

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 National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. 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.

1. Name of Property

Historic name: Little Makalapa Navy Housing Area Historic District

Other names/site number: Naval Housing Area V, Little Makalapa, Civilian Housing Area, TMK: 9-9-002:004

Name of related multiple property listings: N/A

2. Location

Street & number: Palmyra Street and Tarawa Drive

City or Town: Honolulu State: Hawai'i County: Honolulu

Not For Publication Vicinity

3. State/Federal Agency Certification

As the designated authority under the National Preservation Act, 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 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 at the following level(s) of significance:

national statewide local

Applicable National Register Criteria:

A B C D

<hr/>	
Signature of certifying official/Title:	Date
<hr/>	
State or Federal agency/bureau of Tribal Government	

In my opinion, the property ___meets ___does not meet the National Register criteria.	
<hr/>	
Signature of commenting official:	Date
<hr/>	
Title:	State or Federal agency/bureau of Tribal Government

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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- removed from the National Register
- Other (explain:): _____

Signature of Keeper

Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply)

- Private
- Public - Local
- Public - State
- Public - Federal

Category of Property

(Check only one box)

- Building(s)
- District
- Site
- Structure
- Object

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7. Description

Architectural Classification

(Enter categories from instructions.)

Modern Movement

Materials: (enter categories from instructions.)

Principal exterior materials of property: CONCRETE and WOOD

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its locations, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

Designed and constructed between 1940-1943, the Little Makalapa Navy Housing Area Historic District (Little Makalapa) was developed as a residential complex. The Makalapa headquarters and support office functions for the Commander in Chief U.S. Pacific Fleet (CinCPacFlt) are located on the north side of the complex, with the former Makalapa Radio Station site that handled intelligence and radio transmission activities occupying the center of the complex. The two residential areas flanking either side of the radio station, once officially known as "Naval Housing Area V," are popularly known as "Big Makalapa" and "Little Makalapa." "Big" Makalapa exists today to the north of Radford Drive and contains the homes of flag and other senior naval officers. The Little Makalapa Navy Housing Area lies south of Radford Drive. Specifically, this nomination concerns the currently unoccupied Little Makalapa Navy Housing Area, which sits on 5.8 acres as a small neighborhood surrounded by Center Drive, Radford Drive and Kamehameha Highway. The development contains fifteen, two-story duplexes with attached carports, totaling thirty housing units within the neighborhood. There are no additional amenities other than landscaping included in this district. The neighborhood's two roads, Palmyra Street and Tarawa Drive, form a backwards D-shape circulation network that loops through the property. The overall condition of the property is fair, as it has been left vacant in mothball conditions since 2006. Consequently, the integrity of the property is fair. Relatively minor architectural changes (primarily rear modifications made outside the period of significance) have been made to the residences since their construction and the deterioration that has occurred following their vacancy appears possible to correct.

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Narrative Description

A. NATURAL AND MAN-MADE ELEMENTS THAT DEFINE THE DISTRICT

Makalapa Geology

Little Makalapa housing area lies on a geological formation resulting from one lava flow beginning about five hundred thousand years ago and a later series of pyroclastic eruptions that terminated more than one hundred thousand years ago. The geological formation underlying Little Makalapa housing area is the result of a series of Pleistocene pyroclastic eruptions during this period. The major eruptions from 'Āliapa'akai Crater (known today as Salt Lake) and Makalapa Crater took place when sea levels were lower than present, with a considerable quantity of particles of older rocks, both volcanic and sedimentary, water lain during the earliest activity between 470,000 and 40,000 years ago.¹

The initial geologic events relating to the Hālawa-Moanalua plain include a series of Illinoian period eruptions in the East Loch area of Pearl Harbor. The plain formed in two ways: lava as the basal substrate for the plain, with the continued production and alluvial deposition of the sediments. The youngest deposits of tuff are truncated by reef and limestone that have been correlated with rocks dated by at 90,000 to 140,000 years. These air-laid tuffs were above sea level and exposed in a constant of in situ decomposition and downslope erosion.²

Soils in the area are Kea'au clay and Māmala stony silty clay loam.³ The major processes are deposition of volcanic sediments and growth of an extensive reef platform during periods of higher sea level. The earliest of these, the Waipi'o Stand, occurred several thousand years ago and resulted in sea levels about sixty feet lower than today. Eruptions of the Salt Lake, 'Āliapa'akai (Āliamanu) and Makalapa craters probably occurred during this period. About 125,000 years ago, the sea rose to twenty-five feet above present levels in what is known as the Waimānalo Stand. Reef formation occurred during this period of stability, possibly in irregular patches on former stream divides.⁴

As sea level dropped, wave action against the newly exposed reef would likely have created continuous deposits of calcareous sand and gravel detritus atop the coral bedrock. These basal deposits likely occurred across most of the Hālawa-Moanalua plain except in its far north. Once these deposits stabilized, wave and wind action acted on the reef margin to produce coastal sand deposits and dunes. Low-energy terrigenous sedimentation of the northern part of the plane would likely have begun as quickly as the sea receded.

This model of geologic history of the Hālawa-Moanalua plain is consistent with the landscape recorded on pre-military maps of the area as well as with stratigraphic data recorded during archaeological

¹ K.A. Pankiwskyj, "Geology of the Salt Lake Area, Oahu, Hawaii" in *Pacific Science* Vol. 26(2), 1972, 242-253.

² Ibid.

³ D.E. Foote, E. L. Hill, S. Nakamura, and F. Stephens, "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lānai, State of Hawaii" (Washington D. C., 1972).

⁴ H. T. Sterns, "Geography and Geology" in *Geology and Groundwater Resources of the Island of Oahu, Hawaii, Number 1 in Territory of Hawai'i Division of Hydrography Bulletin* (Spreckelsville, Maui and Honolulu: U.S. Geological Survey, 1935).

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projects.⁵ These layers of tuff and raised reef rise from the near-in shoreline of Pearl Harbor and can be viewed in the road cut that extends along Kamehameha Highway makai (towards the ocean) of Little Makalapa housing area.

The crater of Makalapa contained a fresh water pond in its center. The Hawaiian people who settled the area used the pond for sustenance: as a freshwater fishpond. Later, it was used for irrigation purposes for the Honolulu Plantation Company. After having acquiring the land in 1939, the Navy filled in the pond and raised the level of the crater floor.

Little Makalapa Navy Housing Development

Little Makalapa was originally developed between 1940-1943 as a complex including both residential and work spaces for the Commander in Chief Pacific Naval Forces (CINCPAC) Administration and was within the immediate area of the former Makalapa Radio Station site. The housing component was called "Naval Housing Area V" and was identified as Officer Housing. However, two distinct housing areas make up Makalapa: "Big" Makalapa and Little Makalapa. "Big" Makalapa has, since its inception, been used as senior and junior officers' housing. Little Makalapa was conceived as Civilian Naval housing. The specific area under discussion in this nomination, Civilian Housing Area Makalapa (i.e. Little Makalapa), sits on 5.8 acres as a small neighborhood surrounded by Center Drive, Radford Drive (originally Makalapa Drive), and Kamehameha Highway.

Little Makalapa was completed by Contractors Pacific Naval Air Bases (CPNAB), a large consortium of construction firms. It was just one of the many projects in two CPNAB contracts; these duplexes (as part of the "Big" Makalapa neighborhood) were outlined in contract # NOy-4173, as project number 18. This project originally called for the construction of twenty-five officers' quarters and thirty civilian quarters in the Makalapa tract, but expanded to include many more housing units in the Makalapa neighborhood. The thirty civilian quarters specified in the contract were comprised of thirty units in fifteen duplex buildings built on Palmyra and Tarawa Drives, in what would later be the Little Makalapa neighborhood.⁶

The original "backwards D-shaped" street layout near the buildings has not changed Little Makalapa, but the patterns of connections to adjoining streets have evolved over the decades. Since Kamehameha Highway was such a busy traffic artery, none of the buildings front on the road, although Palmyra Street originally intersected it. Additionally, an unpaved extension of Palmyra Street looped back to create a second intersection with Kamehameha Highway and was linked to other unpaved roads that originally connected these fifteen duplexes with the "Big" Makalapa neighborhood to the northwest. In 1946, the dirt road portion of Palmyra was realigned into an S-shaped segment and paved, connecting with Midway Drive at its Levee Road intersection approximately 100 feet east of a major intersection of Kamehameha Highway and Levee Road leading to East Gate (now Makalapa Gate). While the Palmyra

⁵ M.D. Monserrat, "Map of Moanalua and Kahauiki." Hawaii Survey Office Registered Map 1511.

⁶ Contractors, Pacific Naval Air Bases (CPNAB), *Technical Report and Project History, Contracts NOy- 3550 and NOy-4173: Pacific Naval Air Bases and Aviation Facilities, Dredging, Buildings, Accessories, Quay Walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawai'i and Pacific Islands* (microfilm of typescript report from Pacific Division, Naval Facilities Engineering Command Library), n.d.

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extension was underway, the original entrance to the housing area at the southeast end of Palmyra Street was blocked off and the pavement at the end was replaced with plantings. The Kamehameha Highway was later widened and the street ended in the lava rock wall that currently borders the east side of the highway. When the rail line alongside the duplexes was removed sometime prior 1951, a connection was made from this housing area to the road system in the adjacent Bachelor Officers' Quarters area. Sometime after 1960, due to H-1 freeway land acquisition and/or construction and the extension of Center Drive northeast of Kamehameha Highway, this connection became the main entrance into the housing area. The H-1 Highway was completed in the vicinity sometime prior to 1976 (State of Hawaii Department of Transportation 1976). It was probably around this time that Radford Drive was constructed in the dip between "Big" Makalapa and Little Makalapa and extended over the highway. The S-shaped portion of Palmyra Drive was removed by the 1980s.

The roadway designations, even where the street alignments were not altered, have changed over the years (Fourteenth Naval District 1944, 1946, 1948, 1951, and 1953). The 1944 map shows that Palmyra Street and Tarawa Drive were the original road names. On the 1946 map Palmyra Drive and Tarawa Place were the names used. In 1948, Palmyra Street was again used for the straight portion of the road adjacent to the buildings, while the curving portion was called Palmyra Drive. Maps in the 1950s continue that name distinction between the parts of Palmyra, and both the 1951 and 1953 map call the other road Tarawa Drive. Both roads have been referred to as "Drive" for several decades.

These duplexes were completed sometime before August 1942. A February 1941 aerial photo shows the roadways in Little Makalapa were built with Palmyra Street intersecting Kamehameha Highway at its southern end, and the curved Tarawa Drive meeting Palmyra at both of its ends. A October 1941 aerial photo shows all fifteen duplex buildings in this area, at which time none of the junior officers' duplex quarters at the south end of "Big" Makalapa neighborhood were built as there was apparently a greater need to house civilians (probably CPNAB contractors) than junior officers. The building envelopes visible in the October 1941 photo suggest that the Little Makalapa duplexes were substantially complete by the time of the December attack.

Electric power was brought from the Navy Yard since Little Makalapa and other housing areas were not outfitted with utilities of any kind when construction began. Mutual Telephone Company provided phone service from their 'Aiea exchange that was initially limited to approximately twenty subscribers in the six major Navy housing areas. When their telephone exchange in Pu'uloa was completed and connected to the Kalihi exchange, service was extended to about 200 subscribers. Water was initially supplied by nearby plantation systems, and later by connections to the 24-inch Navy Yard line from Hālawa and/or 'Aiea pumping stations.

A June 1944 map shows that the Little Makalapa duplexes no longer housed civilians by that date, but were used as officers' quarters (Navy Yard 1944b). Additionally, the map indicates that a Honolulu Plantation Company Railroad bordered the east edge of the neighborhood at the time of its completion. The neighborhood is located approximately 500 feet northwest of the common boundary of the Hālawa and Moanalua ahupua'a district within the Hālawa ahupua'a. This division also serves as the boundary between the 'Ewa and Honolulu districts.

An additional Navy complex was constructed adjacent to the south of Little Makalapa during WWII

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between the rail line and the ahupua'a boundary between June 1943 and June 1944 containing three Senior and two Junior Bachelor Officers' Quarters (BOQ), a mess hall, a galley building, a quarters building for mess-men, and other supporting facilities including a pool and outdoor theater. By 1951, the portion of the rail line that divided Little Makalapa from this complex was removed and several buildings in the Junior BOQ's area had been converted for use as the Pearl Harbor Intermediate School, additional Junior BOQ's were constructed and expanded into one of the former Senior BOQ's and the 8.382 acre³ Little Makalapa housing area was now referred to as Naval Housing Area IV on Navy drawings.

After the war, the area was converted to junior officer's housing. Each of the housing areas, "Big" Makalapa and Little Makalapa, has distinct roadway patterns and architectural forms. The widening and rerouting of Makalapa Drive, now called Radford Drive, severed a direct connection between the two neighborhoods. Unlike "Big" Makalapa, which sits on a crater slope, Little Makalapa sits on a plateau, approximately ten feet above the level of Radford Drive Extension. The topographic and physical separation from the highway and inward-facing residences within the loop, a design influenced by the principles of the Garden City movement, give the neighborhood the feeling of a pleasant, sheltered enclave despite being immediately adjacent to two busy arterials. The housing development itself has a park-like feel due to the narrow road widths, lack of sidewalks, and lush grassy lawns and trees unobstructed by fencing or walls between houses. The curving narrow streets contrast with the geometrical layout typical of military installations. The slope necessitated the construction of retaining walls using the local "mud-rock" (tuff) as well as lava (basalt rock) along some of the streets; with these natural materials giving the neighborhood a distinctive appearance.

The Little Makalapa neighborhood contains total of thirty units comprised of fifteen, two-story duplexes with attached carports. There are no additional amenities other than landscaping included in this district. A single road rings around the property: Palmyra Street and Tarawa Drive. Palmyra Street is the main access street with the Tarawa Drive loop road connecting to both of its ends. Along the western perimeter of Tarawa Drive is an escarpment with dense landscaping, providing physical separation from senior officers' housing in "Big" Makalapa. All the houses and carports were constructed as one project, creating consistency amongst materials and design details. The housing complex was built with two standardized duplex unit types: the three-bedroom Unit Type E and the two-bedroom Unit Type H. Soon after the December 7, 1941 Japanese attack, contractors built concrete shelters in the area for protection against subsequent air raids and large splinter shelter located at the rear of Facility 10 which has since been removed.

B. ARCHITECTURAL STYLES

The architectural style follows a main precept of the Modern Movement: "form follows function". World War II military housing was built rapidly with large crews working simultaneously. This efficient building methodology influenced the techniques and materials employed by the construction industry from the pre-war period until today.

This modern minimalist style is evident in the choice of new materials such as plywood for the interior walls, minimal ornamentation, and single-pane double hung windows. The houses are designed to fit well into Hawai'i's climate, using cross ventilation, overhanging eaves, and hipped roofs. The carport

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designs are simple and easily erected. Three of the houses are one-story; two of these were originally mess halls and the other was the Transportation Office. The remainder of the houses consists of two-story boxy volumes, or a combination of one-and two-story sections. Horizontal drop siding is used on the exterior second floor of all two-story buildings. All the houses have hip roofs with tapered rafter ends covered by fascias, and asphalt-shingle roofing.⁷

The prominent building materials are wood and concrete. Unlike the units of "Big" Makalapa, the duplexes of Little Makalapa are built with greater simplicity and detail. The most significant discrepancy is the first and second floor building materials. The on-grade two-story units at "Big" Makalapa have a concrete brick first floor exterior material with a drop siding wood second floor. However, the Little Makalapa buildings have a wood drop-siding at the first floor and a vertical T & G wood board at the second floor. Also, the extended overhang between first and second floors have no visible slope and are more sparsely built than those of the units of "Big" Makalapa. The houses have concrete slab foundations, hipped roofs with asphalt shingles (originally wood-shingled), and the wooden carports have shed roofs with asphalt-rolled roofing or built-up gravel-surfaced roofing.

The neighborhood consists of ten two-bedroom units, designated Type 6 (known as Type "H" in 1948), and five larger three-bedroom units, designated Type 7 (known as Type "E" in 1948).⁸ All fifteen of the duplex units within Little Makalapa Navy Housing Area are considered contributing resources (see Table 1).

Although there are minor variations in size and layout, overall the two duplex types share similar design and material characteristics. They are all simple, two-story box forms with hip roofs containing wood louvers in gablet vents as well as some flat roof sections. The eaves are wide, with exposed rafters, which are trimmed at their ends to the dimension of a narrow fascia board. There are screened holes in the eave blocking for attic ventilation. The units have concrete slab foundations, which extend slightly beyond the plane of the siding. There are continuous flat roofs located across the building fronts and to the carports on the side supported by wood posts and beams. Separate flat roof sections are also located over the dining room and utility area extensions. The rafters are tapered on these secondary roofs to provide a slight slope and there is a wood fascia across the rafter ends. The first story and duplex party walls are double-wall construction, and the second story walls are vertical tongue-and-groove single-wall construction. The first floor exterior walls have horizontal drop siding, and the exterior walls on the second floor consist of tongue-and-groove boards.

The arrangements of the two floor plans are similar (see Figures 0011 and 0012 for floor plans). In both of the designs, both floors are rectangular, with the first floor containing minor extensions for the dining room, carport and rear utility areas as well as the living room, kitchen, and some storage space. The second floor is largely comprised of bedrooms and a bathroom. The duplex units are arranged symmetrically, with the floor plans mirrored at the duplex party wall.

⁷ HABS HI-355, 5

⁸ The unit type designations "6" and "7" have been in common use in recent years, although it is not known when or where they originally came from. Earlier corresponding type designations "H" and "E" come from a 1948 map produced by the Fourteenth Naval District, titled Map of CINCPAC Administration Area, Makalapa Naval Housing Area, Hālawā Civilian Dormitories, Naval Radio Station & District Public Works Maintenance Area, Hālawā, O'ahu, T.H., Showing Conditions on June 30, 1948. #OA-N1-1672. It is not known how long these designations were in use.

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Each of the Type 6 units contains 1,480 ft² of living space (or 2,960 ft² per duplex building), and each of the larger Type 7 units contains 1,832 ft² of living space (or 3,664 ft² per building). The primary difference in size and layout of the designs results from the third additional bedroom and a large bulk storage room found in the Type 7 units not included in the Type 6 designs. The first floor living room, dining room, kitchen, and utility rooms in the Type 7 units are all slightly larger, although placed in the same configuration, as those in the Type 6 units to accommodate the additional rooms on the second floor. Another difference between the two unit designs is the additions made to the rear of the Type 7 units, which included a small powder room and utility room. The rears of the Type 6 units were unaltered, comprised solely of a partly enclosed laundry area.

The residences have many space-efficient design features such as a pocket kitchen door that slides into the wall between the kitchen and the dining room, outer ceiling sections in the second-story rooms that are sloped to reflect the roof form allowing for higher overall ceiling heights, and the bedroom closet above the stair has a stepped base to maximize the available space above the stairwell.

Both duplex designs have similar windows and door types. All of the units have wood sash, one-over-one light double-hung windows. Most of these windows are paired, but in Type 7 units, they are tripled at the front. High on the sidewalls of the living and dining rooms are long, wood-framed sliding windows with paired single lights and wood-framed screens with half-round moldings.

