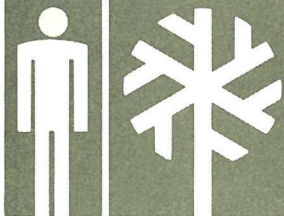


historic grounds study

august 1988

CAPE HATTERAS
LITTLE KINNAKEET LIFE-SAVING
AND COAST GUARD STATION

NATIONAL SEASHORE / NORTH CAROLINA



SECTION I

HISTORIC GROUNDS STUDY AND REPORT FOR DEVELOPMENT

Little Kinnakeet Life Saving Station
Little Kinnakeet, N.C.

by
Harry H. Sloat

A. PURPOSE FOR HISTORIC GROUNDS STUDY & DEVELOPMENT

The purpose of this historic grounds study is to analyze the available historical, archeological and other significant data of the Little Kinnakeet Life Saving Station to establish an historic grounds plan. The General Management Plan, Development Concept Plan and the Environmental Assessment, approved in May of 1984, mandated that the Little Kinnakeet Life Saving Complex be restored to its period of operation, 1904-1915. The restored complex and grounds will provide the stage for interpretation of the Life Saving Service activities on the Outer Banks of North Carolina.

The area for the grounds study includes the immediate area around the life saving complex, and incorporates the proposed pedestrian circulation, comfort station and vehicular access and parking. The historic grounds study will provide information and make recommendations for the re-establishment of the site as it existed during the early part of the 20th century. The 1904-1915 time period for the Little Kinnakeet restoration was used to determine specific landscape amenities that should be reintroduced into the site. These include circulation patterns, vegetative types and locations, man-made physical features and surrounding landscape elements.

B. BACKGROUND & LEGISLATIVE HISTORY OF LITTLE KINNAKEET

The first Little Kinnakeet Life Saving Station was constructed by the U.S. Government in 1874 as one of seven along the Outer Banks of North Carolina. The facilities at Little Kinnakeet were used by the U.S. Life Saving Service from 1874 to 1915, then as a Coast Guard Station until 1954 when it was deactivated.

Cape Hatteras National Seashore was established by the August 17, 1937 act (50 stat 669) to preserve, among other things, the park's historic and cultural resources for public use and enjoyment. Little Kinnakeet became part of Cape Hatteras National Seashore when it was deactivated by the Coast Guard. According to the Historic Sites Act of 1935, it is national policy to preserve historic sites and buildings for the inspiration and benefit of the people of the United States. The same Act states that the Secretary of the Interior shall conduct investigations and research necessary to obtain actual historical and archeological data and shall restore, reconstruct, rehabilitate, preserve and maintain historic sites.

The original 1874 Life Saving Station and a Kitchen Mess structure erected in 1892 were originally constructed on a site approximately one quarter of a mile northeast of the present site. Both structures were raised and relocated to the present site in 1904. A bungalow style Life Saving Station was also constructed on the site at the same time. The entire life saving complex is eligible for listing in the National Register of Historic Places.

There is documentation that additional out-buildings existed in the vicinity of Little Kinnakeet Life Saving Station during the 1904-1915 period. These out-buildings were simple wooden structures that housed personnel and their families stationed at the Life Saving Station. The archeological surface investigation found no evidence as to the location of these out-buildings. It is felt that there is not ample documentation as to their size, design,

materials and location to warrant their reconstruction. If it is determined that their location is critical in the interpretation of the facility, additional funding would be required for further archeological investigation.

Exhibit 1 was drawn by Mason Meekens August, 1987, and shows the approximate locations of out-buildings north of the station. They are shown as he remembers them as a young boy when he spent the summers at the Station with his Father. Ellis Grey, during an interview, revealed that two of the homes, one owned by Demon Meekins and one owned by Sumner Midgett, were raised and relocated to the town of Avon.

Both Ellis Grey and Mason Meekins said there was no landscaping around the station except for scattered beach grass. Mr. Meekins said there was a fig tree growing on the south side of the station just outside the commander's office. Both Mr. Grey and Mr. Meekins remembered scrub vegetation growing on hummocks along the sound side. Mr. Grey said there was a severe northeaster about the turn of the century that flooded the entire island and the salt water intrusion killed most of the vegetation on the island.

C. EXISTING CONDITIONS

The Little Kinnakeet Life Saving/Coast Guard Station is located on Hatteras Island, just north of the town of Avon, and is within Cape Hatteras National Seashore. Presently, there are three buildings on the site: the original Life Saving Station that was constructed in 1874; a Kitchen Mess structure built in 1892; and the bungalow-style Life Saving Station built in 1904. The original 17.5 acre site is approximately 1320' long (east-west) from the Pamlico sound to the Atlantic Ocean and varies in width from 500' to 660' (north-south) from the sound side to the side ocean, respectively. (see exhibit 4.) North Carolina (N.C.) Route 12, the main north-south artery along the outer banks, crosses through the site. Paralleling N.C. Route 12 is the main power and telephone transmission line that provides service to the Outer Banks. The site and facilities have had little or no improvements other than general maintenance since the National Park Service acquired the Station. The site is surrounded by an eight-foot chain link fence which is being maintained as a security fence until restoration work has been completed.

The establishment of barrier dunes in the 1930's on the ocean side of Hatteras Island has precluded the overwash of the site during severe storms. The elimination of this phenomenon has altered conditions, mainly the periodic saturation of the soils with salt water. This has permitted the establishment of new, less salt-tolerant plant communities that were previously nonexistent. A scrub thicket vegetation zone has surrounded the complex after the build-up of the frontal barrier dunes. See exhibits 2 and 3.

D. PLANNED USE

Little Kinnakeet Life Saving Station has been recommended by the General Management Plan and the Interpretive Prospectus for use as an interpretive node. This will include media to interpret the U.S. Life Saving Service

activities during the period between 1904 and 1915. The bungalow-style Life Saving Station, the Kitchen Mess structure, and the original Life Saving Station, are to be restored to the 1904-1905 period. They will be used to tell the history of the Life Saving Service along the Outer Banks of North Carolina.

To facilitate visitors at the site, an access road and a 35-space parking area with overflow parking for 20 cars will be required. A screened, compatible-style comfort station shall be added adjacent to the parking area. A trail head and barrier-free pedestrian loop trail will provide access to the station, structures, and proposed service amenities. In addition, the trail shall have a sufficient width of 7'-8' to accommodate small service vehicles.

E. DEVELOPMENT OF 1904-1915 HISTORIC GROUNDS

The re-creation of an historic landscape of the 1904-1915 period of the Little Kinnakeet Life Saving Station is contingent, primarily, upon the re-establishment of the vegetative elements. Time does not stand still, as evidenced by the continuous changes on the outer banks where the forces of nature are constantly reshaping the landscape. It is impossible to turn the environmental clock back. Compromises and conjecture must be used when all else fails to attempt to create the ambiance that existed at the turn of the century. The established barrier dunes are a landscape element which serve as a protective function now preventing the overwash and flooding of the island during storms, characteristic of the historic period. The dunes have also allowed considerable new areas of vegetative growth on the island that were nonexistent at the turn of the century. The re-establishment of the site as it existed during the period of 1904-1915 will require the removal of the majority of woody species that have grown in the area of the complex since the development of the barrier dunes. An obvious solution would be to eliminate the barrier dune and allow the site to be re-established naturally. However, this would defeat the protective purpose of the dunes and could cause severe and irreparable damage. Therefore, in an effort to prevent such disaster, the one alternative is to eliminate the existing vegetation and clear the site to re-create its historic setting.

A maintenance program must be implemented in order to obliterate encroaching plant materials and vegetation which is not part of the historic landscape. The existing woody shrub vegetation areas designated for open grass should be cleared. New clearings and areas of sparse vegetation are not recommended for overseeding with grasses; rather, it is recommended that these areas remain in their present state and be allowed to regenerate naturally from surrounding grasses. Stands of grass are expected to be denser than they were historically, because the area is no longer subject to overwash from the ocean; it is recommended that the heavy stands remain. However, the desired end result of an open grass area around the station will be maintained.

An open area just northeast of the Station has been used in the past for conducting demonstrations on life saving drills. The area now has a vigorous stand of pear pads or prickly pear cactus. This same area is slated to be used for future demonstrations of the Lyle or line-throwing gun. The cactus will have to be removed to eliminate this safety hazard before the area can be used again.

Dare County Extension Agent, Chris Wife, was consulted by telephone on September 16, 1987, as to the best methods of eradication. The following are his recommendations:

- 1) Removal by hand; this would be time consuming and expensive, however it would provide a positive control.
- 2) Use of an approved herbicide such as Round-up or Rodeo. These herbicides must be used with a surface-active agent (detergent) to break down waxes on the leaf surface of the cactus to allow penetration of the herbicide. These two herbicides will kill all vegetation and grasses. To prevent this, it is recommended that spot applications be made directly onto the cactus. Follow-up spot applications will have to be made to eradicate all the cactus.
- 3) The use of MS or MA, which are arsenic compounds, will control pear pads, as well as sand burs; however clearance for the use of these herbicides will be a problem.

The encroachment of the cactus back into the cleared area will be a problem, because it reproduces both by the seed and vegetatively. This will require periodic removal by hand or spot applications of a herbicide.

Maintenance of designated open grass areas should be accomplished by either one or a combination of two methods. The first method is scheduled mowing; however, this will result in manicured appearance which historically is incorrect. The second method is minimal prescribed burns of the areas designated to be maintained in grass.

It is recommended, that the grass areas adjacent to the historic structures receive minimal mowing to control fuel build-up. The out lying grass areas should have prescribed burns during the winter months, when fuel build-up becomes a problem. These prescribed burns will also help preclude the reintroduction of woody shrub vegetation.

References were made that supplies and materials for the station were transported from the mainland across Pamlico Sound in sailing skiffs. This information led to the possibility that there may have been a dock on the sound side of the Station for unloading skiffs and mooring rescue boats.

Interviews were conducted on 9/16/87 with Ellis Grey, age 85, who was raised at the Life Saving Station between 1907 and 1925 and Mason Meekins, age 72, who spent summers at the Station between 1925 and 1930. Both Mr. Grey and Mr. Meekins revealed that skiffs bringing in supplies across Pamlico Sound anchored in Boat Creek approximately one-half mile south of the Station. Supplies and materials were then unloaded onto a horse cart and transported to the Station.

Boat Creek now exists as a lagoon; its mouth to the sound has been filled in. Historically, the over wash from the ocean during storms scoured a channel into the sound to a depth of five to ten feet, this was known as Boat Creek. Life Saving boats used in Pamlico Sound were also anchored in Boat Creek.

Compromises on the historical development of the site are required to provide facilities such as barrier-free access, a comfort station and parking. Electrical and telephone transmission lines which currently cross the site are not a part of the historic scene and should be placed below grade. Telegraph poles and lines which no longer exist and were a part of the historic scene should be considered for reintroduction. The accompanying plans illustrate the site as it existed in 1904, 1935, 1954, and 1987; a plan for development is also included. In the implementation of this development plan, historical paths and accesses which are to be re-established shall be stabilized for barrier-free use; a recommendation is to use an Acrylic Soil Cement with a high content of local sand and shells.

The 1874 Life Saving Station is located in a low area, exposing it to flooding every two or three years. The Historic Structure Report recommends that the deteriorated concrete foundation and slab under the Station be replaced. The report also recommends raising the floor elevation 2 feet. This will elevate the station just above the 50-year flood cycle.

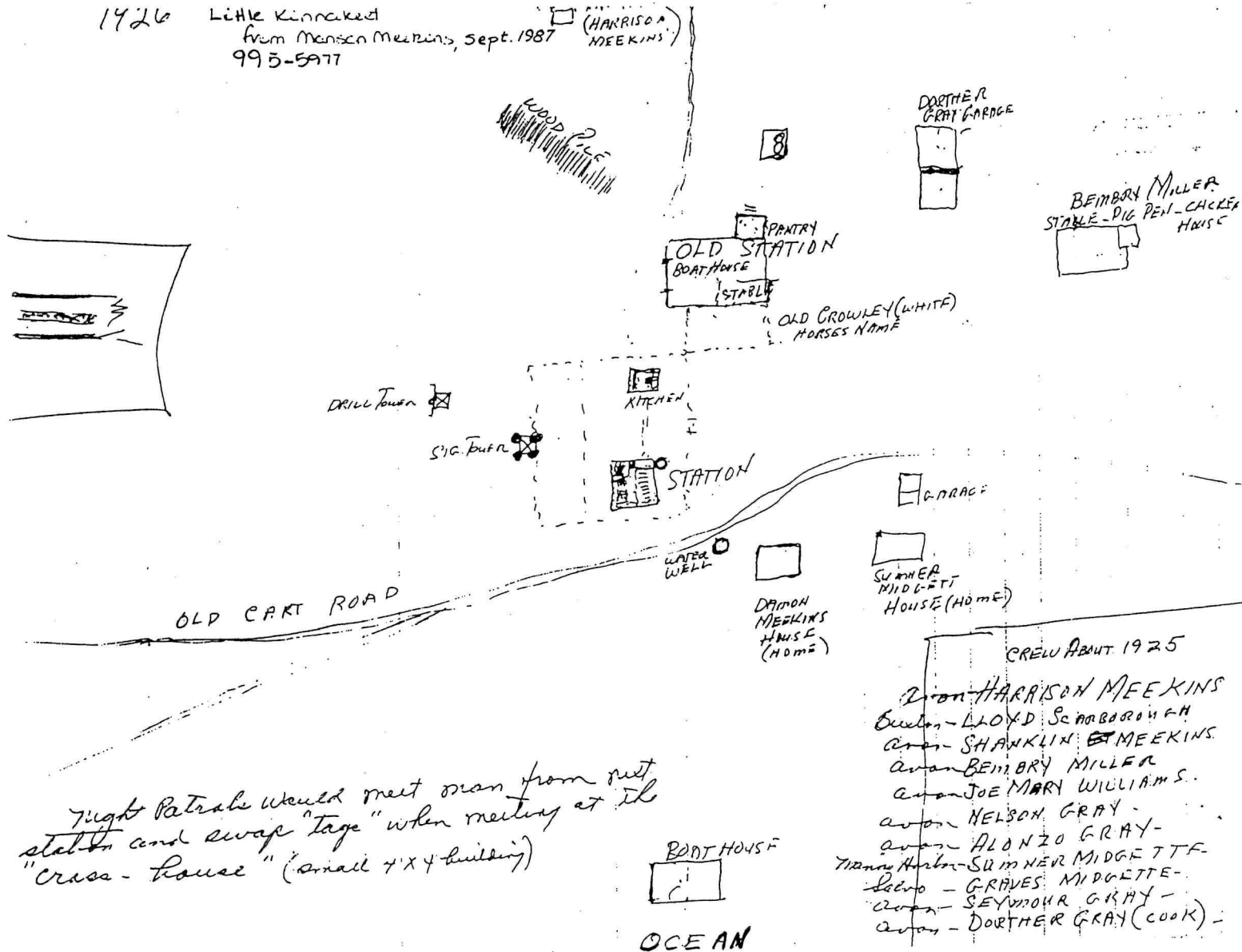
If this is done, the topography surrounding the station must also be raised 2 feet. This is necessary to retain the correct perspective of the structure and to maintain the historic ramp grade at the south entrance of the station. The two feet of additional fill around the station must be tapered 40 to 50 feet away from the structure until it meets existing grades. This will minimize the visual change of the additional two feet of fill.

The Historical perspective, archeological documents, and other collected data and materials have been studied and evaluated. Known natural and man-related environmental and ecological changes that have occurred over the past 75 years have been considered and weighed. A limited amount of conjecture was necessary for the study because no photographs for the 1904-1915 period were available. The plan presented for the Historic Grounds Development creates a setting similar to that which existed around the Life Saving Station Complex during early part of the 20th century.

Requirements to accommodate park visitors and park administrative needs have been incorporated into this plan with minimal impact to the natural and cultural resources. The plan also provides maintenance requirements necessary to maintain the proposed historic grounds.

