

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FOR NPS USE ONLY
RECEIVED MAY 17 1978
DATE ENTERED OCT 18 1979

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC KILAUEA POINT LIGHTHOUSE

7.6.

AND/OR COMMON
U.S COAST GUARD LIGHT STATION KILAUEA POINT

2 LOCATION

STREET & NUMBER N. of Kilauea
14th Coast Guard District

CITY, TOWN Kilauea VICINITY OF 2nd

STATE Hawaii CODE 15 COUNTY Kauai CODE 07

3 CLASSIFICATION

| CATEGORY | OWNERSHIP | STATUS | PRESENT USE |
|---|--|---|--|
| <input type="checkbox"/> DISTRICT | <input checked="" type="checkbox"/> PUBLIC | <input checked="" type="checkbox"/> OCCUPIED | <input type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM |
| <input checked="" type="checkbox"/> BUILDING(S) | <input type="checkbox"/> PRIVATE | <input type="checkbox"/> UNOCCUPIED | <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK |
| <input type="checkbox"/> STRUCTURE | <input type="checkbox"/> BOTH | <input type="checkbox"/> WORK IN PROGRESS | <input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE |
| <input type="checkbox"/> SITE | PUBLIC ACQUISITION | ACCESSIBLE | <input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS |
| <input type="checkbox"/> OBJECT | <input type="checkbox"/> IN PROCESS | <input checked="" type="checkbox"/> YES: RESTRICTED | <input checked="" type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC |
| | <input type="checkbox"/> BEING CONSIDERED | <input type="checkbox"/> YES: UNRESTRICTED | <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION |
| | | <input type="checkbox"/> NO | <input checked="" type="checkbox"/> MILITARY <input type="checkbox"/> OTHER: |

4 OWNER OF PROPERTY

Under License to Fish and Wildlife Service, Dept. of Interior
NAME Department of Transportation, U.S. Coast Guard

STREET & NUMBER 14th Coast Guard, 300 Ala Moana

CITY, TOWN Honolulu VICINITY OF Hawaii

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC. Bureau of Conveyances

STREET & NUMBER 403 Queen Street

CITY, TOWN Honolulu STATE Hawaii

6 REPRESENTATION IN EXISTING SURVEYS

TITLE Hawaii Register of Historic Places #30-04-300

DATE 8/24/74 FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR SURVEY RECORDS Hawaii Register of Historic Places
1151 Punchbowl Street

CITY, TOWN Honolulu STATE Hawaii

7 DESCRIPTION

| CONDITION | | CHECK ONE | CHECK ONE |
|---|---------------------------------------|---|--|
| <input checked="" type="checkbox"/> EXCELLENT | <input type="checkbox"/> DETERIORATED | <input checked="" type="checkbox"/> UNALTERED | <input type="checkbox"/> ORIGINAL SITE |
| <input type="checkbox"/> GOOD | <input type="checkbox"/> RUINS | <input type="checkbox"/> ALTERED | <input type="checkbox"/> MOVED DATE _____ |
| <input type="checkbox"/> FAIR | <input type="checkbox"/> UNEXPOSED | | |

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Kilauea Lighthouse is perched on a promontory overlooking the sea on the Island of Kauai and is completely surrounded by land owned by the Kilauea Sugar Company. It is a symmetrical concrete structure constructed in 1913. The lighthouse stands about 52 feet high.

The lower portion is made of concrete in cylindrical form tapering slightly towards the top. The upper portion consists of a circular walk with a steel handrail supported by steel brackets.

The windows surrounding the brilliant light signal are in diamond form with diagonal intersecting mullions. The roof is cone-shaped terminating in a sphere at the top.

The design of the lighthouse is influenced by the eclectic style of Greek architecture. There is a small projecting base which surrounds the lower portion of the wall interrupted only by a small entry projection with a rectilinear door opening and a triangular pediment above. Small rectilinear windows appear at the first and second levels.

The building is painted white with a red roof and dark navy trim. The signal light at the upper portion of the building can be reached by an internal spiral staircase which winds its way around a central column.

The lighthouse commands a panoramic view of the sea and is visible for over 180 degrees. It is set in a large lawned area at the edge of a cliff.

There are three houses located on this 31 acre parcel that were lived in by Coast Guardsmen when the light was being run manually. These dwellings are situated along the lighthouse access road. Sited on large, landscaped lots, they are surrounded by lush vegetation which provides considerable privacy. The three houses are similar in design; one-story, lava rock bungalows capped by hipped roofs

NEW MATERIAL

8 SIGNIFICANCE

| PERIOD | AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW | | | |
|---|---|---|---|---|
| <input type="checkbox"/> PREHISTORIC | <input type="checkbox"/> ARCHEOLOGY-PREHISTORIC | <input type="checkbox"/> COMMUNITY PLANNING | <input type="checkbox"/> LANDSCAPE ARCHITECTURE | <input type="checkbox"/> RELIGION |
| <input type="checkbox"/> 1400-1499 | <input checked="" type="checkbox"/> ARCHEOLOGY-HISTORIC | <input type="checkbox"/> CONSERVATION | <input type="checkbox"/> LAW | <input type="checkbox"/> SCIENCE |
| <input type="checkbox"/> 1500-1599 | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> ECONOMICS | <input type="checkbox"/> LITERATURE | <input type="checkbox"/> SCULPTURE |
| <input type="checkbox"/> 1600-1699 | <input type="checkbox"/> ARCHITECTURE | <input type="checkbox"/> EDUCATION | <input checked="" type="checkbox"/> MILITARY | <input type="checkbox"/> SOCIAL/HUMANITARIAN |
| <input type="checkbox"/> 1700-1799 | <input type="checkbox"/> ART | <input type="checkbox"/> ENGINEERING | <input type="checkbox"/> MUSIC | <input type="checkbox"/> THEATER |
| <input type="checkbox"/> 1800-1899 | <input type="checkbox"/> COMMERCE | <input type="checkbox"/> EXPLORATION/SETTLEMENT | <input type="checkbox"/> PHILOSOPHY | <input checked="" type="checkbox"/> TRANSPORTATION |
| <input checked="" type="checkbox"/> 1900- | <input checked="" type="checkbox"/> COMMUNICATIONS | <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> POLITICS/GOVERNMENT | <input checked="" type="checkbox"/> OTHER (SPECIFY) Navigation |
| | | <input type="checkbox"/> INVENTION | | |

SPECIFIC DATES

1913

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

Among the thirty-three lighthouses pinpointed throughout the Hawaiian Islands, the landfall lighthouse at Kilauea Point, Kauai was credited with saving lives, not only of countless sailors lost at sea, but of two fliers on a historic trans-Pacific flight.

Lt. Albert Hegenberger and Lt. Lester Maitland embarked upon the first trans-Pacific airplane flight in history on 29 June 1927. After they took off from California, they overshot their course to Oahu and became lost.

Navigator Hegenberger heard a strange signal which he and Maitland interpreted as a radio beacon originating in the Islands. They used the signal to calculate their exact position and made the necessary adjustments to put them on course. Although they were 90 miles away from Kilauea Point, the two pilots nevertheless saved themselves by utilizing the radio beacon of Kilauea Lighthouse thus enabling them to land safely at Hickam Field on Oahu. It was a climactic conclusion to a courageous undertaking.

The Kilauea Lighthouse was first put into operation in 1913. Among pharologists--persons who study lighthouses--the Kilauea Lighthouse is unique for its ovate Fresnel lens. Its discoverer, Augustin Jean Fresnel, a French geometer and physicist, found that by arranging a succession of annular lenses around a central lens with a common focus, a parallel beam of light could be projected. Thus, the Kilauea Fresnel lens magnifies a 500-watt electric lamp to 1,100,000 candle power which is visible 21 miles at sea.

(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Adamson, Hans Christian. Keepers of the Lights. New York: Greenburg, 1955. pp. 274-298.
- Hogue, Charles E. "Keeper of the Light." Advertiser, March 29, 1953. p. 3.
- Weinberg, Richard. "Lighthouses! 150 Years of Service." Star Bulletin, May 27, 1939. Sec. 3, p. 1.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 31 A

UTM REFERENCES

| | | | | | | | |
|-----|------|-------------|---------------|---|------|-------------|---------------|
| 620 | | | | | | | |
| A | 0,4 | 4,5,8,6,0,9 | 2,4,5,8,8,8,5 | B | 0,4 | 4,5,8,4,0,0 | 2,4,5,8,3,2,0 |
| | ZONE | EASTING | NORTHING | | ZONE | EASTING | NORTHING |
| C | 0,4 | 4,5,8,0,2,4 | 2,4,5,8,5,8,5 | D | 0,4 | 4,5,8,1,6,5 | 2,4,5,9,0,8,0 |

VERBAL BOUNDARY DESCRIPTION

The Kilauea Point Lighthouse occupies a 31 acre site bounded on the south, east, west by the Kilauea Sugar Company and is surrounded on its northern perimeter by steep cliffs and the ocean. It occupies TMK 5 - 2 - 04:17.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

| STATE | CODE | COUNTY | CODE |
|-------|------|--------|------|
| STATE | CODE | COUNTY | CODE |

11 FORM PREPARED BY

NAME / TITLE

Larry Miller - Historian

ORGANIZATION

State Historic Preservation Office

DATE

8/24/74

STREET & NUMBER

1151 Punchbowl Street

TELEPHONE

548-7460

CITY OR TOWN

Honolulu

STATE

Hawaii

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

Jane L. Silverman

DATE

April 26, 1978

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

Caryl Shell

DATE

10-18-79

DIRECTOR, OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

KEEPER OF THE NATIONAL REGISTER

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE

10-16-79

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

| | |
|------------------|-------------|
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CONTINUATION SHEET Kilauea Light ITEM NUMBER 7 PAGE 2

with overhanging eaves. An inset lanai (porch) extends halfway across the facade and is enclosed by vertical wood siding. A shallow bay extends from one side of the rectangular building. All windows have cement flat arched lintels. The houses sit on raised, lava rock foundations with handsome, elliptical arched, latticed, openings for ventilation.

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CONTINUATION SHEET

ITEM NUMBER 8 PAGE 1

Its first lamp was fueled with coal oil. Later acetylene was used, and most recently a 1,000 watt quartz iodine lamp. Before electricity was brought out to the rocky point, the light was turned by a massive, weighted clock mechanism that was wound by Coast Guardsmen who lived in houses nearby.

The other unique feature of this lighthouse is its radio beacon, the device which aided in bringing Maitland and Hegenberger back to safety.

Radio beacons were initially tested by the Lighthouse Service at the end of the first decade of the century as a means of aiding navigators to find direction in poor weather. Adamson states, "These radio beams gave navigators the first means they ever had of taking accurate bearings in a fog, on a lighthouse or lightship they could not see."

In early days, around the 1920's, each radio station had its own distinctive signal so that a navigator could check his position by taking bearings on two or three stations as far as 200 miles away regardless of the weather. This, of course, was a vast improvement over the more limited foghorn and light ranges.

The Kilauea Lighthouse employed the radio beacon and the long-range landfall or approach lights. Accurate positions can be determined upon computations based on the speed of light and the sound of the beacon picked up by radio. But at ranges over twenty miles, the radio signal alone is sufficient to fix one's position as was the case with Maitland and Hegenberger. Unfortunately, lighthouse keepers are no longer necessary since most lighthouses are automated and since fog presents no problem to navigators near the islands, lighthouses equipped with radio beacons, like the Kilauea Lighthouse, sent out signals in regular intervals 24 hours a day.

The Kilauea Lighthouse ceased operation in February 1976 when a light beacon constructed next to it took over.

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section _____ Page _____

=====

SUPPLEMENTARY LISTING RECORD (Additional Documentation)

NRIS Reference Number: 79000759

Date Accepted: 12/4/2006

Kilauea Point Light Station

Kauai

HI

Property Name

County

State

Light Stations of the United States MPS

Multiple Name

This additional documentation is accepted in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.



12/4/2006

Signature of the Keeper

Date of Action

Amended Items in Nomination:

Resource Count:

The resource count should be revised to read:

- 2 contributing buildings (oil storage building, 1933 storage building);
- 1 contributing site (landing platform ruins); and
- 1 contributing structure (water tank).

The number of previously listed contributing resources should read: 4

[The lighthouse and 3 keeper's quarters, all of which were noted in the original accepted nomination.]

Period of Significance:

The period of significance is revised to read: 1913-1956.

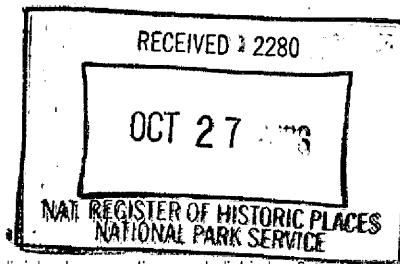
[While the light station continued to function as designed until 1974, the latter period does not represent an exceptionally significant era, rather continued operational use. The nomination repeatedly notes a "period of focus" of 1913-1927. An end date of 1956 encompasses this "period of focus," includes the construction date of all contributing buildings, and marks the standard 50 year cut-off point.]

DISTRIBUTION:

National Register property file

Nominating Authority (without nomination attachment)

United States Department of the Interior
National Park Service



**NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

Historic name: Kilauea Point Light Station

Other names: PHO668974 (HI Register of Historic Places ID # 30-04-300)

2. Location

street & number Kilauea Point National Wildlife Refuge not for publication
city/town Kilauea vicinity
state HI code 15 county Kauai code 007 zip code 96754

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

[Signature] 10/16/06
Signature of certifying official Date

U.S. Fish and Wildlife Service, Region 1
State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

- I, hereby certify that this property is:
 entered in the National Register
 See continuation sheet.
- determined eligible for the National Register
 See continuation sheet.
- determined not eligible for the National Register.
- removed from the National Register.
- other (explain): _____

[Signature] Signature of the Keeper Date of Action 12/4/2006

United States Department of the Interior
National Park Service

5. Classification

Ownership of Property

(Check as many boxes as apply)
the count.)

- private
- public-local
- public-state
- public-federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

(Do not include previously listed resources in

| | |
|--------------------|------------------|
| Contributing | Non-contributing |
| <u>9</u> | <u>6</u> |
| <u>(See below)</u> | |

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing)

"Light Stations of the United States"

Number of contributing resources

previously listed in the National Register

1

6. Function or Use

Historic Functions

(Enter categories from instructions)

Defense -- Coast Guard facility/light station
Transportation --Water Related/lighthouse

Current Functions

(Enter categories from instructions)

Landscape --Conservation area,
wildlife refuge

7. Description

Architectural Classification

(Enter categories from instructions)

Other, Vernacular

Materials

(Enter categories from instructions)

| | |
|------------|--|
| foundation | <u>concrete</u> |
| walls | <u>concrete/ volcanic</u> <u>rubble stone</u> |
| roof | <u>cast iron/shingle</u> |

7. NARRATIVE DESCRIPTION -- Addendum

The Kilauea Point Lighthouse was listed on the National Register of Historic Places on October 18, 1979. The light station transferred to the U.S. Fish and Wildlife Service for inclusion in the 203-acre Kilauea Point National Wildlife Refuge in 1985. This is an addendum to the original nomination and is submitted in order to: change the property's name; clarify the boundaries; expand the significance; increase the number of contributing resources; and include additional contextual information that reflects the broader significance of the station. The new boundary is identical to the original station and encompasses all of the contributing elements of the Kilauea Point Light Station as defined in this addendum.

Kilauea Point Light Station stands on the rocky promontory of Point Kilauea, projecting from the northern headlands of Kauai, Hawaii's northwestern most island. "Kilauea" is

said to mean in Hawaiian, "rising vapor cloud," an appellation derived from clouds of sea mist that sometimes hang over Kauai's north coast. The light station is surrounded by and included within the 203-acre Kilauea Point National Wildlife Refuge (NWR), which extends over Crater Hill, a headland to the east. The crest of the point and its outer boundaries average about 180 feet above sea level, while the center of the station is hilly with a 30 ft depression. Geologically, the point consists of volcanic rock and slag, with the upper six to eight feet having disintegrated to form a mantle of soil.

