance building to be expanded to meet the needs of the golf course. Because of its incompatibility within the district, preliminary discussions have been carried out to explore relocation and design alternatives for the building. Alternatives included locating a new building in a wooded area near the #2 pump house, concealing a new building in the ground in the same proximity as the existing building, or constructing an additional bay on the east end of the existing building by cutting into an adjacent bank.

Recommendation: It is recommended that the existing maintenance building be expanded with one additional bay. In order to mitigate impacts to the district, the proposed addition should be limited to the same height as the existing maintenance building. Berms should be constructed on the north and east elevations of the building and be planted with native vegetation (Drawing 3.5). Although more costly, if it is necessary that a new building be constructed, in addition to the existing building expansion, further actions would be necessary to alleviate the impacts to the district. The building should be partially subterranean so as not to be highly visible from the 4th hole. Larger berms, planted with native

vegetation, would need to be constructed to effectively screen the buildings (Drawing 3.6).

VEGETATION

Preserve heathland plant community

Issue: Heathlands contain rare species which include, purple needle grass (*Aristida purpurascens*), Commons' panic grass (*Dichanthelium ovale*), Eastern spadefoot toad (*Schaphiopus holbrookii*), and chain dot geometer moth (*Cingila catenaria*). They are characterized by nutrient poor acidic soil, often sandy and free draining. Few plants can flourish on these types of soil and in coastal areas the harsh climate also stunts tree growth. Suitable management is essential to the survival of heathland, a 'semi-natural' habitat created and maintained mostly through the influence of people. Without management heathlands will revert to woodland.

Recommendation: Located between the cliffs and hole 8, north of the viewing platform, is an area marked as heathland. It is presently overgrown and with limited remaining value as a heathland. Trees and shrubs can be retained but management should prevent the vegetation from becoming taller, as it will eventually increase shadowing and further reduce views to the ocean. A 10 to 20-yard buffer zone of natural rough should be established between the fairway and heathland to create an irregular natural edge (Drawing 3.0).

An area along the cliffs edge, south of the viewing platform, contains low shrubs and grasses that should be retained. Thinning taller shrubs and trees should occur on a routine basis to assure views of the ocean and the heathlands are maintained.

Behind the tees of hole 6 and down the green to hole 2 consists of valuable patches of low heathland vegetation. Besides thinning taller shrubs and trees on a routine basis, a 10 to 20-yard buffer zone of natural rough should be established between the fairways and the heathland to enhance the visual transition (Figures 3.26 and 3.27).

An area of valuable heathland is situated between hole 4 and 2. It is recommended that shrubs and trees be reduced to preserve the threatened heathland.

Preserve links character on roughs

Issue: As noted in Table 1.0, which describe the defining characteristics of early links courses, roughs are an important feature of a links course and should be retained and preserved. However, with present day golf standards requiring

applications of fertilizers and frequent watering, roughs consisting of mostly native vegetation that thrive in nutrient poor, acidic, sandy soil are becoming increasingly threatened.

Recommendation: Management should eliminate fertilizer and irrigation of the roughs and replicate the grazing or hay cutting regimes of traditional park grassland management by mowing the roughs once per year after the main flowering season in mid-July (when seed has set and to avoid disturbance of nesting birds). The management of the roughs requires natural resource management specialist advice to maintain the ecological value. An intermediate semi-rough can assist in visually blending the fairways and roughs and where possible the edge of the rough can be scalloped to avoid intrusive straight lines (Figures 3.28 and 3.29). Minimizing the use of fertilizer on the fairway and greens will help to blend them with the surrounding rough grassland. All cuttings from mowing the roughs should be removed to maintain low levels of nutrients in the soil.

Improve historic appearance of the links

Issue: The intent for many links courses is to reduce the contrast in color associated with the varying degrees of grassland heights on golf holes. Current maintenance practices of the Highland Golf Links allow for a strong contrast between the varying grass heights within the golf course.

Recommendation: Options to increase uniform visual effect include the use of a transition zone of several non-parallel bands of increasing heights of grassland. Contour mowing can be used to soften the transition between fairway and semi-rough, by following the landform.

Other ways to minimize the contrast in color include, allowing tee and green banks to grow without frequent mowing and reducing the overall area of fairways through the implementation of island fairways. Both techniques are commonly used at St. Andrews Links in Scotland (Figures 3.26 and 3.27).

The maintenance of links is often about low input, rather than low maintenance. There is a need to limit fertilizer inputs, because the program must be designed to suit the traditional grasses and not the weed grasses, which thrive on fertilizer and water. The policy of low fertilizer input may, however, cause wear and tear issues and the potential for recovery is often limited. This can be remedied through limiting play, closure of areas or the course in winter or plugging fairways. Achieving the appearance of a traditional links course is closely related to the selection of limited grass species. The Integrated Pest Management Plan (2005) confirmed that native grasses and fescues were unaffected by the naturally low soil pH.[4] The IPM plan recommends the course should incorporate more

native grasses and fescues into areas of play to reduce the amount of turf grass that needs to be limed, watered and mowed.

Preserve links character on golf greens and tees

Issue: Golf greens and tees receive the heaviest use and quality turf grass is needed to withstand a high level of play on the links. Early links courses had relatively small greens, which were geometrical and mostly rectangular shaped. The appearance of the greens and tees should minimally contrast in color with the rest of the course, as this is historically most appropriate. Factors that influence the contrast in color are grass species, mowing practices and the use of fertilizers.

Recommendation: Seed mixes that are recommended for tees and greens on links courses contain Chewing Fescue, Slender Creeping Red Fescue, Brown top and Highland Bents. In addition, mowing in one single direction will soften the appearance. In areas behind greens and tees, knee-high fescue will enhance the integration of the green into the surrounding landscape.

Preserve links character on fairways

Issue: The Preservation Maintenance Plan describes that the maintenance of the fairways will promote the reestablishment of native plant species and reinforces the naturalistic character of a links style course. [5] Seed mixes that are recommended contain Chewing Fescue, Slender Creeping Red Fescue, Brown top and Highland Bents. Over the past ten years, maintenance practices on fairways have improved. However, these areas still receive heavy fertilization and frequent mowing.

Recommendation: Grasses that require minimal amounts of fertilizer and irrigation, including bent grass and fescues should be selected. Management should minimize irrigation and fertilizers on fairways. The Maintenance Plan recommends only occasional irrigation to prevent die-out in severe droughts.[6] When reseeding or over seeding is desired, native grasses should be used and the uncharacteristic visual fragmentation of the course into areas of tightly mown, bright green grass should be avoided.

The Maintenance Plan recommends that fairway width will be reduced to provide rougher, naturalistic areas.[7] It is recommended that fairways be broken into islands and with widths between 35 yards and 50 yards.

Minimize trees and shrubs between fairways

Issue: Typical of a links course, the Highland Golf Links had originally very few trees and shrubs. Trees and shrubs have seeded in many of the rough areas and heathlands and others have been planted. There is a need to manage the spread

and growth of trees and shrubs to retain the integrity of the site and the authentic way of playing a links golf course.

Recommendation: The Preservation Maintenance Plan recommends that the maintenance of trees and shrubs will allow existing specimens located on the links and the adjacent rough areas to grow naturally with minimal management.[8] No fertilizers, irrigation or pest management should be used. Additional plantings between fairways are discouraged and planted trees and shrubs should appear informal and follow the historical pattern of tree planting. In the roughs between holes 1, 4 and 5, trees appear formal and aligned. Although it is recommended that minimal trees and shrubs be planted within the district and golf course, if planting is required, native trees and shrubs should be used and planted in naturalistic clumps (Figures 3.30 and 3.31). Pruning should occur to ensure visitor safety, to avoid over-crowded trees and to avoid increased shade and reduced air movement around the green and tee areas. This condition results in weakened turf that needs more irrigation, fertilizer and pesticides to grow. Excellent turf needs good growing conditions and tree removal is essential on older courses. To preserve the authenticity of the Highland Golf Links, it is suggested that the selective removal of trees be accomplished on a regular basis.

Remove historic non-native and invasive vegetation

Issue: The Highlands Historic District historically was very open and windswept. Since the period of significance, many invasive species have been found throughout the area. Autumn olive is found behind the Highland Light and around the perimeter of the links. It obstructs views to the Highland Light and the ocean. A prominent patch of wisteria is growing near the Highland House parking lot, which is not found in historic images. Scotch Broom has overgrown the anchor in the parking lot near Highland House and along the path to Highland Light. Poison ivy grows among the blueberry and beach plum shrubs and visitors picking these berries get into the poison ivy.

Recommendation: All invasive species mentioned in the previous paragraph should be removed. Upon removal of the wisteria vine, the area should be maintained as a rough grassy area that is mowed once a year, which would create the character, reflected in historic photographs. This area is highly visible from the entrance of the historic district so is an important area to manage (Drawing 3.0, 3.1 and 3.2).

VIEWS

Preserve views that contribute to the significance of the historic district.

Issues: The panoramic views of the ocean from the observation deck, distant views to the Jenny Lind Tower and old Truro Air Force Station, views of the Highland Light from Highland Road and views from the Highland Links to

Highland Light contribute to the historic significance of the district and remain well preserved. However, views from the Highland Links to the ocean and views from Highland Road to the Highland Links, which contribute to the significance of the district, have diminished primarily because of the maturation of historic vegetation and the presence of non-historic vegetation. Specifically views have been lost from the 8th hole to the ocean.

Recommendation: Views remain an important landscape characteristic within the Highlands area and should be preserved and protected. In order to restore views from the Highland Links to the ocean and views from Highland Road to the Highland Links, native vegetation needs to kept low and non-native vegetation that does not contribute to the district needs to be removed (Drawing 3.0-3.2 and Figure 3.26 and 3.27).