According to 2006 reports, most of the original interior doors are extant. These include five-panel wood doors throughout, along with a few other types. The wood front entry door is one-panel (or light) over two vertical panels or one single panel with a mail slot in the stile. The kitchen door is a single-panel sliding wood door with vision panel hung from an overhead track. There is a single-panel door to the stair closet in the living room and paired sliding single-panel doors for the longer bedroom closets. The bulk storage rooms found only in the Type 7 units have a five-panel wood passage door with wire mesh vent panel. (The closets with sliding doors have raised closet floors, while those with passage doors are level with the floor.) The kitchen pantry (former water heater closet) has a four-panel door with top and bottom wire mesh vent panels and cabinets under the kitchen sink often including single-panel doors with either wire mesh or vent holes. The wood rear entry doors typically have an upper screen section with a drop panel, and either one or two vertical panels below.

The duplexes have simple molding and trim throughout. Ceiling trim is typically simple board moldings with an eased edge, and baseboards are typically board moldings with an eased edge with quarter-round shoe and/or top. The ceilings are mostly canec except in the kitchens, bathrooms, and utility areas, where they are plywood. There are v-joint grooves where the canec and plywood panels meet, giving the ceiling a simple, yet pleasing grid pattern throughout. This feature is particularly evident in the second story rooms where the sloped perimeter ceiling emphasizes the pattern.

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Common Building Elements

There is considerable uniformity of material and detail among the varied types of residential buildings. As noted earlier, the predominant construction materials are wood and concrete, and many of the interior design details are also similar, with the major differences between types expressed in the floor plan variations. The typical building elements can be summarized for most of the houses as follows:

Feature	Description
Foundation	Concrete slab (houses with masonry walls on first floor)
Exterior Walls (first floor)	Wood (horizontal drop siding – 6 ½” exposed)
Exterior Walls (second floor)	Wood – vertical tongue and groove, rough-sawn on the exterior
Main Roof	Hip roof(s) with asphalt shingles, slope of 2 ½ / 12
Shading Roof (between 1 st & 2 nd floors)	3’-0” overhang, exposed eaves, very low slope (flat visually)
Eaves	Overhang wall by 3 feet; fascia over tapered rafter ends
Entry Porch Roof	Usually formed by extension of shading roof
Windows (original)	Wood-frame, 1/1 double-hung or sliding;; corner windows
Main Entry Doors (original)	Wood
Typical Interior Doors	Wood: flush, single-panel
Interior Walls (original)	Plywood
Ceilings (original)	Canec (panels made from sugar cane fiber) or plywood
Hardware (original)	Bronze or brushed nickel finish
Moldings at ceiling & floor	Rectangular with eased edge (½" – 1" thick); at floors also quarter rounds

The corners of most wood-sided exterior walls have vertical 1"-width rounded or square-profile molding strips. This design detail allowed for quick exterior cladding without the need to worry about exactly matching the horizontal alignment of the boards at the corners.

Relatively minor upgrades have occurred in the interiors throughout most of the units, including the replacement of light fixtures, some cabinet doors, replacement of door, window, and cabinet hardware, installation of modern vinyl composition flooring and aluminum thresholds, and upgraded kitchen and bathroom plumbing fixtures and finishes. In a few buildings (Facilities 3 and 5), interior doorways were added to connect the duplex units at the top and bottom of the stairs.

Typical changes made to most houses over the decades (before 2000), included:

- replacing the original roof shingles with asphalt shingles;
- replacing individual windows with ones that do not match originals, often with jalousies;
- enclosing lānai (Hawaiian for porch or patio) with banks of operable windows;
- replacing interior wall and ceiling materials with gypsum board panels (especially when the original plywood and canec materials were damaged or remodeling occurred);

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- substituting various replacement fittings rather than matching original bronze or nickel hardware;
- replacing old or installing new light fixtures without attention to original styles;
- installing modern bathroom and kitchen fixtures, finishes, cabinets and equipment.

C. GENERAL PHYSICAL RELATIONSHIP OF BUILDINGS TO EACH OTHER AND TO THE ENVIRONMENT, INCLUDING ANY CHANGES TO THESE RELATIONSHIPS OVER TIME

At the time of construction, this area was barren, and Kamehameha Highway was being widened from a narrow roadway to a four-lane divided highway. Today, this neighborhood is concealed from public view by a 10' tall rock wall running the entire length of the neighborhood along the expanded five-lane Kamehameha Highway and a large green field and an escarpment for the plateau of "Little Makalapa" along Radford Drive.

The residences are arranged to face inward, with an outer perimeter defined by scattered trees and scrub brush. This layout and landscaping limits emphasis on outward views, and gives the feel of a safe neighborhood enclave. Aside from the residences and a few small, added metal storage sheds, there are no other structures in the neighborhood. The units are evenly spaced throughout the neighborhood, with small front and rear yards, but no wide-open or other recreational spaces. The seven units along Palmyra Street are lined in a row with the buildings' length facing the street. The five units within the Tarawa Drive ring are placed organically. Three units along the edge of Kamehameha Highway all on Tarawa Drive are also organically set to follow the curve of the Drive.

The neighborhood has a mixture of street and yard trees as well as smaller plantings. Some of the larger trees include monkeypod, banyan, *kiawe*, and coconut (some of the larger trees that once stood in the neighborhood, including Norfolk pines, have recently been removed). Smaller accent trees and palms include plumeria, brassia, kalamona, shower tree, royal poinciana, and areca and manila palms. At each unit, the foundation plantings are in a tropical palette including croton, mock orange, hibiscus and bougainvillea. Many of the trees and plantings are overgrown due to lack of pruning and the yards also suffer from a lack of maintenance, with some areas lacking grass and others having tall, overgrown grass.

The internal neighborhood arrangement is largely intact, except for the removal of the bomb shelter that was located along Tarawa Drive and the Landscape Nursery also located along Tarawa Drive. Original plantings have matured, providing a canopy from the sun throughout the area. The adjacent groupings of Civilian Dormitories and ancillary structures have all been removed. With this change of use, a separation fence was built to separate the two properties, and landscaping was introduced along this edge within the parcel.

Vehicular access to the two housing areas has been radically changed. Widening of Kamehameha Highway led to the closure the southern entrance to Little Makalapa from Kamehameha. Construction of the H-1 freeway created an impassible physical trench between both Makalapa Housing units and military property to the east. Extension of Radford Drive as a four-lane artery to the Pearl Harbor and

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the popular Navy Exchange discourages pedestrian interaction between Big and Little Makalapa. Anti-terrorism security concerns have led to the fencing in of the recreational open space along the *makai* side of Big Makalapa opposite Little Makalapa. A chain-link fence defines Little Makalapa's north boundary. On the inside of this fence is a four-foot high guardrail along Tarawa Drive consisting of two post types that may be historic materials: the western section has posts of painted solid steel that are square in section, with a pyramid cap, while the eastern section of the guardrail has painted steel rod posts approximately 4" in diameter and flat on top. Two stainless steel cables are strung through the posts, and serve as rails.

D. APPEARANCE OF THE DISTRICT DURING THE TIME WHEN THE DISTRICT ACHIEVED SIGNIFICANCE AND ANY CHANGES OR MODIFICATIONS SINCE THAT TIME

The triangular neighborhood appears to have been planned and developed as a result of the existing site conditions, primarily Kamehameha Highway and the elevated topography along the Radford Drive edge of the site. As a result, the entry into the neighborhood is awkward. The neighborhood itself consists of fifteen duplex units with ten units along the perimeter and five units internally, bordered by Tarawa and Palmyra Drives. Because the units are located along the perimeter, the focus of the neighborhood is internal- reinforced by the large perimeter trees and thick scrub brush that limit any views outward.

There is really no public open space within the neighborhood; however, just outside of the neighborhood's entrance is a large open grass field with a children's tot lot. The limited view from Little Makalapa is of a small portion of the Ko'olau Mountain Range from Tarawa Drive while heading out of Little Makalapa originally contained two splinter-proof bomb shelters. A 1944 map shows the larger of the two was erected adjacent to Facility 12 on Tarawa Place soon after completion of the neighborhood and was removed sometime after 1972. The smaller shelter was erected below Facility 15 on the north side of Tarawa Place slightly later during the war. Two late 1940s maps show a Nursery Office adjacent to this smaller shelter, which was still listed as a bomb shelter on a 1953 map (Fourteenth Naval District 1953) and converted to a lawn mower storage building before being demolished sometime after 1966.⁹ The Navy BOQ complex to the southeast of Little Makalapa was demolished around 1970 to make way for the H-1 Interstate Highway, allowing space for the construction of a playground in an open grassy area between the duplexes and the Highway.

While many changes occurred within the Little Makalapa housing area over time, very few alterations occurred in the housing units themselves. Navy as-built drawings from 1958-1960 indicate that structural alterations to the duplexes were minimal, and for the most part confined to the rear of the structures.. Most notably, the rear utility areas in Type 7 units were enclosed and enlarged to include a half bathroom. The rear utility areas of the Type 6 units were also slightly altered at this time so that the covered platforms were partially enclosed so they were only open to the outdoors at the top and bottom.

Alterations to the exterior of the homes have also been negligible. According to a circa 1945 photograph of one of the duplexes, the color of the facilities at that time was a very dark color with white or

⁹ U.S. Navy 1966: 4867

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lighttoned trim at the second story and white or light-toned base color with a dark trim on the first story portion.¹⁰ This is similar to the original color schemes of the Big Makalapa and NCTAMS two-story duplexes. It is not known when the present color scheme, which has the duplexes painted either beige or pale blue with contrasting white trim, was introduced in the neighborhood. The original architectural drawings and historic photo also show that there were exterior planting areas originally between the front sidewalks and the buildings' foundations as well as curbed planters separating the front entry areas of the two units which have since been filled in with concrete. The neighborhood has been vacant for almost ten years and sits in mothball conditions with only minor interior modifications having been made up until that point. Interior alterations have been mainly limited to changes in materials during renovation projects including new flooring, countertops, shower enclosures, modernization of door and window hardware, plumbing fixtures, kitchen appliances, modified kitchen cabinets to accommodate appliance upgrades, and all original sliding doors were converted to swinging doors. Available drawings do not indicate the dates that these changes occurred.

E. GENERAL CHARACTER OF THE DISTRICT

The general character of the district is residential. Though it sits between Kamehameha Highway and the H-1 Freeway, the noise and heat impacts are relatively minimal. Once inside this district, the area is quiet and peaceful. The landscaping, narrow roads, and low density of houses allow this area to maintain the feel of 1940s Hawai'i.

F. GENERAL CONDITION OF THE BUILDINGS

Perhaps the greatest change today is that the residences are no longer inhabited or maintained by the Navy. In 2006, the residents moved out and a chain-link fence with a locked gate enclosed the neighborhood. Although most of the first floor windows and doors were closed and boarded up with plywood, some were left open, and the second floor windows were not secured. Consequently, some of the second floor windows were broken, and others are open with missing screens, thus exposing the interior of the houses to the elements. Vegetation grows on many of the flat roof sections, and some units have vines growing up the second floor exterior walls. Copper flashing along the fascia and between the flat roof and second floor siding was removed. In some places the elements have already taken a toll on these areas and while the buildings are structurally sound, some of the fascia boards have rotted out.

Integrity

Little Makalapa Navy Housing Area retains varying levels of integrity of location, design, setting, materials, workmanship, feeling, and association, as explained below.

The location and boundaries of the property have not changed as the neighborhood is in its original location.

¹⁰ Kidder-Smith Collection: No. N 193-10.

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The internal setting of the property has changed most significantly due to a lack of maintenance that has caused damage to the units. Buildings are largely boarded-up on the first floor and open to the elements on the second floor. Copper flashing was removed from all of the buildings, causing additional degradation. Some landscaping suffers from a lack of water, while other trees and plantings are overgrown. In general, while these issues detract from the internal setting, they are evaluated as relatively minor detractions since they are fairly simple to correct. Significant changes have occurred outside the perimeter fence, particularly with respect to roadways and access. However, their effect on the setting is minimal as many are not visible from within the neighborhood due to topography and the perimeter landscaping. One exception is a new, large six-story barracks building constructed directly across Kamehameha Highway on JBPHH that is prominent in the view plane at the west end of Palmyra Drive. While the introduction of this visual element to Palmyra Drive is notable, it does not drastically detract from the neighborhood's overall setting.¹¹

The design, materials, and workmanship of the property are largely intact; however, recent damage to some of the units' interiors and exteriors (by both natural elements and vandals), such as the removal of the copper flashing from all of the buildings, compromises integrity of materials. The buildings themselves are largely unaltered, with the exception of the rear utility area improvements made while the residences were in use. Minor interior alterations that occurred over several decades, including kitchen and bath upgrades, along with the replacement of light fixtures, hardware, and the installation of floor tiles, do not significantly alter the integrity of design, materials or workmanship.

The property retains a large measure of its integrity of feeling and association, although they are slightly reduced since the neighborhood is no longer being inhabited, although the deterioration that has occurred in recent years is still correctable with landscaping and repairs and does not overshadow the feeling of Little Makalapa Navy Housing Area's layout as a safe enclave from a historic period. Therefore, the development retains sufficient integrity of feeling and association to convey its original development history and historic function as a neighborhood.

The overall integrity of the property remains high since the few changes (primarily rear modifications) made to the residences since their construction are relatively minor and the degradation that has occurred following their abandonment appears possible to correct.

G. IDENTITY OF THE BUILDINGS THAT DO OR DO NOT CONTRIBUTE TO THE DISTRICT SIGNIFICANCE

Once located behind Fac. No. 10 was an air raid shelter (Fac. No. S-129) also known as an arched bomb shelter with dimensions about five feet in height and width and seventy feet in length. The wall thickness ranged from six to twelve inches. A comparison of current maps and several from the 1940s show these structures in different positions throughout the neighborhood.

¹¹ Department of the Navy. Draft Integrated Cultural Resources Management Plan for Pearl Harbor Naval Complex. Prepared for Commander, Navy Region Hawaii (2001), 3-170.

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Table 1: List of Contributing Buildings

Fac. No.	Address / Unit No.	Historic Type (Shown on 1948 Map OA-N1-1672)
1	1 Palmyra Drive	Type H (2-bedroom, typ.)
1	3 Palmyra Drive	Type H
2	5 Palmyra Drive	Type E (3-bedroom, typ.)
2	7 Palmyra Drive	Type E
3	9 Palmyra Drive	Type H
3	11 Palmyra Drive	Type H
4	13 Palmyra Drive	Type E
4	15 Palmyra Drive	Type E
5	17 Palmyra Drive	Type H
5	19 Palmyra Drive	Type H
6	21 Palmyra Drive	Type E
6	23 Palmyra Drive	Type E
7	25 Palmyra Drive	Type H
7	27 Palmyra Drive	Type H
8	10 Palmyra Drive	Type H
8	12 Palmyra Drive	Type H
9	14 Palmyra Drive	Type E
9	16 Palmyra Drive	Type E
10	18 Palmyra Drive	Type E
10	20 Palmyra Drive	Type E
11	9 Tarawa Place	Type H
11	11 Tarawa Place	Type H
12	13 Tarawa Place	Type H
12	15 Tarawa Place	Type H
13	2 Tarawa Place	Type H
13	4 Tarawa Place	Type H
14	6 Tarawa Place	Type H
14	8 Tarawa Place	Type H
15	10 Tarawa Place	Type H
15	12 Tarawa Place	Type H

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H. MOST IMPORTANT CONTRIBUTING RESOURCES

The duplexes and street layouts are the most important contributing resources of the neighborhood, while its low density (setting) is also vital to its significance. Open carports and large monkey pod trees add significantly to the park-like setting as well.

I. QUALITIES DISTINGUISHING DISTRICT FROM SURROUNDINGS

The Little Makalapa neighborhood is easily distinguished from surrounding areas by topography and differences in building and land use. As mentioned earlier, it is situated on a plateau.

The Little Makalapa neighborhood is bordered on the west side by Kamehameha Highway, which separates the houses from a major fuel farm and other large-scale structures in the Pearl Harbor complex. Also along Kamehameha is a steep hillside, varying from about ten to forty feet in height between the highway and housing. The escarpment continues to the north, partially following Radford Drive. Open space and then non-residential structures exist on the north-east side adjacent to a former railroad right of way. Access to Little Makalapa is via Center Drive, either from Radford Drive or Kamehameha Highway.

J. PRESENCE OF ARCHEOLOGICAL RESOURCES

No archaeological surveys have been conducted within the Makalapa Navy Housing Area.

Early cultural histories of the Hālawā and Moanalua ahupua‘a (traditional land divisions from the mountain ridges to the sea) have been richly documented by Anderson and Bouthiller, who record detailed legends dating to at least the late pre-contact period as well as observations of travelers and explorers in the eighteenth and early nineteenth centuries.¹² These accounts testify to the ecological and cultural importance of these ahupua‘a, and especially of Pu‘uloa (Pearl Harbor) and its fertile streams and uplands. Very rarely in these accounts, however, is specific reference made to locations on the Hālawā-Moanalua plain. The majority of the early Native Hawaiian population apparently resided in and around the drainages feeding into Pu‘uloa and on the terraced lowlands nearby. It does not appear that the Hālawā-Moanalua plain was considered suitable for large-scale habitation or agricultural use by Native Hawaiians before or after European contact. The fishponds and small coastal settlements on early historic maps give the best clues to traditional Native Hawaiian use of this area and small and large walled fishponds lined both banks of the channel entrance to Pu‘uloa and around the fringe of the harbor.¹³ Marine resources, principally the fishponds and the fringing reef, were a focus of traditional Native Hawaiian land-use on the plain.

The east side of Hālawā forms the dividing line between the ‘Ewa and Kona Districts of O‘ahu.

¹² L. Anderson and K. Bouthiller, *Final Report, Assessments and Analysis of Historic Properties at Hickam Air Force Base, Honolulu, Hawai'i for Preparation of a Historic Preservation Plan*. Prepared for U.S. Army Corps of Engineers (Honolulu: Ogden Environmental and Energy Services Co. Inc., 1996).

¹³ M. D. Monserrat, "Map of Moanalua and Kahauiki." Hawaii Survey Office Registered Map 1511.

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The Little Makalapa housing area is in the ahupua'a of Hālawa. There was a southeast direction alahele (foot path) that crossed on the west bluffs of Makalapa Crater called Napehā.¹⁴ In ancient Hawai'i, alahele were used to access and trade resources with people living throughout the ahupua'a. Napehā trail began at the mountain ridge base of Keka'ananio-Kapūkakī, passed along the west bluff of Makalapa Crater and ended at the south shore of Hālawa ahupua'a.

There is a dearth of archaeology around both "Big" Makalapa and Little Makalapa. This portion of Pu'uloa is a landmass consisting of fill dredged from the harbor overlying shoreline fishponds and the filled in Makalapa crater formerly called Kapūkakī. McAllister designated Makalapa Crater as site 101 (SIHP 50-80-13-00101) and wrote that it was used as a freshwater pond in 1933. During the Great Māhele, cattle were being ranched around Makalapa. According to testimony, the Makalapa lands were not fit for sugar and instead used for pasture. In 1930 McAllister recorded the first nineteen archaeological sites in the ahupua'a of Moanalua along with three enclosed paddocks around the crater and ten sites in Hālawa (nine coastal fishponds and Moku'ume'ume, otherwise known as Ford Island). None of the historic sites McAllister recorded are located near the Little Makalapa housing area.

The former Loko Kunana Fishpond (SIHP 50-8-013-00102) was located near the mouth of Hālawa Stream in the ahupua'a of Hālawa. Loko Kunana was formerly twenty-five acres in area. One recorded fishpond on many maps for the ahupua'a of Moanalua is named Loko Lelepaua (332 acres), one of the largest fishponds along the south shore of O'ahu. Adjacent was Loko Waiaho. Today the main runways of the Honolulu International Airport stand where these two fishponds existed. To the west of Loko Waiaho was Loko Keoki (McAllister 1933:101). The fishponds, coast and shoreline of Pu'uloa would be transformed into one of the largest and most important and naval bases in the world.