1426 Little Kinraked
 from Meniscus Meekins, Sept. 1987
 995-5977

(HARRISON
 MEEKINS)

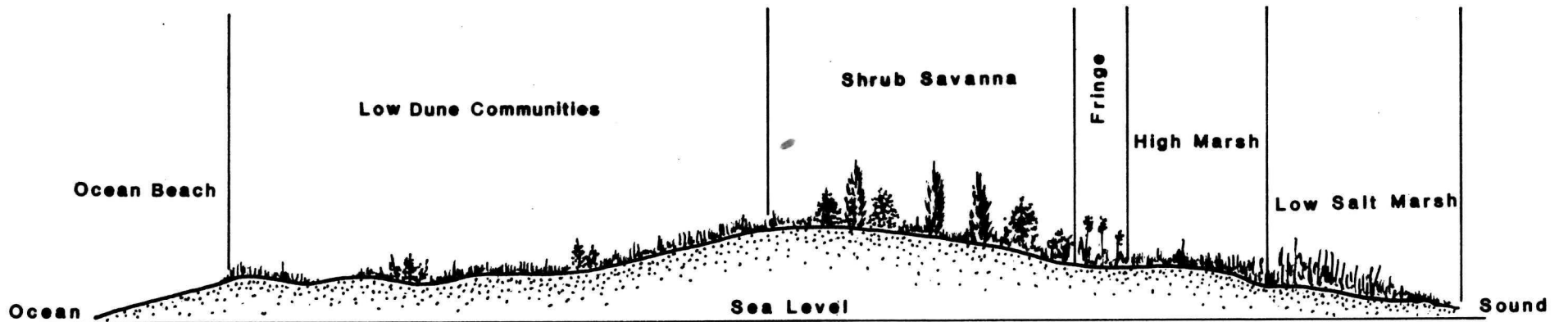


Flight Patrols would meet ocean from port
 station and swap "tags" when meeting at the
 "Cross-house" (small 4'x4' building)

- CREW ABOUT 1925
- Chief - HARRISON MEEKINS
 - Deck - LLOYD SCARBOROUGH
 - Deck - SHANKLIN MEEKINS
 - Deck - BEIMBRY MILLER
 - Deck - JOE MARY WILLIAM S.
 - Deck - NELSON GRAY
 - Deck - ALONZO GRAY
 - Tanner - SUMNER MIDDLETTE
 - Deck - GRAVES MIDDLETTE
 - Deck - SEYMOUR GRAY
 - Deck - DORRIS GRAY (COOK)

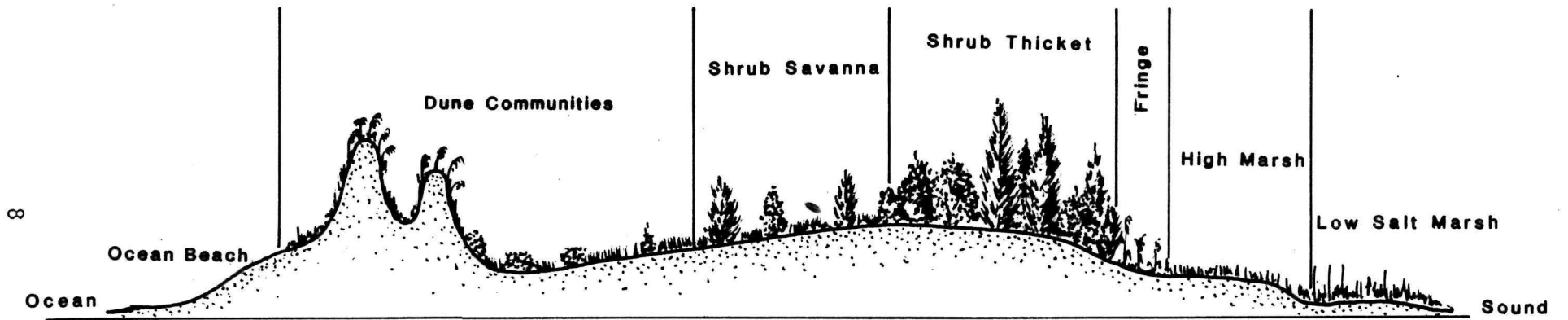
EXHIBIT 1

7



PRE BARRIER DUNE VEGETATION ZONES

EXHIBIT 2



POST BARRIER DUNE VEGETATION ZONES



UNITED STATES LIFE-SAVING SERVICE.
OFFICE OF ASSISTANT TO SUPERINTENDENTS OF CONSTRUCTION OF STATIONS

Norfolk, Va.

Jan⁶ 6th, 1904

Superintendents of Construction, L.S.S.

New York City.

Gentlemen:

I respectfully transmit herewith plat of reservation at Little Kinnakeet L.S. Station, N.C. with description of property, and a sketch of building, also the respective position of the various buildings on the reservation.

The description of property was taken by me from the records at Manteo, Dare County, N.C. but there is undoubtedly an error either in the length of the Southern line, or in the angles at S.E. and S.W. corners of reservation. As this error may also exist in the original deed, it may eventually lead to some complication unless the same is promptly rectified.

Respectfully,

Ass't. to Supts. of Const'n. L.S.S.

EXHIBIT 4

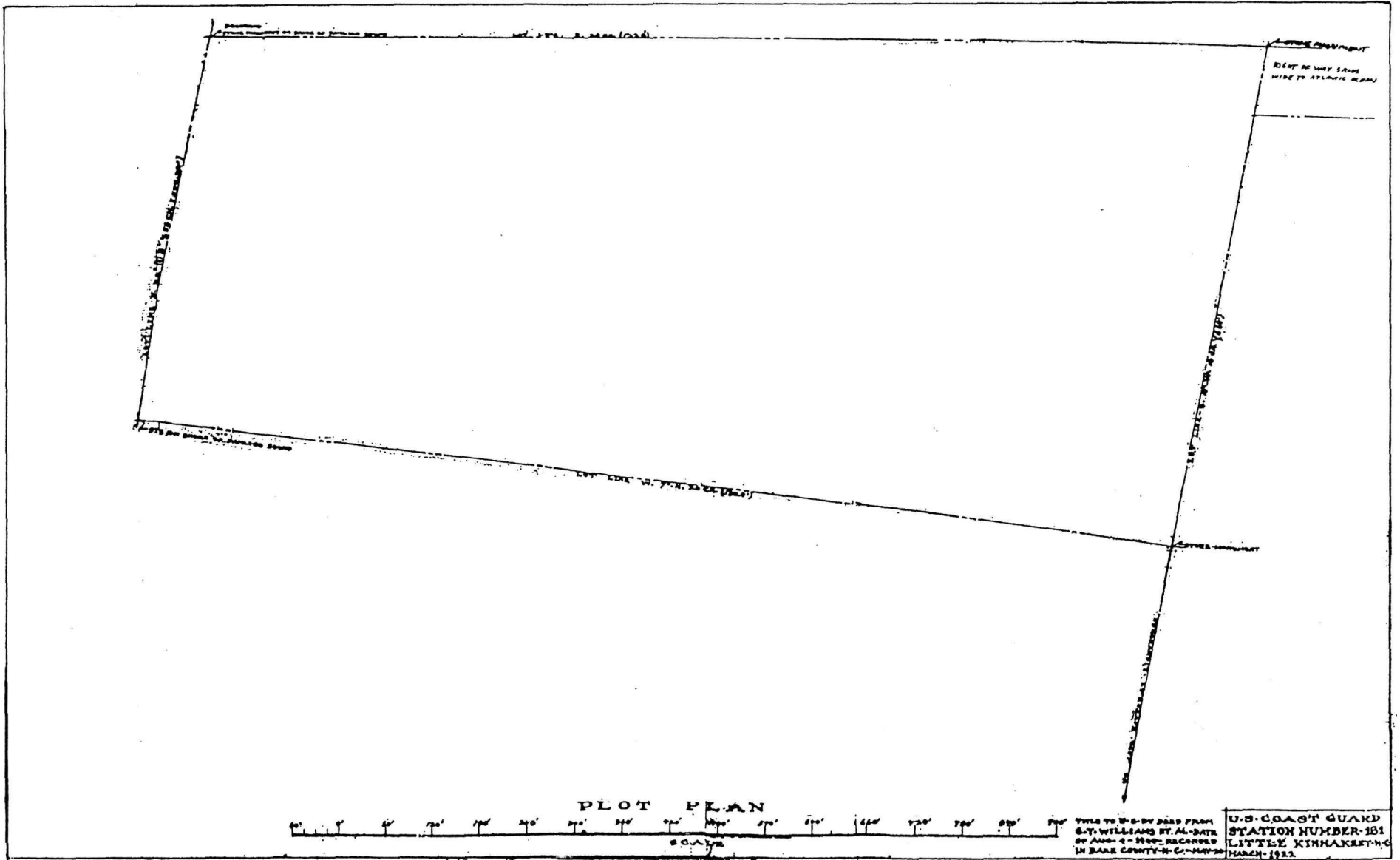
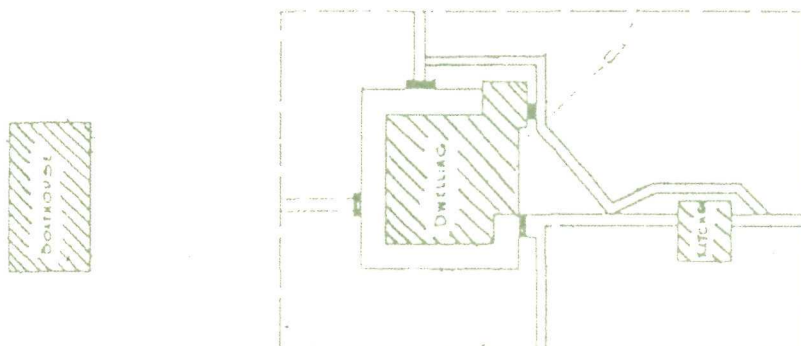
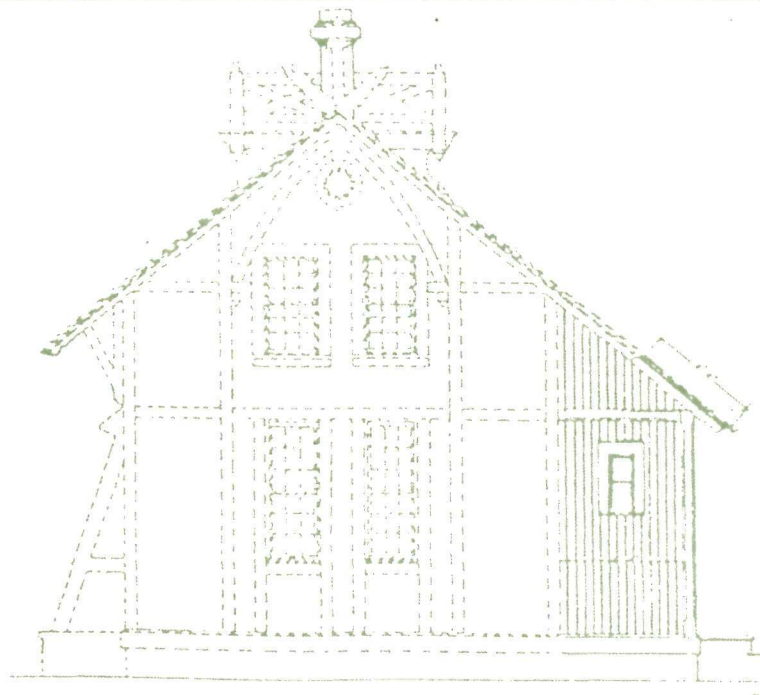
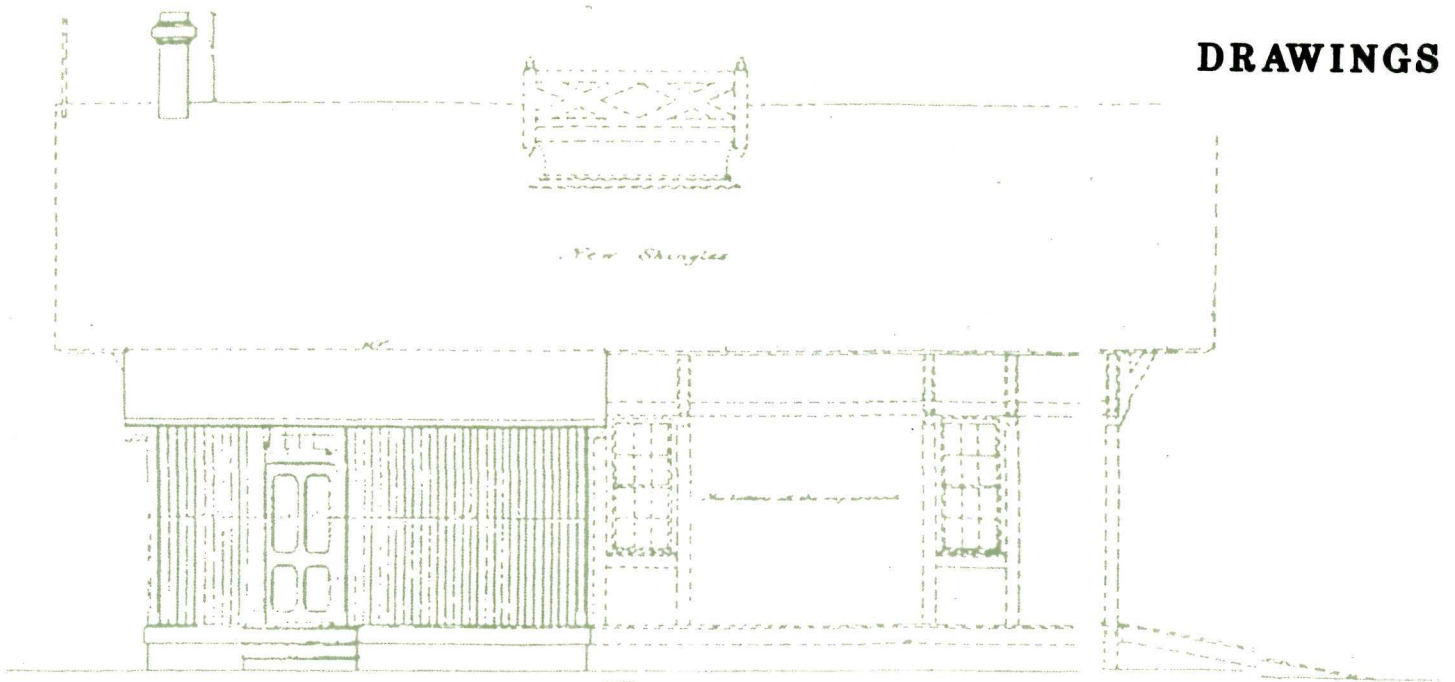
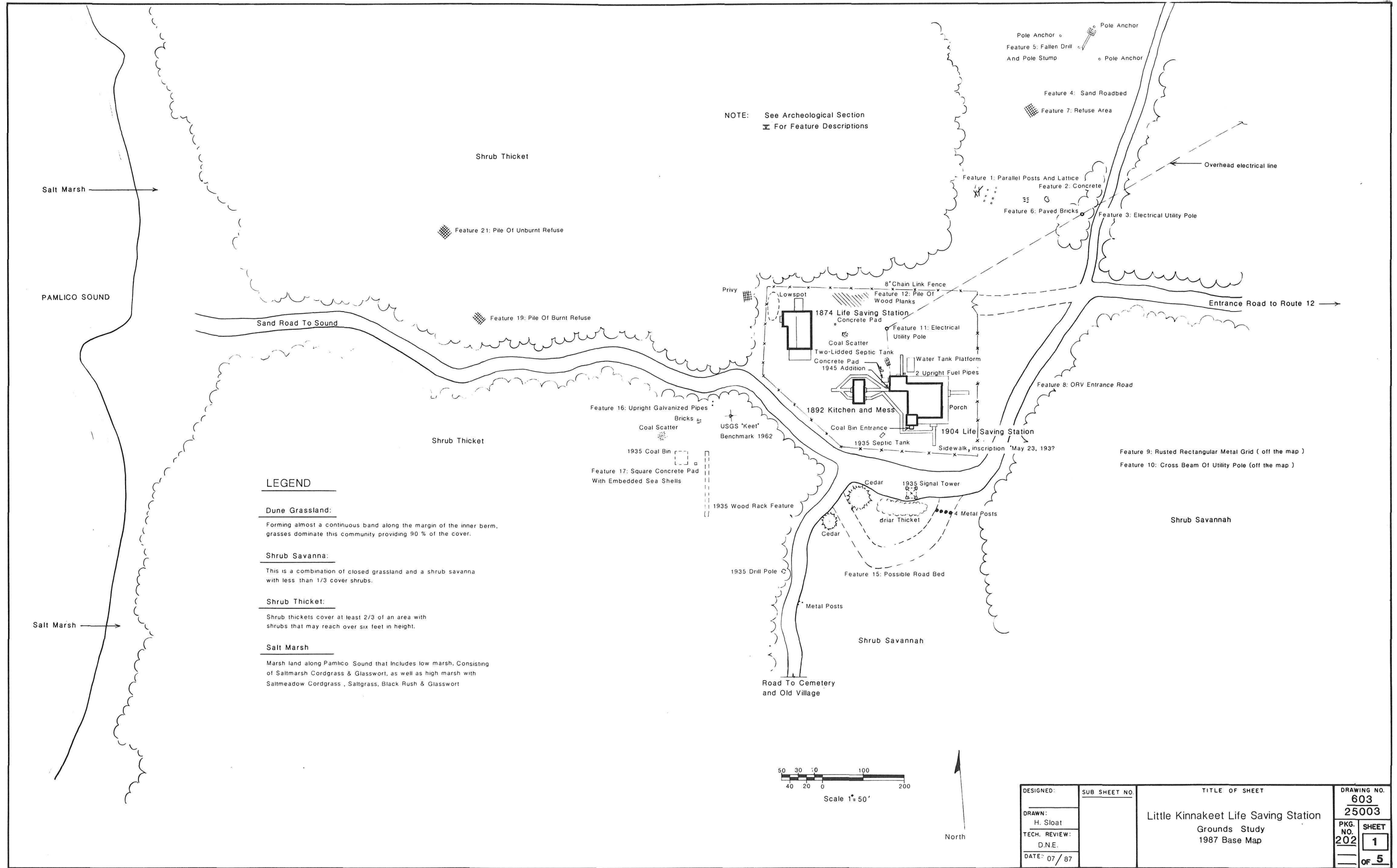