Screen unsightly views that do not contribute to the significance of the historic district

Issues: While many of the views associated with the Truro Highlands Historic District capture spectacular views of the ocean and adjacent surroundings, unpleasant views have been created that detract from the historic experience. Unsightly views include the maintenance shed from the Highland Links and the golf carts along Highland Road.

Recommendation: It is recommended that screening be established to eliminate the view of the maintenance shed (Drawing 3.5 and 3.6). To eliminate views of the golf carts on Highland Road, it is recommended that the carts be stored away from the Highland Road and screening be established (Drawing 3.3).

SMALL-SCALE FEATURES

Improve signs within the historic district

Issue: In many areas, signs are improperly located, repetitive and overused. A specific area that needs attention is near the cul-de-sac, where there is abundance of handicapped signs improperly located and "authorized vehicles only" signs sporadically placed.

Recommendation: A consistent district-wide signage system should be established for the Truro Highlands Historic District. The implementation of a new sign system would eliminate improperly located signs and repetitive signs (Drawing 3.7-3.9).

Establish compatible new site furnishings

Issue: The Highland Golf Links can be adversely affected by the lack of consistency in style and location of site furnishings and objects including

benches, tee markers, hole flags, directional signage, ball washers and trash receptacles. A unified system should be developed that establishes and maintains a consistent style and location of site furnishings. In addition, furnishings should be compatible and not compromise the district's historic integrity. Presently, many site furnishings are incompatible with the site's character and lack consistency.

Recommendation: Incompatible non-contributing site furnishings should be replaced. Replacement site furnishings should be consistent with the weathered wood elements that are present within the district. Care should be taken regarding the location and number of furnishings. The goal should be to have relatively few site furnishings within the historic district and golf course (Figures 3.32-3.39).

Establish an interpretative sign program within the district

Issue: In both the Cultural Landscape Report (1995) and the Preservation Plan (1998) it was advised that an interpretative sign program be established within the Truro Highlands Historic District. Themes that were proposed included:

Cultural Resources

- Development of the Truro Highlands Resort as a tourist facility
- Development of the Highland Golf Links as a resort amenity
- Historic features of links courses including an historical overview, physical features and method of play
- Historical information about the development of off-site features[9]
- Interpretation of the lighthouse and the former lighthouse site should acknowledge the presence of the various buildings and structures which historically surrounded the lighthouse[10]

Natural Resources

- Geologic development of the Highlands discussing landforms and the coastal erosion process
- Vegetation communities of the Cape which are represented on the site including Pitch Pine/Scrub Oak Barrens, Sandplain Grasslands, Heathlands and Grassy Heaths
- Native bird, mammal and reptile populations which inhabit the site[11]

To date these interpretative signage efforts have not been implemented and based on the treatment charrette in 2006, the establishment of a program was encouraged by participants.

Recommendation: In accordance to the Cultural Landscape Report (1995) and Preservation Maintenance Plan (1998), it is recommended that the previous

themes be incorporated in the district and an interpretive media program be established to include self-guiding trail brochures, signage and waysides (Drawing 3.9).

Preserve links character of sand bunkers

Issue: The sand bunkers at the Highland Golf Links are shallow and few have a more traditional pot bunker appearance. The deeper pot bunkers have the advantage of preventing wind from blowing sand out of the bunkers, which ultimately effects the growth of grass on the bunker's edges.

Recommendation: When possible the bunkers should be maintained as traditional pot bunkers. A bunker at hole 9 is a example of a bunker that comes close to the more traditional pot bunker look. In modern golf design, bunkers are often less challenging in their layout. The traditional bunkers create additional interest and challenge.

The shallower type bunker should use flat sand surfaces with a grass-faced sloping edge to reduce visual impact. This is a maintenance intensive task, but it makes the bunkers less visually obtrusive and more traditional looking. A sand color reflecting the local sand type should continue to be used, as was traditionally done. [12]

New bunkers should not be added, but if necessary they should be installed with reference to the historic makeup of the course. Before constructing new bunkers, the impact on possible archeological sites, views and vegetation should be evaluated.

ARCHEOLOGY

Protect and preserve significant archeological resources

Issue: During the historic period, many buildings and structures were located throughout the Truro Highlands Historic District. However, in recent years many archeological resources that contributed to the significance of the district have been lost. These archeological resources include:

- James Small House Site (located at the intersection of Highland and South Highland roads)
- Highland Lodge Site
- Highland House Extension Site
- Coloraine Cottage
- Millstone Cottage Site
- Mayflower Cottage Site
- Bowling Alley Site

- Golf House Site
- Miniature Golf Course Site
- Baseball Field Site
- Water Tower Site
- Pilgrim Cottage Site
- Cliff House Site
- Aldrich Cottage Site
- Vegetable Garden Site (current location of 8th and 9th holes)

Recommendation: Archeological resources should be assessed to determine the extent of physical remnants visible or submerged and the possibility of marking sites with interpretive signage or left unmarked.

ENDNOTES FOR CHAPTER THREE: TREATMENT

[1] U.S. Department of the Interior, National Park Service, *Forging a Collaborative Future: General Management Plan, Cape Cod National Seashore* (Washington, D.C: U.S. Government Printing Office, 1998), 17.

[2] U.S. Department of the Interior, National Park Service, *Secretary of the Interior Standards for the Treatment of Historic Properties*, (Washington, D.C: U.S Government Printing Office, 1992).

[3] U.S. Department of the Interior, National Park Service, *Forging a Collaborative Future: General Management Plan, Cape Cod National Seashore* (Washington, D.C: U.S. Government Printing office, 1998), 47.

[4] Benjamin A. McGraw and Dr. Patricia Vittum, *A Golf Course Management Plan Incorporating Integrated Pest Management for the Highland Links Golf Course, Truro, Massachusetts* (Amherst, MA: University of Massachusetts, 2005) 18.

[5] Tracy J, Stakely, *Preservation Maintenance Plan: Highlands Golf Links, Cape Cod National Seashore* (Cape Cod National Seashore: National Park Service, 1998) 55.

[6] Ibid, 45.

[7] Ibid, 45.

[8] Ibid, 45.

[9] Ibid, 70.

[10] Katherine Lacy, et al, *Cultural Landscape Report for Truro Highlands Historic District* (Boston, Massachusetts: National Park Service, 1995) 59.

[11] Tracy J, Stakely, *Preservation Maintenance Plan: Highlands Golf Links, Cape Cod National Seashore* (Cape Cod National Seashore: National Park Service, 1998) 70.

[12] Mike Wood, *Landscape Guidelines for Golf Course Development* (The Scottish Golf Environment Group, 2005) 19.



Figure 3.0: Circulation
Photograph of the golf cart parking at the Club House. Source: OCLP, 2006.



Figure 3.1: Circulation
Photo simulation of the golf cart parking at the Club House, with setback of 10 feet and screening. Source: OCLP, 2006.



Figure 3.2: Circulation
Photograph of a grass or dirt path for pedestrian and maintenance vehicles use. Source: OCLP, 2006.



Figure 3.3: Circulation
Photograph of a eroded dirt path that requires repair to halt erosion and to improve visual appearance. Source: OCLP, 2006.

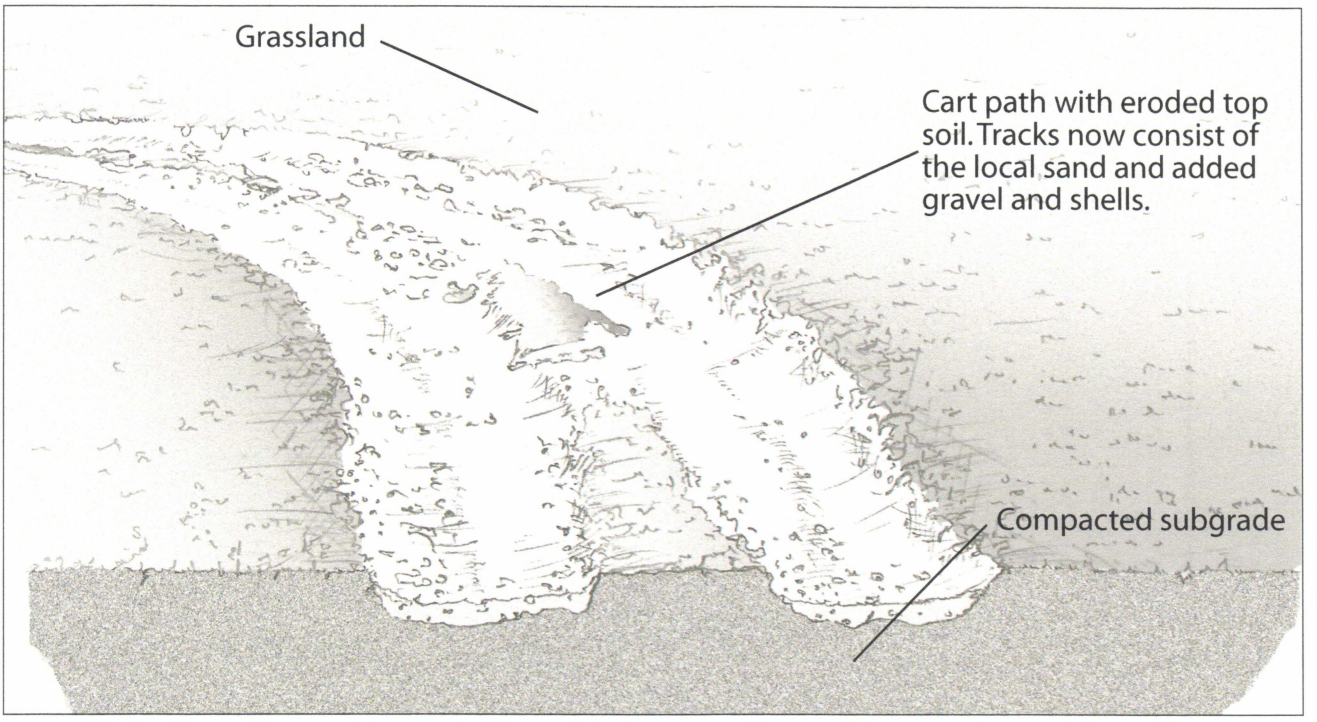


Figure 3.4: Circulation

Diagram of eroded dirt path. These paths should be repaired with a grass surface. Source: OCLP, 2006.