Vegetation has changed through the years from the grass-covered meadows cropped by cattle when the light station construction began in 1911, to a lush tropical landscape resulting from the lighthouse keepers' efforts to establish windbreaks and privacy borders.

The architectural merit of the lighthouse is exceptional. While all lighthouses serve a similar function, each is uniquely detailed to fit the specifications of size, candlepower, and range of sight that contribute to the design. The bright light was designed to reach vessels several miles at sea. The cylindrical reinforced concrete tower is one of the earliest examples of this construction material and is a good example of the Classical Revival Style of the early twentieth century. The tower has a projecting base that tapers towards the top. Crowning the tower is a glass and bronze lantern for the large 2nd Order Fresnel, clam-shell lens. The cornice displays a classical building entablature complemented by the temple front entry with pediment. Small rectilinear windows were situated at the first and second levels to light the interior rooms. All of the mechanical systems are contained within the lighthouse and basement of the tower. Cast iron spiral stairs lead to the service room, watch room, lantern room, and basement.

The contributing elements of the light station ensemble include: the light house and lens; three lava-rock bungalow keepers' cottages with hipped roofs; a reinforced concrete oil storage building; the landing site, including two lava rock retaining walls, where all supplies were offloaded; a water storage tank; and a 1930s storage building. Non-contributing elements include the 1950s radio beacon building, 1980s visitor center; and 1990s structures. The landscaping continues to be modified.

Historically, the lighthouse is associated with important themes and events in United States history. The themes of Hawaiian democracy, transportation and navigational aids, and the evolution of military flight are linked to the Kilauea Point Light Station. Annexation of Hawaii in 1898 by the United States generated a significant escalation in merchant shipping, with Honolulu becoming the crossroads of the Pacific. But, the rocky reefs, swift currents, and unpredictable winds posed challenges for the increasing number of vessels entering the channel between Kaua'i and Oahu.

By 1907, the Light House Board, part of the U.S. Transportation Department at that time, determined the need for a large light on the north coast of the Hawaiian Islands.

The prominent point at Kilauea provided exactly the right conditions for a light that could be seen for miles at sea and direct ships into the channels at a great enough distance for safe passage in all weather. Funds were authorized in 1908, although construction did not begin until 1912. The lighthouse was dedicated on May 1, 1913, with a luau and shark shoot attended by numerous dignitaries as well as local residents from the nearby sugar plantation town of Kilauea.

The lighthouse gained national recognition as an aid to the first flight from California to Hawaii. In June, 1927, the first trans-Pacific flight almost ended tragically when the military pilots of *The Bird of Paradise*, Lester Maitland and Albert Hegenbeger, nearly missed the islands in the pre-dawn hours. They were low on fuel and heading for disaster when they glanced back and recognized the unique double flash of the Kilauea Point Lighthouse. The fliers circled Kaua'i until dawn and then flew on to safely land on Oahu. This flight confirmed the Air Corps' ability to deliver combat air power from continental airbases to remote regions of the world and encouraged the development of commercial trans-oceanic airline service.

Soon after this historic flight, radio wave towers were added to many lighthouse stations to aid navigation by air planes and ships. The new technology was first installed at Makapuu Point Light Station, on the southeast coast of Oahu, in 1927. A radio beacon was constructed at Kilauea Point in 1930 and included a radio beacon house to shelter the equipment and operators. The beacon was discontinued in 1973.

The station remained fully staffed until 1974 when it was automated, then in 1976 the light was moved to a beacon tower and the lighthouse was sealed. Kilauea Point Lighthouse was one of the last lights automated by the Coast Guard in the Hawaiian Islands.

Integrity

Kilauea Point Light Station maintains excellent integrity and meets several National Park Service criteria as outlined in "Light stations of the United States" (Candace Clifford *et al.*, February 23, 1999 and February – July 2002, NHRP Multiple Property Documentation Form, National Maritime Initiative, National Park Service, Washington, D.C.). The tower retains its historic daymark characteristic, original lantern, and lens. The latter is non-operational but intact. The lens is one of seven second-order classical Fresnel lenses remaining in lighthouses in the United States. It is one of 22, including the seven in lighthouses, believed to exist across the nation. The second-order lenses not in lighthouses are in museums. Of the seven lenses still in lighthouses, two were manufactured by Barbier, Bernard, and Turenne: one is the Kilauea Point lens; the other is a 1906 lens. The other five include an 1877 Louis Sautter lens, two 1850 Henry-Lapaute lenses, a 1912 Chance Brothers lens, and an 1858 lens of unidentified origin.

The Kilauea Point Light Station retains the arrangement of the 1909 site plan drafted by the 12th Light-House District. Kilauea Point Lighthouse tower, constructed in 1912-1913, sits at the northern most extremity of the point. One-hundred-and-five-feet southeast of the lighthouse is the oil house, built at the same time as the lighthouse. West of the

oil house, in a small cove below the point are the ruins of the landing platform and engine house, at an elevation of about 110 feet above sea level. The landing platform and engine house were built at the time of lighthouse construction. About 1,000 feet south of the lighthouse is the residential area, with three Keepers' Quarters placed about 300-feet apart in a triangular plan. Buried cisterns are associated with each of the houses. At the light station's southern most extremity, a 7,000 gallon concrete water tank dates from the station's original construction period. Lying east of the first Keeper's Quarters and south of the third Keeper's Quarters is a historic garage dating from 1933. Paved roads and trails on the site generally follow the routes of those established in ca. 1913.

The lighthouse tower and lens, along with the three quarters, the oil house, landing site, water tank, and 1930s shed constitute the contributing elements of the Kilauea Point Light Station and maintain good integrity.

Alterations to the light station occurred in the 1930s as the station's service was expanded to include a radio beacon tower, radio beacon building, and a small garage. The radio beacon house dating to the 1930s was replaced in 1956 on the same footprint, and in the mid-1980s the building was converted for use as a visitor contact station. The 1950s building was nearly destroyed by Hurricane *Iniki* and was substantially remodeled.

Modern intrusions on the site are minor and include a visitor center, carports, and sheds. About 500 feet south of the lighthouse is a visitors' center, built in 1988 into the west side of a ridge connecting the lighthouse area of the point with the residential area. A shed was built after 1992 and three garages were built for the residences to replace the carports damaged by Hurricane *Iniki* which struck in September 1992. Improvements have been made to accommodate tour buses, visitors, and service access by the U.S. Fish and Wildlife Service. Most recently concrete sidewalks on either side of the point immediately south of the lighthouse, near the oil house, and along the terrace edge were installed to provide an ADA accessible trail to visitors.

Contributing Resources

1. Kilauea Point Lighthouse is a reinforced concrete round conical tower, measuring 53 feet-one-inch from ground level to the top of the ventilator ball. A lightning rod atop the ball extends the total height to 56 feet. The lighthouse was painted light gray from 1913 to 1924, but changed to white after that. The roof is red. Metal work is painted gray. The tower's diameters are 15 feet-four-inches (exterior) and 12 feet (interior) at ground level and 14 feet-two inches (exterior) and 12 feet-six-inches (interior) at lantern room floor level. The tower has four stories, including an 11-foot-deep basement.

Circular flights of cast iron stairs attached to interior walls connect the four stories which, above the basement are entry level, service room, watch room, and lantern room. Access is through a first floor vestibule with cast iron doorframe on the south side of the tower. A rectangular lintel above the doorframe is inscribed with "1913," the light's first year of operation. The original ten-panel, cast iron door has been replaced at least twice. The current door is steel. A two-foot-three-inch-by-three-foot-six-inch window centered above the door frame at the service room floor elevation and another window on the east side of the tower originally provided light for the ground floor, as did additional two-foot-five-inch-by-one-foot-nine-inch windows on the east and west sides of the tower for the service room. Nine louvered openings with adjustable cast iron vents spaced around the circumference of the tower provided ventilation for the watch room above. Three 16 inch by 30 inch awning windows in window wells on the north, east, and west sides of the tower provided light for the basement. All of these openings were filled with concrete blocks or covered with plate steel in 1974. Fourteen small octagonal glass panels in the cast iron floor of the lantern room provided light to the watch room below. The glass-walled lantern room containing the second-order Fresnel lens described below has a two-panel glass door leading to an exterior gallery with cast iron floor, trap door for service access, and wrought iron railing. The door, when opened, enhances air circulation once provided by a cast iron ventilation cap (also plugged in 1974) in the center of the lantern room's cast iron ceiling. A wrought iron clock-weight tube located in the center of the tower begins in the basement and terminates at its upper end at the watch room floor. It housed the clockwork mechanism, no longer extant, and serves as additional support for three of the floors and the lens.

2. Second-order Fresnel lens. The illuminating apparatus for Kilauea Point Light was a flashing lens composed of two groups of panels, each panel subtending at an angle of forty-five degrees. Seven refracting and seventeen reflecting prisms make up each panel. Barbier, Bernard, and Turenne manufactured the lens in Paris, France, in 1912. The height of the glass in the lens is 2.121 meters and the height of the frame is 2.7178 meters. A special caulking called litharge holds the prisms in place within brass frames. The lens rotated on a mercury float, exhibiting a double white flash every ten seconds. It maintained this characteristic until taken out of service in 1974. The light's focal plane was 217 feet-six-inches above mean high water. The beacon was visible at a distance of 21 miles in clear weather. During its first years of operation, a 55 millimeter double-tank incandescent oil vapor lamp provided the light source, giving it 250,000 candlepower. In 1930 the oil vapor lamp was placed on standby in favor of an electric bulb that increased the light's intensity to 540,000 candlepower. The candlepower again increased in 1934, when a 500-watt bulb replaced the original. In 1939, the clockwork mechanism went into standby status, replaced by an electric motor. In 1974, an electronic optic strapped to the railing outside the lantern room replaced the Fresnel lens, which was left in place. Two years later, concern about exposure of personnel servicing the optic led to its replacement by another 24

inch rotating beacon atop a 10-foot-high concrete column erected northwest of the lighthouse. At this time, Kilauea Point's characteristic double signal changed to a single white flash. In 1989, as part of a decontamination effort, Coast Guard officials removed the mercury used for the mercury float supporting the Fresnel lens. In 1992, flying debris and perhaps wave shock associated with Hurricane *Iniki* damaged at least one of the prisms in the lens.

3. Landing Platform Ruins. Built in 1912, the derrick, 90 feet above water and the landing platform at 110 feet were dismantled after the tender *Kukui* stopped servicing Kilauea Point Light Station in 1927. A volcanic rubble stone retaining wall, steps from the top of the concrete landing platform, and a concrete slab that held the derrick and engine remain as ruins.
4. Oil House. Dating from 1912-1913, this eight-foot-by-eight-foot, seven-foot-high concrete structure was used for storage of oil fueling the light's vapor lamp. In 1925, a small concrete block addition enclosing a toilet was appended to the east side of the oil house. Since 1930 when the oil vapor lamp was taken out of service, the oil house has been used for storage.
5. Keeper's Quarters, First Assistant Keeper's Quarters, and Second Assistant Keeper's Quarters. These identical 37 by 43 foot single-story volcanic rubble stone bungalows with hipped roofs (originally asbestos slate shingle) face east, north, and north respectively, with the Keeper's Quarters being nearest the lighthouse. All sit on raised volcanic rock foundations with openings for ventilation. All have inset *lanai* (porches) extending halfway across the façade. All have windows with flat cement lintels and sills. Each dwelling originally included a kitchen, storeroom, pantry, laundry, living room, two bedrooms, and bathroom. Porch floors and steps, footings placed below grade, and laundry room floors are concrete. Floors and floor framing, wall furring, partitions, ceiling joists, rafters, and sheathing are of Northwest pine. All interior walls are metal lathed and hard plastered. Each dwelling has its own system for draining rainwater from the roof to a cistern, with tinned copper roof valleys and gutters. The cisterns, 12 feet in diameter and seven-foot deep, are mosquito proofed and provided with trap doors and drain plugs for cleaning, and buried to project 18 inches above grade. Since 1985, the Keeper's Quarters has been the Kilauea Point NWR.
6. First Assistant Keeper's Quarters. See description 5 above. In 1929, a four-foot-six-inch-high 74-foot long concrete retaining wall was constructed south of the First Assistant Keeper's Quarters and is extant. Since 1985, the First Assistant Keeper's Quarters has been in use as housing for refuge staff living on site.
7. Second Assistant Keeper's Quarters. See description 5 above. A set of concrete steps and a sidewalk were added in 1927. Since 1985, the Second Assistant Keeper's Quarters has been in use as temporary housing for newly arrived refuge staff and summer interns.

8. Reinforced concrete 7,000-gallon water tank. Not in service, but dating from original light station construction. The tank is set at the highest point of the station. The water was purchased from the Kilauea Sugar Plantation Company and either gravity-fed or pump-driven from the tower to the houses and for general use on the station.
9. Historic storage shed/garage. Built in 1933, the 17 x 25 ft structure was used for storage and it continues to be used in that capacity. It is a wood frame building with tongue and groove vertical siding. Extensive repairs were made to the building after Hurricane Iniki, but the 1933 siding and trim were left in place and re-painted. The original 6 over 6 wood double hung windows have been replaced with a modern vinyl, a new garage door has been installed to replace the three wooden accordion style doors. The roof was destroyed during the hurricane and was repaired with asphalt shingles. The building retains original materials and configuration and is a contributing element to the light station as a whole.

Noncontributing Resources

1. Radio Beacon House (Visitor Contact Station). Built in 1956 to replace the original wood frame structure erected in 1929. The building served to house the radio operator and equipment. The building is a single-story 20 by 32 foot concrete block structure on a poured concrete slab with single hipped roof. In 1992 Hurricane *Iniki* tore off the building's roof and gutted the interior. Roof replacement and interior rehabilitation were expedient rather than faithful to the 1956 original. Two of the original window openings were blocked up, and other windows and doors were replaced. The building is the only tangible evidence of the radio beacon that operated at the station from 1930 to 1973, yet the 1950s concrete block building does not convey a clear association with the 1930s period and has been altered over the years. The building's integrity is diminished.
2. Visitor Center/Environmental Education Center. This two-story concrete structure was built in 1988 into the west side of the spine connecting the lighthouse area and residential area of Kilauea Point.
3. Storage Shed/Lath Building. This one-story wood structure was built in about 1992, west of the Second Assistant Keeper's Quarters, about twenty-feet south of the Storage Shed.
4. Garage at Keeper's Quarters. One-story structure erected at each dwelling to replace carports damaged in Hurricane *Iniki*, (post-1992).
5. Garage at First Assistant Keeper's Quarters. See 4 above.
6. Garage at Second Assistant Keeper's Quarters. See 4 above.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance

(Enter categories from instructions)

Maritime history, Military

Architecture: Vernacular
and technology

Period of Significance

1913-1974

Significant Dates

May 1, 1913,
June 29, 1927

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location
- C** a birthplace or grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

U.S Light House Board

8. STATEMENT OF SIGNIFICANCE -- AMENDED

The Kilauea Point Light Station is nationally significant not only for its association with the evolution of trans-oceanic commerce, but also for its retention of unique architectural characteristics representative of the U.S. maritime tradition in the early twentieth century. The lens is one of seven second-order classical Fresnel lenses remaining in its original position in the United States. It is one of 22, including the seven in lighthouses, believed to exist across the nation.

The use of reinforced concrete was experimental in 1908 when the lighthouse was commissioned and it was completed prior to when standardized concrete specifications were published. The material was chosen, after the San Francisco earthquake, as a more stable material. The first concrete lighthouses were built in earthquake-prone areas such as California and Alaska, and to a lesser degree in Hawaii. The Kilauea Point Light Station is one of only eight surviving reinforced concrete lighthouse towers in the U.S. that were built before the standards for concrete construction were published in 1916.

The Kilauea Point Light Station was recognized for its important contributions to history with its listing on the Hawaii Register of Historic Places in 1974 and the National Register of Historic Places in 1979. At the time of its 1979 listing, only the lighthouse tower was included and its significance was identified for "its potential for historical archaeology and its role in communications, military, transportation, and navigation history", essentially Criteria A and D.