EXHIBIT 4a

Section II

DRAWINGS

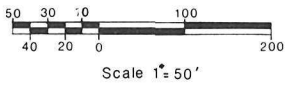




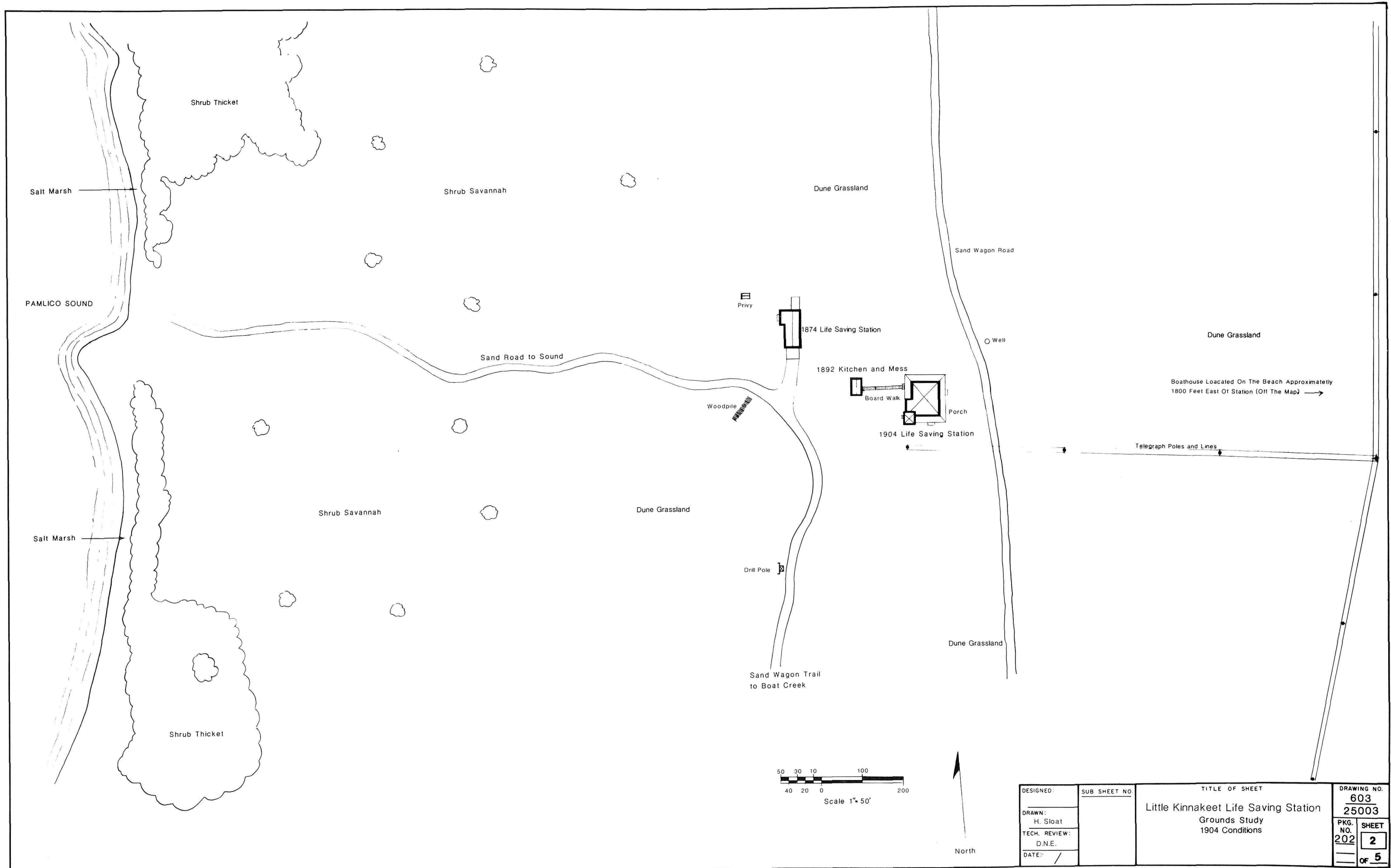
NOTE: See Archeological Section
 X For Feature Descriptions

LEGEND

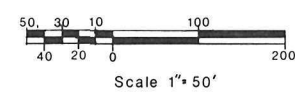
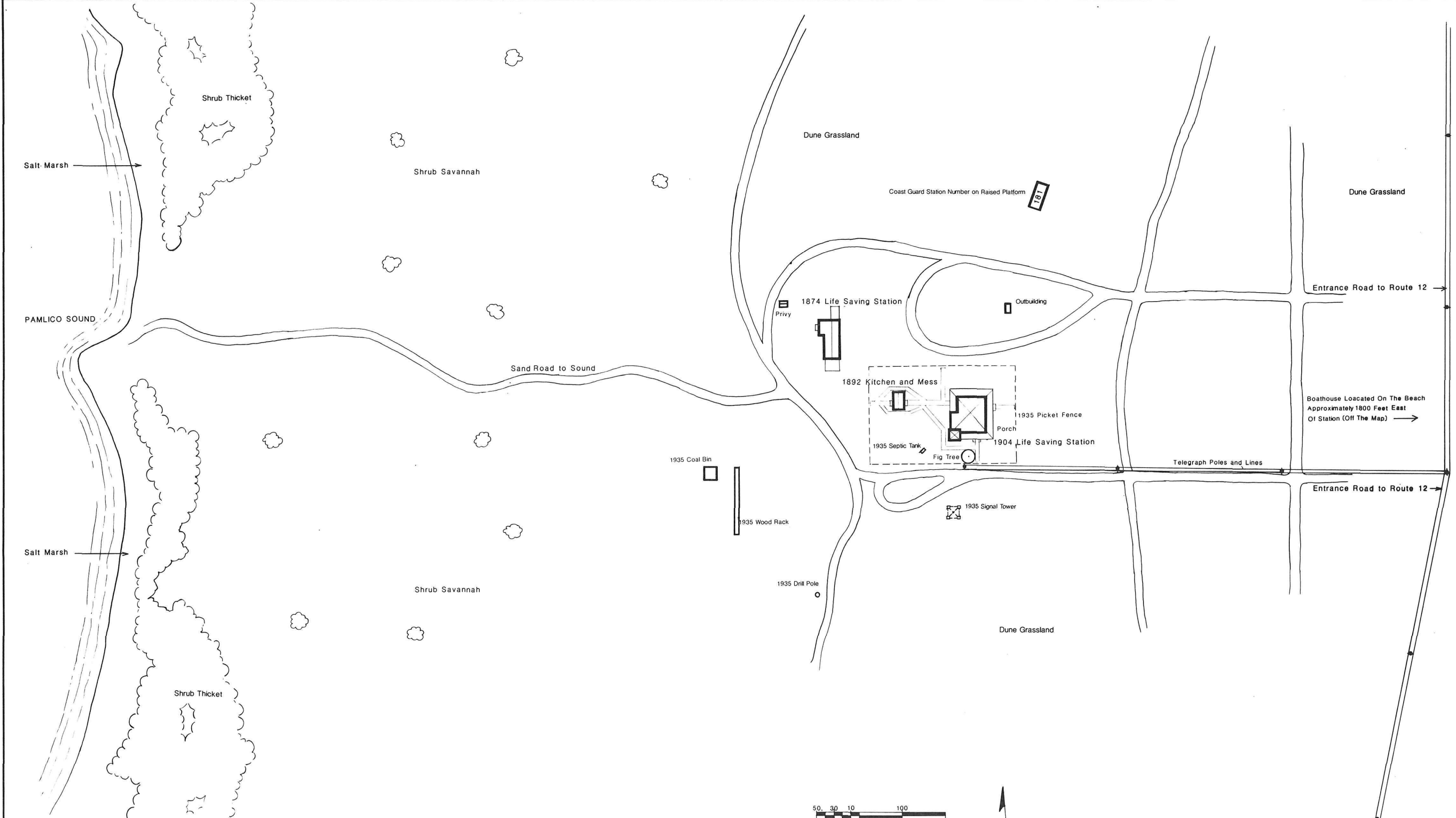
- Dune Grassland:**
 Forming almost a continuous band along the margin of the inner berm, grasses dominate this community providing 90 % of the cover.
- Shrub Savannah:**
 This is a combination of closed grassland and a shrub savanna with less than 1/3 cover shrubs.
- Shrub Thicket:**
 Shrub thickets cover at least 2/3 of an area with shrubs that may reach over six feet in height.
- Salt Marsh**
 Marsh land along Pamlico Sound that includes low marsh, consisting of Saltmarsh Cordgrass & Glasswort, as well as high marsh with Saltmeadow Cordgrass, Saltgrass, Black Rush & Glasswort



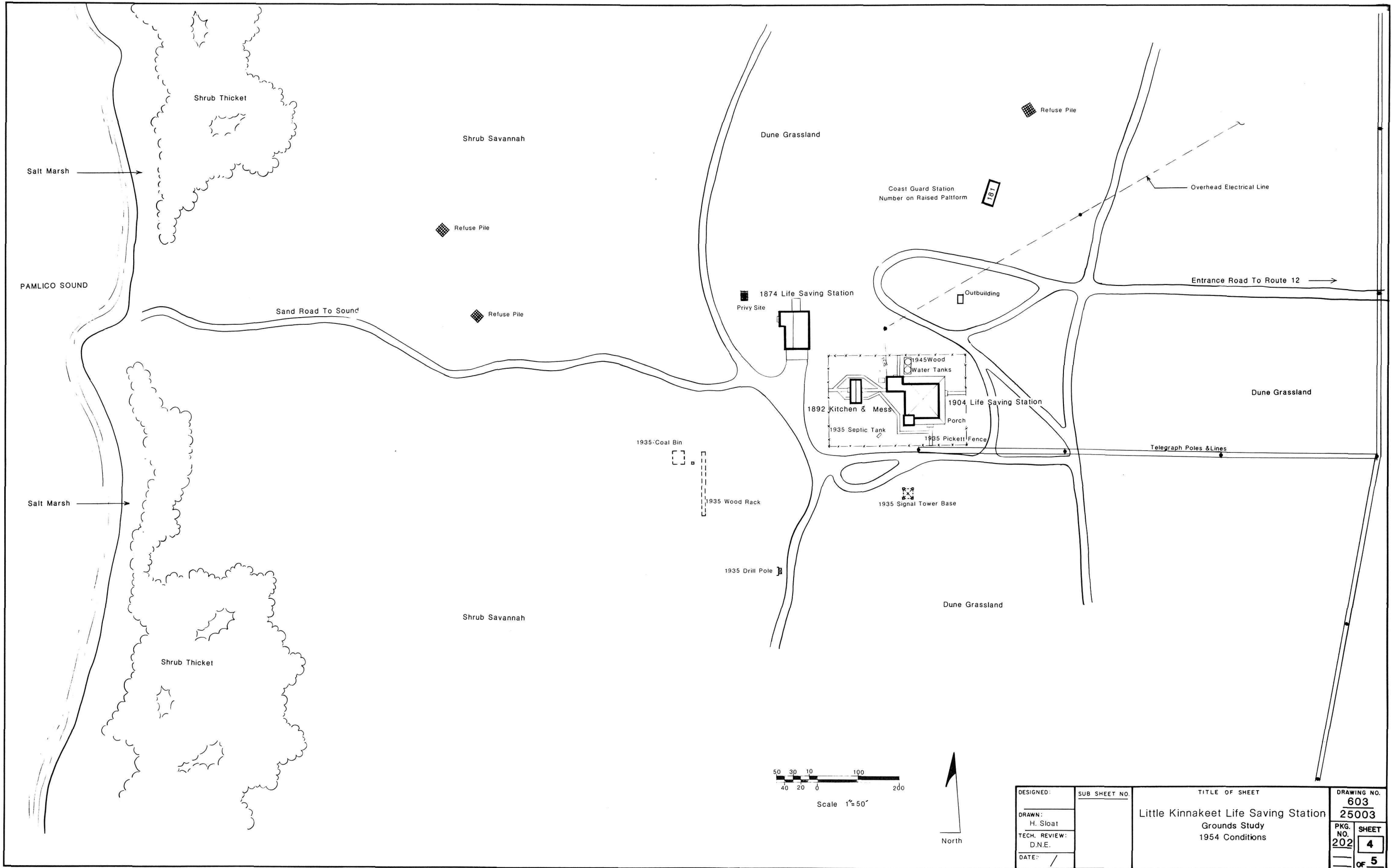
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TECH. REVIEW: D.N.E.			PKG. NO. 202
DATE: 07/87			SHEET 1 OF 5



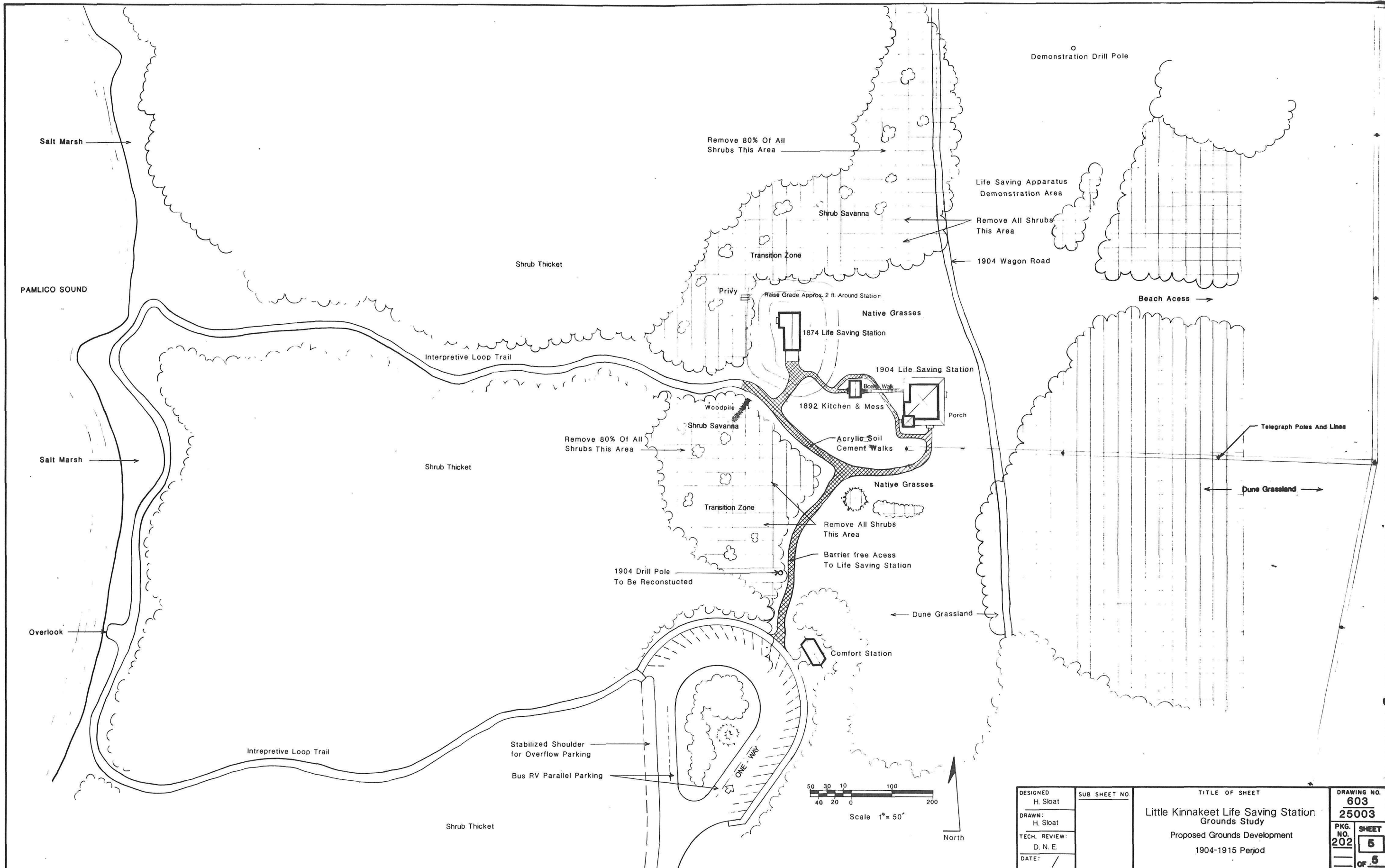
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DATE: / /			SHEET 2
			OF 5