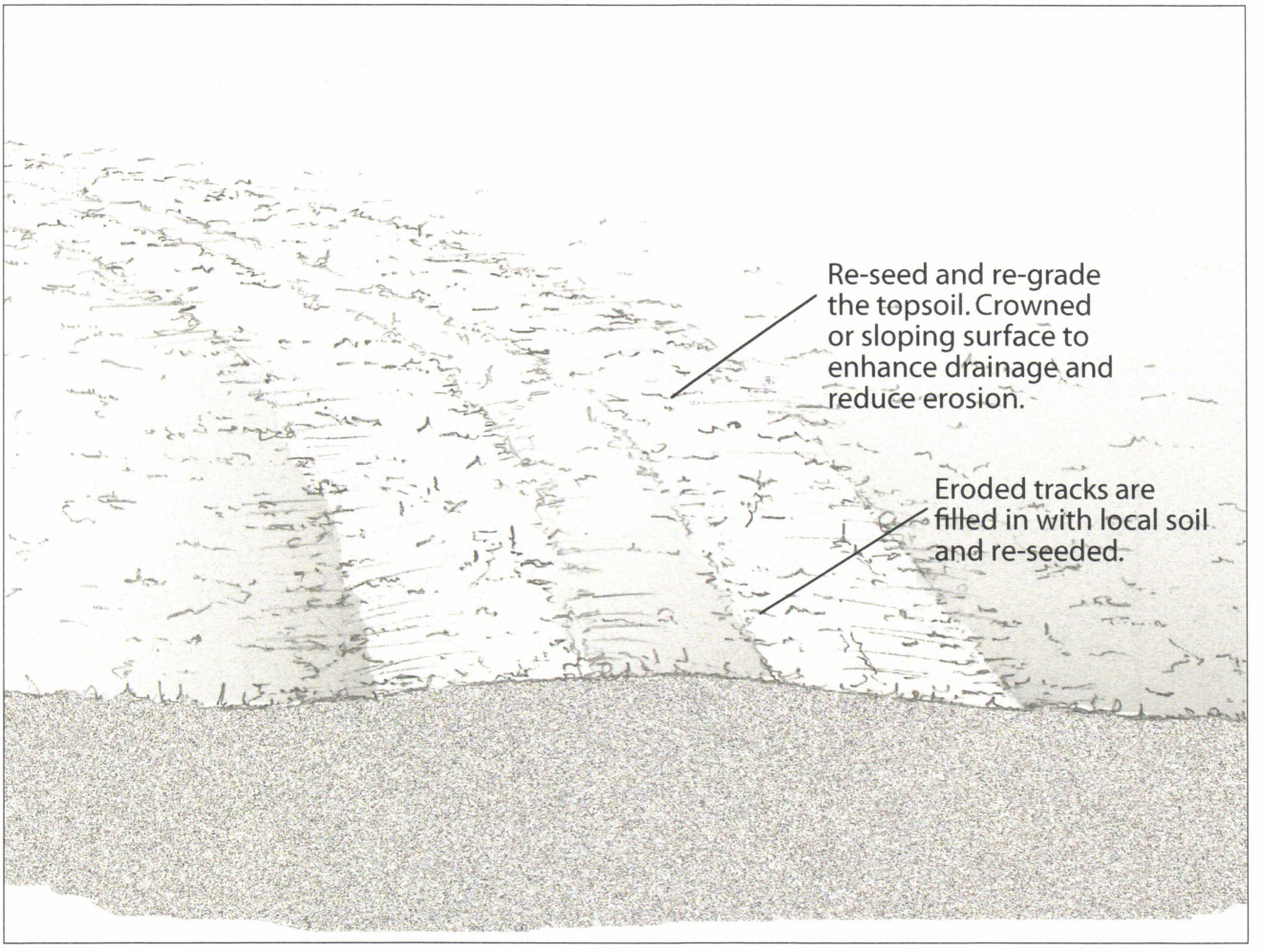


Figure 3.5: Circulation

Diagram of a repaired grass or dirt path for pedestrian, golf cart, and maintenance vehicle use. Source: OCLP, 2006.



Figure 3.6: Circulation

Photograph of the existing path at hole 9. Although mostly eroded, portions of the path are surfaced with grass. Source: OCLP, 2006.



Figure 3.7: Circulation

Photo simulation of the path at hole 9. If further sections are reseeded, the path would be much less intrusive. Once reseeded, paths will remain accessible to golf carts. Asphalt on the left of the photograph should be reduced. Source: OCLP, 2006.



Figure 3.8: Circulation
Photograph of the paths near the tees at hole 6 from the east. Although two parallel paths exist, only the right is needed. Source; OCLP, 2006.



Figure 3.9: Circulation
Photo simulation of the paths near the tees at hole 6 from the east. The path to the left is removed and reseeded. Source: OCLP, 2006.



Figure 3.10: Circulation
Photograph of the paths between hole 4 and 5, looking east. Some shrubs are growing in a straight line along the paths, not appearing historically appropriate and natural. The gravel surface of path to the left should be reduced. Source: OCLP, 2006.



Figure 3.11: Circulation
Photo simulation of the paths between hole 4 and 5, looking east. Inappropriate shrubs are removed and the gravel surface of the path is reduced to reestablish the historic links landscape. Source; OCLP, 2006.



Figure 3.12: Circulation
View of the area which previously contained parallel paths near the tees at hole 6 from the west. While two paths are not necessary, the removal of both paths on hole 6 is discouraged. As shown in the photograph, the turf along the coastline can not handle scattering of golf cart traffic. Source: OCLP, 2007.



Figure 3.13: Circulation
Photo simulation of the former paths near the tees at hole 6 from the west. The path to the right is removed and reseeded, while the path to the left is retained. Source: OCLP, 2006.

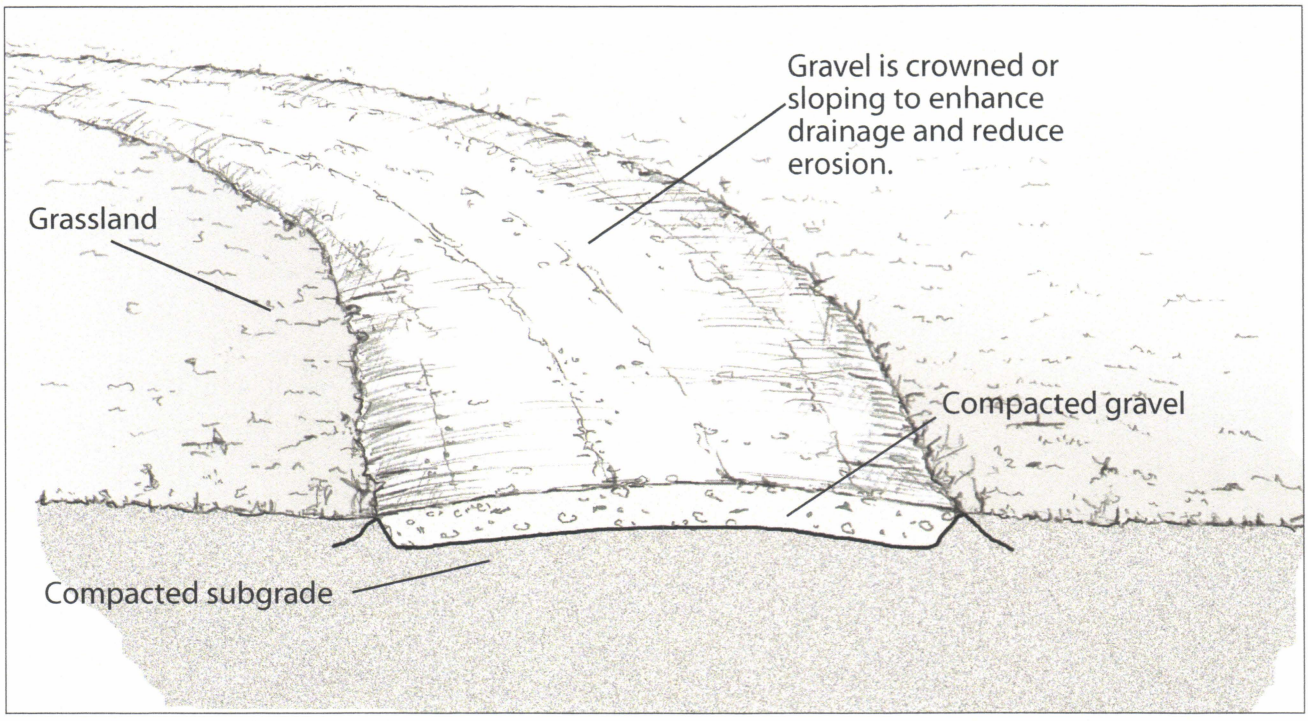


Figure 3.14: Circulation

On paths not feasible for reseeding, the following diagram provides a properly repaired gravel or dirt path for pedestrian, golf carts, and maintenance vehicle use. Source: OCLP, 2006.