The 1970s documentation provides a very limited context statement and indicates a state level of significance. This amendment to the nomination was commissioned as part of a Historic Structures Report and Preservation Plan. This addendum contains information from archival sources and an expanded historic context that defines the "period of focus" of 1913-1927, although the lighthouse operated continuously until 1974. The significance of the Kilauea Point Light Station has been revised to the national level, because of its architectural importance as an early and excellent example of a reinforced concrete tower with classical detailing with an intact lantern and Fresnel lens, and because of its historical associations with the annexation of Hawaii and first trans-pacific flight by the U.S. military. The historic and architectural significance of the Kilauea Point Light Station extends well beyond the boundaries of Hawaii. With this amended nomination the Kilauea Point Light Station ensemble is considered for inclusion for listing under Criteria A and C. No archaeological investigations have occurred to confirm the potential for historical archaeological deposits, and therefore Criterion D does not appear to be appropriate and is withdrawn.

Criterion A:

As the northwestern-most vantage of the Hawaiian Island chain, Kilauea Point, Kaua'i, was chosen for a navigational aid by the United States Lighthouse Board soon after Hawaii gained territorial status. The light was perfectly positioned to provide guidance to ships from the East entering the channel to Oahu and from the West for half of the year when the currents were favorable. The brilliant double flash every 10 seconds also

played an unexpected but pivotal role in military aviation history. In 1927, the first attempt by U.S. Army pilots to fly non-stop from the West Coast to Hawaii was successful only because of a backward glance that caught the unique signal of the Kilauea light. Without this guide in the hours before dawn, the errant fliers would have overshot their mark and the U.S. military would have shelved their plans for strategic long-range air travel.

Historically, the lighthouse is associated with important themes and events in United States history. The themes of Hawaiian democracy, transportation and navigational aids, and the evolution of military flight are linked to the Kilauea Point Light Station. Annexation of Hawaii in 1898 by the United States generated a significant escalation in merchant shipping, with Honolulu becoming the crossroads of the Pacific. Yet, the rocky reefs, swift currents, and unpredictable winds posed challenges for the increasing number of vessels entering the channel between Kauai and Oahu.

By 1907, the Light House Board, part of the U.S. Transportation Department at that time, determined the need for a large light on the north coast of the Hawaiian Islands. The prominent point at Kilauea provided exactly the right conditions for a light that could be seen for miles at sea and direct ships into the channels at a great enough distance for safe passage in all weather. Funds were authorized in 1908, although construction did not begin until 1912. The lighthouse was dedicated on May 1, 1913, with a luau and shark shoot attended by numerous dignitaries as well as local residents from the nearby sugar plantation town of Kilauea.

The lighthouse gained national recognition as an aid to the first flight from California to Hawaii. In June, 1927, the first trans-Pacific flight almost ended tragically when the military pilots of *The Bird of Paradise*, Lester Maitland and Albert Hegenbeger, nearly missed the islands in the pre-dawn hours. They were low on fuel and heading for disaster when they glanced back and recognized the unique double flash of the Kilauea Point Lighthouse. The fliers circled Kauai until dawn and then flew on to safely land on Oahu. This flight confirmed the Air Corps' ability to deliver combat air power from continental airbases to remote regions of the world and encouraged the development of commercial trans-oceanic airline service.

Only two radio beacon towers were added to light stations in Hawaii, the Makupuu Point Light Station in 1927 and to the Kilauea Point Light Station in 1930. Radio beacons evolved from technological developments in radio communication achieved during World War I that proved they could be used as compasses by ships and aircraft heading toward or away from them. When a ship's radio could receive signals from two known radio beacons such as Makapuu and Kilauea, the signals could also be used to determine a ship or aircraft position through triangulation. Mariners could, the Lighthouse Service said, take bearings on the radio beacons at distances of up to 200 miles. In practice, ships reported hearing the beacons at distances of more than 1,000 miles. Kilauea Point's radio beacon thus extended the light station's service area and was an important companion to the station's flashing lens. The point's radio beacon house, which sheltered the operator and radio equipment, was a wood frame building was constructed in 1929. In 1956 the radio

beacon building was replaced with a concrete block building in about the same location. The radio beacon operated until 1973.

The station remained fully staffed until 1974 when it was automated, then in 1976 the light was moved to a beacon tower and the lighthouse was sealed. Kilauea Point Lighthouse was one of the last lights automated by the Coast Guard in the Hawaiian Islands.

Criterion C:

The Kilauea Point Lighthouse is a 52 foot tall reinforced concrete cylindrical tower with a glass and metal lantern housing a large clamshell lens. It has a distinctive, classical cast iron roof and finial ball. The French-made Fresnel lens, was one of the largest in the Pacific, and is one of only seven second-order lenses that are extant among lighthouses in the United States. The integrity of the light station is excellent. In addition to the lighthouse, the compound includes three lava rock bungalow keeper's cottages, an oil storage building, a storage shed/garage, the landing site, other secondary support structures, and landscaping.

The architectural merit of the lighthouse is exceptional. While all lighthouses serve a similar function, each is uniquely detailed to fit the specifications of size, candlepower, and range of sight that contribute to the design. The Kilauea Point Light Station is located at the northernmost tip of the island of Kauai in Hawaii. The lighthouse stands 52 ft tall upon a cliff overlooking the jagged, rocky shoreline 180 ft below. The cylindrical reinforced concrete tower is one of the earliest examples of this construction material and is a good example of the Classical Revival Style of the early twentieth century. The tower has a projecting base that tapers towards the top. Crowning the tower is a glass and bronze lantern for the large 2nd Order Fresnel, clamshell lens. The cornice displays a classical building entablature complemented by the temple front entry with pediment. Small rectilinear windows were situated at the first and second levels to light the interior rooms.

The use of reinforced concrete was experimental in 1908 when the lighthouse was commissioned and it was completed prior to when standardized concrete specifications were published. The material was chosen, after the San Francisco earthquake, as a stronger material. The first concrete lighthouses were built on the west coast and Hawaii. The Kilauea Point Light Station is one of only eight surviving reinforced concrete lighthouse towers in the U.S. that were built before the standards for concrete construction were published in 1916.

The masonry lava-rock Hawaiian plantation style Bungalows display excellent craftsmanship with coursed wall, quoining, watertable, and arched basement foundation wells. Concrete is used for headers and sills at the windows and doors and for the entry steps. The houses reflect a popular style that was adapted to the Hawaiian Islands and are good examples of the type.

Historic Context -- Amended

The U.S. Light House Board located, designed, and built Kilauea Point Light Station as a navigation device to assist mariners in determining their position at sea. Testimony by merchant ship captains operating vessels on the Trans-Pacific route suggested the beacon was necessary at this site for safely maneuvering through the Hawaiian channels. The increase in commercial shipping was directly related to the economic development of Hawaii, especially after its annexation by the United States. For this reason, maritime concerns provide the station's most important historical context because of its relevance to Hawaii's role as the "Crossroads of the Pacific." The light station is also associated with a significant aerial flight important in the history of the United States Air Force. Jim Gibbs, one of America's most noted lighthouse historians, has called it "one of the most important navigation aids in the islands." The Kilauea Point Light Station was also home to one of two U.S. Lighthouse Service radio beacons in Hawaii. These became feasible when 24-hour-a-day electrical service was available. The radio beacon technology provided navigational aid to both ocean and air traffic.

Kilauea Point's Maritime Significance

Kauai, the westernmost of Hawaii's islands and home to Kilauea Light Station, is on several great circle routes from Hawaii to Far Eastern ports, lying about 3,400 miles from Yokohama, Japan, 4,900 miles from Hong Kong, China, and 3,700 miles from Vladivostok, Russia. The island is only sixty-four miles, via Kauai Channel, from Honolulu, the central Pacific's only natural deepwater port. As early as the 1800s, mariners recognized Honolulu, with its protected anchorage of Pearl Harbor, as one of the four principal ports in the Pacific (the others being Papette, Levusia, and Apia). By the early 1900s, maritime strategists were touting the Hawaiian Islands as "The Crossroads of the Pacific."

The north coast of Kauai is the terminus of the Far East to Hawaii great circle route and became a natural landfall for ships making those transits. It is a relatively safe landfall, although the coast itself does not offer a safe harbor for deepwater vessels. Ships can avoid Kauai's few offshore hazards to navigation by staying at least two miles from the island's coast. Early inter-island canoe voyagers used Hanalei Bay as a Kauai destination, while Kilauea Bay, just southeast of Kilauea Point later served as a loading point for sugar cargoes sent to Honolulu on inter-island ships.

In justifying a light on the north coast of Kauai, the Light House Board cited the experience of the United States Navy's 1860s-vintage steam sloop of war, *USS Iroquois*. While cruising north of Kauai in 1899, the *Iroquois* sighted a bright light ashore when twelve miles at sea. The antiquated warship ran towards the coast for ten miles before the watch officer picked up the loom of land when two miles from shore and realized that the light seen was at least three miles inland.

Within five years of American annexation of Hawaii in 1898, a Presidential Executive Order on December 28, 1903, transferred the properties and problems of the Hawaiian lighthouse service to the United States Light-House Board. This came after Secretary of

Treasury, Leslie M. Shaw appointed W.H. Eustis to investigate Hawaiian aids to navigation. The board first extended the boundaries of its 12th Lighthouse District to encompass Hawaii, and then proposed a separate lighthouse district for Hawaii. The 19th Lighthouse District was organized in 1910 and assisted with the plans, already in progress, for the station at Kilauea Point.

At this time, there were eighteen lights, nineteen unlighted day beacons, and twenty-one buoys scattered through the islands. They were legacies either of the Hawaiian monarchy or the subsequent short-lived Republic of Hawaii. Although Hawaii's Territorial Secretary had, in 1901, obtained Light-House Board and Secretary of the Treasury approval for new lighthouses, Congress did not immediately appropriate construction funds.

By 1907, the Light House Board had determined the need for a first-order light on the north coast of Kauai. In its annual report for 1907, the board noted:

There is now no landfall light at the Hawaiian Islands for the large traffic from the Orient...With a first-order light at Kilauea Point the trans-Pacific commerce would be accommodated, leaving only certain additional beacon lights of the island type...to be installed for the benefit of inter-island traffic.

The board based its decision not only on the recommendations of lighthouse district officials, but also on the testimony of merchant ship captains and U.S. Navy hydrographers. Although westbound ships would benefit from a beacon at Kilauea Point for only six months out of the year because of seasonal wind and current changes, those coming from the East could use it as a landfall on a year-round basis. Cargo from the Orient to Hawaii typically included Japanese raw silk, coal, textiles, curios, rice, and all kinds of small manufactures. Japanese immigrant laborers headed for Hawaii's sugar plantations also provided a valuable cargo for the eastbound ships. Other goods critical to Hawaii's survival and economic growth were the foods and manufactured goods received from Australia, New Zealand, the Philippines, and Hong Cong.

A Pacific Coast-Hawaii-Japan shipping route first received encouragement in 1867 when Congress funded a mail contract that called for service from the West Coast to Japan, China, New Zealand, and Australia. As a result, Pacific Mail initiated the first steamship service between San Francisco to the Orient. Pacific Mail also encouraged United States' acquisition of Midway Island, approximately 1,200 miles northwest of Kauai, as a coaling station for ships traveling to and from the Far East. Although the mail subsidy ended in 1885, Pacific Mail continued to operate until 1925.

Given these economic incentives and natural features, it is not surprising that by the early 1900s, as merchant shipping between the United States' West Coast ports, Hawaii, and the Far East increased, authorities gave attention to developing navigational aids on the north coast of Kauai.

Demands of passenger service also stimulated use of Hawaii as a mid-ocean stopover. Hawaii's tourist attractions, a warmer and calmer southern route between ports of the Orient and West Coast ports, and the chance for a break in long voyages made the islands ports of call for many large combination liners. This was true in the Nineteenth Century and remained so today.

Kilauea Point Light Station was staffed from 1913 to 1974 and during this time there were no reported instances of ships on transpacific voyages meeting maritime misfortune near the Kauai landfall. The light station has a perfect record for successfully completing its mission as a guide to the Hawaiian channels and light beacon marking the most northwesterly tip of the chain.

Kilauea Point's Military Aviation Significance

In 1927, two U.S. Army pilots flying non-stop from California to Hawaii without radio contact or an accurate compass were saved by a serendipitous moment. Traveling through the dark pre-dawn sky, the pilot's recognized the low on the horizon double flash of the Kilauea Point lighthouse providing a critical point for reckoning their location. Without the beacon, the pilots would have overshot the islands and been lost.

This flight was one among many the fledgling Army Air Corps made to demonstrate its ability to deliver air power when and where needed. Beginning with a New York to Alaska flight in 1920, a number of transcontinental flights, and a round-the-world flight in 1924, Army fliers continually tested the limitations of the service's personnel and equipment.

Lieutenant General William L. "Billy" Mitchell, sometime deputy head of the Air Service and airpower prophet in this period was constantly pointing out threats to the United States and the ways in which airpower could meet them. A perceived Japanese threat to Hawaii was among those he postulated. It was no coincidence that Lester Maitland, one of the two pilots involved in the 1927 flight and an aide to Mitchell in 1920, first proposed such an expedition in 1919.

At 7:09 a.m. on June 28, 1927, Lieutenants Lester J. Maitland, pilot, and Albert F. Hegenberger, copilot and navigator, took off in a German-built C-2 Fokker tri-motor aircraft, named *The Bird of Paradise*, to attempt a record-breaking 2,418-mile nonstop flight from Oakland, California, to Honolulu, Hawaii. Hegenberger was both a pilot and aeronautical engineer.

If successful, the flight would demonstrate the Air Corps' capability for long distance over water flights and ability to move into a position from which they could both defend Hawaii from attack and control transpacific sea-lanes. If *The Bird of Paradise* went more than three-and-a-half-degrees off course, it would fly into oblivion.

Bird of Paradise took off from Oakland loaded with more than 1,000 gallons of high-octane gasoline, equipped with a radio receiver with which the aviators could follow radio beacons, a newly developed aviation compass, and three-dozen smoke bombs

for measuring drift. Despite almost immediate failure of the radio receiver and erratic compass operation, Maitland and Hegenberger's navigation from Oakland to Hawaii was flawless. Using sun shots and drift observations, they approached the Hawaiian Islands almost on schedule but in hours of darkness.

When carburetor icing forced the *Bird* from 11,000-feet to 4,000-feet, celestial navigation became impossible due to cloud cover. Hegenberger turned to dead reckoning. In the hours before dawn, he directed the aircraft on a more northerly course. Just before dawn broke, Maitland glanced out of his cockpit window and noticed a light more yellow than a star, which he first took to be a steamer. But because of its characteristic double flash, the aviators quickly identified the "steamer" as the Kilauea Point Light.

Retracing their route, Maitland and Hegenberger flew ninety miles back to Kauai and circled the Kilauea area until dawn. They then flew back to Wheeler Field outside Honolulu, landing at 6:30 a.m. on June 29, 1927. Nineteenth Lighthouse District Superintendent, Frederick Albert Edgecomb, met Maitland at a reception shortly after the *Bird's* arrival at Wheeler Field and learned that the Kilauea lighthouse had "saved their lives."

When Maitland and Hegenberger returned to the continental United States, they went to Washington, D.C. There, President Calvin Coolidge decorated them each with the Distinguished Flying Cross, the nation's third highest award for military aviators. Later the National Aeronautic Association presented them with its Mackay Trophy, for "the most meritorious flight of the year."

Maitland saw the Kilauea beacon by chance, but its presence and exhibited light averted disaster for the record-breaking flight. It therefore achieved significance in American military aviation history by enabling Maitland and Hegenberger to demonstrate the Air Corps' capability for long distance over water flight and thus, the ability to deliver combat air power from continental airbases to remote regions of the world.