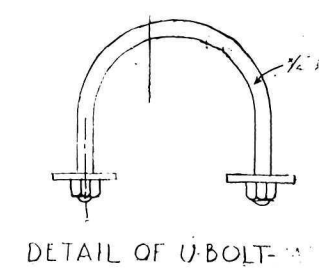
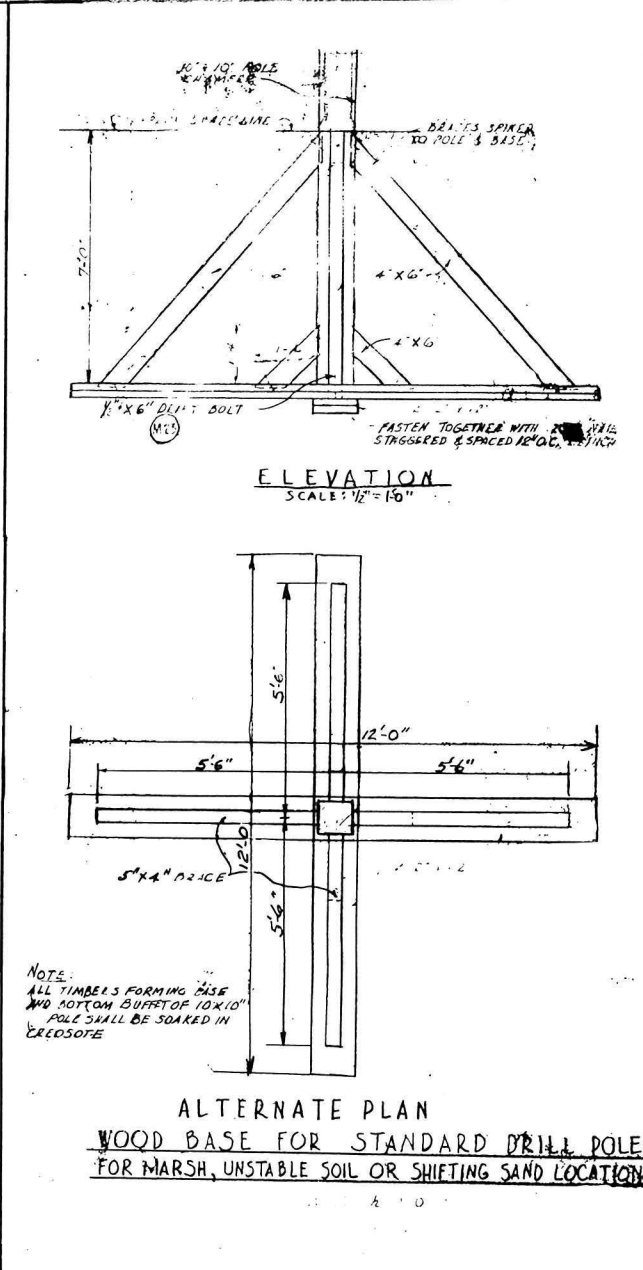
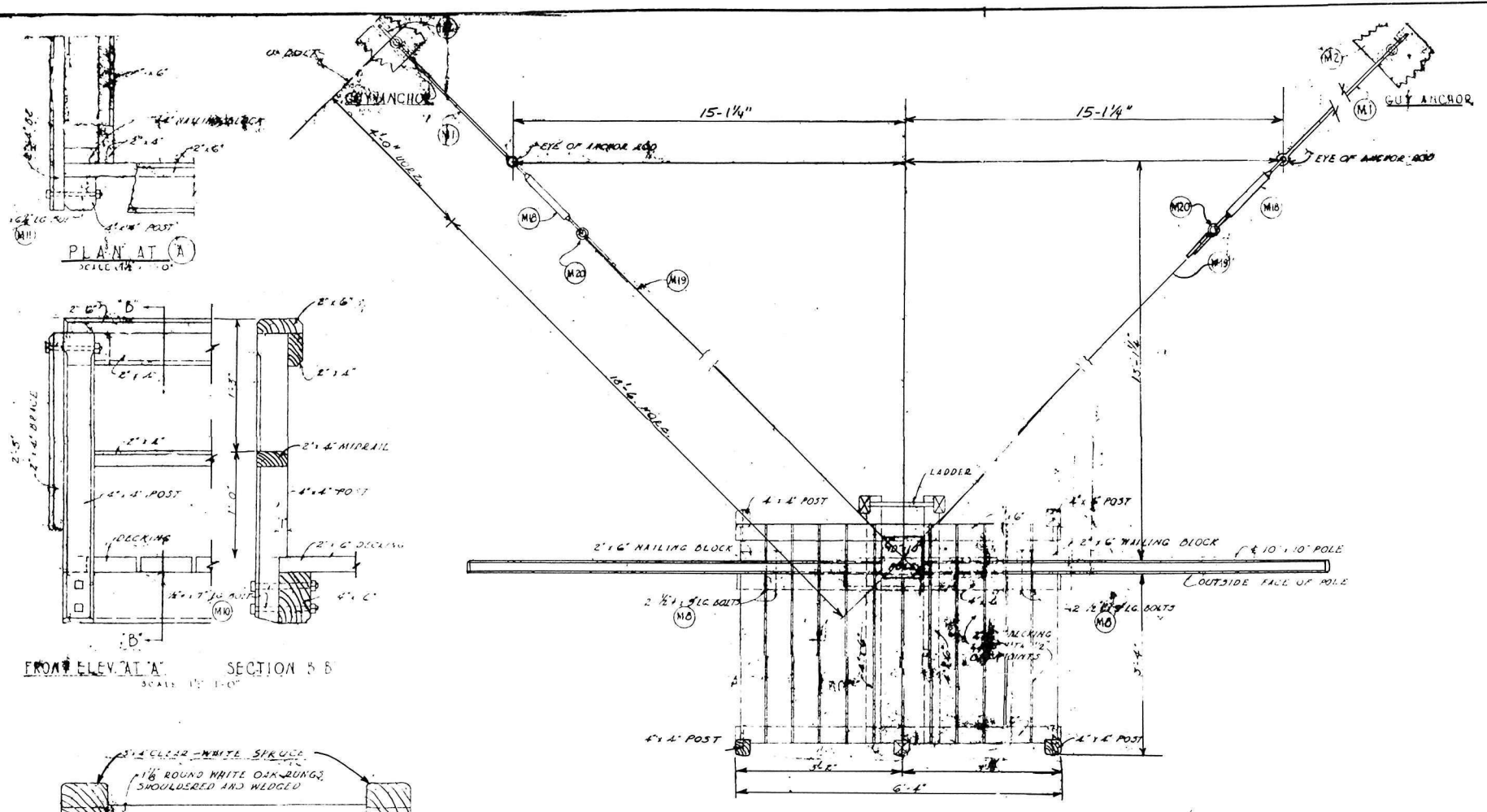
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TECH. REVIEW: D.N.E.			PKG. NO. 202
DATE: / /			SHEET 3
			OF 5



DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: H. Sloat		Little Kinnakeet Life Saving Station Grounds Study 1954 Conditions	603 25003
TECH. REVIEW: D.N.E.			PKG. NO. 202
DATE: / /			SHEET 4
			OF 5



DESIGNED H. Sloat	SUB SHEET NO.	TITLE OF SHEET Little Kinnakeet Life Saving Station Grounds Study Proposed Grounds Development 1904-1915 Period	DRAWING NO. 603 25003
DRAWN: H. Sloat			PKG. NO. 202
TECH. REVIEW: D. N. E.			SHEET 5
DATE: / /			OF 5



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Section III

ESTIMATES



SECTION III
ESTIMATES (Class C)

Structures

1.	2 Drill poles	\$ 10,000
2.	Telegraph poles, cross arms, insulators & lines	10,000
3.	Comfort Station	85,000
4.	Sound Overlook	5,000
5.	Privy	3,000

Subtotal \$113,000

Utilities

1.	Place aerial power & telephone lines underground	\$ 30,000
2.	Underground power & telephone service to L.S. Station & CS	20,000
3.	Septic tank, leach field, & sewer lines	60,000
4.	Well, pump house with equipment, & distribution lines	60,000

Subtotal \$170,000

Roads & Trails

1.	Access Road	\$ 60,000
2.	35-car parking area & parking for 6 RV's-buses	85,000
3.	Colored concrete curb	25,000
4.	Colored concrete sidewalk	20,000
5.	Soil cement walks	15,000
6.	Board walk	5,000
7.	Graded loop trail	25,000
8.	Historic wagon trail	5,000
9.	Striping	2,000

Subtotal \$242,000

Grounds Development

1.	Selective clearing	\$ 30,000
2.	Landscape development	10,000
3.	Fill sand and grading	10,000

Subtotal \$ 50,000

Miscellaneous

1.	Remove chainlink fence	\$ 4,000
2.	Wood rack & wood	2,000

Subtotal 6,000

Historic Grounds Development Total \$581,000

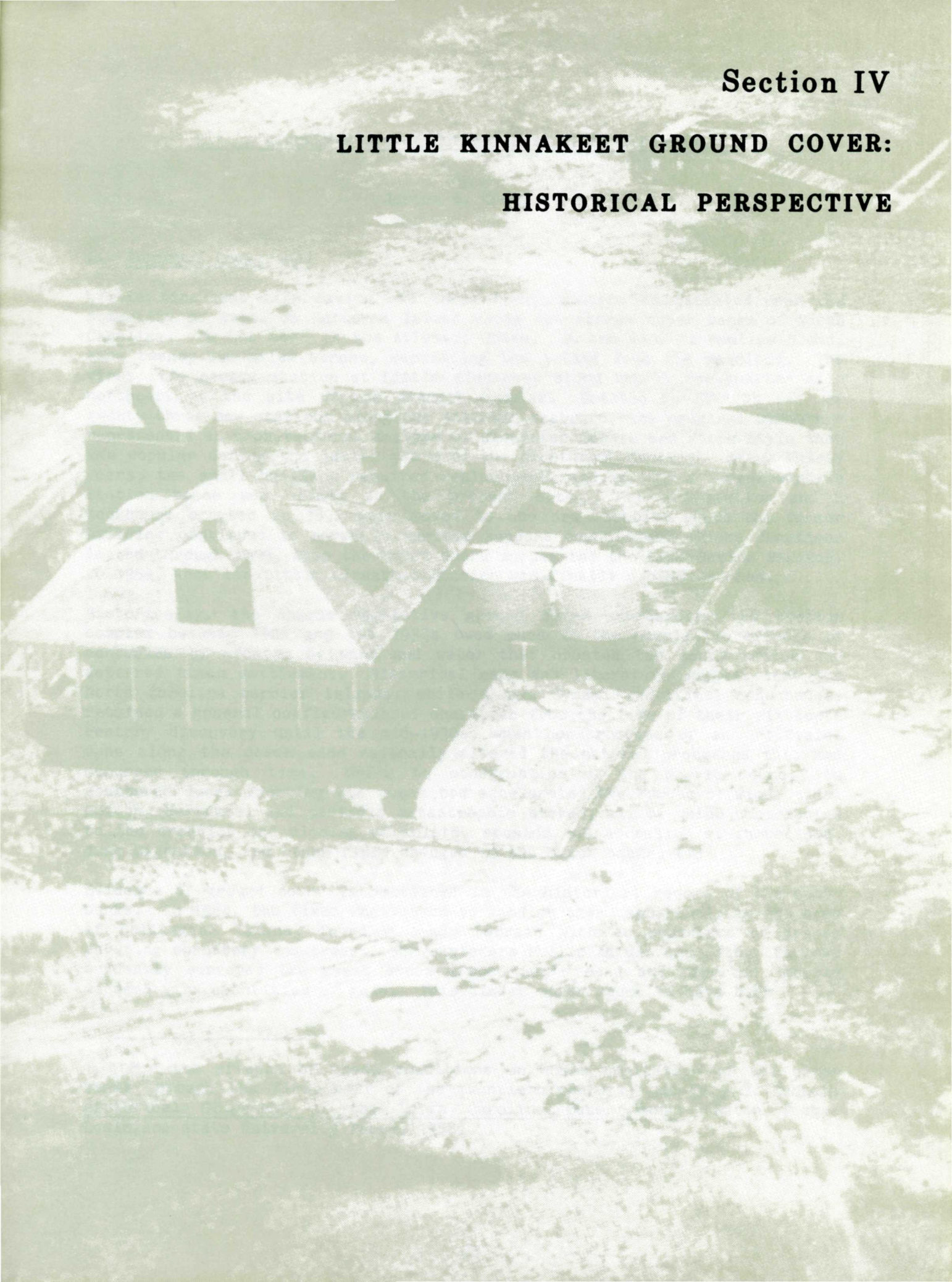
Estimate for Development of a Water System for Fire Protection of Historic Structures

1. Installation of sprinkler system in 3 structures	\$ 25,000
2. Development of 2 wells	8,000
3. Underground concrete storage tank	48,000
4. Diesel fire pump with controls	45,000
5. Distribution lines	20,000
Total	<u>\$146,000</u>

Section IV

LITTLE KINNAKEET GROUND COVER:

HISTORICAL PERSPECTIVE



Little Kinnakeet Ground Cover: Historical Perspective

by
Jerome A. Greene

A. Regional Background

Little Kinnakeet Life Saving and Coast Guard Station is situated near the community of Avon, on Hatteras Island along the narrow outer banks of North Carolina. On the east is the Atlantic Ocean. On the west is Pamlico Sound, some twenty-two miles across, separating the island from the mainland. The first life saving station at Little Kinnakeet stood nearly one-quarter mile northeast of the site of the present complex. Erected in 1874 as one of twenty-three new stations along the Atlantic seaboard, the original structure represented an architectural amalgam of Carpenter Gothic and Stick Style that was popular during the latter years of the nineteenth century. After thirty years, the small building required replacement, and in 1904 a bungalow-style station house was raised at the present site. The old station and a cookhouse erected in 1892 were moved to the new location where the former building continued to serve in various support capacities. These functions lasted through 1915, when the Coast Guard supplanted the Life Saving Service, to 1954, when the Little Kinnakeet Station was finally decommissioned.

Historically, the sparse vegetative ground cover surrounding the station complex between 1904 and the 1930s owed much to the cumulative effects of centuries of erosion by wind and water that created the sandy wastes and deterred human settlement. Historical maps and literature suggest that the North Carolina barrier islands, while always dynamic entities, nonetheless retained a general configurational character from the time of their sixteenth century discovery until the mid-1930s, when construction of an artificial dune along the ocean side radically altered the natural processes that had occurred through time. Prior to construction of the barrier dune, low scattered dunes fronting the ocean had accelerated the forces of wind, tidal action, currents, and periodic catastrophic storms, all of which contributed to the creation and closing of inlets, erosion and accretion of shorelines, dune migration, and other fluid changes to the outer banks. (1)

Evidence of ground cover is contained in the historical record of the outer banks. In 1584, the first Englishmen to land on them, apparently in the area of Collington Island, found a sandy terrain with an abundance of grapes covering shrubbery and trees. The explorers Philip Amadas and Arthur Barlowe evidently surveyed the great dunes around Nag's Head and reported "goodly woodes" with quantities of game. This timber cover seems to have been

1. For the effects of these conditions on human habitation of the outer banks through the first half of the twentieth century, see Gary S. Dunbar, Historical Geography of the North Carolina Outer Banks (Baton Rouge: Louisiana State University Press, 1958).

destroyed by fire around 1590. An engraving of a map prepared by John White in 1585 indicates that at that time a growth of trees stretched throughout the barrier islands. Further, accounts by settlers at Cape Henry, a short distance north, specified the existence of pine and fir trees growing among hills of white sand. Both sources, however, appear to have been highly generalized and geared to attract English settlers to Virginia.(2)

Despite the dearth of forest cover today, there exists certain physical evidence to substantiate the historical presence of trees on Hatteras and the other islands. Clusters of live oaks today grow along Pamlico Sound, and live oak stumps have occasionally been encountered in the area between present Avon and Rodanthe. A 1955 hurricane exposed large numbers of yellow pine stumps north of the latter community. Furthermore, oak stumps and other dead trees have been reported along the sound between Rodanthe and the Little Kinnakeet Station, suggesting that conditions there indeed once favored timber growth. Place names on historical maps, moreover, such as Old Tree, Palmetto, Cedar Point, and Cedar Hammock, among others, signify the earlier presence of trees at places now devoid of them. Thus, at least one theory holds that large and medium trees, perhaps relic forests of a previous day, once edged the sound. Any attempt by the trees to advance east was impeded by the salt spray and flooding from the Atlantic.(3) In this view, tree growth that might have existed under favorable conditions likely succumbed to the advancing ocean forces. Another explanation is that the migrating dune fields have overrun whatever trees existed in a recurring phenomenon of alternating ascendancy between the dunes and the forest growth.(4)

A map prepared ca. 1684 by William Hack described the outer banks as being composed of "broken sand hills" running from the area of Roanoke Island to Cape Hatteras and including the site on which the 1904 Little Kinnakeet Life Saving Station later stood. Similarly, a map by John Lawson in 1709 represented the same general vicinity as "Sand Banks," a designation repeated by subsequent cartographers. Finally, a "Map of Roanoke Island and Adjacent Coast," prepared in 1852 by Lieutenant W. B. Franklin, gave information about existing marsh and forest cover for the area between Nag's Head and Oregon Inlet. This map indicated that the ground cover consisted primarily of marshland on the sound side, along with an occasional growth of

2. Charles W. Porter, "Forest Cover of the Cape Hatteras Seashore Area in Historic Times" (memorandum dated May 16, 1938, in the library of Cape Hatteras National Seashore), pp. 2-3, 4.