Figure 3.15: Circulation

Photo of a gravel or dirt path for pedestrian, golf carts and maintenance vehicle use. Source: OCLP, 2006.

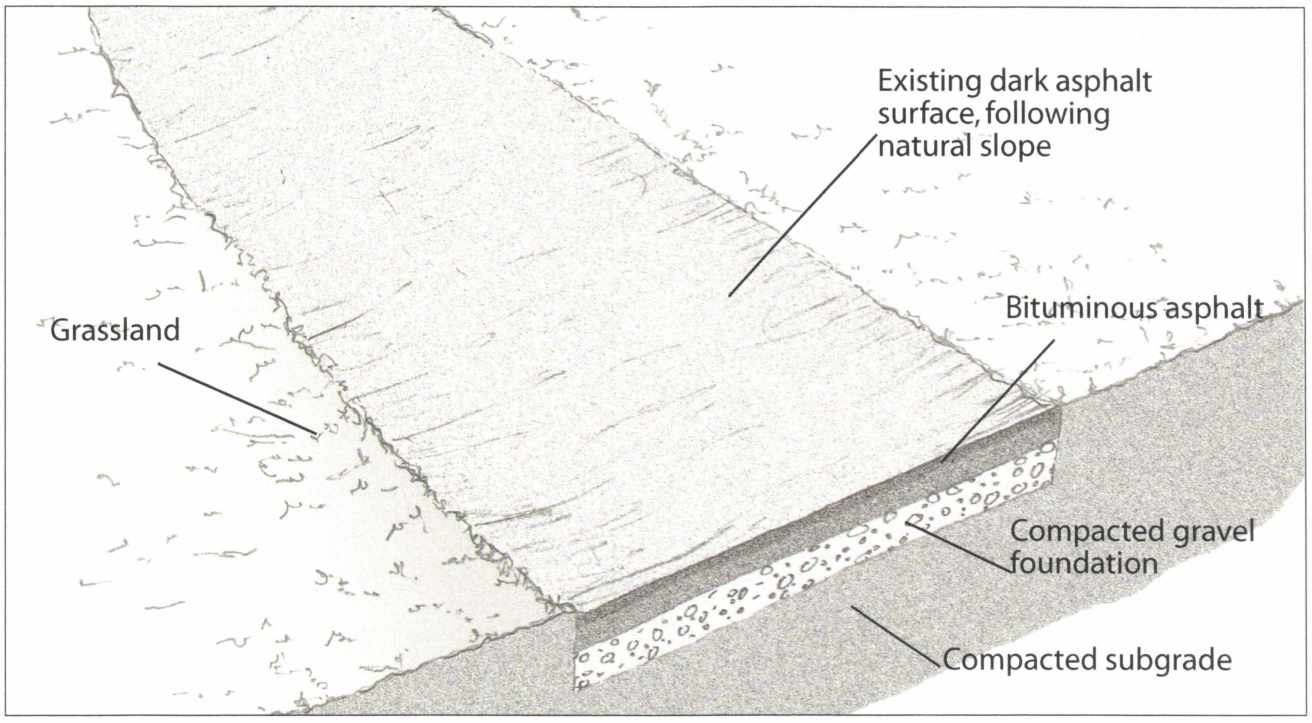


Figure 3.16: Circulation

Diagram of an existing asphalt path for pedestrian, golf cart, and maintenance vehicle use. Source: OCLP, 2006.

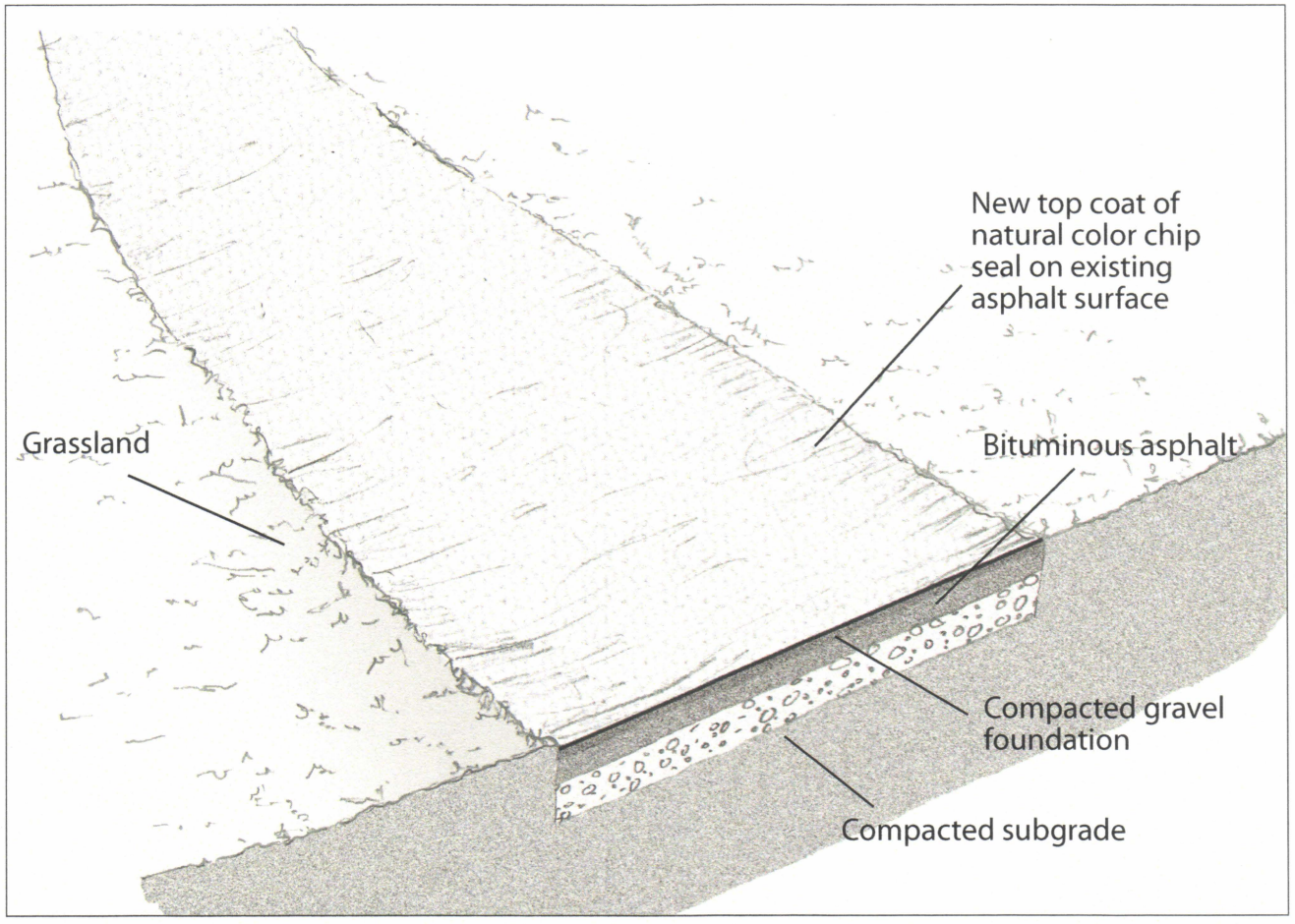


Figure 3.17: Circulation

Diagram of an asphalt path for pedestrian, golf cart, and maintenance vehicle use with a top coat of a natural color chip seal aggregate. Source: OCLP, 2006.



Figure 3.18: Circulation
Photograph of an existing asphalt path for pedestrian, golf cart, and maintenance vehicle use. Source: OCLP, 2006.



Figure 3.19: Circulation
Photo simulation of an asphalt path. A top coat with a natural color chip seal aggregate surface is applied. In addition, the rough is allowed to grow on both sides of the path. Source: OCLP, 2006.



Figure 3.20: Circulation
Photograph an existing path for pedestrian, golf cart, and maintenance vehicle use on hole 9. A mix of concrete, asphalt and gravel has been used to stop erosion of the path. The treatment of such sections should be of a consistent material. Source: OCLP, 2006.



Figure 3.21: Circulation
Photograph of an asphalt road with a natural colored chip seal aggregate. Source: OCLP, 2006.



Figure 3.22: Circulation
Photo of an example asphalt road and parking facility. Asphalt roads and parking facilities should be resurfaced with a light colored chip seal aggregate. Source: OCLP, 2006.



Figure 3.23: Circulation
Photo of the asphalt parking area for buses. Asphalt roads and parking facilities should be resurfaced with a light colored chip seal aggregate. Source: OCLP, 2006.



Figure 3.24: Circulation
Photo of a wood surface path. Source: OCLP, 2006.