A significant episode in Hawaiian history took place on the peak of Maunakapu near the boundary lines of Hālawa and Moanalua. In 1785 the deposed mō'i (king) of O'ahu Kumahana's son, Kaneoneo, was killed by the Maui mō'i Kahekili (Fornander 1969 II: 227). Kahekili took revenge on the conspirators by exterminating the O'ahu aristocracy and leaving their bones in Moanalua.

¹⁴ John Papa ʻĪī. *Fragments of Hawaiian History* (Honolulu: Bishop Museum, 1959), 95.

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8. Statement of Significance

Applicable National Register Criteria

(Mark 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 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 pre-history or history.

Criteria Considerations

(Mark all the boxes that apply.)

- A. Owned by 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 old or achieving significance within the past 50 years

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Areas of Significance

(Enter categories from instructions.)

COMMUNITY PLANNING AND DEVELOPMENT

ARCHITECTURE

MILITARY

Period of Significance

1940-1945

Significant Dates

1940

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

Dickey, Charles William

Contractors, Pacific Naval Air Bases

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Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Little Makalapa Navy Housing Area Historic District is significant on the state level under Criteria A (Events) and C (Architecture). It meets Criterion A by reflecting the political, economic and social events impacting the Pearl Harbor basin. During the 1930s and early 1940s, events led to American preparations to counter increased Japanese militarism in the Pacific, including the build-up of U.S. Navy strength at Pearl Harbor. This relocation of forces to Hawai'i necessitated massive construction of infrastructure such as housing within a very short time span. Little Makalapa is relevant under Criterion C as the neighborhood and buildings embody the distinctive characteristics of the modern movement by integrating the standardization of building techniques and building materials. The period of significance starts with Little Makalapa's construction in 1940 and ends in 1945 with the end of WWII.

In Addition to meeting the two National Register criteria, the lands on which this historic district were constructed have had a long history of Native Hawaiian occupation, for which all tangible manifestations have been obliterated by the United States Navy's development of the area. The earlier history, when recalled, adds another layer of understanding to the place and its name.

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Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Traditional Native Hawaiian Presence

The ahupua'a of Hālawā is located west of Honolulu in the moku (traditional district) of 'Ewa. Although the ahupua'a was not the most populated or powerful in the sense of chiefly authority, Hālawā is one of the most sacred places on O'ahu and served as a buffer between the power holders of O'ahu prior to Paiea Kamehameha I's reign (1795—1819) as sovereign over the unified Hawaiian archipelago. The land division extends from the Maunakapu summit ridge of the Ko'olau range, to the east shoreline of Ke-Awalau-o-Pu'uloa (the traditional name for Pearl Harbor) and also extends to the south shore towards the harbor mouth of Pu'uloa.¹ The entire shoreline of Hālawā was poetically called Nā-Maka-o-Hālawā, which translates as "the eyes of Hālawā" referring to the once abundant pipi, or pearl oysters.² The geographical features of the uplands are two gulches called Kamananui and Kamanaiki with the source of Hālawā's two streams starting at the base of each gulch, then converging into a single Hālawā Stream. From the uplands to the eastern foothill of the ahupua'a is Makalapa Crater. The eastern boundary line of the traditional ahupua'a ran across the crater's eastern bluff.³ From the crater to the east shore, the west boundary of the land included the flat island of Moku'ume'ume.

Hālawā is of great significance and revered by many Kānaka 'Ōiwi (Native Hawaiians) because the ancestral matriarch of the Kānaka 'Ōiwi, Papahānaumoku, was born there.⁴ Many Hawaiian families today trace their genealogy to Papahānaumoku. The prayer chant *Kumulipo* describes the origins of life and several lineages of the Hawaiian people.⁵ The universe, it says, was created during the night of Makali'i (the Pleiades). From the darkness came Kumulipo, the male, and Pō'ele, the female. From them were born the multitudes of deities and the elements of land and sea. Then came the first life forms on earth, nā kini lehulehu (multitudes of man), then nā kini lani ali'i (multitudes of chiefs).⁶ Papahānaumoku had a daughter, Ho'ohokukalani, who gave birth to Hāloanaka. According to the *Kumulipo*, Hāloanaka was born in the form of a root (other stories say Hāloanaka was a fetus).⁷ Either way, the child was stillborn. Hāloanaka was buried at the east corner of the house of Ho'ohokukalani, which traditional narratives locate at Waolani, in the ahupua'a of Nu'uānu. From that "root" the kalo (taro) first sprouted.⁸ Kalo was called Hāloanakalaukapalili, literally the "progenitor of all the peoples [Kānaka 'Ōiwi] of the Earth."

Makalapa is located in the 'ili (a subdivision of an ahupua'a) of Kunana. The name traditionally refers to the extinct crater that was eroded by wind and water and filled by material dredged up from the harbor.

¹ Mary Kawena Puku'i, *Ke awa lau o Puuloa: Hawaiian Historical Society Report no. 52* (Honolulu, 1943).

² Samuel Kamakau, *Ka Po'e Kahiko: The People of Old* (Honolulu: Bishop Museum Press, 1964), 83.

³ Author Unknown, "Ma Ke Kauoha: Kuahaua Koho Baloka Wae Moho," *Kuokoa* (Honolulu), August 28 1924.

⁴ Queen Lili'uokalani. *The Kumulipo: An Account of the Creation of the World According to Hawaiian Traditions* (Honolulu: Pueo Press, 1897).

⁵ Davida Malo, *Ka Mo'olelo Hawai'i: Hawaiian Traditions*, translated by Malcolm Naea Chun (Honolulu: First People's Production, 2006), 4.

⁶ Queen Lili'uokalani. *The Kumulipo*, 2.

⁷ Davida Malo, *Ka Mo'olelo Hawai'i*. 185.

⁸ *Ibid*, 185.

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Makalapa is translated as “ridge features,” referring to the formation of the edges of the crater.⁹ There was a freshwater pond within the crater.¹⁰

Waters near to and within the crater

Near the area of significance were two small loko (ponds), a larger loko, an island and mud flats. The loko associated with the area of Makalapa were loko i'a (fishponds), which in ancient times played vital social, economic and political roles. The entire Ke-Awalau-o-Pu'uloa was the breadbasket for the thirteen ahupua'a along the shore. The two small loko were called Wailolowai and Wailolokai.¹¹ The meanings of those names and functions of these two loko have been lost. However, traditional narratives describe the fauna common to all the loko along the shores of Ke-Awalau-o-Pu'uloa. One of them was the 'anae, or mullet, cultivated in the loko i'a. Also abundant was the pipi, or pearl oyster, for which the area was traditionally known.¹² Those have mostly disappeared. According to legend, Kānekua'ana, a mo'ō (a supernatural being usually taking the form of a lizard that dwells in water) had brought the pipi from one of the ancestral lands called Kahiki. It was an abundant food source for the people of Hālawā, but it was also protected by Kānekua'ana to ensure that they weren't overharvested. The person charged with enforcing kāmāwai (traditional law) of harvesting was called the konohiki or headman; it was his duty to supervise and maintain the laws under the ali'i 'aimoku (the ruling chief of the district). One day during the kapu (forbidden) period of harvesting, an old woman broke the law and gathered pipi. The konohiki inspected the harvest of the lawai'a (fishermen), including the old woman. The konohiki emptied her bag into the sea, scolded her and demanded payment. Kānekua'ana saw this and was not pleased, because the mo'ō was fond of the old woman, a relative. In retaliation, Kānekua'ana took most of the pipi from Ke-'Awalau-o-Pu'uloa back to Kahiki.¹³

The larger loko, Loko Kunana, was situated northwest of Makalapa. It was a loko i'a kuapā (walled fishpond) where deep sea fishes, including manō (sharks), were raised. Within the larger loko i'a kuapā, there was a small loko called Loko Muliwai. The ali'i directed the maka'āinana (tenants to the land) to build this particular fishpond. It was noted in *The Sites of O'ahu* that:

Kunana Pond is at the base of Hālawā Stream and was connected with Kūāhūa Island (see fig. X). The name is from the mother of Ka'ahupahau who often fished there. Her name was Ku-a-nana, child of Nana.¹⁴

Loko Kunana is also mentioned in McCallister's 1933 *Archaeology of Oahu*:

Kunana has been partly filled in but was formerly 25 acres in extent. Kūāhūa Island forms one side and the opposing wall is formed by Hālawā. The two walls running between the land and the island are 1800-feet and 1950-feet long, approximately 5-feet wide, and 3-feet high.¹⁵

⁹ Mary Kawena Puku'i and Samuel H. Elbert, *Hawaiian Dictionary* (Honolulu: University of Hawai'i Press, 1986), 224 and 194.

¹⁰ McAllister, *Archaeology of Oahu* (Honolulu: Bishop Museum Press, 1933), 102.

¹¹ Elspeth P. Sterling and Catherine C. Summers, *Sites of Oahu* (Honolulu: Bishop Museum Press, 1962), 47.

¹² Puku'i, *Ke awa lau o Puuloa*.

¹³ Moses Manu, "The Legend of Ke-ao-melemele," *Kuakoa*, April 25 1885.

¹⁴ Sterling, *Sites of Oahu*, 10.

¹⁵ McAllister, *Archaeology of Oahu*, 102.

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As the story goes, Kunana [Ku-a-Nana] was a chiefess who had a miscarriage while gathering limu (seaweed) along the shores of Ke-Awalau-o-Pu'uloa. According to Hawaiian tradition regarding unfortunate births of chiefs, the stillborn is to be taken to the sea to return to the spirit world and may be transformed into a supernatural being or another life form. In this story, that stillborn child was transformed into a shark and called Ka'ahupahau.¹⁶ Ka'ahupahau was also regarded as an ali'i wahine (chiefess) because in many narratives about Ka'ahupahau, she had the traits of a chiefess in terms of protecting the people of Ke-Awalau-o-Pu'uloa.¹⁷

The mud flats of Loko Ola are also closely connected with Makalapa. However, as with many loko along the shores of Ke-Awalau-o-Pu'uloa, its associated lore has been lost.

Hawaiian trails in the area

In ancient Hawai'i, the maka'āinana would travel on foot using the alahele, which in the ahupua'a of Hālawa followed a mauka-makai direction. There was an ancient alahele along the west bluff of Makalapa Crater called Napehā. The maka'āinana would use the trail to trade food. The ali'i would often travel on a footpath called alaloa, analogous to a vehicle highway, which ran east-west. During the time of harvest called makahiki, the ali'i would travel on the alaloa in the company of Lonoikamahiki (Lono), the deity of agriculture and peace.

Hawaiian people living in the area

Makalapa area did not have many inhabitants prior to the mid-1800s. The settlement pattern occurred mostly along the coastline from the present mouth of Hālawa Stream to the merger of the two streams of Kamananui and Kamanaiiki.

Ownership of the land

The lineage of landlords in Hālawa changed often; O'ahu went from being an independent island kingdom to part of the Kingdom of Hawai'i and remained loyal to the descendants of Paiea Kamehameha I. Prior to Kamehameha I taking control of O'ahu in 1795, the last independent ali'i 'aimoku was Kalanikūpule, who ruled not just O'ahu but also Moloka'i, Maui, Lāna'i and Kohemalamalamaokanaloa (Kaho'olawe). Kalanikūpule had planned to conquer Hawai'i Island, but John Young and Isaac Davis, Kamehameha I's foreign advisors, heard of the plan. To forestall the invasion of Hawai'i Island, Kamehameha I and his forces instead traveled to O'ahu and defeated Kalanikūpule at the battle of Kaleleka'anae.¹⁸ As the new ali'i 'aimoku, Kamehameha I redistributed the lands of O'ahu to his chiefs in order to assert his rule over the land in his absence. The chiefs appointed to Hālawa as joint haku'āina (landlords) were John Young and Isaac Davis. Davis died in 1810 leaving no kauoha (spoken will) as to who would inherit his title. From 1795 until 1847, Hālawa, including Makalapa, was governed by these trusted foreigners and their children. In 1848, things changed. In traditional Hawaiian thinking, land wasn't "owned" but rather stewarded by the residents of

¹⁶ Puku'i, *Ke awa lau o Puuloa*.

¹⁷ "He Moolelo Kaa Hawaii no Keliikau o Kau," *Home Rula Repubalika: Ka Wahaolelo o ka Lehulehu*, January 6 1902, 7. www.nupepa.org

¹⁸ P. Christiaan Kleiger, *Na Maka o Halawa: A History of Halawa Ahupua'a, O'ahu*, (Honolulu: Bishop Museum Press, 1995), 36.

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the ahupua'a. However, as foreigners gained influence with the paramount chiefs, this thinking changed. This change was called the Māhele, during which land was divided and titles of ownership transferred.¹⁹ This changed the traditional social, economic and political structures. Land became a commodity, which had unfortunate consequences for the traditional way of life.

Mataio Kekūanāo'a, a kaukau ali'i or secondary chief who served under the mō'i, became the new haku'āina of Hālawā. Kekūanāo'a was a descendant of high chiefs of O'ahu and Hawai'i Island. He was connected to Kamehameha I through two marriages to descendants of Kamehameha I. He married Kalanipauahi, daughter of Pauli Ka'oleioku, a son of Kamehameha I. Because of this marriage, Kekūanāo'a adopted Princess Ruth Ke'elikōlani, the daughter of Kalanipauahi, as his own. Although she was po'olua (having two fathers), Kekūanāo'a nevertheless claimed her as his daughter. Kekūanāo'a also married Elizabeth Kīna'u (the daughter of Kamehameha I and wife Kalakua Kaheheimālie) and had five children: David Kamehameha, Moses Kekūāiwa, Mō'i Lota Kapuāiwa Kamehameha V, Mō'i Alexander Liholiho Kamehameha IV, and Princess Victoria Kamāmalu. Through either lineage, the title of haku'āina was passed down the line to direct descendants of Kamehameha I.

Kekūanāo'a was granted the 'ili of Kunana [LCA 7712] through the Māhele of 1848. Christiaan Kleiger, author of *Nā Maka o Hālawā*, noted that "Kunana seems to have been a traditional independent 'ili, or 'ili kūpono whose landlord would be directly responsible to the king rather than to a konohiki (supervisor of the land)."²⁰ It may be the reason why Kekūanāo'a was granted the land and became its own "konohiki" or haku'āina.

Kekūanāo'a handed the 'ili of Kunana down to his children, then to Ruth Ke'elikōlani.²¹ She was the last of Kekūanāo'a's children to serve as haku'āina of the 'ili. Upon her death in 1883, Ke'elikōlani willed all her inherited lands, including the 'ili of Kunana, to her closest cousin as and the last direct descendant of Kamehameha I, Princess Bernice Pauahi Bishop, founder of Kamehameha Schools. Her link to Kamehameha I was through her mother, Laura Kanaholo Konia, the daughter of Kamehameha I's son, Pauli Ka'oleioku. In 1898, fourteen years after the death of Princess Bernice Pauahi Bishop in 1884, the trustees of her estate and Kamehameha Schools leased the 'ili of Kunana to the Honolulu Sugar Company, which later changed its name to Honolulu Plantation Company (HPL).²²

Historic maps as late as the 1930s indicate that the area was undeveloped. If any historic sites existed on or in the crater, they have been obliterated by the sugar industry and military activity. However, the interior of Hālawā Valley was not without historic properties. A twenty-year archaeological survey and data recovery project related to the construction of the H-3 freeway through Hālawā identified extensive pre-contact sites within the valley; Klieger's notes in 1898 show that there was an enclosure adjacent to Makalapa Crater; the crater was later used by the 'Aiea Dairy.²³ Unfortunately, there was no requirement for archaeological studies when Little Makalapa was developed. Therefore no archaeological sites have been recorded within the housing area.

¹⁹ Lilikalā Kame'eiehiwa, *Native Land and Foreign Desires: Pehea Lā e Pono Ai?* (Honolulu: Bishop Museum Press, 1992), 8.

²⁰ Kleiger, *Na Maka o Halawa*, 40.

²¹ Ibid, 44.

²² Ibid, 81.

²³ Ibid, 81.

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In the late nineteenth and early twentieth centuries, Little Makalapa was located near a number of railroad lines. The O'ahu Railway & Land Company (OR&L) was founded to service an agricultural and subdivision development scheme covering the western and northern sections of O'ahu. Its founder, Benjamin Franklin Dillingham, received a royal charter in 1889 and proceeded to build a narrow-gauge track west from Iwilei. The OR&L track traveled in a straight line from Ke'ehi Lagoon to approximately the present site of the Nimitz Gate, then proceeded north and then west along the coast of Pearl Harbor. A spur at 'Aiea crossed the present Richardson Field, Aloha Stadium grounds, and then headed north to the Aiea Sugar Mill, operated by the Honolulu Plantation Company. The Honolulu Plantation Company connected its own private plantation railroad system to the OR&L at the Pu'uloa Station, located also near the Nimitz Gate. A line from Pu'uloa Station went north, skirting Little Makalapa and Makalapa Crater on the east, then crossed the site of the present Foster Village on the way to 'Āliamanu Crater and Hālawā Valley. The military had rights for use of this line as far as its 'Āliamanu ammunition storage facility. (The line was probably abandoned by 1939, when plans for Little Makalapa were made, as it is unlikely that ammunition would be transported close to a housing area.) Another line went southwest from the Pu'uloa Station to the base of the Hawaiian Dredging Company, which cleared the opening of Pearl Harbor and had other major military dredging contracts, located at Watertown on the east side of the Pearl Harbor entrance. The last line extended south to Fort Kamehameha. The only physical components of these railroad lines on the east side of Pearl Harbor in existence today are rails embedded in concrete within the Pearl Harbor Shipyard, a bridge crossing Hālawā Stream also inside the base, the OR&L right of way along the Pearl Harbor shoreline and the cut in the cliff at Richardson Field used by the OR&L trains to rise from the coastal flats and reach the Aiea Sugar Mill.²⁴

Changes to the landscape

New technology, the introduction of new fauna and flora and changes in both ownership and land use also affected conditions within Ke-Awalau-o-Pu'uloa and access by Native Hawaiians. Peter Corney, one of the earliest Euro-American residents on O'ahu, wrote that in 1818 there were many divers employed in obtaining pearl oysters. Corney himself had facilitated the process of harvest oysters by presenting the king with an oyster dredge (a device that undoubtedly destroyed the oyster beds).²⁵ While the introduction of cattle throughout the Islands was seen as a beneficial source of protein and possible ranch employment, King Kamehameha I's initial ten-year kapu on killing the animals had the unanticipated effect of creating a bovine population explosion; the hungry cattle denuded the landscape and facilitated soil erosion. Invasive plants were much more resistant to the depredations of cattle than native plant species, and they also tended to be more aggressive in establishing themselves, thereby altering existing food sources

The Māhele, a series of laws issued during the reign of Kamehameha III, ended traditional land tenure in the islands and recognized private property rights. The land was divided, one third becoming Crown Lands, another third granted to the Chiefs, and the remainder to go to the population. Foreigners could gain title, and the maka'āinana (tenants to the land) were encouraged to file claims for property that they worked. Unfortunately, most Native Hawaiians did not understand the concept of land title and lost their opportunity to gain ownership and were often dispossessed. Furthermore, the new laws granted a

²⁴ Henry F. Bonnell, *Hawaiian Rails of Yesteryear*. (Ewa, Hawai'i: The Hawaiian Railway Society, 1997), 2 and 4.