3. Clair A. Brown, Vegetation of the Outer Banks of North Carolina (Baton Rouge: Louisiana State University Press, 1959), pp. 11, 13, 15-16. This study was earlier published as Botanical Reconnaissance of the Outer Banks of North Carolina (Baton Rouge: Coastal Studies Institute, Louisiana State University, 1957).

4. Porter, "Forest Cover," pp. 3-4.

cedar.(5) Although this map does not include Pea and Hatteras Islands, it is probable that the ground cover approximated conditions there.

Evidence contained in these documents suggests that between 1585 and the creation of the artificial dune in 1935-36 the Little Kinnakeet area of Hatteras Island comprised a sandy, grassless tract bordered by scattered dunes on the east and marshlands with occasional trees on the west. It probably never supported measurable forest cover. Any trees existing prehistorically or historically were likely destroyed by the dunes, by flooding, or by fire.(6)

B. Little Kinnakeet Historical Background

The site on which the life saving and coast guard station was erected in 1904 typified the land composing the outer banks and especially that of Hatteras Island. The major components of the outer banks profile from ocean to sound, a distance at Little Kinnakeet approximating 3100 feet, consist of the beach, dunes, flats, wooded dune, and marsh. The sand flat, on which the complex stood between 1904 and 1935 (before construction of the barrier dune), comprised the roughly 2250-foot zone between the unstable dunes on the east and the wooded dune or shrub thicket bordering the sound. Its surface averaged less than five feet above sea level and was generally even and occasionally undulating with wind-driven sand. The flat was characterized by lack of vegetation and dryness, and the only plants that could grow on the tract were those whose seeds achieved germination during spring rainfall. Salinity further retarded vegetation. Overwashes and salt spray from the Atlantic combined to restrict plant growth to the western margin of the zone. Thus, the center of the flat contained compacted sand often bearing a crust laced with salt crystals.

Construction of the barrier dune has permitted the gradual invasion eastward of plant species, particularly shrubbery, that historically did not exist there. By the 1940s and 1950s, the last years of active occupation of the coast guard station, the sand flat on which the complex stood had been fairly

5. Ibid., pp. 3-5. Full citations to the referenced maps are as follows: Theodore de Bry, "The Arrival of the Englishment in Virginia," plate II in Thomas Hariot, A Brief and True Report of the New Found Land of Virginia (Frankfort, 1590); William Hack, "North Carolina," ca. 1684 (British Museum, Add. Mss. 5415-G-6); John Lawson, Map of the Carolinas, 1709; H. Moll, "Map of the Province of North Carolina . . . 1730"; W.B. Franklin, "Map of Roanoke Island and Adjacent Coast," 1852.

6. William J. Howard to Mr. Lisle, National Park Service region One, May 13, 1938. Copy in the files of Cape Hatteras National Seashore.

overridden with vegetation creeping inland from the marsh and wooded dune.(7) Visually, the site has gone from patchy areas of grass to areas of thick grass cover with invading shrubs. Native vegetation that would have grown on the sand flat during the period 1904 to 1935 consisted of hardy species able to withstand the destructive salt spray and overwash. Typical sand flats supported a mixed variety of grasses, notably salt meadow cordgrass, purple muhly, lovegrass, Mexican goldenrod, broomsedges, rushes, knotgrass, prickly pear, and blanket flower.(8)

In addition to the natural vegetative growth, the sand flat on which the Little Kinnakeet station stands underwent certain man-made changes throughout the active use of the complex. From 1874 until 1904, the life saving station stood about one-quarter mile northeast of its present position. Although landscaping and other changes introduced at this site might appear irrelevant as they apply to the later location, they nonetheless provide important indicators of the kinds of maintenance activities performed by the crewmen on the grounds between 1874 and 1904 that could have been similarly performed between 1904 and 1935. Thus, they are included here as a reference to aid in determining the kinds of general grounds maintenance that would likely have been performed at Little Kinnakeet throughout its functional history and that affected the historic appearance of its tract. Most data has been gleaned from the appropriate daily operational logs and inspection reports cited below. These compose a collection of resource-related documents kept by the park and copied years ago from originals in the National Archives.

Construction of the first station at Little Kinnakeet began in the fall of 1873 and was completed by October 1874. The two-story building stood on a 100-yard-long tract obtained by lease from Allen and Fanny Gray, residents of Dare County.(9) According to correspondence of July-August 1878, the

7. U.S. Coast Guard, "Little Kinnakeet Station Site Plan," March, 1935. National Archives, Record Group 26. Records of the United States Coast Guard. Copy in the files of Cape Hatteras National Seashore (CAHA); Richard W. Travis, "Interactions of Plant Communities and Oceanic Overwash on the Manipulated Barrier Islands of Cape Hatteras National Seashore, North Carolina" (unpublished doctoral dissertation of unknown date, University of Massachusetts), pp. 12, 125; Brown, Vegetation of the Outer Banks, pp. 34-38, 42.

8. Ibid., plate III. For plant cover growing in the flat area today, see "Characteristics of Typical Barrier Island Cross-Section," in General Management Plan, Development Concept Plan, Amended Environmental Assessment, Cape Hatteras National Seashore (Denver: National Park Service, 1984), p. 5.

9. Captain J.H. Merryman to Secretary of the Treasury B.H. Bristow, March 5, 1875. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet-Title, Deed." See also W.A. Gray to P.H. Morgan, December 9, 1897. Ibid.

distance between the high and low water marks on the beach fronting the station was thirteen yards, and the normal rise in tide was three feet. The beach was steep and composed of soft sand, and the ground lying between Little Kinnakeet and the stations north and south was deemed level. During gales, overwash of the beach commonly occurred. On the sound side of the property grew a low marsh.(10)

As indicated, the station property was frequently subjected to overwash from the Atlantic. On December 26, 1885, Keeper Edward O. Hooper reported that seawater had overflowed the beach all the way to the station house.(11) Weather adversity also impacted improvements, as in August 1887, when hurricane winds knocked down telegraph poles and destroyed boats and dwellings in the vicinity of the station.(12)

One routine activity involved the periodic placement of shells around the station, a practice seemingly designed to curb the effects of wind and water erosion in its immediate vicinity and to further solidify the ground against overwashes. Crewmen performed this project fairly often, as they did in September and October 1888, and in April 1889. In September of the latter year the keeper reported that "the beach overflowed on flood tide," an event that appears to have occurred relatively frequently.(13)

Wind erosion appears to have had a major impact at Little Kinnakeet, causing shifting of sand around the station tract and necessitating further placement of shells about the complex structure. In October 1890, the crew engaged in "heaving sand away from around the oile [sic] house and well," while early the following year they again placed shell around the station.(14) During the autumn of 1891, yet another flood tide washed down two telegraph poles and filled the oil house with sand that had to be shoveled out. The flooding required repeated efforts to stabilize the sand

10. Questionnaire of Treasury Department, July 10, 1878, completed by Keeper L.B. Midgett, August 3, 1878. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Inspection Reports."

11. Log entry for December 26, 1885. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1881-1886."

12. Log entry for August 10, 1887. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1887-1889."

13. Log entries for September 14 and 18, and October 5, 1888, and April 18 and September 9, 1889. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1887-1889."

14. Log entries for October 1, 1890, and September 21, 1891. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1890-1893."

about the grounds, and in October 1893, after erection of the cookhouse in the previous year, additional shells were scattered between it and the station. At the same time, a board walk way was laid between the two structures.(15)

In 1898, the first actions were taken to obtain a larger site for the little Kinnakeet Station. During mid-July, the commission designated for the purpose chose a location:

The site selected is a south west course from the station, and distant about 200 yards, and about 500 yards from the sea, and extends in an east west course to the Pamlico Sound. There is an elevated pebble bank, which we think will be free from any accumulations of sand, eligible for the station building, and has not been submerged by the sea and sound tides, within the recollection of the keeper, about 15 years. A communal landing on the sound side is also secured for station supplies.(16)

Yet this site was not formally selected in the end, possibly because management had decided that the old station needed complete replacement rather than simply relocation. Over the next few years, the crew at Little Kinnakeet continued removing wind- and tide-accumulated sand deposits from around the station.(17) Inevitably, however, the life saving facility needed superseding by a larger, modernized structure. A new site was located on the sand flat about one-quarter mile (1050 feet) southwest of the station:

Beginning at a stone monument on the shore at the Pamlico Sound, at the south-west corner of Ezekial Gray's patent running due east 20 chains to a stone monument at the north-east corner, Cape Hatteras Light House bearing S. 10° W., thence for said Light House S. 10° W. 10 chains to a stone monument at the south-east corner, thence west 7° north 20 chains to a stone at S.W. corner also at the Pamlico Sound, thence with the shore and said north 22° east 7 chains 58 links to the beginning, containing 17-1/2 acres of land,

15. Log entries for October 13 and 14, 1891, and October 2, 1893. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1890-1893"; Inspection report, September 15, 1899. NA, RG 26. Copy in CAHA folder, "6th District Inspection Reports, 1890-1902." photographs of the station house taken in the 1890s clearly show the loose quality of the sand adjoining the building (Illustrations 1 and 2).

16. Commission to General Superintendent Sumner I. Kimball, July 20, 1898. NA, RG 26. Copy in CAHA folders, "Little Kinnakeet-Title, Deed."

17. See, for example, log entry for May 30, 1900. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1900-1904."

together with a full right of way 5 rods wide, . . . running along the northerly line of said premises extended, to the Atlantic Ocean.(18)

Overall, the tract measured 1320 feet long east to west, 660 feet wide on the east, and 500.28 feet wide on the west. A right-of-way easement 5 rods wide bounded the Atlantic Ocean.(19)

In March 1904, construction got underway. The old building was earmarked to serve in a collateral capacity and in May workers moved it on rollers to the new site, along with a water closet and a flag pole. Early in June the cookhouse and a tank house joined the old station, and in August the drill pole was relocated to the new site.(20) The station and cookhouse apparently stood on the positions they occupy today. The old station became a barn, boathouse, stable, and garage at various times over the ensuing decades.

Like the cookhouse, the old station building served as an adjunct to the new two story hip-roofed bungalow structure that was completed in early October, 1904.(21) Even before construction finished, Hooper's surfmen busily prepared the ground adjoining the complex; in August they placed shells around the old station. Later that year the men hauled rock from the former location and distributed it around the site. Evidently, this work continued intermittently, for in early March 1905, the crew was still engaged in

18. Statement submitted by Attorney I.M. Meekices, November 16, 1899. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Title, Deed." See also the plot of the reservation contained in assistant superintendent of Construction Andre Fourchy to Superintendent of Construction, L.S.S., January 6, 1906. Microfilm roll, U.S. Coast Guard Academy Library, New London, Connecticut. Copy in the library of CAHA. This letter contains reference to an error of measurement existing "in the length of the Southern line, or in the angles at S.E. and S.W. corners of reservation." Fourchy urged that the error be promptly corrected. Title to the tract was recorded May 20, 1901, in Manteo, Dare County.

19. Ibid. See also Little Kinnakeet plot plan showing location of buildings. NA, RG 26. Cartographic Archives, Division. L.S.S. #81; and U.S. Coast Guard, "Little Kinnakeet Station Site Plan," March, 1935. Copy in the files of CAHA.

20. Log entries for March 18 and 29, 1904, May 20, 25 and 27, June 2, July 19, and August 1, 1904. NA, RG 26. Copies in ibid.

21. Lieutenant George M. Daniels to Inspector of Life-Saving Station, September 30, 1904. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Construction."

"carting pebble around new station." A short time later they placed grass (turf?) around the new station. And in April the men were placing bushes around the old station, then used as a boat house, "and shoveling sand on the bushes."(22)

For the next thirty years similar maintenance activities proceeded at Little Kinnakeet as crew members of the life-saving and later coast guard station sought to stabilize the ground around the complex against the dual effects of wind and flooding. In 1908 the men labored to fill a depression in the terrain between the old station and the cookhouse, utilizing sand and seaweed to accomplish the work. In 1922 and 1924 they were still "hauling sand and filling in station yard."(23)

C. Man Made Improvements and Site Features

Throughout the early years of the new station several features were introduced affecting the appearance of the complex. These included the erection of telephone poles, evidently brought from the former location, as well as the placement of a cement walk between the station house and the cookhouse, the latter work performed in February 1919.(24) More than five years later, the crew was employed installing and repairing cement walks about the station. By this time, too, a fence had been built enclosing the main building. In 1927, that improvement, along with the flag pole, which doubtless had been on site since 1904, was painted.(25) Also, as of 1921,

22. Log entries for August 20 and October 13, 1904. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1900-1904"; Log entries for March 8, 10, 1905, and April 1, 1905. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1905-1909."

23. Log entries for September 30 and October 26, 1908. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1905-1909"; Log entry for November 11, 1922, and February 4, 1924. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1921-1924."

24. Log entry for February 18, 1919. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1916-1920." The telephone had been installed at the first station as early as 1887 and perhaps earlier. Log entry for November 1, 1887. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1887-1889."

25. Log entries for February 4 and September 2, 1924. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1921-1924"; Log entry for June 27, 1927. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Log, 1925-1929."

the old station had been converted to a horse barn and a fenced pound was built, presumably adjoining the structure. In 1927, the stable fence was repaired.(26)

Grounds maintenance continued routinely during the late 1920s and into the 1930s. In April 1929, and again two years later, the Coast Guardsmen spent time hauling sand to the station and grading the yard around the main building. At least in the case of the 1929 work, a certain amount of turf was put down, probably to help stabilize the ground. Furthermore, the men planted trees in the yard on March 3, 1932, and on January 19, 1933.(27) High tides still plagued the site, however, as one did the morning of September 29, 1933, causing the eroding away of cord wood evidently stacked near the station and the accumulation of much rubbish and debris that required burial on the grounds. Throughout the history of the station, it seems, garbage and rubbish were commonly buried in the immediate vicinity.(28)

Inspection reports of the early 1930s point to the existence of other man-made appurtenances on the grounds at Little Kinnakeet. By 1933, a wire fence had replaced one of wood enclosing the main building and its yard, although this was itself replaced by another of wood in August 1934. It was painted the following month. In that year, too, an inspector called for installation of modern toilet conveniences, as the "privy is over 1500 yards from the station over drifted sand, a pieced together affair with no door, and an eyesore to the station." A detached boathouse stood on the ocean beach.(29) For the balance of the decade until January 1938, when the station was temporarily decommissioned, the men posted there dutifully continued their maintenance. In 1935, they hauled sand onto the site, planted shrubbery in the station yard, and kept the fence and drill pole painted.

26. Superintendent R. T. Crawley, Seventh District, to Commandant, U.S. Coast Guard, September 7, 1921. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Repairs"; Log entry for October 18, 1921. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1921-1924"; Log entry for November 10, 1927. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1925-1929."

27. Log entry for April 1, 1929. Ibid.: Log entries for April 9, 1931, and March 3, 1932. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1930-1932"; Log entry for January 19, 1933. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1933-1936."