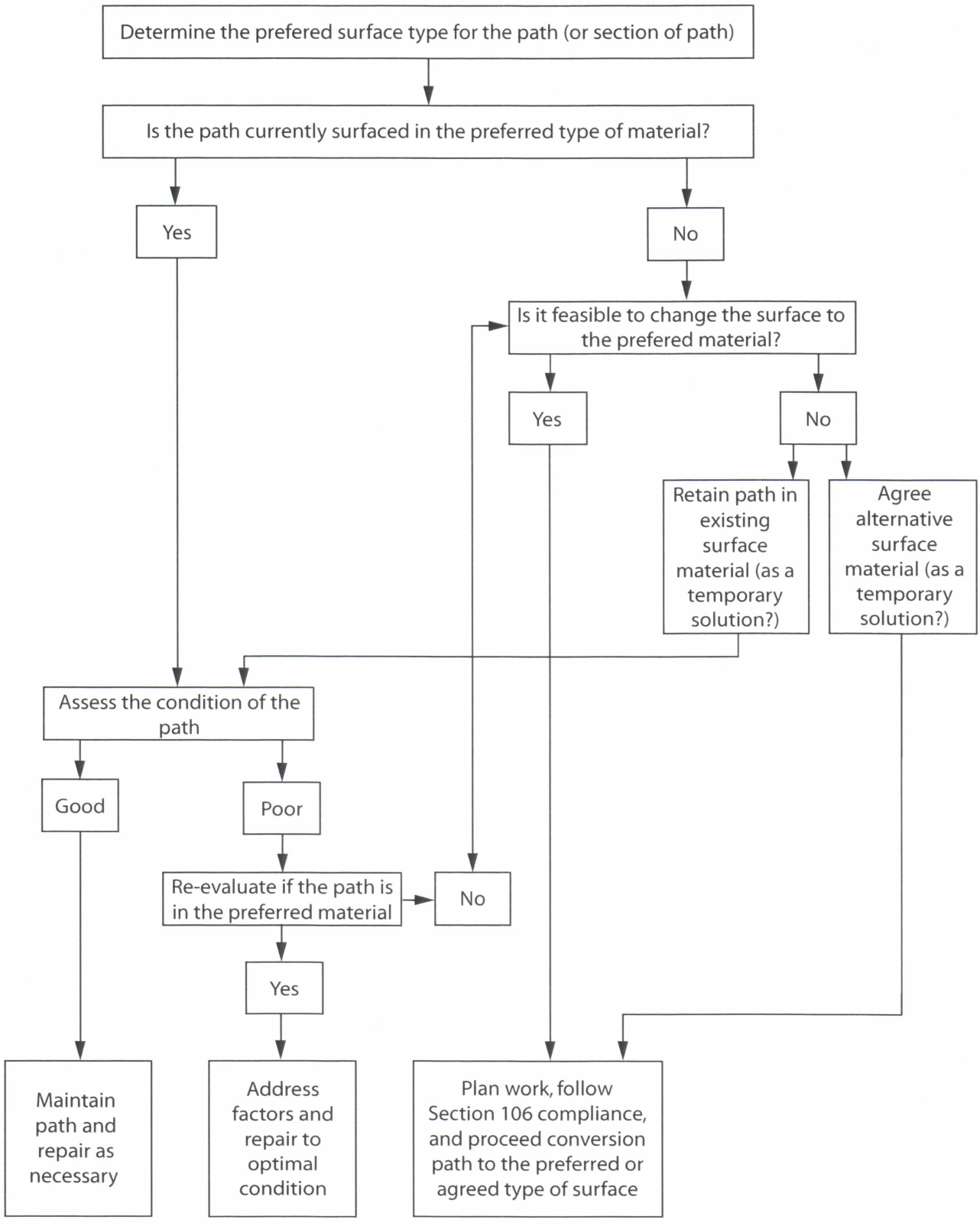


Figure 3.25: Circulation

Preferred surface treatment diagram for the Truro Highlands Historic District. Source: OCLP, 2006.



Figure 3.26: Vegetation

Photograph of the tee at hole 6. Shrub planting around the tee creates a wind buffer and blocks views to the sea and appears as a solid block. Source: OCLP photograph, 2006.



Figure 3.27: Vegetation

Photo simulation of the tee at hole 6. Trimming the shrub plantings around the hole will allow views of the ocean and allowing rough on the banks of the tee will soften the appearance of the tee box. Source: OCLP, 2006.



Figure 3.28: Vegetation
Photograph of the asphalt path along hole 4. The linear shape of the path is enhanced by the strong contrast between the green grass of the fairway and the longer fescue in the rough. Source: OCLP, 2006.



Figure 3.29: Vegetation
Photo simulation of the path along hole 4. By allowing the rough to continue accross the path the visual impact of the path is reduced. A chip seal surface on the asphalt path in a natural color will further improve appearance. Source: OCLP, 2006.



Figure 3.30: Vegetation

Photograph of the shrubs planted between hole 1 and 4. Shrubs are planted in a straight line and appear historically out of place. Source: OCLP , 2006.



Figure 3.31: Vegetation

Photo simulation of the shrubs planted between hole 1 and 4. Historically, there would have been less shrubs on the golf course. Where shrubs are retained, they should be planted in more natural groupings. Source: OCLP, 2006.



Figure 3.32: Small-scale features
Photo of trash receptacles at the entrance to the club house. Several styles of receptacles are found within the district, resulting in a lack of consistency and unity. Style, location and numbers should be reviewed. Source: OCLP, 2006.



Figure 3.33: Small-scale features
Photo of site furnishings on the terrace at the club house. Style and location should be reviewed. Source: OCLP, 2006.



Figure 3.34: Small-scale features
Photo of site furnishings on the golf course. Style and number of elements should be reviewed to improve consistency and and integrity.
Source: OCLP, 2006.



Figure 3.35: Small-scale features
Photo of a bench in recycled material on the golf course. Several types of benches can be found on the links course resulting in a lack of unity and consistency. Source: OCLP, 2006.



Figure 3.36: Small-scale features
Photo of a wood and concrete bench on the golf course. Source: OCLP, 2006.



Figure 3.37: Small-scale features
Photo of the benches on the terrace along the club house. Although weathered wood is used throughout, the different bench types results in a lack of unity and consistency. Source: OCLP, 2006.



Figure 3.38: Small-scale features

Photo of a bench in weathered wood on the links course and an existing signpost. Weathered wood for the bench is consistent with the treatment recommendations, however, wooden benches are presently inconsistent. Source: OCLP, 2006.



Figure 3.39: Small-scale features

Photo of a preferred weathered wood bench on the links course and other site furnishings. Weathered wood for the bench is consistent with the treatment recommendations, but is inconsistent with other benches throughout the district. Source:OCLP, 2006.



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Highland Golf Links Treatment

Drawing 3.0

Circulation and Vegetation

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- District Boundary
- Wooden Split-Rail Fence

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Highland Road Parking Lot Treatment-Alternative A

Drawing 3.1

Vegetation, Circulation, Signs, and Views

National Park Service

Olmsted Center for Landscape Preservation

http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

***See drawings 3.6-3.8 for additional information on B, E1, E2, F1, G1, G2, G3 and G4.**

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- District Boundary
- Wooden Split-Rail Fence
- Marker
- Sign

8

9

Highland House

Club House

Haven Cottage

Rock Cottage

B

F1

G2

G3

E2

Trim existing vegetation

Retain existing parking lot configuration

Retain existing parking lot configuration

Remove wisteria and re-seed area

Retain existing sign

Retain existing sign

Retain existing sign

Retain existing sign

Retain existing sign

Retain existing sign

Retain existing sign

Install double sided sign; G1 on southwest and G4 on northeast

Remove existing sign, replace with E1

Remove all signage that currently exists around cul-de-sac

0 30 50 70 ft.

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Highland Road Parking Lot Treatment-Alternative B

Drawing 3.2

Vegetation, Circulation, Signs and Views

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

See drawings 3.6-3.8 for additional information on B, E1, E2, G1, G2, G3, G4.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- District Boundary
- Wooden Split-Rail Fence
- Marker
- Sign



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Golf Cart Parking Area Treatment

Drawing 3.3

Circulation and Vegetation

National Park Service

Olmsted Center for Landscape Preservation

http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- Wooden Split-Rail Fence
- Golf Cart
- (qi) 7 Bear Oak *Quercus ilicifolia*
- (mp) 6 Northern Bayberry *Myrica pensylvanica*
- (pm) 6 Beach Plum *Prunus maritima*

Retain and maintain pitch pine/scrub oak barrons

Plant prickly vegetation to discourage climbing over deck railings.

F2

D

Remove exotic and invasive species

Establish buffer zone to protect heathland habitat

Retain "open" character. Selectively remove trees and shrubs and invasive species.

Add vegetation to prevent people from climbing over fences to take photographs.

Replace 3 existing wood bollards with 3 weathered wood bollards at a distance of 3 feet apart.

At a width of 9 feet on the pedestrian path at the northwest corner of the Highland Light, install 2 weathered wood bollards at an equal distance of 3 feet

B

Highland Light and Keepers Cottage

7

6

0 30 50 70 ft.

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Highland Road Treatment-Section Two

Drawing 3.4

Vegetation, Circulation, Signs and Views

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

See drawings 3.6-3.8 for additional information on B, D and F2.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- District Boundary
- Wooden Split-Rail Fence
- Marker
- Sign
- 31 Northern Bayberry (Myrica pensylvanica)
- 49 Virginia Rose (Rosa virginiana)



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Maintenance Building Treatment

Drawing 3.5

Buildings and Structures and Vegetation

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006
4. Maintenance building proposal completed by Highland Golf Links, 2006.

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

LEGEND

- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- Golf Cart
- (pr) 16 Pitch Pine *Pinus rigida*
- (qi) 23 Bear Oak *Quercus ilicifolia*
- (mp) 24 Northern Bayberry *Myrica pensylvanica*
- (pm) 15 Beach Plum *Prunus maritima*



Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Maintenance Building Treatment-Alternative 1

Drawing 3.6

Buildings and Structures and Vegetation

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Aerial Photography, 2004 Orthophoto-Massachusetts
2. Highland Golf Links Course Layout, GPS New England, June 2006.
3. Field Survey completed by the Olmsted Center, June 2006
4. Maintenance building proposal completed by Highland Golf Links, 2006.