The Kilauea Point Light Station continued to provide a service to aviators when in 1929, Lighthouse District officials decided to install a radio beacon at Kilauea Point. The beacon would broadcast a constant signal. Ships at sea could use radio direction-finding equipment, developed in World War I, to determine an azimuth to the beacon's location, thus supplementing the location information provided by Kilauea Point Light. G.R. Putnam, Commissioner of Lighthouses, approved the installation, estimated to cost \$11,750, on May 23, 1929 (Office of the Superintendent of Lighthouses, 1929).

Addition of the radio beacon to Kilauea Point's capabilities required construction of a radio house, sometimes called the radio beacon engine house, and antenna towers near the lighthouse. The nearly square, wood frame radio house, with cedar-shingled roof, sat thirty-five feet southwest of the light tower. The new structure held three K&W gasoline motors that powered two generators, two 300-watt transmitters, necessary

electrical panels, a desk and workbench. Fuel for the motors came from a large gasoline tank located just north of the oil house and sheltered from the elements by its half-buried position and a covering shed (Office of Superintendent of Lighthouses, 1929; 1930).

By August of 1930, the *Lighthouse Service Bulletin* announced Kilauea Point's operation of a 200-watt beacon with the characteristic signal of two dashes on a frequency of 300 kilocycles (300 kilohertz). The beacon sent its signal for one minute out of every three during fog and thick weather, and for the second fifteen minutes of every hour during clear weather. Mariners could, said the *Bulletin*, take bearings on the beacon at a distance of 100 or 200 miles. In fact, it proved much more effective. One ship reported in 1938 picking up the Kilauea Point beacon at a distance of 1095-miles from Kauai (De Wire 1989; King 1930; U.S. Department of Commerce 1930). In 1944, the radio beacon would double its power and in 1957 was switch to a continuous signal. In 1973, the Coast Guard discontinued the Kilauea Point radio beacon (U.S. Coast Guard 1944; 1957; 1973).

Kilauea Point's Architectural Significance

Kilauea Point Light Station is nearly perfectly intact since its active days as a navigational aid and it also has two significant architectural construction types that make it one of the better examples of its kind. Almost every building built during its active tenure as a light station still exists.

Lighthouse

The lighthouse is a good example of the Classical Revival Style. This style is characterized by features that are reminiscent of both the Greek and Roman styles. The cornice at the roof edge of the lighthouse represents the classical building entablature which includes a cornice, entablature, frieze and architrave. The frieze is plain and the exterior of the concrete tower surfaces are smooth. The corbels are undecorated. There is a classic symmetry to the lighthouse. The tower also has a temple entry with pediment. The entablature and roof line of the entry pediment is unadorned. All of this contributes to a simple classical style that was popular at the beginning of the 1900s.

Of all the historic building materials at Kilauea Point Light Station, the most significant is the reinforced concrete. This can be better understood by a short synopsis of concrete history and an explanation of how it relates to the time table of construction for the Kilauea Point Light Station.

The last quarter of the Nineteenth and first quarter of the Twentieth centuries were times of extensive development of reinforced concrete structures. In 1909, there were already 144 proprietary reinforced concrete systems in Europe. The biggest uncertainty at that time, however, was determining what the most effective way was to transfer stresses between the concrete and the steel used to reinforce it. In the U.S. during the first two decades of the Twentieth century, the use of structural reinforced concrete was considered experimental and construction projects were limited.

The first United States concrete design specification was published in 1908. It was not formally adopted by the construction industry at that time and was considered only an "advisory" document. In 1910, a new and vastly different version of the specification was approved by the National Association of Cement Users (NACU) and became the first industry standard. In 1913 the NACU became the American Concrete Institute, known today as ACI.

A significant part of this 1910 specification was that it recognized only a single strength of concrete, 2000 psi, and it still severely limited the types of structures on which reinforced concrete should be used. This "industry standard" strength of concrete was made typically with a 1:2:4 mix (1 part cement, 2 parts sand, and 4 parts aggregate). This was the industry standard concrete mix specification that was available to the Light House Board when it was designed in 1911. However, the existing historic concrete specifications for the light station called for a non-industry recognized mix ratio of 1:3:5, which exemplifies the observation, that the 1910 "industry recognized standard" was not highly adhered to. In addition to the variability of the mix ratios, the in-place strength of the concrete was highly variable depending on the amount of water added to the mix. The negative consequences of adding too much water to the mix were not known in 1910 and therefore were not an aspect of the industry approved design specifications available at that time.

Also in 1910, the first material specifications appeared for reinforcing steel and by 1911 the American Society for Testing and Materials (ASTM) had adopted its first standard specification for rebar. It included two types of bars, plain or deformed and each type was available in three grades: structural, intermediate and hard. A structural grade was typically used unless other grades were specifically called for. The light station concrete specifications called for "plain square rods or an approved style of deformed (preferably corrugated) bar" of "medium" grade. This may have meant "intermediate" grade.

New guidelines for reinforced concrete standards with provisions for the design of flat slabs and columns were not published by ACI until 1916.

According to the list of concrete lighthouses with the National Park Service Maritime Heritage Program, there are only eight surviving reinforced concrete lighthouse towers in the U.S. that were built before the ACI standardized reinforced concrete specifications were published in 1916. Only five of them are older than Kilauea Point Lighthouse. They were all constructed with a "new" material that was not very well understood at that time.

Of these eight lighthouses only the Point Arena Lighthouse in California (the first concrete lighthouse in the U.S.) is cylindrical like the Kilauea Point Lighthouse. It is not as tall, however, and the functions of the lighthouse are housed in a square one-story structure at the bottom of the tower. Three of the other concrete lighthouses were octagonal and the rest were square. Of these early concrete lighthouses, only the Kilauea Lighthouse still has its lens.

The decision to use this new building material was prompted by the San Francisco earthquake. The hope was that reinforced concrete would handle the shock of earthquakes better than unreinforced masonry, which was used more frequently at that time. The first concrete lighthouses were built in the earthquake prone states of California, Alaska, and Washington; and to a lesser extent, Hawaii.

At Kilauea Point Light Station, in addition to the lighthouse, the builders used reinforced concrete for nearly all the other support structures except the keeper's residences. The oil storage building, the three cisterns at the residences, the light station's 7,000-gallon water supply tank, and the derrick footblock down at the landing site were all built of reinforced concrete during the first phase of construction between 1912 and 1913. In addition, there were a variety of slabs, stairs, buildings, and secondary retaining walls constructed of concrete within the first 12 years of the light station's operation.

Keepers Quarters

The keepers' quarters reflect a vernacular adaptation of the plantation bungalow style. The one-story cottages have a low-pitched hipped roof, inset open front and rear porches with square columns. The use of a dominant native material is also indicative of the Bungalow craftsmanship and in this case is volcanic basalt stone. Concrete was used for the window lintels and sills, porch steps and flooring, and door lintels. The stone work is excellent with detail work such as quoining at the corners, around windows, and entries and the water table. Additionally, rounded arches demark the window wells of the basement. The porch steps are finished with stone sides. The masonry skill exhibited by the buildings is even more exceptional because the buildings are true masonry walls, not a veneer. The roughly squared stone walls are laid in courses with white mortar that was tooled. The white mortar accentuated the dark gray of the volcanic rock material. White paint was added to the concrete lintel and sill to further highlight the building's fenestration. Windows were simple double-hung style with wooden sash. The roof was covered with shingles and the overhanging rafters are boxed.

Bungalows were built by the thousands across the country in nearly every region of the United States in the early-twentieth century, and Hawaii was no exception. Each region embellished their bungalow designs with vernacular elements that allowed this universal style to fit within many different environments. The plantation style bungalow is common on the Hawaiian Islands. In addition to the usual Bungalow elements, the Hawaiian plantation version often included large wrap around lanais, or front or back porches, large broad overhangs, open rafter tails at the eaves, and simple classic details. They are built from a variety of materials including wood, stone, and coral. The Kilauea Point Light Station keepers' quarters embody the best of Hawaiian vernacular architecture.

The rubble stone structures of the Kilauea Point Light Station include the three keepers' residences, the upper retaining wall, the landing platform, and the rubble stone steps from the landing platform to the engine house. This rubble stone may be a true fieldstone that may have come from the nearby Kilauea Plantation or could have

already been in piles on the site. It was a common practice for sugar cane plantations to clear their fields. These rocks were often left in rock piles along the margins of the fields or used to line irrigation ditches.

According to archival information, the Makapuu Point Light Station on the island of Oahu had rubble stone keepers' quarters. These buildings are no longer standing. The Moloka'i Light Station at Kalaupapa has a rubble stone keeper's quarters. The Kalaupapa station was built in 1909, just prior to the Kilauea keepers' quarters.

The Kilauea Point Light Station rubble stone keepers' houses are load-bearing masonry walls, not a stone veneer. They are laid up in a coursed roughly squared masonry. The stone buildings in the town of Kilauea and the rubble stone retaining walls at the Light Station were built in the mid 1920s and are laid up in a random field stone pattern. The rubble stone keeper's house at Kalaupapa (Molokai) Light Station is also laid in a random field stone pattern.

The stone structures in the town of Kilauea were part of the Kilauea Sugar Plantation. It is widely thought that the plantation manager was influenced by the stone keepers' quarters at the light station when he built his stone house on the plantation in 1926. Since most of the stone residences and commercial buildings in Kilauea date from that time or later, the influence of the keeper's quarters can be seen as having a significant impact on the early architecture of the town.

Light Station Designers

The Kilauea Point Light Station was developed under the direction of Major E. Eleventh Winslow, Corps of Engineers, U.S. Army. Major Winslow directed the site survey and placement of the buildings, roadway, water tank, and landing, along with the station boundary. He was the Assistant to the Engineer for the 12th Lighthouse District, Honolulu, Territory of Hawaii. Hawaii became its own district, the 19th District, in 1910. The Lighthouse was constructed under the direction of G.R. Putnam and the quarters were built under the supervision of Lieut. U.S.N. Levi Sahm of the 19th District. According to the plans, the houses were drawn by A.E.A. and F.C.O., the initials relate to the in-house architects. Unfortunately, their names are not readily apparent. The initials on the lighthouse tower plans include F.C.P., A.W.F, H.B.B., and L.E.B. The storage/garage building was added in 1933 and was approved by F.A. Edgecomb, who was also instrumental in getting the radio beacon added to the site.

Kilauea Point Lighthouse Keepers

Kilauea Point's lighthouse keepers faced demanding jobs but unlike many of their fellow keepers on very isolated islands they had some opportunities for social interaction and alternatives to the standard supplies delivered annually or semiannually by the tender *Kukui*. The light station, just two miles from Kilauea Point, a small community serving workers at Kilauea Sugar Plantation, was near enough so that the keepers could occasionally visit. And, visitors to the lighthouse were very common, even in the first few years of operation.

Harry W. Flint became Kilauea Point's first head keeper. He supervised two aides, 1st Assistant Keeper David P. Haleamau and 2nd Assistant Keeper Luther K. Kalama. Both began work May 6, 1913. Thereafter Kilauea Point typically had a staff of three, although illnesses and other absences occasionally left the station short-handed. In October 1914 and January 1915, emergencies even pressed the supervisor of the construction crew, still at work, into service as a temporary head keeper (Aikin 1988:61-62).

The routine demands of a thirty-one-acre station, however, left the Kilauea Point staff little time for socializing or visiting Kilauea. The Lighthouse Service provided each keeper and assistant keeper with a one-hundred-six page *Instructions to Light-Keepers and Masters of Light Vessels* that detailed their duties and the manner in which they would carry out those duties (National Beacon, 2005).

Keepers had to light the lamp at sunset and extinguish it at sunrise. One keeper remained in the watch room throughout the night, or two would split the hours of darkness into two shifts. Those on duty wound the clockwork mechanism periodically, trimmed the lamp wick as needed, and made a detailed record of the night's happenings (Coast Guard Wives Website, 2005).

During daylight hours, the keepers continued their log keeping while meticulously shining brass in the lighthouse, polishing the lens, and cleaning lighthouse windows to remove accumulated salt spray. They sometimes strained the mercury, which would accumulate dust and slow the lens' rotation speed. It could take a keeper an entire day to clean just the lens and adjust the rotation mechanism. However, daytime was also the period for chipping rust and repainting, building and grounds maintenance, and other tasks such as monitoring and replenishing fuel supplies.

Samuel A. Amalu, who had begun his career with the Lighthouse Service in 1906, took up the post of head Keeper at Kilauea Point in 1915. During his first year as keeper at Kilauea Point, Amalu noted in his log that on one day thirty people from Kilauea and Hanalei (another community on Kauai's north coast) visited the station. His logs also recorded trips to ball games and movies in Kilauea and a polo game in Kapaa (on Kauai's western coast), and a visiting church service at the Keeper's quarters attended by twenty people (Aikin 1988:66-67).

This kind of interaction continued throughout Kilauea Point's life as an active light station. When Claude Platt, a Coast Guard quartermaster, took up his duties there in April of 1939, one of the advantages he noted was that his children could go to school in Kilauea. During Platt's tenure, at least one of the keepers had to remain on site to host visitors. The light station had become a tourist attraction, marked by a Hawaiian Tourist Bureau sign in Kilauea (Platt, 1984).

Stanley Huntington, a Coast Guard Chief Boatswain's Mate, was in charge of Kilauea Point from 1949 to 1954. Visitors were still coming, although Huntington made them take their shoes off before entering the lighthouse.

When David Kahaunale, a Kapaa native, received a Coast Guard posting to Kilauea Point Light Station in 1957, the staff was reduced from three keepers to two. The keepers alternated forty-eight-hour duty shifts. Visitors were still an important part of life at the light station, although limited staffing allowed for public access only on Mondays, Wednesdays, and Fridays. Many visitors arrived in large tour busses. These at first drove right up to the lighthouse, but sometime between September 1958 and 1960 were made to stop farther inland because of road deterioration (Kahuanele, 1985).

Kilauea Point Light Station's Chronology

Hawaii's second Territorial Delegate to Congress, Jonah Kuhio, sponsored legislation leading to a May 27, 1908 appropriation for lighthouse construction at Kilauea Point. Kuhio (Jonah Kuhio Kalaniana'ole) was a prince of Hawaii's former monarchy and had spent some time imprisoned for his involvement in an 1895 insurrection attempt before his election as a territorial delegate.

Kuhio's efforts and those of the Bureau of Light Houses led Congress to authorize up to \$75,000 for construction of a light station at Kilauea. Lighthouse officials made a preliminary survey of Kilauea Point in April of 1909. On June 7, 1909, the Lighthouse Board approved establishment of a light at the point (Palmer, 1913).

In December of that year, for a token payment of one dollar, the bureau purchased 31.4 acres of land, for a lighthouse reservation at Kilauea from the Kilauea Sugar Plantation Company. The deed for purchase was executed December 9, 1909, and the federal land reservation made January 21, 1910. The crest of the point and its outer boundaries, all steep cliffs, averaged about 180 feet above sea level (Palmer 1913). A federal land withdrawal added Mokaueaea Island to the reservation, soon after it was established.

The acquisition included a perpetual right-of-way of three-and-one-half-acres to the nearest public road, distant about 1.6 miles. By mid-June 1910, the Bureau had received from its officers in Hawaii a general plan for a Kilauea Point lighthouse and a requisition for a lens, lens pedestal, lamp, and standard first-order helical bar lantern. Planning costs amounted to \$3,088 at the close of the fiscal year, June 30, 1911 (Light House Board, 1909).

In 1911, the Bureau of Lighthouses, successor to the Light-House Board, issued a contract for work to begin July 6, 1912. Estimated completion date was April 1, 1913. Expenditures made for Kilauea Light Station construction prior to June 30, 1912, had totaled \$6,305.89 (Commissioner of Lighthouses, 1913).