²⁵ Navy Department Library. *The U.S. Navy in Hawaii, 1826-1945, an Administrative History*. Accessed June 8, 2014. <http://www.history.navy.mil/docs/wwii/pearl/hawaii.htm>.

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landowner the right to deny access to anyone not “specifically designated as the Land’s rightful owner.”²⁶ This proved especially consequential where there were food resources. The development of extensive upland commercial agriculture removed huge areas of vegetation and led to further massive sedimentation of the oyster beds within Pearl Harbor. Native landowners (royalist entities such as the Bishop and Queen Emma Estates) permitted traditional resource gathering of such items as ‘ōpae (freshwater shrimp). ‘Ōpae gathering continued until the estates were forced to give up their properties through condemnation by the U.S. Government for Navy use of East and other Lochs. The Navy also contributed to pollution by accidental discharge of oil and other contaminants. Access rights were also restricted due to security concerns during the period leading up to World War II.

Pearl Harbor Naval Base

In 1840 U.S. Navy commander Charles Wilkes sounded “Pearl River” and reported that, “if the water upon the bar (entrance) should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbor in the Pacific.”²⁷ As international trade across the Pacific grew over the course of the nineteenth century, the strategic importance of Hawai‘i and the potential naval importance of Pearl Harbor also grew.

Commercial and cultural ties with the United States also strengthened. The Congregationalist missionaries, influential in the Royal Government from 1820, were from New England. Most of the whaling ships active in the North Pacific were also American. By 1857 Navy ship visits were frequent enough in the Islands that the *Pacific Commercial Advertiser* noted that Lt. William Reynolds had been appointed “U.S. Naval Storekeeper” in Honolulu.²⁸

Preferential access to the American sugar market became the *raison d’être* for an increasingly powerful sugar-growing lobby. A Reciprocity Treaty between the Kingdom of Hawai‘i and the United States for commercial trade concluded in 1875. During those negotiations, it was proposed that the United States might be induced to grant Hawai‘i access to sugar markets in exchange for a facility at Pearl Harbor. In 1873 American General John M. Schofield visited Hawai‘i and recommended that a U.S. Navy facility indeed be built at Pearl Harbor. An 1887 renewal of the reciprocity document included official recognition that the United States possessed sole rights to Pearl Harbor as a port. This treaty allowed the Kingdom’s sugar and rice to enter into the United States tax-free “without” the cessation of Ke-Awalau-o-Pu‘uloa, in which the American government had great interest for its own military.²⁹ After the U.S. military was granted exclusive rights to the harbor, it denied access to resources including shoreline loko i‘a and the freshwater pond of Makalapa Crater. The Reciprocity Treaty had the effect of further distancing the people from the land.³⁰

²⁶ Kame‘eleihiwa, *Native Land and Foreign Desires: Pehea Lā e Pono Ai?*, 9.

²⁷ W. F. Dillingham, “Pearl Harbor.” Typescript of speech read before the Social Services Association. Hawai‘i State Archives.

²⁸ GlobalSecurity.org. “Military: Coaling Stations,” Accessed May 23, 2008. <http://www.globalsecurity.org/military/facility/coaling-station.htm>.

²⁹ *Ibid.*, 314.

³⁰ Sydney Lehua Iaukea, *The Queen And I: A Story of Dispossession and Reconnections in Hawai‘i* (Berkeley and Los Angeles: University of California, 2012), 61.

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The annexation of the Hawaiian Islands in 1898 led to the establishment of U.S. Navy facilities at Honolulu Harbor. In 1899 Commander F. Merry assumed command of the Coal Depot at Honolulu and Naval Station Honolulu.³¹

Congressional appropriations in 1901 supported the acquisition of lands for the development of Pearl Harbor Naval Station and the dredging of the entrance channel. Due to resistance from property owners, eminent domain was invoked to acquire the southeast coast of the present East Loch, Kūāhūa Island and the southeast coast of Ford Island. On December 14, 1911, the first large vessel, U.S.S. *California*, entered Pearl Harbor and tied up off the Navy Yard. By 1921, all American naval operations had moved from Honolulu to Pearl Harbor.³²

The base continued to expand. Employing U.S. Condemnation Civil Actions, the Navy acquired additional portions of the Ke-Awalau-o-Pu'uloa. Ammunition storage facilities on Kunana Island were enlarged by acquiring Loko Kunana and filling it in, creating Kunana Peninsula. All of Moku'ume'ume was taken for the development of Luke Field; however aeronautical technology was expanding so quickly by the 1930s that a whole separate complex was undertaken southeast of Pearl Harbor and developed as Hickam Airfield. By 1939 the Navy sought title of Makalapa area.³³

Filling in of Makalapa Crater and the gorge

Makalapa Crater and the gorge that ran between the areas of "Big" Makalapa and Little Makalapa were heavily altered during years 1939 and 1966. In 1939 a major contract was awarded to Pacific Naval Air Base Contractors for the construction of two new graving docks adjacent to the existing battleship dock, then in operation. Dock No. 2 was a one thousand-foot battleship dock; Dock No. 3 was a smaller structure, 497 feet long, for destroyers and submarines.³⁴ The dredge material from the construction of these two docks was most likely used as fill in Makalapa Crater, where it is documented that the crater was filled sometime around 1939 to increase its elevation thirty feet. Later, during the construction of H-1, the crater required further leveling to mitigate grade changes in the freeway design and the remove a smallpox cemetery. No archaeological surveys were conducted prior to the execution of these major projects.

CRITERION A

Under Criterion A, the Little Makalapa neighborhood is significant for its association with the military events connected with the U.S. Navy's preparations for World War II and its response to the outbreak of war in the Pacific.

The world had steadily been moving toward another major war. In 1931 the Japanese had invaded Manchuria and expanded their aggression into central China in 1937. By 1939, Nazi Germany and the Soviet Union had invaded Poland and Germany was also at war with France and Great Britain. This

³¹ TEC Inc., *Naval Facilities Engineering Command (NAVFAC), Pacific, Pearl Harbor Naval Complex Draft Cultural Landscape Report Part 1*. (Honolulu: 2008), 2.3-1 and 2.

³² Ibid, 2.3-2.

³³ Kleiger, *Nā Maka o Hālawā*, 94.

³⁴ United States, *Building Navy Bases in WWII* Vol. 2 (Washington D.C.: Government Printing, 1947), 121.

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prompted U.S. President Franklin Roosevelt to declare a limited National Emergency. In 1939 Roosevelt ordered the relocation of the Pacific Fleet from California to Hawai'i. The move was completed by April 1940. Originally intended to be only temporary, the fleet was moved to Hawai'i to serve as a deterrent to Japanese expansion into the Dutch East Indies, however the Chief of Naval Operations announced in the summer of 1940 that the fleet would remain in Hawai'i indefinitely. The construction of Makalapa housing areas was therefore accelerated.

In 1939, Roosevelt ordered the relocation of the Pacific Fleet from California to Hawai'i, which was completed by April 1940. Moving the U.S. fleet to Hawaii, however, required extensive infrastructure improvements. New roads, berths, hangers, fuel lines, offices, recreation facilities and housing were planned. Unfortunately, Pearl Harbor Naval Base was, at that time, located far from the city of Honolulu. Expansion of base housing necessitated acquisition of three large tracts of land from the Queen Emma, Damon and Bishop Estates, Makalapa (the triangle created by today's Kamehameha Highway, Nimitz Highway, and Plantation Drive), and land *makai* (direction towards ocean) of Kamehameha Highway and 'Ewa of today's Honolulu Airport Post Office.³⁵

The *Honolulu Star Bulletin* reported that a Congressional subcommittee had recommended Navy housing construction, at least in part, because even "enlisted men with their families are now required to live in Honolulu in unsanitary, dilapidated and unhealthy surroundings."³⁶

Contractors Pacific Naval Air Bases (CPNAB) constructed the Makalapa housing areas. CPNAB was a consortium of local and mainland construction firms tasked with building Navy facilities in the Pacific during World War II. CPNAB's contract for housing, along with other Navy work, was awarded on July 1, 1940, and originally encompassed the construction of 500 housing units in Housing Area I (later called Hale Moku), but the contract was soon amended to include more units at Housing Area II (within the Plantation Drive, Nimitz and Kamehameha Highways triangle) and Area III (near Main Street), the 'Aiea Receiving Barracks, as well as in Makalapa. Housing Area IV, in Moanalua and farthest from the base, contained a focal "town center."³⁸ Overall, the capacity of the housing built by CPNAB under this contract sheltered over 20,000 residents.³⁹ No CPNAB residential buildings remain except for the Makalapa housing areas (including Little Makalapa). CPNAB's staff featured prominent local architect C.W. Dickey, well known for his Mediterranean-inspired public concrete structures such as the Alexander and Baldwin Building and Mabel Smyth Memorial Auditorium in downtown Honolulu, who designed residential structures at Makalapa. There were national Navy standards developed in the pre-war period under the PNAB contract in addition to articles written in the professional magazines of the day. The USACERL publication titled: "World War II Temporary Military Buildings, A Brief History of the Architecture and Planning of Cantonments and Training Stations in the United States" by John Garner contains some of these references.

³⁵United States Navy, Fourteenth Naval District, Cantonment for 1400 Civilians (Map), including Makalapa Housing Land Parcels Acquired 1939. National Archives II Microfilm Roll R-1094, Frame 435.

³⁶"Navy Seeks Land for \$4,214,000 Housing Project", *Honolulu Star-Bulletin*, October 31, 1939, 1.

³⁸ Jeffrey Dodge, Interview by Lorraine Minatoishi. May 23, 2014.

³⁹Mason Architects, Inc. and Belt Collins, *Historic Context Study of Historic Military Family Housing in Hawaii* (prepared for Commander, Pacific Division Naval Facilities Engineering Command, Pearl Harbor, Hawaii, 2003), 5-97.

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Construction housing at Makalapa was underway prior to December 7, 1941. The two main effects of the “blitz” (as the CPNAB called the attack) on the housing construction at Pearl Harbor were related to labor and materials. Ironically, from the attack date through March 31, 1942, Navy housing projects benefitted from the “influx of 501 Japanese aliens and Americans of Japanese Ancestry barred from further employment in the Navy Yard...[and from the] authorization of longer working hours.”⁴⁰ However, there was a temporary setback from the “demoralizing effect on personnel of the unexpected bombing...[F]ear that the attack might be repeated kept the men in a state of nervous tension that temporarily affected progress – as did their assignment to emergency work.”⁴¹ While those labor conditions (the additional workers and the longer hours) were not long-term, the difficulties related to securing building materials (receiving timely shipments and obtaining those materials for which demand exceeded supplies) continued to plague all construction projects in Hawai‘i during the war, although the material shortages did not greatly affect the progress of the Makalapa housing since it had a relatively high priority. However, “exasperating delays were recorded in the receipt of . . . roofing materials, hardware, bath tubs, sash, and doors.”⁴² Despite the attack and the difficulties of material supply chains to Hawai‘i, delays were minimized by the innovative assembly-line procedures used in this and other CPNAB housing areas.

The World War II expansion of Pearl Harbor, Hickam and military support facilities removed much land from sugar cane production in Mānana, Waimalu, ‘Aiea, Hālawa, and Moanalua. The Honolulu Plantation Company never recovered from the loss of so many of its fields and closed in 1946. This wartime “temporary” conversion of former cane lands to military use was followed within a few years by new urban land uses focusing on streets and buildings.

CRITERION C: Neighborhood Design & Construction Techniques

The district is significant under Criterion C for its sensitive and organically planned neighborhood design, integration of groundbreaking construction techniques, architectural design strengths, and its high level of integrity.

Little Makalapa has a sense of historic cohesiveness through its design, setting, materials, workmanship and association. The closure of the housing area in the early 2000s resulted in significant deterioration of the buildings’ condition. However, the density, architecture, general landscaping, and roadways are largely intact. Although located adjacent to heavily industrial areas of Pearl Harbor and between major transportation arteries, the peaceful and tranquil qualities of the district stand out. Of the five housing areas built during the years of 1940-1945, Makalapa housing area is the only one that was designed with

⁴⁰ Contractors Pacific Naval Air Bases (CPNAB), *Technical Report and Project History, Contracts NOy-3550 and NOy-4173: Pacific Naval Air Bases and Aviation Facilities, Dredging, Buildings, Accessories, Quay Walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawaii and Pacific Islands* (microfilm of typescript report from Pacific Division, Naval Facilities Engineering Command Library) n.d., A-923 and A-924.

⁴¹ Contractors Pacific Naval Air Bases (CPNAB), *Technical Report and Project History, Contracts NOy-3550 and NOy-4173*. The CPNAB report notes varying completion dates on different pages, and due to the complexity of contract change orders and the changing number of units to be built for the varying housing projects, it is not possible to determine the exact completion date for Makalapa housing.

⁴² *Ibid*, A-925.

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organic placement of buildings.

The neighborhood embodies distinctive characteristics of both the military's community planning ideas and development methods in the early 1940s period that incorporated organic placement of buildings to create a park-like setting. The houses also have the distinctive characteristics of a type and period of construction, reflecting the ideas of their designer, C.W. Dickey, one of Hawaii's most noted architects.

Neighborhood and Community Planning

Much of the thinking behind contemporary neighborhood and community planning traces its origins to Sir Ebenezer Howard in Great Britain. Howard had observed the growth of greater London, which consumed rural landscapes and housed the population in a sea of inhumane structures. In response, Ebenezer developed the "Garden City" approach to community planning, in which he sought to reduce the sense of alienation from nature by creating "satellite" areas buffered from the urban core by large areas of open space. Each new satellite city would have its own core and access the main core by rail. Howard promoted these ideas in his 1898 book *Tomorrow: A Peaceful Path to Social Reform*. (The 1902 edition was retitled *Garden Cities of Tomorrow*.) Raymond Unwin constructed British towns such as Letchworth according to Ebenezer's ideas beginning in 1903. In the late 1920s and 1930s several American towns and suburbs were also developed following these principles, including Forrest Hills

Gardens designed by F. L. Olmstead, Jr., in 1909.⁵² With the arrival of automobiles, Clarence Perry refined Howard's approach by designing peripheral roadways that would prevent through-traffic in the center of communities and focusing on schools, playgrounds and amenities. This movement, as well as the "City Beautiful" movement that aimed to build uplifting public architecture, influenced military planning projects by the mid 1930s. These projects sought to combine the best of urban and rural living by providing housing near work, yet sited among spacious, beautiful and healthful surroundings.

Certainly the Big Makalapa neighborhood, where most of the residents can walk to work through beautifully landscaped grounds while being treated to views of Pearl Harbor and the Ko'olau and Wai'anae ranges, aspired to this ideal.

The Little Makalapa neighborhood is one example of successful military community planning on O'ahu, but it's not the first. What distinguishes it from the other successes, such as Wheeler Army Air Base and Hickam Army Air Base, however, is the use of the sloping terrain. Most of the other military neighborhoods, both those earlier than and those contemporary with Little Makalapa, are built on relatively level ground. In those cases, a geometric layout was both sensible and traditional. Makalapa housing areas is the only Navy housing project in the region developed in the early 1940s on sloping ground. The curving streets were unique, as was the angled siting of many houses in the neighborhood. Topography encouraged this siting, but the placement of Fac. Nos. 91 and 92, whose front façades angle towards each other rather than facing Makalapa Drive, seems to be chosen for purely esthetic reasons.

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In addition to Makalapa's curving streets, the limited points of access also define the neighborhood. One characteristic common to all Navy housing projects in the vicinity of Pearl Harbor is their proximity to busy traffic arteries. The CPNAB report credited Mr. (later LCDR) Samuel R. Damon with designing the neighborhoods to make them safe for residents. The Damon family had formerly owned much of the property acquired by the Navy for housing in the late 1930s, as well as former owner of land acquired by the Army for Hickam Air Field in the mid-1930s; Samuel Damon was familiar with community planning and design. He worked "(without compensation), with the Public Works Design Division of the Fourteenth Naval District" to establish the layout design for the Navy housing areas.⁴³ The contractor's report noted:

Paralleling the major traffic arteries with tract roads, although costly, was a requirement essential to the safety of residents of the various housing areas, and one that appears (in view of the abnormal accident records of traffic on Oahu's public highways) to have fully justified the expenditure involved.⁴⁴

The landscaping of Hickam, built just a few years earlier, might have inspired the plantings at Makalapa. The Navy planned the extensive landscaping from the start, and the contractors established nurseries to raise approximately one hundred varieties of plants.⁴⁵

The Navy integrated the site's auxiliary buildings (such as the mess halls) by imitating the forms and rooflines of the houses. Doing so allowed later conversion of these structures into additional housing. Preserving open space rather than constructing new buildings makai of the main housing areas has maintained the neighborhood's the low density. Makalapa's distance from the main base has protected it from shipyard activities, unlike Hospital Point or newer, higher density office or apartment buildings near Center Drive. Through periodic ICRMP updates, the Navy has documented changes within individual housing units.

Construction Method

The contractors developed an assembly line process to handle the highly accelerated construction schedule for the Navy's housing in the early 1940s: after the land was cleared, often by burning cane fields, the road and land grading were done before underground utilities were installed and then as stated by CPNAB in its summary of construction activities at the base:

⁴³ CPNAB, Technical Report and Project History, Contracts NOy-3550 and NOy-4173: Pacific Naval Air Bases and Aviation Facilities, Dredging, Buildings, Accessories, Quay Walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawaii and Pacific Islands (microfilm of typescript report from Pacific Division, Naval Facilities Engineering Command Library)

⁴⁴ Ibid. A-935

⁴⁵ Ibid, A-923.

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Concrete foundations for the reduplicative residence and barracks were installed by three crews, one doing the hand excavation, one placing the prefabricated forms, and the other pouring the concrete from mixer trucks. Framed structures were almost invariably prefabricated; electrical, mechanical, and specialty crews completed the structures. All work was done on a quantity-production basis.⁴⁶

The “prefabricated” units of walls, floors and roofs were built in a roofed, un-walled structure “equipped with full-size assembly tables on which necessary horizontal and vertical modules of measurement were indicated, four-way locking devices installed, and saws of various types mounted.”⁴⁷ “The prefabricated units were typically one wall of a room, except in cases, such as the long wall of a living room, where a complete wall would be too hard to handle. Then these assemblies were joined by driving spikes; that material choice was due to the shortage of bolts, considered a critical material.”⁴⁸ This type of “prefabrication” can be seen commonly in today’s construction in the form of tilt-up walls, 4’ x 8’ wall panels and prefabricated roof trusses. The bolted assemblies used during the war continued to be used post-war as “prefabricated” bolts and later as patented bolt designs. One of the early companies fabricating these materials, Simpson Connectors, is a large manufacturer of connector assemblies today.

The use of partially standardized components in this project illustrates the trend towards manufactured buildings, which culminated in the Navy’s use of thousands of Quonset huts during World War II. In addition to the corrugated metal that was the primary material used for Quonset huts, plywood was a standard material used for flooring. In the early twentieth century, the plywood industry focused on door panels as their main product. Plywood was beginning to be used in the late 1930s, as in for example a 1939 Federal Housing Administration project in Fort Wayne, Indiana.⁴⁹ Plywood’s durability was proven during World War II. The housing units within the Big Makalapa Historic District, which relied heavily on the use of plywood, serve as an early and successful demonstration of this new building material.