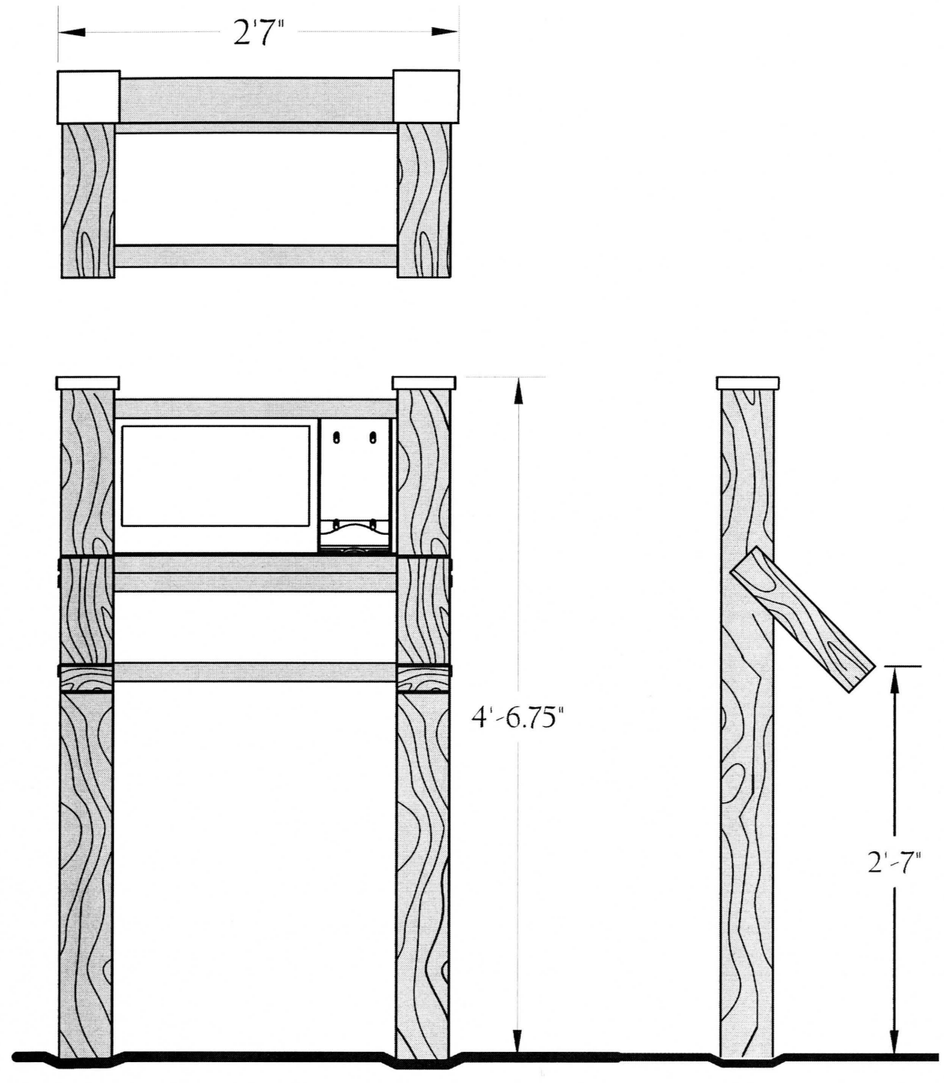
NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

LEGEND

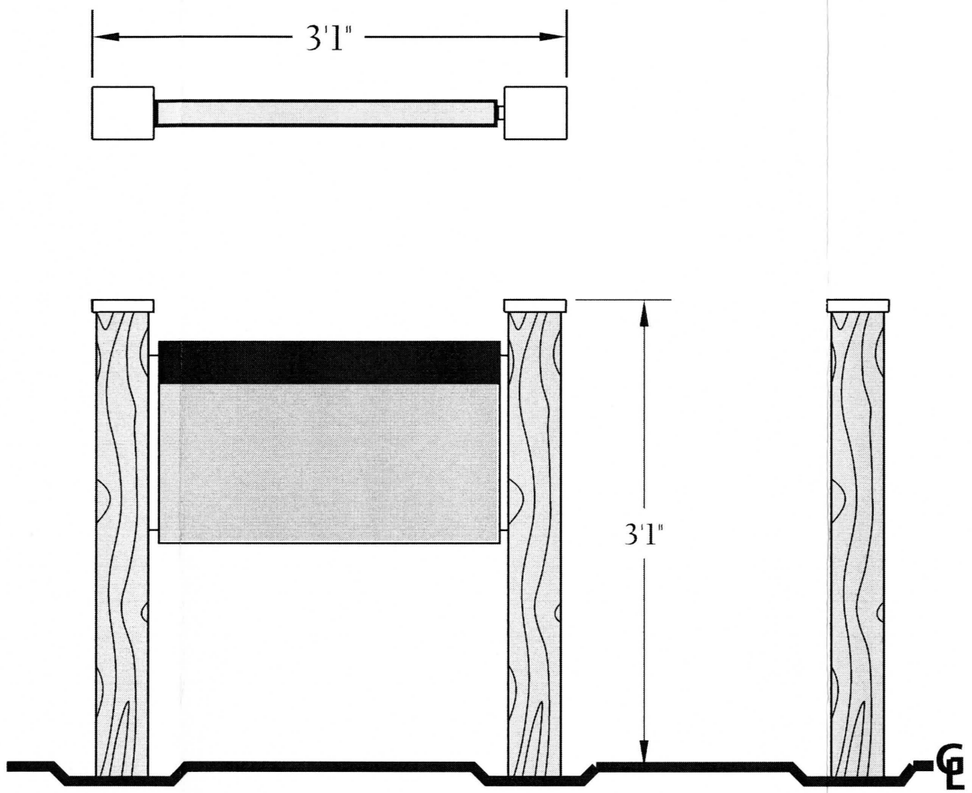
- Golf Holes
- Natural Area
- Buildings and Structures
- Cart Paths/Pedestrian Paths
- Golf Cart
- (pr) 14 Pitch Pine *Pinus rigida*
- (qi) 21 Bear Oak *Quercus ilicifolia*
- (mp) 24 Northern Bayberry *Myrica pensylvanica*
- (pm) 15 Beach Plum *Prunus maritima*

Proposed informational and identification signs are constructed of .125 aluminum panel with screened graphics. Posts are weathered pressure treated 5"x5" wood and extends 26" into the ground. Different from the Highland Links signage, the pressure treated wood will not be covered with vinyl (PVC) sleeves. Each sign has a white aluminum decorative cap detail on the top of each post.



A

Informational Signage



B

Identification Signage

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Sign Treatment

Drawing 3.7

Informational and Identification

National Park Service

Olmsted Center for Landscape Preservation

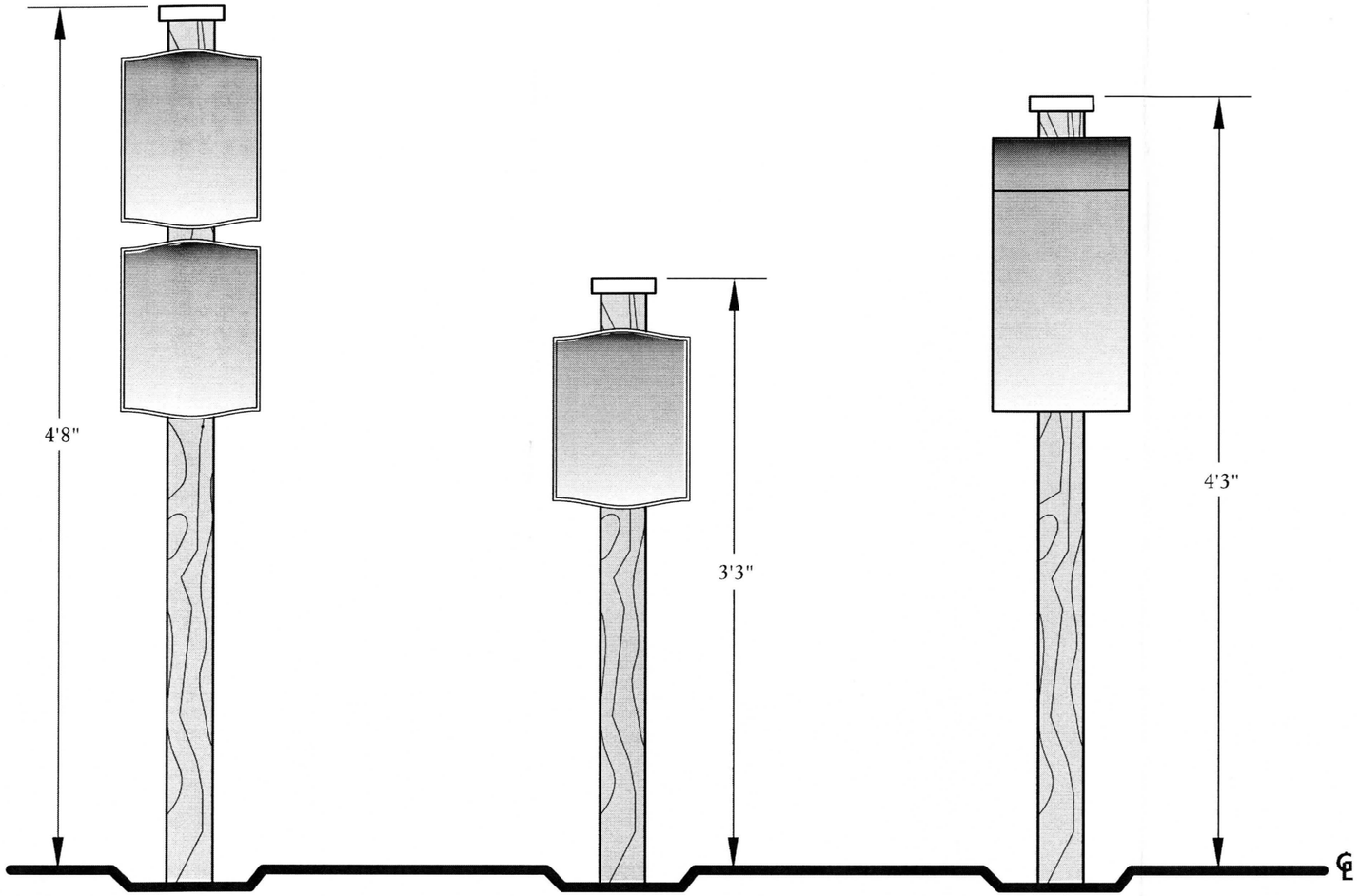
http://www.nps.gov/oclp/

SOURCES

1. Field Survey completed by OCLP, June 2006
2. Cape and Craft Signage Proposal for Highland Links Golf Course, October 2003
3. NPS Uniguide Sign Standards, Office of National Park Service Identity, Harpers Ferry Center

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.