Assistant Superintendent Frank C. Palmer of the 19th Light House District arrived at Kilauea Point in 1912 to supervise construction. A manufacturing firm under contract provided the lantern room metalwork for the tower, while hired labor and purchased materials provided for erection of the tower and other buildings. Delivery of materials posed the first problem. Nawiliwili harbor, on Kauai's south coast, although suitable for

delivery of the materials by ship, did not have a good overland connection with Kilauea Point. As a result, light station construction began with erection of a derrick with a power hoist below the point's southwest side that could unload construction supplies from lighters sent in from the tender *Kukui* lying off shore (Brown 2003:147).

The Bureau of Lighthouses reported that lighthouse construction of the Kilauea Point building operations began on July 8, 1912. A twenty-six-person construction crew made up of day laborers and mechanics landed at the point and began unloading materials for camp quarters, storage rooms, and the derrick. Completion of the derrick and landing platform within ten days made subsequent transfer of supplies much easier (Bureau of Lighthouses, 1912; Palmer 1913). Moving some construction materials such as sand via the derrick proved too expensive. Instead, an inclined wire hoist moved sand from the beach to the top of the cliff with teams delivering it to building sites (Palmer 1913:5-6).

By August 16, 1912, an inspector from the Bureau of Lighthouses Washington, D.C. headquarters had approved the metalwork, manufactured by The Champion Iron Company, Kenton, Ohio. The various parts, then being painted, would be shipped around August 17 (Bowerman 1912).

The French firm of Barbier, Benard, and Turenne manufactured the lens in 1912 and sold it to the lighthouse service for \$12,000. When the time came to assemble the Kilauea Point lens, Palmer sent an urgent message to 19th District Chief Frederick Albert Edgecomb, who had been dispatching supplies from his Honolulu headquarters. Lens assembly instructions, packed with the lens, were in French, a language with which Palmer was not familiar. Edgecomb traveled on an inter-island ship to Anahola Bay, a landing between Kilauea and Nawiliwili, then fifteen miles by horseback to Kilauea Point. There, his engineering and language skills helped to make the lens operational in May 1913. Service building and residence construction at Kilauea would continue until 1915, with a supplemental appropriation of \$3,000 needed that year to complete work. In its annual report for 1913, the Bureau of Lighthouses could report establishment of a second-order, oil-vapor light giving about 250,000 candlepower illumination at Kilauea Point, Kauai Island, Hawaii (Brown 2003:148-149; Bureau of Lighthouses 1913, 1915).

The Kilauea Point Light Station went into commission on May 1, 1913. The lighthouse's gray cement was left unpainted until 1924 when it was painted white (U.S. Department of Commerce, 1925).

The builders achieved a good foundation for the lighthouse itself by excavating, pouring concrete footings eighteen-inches in diameter, and creating a basement with a depth of eleven feet. The reinforced concrete conical lighthouse measured fifty-three-foot-one-inch from ground level to the top of the ventilator ball. With a fifteen-foot-four-inch exterior diameter and twelve-foot interior diameter at ground level, the structure rested on a cylindrical foundation. At lantern room floor level, the tower's exterior diameter was fourteen-feet-two-inches and its interior diameter was twelve-

feet-six-inches. Including the basement, the lighthouse had four stories connected by circular flights of cast iron stairs attached to the tower's interior walls.

Access was through a first-floor vestibule entrance with cast iron ten-panel door in a wrought iron doorframe on the south, or inland side, of the tower. A two-foot-three-inch by three-foot-six-inch window centered above the door and another window on the east side of the tower provided light for the ground floor. Additional two-foot-five and one-half-inch by one-foot-nine-inch windows on the east and west sides of the tower provided natural light for the service room or second story. Nine louvered openings with adjustable vents spaced around the circumference at the top of the tower provided airflow control for the service, watch, and lantern rooms. Fourteen small octagonal glass panels in the iron floor of the lantern room provided light to the watch room below. The glass-walled lantern room, containing the second-order lens, had a two-panel glass door leading to an outside gallery with cast iron floor and wrought iron railing. Sixteen-inch by thirty-inch transom or window wells on the north, east, and west sides provided illumination for the basement room. Curtains on spring rollers provided a means of shielding the lens from sunlight and limiting the cast of its beam to seaward (Bureau of Lighthouses 1911; 1912; Nineteenth Lighthouse District 1933).

A wrought iron clock-weight tube located in the center of the tower terminated at its upper end at the watch room floor. It housed the clockwork mechanism and served as additional support for three of the floors and the lens. The clockwork could turn the lens for three hours and forty minutes before rewinding was necessary. The lens, a helical bar lantern, occupied the highest story or lantern room. Below the lantern room was the watch room. An air lock on the connecting stairs separated the watch room from the service room below (Commissioner of Lighthouse, 1913:103-104).

The illuminating apparatus housed in the lantern room consists of a second-order flashing lens composed of two groups of panels, each panel subtending at an angle of forty-five degrees. Seven refracting and seventeen reflecting prisms made up each panel. A special caulking called letharge held the prisms in place within brass frames. A fifty-five-millimeter double-tank incandescent oil vapor lamp provided the light source. The lens rotated on a mercury float with air assist. The clockwork mechanism maintained motion of one complete revolution every twenty seconds. It exhibited a double white flash every ten seconds, a characteristic it would maintain until switched to a single flash every ten seconds in 1976. The light's focal plane was 217-feet above mean high water, with the light being visible at a distance of twenty-one miles in clear weather (Bureau of Lighthouses, 1911; Commissioner of Lighthouses 1913:104; U.S. Coast Guard 1976).

Support structures needed for the early years of operation, but that are no longer extant include an engine house and workshop, a derrick, and a temporary roadway that connected the landing platform to the cliff top station area. An inclined railroad was installed to make distribution of materials easier from the landing, but this has also been removed (Palmer 1913:3-4). A barn from the Kilauea Sugar Cane Plantation

Company was used as a garage for several years, but was finally torn down in the 1930s.

Support buildings that date to the initial years of operation and are still present and in use at the station include an oil storage building, three residences, three cisterns and a water tank. The oil house is a small, reinforced concrete building. The houses are one-story, rubble stone cottages placed about 300-feet apart in a triangular plan (Palmer 1913:3). At the highest point of the station on the southeastern margin a 7000-gallon reinforced concrete water tank was built. At a cost of \$25.00 per year, the lighthouse service purchased water from an irrigation ditch belonging to the Kilauea Sugar Cane Plantation Company and used a gas-engine-driven power pump to feed it to the water tower. A galvanized two-inch pipe laid over the road right-of-way distributed gravity-fed and occasionally pump-driven water from the tower for sanitary and general use on the reservation (Commissioner of Lighthouses 1913:104).

When Kilauea Point first exhibited its beacon on May 1, 1913, station work was ongoing. Additional miscellaneous work to be done entailed installation of a return answer call bell system connecting the tower and dwellings; grading at the tower site plus grading and surfacing of roadways; fencing of the reservation boundaries and construction of permanent survey monuments; permanent guard rails along the tower roadway where it skirted the cliff; improvement of the landing by construction of a chain hand rail and steps on the cliff; and a few minor items such as shelves in the tower and dwellings, and pathways. Work stopped, however, on June 30, 1913, when funds ran out. Palmer estimated that he needed \$2,900 to finish station construction. The Light House Bureau scrambled for funds and received a supplemental appropriation. The 1915 annual report declared that the Kilauea Point Light Station was complete (Bureau of Lighthouses 1915:136; Palmer 1913:5,8).

Kauai's principal newspaper, *The Garden Island*, overlooked the not-quite-finished construction to hail the light station's illumination. The paper's May 6, 1913, front-page headline announced "Biggest Lamp in the World Flings Signal of Protection to the Sailor Boy." Superintendent Palmer, aided by Kilauea Sugar Cane Plantation manager J.R. Myers and "other leading citizens," said *The Garden*, had "pushed the button which set in motion the 250,000 candlepower lamp which responded as if by magic..." (The Garden Island 1913:9(18)). By February of 1914, however, Lighthouse Bureau officials were making repairs to the mercury vat to correct honeycombs and pitting caused by the casting process in France (Office of the Inspector 1914).

Alterations

In 1919, a reinforced concrete engine house was built to shelter the motor at the derrick (Office of the Superintendent of Lighthouses, 1919). This building is no longer present.

Evidently, in 1925 the Lighthouse Service added storm doors or plank Arctic entryways to the front and back entrances of the three keepers' residences. This was also the year that a small extension was added to the back (east) side of the oil house to provide for a toilet there (Office of the Superintendent of Lighthouses, 1925a; 1925b).

The Lighthouse Service also constructed a retaining wall and spillway at the freight landing below the cliffs (Office of the Superintendent of Lighthouses, 1925c).

In 1927, a concrete walkway and concrete steps were built from the north side of the Second Assistant Keeper's Residence to the flat below just to the west of the Store House. This was also the year in which the tender *Kukui* went out of service. Thereafter, inter-island shipping brought light station supplies to Nawiliwili Harbor or Ahukini Landing on Kauai's south coast. From there, trucks brought them to Kilauea Point. This led the Lighthouse Service to dismantle the point's derrick and landing platform (Aikin 1988:85; Office of the Superintendent of Lighthouses, 1927).

In 1928, a four-foot-six-inch-high concrete retaining wall was constructed in back of the First Assistant Keeper's Dwelling (Office of the Superintendent of Lighthouses, 1928).

In 1929, Lighthouse District officials were planning for installation of a radio beacon at Kilauea Point. The beacon would broadcast a constant signal. Ships at sea could use radio direction-finding equipment, developed in World War I, to determine an azimuth to the beacon's location, thus supplementing the location information provided by Kilauea Point Light. G.R. Putnam, Commissioner of Lighthouses, approved the installation, estimated to cost \$11,750, on May 23, 1929 (Office of the Superintendent of Lighthouses, 1929).

Addition of the radio beacon to Kilauea Point's capabilities required construction of a radio house, sometimes called the radio beacon engine house, and antenna towers near the lighthouse. The nearly square, wood frame radio house, with cedar-shingled roof, sat thirty-five feet southwest of the light tower. The new structure held three K&W gasoline motors that powered two generators, two 300-watt transmitters, necessary electrical panels, a desk and workbench. Fuel for the motors came from a large gasoline tank located just north of the oil house and sheltered from the elements by its half-buried position and a covering shed (Office of Superintendent of Lighthouses, 1929; 1930).

One eighty-foot antenna tower was built just east of the radio house, which by 1934 had a small addition on its north side. The other tower was located about 300 feet southeast of the first. Each of the four supporting legs were secured to concrete blocks. In 1944, the radio beacon doubled its power and in 1957 was switched to a continuous signal. In 1973, the Coast Guard discontinued the Kilauea Point radio beacon (U.S. Coast Guard 1944; 1957; 1973).

Installation of the electrical generators necessary to power the beacon permitted electrification of the lighthouse and the rest of the light station. The Kilauea Point Lighthouse itself was the first structure at the station to benefit from the available electricity. The same *Lighthouse Service Bulletin* that announced the new radio beacon also advised that the Kilauea Point Light, electrified, had increased its intensity from 240,000 to 540,000 candlepower. The oil vapor apparatus previously used remained in place as a standby (U.S. Department of Commerce 1930; Office of Superintendent of Lighthouses, 1930; 1931).

In 1933, a twenty-five by seventeen foot storage shed/garage was constructed from plans approved by F. A. Edgecomb. The wood frame building was sided with tongue and groove vertical boards, with a concrete floor, cedar shingle roof, and three tri-fold doors on the gable side (Office of Superintendent of Lighthouses 1933).

In 1934, the availability of electricity onsite made telephone connections between the lighthouse and keepers' residences possible. Also in this year, a 500-watt bulb replaced a smaller lamp, increasing Kilauea's candlepower to an intensity of 1,100,000 (Edgecomb 1939).

In 1939, an electric motor replaced Kilauea Point's clockwork rotation mechanism, although the latter was retained as a standby.

On December 7, 1941, Japanese aircraft flew past the station and around the Kauai coast toward Pearl Harbor. The point's light and radio beacon were shut down for the duration of World War II. The daily routine of the petty officer in charge and his crew of six consisted of making sure that equipment was operable and logging sightings of passing aircraft and vessels. The routine was broken with general quarters, air raid, and fire drills, along with flashing light, machine gun and pistol, and first-aid training. Few changes were made to the light station's buildings, although by March of 1942 window glass had been painted black (Log Books of Kilauea Point Light Station 1944-1948).

In 1956, a single-story, concrete block building with concrete slab floor and wood roof replaced the 1930 radio beacon building, which was razed after being damaged in a hurricane (U.S. Coast Guard, 1956).

In 1955, Coast Guard officials renovated bathrooms and kitchens in the Kilauea Point dwellings (U.S. Coast Guard 1955). In 1962, Coast Guard officials carried out extensive repairs to Kilauea Point dwellings. This included revamping electrical systems and window replacements (U.S. Coast Guard 1962).

In 1974, the Coast Guard automated Kilauea Point Light. At this time, lighthouse windows and ventilation devices were filled in with concrete. An electronic optic was strapped to the railing outside the lantern room (U.S. Coast Guard 1974).

In 1976, because of concerns about the exposure of personnel servicing the optic outside the lantern room to mercury residue inside the lighthouse tower, the Coast Guard decommissioned Kilauea Point Lighthouse. A twenty-four-inch rotating beacon mounted on a twelve-inch-square, ten-foot-high concrete column replaced the tower light and the beacon characteristic changed to a single white flash (U.S. Coast Guard 1977; 1982).

In 1980, the Coast Guard contracted for repair of cracked and spalling concrete, concrete surfaces showing rust bleed through, and sandblasting and painting of

catwalk, handrails, roof, and ventilation hood at the lighthouse (U.S. Coast Guard 1980).

In 1983, the U.S. Coast Guard again arranged for contract repair and maintenance at the lighthouse, including replacement of the catwalk trapdoor (U.S. Coast Guard 1983).

In 1985, the U.S. Coast Guard transferred Kilauea Point Light Station to the General Services Administration, which in turn passed the property to the U.S. Fish and Wildlife Service.

In 1988, the U.S. Fish and Wildlife Service constructed a new visitor center, sometimes referred to as an environmental education center, about halfway between Kilauea Point Lighthouse and the former Keepers' residences (USFWS 1988).

In 1989, Coast Guard officials removed the mercury used for the mercury float supporting the Fresnel lens as part of a decontamination effort. This made the lens inoperable. Later in 1989, in connection with celebration of the 200th anniversary of the founding of the U.S. Lighthouse Service, volunteers pieced a temporary system together allowing brief operation of the lens without the mercury float (Caldwell and Thomas 1999:7-8; Western Archaeological and Conservation Center 1989).

In 1990, U.S. Fish and Wildlife Service officials renovated the Kilauea Point Keepers' quarters, renovating windows, bathrooms, and kitchens, electrical and plumbing systems. They also had the lighthouse repainted (USFWS 1990-1991).

In 1992, Hurricane *Iniki* inflicted extensive damage on Kilauea Point Light Station, including damage to the 1912 Fresnel lens (USFWS 1992). Following the hurricane, the lighthouse was repainted and the door was replaced. Repairing hurricane damage also included removing storm debris, completing emergency repairs to dwellings and the visitor center, and repairing the entrance gates, walls, walkways, and parking areas (USFWS 1993).

In 1995, Kilauea Point's electrical system was re-converted from an overhead to an in-ground system (USFWS 1995). In 1997, Kilauea Point Lighthouse was once again repainted and had its door replaced (USFWS 1997).

In 2001, the U.S. Fish and Wildlife Service installed ADA compliant concrete sidewalks on the point. The walkway extends parallel with the Oil House, north to the edge of the cliff, to the lighthouse, and to the former radio beacon building, then connects with the visitor contact station (USFWS 2001).

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Gibbs, Jim

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- 1965 *The Compact History of the United States Air Force*. Hawthorne Books, Inc., New York.

Hanable, William S., Licht, Susan L. Licht, John W. Cowan, and Alexandra Licht

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- 1929 "Radio Safety," *Annals of the American Academy of Political and Social Science* 142, Supplement: Radio (March 1929:67-70).

Kahuanele, David K.K.

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United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet

Kilauea Point Light Station, 9-3

Kauai, HI

King, H.D.