28. Log entry for September 29, 1933. Ibid.; Lieutenant Commander G.E. McCabe to Inspector Eastern Area, May 15, 1934. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Inspection Reports."

29. McCabe to Inspector, Eastern Area, December 7, 1933. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Inspection Reports"; McCabe to Inspector, Eastern Area, May 15, 1934. Ibid.; Log entries for August 7 and September 14, 1934. NA, RG 26. Copy in CAHA folder, "Little Kinnakeet Logs, 1933-1936."

From late 1945 to May 1954, Little Kinnakeet served as a lifeboat station for the Coast Guard, and during the latter month it closed for good.(30)

D. Evidence of Ground Cover and Improvements, 1930s and 1940s

Historic photographs of the Little Kinnakeet complex taken during the 1930s offer substantial evidence of the type of ground cover present at that time and probably earlier. One view of the old station, then used as a garage, clearly shows the kind of shells that were routinely distributed around the building, while another of the old station imparts knowledge of the grass that grew so sparsely there. Both pictures were taken in March 1934, before construction began on the artificial barrier dune.(31)

Pictures of the 1904 station taken in 1934 indicate a sparse grass cover inside the enclosed yard. A small tree stood on the south side. In a view taken in May 1935, the grass in the yard appears thicker, a condition perhaps attributed to the fact that the picture was taken in the spring almost two months later than those previously cited.(32)

From the mid-1930s forward changes in the vegetative cover became readily apparent, doubtless because of the effects of the barrier dune in barring salt spray and overwash that earlier restricted plant growth on the sandy flat. Heavier grass cover, along with increasing shrubbery, is apparent in a photograph of June 1936, as well as an aerial photo taken in 1944.(33) Later aerial photos taken in 1951 and 1954 show the radical effects of grass and shrub overgrowth hegemony from the sound that had gone unchecked. Moreover, by the 1940s, shrubs and bushes were growing in the yard of the station. These had increased in size and number by the early 1950s, particularly at the south and east sides of the main building. In the late 1950s and early 1960s, the Little Kinnakeet site had become practically engulfed by dense grass.(34)

30. Log entries for April 17, 1935, and January 22, 1936. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1933-1936"; Log entries for February 9, May 2, and 10, 1938. NA, RG 26. Copies in CAHA folder, "Little Kinnakeet Logs, 1937-1938."

31. Illustration 3.

32. Illustrations 4 and 5.

33. Illustrations 6 and 7.

34. Illustrations 8, 9, 10, and 11.

Besides the vegetative ground cover, a number of other features contributed to the historic appearance of the Little Kinnakeet complex between 1904 and 1935. Besides the main building, the old station, and the cookhouse, several auxiliary structures were present whose existence is verified by historical photographs and plats. The structures comprised the following (sources are parenthetically indicated):

1. A low, single rail fence that closely adjoined the northwest and southeast corners of the old station. (1934 photos)
2. As of 1934, a post and rail fence with single rail suspended with hogwire enclosing the yard around the 1904 station house. (1934 photo) A view taken in May 1935, shows the new picket fence, evidently painted white and most likely attached to the post and rail frame erected earlier. (1935 photo) Pickets on the west end and some on the south side. (1935 site plan)
3. A telephone pole on the east side of the 1904 building just outside the fence. (1935, 1936 photos) The telephone line ran directly east of the 1904 station until it joined a main line running north and south. (1935 site plan)
4. A clothes line between two poles off the southwest corner of the 1904 building. (1935 photo)
5. A two-stall boathouse located on the ocean beach. (ca. 1920 photo; 1935 site plan)(35)
6. Fire pump on north side of 1904 building (1935 site plan)
7. Signal Tower fifty feet south of tower on 1904 building. (1935 site plan; 1943 plot plan)(36)
8. Drill Pole located 225 feet southwest of 1904 building. (1935 site plan; 1943 plot plan)
9. Wood rack situated approximately 150 feet west of the southwest corner of the fence enclosure. (1935 site plan)
10. Coal Bin located 20 feet west of the wood rack. (1935 site plan)
11. Gas Tank located about 150 feet west of the rear fence line.

35. U.S. Coast Guard, "Little Kinnakeet Station Site Plan," March 1935. Copy in the file of CAHA.

36. U.S. Coast Guard, "Little Kinnakeet Lifeboat Station," July 12, 1943. Copy in the files of CAHA.

12. Concrete walks around the 1904 station house. One ran east from the east porch steps to the fence; one ran south from the south porch steps to the fence; one ran along the south side and around the southwest corner, angling in a northwestwardly direction before encircling the south end of the cookhouse; one ran west from the northwest corner steps west to the east side of the cookhouse; one ran west from the west side of the cookhouse to the fence; one ran north from the northwest corner steps to the fence. (1935 site plan)
13. A clothes line between the poles at north side of 1904 building towards east. (1951 photos)
14. A small frame structure, purpose unknown, off northeast corner of fenced enclosure. (1944 photo)
15. Two wooden water tanks on east side of 1904 station, beyond fence. (1951 photo)
16. Electric power utility pole on north side of 1904 station, beyond fence. (1951 photo)
17. Loading ramp and platform at west side of complex near road tracks leading to Pamlico Sound. (1954 photo)
18. Pole of unknown purpose approximately fifty feet south of station in area of former signal tower. (1954 photos, 1958 photo)
19. Hose reel and fire pump about 50 feet north of the walk running between the 1904 station and the cookhouse. (1943 plot plan)
20. Privy about 50 feet northwest of the 1874 station. (1943 plot plan)
21. Gas pump approximately 350 feet west of south fence line. (1943 plot plan)
22. Stable and Corral roughly 400 feet southwest of southwest corner of fence surrounding 1904 station and cookhouse. (1943 plot plan)

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Illustration 1.

The 1874 life-saving station at Little Kinnakeet, about 1893, showing ground cover adjoining the building.

Cape Hatteras National Seashore



Illustration 2.

Life-saving station at Little Kinnakeet, 1890s.

North Carolina State Museum of Natural History

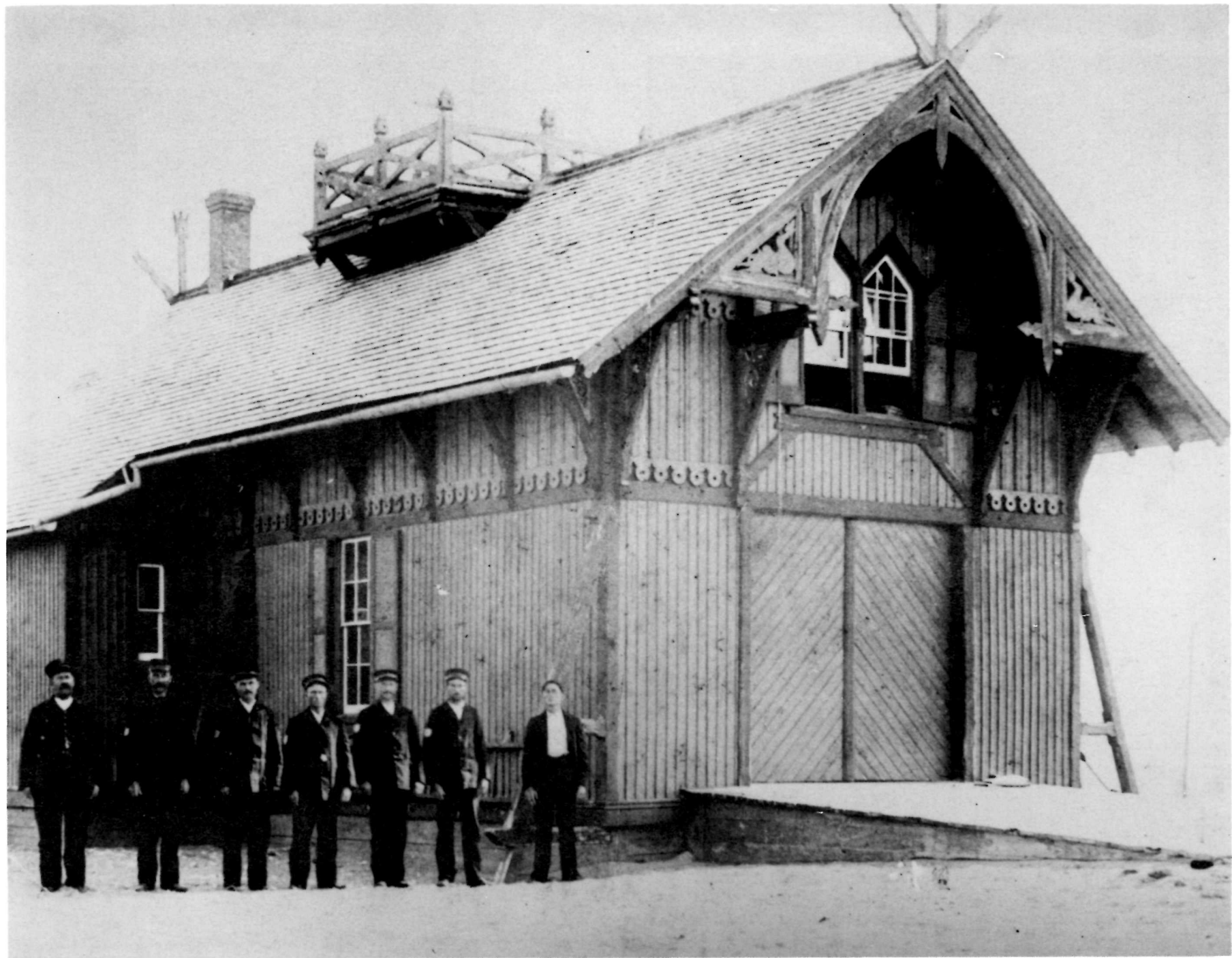


Illustration 3.

Views of 1874 station at Little Kinnakeet. Note shells around building, also grass cover.

U.S. Coast Guard

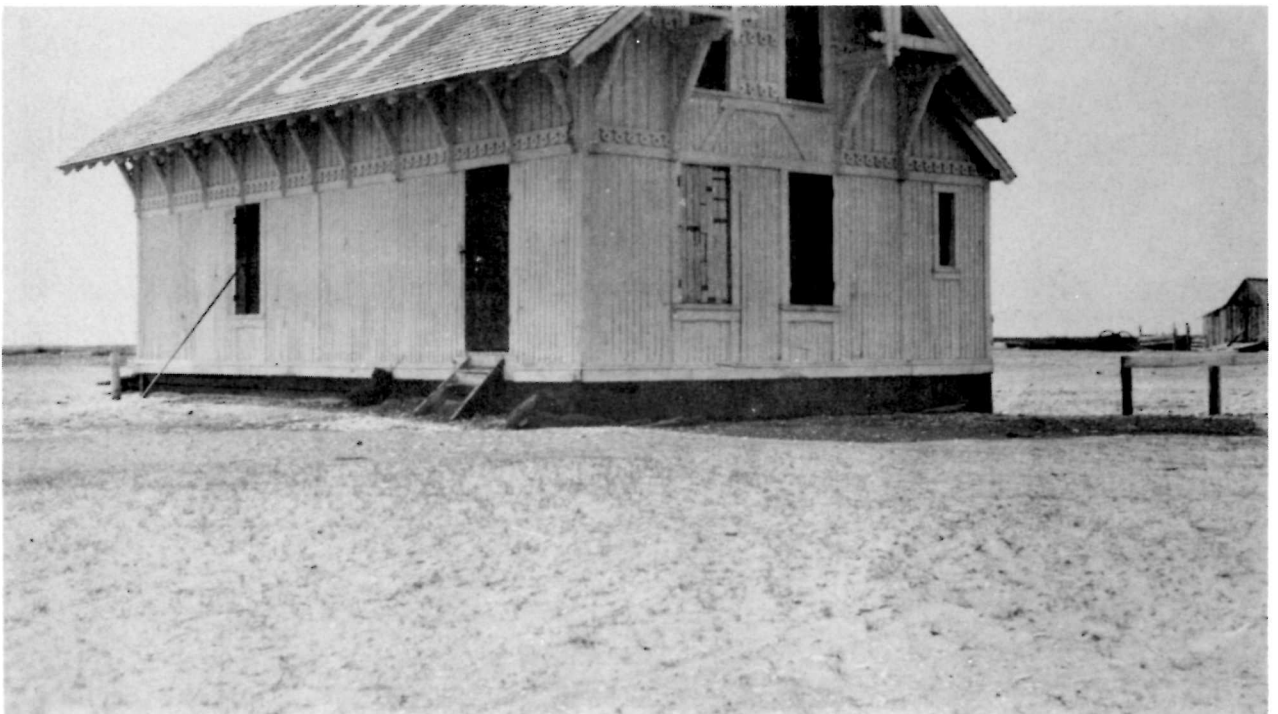


Illustration 4.

Two views of the 1904 station at Little Kinnakeet, showing ground cover.
Pictures taken March 8, 1934.

U.S. Coast Guard

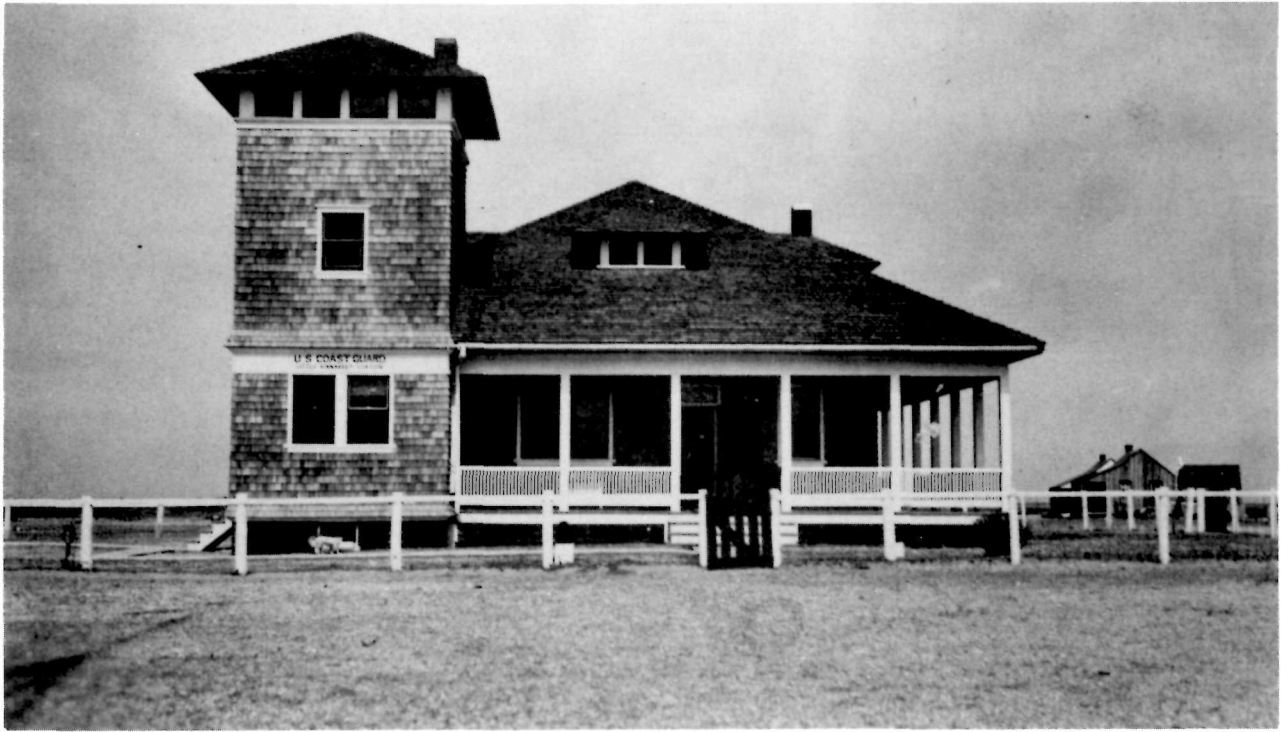


Illustration 5.

Top: View towards east of 1904 station complex, with 1892 cook house in foreground, March 8, 1934.

Bottom: View of station complex, May 2, 1935. Note picket fence and buildings to the north.