E
Directional/Regulatory Signage

F
Directional Signage

G
Parking Control



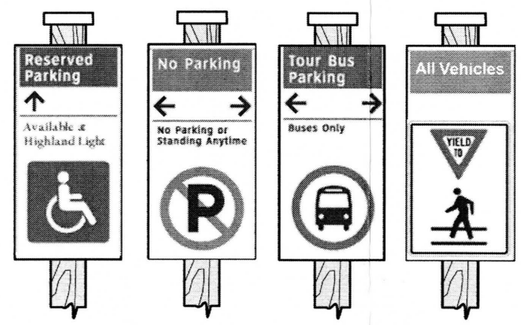
E1



E2

F1

F2



G1 G2 G3 G4

Proposed directional and regulatory signage for the Truro Highlands Historic District will follow similar design standards, including size and shape, as the recently installed signage at the Highland Golf Links. Parking control standards will follow the National Park Service design standards for parking control signage.

Proposed directional and regulatory signage is 16" in width and 24" in length and is constructed of .125 aluminum panel with screened graphics. Posts are weathered pressure treated 4"x4" wood, and extends 26" into the ground. Different from the Highland Links signage, the pressure treated wood will not be covered with vinyl (PVC) sleeves. Each sign has a white aluminum decorative cap detail on the top of each post. Proposed parking control signage is 9" in width and 18" in length and is constructed of .125 aluminum panel with screened graphics. Posts are weathered pressure treated 4"x4" wood, and extends 26" into the ground. Each sign has a white aluminum decorative cap detail on the top of each post.

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Sign Treatment

Drawing 3.8
Regulatory, Directional, and Parking Control Signage

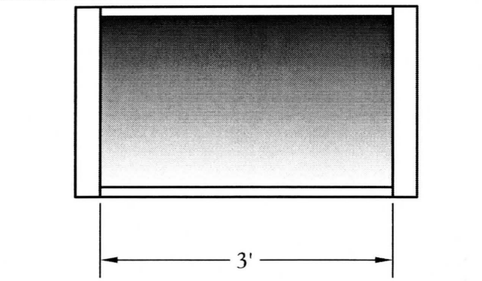
National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

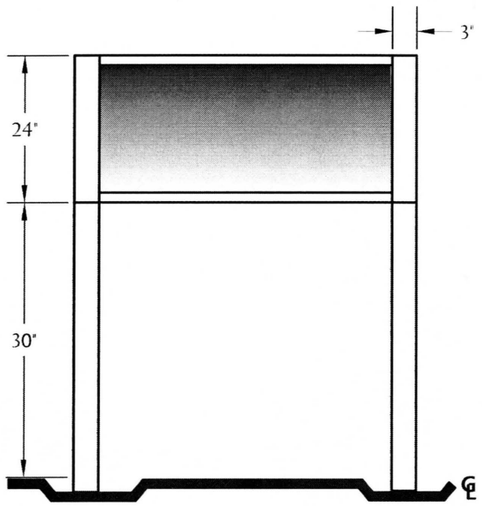
SOURCES

1. Field Survey completed by OCLP, June 2006
2. Cape and Craft Signage Proposal for Highland Links Golf Course, October 2003
3. NPS Uniguide Sign Standards, Office of National Park Service Identity, Harpers Ferry Center

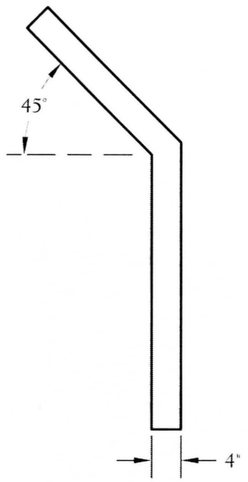
NOTES

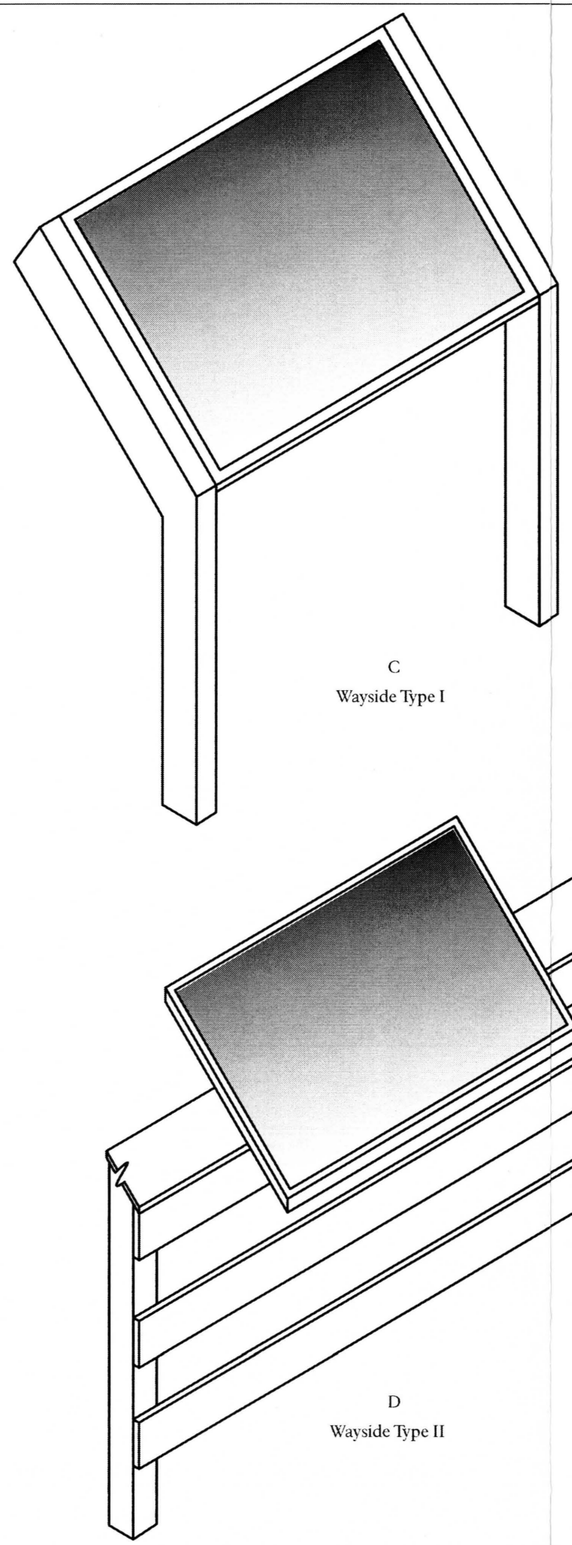
Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.





C
Wayside Type I





C
Wayside Type I

The cantilevered low-profile base wayside exhibit (type I) is the preferred style for NPS interpretive exhibits. The base's simple, unadorned form helps to
reduce its visual intrusion on the landscape. Made entirely of welded aluminum extrusions, the base will not rust or otherwise corrode, even in harsh marine environments. It has a textured finish of polyurethane enamel paint. Exhibit panels can be easily replaced by removing rivets that secure the top of the frame assembly. It is recommended that in areas where the wayside exhibits are installed, the bases should be painted in a color that blends well with the natural environment found within the Truro Highlands Historic District.

At the observation deck within the Truro Highlands Historic District, custom mounted low-profile bases (type II) with designed metal brackets can be securely attached to wooden or metal rails, allowing interpretation on a wide range platforms and decks.

D
Wayside Type II

Condition Report and Treatment Plan

Truro Highlands Historic District

Cape Cod National Seashore

Truro, Massachusetts

2006 Wayside Treatment

Drawing 3.9

National Park Service
Olmsted Center for Landscape Preservation
http://www.nps.gov/oclp/

SOURCES

1. Field Survey completed by OCLP, June 2006
2. NPS Uniguide Sign Standards, Office of National Park Service Identity, Harpers Ferry Center

NOTES

Locations and scale of features are approximate. Plan drawn using AutoCAD 2002, Adobe Illustrator 10.0, and Adobe Indesign 3.0 by Mike Commisso, December 2006.

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REPORTS AND UNPUBLISHED MATERIALS

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Lacy, Katherine and Larry Lowenthal. *Cultural Landscape Report for Truro Highlands Historic District.* Boston, MA: National Park Service, North Atlantic Region, Division of Cultural Resources Management, 1995.

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Page, Robert, et al. *A Guide to Cultural Landscape Reports: Contents, Process and Techniques.* Washington D.C: U.S. Department of the Interior, National Park Service, 1998.

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United States Coast Guard. *Highland Light Station, North Truro Massachusetts. United States Coast Guard, First District. Lighthouse Protection Studies* -- New England. July, 1988.