Design

The modern style gained popularity as a residential form in Hawai‘i during the late 1930s as evidenced by an exhibition on modern architecture held at the Honolulu Academy of Arts in August 1937 and a special section of the February 12, 1938 *Honolulu Star-Bulletin* devoted to the topic in which Connie Conrad praised the "elusive quality of clean-cut lines and large plain surfaces," that were usually painted white, and the "free flow of line and mass, instilling restfulness and freedom which is essential to a semi tropical condition." Additionally, the section included Ray Morris’s persuasive argument advocating

⁴⁶ CBNAB, *Technical Report and Project History, Contracts NOy-3550 and NOu-4173: Pacific Naval Bases and Aviation Facilities, Dredging, Building, Accessories, Quay walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawaii and Pacific Islands*. n.d, A-917.

⁴⁷ Ibid, A-935.

⁴⁸ Ibid, A-923.

⁴⁹ Jeff Dodge. Interviewed by Lorraine Minatoishi, Email communication, May 23, 2014

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Dickey's use of low-pitched hipped roofs with overhangs instead of the typical flat roof of the modern style due to Hawai'i's climate.

C.W. Dickey, Architect

C.W. Dickey was the grandson of William Patterson Alexander, one of the early missionaries to Hawai'i. Dickey was born in Alameda, California, but raised on Maui from the age of two until he attended high school in Oakland. He obtained an architecture degree at the Massachusetts Institute of Technology in 1894.⁵⁰ He practiced in Honolulu with Clinton Briggs Ripley from 1896 to 1900, on his own in 1900, and with Edgar Allen Poe Newcomb from 1901 to 1905.⁵¹ Dickey moved to Oakland in 1905 and practiced mainly there for the next twenty years, although he occasionally travelled to Hawai'i for commissions for his relatives on Maui.⁵² Dickey established a Honolulu office with Hart Wood in 1919, while also maintaining his Oakland office for a few more years before relocating permanently to Honolulu in late 1924.⁵³ His most notable designs date from the late 1920s and early 1930s, when he was instrumental in defining the Hawaiian regional style of architecture. Some of his most famous buildings are the Alexander and Baldwin Building (1929), the Halekulani Hotel main building and several cottages (1931), several buildings at Kamehameha Schools (1930s), the Immigration Station administration building (1934), several theaters, fire stations and numerous residences. In the late 1930s, Dickey became involved in planning several low-cost urban housing projects, including the 1939 construction of the Kamehameha Homes project, which was the "first low-cost, federally assisted housing project in Hawai'i."⁵⁴ When Dickey's firm was contracted ca. 1940 to design housing for the rapidly growing Navy population around Pearl Harbor, he "saw architectural opportunities here that were far more sophisticated than those offered by the low-cost housing projects."⁵⁵ In the last years of his life Dickey was busy working on many Navy projects including the large Navy housing areas and assisting with civil defense planning in Honolulu.

Dickey had always been a versatile designer, not wedded to any one style, even though he is best known for his "Dickey-style" double-pitched hip roof. He was interested in a Hawaiian regional style, but he believed that a wide range of designs could achieve this, as evidenced by his statement:

To be in harmony with the spirit of our people, our architecture should be simple, unpretentious and free from all effort or straining for effect. Any historic style may be modified or used, but after change to fit our conditions it loses its historic characteristics to such an extent that it might

⁵⁰ Robert Jay, *The Architecture of Charles W. Dickey: Hawaii and California* (Honolulu: University of Hawaii Press, 1992), 32.

⁵¹ *Ibid*, 33-72.

⁵² *Ibid*, 102-103.

⁵³ *Ibid*, 108-111.

⁵⁴ *Ibid*, 178.

⁵⁵ *Ibid*, 178.

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be better called Hawaiian.⁵⁶

Dickey was even more specific about how to design for local conditions in a 1933 article:

We have a very temperate climate with an average temperature of 70 to 80 [degrees Fahrenheit] and an average humidity of 40 to 50 [percent] but nevertheless one is uncomfortable unless the air is stirring This demand for air calls for openness in design and cross ventilation. We have a God-given trade wind whose soft balmy caressing breezes blow from the northeast about nine or ten months of the year. For real comfort and happiness this wind must be permitted to enter freely and circulate throughout the house, which calls for large openings and comparatively small wall spaces. There are frequent showers accompanying the trade winds, which must be shut out without the necessity of closing windows. This calls for porches, wide projecting eaves, hoods over windows or other devices, which produce deep shadows and a general effect of coolness and shade. Then comes the *lanai*, a broad living porch that in most houses serves as the living room. In other words we almost live outdoors and our architecture and planting bring the outdoors indoor.⁵⁷

Dickey's designs for the Makalapa houses incorporated many of these ideas, including the cross-ventilation of most rooms, large windows, wide eaves, shading elements over first-floor windows, and a *lanai* in every house.

Conclusion:

Little Makalapa Navy Housing Area is eligible on the local level under Criteria A (Events—the buildup to World War II at Pearl Harbor) and C (Architecture—design and construction of neighborhoods and climate appropriate residences).

⁵⁶ Ronald Lee Melichar, *C. W. Dickey's Immigration Station: A History of its Site, A Proposal for its Future* (M.A. Thesis for Columbia University, 1978), 37.

⁵⁷ *Ibid.*, 30.

Little Makalapa Navy Housing Area Historic District

Name of Property

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Little Makalapa Navy Housing Area Historic District

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Previous documentation on file (NPS):

- preliminary determination of individual listings (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by:

- Historic American Buildings Survey # _____
- Historic American Engineering Record # _____
- Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other (Name of repository): NAVFAC Hawaii, Historic Architect, Jeff Dodge

Historic Resources Survey Number (if assigned): _____

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

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10. Geographical Data

Acreeage of Property 5.88 Acres

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates (decimal degrees)

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | | | | |
|----|-----------|-------|------------|-------|
| 1. | Latitude: | _____ | Longitude: | _____ |
| 2. | Latitude: | _____ | Longitude: | _____ |
| 3. | Latitude: | _____ | Longitude: | _____ |
| 4. | Latitude: | _____ | Longitude: | _____ |

Or
UTM References

Datum (indicated on USGS map):

NAD 1927 NAD 1983

- | | | | | | |
|-----------|-----------|----------|---------------|-----------|----------------|
| 1. Zone: | <u>4N</u> | Easting: | <u>610409</u> | Northing: | <u>2361475</u> |
| 2. Zone: | <u>4N</u> | Easting: | <u>610577</u> | Northing: | <u>2361522</u> |
| 3. Zone: | <u>4N</u> | Easting: | <u>610604</u> | Northing: | <u>2361507</u> |
| 4. Zone: | <u>4N</u> | Easting: | <u>610598</u> | Northing: | <u>2361473</u> |
| 5. Zone: | <u>4N</u> | Easting: | <u>610572</u> | Northing: | <u>2361470</u> |
| 6. Zone: | <u>4N</u> | Easting: | <u>610477</u> | Northing: | <u>2361341</u> |
| 7. Zone: | <u>4N</u> | Easting: | <u>610444</u> | Northing: | <u>2361311</u> |
| 8. Zone: | _____ | Easting: | _____ | Northing: | _____ |
| 9. Zone: | _____ | Easting: | _____ | Northing: | _____ |
| 10. Zone: | _____ | Easting: | _____ | Northing: | _____ |
| 11. Zone: | _____ | Easting: | _____ | Northing: | _____ |
| 12. Zone: | _____ | Easting: | _____ | Northing: | _____ |

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

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Verbal Boundary Description (Describe the boundaries of the property.)

The Little Makalapa Navy Housing Area Historic District includes all the property owned by the U.S. Government in 2014 as described by a portion of Tax Map Key 9-9-002: 004 as demarcated by the yellow lines shown on Figure Number 0002.

Boundary Justification (Explain why the boundaries were selected.)

The Little Makalapa Navy Housing Area Historic District includes the lands historically associated with this residential neighborhood, which retain their historic integrity. Areas which no longer contain historic fabric have been excluded from the district.

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

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11. Form Prepared By

name/title Lorraine Minatoishi, PhD, Architect

organization Minatoishi Architects, Inc.

street & number 1429 Makiki Street, Unit 2-211

city or town Honolulu state Hawaii zip code 96814

e-mail lm@mahawaii.com

telephone (808) 942-7474

date May 28, 2014

name/title _____

organization _____

street & number _____

city or town _____ state _____ zip code _____

e-mail _____

telephone _____

date _____

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Little Makalapa Navy Housing Area Historic District

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Index of Figures:

Name of Property:	Little Makalapa Navy Housing Area Historic District
City or Vicinity:	Honolulu
County:	Honolulu
State:	Hawai'i
Location of Digital Files:	1429 Makiki St., Honolulu, HI 96814

Figure #: File Name Description

Figure 1: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0001
Description: USGS Map

Figure 2: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0002
Description: USGS Map

Figure 3: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0003
Description: Hālawā Government Survey Map, 1865

Figure 4: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0004
Description: Pearl Harbor Map, 1897

Figure 5: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0005
Description: Rail Route, 19th century map

Figure 6: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0006
Description: Waipahu Quadrangle map, 1927

Figure 7: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0007
Description: Land acquired by Navy, 1939 map

Figure 8: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0008
Description: Map OA-N1-536, 1942 Housing Areas Map

Figure 9: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0009
Description: Map OA-N1-1672, 1948 Makalapa Housing Areas

Figure 10: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0010
Description: MAP OA-N1-1672, 1948 map of Little Makalapa Housing Area

Figure 11: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0011
Description: Loko Kunana archeological trenching map

Figure 12: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0012
Description: Housing Type H floor plan

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Figure 13: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0013

Description: Housing Type E floor plan

Figure 14: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0014

Description: Pearl Harbor Naval Housing Complex map

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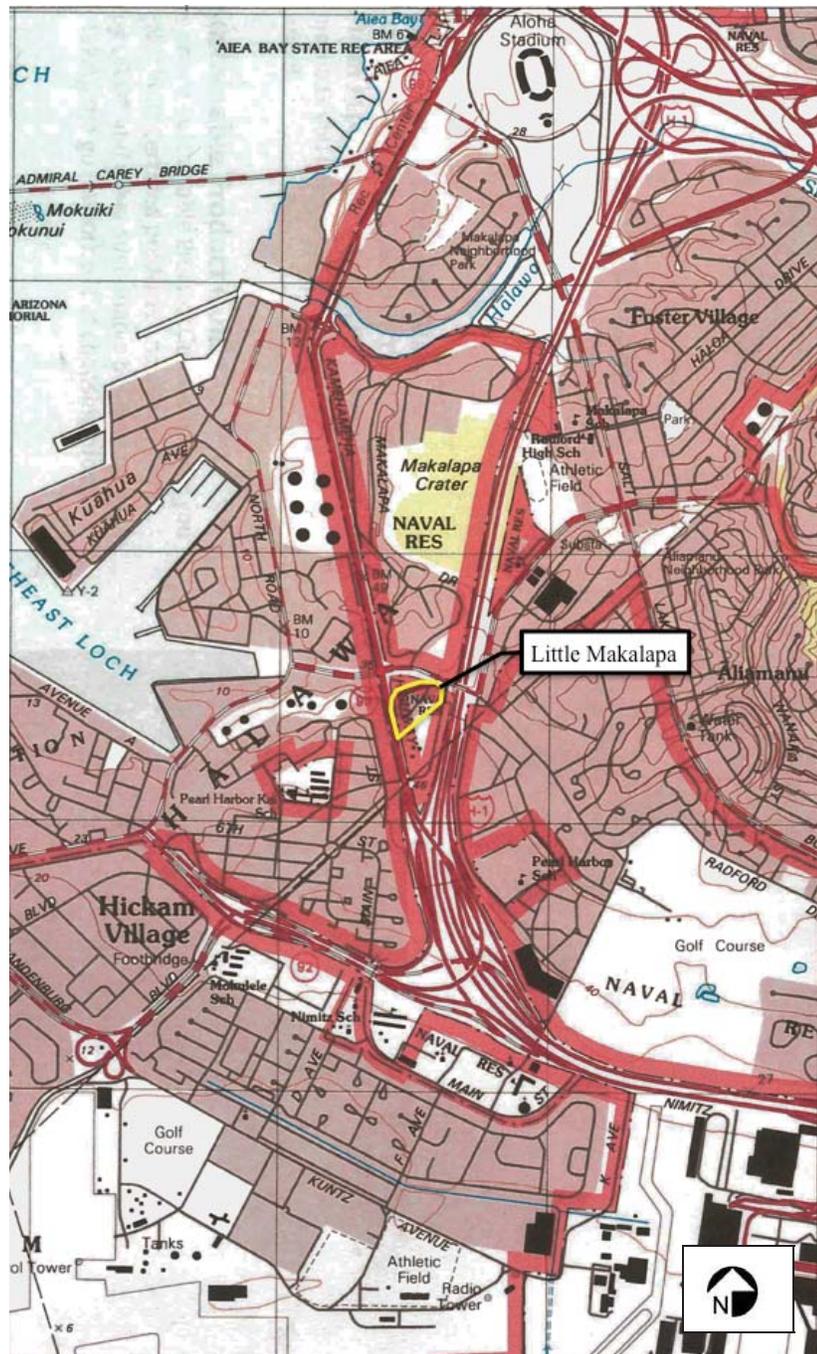
Hawai'i

Location of Digital Files:

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Figure 1: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0001

USGS Map: showing location of Little Makalapa, U.S. Navy Base Pearl Harbor. *USGS, 1999.*



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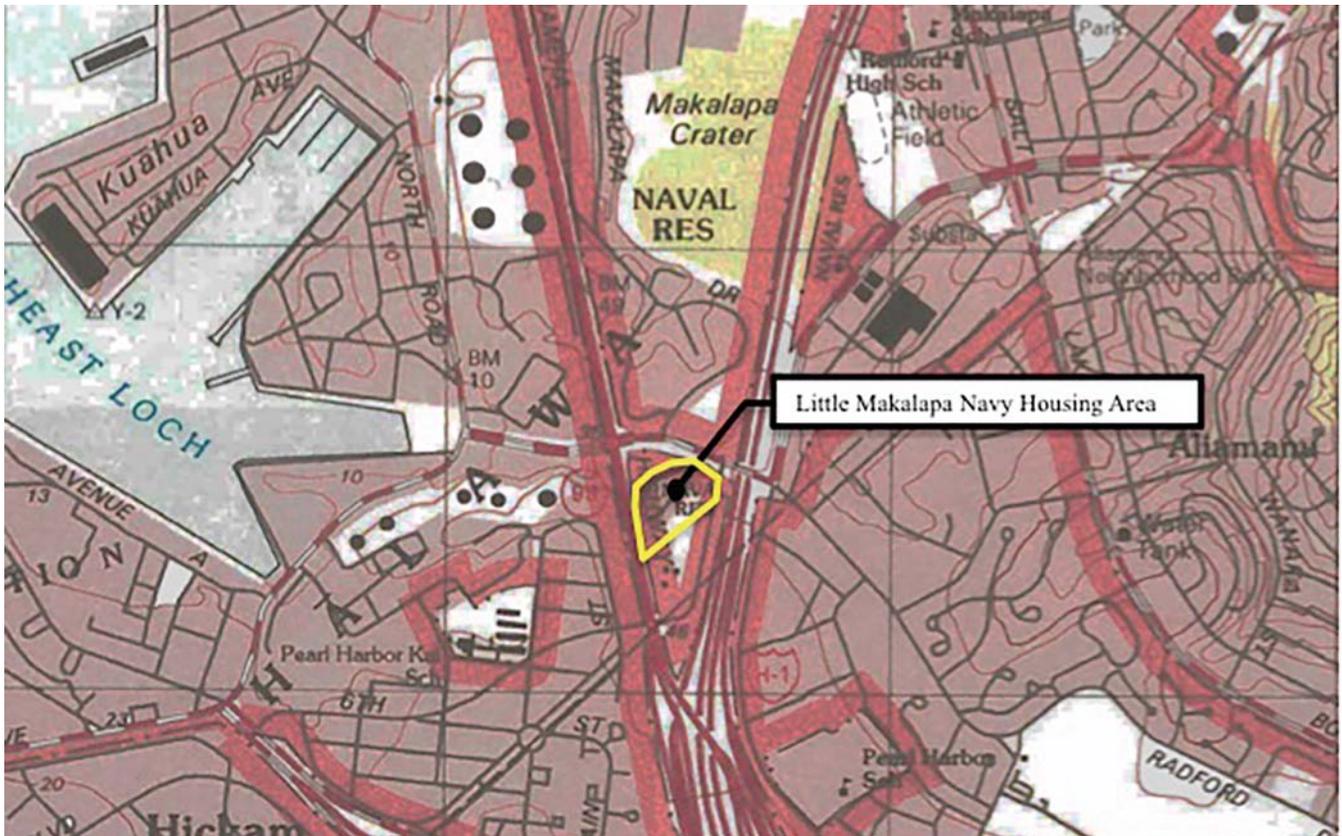
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Figure 2: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0002

USGS Map: Close up map showing location of Little Makalapa, U.S. Navy Base Pearl Harbor. USGS, 1999.



Little Makalapa Navy Housing Area Historic District

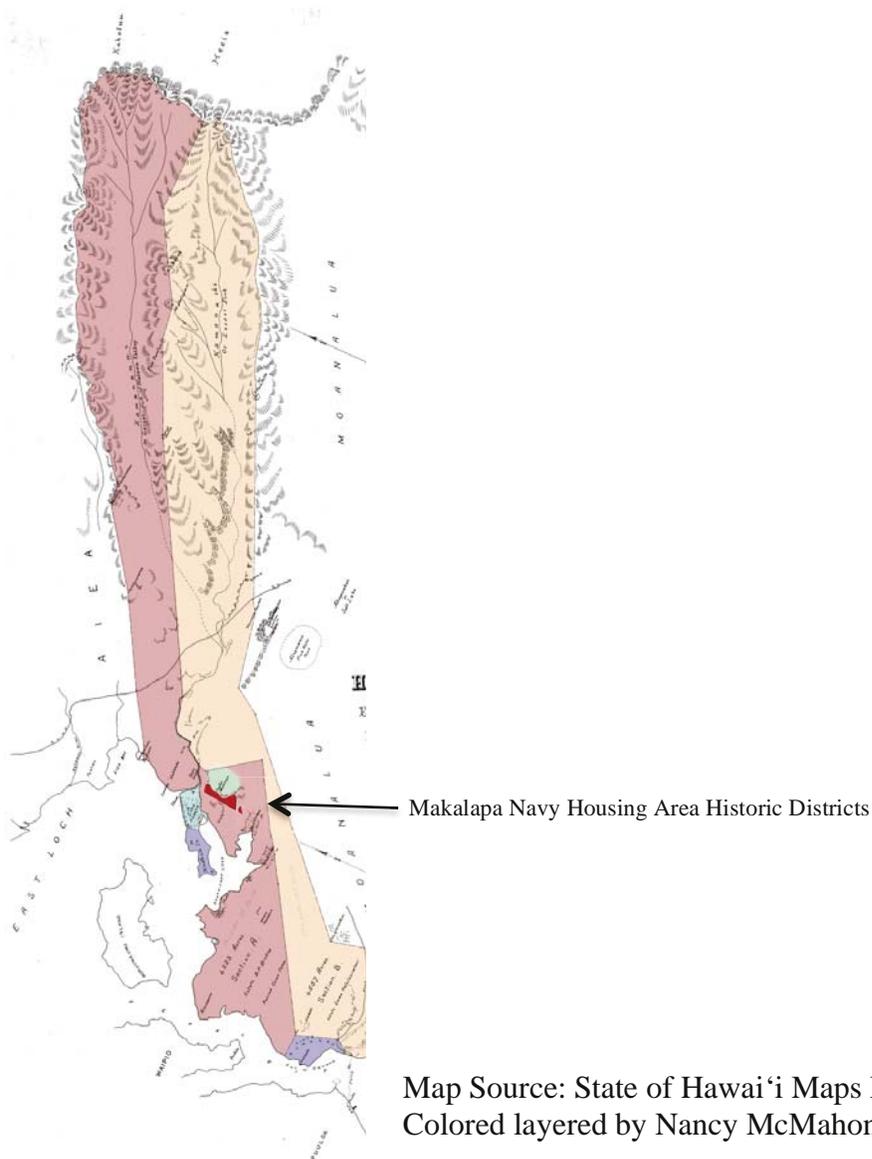
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Figure 3: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0003
Hālawa Government Survey map, 1865: Hand-drawn map of Hālawa Ahupuaa showing the two main landowners. The yellow-colored side is lands owned by Queen Emma and the red-colored area were lands owned by the grandchildren of Pai'ea Kamehameha I.