1930 Acting Commissioner of Lighthouses to the Hydrographer, Navy Department, July 9, 1930. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

Light House Board

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1910 *Report of the Light House Board, Report of Department of Commerce and Labor, 1910, USS 6034.*

Love, Dean

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Maitland, Lester J.

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Site File, Hawaii, No. 21. Old Military and Civil Records LICON, Textual Archives Services Division (NWCTB).

National Beacon

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United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet

Kilauea Point Light Station, 9-4

Kauai, HI

Office of the Inspector, Nineteenth District

February 18, 1914 "Plan of Mercury Vat Showing Casting Faults," On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

Office of the Superintendent of Lighthouses, Nineteenth District

1919 "Reinforced Concrete Engine House Kilauea Light Station – Kauai, As Constructed Dec 1919," On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1925a "Kilauea Lt. St. Kauai W.C. Addition to Oil House," March 11, 1925. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1925b "Kilauea Pt. Light Station Storm Doors for Dwellings," July 29, 1925. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1925c "Kilauea Point Light Station Freight Landing & Culvert Install," May 7, 1925. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1927 "Kilauea Pt. Light Sta. Concrete Walk & Steps in Front of Keeper's Dwelling," January 15, 1927. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1928 "Kilauea Pt. Light Sta. Concrete Retaining Wall Back of 2nd. Asst. Dwelling," November 15, 1928. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1929a "Recommendation as to Aids to Navigation," Mary 4, 1929. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1929b "Kilauea Pt. Light Station Radio Beacon Engine House," October 17, 1929. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1930a "Kilauea Pt. Light Sta Shed Over Gaso. Tank," July 14, 1930. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1930b "Kilauea Pt. Light Station Radio Beacon & Lighthouse Wiring Diagrams," November 9, 1930. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1931 "Kilauea Pt. Light Station, Circuit Arrangement in Powerhouse & Dwellings," October 9, 1931. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1932 "Description of Kilauea Point Light Station," January 3, 1933. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

1933 "Kilauea Point Light Sta. Storage Shed," May 4, 1933. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

Palmer, F.C., Superintendent, 19th Lighthouse District

1913 "Report of the Construction of Kilauea Point Light Station, T.H. With Recommendation and Estimate for Completion," December 15, 1913. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

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1984 Transcript of interview September 3, 1984,. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet

Kilauea Point Light Station, 9-5

Kauai, HI

U. S. Department of Commerce

- 1913-1917 *Light List* (1913-1976). United States Government Printing Office, Washington, D.C.
- 1930 U.S. Department of Commerce, "New Radiobeacon in Hawaii to Guide Trans-Pacific Shipping," *Lighthouse Service Bulletin* IV(8) (August 1, 1930): 31, copies on-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

U.S. Lighthouse Service

- 1930 *Lighthouse Service Bulletin* IV(8), August 1, 1930:31.

U. S. Coast Guard

- 1944 *Light List*, "Kilauea Point". U.S. Government Printing Office, Washington, D.C.
- 1957 *Light List*, "Kilauea Point". U.S. Government Printing Office, Washington, D.C.
- 1973 *Light List*, "Kilauea Point". U.S. Government Printing Office, Washington, D.C.
- 1976 *Light List* "Kilauea Point.". U.S. Government Printing Office, Washington D.C.
- 1955 "Kilauea Light Sta., Kilauea, Kauai, T.H., Keeper's Dwelling Renovation of Kitchen & Bathrm." On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.
- 1956 "Kilauea Pt. Light Sta., Kauai, T.H., Radio Beacon Building," March 26, 1956. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.
- 1962 "Kilauea Light Station, Kilauea, Kauai, Hawaii, Rehabilitation of Quarters," May 25, 1962. On-file Kilauea Point Archives, Kilauea National Wildlife Refuge.
- 1974 "Kilauea Pint Light Station Automation," July 12, 1974. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.
- 1980 "Specifications for Lighthouse Maintenance at Kilauea Point, Kauai, Hawaii," April 1980. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.
- 1982 "Proceedings of a Board of Survey, Kilauea Point Light Station, Kauai, Hawaii," May 20, 1982. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.
- 1983 "Lighthouse Repairs at Kilauea Point, Kilauea, Kauai, Hawaii," November 1983. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

U.S. Department of Commerce

- 1925 *Light List*, "Kilauea Point". U.S. Government Printing Office, Washington, D.C.

U.S. Fish and Wildlife Service

- 1988 "Visitor Center," Drawings 1R-HI-855-21," et seq., Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 1990-1991 "Quarters Renovations," Drawings 1R-HI-855-1.0 to 4.0, 1990-1991, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 1990 "Invitation for Bids FWS1-90-123(LFG) for Painting Lighthouse at Kilauea Point National Wildlife Refuge, Kauai, Hawaii," August 23, 1990. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

**United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet**

Kilauea Point Light Station, 9-6

Kauai, HI

- 1992 "Lighthouse Painting and Door Replacement," Drawing 1R-HI-855-23-1.1, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 1993 "Hurricane Damage Restoration Index," Drawing 1R-HI-855-31-1.1, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 1995 "Overhead to Underground Conversion," Drawing 1R-HI-855-35-1.1, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 1997 "Lighthouse Painting & Door Replacement," Drawing 1R-HI-855-35-1.0, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.
- 2001 "Sidewalk Construction Site Plan," Drawing 1R-HI-855-36-1.0, Engineering Division, Region One, U.S. Fish and Wildlife Service, Portland.

Western Archeological and Conservation Center

- 2001 "Conservation Examination Report and Treatment Proposal,, Kilauea Fresnel Lens," undated but based on a September 1-2, 2001 inspection and examination of Coast Guard records in Honolulu. On-file Kilauea Point Archives, Kilauea Point National Wildlife Refuge.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register of Historic Places, October 18, 1979
- previously determined eligible by the National Register
- designated a National Historic Landmark

- recorded by Historic American Buildings Survey
- recorded by Historic American Engineering

Primary location of additional data:

- State historic preservation office
 - Other state agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository:
USFWS, Region 1,
Cultural Resources Office,
20555 SW Gerda Lane, Sherwood,
OR 97140; and Kilauea Point NWR,
PO Box 1128, Kilauea, HI 96754

10. Geographical Data

Acreage of Property -- Amended

The 31.4 acre parcel includes the original boundary for the Kilauea Point Light Station as established by a survey completed in 1909.

UTM References -- Amended

The following UTM references use the NAD 83 Datum.

| Zone | Easting | Northing | |
|------|---------|----------|--|
| 4N | 458486 | 2458630 | Point A, Northernmost point |
| 4N | 458638 | 2458579 | Point B, Northeast point |
| 4N | 458835 | 2458326 | Point C, Southeast boundary (north end) |
| 4N | 458698 | 2458326 | Point D, Southern point on boundary |
| 4N | 458585 | 2458082 | Point E, Boundary extending northwest to jog |

**United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet**

Kilauea Point Light Station, 10-1

Kauai, HI

| | | | |
|----|--------|---------|---|
| 4N | 458552 | 2458070 | Point F, Boundary where it jogs slightly southwest |
| 4N | 458299 | 2458258 | Point G, Southwest boundary point |
| 4N | 458510 | 2458464 | Point H, Landing site and cove on western shore line. |

Verbal Boundary Description -- Amended

(Describe the boundaries of the property on a continuation sheet.)

Points A and B define the northernmost tip of the Kilauea formation, where the lighthouse tower is situated. Point H identifies the landing site in the cove. Points C-G mark the original boundary of the station as surveyed in 1909. Essentially, everything north of Points C-G to the coast line is included in the Kilauea Station boundary. The Island of Mokuaeae was later added to the station, but then deleted because it was not used by the Coast Guard. The 31.4 acre parcel encompasses all of the buildings, structures, and features discussed in this nomination form.

As per the 1974 nomination form: "The Kilauea Point Lighthouse occupies a 31 acre site bounded on the south, east, west by the Kilauea Sugar Company and is surrounded on its north perimeter by steep cliffs and the ocean. It occupies TMK 5-2-04:17" (Miller 1974).

Boundary Justification -- Amended

(Explain why the boundaries were selected on a continuation sheet.)

This is the original boundary based on the 1909 survey map. The Mokuaeaea Island was included in the boundary in about 1911, but was never used by the light station and was returned to the State of Hawaii in 1962.

11. Form Prepared By

| | | |
|-----------------|--|---------------------------------|
| name/title | <u>William S. Hanable, Managing Director and Susan L. Licht, AIA</u> | |
| Organization | <u>Northwest Heritage Consultants</u> | date <u>May 12, 2006</u> |
| street & number | <u>6281 Walina Court SE</u> | telephone <u>(503) 749-4428</u> |
| city or town | <u>Salem</u> | state <u>OR</u> |
| | | zip code <u>97301-9141</u> |

Property Owner

Kilauea Point Light Station
U.S. Fish and Wildlife Service
Kauai National Wildlife Refuge Complex
PO Box 1128
Kilauea, HI 96754
808-828-1413

Additional Documentation

Submit the following items with the completed form:

Maps

- 1 USGS Anahola, Hawaii, 7.5' Quadrangle Map indicating Property Location.
- 2 Kilauea Point Light Station Site Plan, reproduction of 1909 map.

Photographs

Photo Labeling Continuation Sheet Number 1

1. Kilauea Point vista from south, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD1
2. Kilauea Point lighthouse south elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD2
3. Kilauea Point lighthouse northwest elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD3
4. Kilauea Point Barbier, Bernard & Turenne Fresnel Lens No. 9696, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD4 (from Kilauea Point Archives, undated)
5. Kilauea Point oil storage building west/south elevations, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD5
6. Kilauea Point Keeper Quarters 1 east elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD6
7. Kilauea Point Keeper's Quarters 1 south/east elevations, Kilauea Point Light Station, Kauai, HI, HI-KauaiCounty_KilaueaLSD7
8. Kilauea Point Keeper's Quarters 1, west elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD8
9. Kilauea Point Keeper's Quarters 1 Cistern, south elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD9
10. Kilauea Point Keeper's Quarters 2, west/north elevations, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD10
11. Kilauea Point Keeper's Quarters 2, east elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD11
12. Kilauea Point Keeper's Quarters 2, west elevation and cistern, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD12
13. Kilauea Point Keeper's Quarters 3, north and west elevations, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD13
14. Kilauea Point Keeper's Quarters 3, north and east elevations, Kilauea Point Light Station, Kauai, HI, HI-KauaiCounty_KilaueaLSD14
15. Kilauea Point Keeper's Quarters 3, east and south elevations and cistern, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaLSD15
16. Kilauea Point Landing Station, vista from northeast, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaPointLSD16
17. Kilauea Point Landing Station Engine House Ruins, east/south elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaPointLSD17

**United States Department of Interior
National Park Service
National Register of Historic Places
Continuation sheet**

Kilauea Point Light Station, 11-2

Kauai, HI

18. Kilauea Point Water Tank, east elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaPointLSHD18
19. Kilauea Point Historic Garage, west elevation, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaPointLSHD19
20. Kilauea Point Radio Beacon House (Visitor Contact Station), east and south elevations, Kilauea Point Light Station, Kauai, HI, HI_KauaiCounty_KilaueaPointLSHD20

Photo Labeling Continuation Sheet Number 2

Item 3: Name of Photographer: William S. Hanable for all photos except HI_KauaiCounty_KilaueaPointLSHD3, 17, and 18. Credit: Northwest Heritage Consultants for U.S. Fish and Wildlife Service.

Name of Photographer: Susan L. Licht, AIA for photos HI_KauaiCounty_KilaueaPointLSHD3, 17, and 18. Credit: Northwest Heritage Consultants for U.S. Fish and Wildlife Service.

Name of Photographer: Mike Hawkes, all Black & White photos, US Fish and Wildlife Service.

Item 4: Date of Photographs: March 11, 2005 for all photos except HI_KauaiCounty_KilaueaPointLSHD17 and 18.

Date of Photographs: March 16, 2005 for photos HI_KauaiCounty_KilaueaPointLSHD 17.

Date of Photographs: February 3, 2006 for photo HI_KauaiCounty_KilaueaPointLSHD18. Photo HI_KauaiCounty_KilaueaPointLSHD4 is from Kilauea Point Archives, undated.

Date of Photographs: August ?, 2006 for all Black & White photos.

Item 5: Location of Original Negative: B&W negatives, stored at USFWS, Cultural Resources Team Office, 20555 SW Gerda Lane, Sherwood, OR 97140.

Item 6: Description of View Indicating Direction of Camera:

1. HI_KauaiCounty_KilaueaPointLSHD1: Kilauea Point Light Station, vista, looking north.
2. HI_KauaiCounty_KilaueaPointLSHD2: Kilauea Point Light Station lighthouse center, oil storage building right, looking north.
3. HI_KauaiCounty_KilaueaPointLSHD3: Kilauea Point Lighthouse, looking southeast.
4. HI_KauaiCounty_KilaueaPointLSHD4: Barbier, Bernard & Turenne Fresnel Lens No. 9696, vantage point unknown.
5. HI_KauaiCounty_KilaueaPointLSHD5: Oil Storage Building, looking northeast.
6. HI_KauaiCounty_KilaueaPointLSHD6: Keeper's Quarters 1, looking west.
7. HI_KauaiCounty_KilaueaPointLSHD7: Keeper's Quarters 1, looking northwest.
8. HI_KauaiCounty_KilaueaPointLSHD8: Keeper's Quarters 1, looking east.
9. HI_KauaiCounty_KilaueaPointLSHD9: Keeper's Quarters 1 cistern, looking north.
10. HI_KauaiCounty_KilaueaPointLSHD10: Keeper's Quarters 2, looking southeast.
11. HI_KauaiCounty_KilaueaPointLSHD11: Keeper's Quarters 2, looking west.

12. HI_KauaiCounty_KilaueaPointLSHD12: Keeper's Quarters 2 and cistern, looking east.
13. HI_KauaiCounty_KilaueaPointLSHD13: Keeper's Quarters 3, looking southeast.
14. HI_KauaiCounty_KilaueaPointLSHD14: Keeper's Quarters 3, looking southwest.
15. HI_KauaiCounty_KilaueaPointLSHD15: Keeper's Quarters 3, looking northeast.
16. HI_KauaiCounty_KilaueaPointLSHD16: Landing Station, looking southwest.
17. HI_KauaiCounty_KilaueaPointLSHD17: Landing Station Engine House Ruins, looking northwest.
18. HI_KauaiCounty_KilaueaPointLSHD18: Water Tank, looking northwest.
19. HI_KauaiCounty_KilaueaPointLSHD19: Historic Garage, looking east.
20. HI_KauaiCounty_KilaueaPointLSHD20: Radio Beacon House (Visitor Contact Station), looking northwest.