United States Department of the Interior, National Park Service. *Highland Golf Links National Register Nomination Form.* Determination of Eligibility, November 14, 1978.

United States Department of the Interior, National Park Service. *Highland House National Register Nomination Form.* Listed June 5, 1975.

APPENDIX 1: SANDPLAIN HEATHLAND DESCRIPTION

Source: Sneddon, L. and R. Zaremba. 2004. U.S. Geological Survey-National Park Service Vegetation Mapping Program: Vegetation classification of the Cape Cod National Seashore. Natureserve, Boston, MA. 225 pp.

Sandplain Heathland
(Gaylussacia baccata - Vaccinium angustifolium - Arctostaphylos uva-ursi / Schizachyrium) littorale Dwarf-shrubland
Identifier: CEGL006066

NVC CLASSIFICATION

Physiognomic Class	Dwarf-shrubland (IV)
Physiognomic Subclass	Deciduous dwarf-shrubland (IV.B.)
Physiognomic Group	Cold-deciduous dwarf-shrubland (IV.B.2.)
Physiognomic Subgroup	Natural/Semi-natural cold-deciduous dwarf-shrubland (IV.B.2.N.)
Formation	Cespitose cold-deciduous dwarf-shrubland (IV.B.2.N.a.)
Alliance	*Vaccinium (angustifolium, myrtilloides, pallidum)* Dwarf-shrubland Alliance (A.1113)
Alliance (English name)	(Northern Lowbush Blueberry, Velvetleaf Blueberry, Hillside Blueberry) Dwarf-shrubland Alliance
Association	Gaylussacia baccata - Vaccinium angustifolium - Arctostaphylos uva-ursi / Schizachyrium *littorale* Dwarf-shrubland
Association (English name)	Black Huckleberry - Northern Lowbush Blueberry - Kinikinnick / Seaside Bluestem Dwarf-shrubland
Association (Common name)	Sandplain Heathland
Ecological System(s)	Atlantic Coastal Plain Northern Upland Pitch Pine Barrens (CES203.269)

ELEMENT CONCEPT

Global Summary: This association includes sandplain heathlands of the northeastern Atlantic coast dominated by heath shrubs. They occur on nutrient-poor, sandy/gravelly moraine and outwash plains near the coast and are affected by onshore winds and salt spray. Dwarf-shrubs are often dominant, especially Vaccinium *angustifolium, Vaccinium pallidum, Arctostaphylos uva-ursi,* and *Gaylussacia baccata.* Associated species include *Vaccinium myrtilloides, Hudsonia ericoides, Comptonia peregrina, Kalmia angustifolia, Baptisia tinctoria,* or *Rubus hispidus. Corema conradii* may be locally abundant. The herbaceous layer is similar to sandplain grasslands, only less diverse. Common species include *Deschampsia flexuosa, Schizachyrium littorale, Carex pensylvanica, Lespedeza spp., Solidago puberula, Viola sagittata var. ovata (= Viola fimbriatula), Eurybia spectabilis (= Aster spectabilis), Viola pedata, Comandra umbellata, Epigaea repens, Tephrosia virginiana, Gaultheria procumbens, Juncus greenei, Ionactis linariifolius, Helianthemum dumosum, Liatris scariosa var. novae-angliae, Sericocarpus asteroides, Solidago nemoralis, Euthamia spp.,* and others. Graminoids do not form extensive turf. Small to locally abundant patches of tall shrubs are often present, including *Quercus ilicifolia, Photinia pyrifolia (= Aronia arbutifolia), Corylus cornuta, Prunus maritima, Rubus flagellaris, Rosa carolina, Rosa virginiana,* or *Morella pensylvanica (= Myrica pensylvanica).*

ENVIRONMENTAL DESCRIPTION

Cape Cod National Seashore Environment: This association occurs on nutrient-poor sands and gravels of outwash deposits. Soils are acidic and low-nutrient. Most of the sites are associated with soil disturbance and are maintained by wind and salt spray with slow succession to taller shrubs and trees.

Global Environment: This association occurs on nutrient-poor, sandy/gravelly moraine and outwash plains near the coast and are affected by onshore winds and salt spray.

VEGETATION DESCRIPTION

Cape Cod National Seashore Vegetation: Dwarf-shrubs generally described as ericaceous are dominant in this association. Most common are *Arctostaphylos uva-ursi, Hudsonia ericoides, Gaylussacia baccata, Vaccinium angustifolium* and *Vaccinium pallidum, Corema conradii, Epigaea repens,* and *Gaultheria procumbens.* Frequent associates include *Morella pensylvanica, Lechea maritima, Baptisia tinctoria, Ionactis linariifolius (= Aster*

linariifolius), and the grasses *Schizachyrium scoparium, Danthonia spicata,* and *Deschampsia flexuosa. Cladonia* and *Cladina* lichens may be abundant. The community only rarely supports invasive species. Scattered trees may also be present, including Pinus rigida, Quercus ilicifolia, and *Quercus velutina.*

Global Vegetation: Dwarf-shrubs are often dominant, especially *Vaccinium angustifolium, Vaccinium pallidum, Arctostaphylos uva-ursi,* and *Gaylussacia baccata.* Associated species include *Vaccinium myrtilloides, Hudsonia ericoides, Comptonia peregrina, Kalmia angustifolia, Baptisia tinctoria,* or *Rubus hispidus. Corema conradii* may be locally abundant. The herbaceous layer is similar to sandplain grasslands, only less diverse. Common species include *Deschampsia flexuosa, Schizachyrium littorale, Carex pensylvanica, Lespedeza spp., Solidago puberula, Viola sagittata var. ovata (= Viola fimbriatula), Eurybia spectabilis (= Aster spectabilis), Viola pedata, Comandra umbellata, Epigaea repens, Tephrosia virginiana, Gaultheria procumbens, Juncus greenei, Ionactis linariifolius, Helianthemum dumosum, Liatris scariosa var. novae-angliae, Sericocarpus asteroides, Solidago nemoralis, Euthamia spp.,* and others. Graminoids do not form extensive turf. Small to locally abundant patches of tall shrubs are often present, including *Quercus ilicifolia, Photinia pyrifolia (= Aronia arbutifolia), Corylus cornuta, Prunus maritima, Rubus flagellaris, Rosa carolina, Rosa virginiana,* or *Morella pensylvanica (= Myrica pensylvanica).*

MOST ABUNDANT SPECIES

Cape Cod National Seashore

Stratum	Lifeform	Species
Short shrub/sapling	Broad-leaved deciduous shrub	*Gaylussacia baccata, Vaccinium angustifolium*
Short shrub/sapling	Broad-leaved evergreen shrub	*Arctostaphylos uva-ursi, Corema conradii, Gaultheria procumbens, Hudsonia ericoides, Hudsonia tomentosa, Myrica pensylvanica*
Herb (field)	Graminoid	*Danthonia spicata, Deschampsia flexuosa, Schizachyrium scoparium*

CHARACTERISTIC SPECIES

Cape Cod National Seashore: *Arctostaphylos uva-ursi, Corema conradii*
Global: /

OTHER NOTEWORTHY SPECIES

Cape Cod National Seashore: /
Global: *Helianthemum dumosum, Liatris scariosa var. novae-angliae*

CONSERVATION STATUS RANK

Global Rank & Reasons: G3 (10-May-2002).

CLASSIFICATION

Status: Standard
Classification Confidence: 2 - Moderate
Cape Cod National Seashore Comments:
Global Comments: This sandplain heathland association is similar to sandplain grassland, *Morella pensylvanica / Schizachyrium littorale - Danthonia spicata* Shrub Herbaceous Vegetation (CEGL006067), but differs in that shrubs are more abundant and the herbaceous layer is less abundant and less diverse. Soils tend to be less nutrient-poor than sandplain grasslands and likely have been disturbed less frequently.
Global Similar Associations:
- *Morella pensylvanica / Schizachyrium littorale - Danthonia spicata* Shrub Herbaceous Vegetation (CEGL006067)
- *Vaccinium angustifolium / Schizachyrium scoparium - Carex lucorum* Shrub Herbaceous Vegetation (CEGL006393)

Global Related Concepts:
- Bearberry heathland (Dunwiddie et al. 1996) ?
- Broom crowberry heathland (Dunwiddie et al. 1996) ?
- Huckleberry-scrub oak heathland (Dunwiddie et al. 1996) ?

• Moorland (Lundgren 2000) ?

OTHER COMMENTS

Other Comments:

ELEMENT DISTRIBUTION

Cape Cod National Seashore Range: Known from High Head, Ballston Beach uplands, South Truro, Great Island, the Marconi Station site, the bluffs north of Coast Guard Beach, and scattered small sites on outwash deposits.
Global Range: Currently described from Massachusetts and New York.
Nations: US
States/Provinces: MA, NY:S1
USFS Ecoregions: 221Ab:CCC, 221Ac:CCC, 232Aa:CCC
Federal Lands: NPS (Cape Cod)

ELEMENT SOURCES

Cape Cod National Seashore Inventory Notes:
Cape Cod National Seashore Plots: Gwilliam 1998 plots H9901110, H9901120, H9901210, H9902210, H9902220, H9905110, H9905120, H9905220, H9903110, H9903120, H9903210, H9903220, H9907210, H9908220, H9909110
Local Description Authors: R.E. Zaremba
Global Description Authors: S.L. Neid and L.A. Sneddon
References: Dunwiddie et al. 1996, Dunwiddie et al. 1997, Eastern Ecology Working Group n.d., Edinger et al. 2002, Gwilliam 1998, Lundgren 1998, Lundgren 2000, Reschke 1990, Swain and Kearsley 2000, Thompson 1997, Zaremba 1989

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