Map Source: State of Hawai'i Maps Division
Colored layered by Nancy McMahan, MA Hawaii 2014

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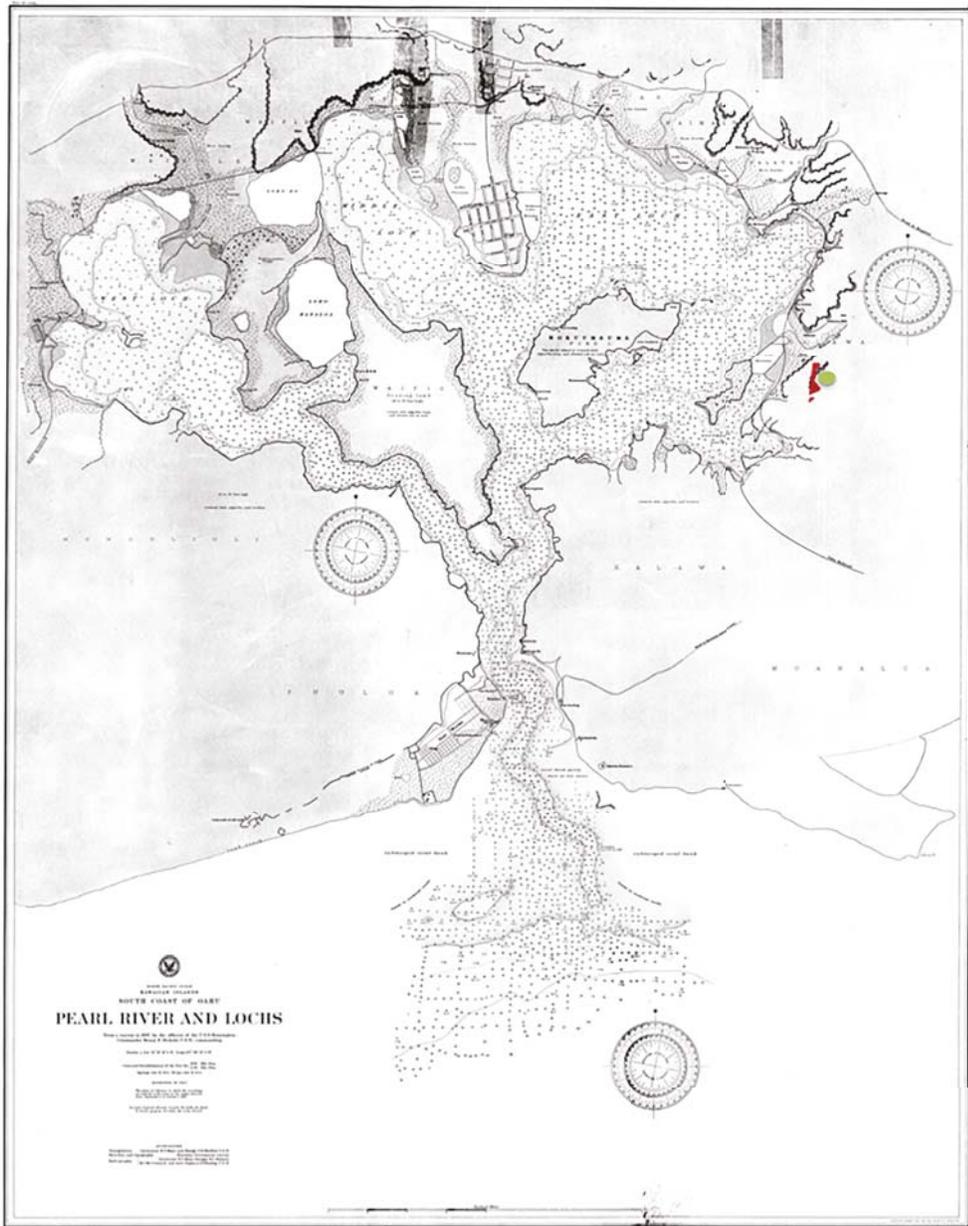
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Figure 4: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0004

Pear Harbor Map, 1897: called Pearl River and Locks during the period. This map included soundings of the ocean base, in order to measure the depth for ship maneuverings within the harbor.



-  Makalapa Navy Housing Area Districts
-  Makalapa Crater

Map Source: Hawai'i State Maps Division

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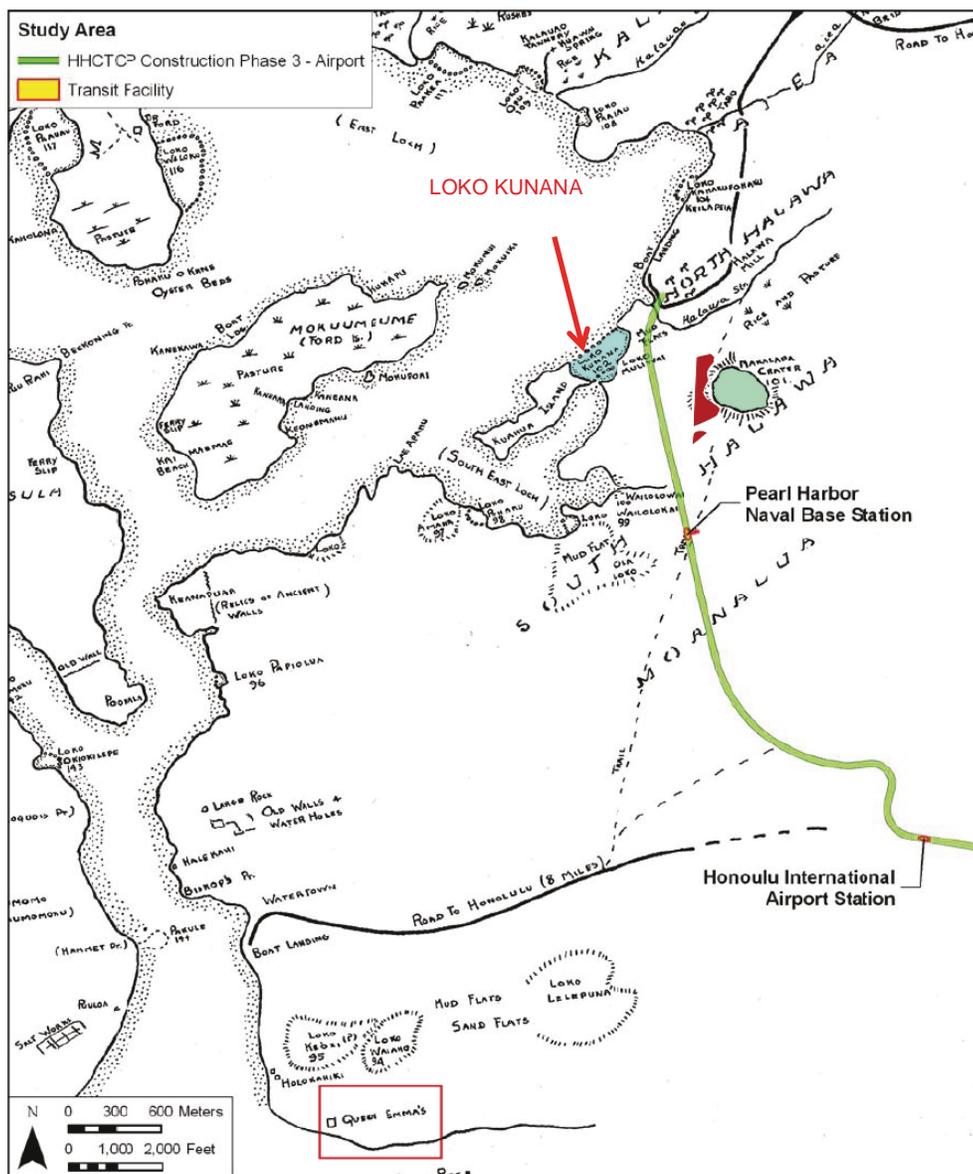
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Figure 5: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0005

Rail route, 19th century map: 1800s hand-drawn map of the Hālawā/Pu'uloa area colored to show the location of the fresh-water pond within Makalapa crater and Loko Kunana fishpond nearby along the shoreline. An overlay showing the present-day proposed construction of the Honolulu Authority Rapid Transit Rail is shown in green.



Map Source: HHCTP

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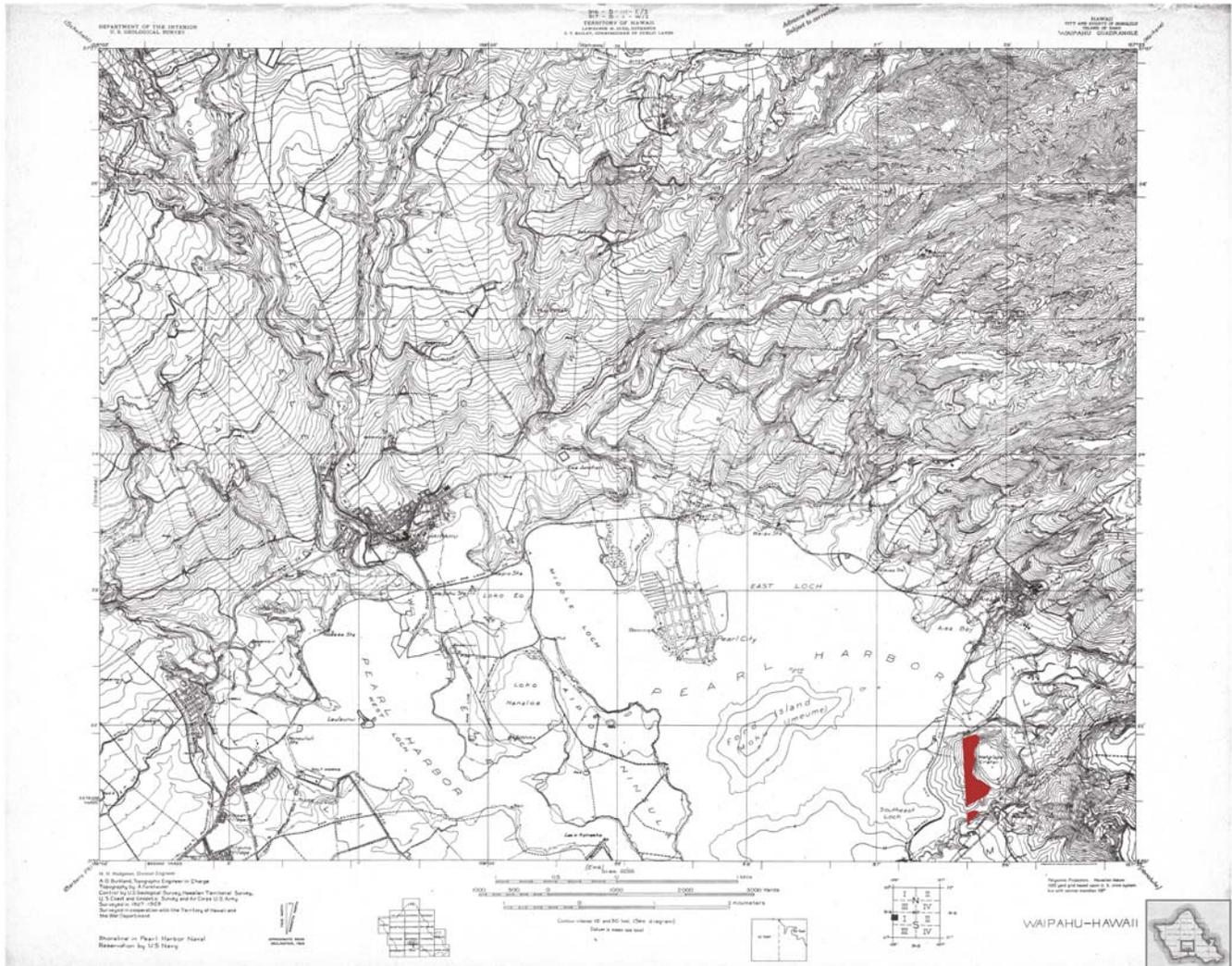
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Figure 6: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0006
Waipahu Quadrangle Map, 1927: USGS Map, Waipahu-Hawai'i area.



Map Source: U.S. Department of Interior, Geological Survey

 Makalapa Navy Housing Area Districts

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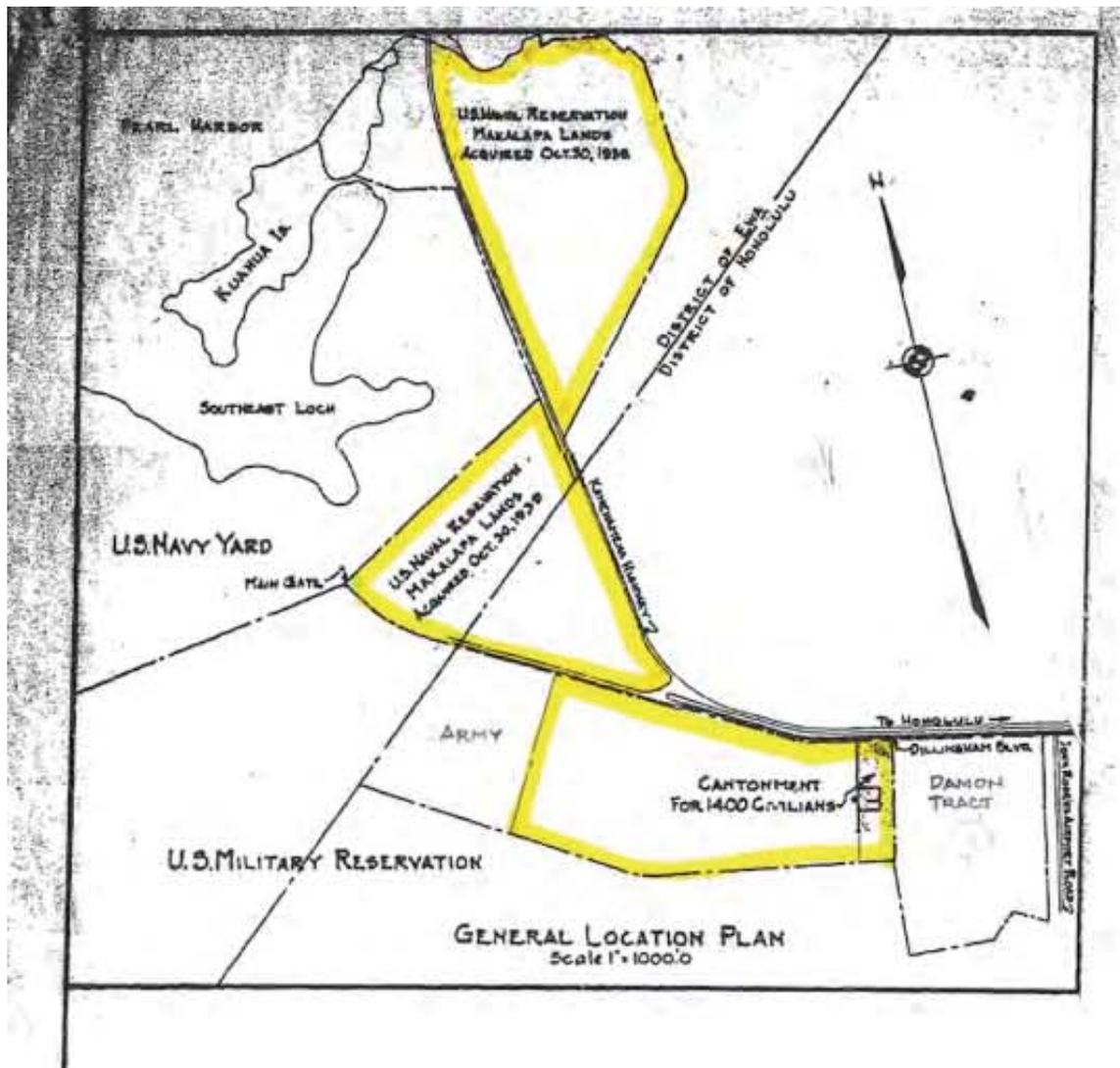
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Figure 7: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0007

Land acquired by Navy, 1939 map: showing the areas around Pu'uloa that were condemned by the U.S. Government to be used for military purposes and the build-up of World War II.



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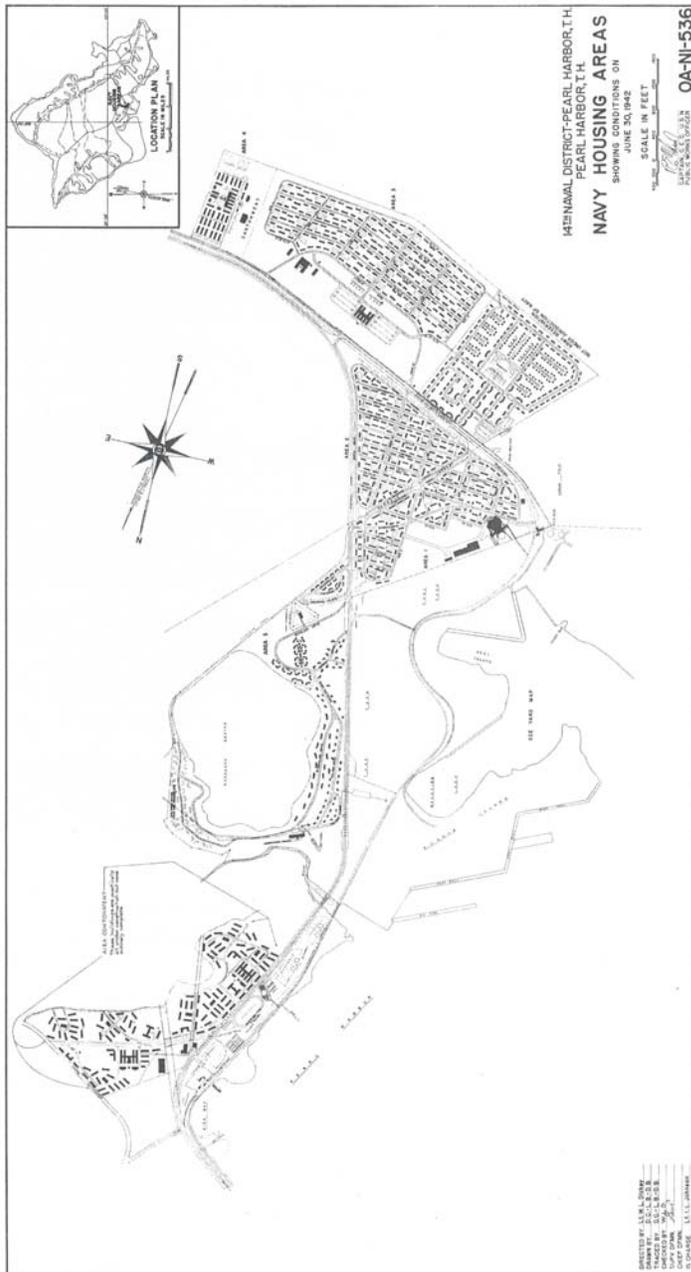
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Figure 8: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0008

Map OA-N1-536, 1942 Housing Areas Map: showing the five housing districts commissioned by the Navy Department during the years 1939-1942.