U.S. Coast Guard

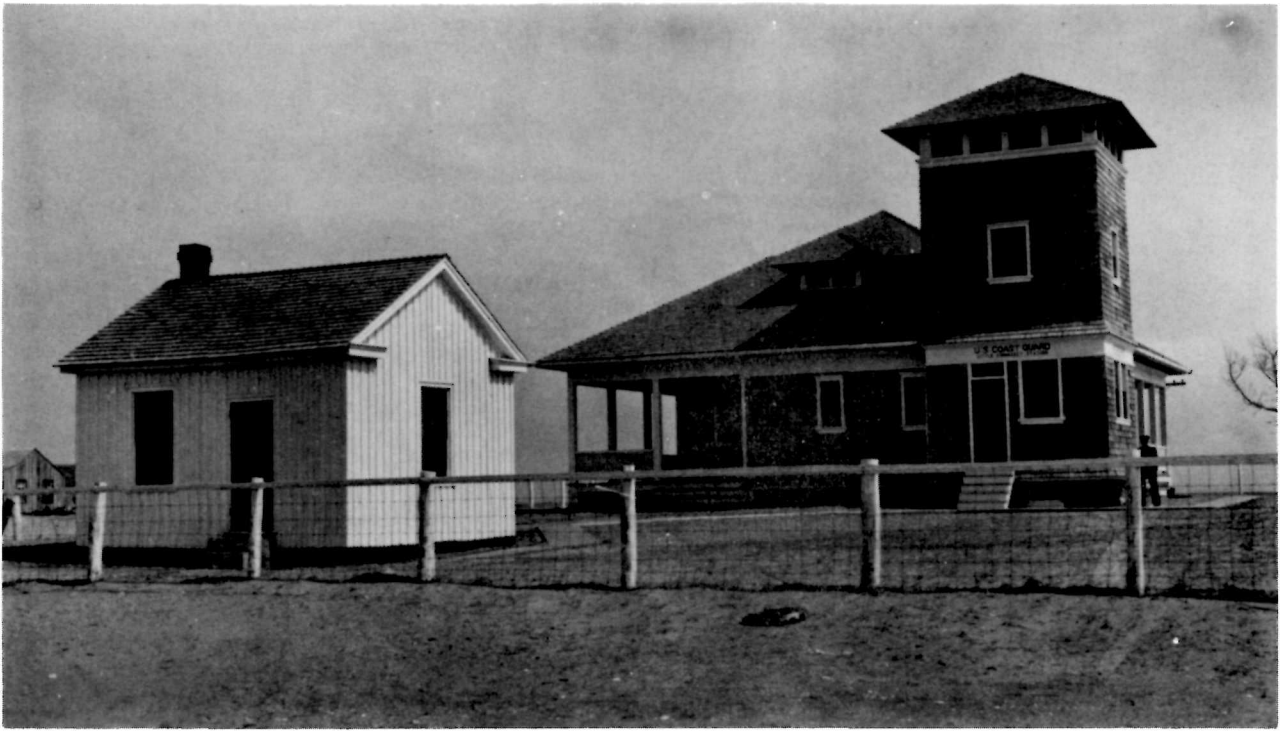


Illustration 6.

Two views of the 1904 station.

Top: View looking southeast taken May 2, 1935 showing fence and ground cover.

Bottom: Little Kinnakeet Station from the southwest, taken June 24, 1936. Note frame structures in background.

U.S. Coast Guard



Illustration 7.

Aerial view of the inactive Little Kinnakeet complex, December 5, 1944. Note vegetative growth encroaching from sound area.

U.S. Coast Guard



Illustration 8.

Little Kinnakeet Coast Guard Station complex, November 14, 1951. Note grass and shrubbery enveloping the site.

U.S. Coast Guard



Illustration 9.

Little Kinnakeet Coast Guard Station, October 4, 1954.

U.S. Coast Guard

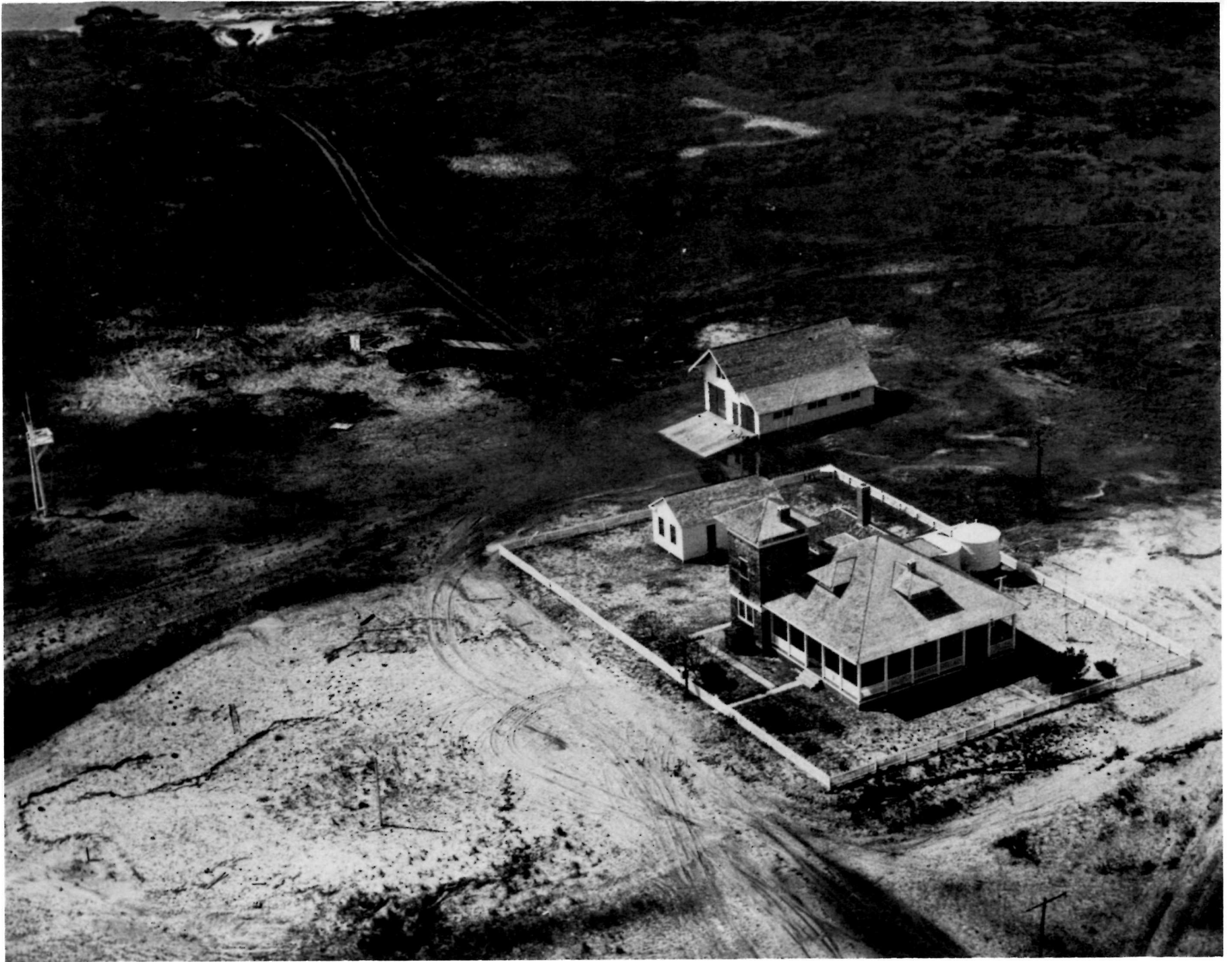


Illustration 10.

Little Kinnakeet Coast Guard Station, October 4, 1954.

U.S. Coast Guard

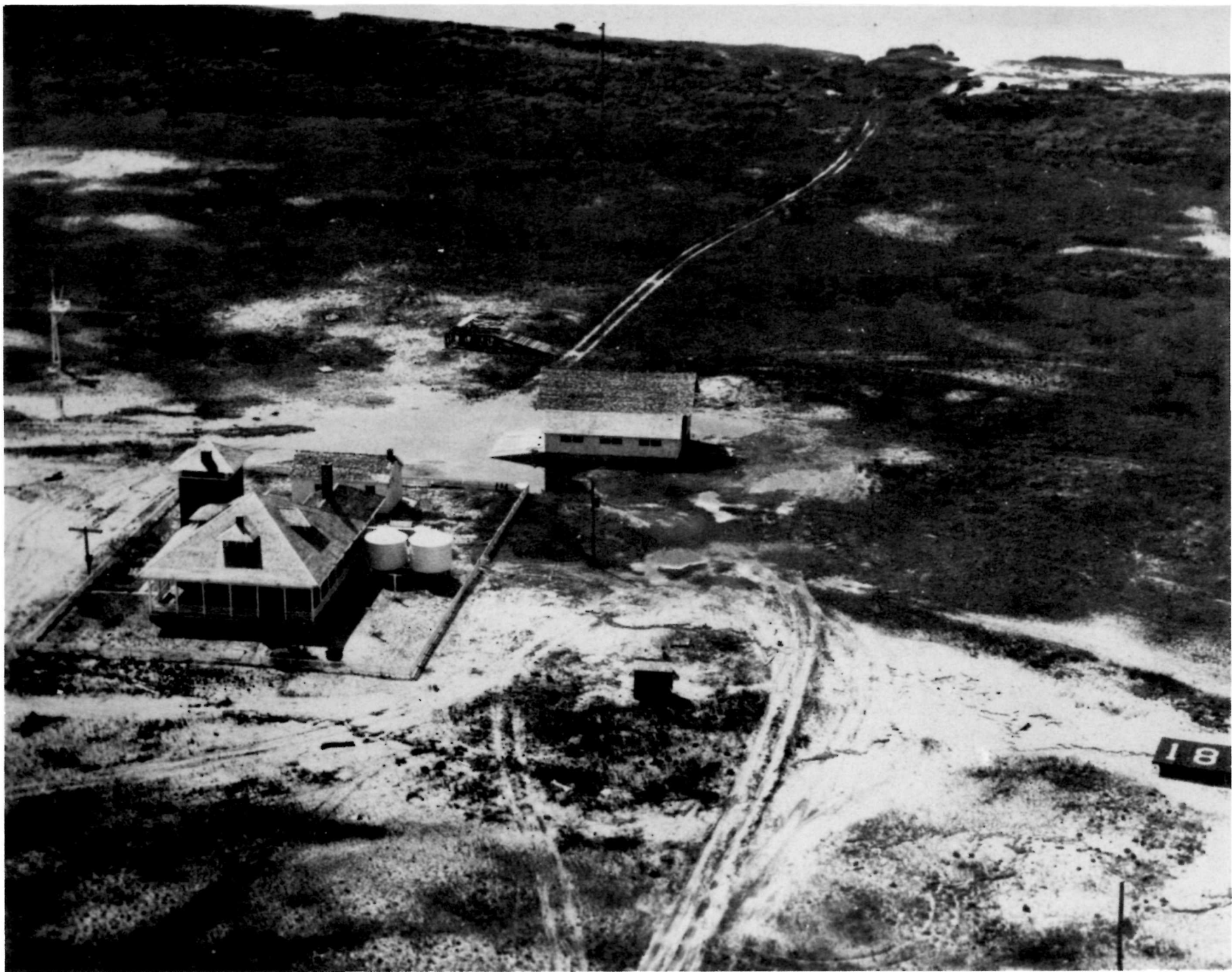
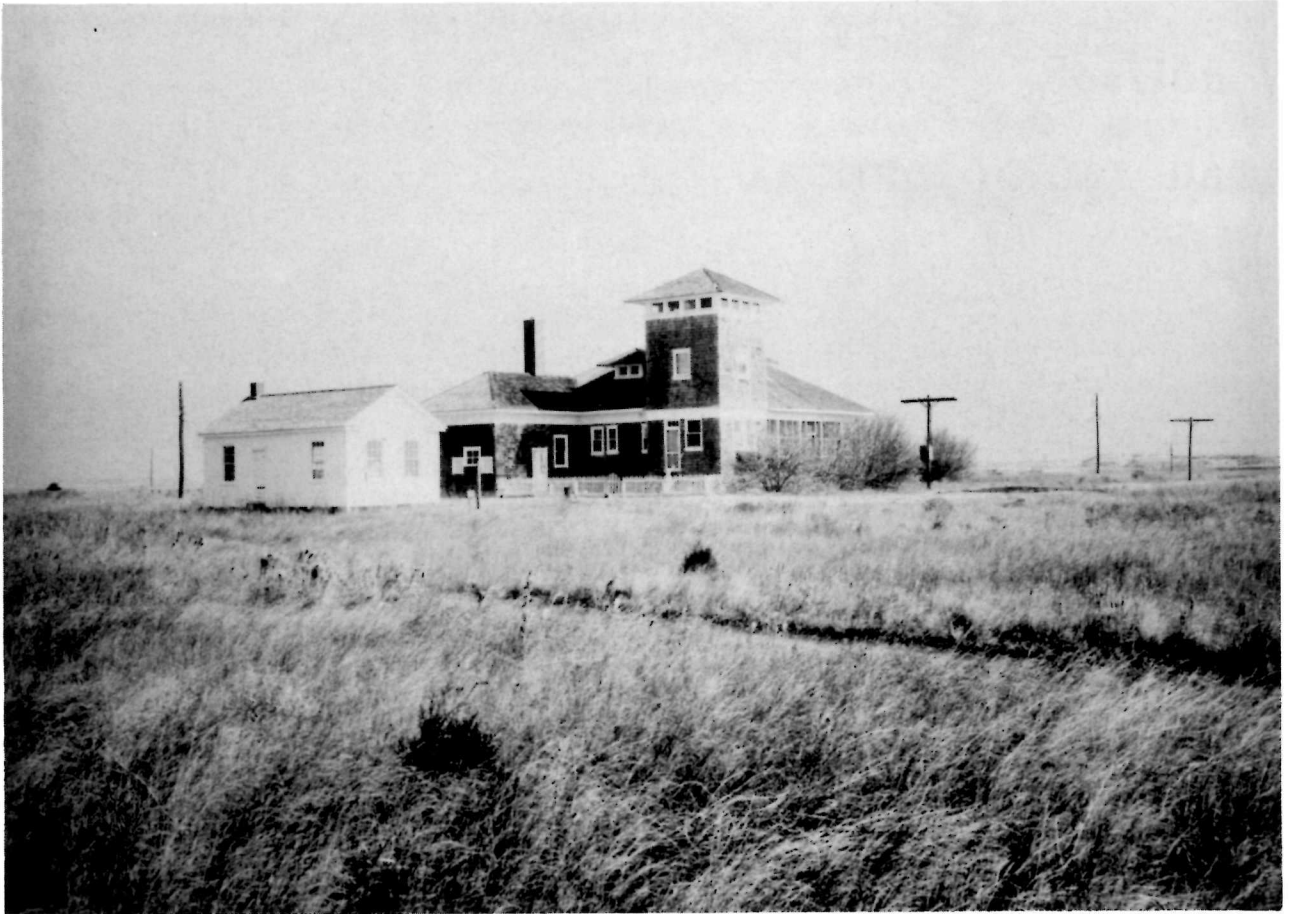


Illustration 11.

Top: Little Kinnakeet Station following decommissioning by the Coast Guard, ca. 1963.

Bottom: Little Kinnakeet Station in use as National Park Service quarters, February 25, 1958.

Cape Hatteras National Seashore



Section V

ARCHEOLOGICAL DATA



**Little Kinnakeet Life-Saving Station,
Dare County, North Carolina - 1987 Mapping Project**

Feature Descriptions

See page 13 for map titled GROUND STUDY BASE MAP, 1987
for the feature descriptions listed below.

- Feature 1:** Feature 1 is evidenced by eight upright square wooden posts (approximately 20 inches high) that have been set in the ground in two parallel rows each of which consists of four equidistant posts five feet apart. Lying on the ground surface immediately next to the western row of posts are a number of two-by-four boards which have been nailed together in what appears to be a lattice pattern. Feature 1 measures 10.6 feet (E-W) by 19.5 feet (N-S) and is located at a slightly northeast angle to the northeast corner of the 1904 residence and \approx (or approximately) 56 feet from transit station A (5° E of N). The function of feature 1 is unknown although it may have had something to do with the two dwelling structures or houses that were supposedly situated nearby. The visibility of feature 1 is excellent. B & W roll/exposure 1.28-29; Color slide roll/exposure 1.30-31.
- Feature 2:** Feature 2 is a \approx 2 foot square concrete pad which has a dated inscription of "Oct 5, 1921". Feature 2 is located northeast of the northeast corner of the 1904 residence and \approx 125 feet from transit station A (34° E of N). Feature 2's function is unknown. It is, however, situated close to feature 6 (paved bricks) and feature 3 (electrical utility pole). The visibility of feature 2 is good. No photographs were taken.
- Feature 3:** Feature 3 is an electrical utility pole (#1) which is located next to feature 4, the north road which branches from the entrance road to the life-saving station (feature 8). Feature 3 is located northeast of the northeast corner of the 1904 residence and \approx 143 feet from transit station A (53° E of N). Feature 3 and feature 11 (electrical utility pole #2) are part of the same electrical line which serves the life-saving station. The visibility of the feature is excellent. B & W roll/exposure 1.33,36.