Additional Items

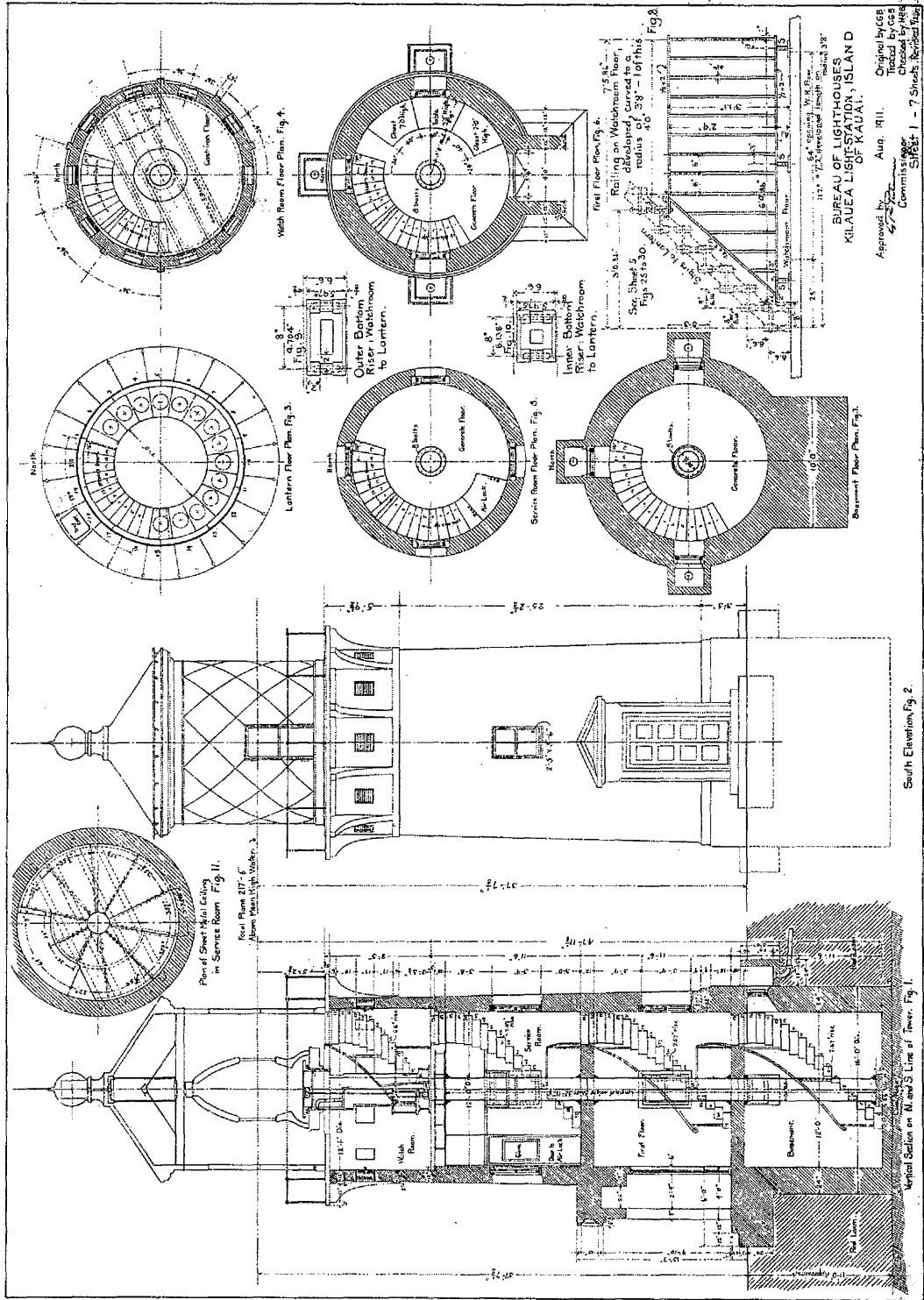
Kilauea Point Light Station Structures Map Key

(clockwise from 12 o'clock))

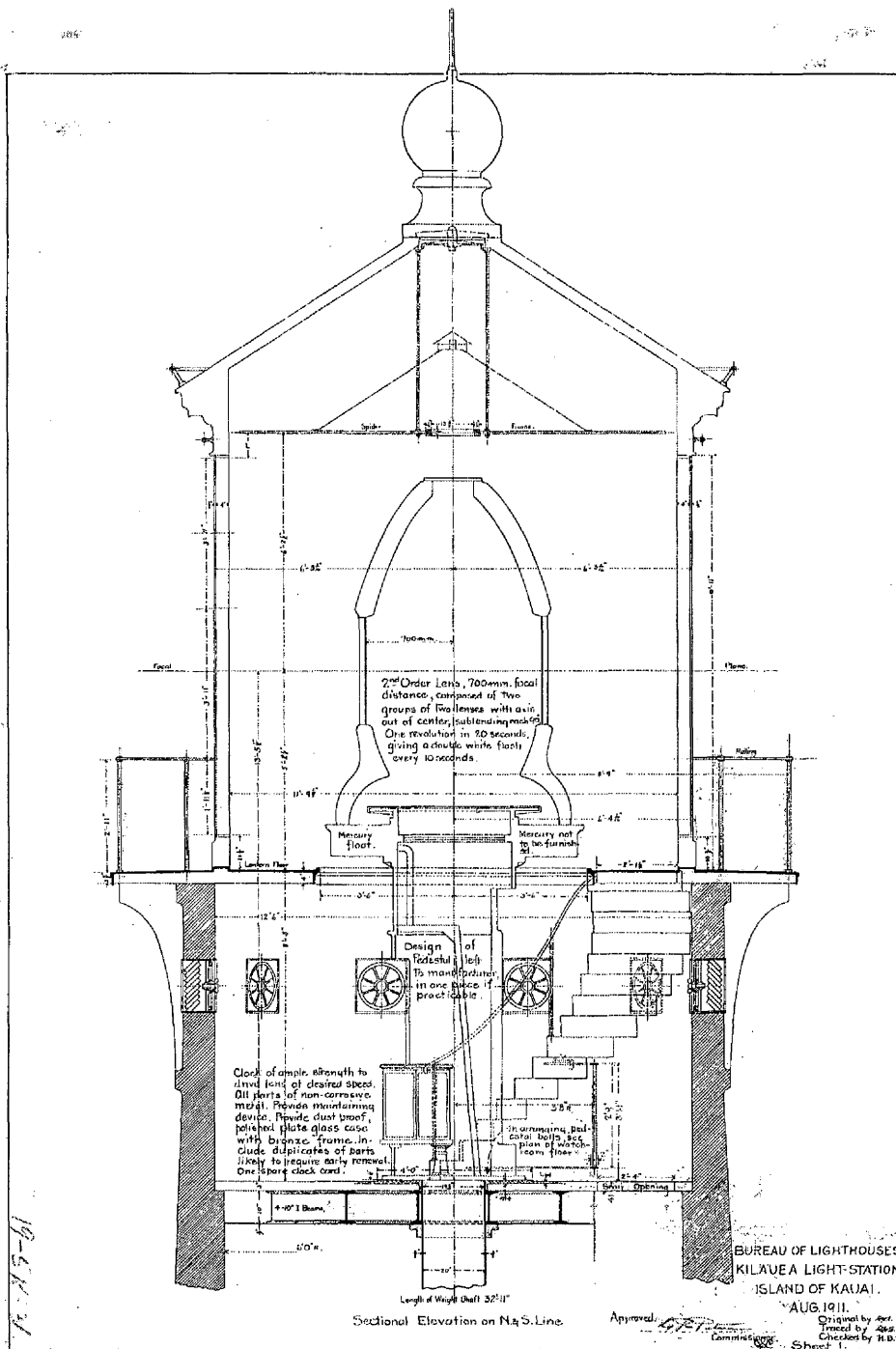
Lighthouse and oil storage building (Photos HI_KauaiCounty_KilaueaPointLSHD2)
Oil Storage Building (Photo HI-KauaiCounty_KilaueaPointLSHD5)
1933 Shed/Garage (Photo HI-KauaiCounty_KilaueaPointLSHD19)
Water Tank (Photo HI_KauaiCounty_KilaueaPointLSHD18)
Quarters #3 (Photos HI_KauaiCounty_KilaueaPointLSHD13, 14, 15)
Quarters #2 (Photos HI_KauaiCounty_KilaueaPointLSHD10, 11, and 12)
Quarters #1 (Photos HI_KauaiCounty_KilaueaPointLSHD6, 7, 8 and 9)
Landing Station (Photos HI_KauaiCounty_KilaueaPointLSHD 16 and 17)
Radio Beacon House (Visitor Contact Station) (Photo
HI_KauaiCounty_KilaueaPointLSHD 20)

Kilauea Point Light Station Selected Plans

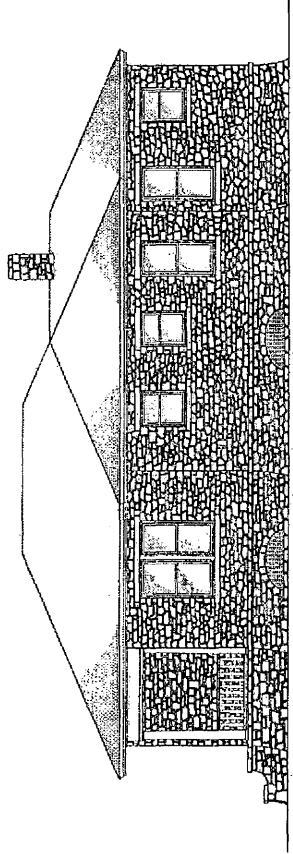
Bureau of Lighthouses, Kilauea Light-Station, South Elevation, Vertical Section, and details; Aug. 1911 (027.tif).
Bureau of Lighthouses, Kilauea Light-Station, Section Elevation; Aug 1911 (B_0035.tif).
Bureau of Lighthouses, Kilauea Light-Station, concrete details, windows; January 1912 (034.tif).
Office of the Inspector, 19th Lighthouse District, Dwelling, Kilauea Pt. Light Station, elevations; October 1911 (020.tif).
Office of the Inspector, 19th Lighthouse District, Details for Dwelling, Kilauea Pt. Light Station; October 1911 (026.tif).
Office of the Inspector, 19th Lighthouse District, Oil House, Kilauea Pt. Light Station; March 1912 (014.tif).
Office of Superintendent of Lighthouses, Nineteenth District, Kilauea Point Light Station, Storage Shed; May 1933 (004.tif).



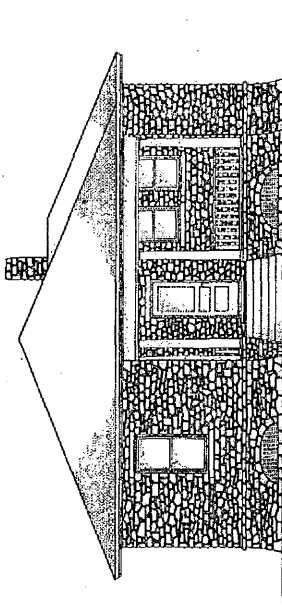
Bureau of Lighthouses, Kilauea Light-Station, South Elevation, Vertical Section and details; Aug. 1911 (027.tif).



Bureau of Lighthouses, Kilauea Light-Station, Section Elevation; Aug. 1911 (B_0035.tif).



Side Elevation
Fig. 1. Scale 1"=1'

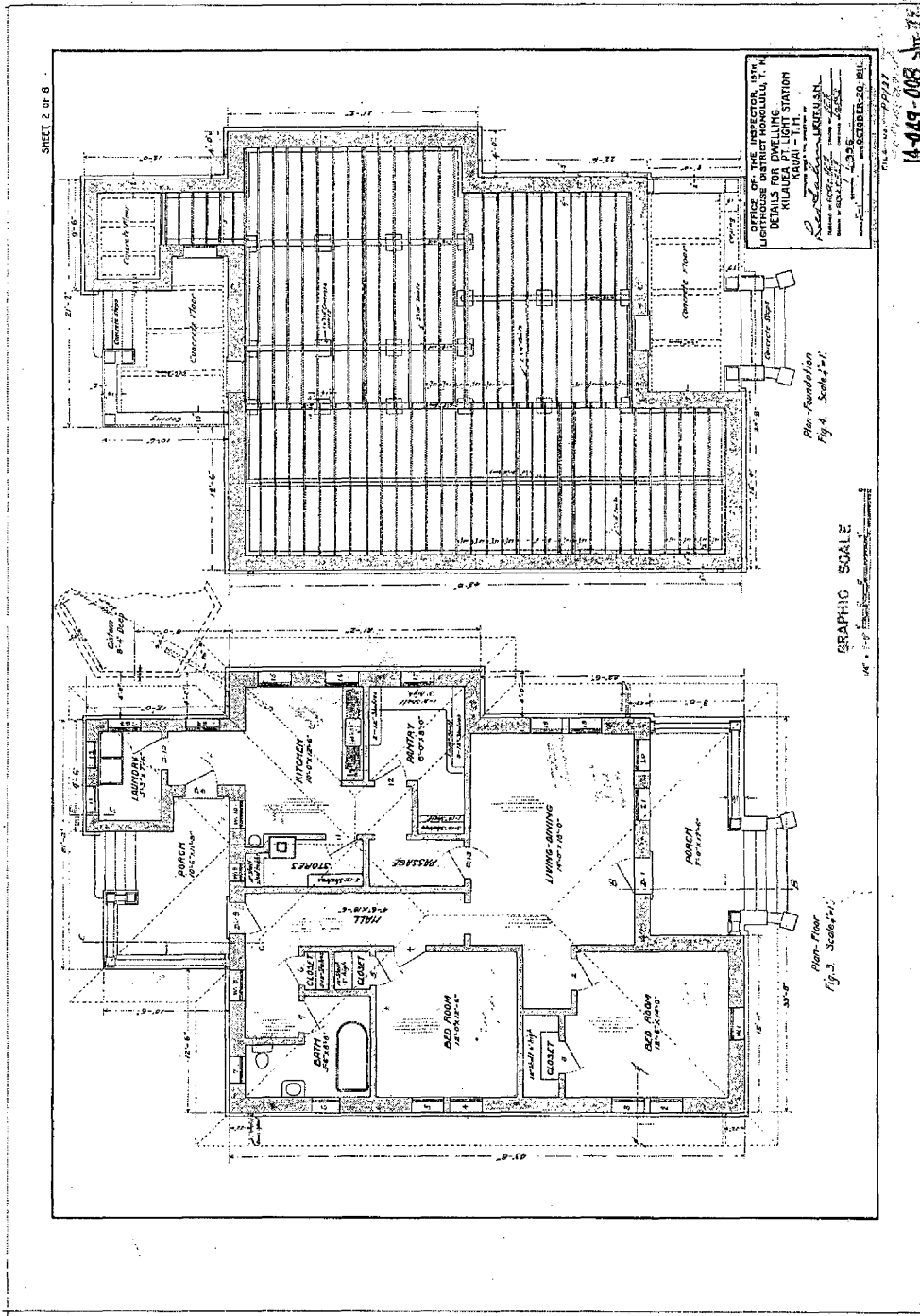


Front Elevation
Fig. 2. Scale 1"=1'

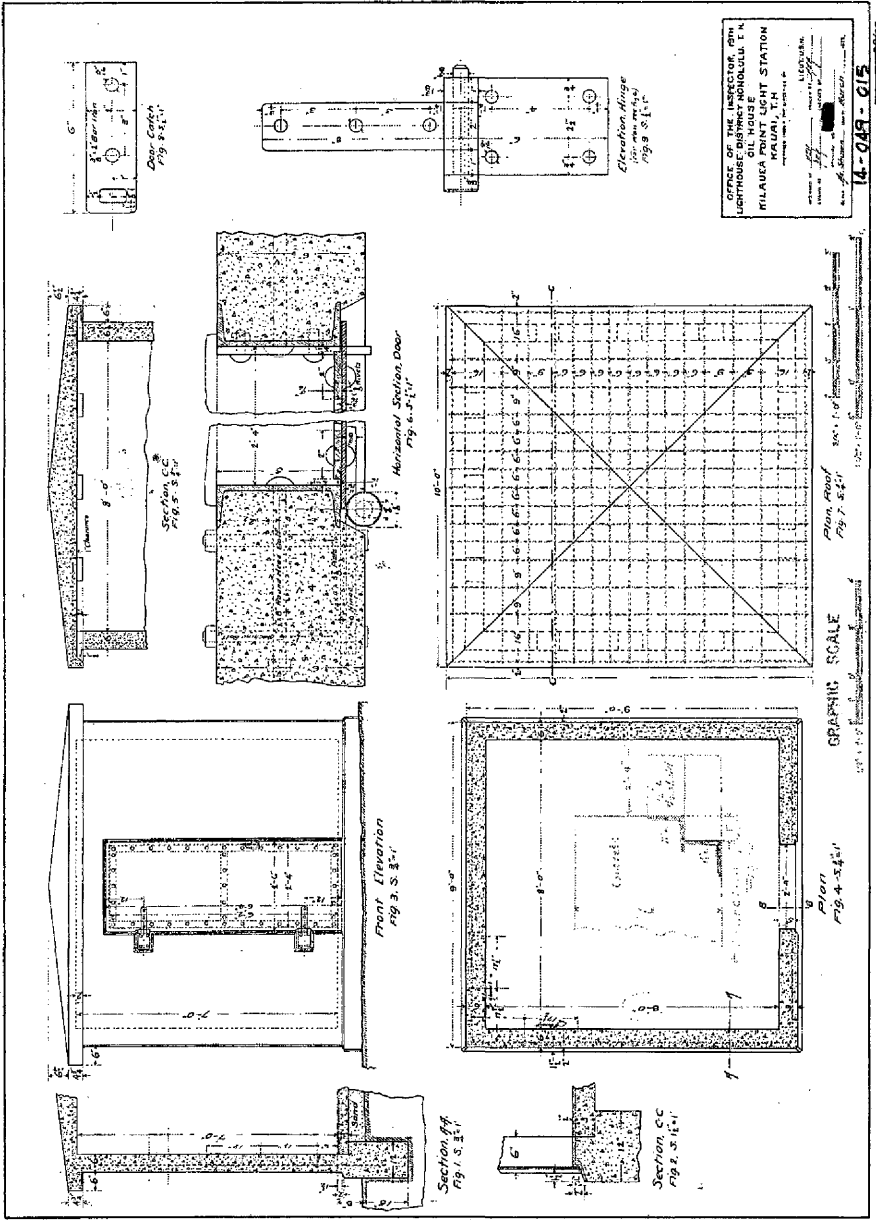
OFFICE OF THE INSPECTOR, 19th
Lighthouse District Honolulu, T. H.
KILAUEA PT. LIGHT STATION
KAUAI, T. H.
J. W. HARRIS, ARCHT.
J. W. HARRIS & CO., ARCHT.
14-049-008
SHEET 1

GRAPHIC SCALE

Office of the Inspector, 19th Lighthouse District, Dwelling, Kilauea Pt. Light Station, elevations; October 1911 (020.tif).