Map Source: NAVFAC Facilities
Courteous of Jeffery Dodge

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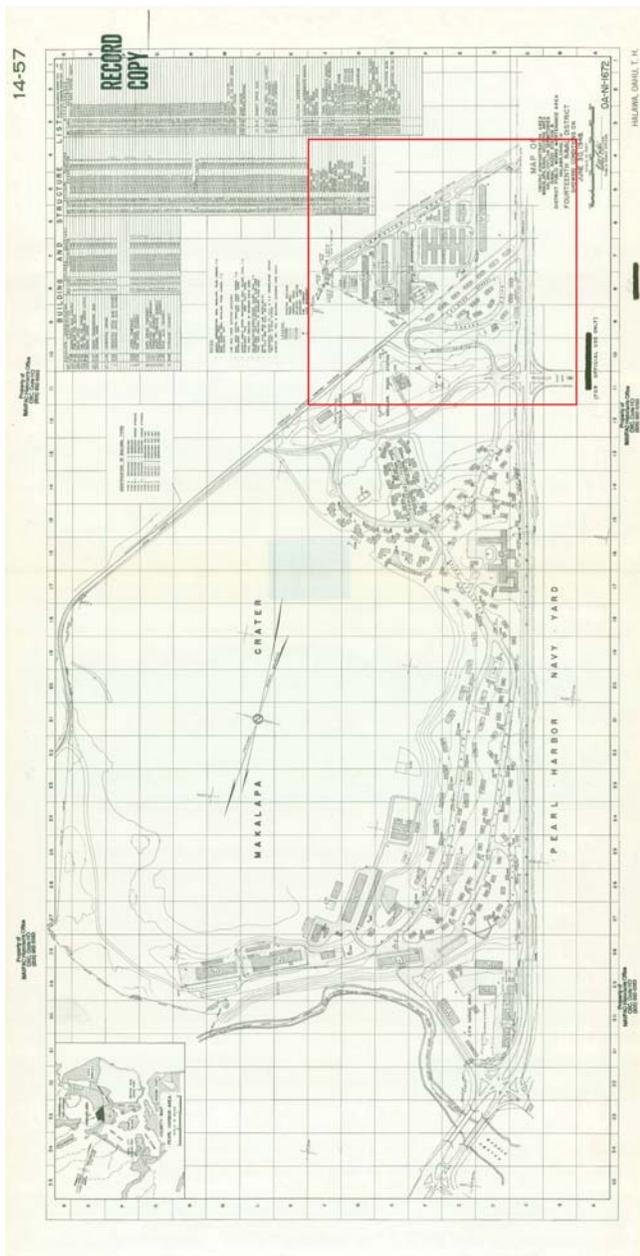
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Figure 9: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0009

Map OA-N1-1672, 1948: indicating all of the buildings built in this area, including the residential areas and the CinCPacFlt administration area.



Map Source: NAVFAC Facilities
Courteous of Jeffery Dodge

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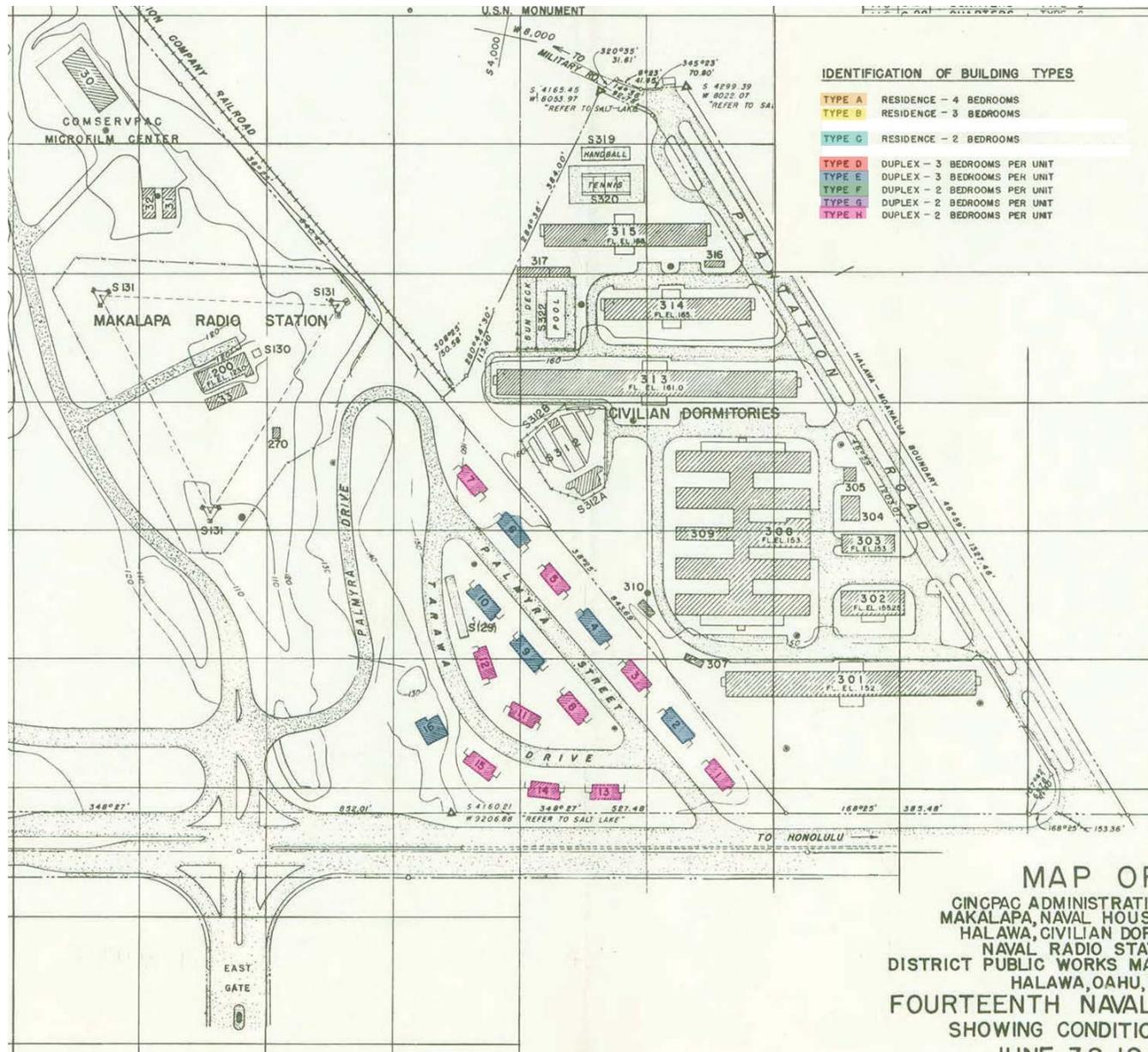
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Figure 10: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0010

MAP OA-N1-1672, 1948 map of Little Makalapa Housing Area: original configuration of Makalapa Drive, Makalapa Radio Station and Civilian Dormitory complex.



Map Source: NAVFAC Facilities
 Courteous of Jeffery Dodge

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Honolulu

State:

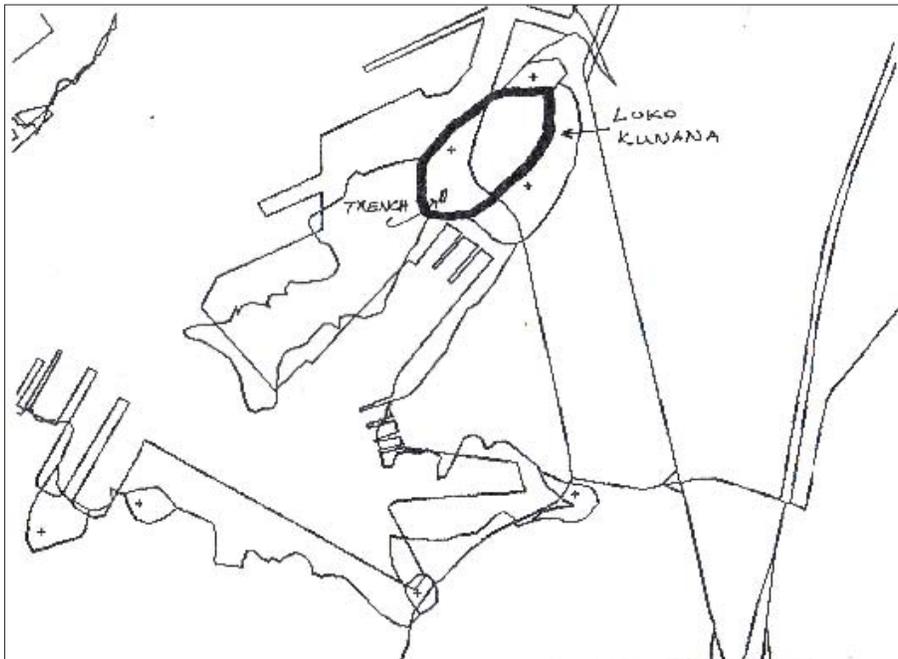
Hawai'i

Location of Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 11: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0011

Loko Kunana, archeological trenching map: Hand drawn map of fishpond, showing original coast and man-made wharf lines in immediate area.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

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Honolulu

County:

Honolulu

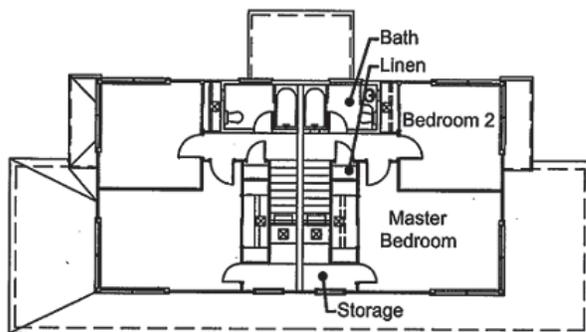
State:

Hawai'i

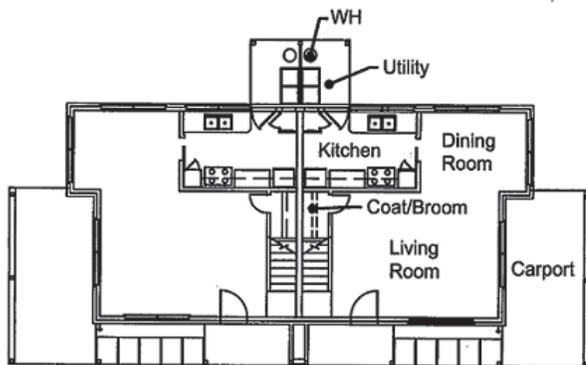
Location of Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 12: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0012
Housing Type H Floor plans: multi-level Little Makalapa Unit Type 6.



Existing Second Floor Plan



Existing First Floor Plan

Little Makalapa - Unit Type 6



Source: Belt Collins Hawaii and Mason Architects, *Little Makalapa Historic Housing Pearl Harbor Naval Complex*, prepared for Pacific Division, Naval Facilities Engineering Command (Honolulu: July 2003).

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

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Honolulu

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Honolulu

State:

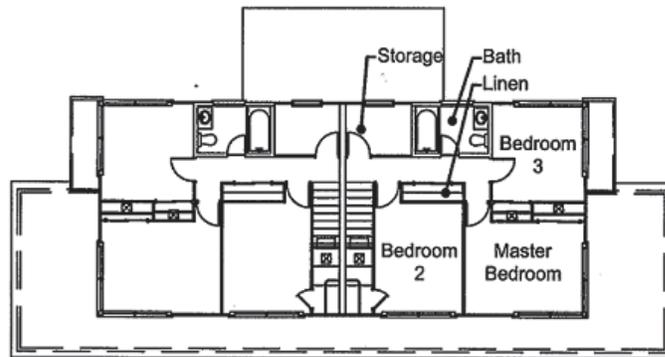
Hawai'i

Location of Digital Files:

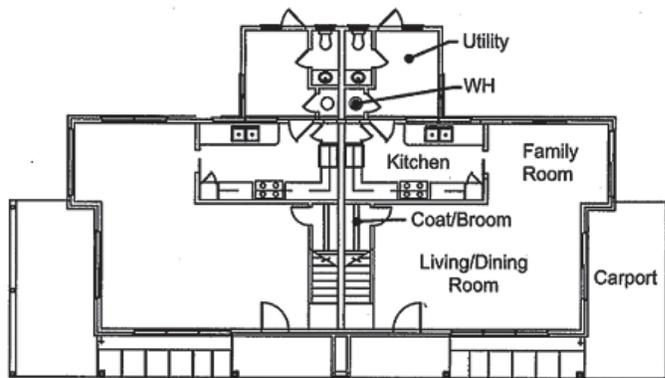
1429 Makiki St., Honolulu, HI 96814

Figure 13: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0013

Housing Type E Floor plans: multi-level Little Makalapa Unit Type 7



Existing Second Floor Plan



Existing First Floor Plan

Little Makalapa - Unit Type 7



Source: Belt Collins Hawaii and Mason Architects, *Little Makalapa Historic Housing Pearl Harbor Naval Complex*, prepared for Pacific Division, Naval Facilities Engineering Command (Honolulu: July 2003)

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

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Honolulu

County:

Honolulu

State:

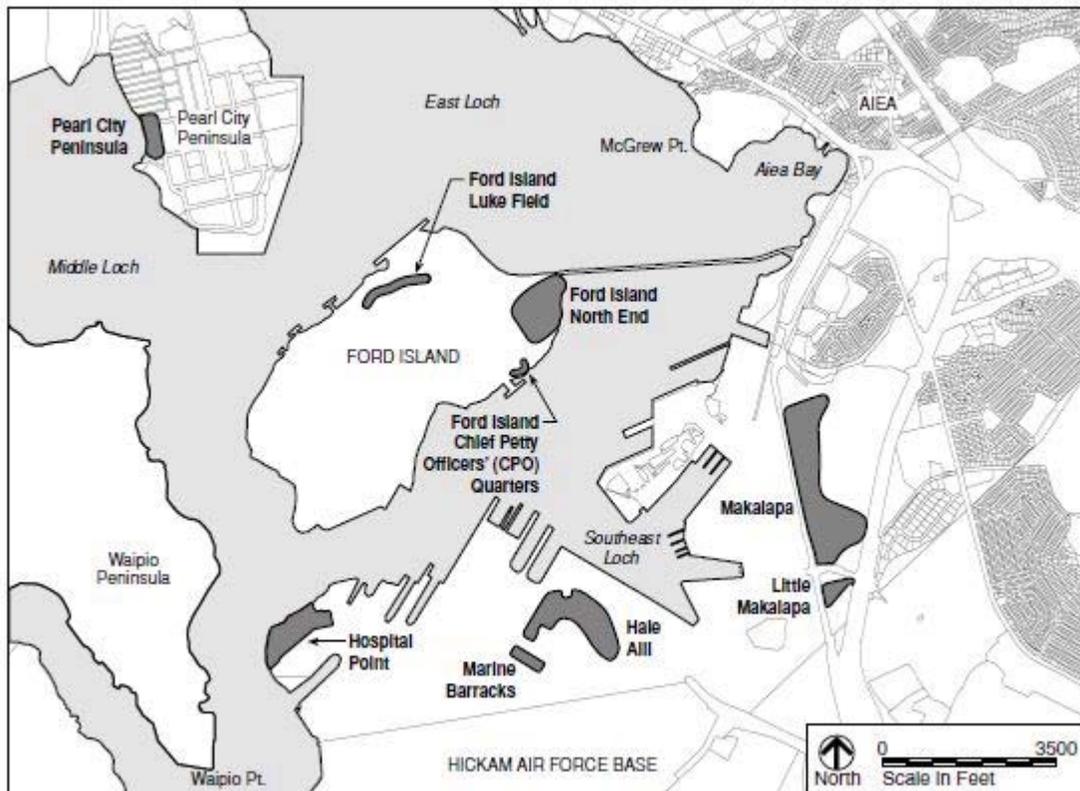
Hawai'i

Location of Digital Files:

1429 Makiki St., Honolulu, HI 96814

Figure 14: HI_Honolulu_LittleMakalapaNavyHousingArea_Fig0014

Pearl Harbor Naval Housing Complexes map: Housing locations adjacent and within Pearl Harbor Navy Base.



Map of Pearl Harbor Naval Complex

Little Makalapa Navy Housing Area Historic District

Name of Property

Honolulu, Hawai'i

County and State

11. Photographs

Photograph Log Page:

Historic Photos

Name of Property:	Little Makalapa Navy Housing Area Historic District
City or Vicinity:	Honolulu
County:	Honolulu
State:	Hawai'i
Photographer:	Various
Date Photographed:	Various

Photo #: File Name

Description

Photo 1: HI_Honolulu_LittleMakalapaNavyHousingArea_H0001	Makalapa Gate intersection
Photo 2: HI_Honolulu_LittleMakalapaNavyHousingArea_H0002	1940 NARA photo, water in Makalapa Crater
Photo 3: HI_Honolulu_LittleMakalapaNavyHousingArea_H0003	1941 NARA photo, water in Makalapa Crater
Photo 4: HI_Honolulu_LittleMakalapaNavyHousingArea_H0004	U.S. Navy Photo during WWII
Photo 5: HI_Honolulu_LittleMakalapaNavyHousingArea_H0005	U.S. Navy Photo, during WWII
Photo 6: HI_Honolulu_LittleMakalapaNavyHousingArea_H0006	U.S. Navy Photo, during WWII
Photo 7: HI_Honolulu_LittleMakalapaNavyHousingArea_H0007	U.S. Navy Photo, post WWII

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Existing Photos

Name of Property: Little Makalapa Navy Housing Area Historic District
City or Vicinity: Honolulu
County: Honolulu
State: Hawai'i
Photographer:
Date Photographed:
Location of Original Digital Files: 1429 Makiki St., HI 96814

Photo #: File Name

Description

Photo 1: HI_Honolulu_LittleMakalapaNavyHousingArea_0001	View of type 6, facing south
Photo 2: HI_Honolulu_LittleMakalapaNavyHousingArea_0002	View of type 7, facing southeast
Photo 3: HI_Honolulu_LittleMakalapaNavyHousingArea_0003	View of type 7, facing west
Photo 4: HI_Honolulu_LittleMakalapaNavyHousingArea_0004	Entrance to neighborhood, facing west
Photo 5: HI_Honolulu_LittleMakalapaNavyHousingArea_0005	Palmyra Drive, facing southwest
Photo 6: HI_Honolulu_LittleMakalapaNavyHousingArea_0006	Palmyra Drive, facing southwest
Photo 7: HI_Honolulu_LittleMakalapaNavyHousingArea_0007	Palmyra Drive, facing southwest
Photo 8: HI_Honolulu_LittleMakalapaNavyHousingArea_0008	Tarawa Drive, facing south
Photo 9: HI_Honolulu_LittleMakalapaNavyHousingArea_0009	View of ravine, facing west