Feature Descriptions con't

- Feature 4:** Feature 4 is an old road bed which branches north from the east-west entrance road (feature 8) that accesses the life-saving station. Where feature 4 branches from the entrance road \approx 150 feet east-northeast of transit station A (60° E of N) the old road bed is evidenced by shallow grooved depressions in the ground which go between some older cedar trees that are growing in-and-around feature 3 (electrical utility pole #1). The old road bed averages \approx 8 feet in width and follows a generally northeasterly direction for some 350 feet at which point the road bed is obscured by the growth of the surrounding vegetation. Feature 4 is near to the two dwelling structures that were once supposedly located in the area north of the 1904 residence. B & W roll/exposure 1.24,33-34,36; Color slide roll/exposure 1.35-36.
- Feature 5:** Feature 5 is a fallen life-saving station drill tower. The platform of the tower has a 3 foot high railing with a rectangular floor (4.1 feet by 6 feet) which is made of two-by-six plank boards. The floor of the platform is 20 feet above the base of a 26 foot tall wooden pole (9 inch diameter); the latter of which extends up through the center of the platform. About two feet west of the base of the pole is its broken off stump. Three concrete pads with embedded guide wire anchor bolts are present on the north, east, and west sides \approx 28 feet from stump. The drill tower is located northeast of the northeast corner of the 1904 residence and 314 feet from transit station A (23° E of N). Except for the broken base of the wooden pole, the tower is in good condition. Visibility excellent. B & W roll/exposure 1.31-32; Color slide roll/exposure 1.33-34.
- Feature 6:** Feature 6 represents a small area (\approx 3-4 square feet) of paved bricks which is \approx 119 feet northeast of transit station A (23° E of N). The function of the paving is unknown, but it may represent a walkway, fallen wall, or debris from the one of the two dwelling structures that were purportedly situated in the immediate proximity. As such, feature 6 may be functionally related to features 1, 2, and 7; the last of which is apparently a mounded refuse area. Feature 6 is barely visible on the ground surface. B & W roll/exposure 1.24,30.

Feature Descriptions con't

- Feature 7: Feature 7 appears to be a refuse area (or dump) with a medium density scatter of glass, ceramics, burnt coal and metal debris. The debris from the refuse area is concentrated around a linear north-south mound (≈ 3 feet high) which tapers to the ground surface to the south and west. Feature 7 is located slightly north-east of the northeast corner of the 1904 residence and ≈ 222 feet from transit station A (16° E of N) and may be functionally related to features 1, 2, and 6 and the two dwelling structures which were supposedly found in the immediate vicinity. The visibility of feature 7 is good. No photographs were taken.
- Feature 8: Feature 8 is the ORV entrance road which accesses the life-saving station from State Route 12; the latter of which is ≈ 600 feet from transit station A (94° E of N). After an ≈ 480 foot east-west section the entrance road curves to the left and around the chain-link fence which currently surrounds the 1904 residence and other standing structures. Partway around the fence and south of the 1904 residence, the road widens from ≈ 18 to ≈ 44 feet. South of the kitchen another undesignated road splits off to the left from the entrance road; the undesignated road continuing on to Old Little Kinnakeet Village and a cemetery which is located in a hummock along the Sound shore (Dare \forall 11). The entrance road, however, follows the fence line to the right and ending up at the shore of the Sound after an east-west traverse of several hundred feet. Excellent visibility. B & W roll/exposure 1.23-25, 35; 2.8-9, 12; Color slide roll/exposure 1.23, 26-29, 37; 2.4, 6-7, 11, 35.
- Feature 9: Feature 9 is a rusted rectangular metal grid (≈ 2 feet by ≈ 4 feet) which is located east of the 1904 residence ≈ 350 feet from transit station A (96° E of N). Feature 9 is lying on the ground surface at an angle of $\approx 195^{\circ}$ E of N. Although the function of feature 9 is unknown its proximity to State Highway 12 suggests it may be debris which is not relevant to the life-saving station. Feature 9 is 75 feet or so south of feature 10 (utility pole cross-beam). Visibility fairly good. B & W roll/exposure 2.3; Color slide roll/exposure 2.2.
- Feature 10: Feature 10 is a cross-beam of a utility pole (≈ 6 feet long) which is lying on the ground surface at an angle of $\approx 190^{\circ}$ E of N. Feature 10 is located east of the 1904 residence and roughly 425 feet from transit station A (98° E of N). Its relevance to the life-saving station is unknown. Fairly good visibility. B & W roll/exposure 2.5.

Feature Descriptions con't

- Feature 11: Feature 11 is an electrical utility pole (#2) located north of the northwest corner of the 1904 residence and ≈ 137 feet from transit station A (105° W of N). Feature 11 is part of the electrical line that services the life-saving station (cf. feature 3 - electrical utility pole #1). Excellent visibility. No photographs
- Feature 12: Feature 12 is a pile of wood planks which is located along the inside of the chain-link fence north of the 1904 residence and ≈ 150 feet from transit station A ($\approx 91^{\circ}$ W of N). The wood pile measures ≈ 45 feet (E-W) by ≈ 25 feet (N-S). The wood in the pile is ostensibly from the water tanks and other standing structures that were once situated just north of the northwest corner of the 1904 residence. Excellent visibility. B & W roll/exposure 1.2-3.
- Feature 13: Feature 13 is an L-shaped depression in the ground surface just north of the northwest corner of the kitchen and ≈ 227 feet from transit station A ($\approx 95^{\circ}$ W of N). The function of feature 13 is unknown although there is a scattering of coal across the surface of the depression. Visibility fair. B & W roll/exposure 1.10,27.
- Feature 15: Feature 15 is a possible road bed located south of the 1904 residence and ≈ 104 feet from transit station B (120° W of N). The road bed loops southeast from the point where the entrance road (feature 8) and the undesignated road to Old Little Kinnakeet Village (Dare ∇ 11) split joining back with the entrance road at transit station B. The road bed of feature 15 measures about 8 feet across and is more visible on the western side where it goes between some older cedar trees. B & W roll/exposure 1.26; Color slide roll/exposure 1.27-28; 2.4.
- Feature 16: Feature 16 consists of two upright galvanized pipes (≈ 3 inch diameter, ≈ 2 feet high) which are located along the south side of the entrance road (feature 8) and ≈ 35 feet from the "Keet" U.S.G.S. benchmark west of the southwest corner of the 1904 residence. Although their function is unknown the pipes are similar to the fuel pipes located next to the northwest of the 1904 residence. Other undesignated sets of pipes that are like feature 16 occur some 115' west-northwest of feature 5 (25° W of N) and about 250-300 feet east of the southeast corner of the 1904 residence. The visibility of feature 16 is excellent. B & W roll/exposure 2.11 (for benchmark).

Feature Descriptions con't

Feature 17: Feature 17 is a \approx 3 foot square concrete pad with large embedded sea shells. Feature 17 is located \approx 73 feet southwest of the "Keet" U.S.G.S. benchmark (141° W of N). The function of the pad is unknown, but it is situated on a slightly higher sand dune and between the locations of a putative coal bin and wood rack. Visibility fair. B & W roll/exposure 2.10,11; Color slide roll/exposure 2.8.

Feature 19: Feature 19 is a pile of burnt refuse (\approx 3 feet in diameter) that includes ash, burnt coal, window screen, and rusted muffler fragments. Feature 19 is located \approx 126 feet from a temporary transit station (\approx 60° W of N) along feature 8 that is west-northwest of the "Keet" U.S.G.S. benchmark. No determination can be made about the affinities of feature 19 even though the proximity to feature 8 entrance road suggests it may be a propitious feature unrelated to the life-saving station. Visibility fair. No photographs.

Feature 21: Feature 21 consists of unburnt refuse that includes a used paint brush, bottles, and window screen. The feature is located \approx 232 feet from the same temporary transit station (\approx 40° W of N) used to locate feature 19. The documented painting of buildings at the life-saving station and screening of the 1904 residence suggest that feature 21 may be related to the life-saving station. No photographs.

Documented Standing Structures (Observed)

1904 Residence	Except for peeling paint the exterior of this structure is in good condition. B & W roll/exposure 1.1,13-16,20,30; 2.4,6-7,11,13,26-29,32; Color slide roll/exposure 1.1,10,13-15,20,36; 2.3,5,9-10,13,24-27,29-31,35.
Water Tank Platform	Except for some crumbling concrete on the underside of the platform, the structure is in good condition. B & W roll/exposure 1.10,17,20;2.13,33; Color slide roll/exposure 1.16-18;2.28.
Two Upright Fuel Pipes	B & W roll/exposure 1.18;2.30; Color slide roll/exposure 1.17;2.31.
Two-Lidded Septic Tank	B & W roll/exposure 1.19-20;2.31; Color slide roll/exposure 1.19;2.33.
Concrete Pad With 4 Iron Bolts	B & W roll/exposure 1.20-21; Color slide roll/exposure 1.21.
Concrete Pad Behind Addition (6' x 9')	B & W roll/exposure 1.22; Color slide roll/exposure 1.22.
Residence Addition	B & W roll/exposure 1.10,13,20;2.24; Color slide roll/exposure 1.13,20;2.24-25,34.
Coal Bin Entrance	B & W roll/exposure 1.13-14;2.25,28; Color roll/exposure 2.26.
Sidewalk Parallel to Residence (South Side)	Inscribed in the concrete at the east end of this sidewalk is the date "May 23, 193?". B & W roll/exposure 1.14.
Septic Tank	This septic tank is visible on the ground surface southwest of the southwest corner of the 1904 Residence. B & W roll/exposure 1.13.
<hr style="border-top: 1px dashed black;"/>	
Kitchen	Other than differentially weathered and peeling paint, deterioration of the northside doorway, and some boards off the southside of the building, the structure is in good condition. B & W roll/exposure 1.8-12,27,30; 2.20-24; Color slide roll/exposure 1.8-12,14,23,29;2.19,21-23.

Documented Standing Structures (Observed) con't

1874 Boathouse Peeling paint, but otherwise in good condition. Interior buttresses below eave are preserved within the leanto addition on the east side of the boathouse. Behind the northwest side of the boathouse is a low depression in the ground surface (\approx 30 feet N-S by \approx 12 feet E-W). B & W roll/exposure 1.3-7,12,27; 2.9,14-19; Color slide roll/exposure 1.3-7,12,14,29; 2.7,14-18,20,23,32.

Documented Standing Structures (Not Observed)

Dwelling Structures Possibly evidenced by features 1,2,4 and 6.

Water Well Slightly Northeast of 1904 Residence No evidence in the area around transit station A where the well was supposedly located.

1904 Residence Picket Fence No evidence.

1874 Boathouse Corral No evidence of corral on the east side of the boathouse. B & W roll/exposure 1.3,27; 2.19.

Privy West of 1874 Boathouse No evidence in the higher area northwest of the boathouse. Color slide roll/exposure 2.12.

Signal Tower Its putative location south of the 1904 Residence and along the entrance road (feature 8) produced no evidence of concrete footers the signal tower purportedly had. B & W roll/exposure 1.26.

Documented Standing Structures (Not Observed) con't

Drill Tower Southwest of
1904 Residence

No evidence of this feature along the west side of the undesignated road to Old Little Kinnakeet and cemetery.

Coal Bin

Evidence of this feature is limited to a scatter of coal ~ 20 feet northwest of its purported location and possibly feature 17. B & W roll/exposure 2.11.

Wood Rack

No evidence other than possibly feature 17.

Little Kinnakeet Life-Saving Station Vegetation

The vegetation at Little Kinnakeet consists of dense thickets of briars, shrubs, and cedar and other low trees interspersed with sandy open areas of beach grass and prickly pear cactus. Visibility in the former is fair to poor; the latter is fair to excellent. Examples: B & W roll/exposure 1.25,30,33; 2.2,4; Color slide roll/exposure 2.12.

dnf



THE UNIVERSITY OF NORTH CAROLINA
AT
CHAPEL HILL

Research Laboratories of Anthropology

The University of North Carolina
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Chapel Hill, N.C. 27514

May 6, 1987

Paul Inashima
National Park Service
Applied Archaeological Center
11710 Hunters Lane
Rockville, Maryland 20852

Dear Paul,

I'm glad you called today because our conversation help to shorter the first draft of this letter considerably. When you get the map and have a chance to look over it and decide you want the contour information, please let me know and I can forward it. Hope the map tube arrives safely.

I've included several items in this packet:

1. The two B/W contact sheets and negatives, and two boxes of color slides. There are four photo log sheets to accompany these.
2. A copy of the descriptive narrative to accompany features photographed and some not photographed. The second copy of this is with the map.
3. Four pages of UNC site form information on our 31Drill located near the L-S Station. Maybe some of this will be useful for future planning/research.
4. Ahand-drawn "memory map" produced by Manson Meekins, a local informant. Date of the map is circa 1926. Lots of valuable info on here, though finding it in the field was less than successful, particularly for pigpens, wood racks, wells, etc. Of those crew members listed in the bottom right corner, only Lloyd Scarborough (of Buxton) is still living. Descendants of the crew members who might be helpful are:
 - Manson Meekins, son of Harrison Meekins
 - Maxton Midgett, son of Sumner Midgett (lives in Virginia Beach)
 - Arthur Gray, son of Alonzo Gray (of Avon)
 - Ellis Gray, son of Ivy Gray (Avon)
 - Dallis Miller, son of Bemby Miller
5. A business card from Dr. Theodore R. Dudley, botanist from U.S. National Arboretum, who visited the site while we were mapping. He pointed out three shrubs (remnants) around the station area

which were noteworthy. He said they were in the Rutaceae family, genus unknown. Though the plants are not rare, he felt their location there was interesting and efforts should be made to preserve them. The locations of the three plants is shown on the map by a *.

6. A telephone log for calls placed by me to you and N.P.S. personnel.
7. Receipts and reimbursement items:
 - room receipts for three nights at the Kona Kai - \$145.80 each
 - processing receipt for film/slides for me - \$27.09
 - and total mileage came to 617 miles @ \$.205 p/m

Finally, I'll offer a few general comments about the project mapping, vegetation, features, etc. First, the concrete foundations for the 1935 Signal Tower were not found, possibly having been removed when the road was widened south of the station. The sand in this area is very deep and loose. Second, the decorative buttresses along the east and west eaves are intact on both sides. They were not removed on the east side when the lean-to was added, as indicated by Mr. Green (1986:198). Third, the vegetation was very tall and dense in some areas of the site which greatly reduced surface visibility. A walkover with Mr. Meekins or some other informant may prove useful in the future for locating additional features, particularly those with minimal structural evidence.

I hope to hear from you soon when you've looked over the map and photos, and accompanying narrative. If you have any questions or our descriptions seem unclear, please call and maybe I can help. It is an interesting site and I look forward to another visit there sometime in the future, hopefully with fewer prickly-pears and wasps!

Sincerely yours,



Linda F. Carnes
Research Labs of Anthropology
UNC



Dr. Theodore R. Dudley
Research Botanist

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United States Department of the Interior

NATIONAL PARK SERVICE

DSC-Eastern Team
Applied Archeology Center
11710 Hunters Lane
Rockville, Maryland 20852

MAY 11 1987

IN REPLY REFER TO:

H3015 (DSC-SEN)
CAHA-202-35

Memorandum

To: Team Captain, Williamsport Preservation Training Center, DSC

Through: Chief, Applied Archeology Center, Eastern Team, DSC *WLL 5/11/87*

From: Archeologist, Applied Archeology Center, Eastern Team, DSC

Reference: Cape Hatteras National Seashore, Pkg. No. 202, Archeological Ground Survey of Little Kinnakeet U.S. Life Saving Service Station (35)

Subject: Transmittal of Archeological Documents

Per our conversation of May 8th, I have received the completed project documents from the grounds' survey at Little Kinnakeet U.S. Life Saving Service Station. I have examined them and have found them to more than adequately satisfy the original scope of the project. The original documents and records which I am forwarding to you include:

1. A pen-on-ink base map.
2. A typed listing and annotation on identified features, standing structures, and vegetation.
3. A "memory map" by Manson Meekins, circa 1925.
4. Photographic documentation of the grounds' survey findings (2 sets of color slides; 2 sets of B&W negatives and contact sheets).
5. Copy of site form 31Drill for an historic cemetery near Little Kinnakeet.
6. Copy of cover letter from Linda Carnes of the project staff to myself.

Also, per our discussion, I will be forwarding copies of these documents to Jerome Greene.

Should you need any additional interpretation of the base map please feel free to contact me directly.

Paul Y. Inashima

Attachments

CC:
CAHA-Superintendent
SER-PH-Regional Archeologist

SEN:Pinashima:pyi:05/08/87:(301)-443-5972

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