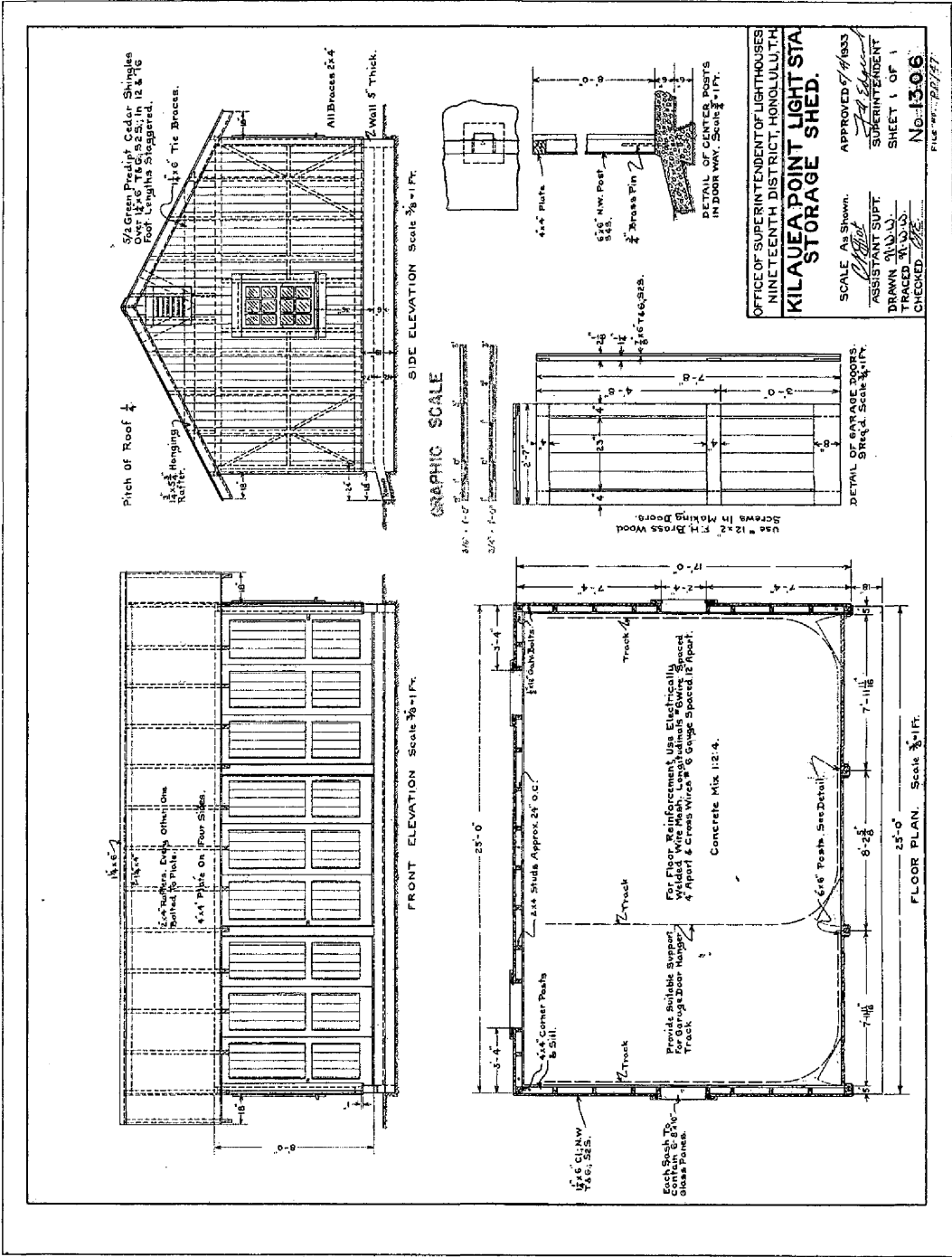
Office of the Inspector, 19th Lighthouse District, Details for Dwelling, Kilauea Pt. Light Station; October 1911 (026.tif).



OFFICE OF THE INSPECTOR, 19th
 LIGHTHOUSE DISTRICT, HONOLULU, T. H.
 KILAUEA POINT LIGHT STATION
 KAUAU, T. H.

14-019-015

Office of the Inspector, 19th Lighthouse District, Oil House, Kilauea Pt. Light Station; March 1912 (014.tif).





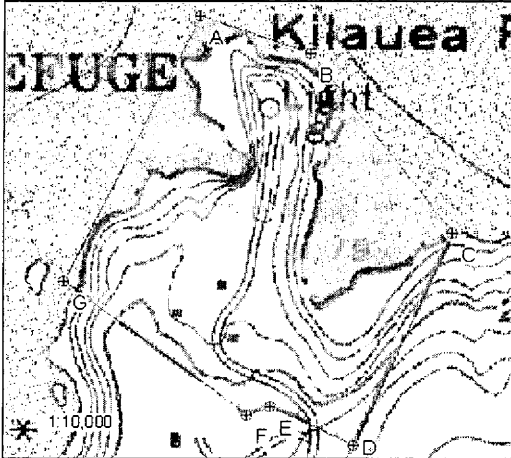
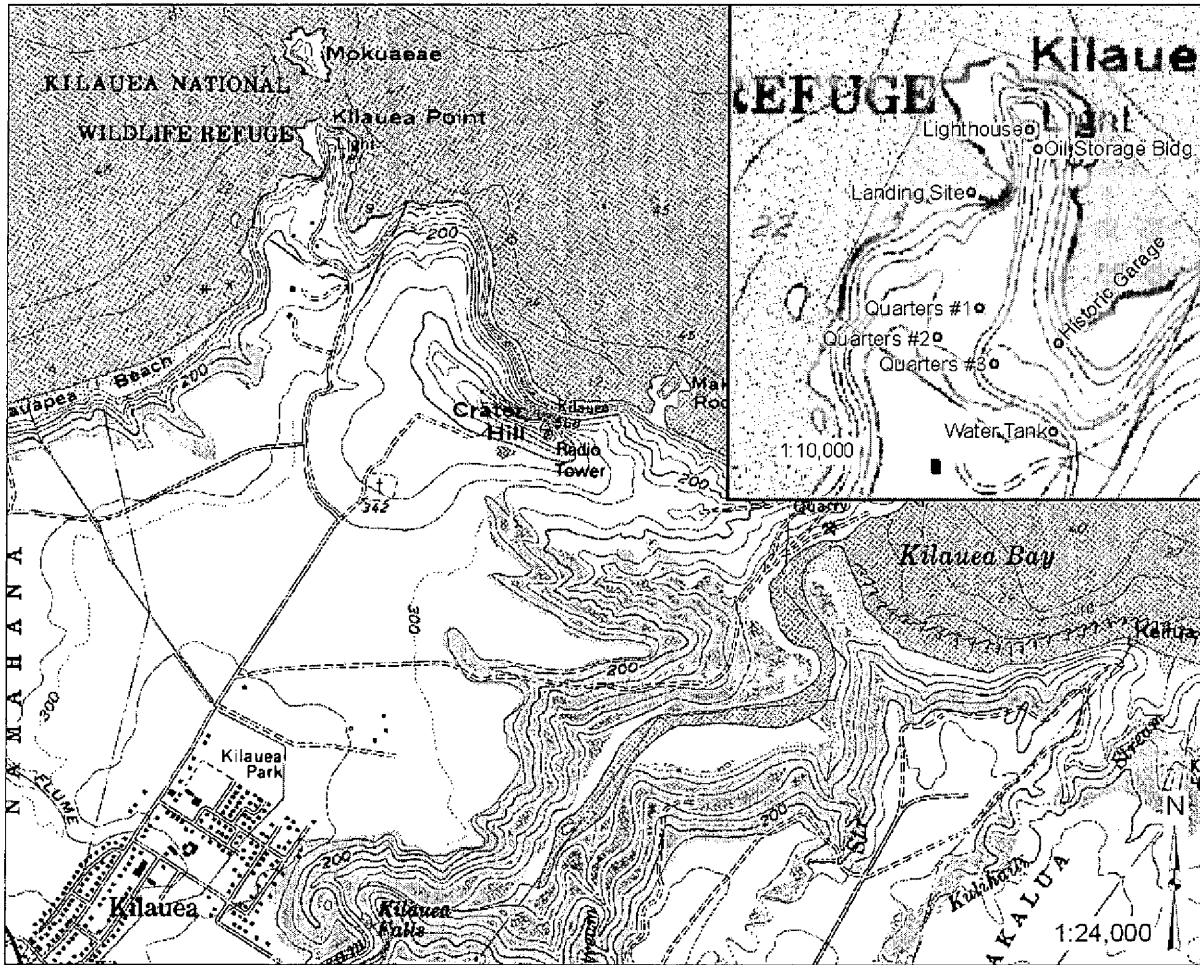
U.S. Fish & Wildlife Service

Kilauea Point Light Station National Register Nomination Addendum

Location Information: County: Kauai
State: Hawaii

FWS Unit: Kilauea Point NWR
USGS Topo: Anahola

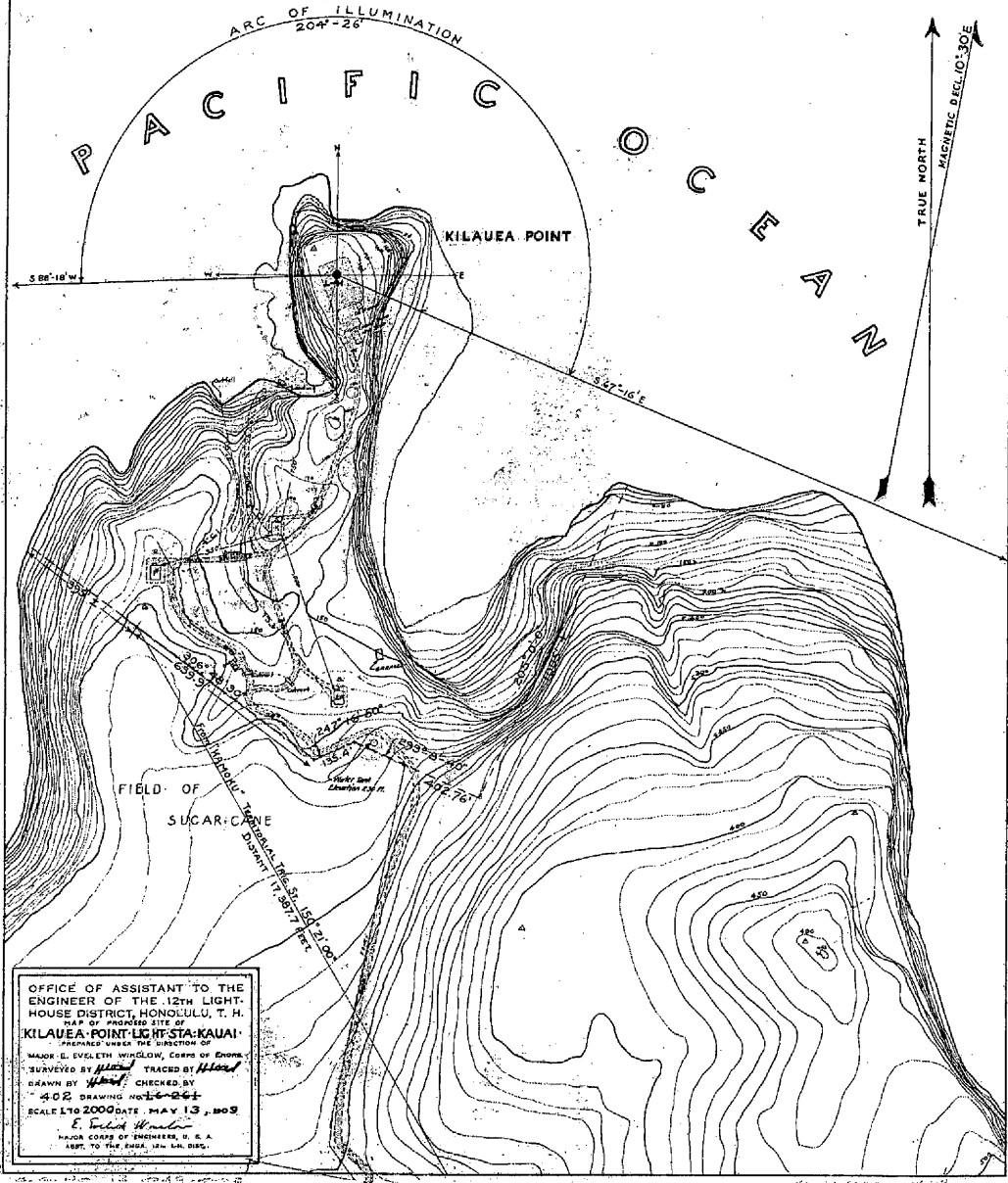
Prepared by: Valentine, N.
Prepared on: 16 August 2006



Boundary UTM Points
Zone: 4 North, Datum: NAD83

| Point | Easting | Northing |
|-------|---------|----------|
| A | 458486 | 2458630 |
| B | 458638 | 2458579 |
| C | 458835 | 2458326 |
| D | 458698 | 2458028 |
| E | 458585 | 2458082 |
| F | 458552 | 2458070 |
| G | 458299 | 2458258 |

**KILAUEA POINT
AND VICINITY
ISLAND OF KAUAI, HAWAIIAN ISLANDS
SCALE 1 TO 2000**



OFFICE OF ASSISTANT TO THE
ENGINEER OF THE 12TH LIGHT-
HOUSE DISTRICT, HONOLULU, T. H.
PLAN OF PROPOSED SITE OF
KILAUEA POINT LIGHT STATION, KAUAI.
PREPARED UNDER THE DIRECTION OF
MAJOR E. EVELYN WINGLOW, CORPS OF ENGINEERS.
SURVEYED BY *W. H. M.* TRACED BY *H. M.*
DRAWN BY *H. M.* CHECKED BY
H. M.
NO. 402 DRAWING NO. 16-261
SCALE 1 TO 2000 DATE PLAN 13, 1903
E. Evelyn Winglow
MAJOR CORPS OF ENGINEERS, U. S. A.
ASST. TO THE ENGR., 12TH LH. DIST.

SHEET 8 OF 8