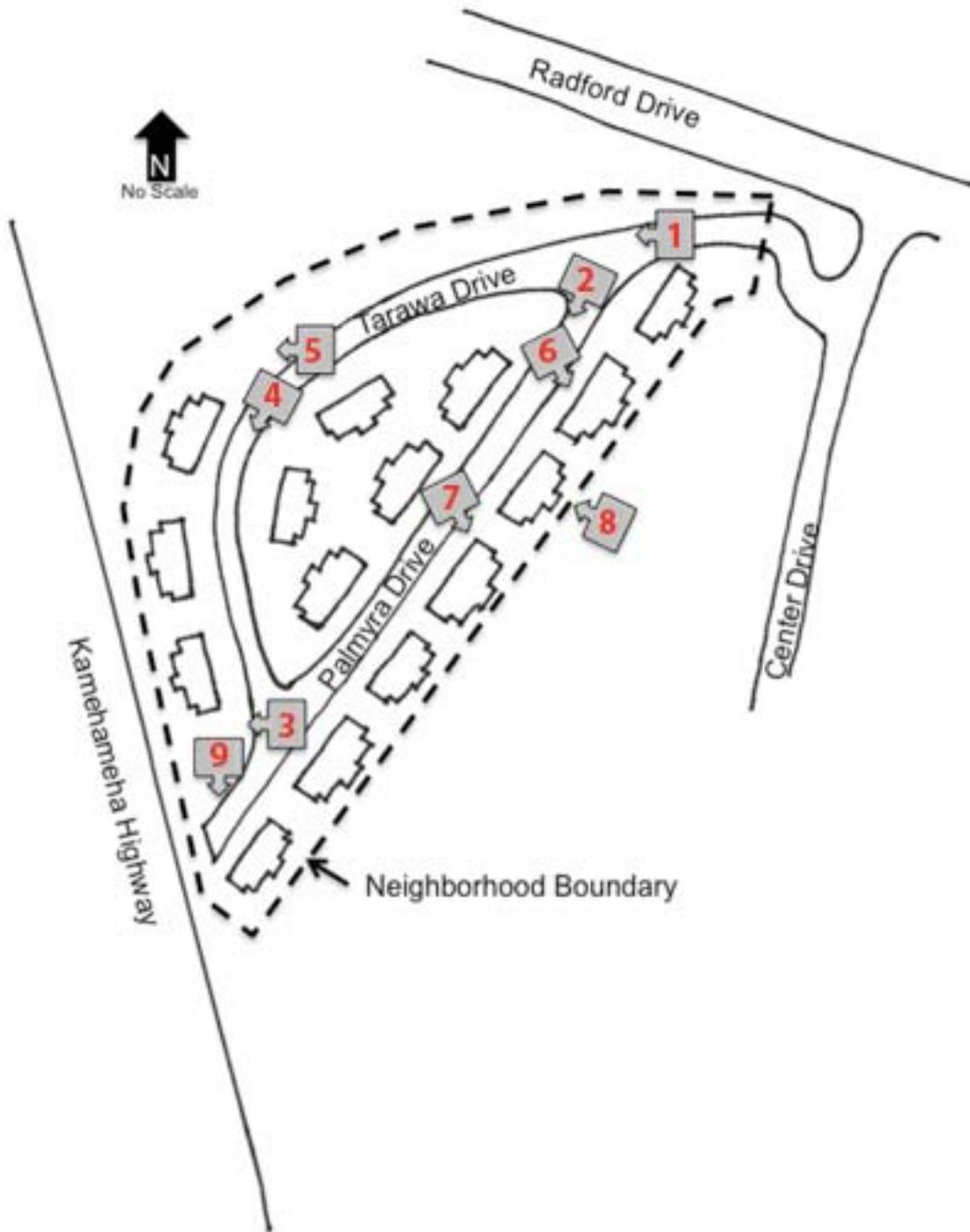
Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Photo Key for Existing Photos



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Unknown

Date Photographed:

Circa 1944

Historic Photo 1: HI_Honolulu_LittleMakalapaNavyHousingArea_H0001

Makalapa Gate Intersection under construction. Fuel tanks along Kamehameha Highway in view. East Entry Gate to Pearl Harbor at left of photo.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

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State:

Hawai'i

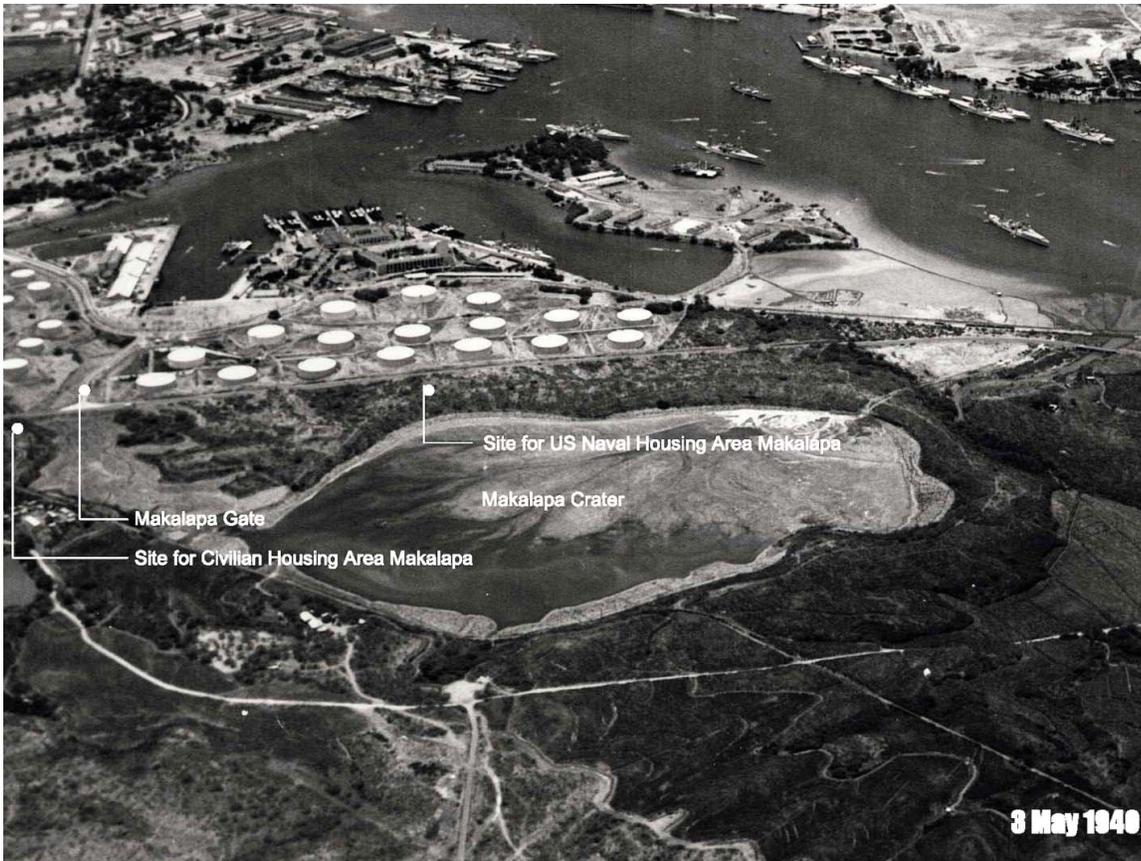
Photographer:

Unknown

Date Photographed:

Circa 1940

Historic Photo 2: HI_Honolulu_LittleMakalapaNavyHousingArea_H0002
1940 NARA photo, Makalapa Crater. Infill sludge within crater in view.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

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Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

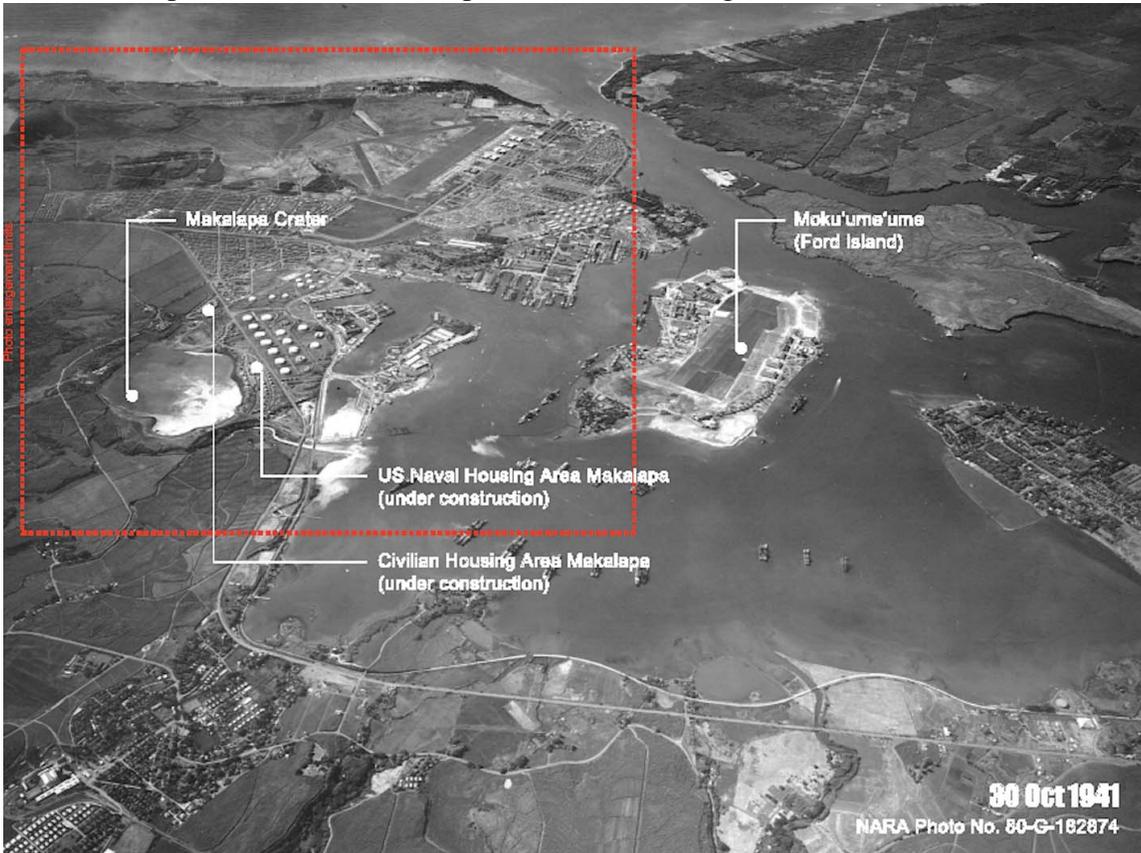
Unknown

Date Photographed:

1941

Historic Photo 3: HI_Honolulu_LittleMakalapaNavyHousingArea_H0003

1941 NARA photo, water in Makalapa Crater. Infill sludge within crater in view.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Unknown

Date Photographed:

c. 1942

Historic Photo 4: HI_Honolulu_LittleMakalapaNavyHousingArea_H0004

U.S. Navy aerial photo of Little Makalapa taken during WWII. View facing west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

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Makalapa Navy Housing Area Historic District

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Honolulu

State:

Hawai'i

Photographer:

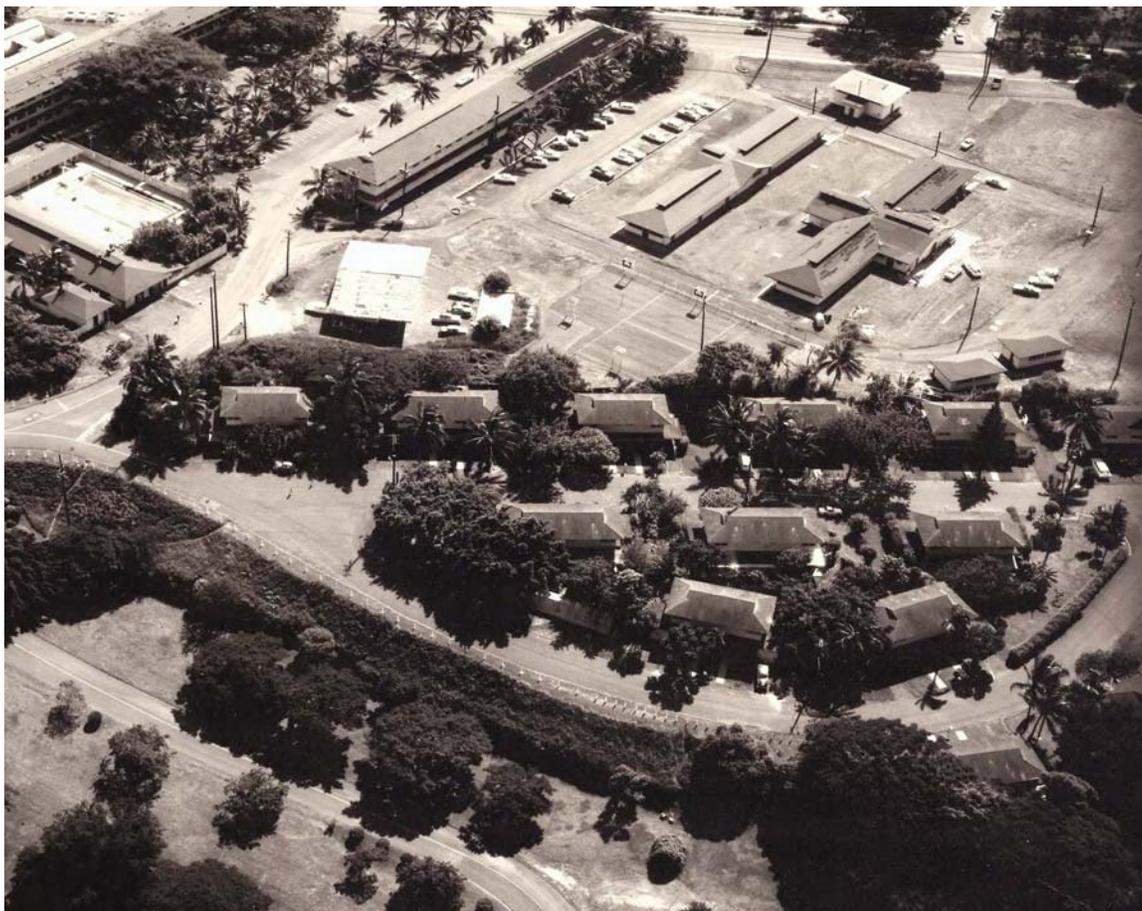
Unknown

Date Photographed:

c. 1943

Historic Photo 5: HI_Honolulu_LittleMakalapaNavyHousingArea_H0005

U.S. Navy aerial photo of Little Makalapa taken during WWII. Little Makalapa neighborhood in foreground and dormitories and support structures in background. View facing south.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

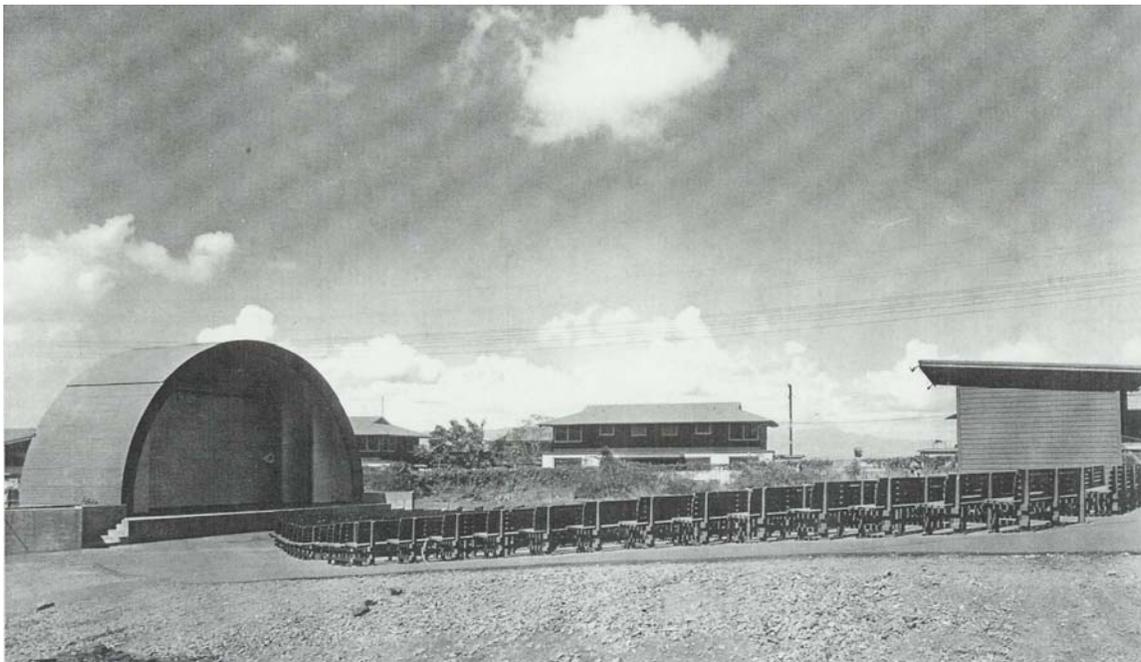
Unknown

Date Photographed:

c. 1943

Historic Photo 6: HI_Honolulu_LittleMakalapaNavyHousingArea_H0006

U.S. Navy of Little Makalapa taken during WWII. View facing west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Unknown

Date Photographed:

c. 1943

Historic Photo 7: HI_Honolulu_LittleMakalapaNavyHousingArea_H0007

Aerial Photograph centered on Little Makalapa.



Palmyra Drive loop connection from Makalapa Drive. Illustrates Radio Station, Little Makalapa and adjacent civilian housing. View towards east.

Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 1: HI_Honolulu_LittleMakalapaNavyHousingArea_0001.

Little Makalapa home from Tarawa Drive overlooking escarpment and Makalapa /Radford Drive location Looking west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

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Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 213

Existing Photo 2: HI_Honolulu_LittleMakalapaNavyHousingArea_0002.

Palmyra Drive in Little Makalapa, showing boarded up duplex units. View to south west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 3: HI_Honolulu_LittleMakalapaNavyHousingArea_0003.

Duplex with plywood encapsulation on first floor. Near closed access to Kamehameha Highway. Looking west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 4: HI_Honolulu_LittleMakalapaNavyHousingArea_0004.

Tawara Drive within Little Makalapa looking south west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 5: HI_Honolulu_LittleMakalapaNavyHousingArea_0005.

Edge of escarpment, Little Makalapa looking west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

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Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 6: HI_Honolulu_LittleMakalapaNavyHousingArea_0006

Little Makalapa. Looking across Kamehameha Highway toward new high rise residential complex on JBPHH proper. Looking south west.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

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Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 7: HI_Honolulu_LittleMakalapaNavyHousingArea_0007.

Little Makalapa two story duplex off Palmyra Drive looking southeast.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property:

Little Makalapa Navy Housing Area Historic District

City or Vicinity:

Honolulu

County:

Honolulu

State:

Hawai'i

Photographer:

Polly Tice

Date Photographed:

September 9, 2013

Existing Photo 8: HI_Honolulu_LittleMakalapaNavyHousingArea_0008.

Little Makalapa two story duplex showing plywood encapsulation. Looking northwest from near property line.



Little Makalapa Navy Housing Area Historic District

Honolulu, Hawai'i

Name of Property

County and State

Name of Property: Little Makalapa Navy Housing Area Historic District
City or Vicinity: Honolulu
County: Honolulu
State: Hawai'i
Photographer: Polly Trice
Date Photographed: September 9, 2013

Existing Photo 9: HI_Honolulu_LittleMakalapaNavyHousingArea_0009

Little Makalapa. End of Palmyra Drive where exit to Kamehameha Highway was closed. Looking south.



Little Makalapa Navy Housing Area Historic District

Name of Property

Honolulu, Hawai'i

County and State

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).
Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.