



DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FT. SHAFTER, HAWAII 96858-5440

October 2, 1991

REPLY TO
ATTENTION OF

Military Division
Directorate of Engineering

'91 OCT -2 P1:19

OFFICE OF
QUALITY

Office of Environmental Quality Control
1020 South King Street, 4th Floor
Honolulu, Hawaii 96813

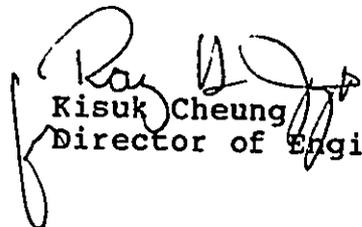
Gentlemen:

The U.S. Army Support Command, Hawaii (USASCH) proposes to construct 116 family housing units in Fiscal Year 1991, 0.3 mile east of the main gate at the Naval Air Station, Barbers Point, Hawaii. This is a portion of the total 138 family housing units proposed in Fiscal Year 1991, 22 units of which are proposed at Hickam Air Force Base.

Acting as an agent for USASCH, we request that you publish a notice of availability for the enclosed (five copies each) Environmental Assessment and Finding of No Significant Impact in the next issue of your Office of Environmental Quality Control (OEQC) Bulletin. The Document for Publication in the OEQC Bulletin Form is also enclosed.

If you have any questions, please contact Mr. Edward Yamada, Project Manager, at 438-5421/1776.

Sincerely,


Kisuk Cheung
Director of Engineering

Enclosures

182

1991-10-23-0A-FEA-Barber's Pt 116 Family Housing

ENVIRONMENTAL ASSESSMENT

For

Construction of Family Housing Units (Turnkey)

Naval Air Station, Barbers Point, Oahu, Hawaii

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

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DEPARTMENT OF THE ARMY

Headquarters, United States Army Support Command, Hawaii

Directorate of Oahu Consolidated Family Housing

Ft. Shafter, Hawaii 96858-5000

DEPARTMENT OF THE ARMY

Pacific Ocean Division,

Corps of Engineers

Ft. Shafter, Oahu, Hawaii 96858-5000

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY SUPPORT COMMAND, HAWAII
DIRECTORATE OF OAHU CONSOLIDATED FAMILY HOUSING
FT. SHAFTER, HAWAII 96858-5000

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT
FOR CONSTRUCTION OF
116 FAMILY HOUSING UNITS (TURNKEY), PN030275
NAVAL AIR STATION, BARBERS POINT, HAWAII

DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION,
CORPS OF ENGINEERS
FT. SHAFTER, OAHU, HAWAII 96858-5000

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY SUPPORT COMMAND, HAWAII
DIRECTORATE OF OAHU CONSOLIDATED FAMILY HOUSING
FT. SHAFTER, HAWAII 96858-5000

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AND
FINDING OF NO SIGNIFICANT IMPACT
FOR CONSTRUCTION OF
116 FAMILY HOUSING UNITS (TURNKEY), PN030275
NAVAL AIR STATION, BARBERS POINT, HAWAII

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Unitek Environmental Consultants

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CHAPTER 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

1. This Environmental Assessment (EA) has been prepared in accordance with Army Regulation (AR) 200-2 (effective 23 January 1989) which implements the Council of Environmental Quality (CEQ) Regulations (40 CFR 1500), Navy Regulations (OPNAVINST 5090.1A), Executive Order 12114, Department of Defense (DOD) Directive 6050.1, and DOD Directive 6050.7.

2. AR 200-2 and the CEQ Regulations require the systematic examination of possible and probable environmental consequences of implementing a proposed action. The purpose of the EA is to examine these potential environmental consequences and to determine whether they are significant. (Department of the Army, 1989). AR 200-2 also requires that the governmental agencies with responsibility for various areas of environmental concern be involved to the extent practicable in the preparation of an EA. Relevant documentation from Federal, State of Hawaii, and City and County of Honolulu agencies involved in preparation of this EA is shown in Appendix A.

1.2 Purpose

1. The proposed new family housing units are part of an island-wide military family housing program which began construction in FY 1988. To date, FY 1990 projects are planned for Helemano Military Reservation, Hickam Air Force Base, and Marine Corps Air Station, Kaneohe. In the mid-1980's, the Oahu Consolidated Family Housing Office (OCFHO) determined there was a need for additional

military family housing units due to high housing costs in Hawaii and vacancy rates which were far below the U. S. norm. The new housing need was also due in part to a new policy which stated that E-1 to E-4 personnel were no longer required to obtain private housing, but were entitled to military family housing.

2. The proposed Naval Air Station Barbers Point (NASBP) family housing project is just one project identified to fill established housing needs for all personnel in all branches of the Armed Forces in Hawaii. It will provide on-post family housing quarters for enlisted personnel (E-1 to E-6). If the project is not provided, junior enlisted families will continue to be either involuntarily separated or forced to reside in inadequate housing off-base because of exorbitant rents and competition with civilians for limited housing. Degrading the quality of life for military families will adversely affect job proficiency and retention.

1.3 Need

1. Housing for all services is planned and managed by the Directorate of Oahu Consolidated Family Housing (DOCFH), under U.S. Army Support Command, Hawaii. DOCFH's Pearl Harbor Area Housing Office has a current need to house 11,166 military families in the Pearl Harbor region, including NASBP. The Fiscal Year (FY) 1990 "Family Housing Requirements Survey of the Army, Navy, Marine Corps, and Air Force" reflected a long-range deficit of 6,056 units.

2. Privately rented or leased housing in the Pearl Harbor/Waianae Coast region that is up to the standard normally found on station averages \$700-\$800 per month for a two-bedroom unit and \$900-\$1000 per month for a three or four-bedroom unit. The monthly income of married enlisted personnel in the E-1 to E-4 range (assuming one child) with normal Variable Housing Allowances is not

sufficient to meet this cost. Therefore, adequate housing for these personnel and their families is not affordable in Hawaii. In addition, the rental vacancy rate of private or non-military public housing is the lowest in the U.S. at 1.2 percent compared with the national average of 5 percent. Military personnel occupying the new quarters will not receive VHA allowances.

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION

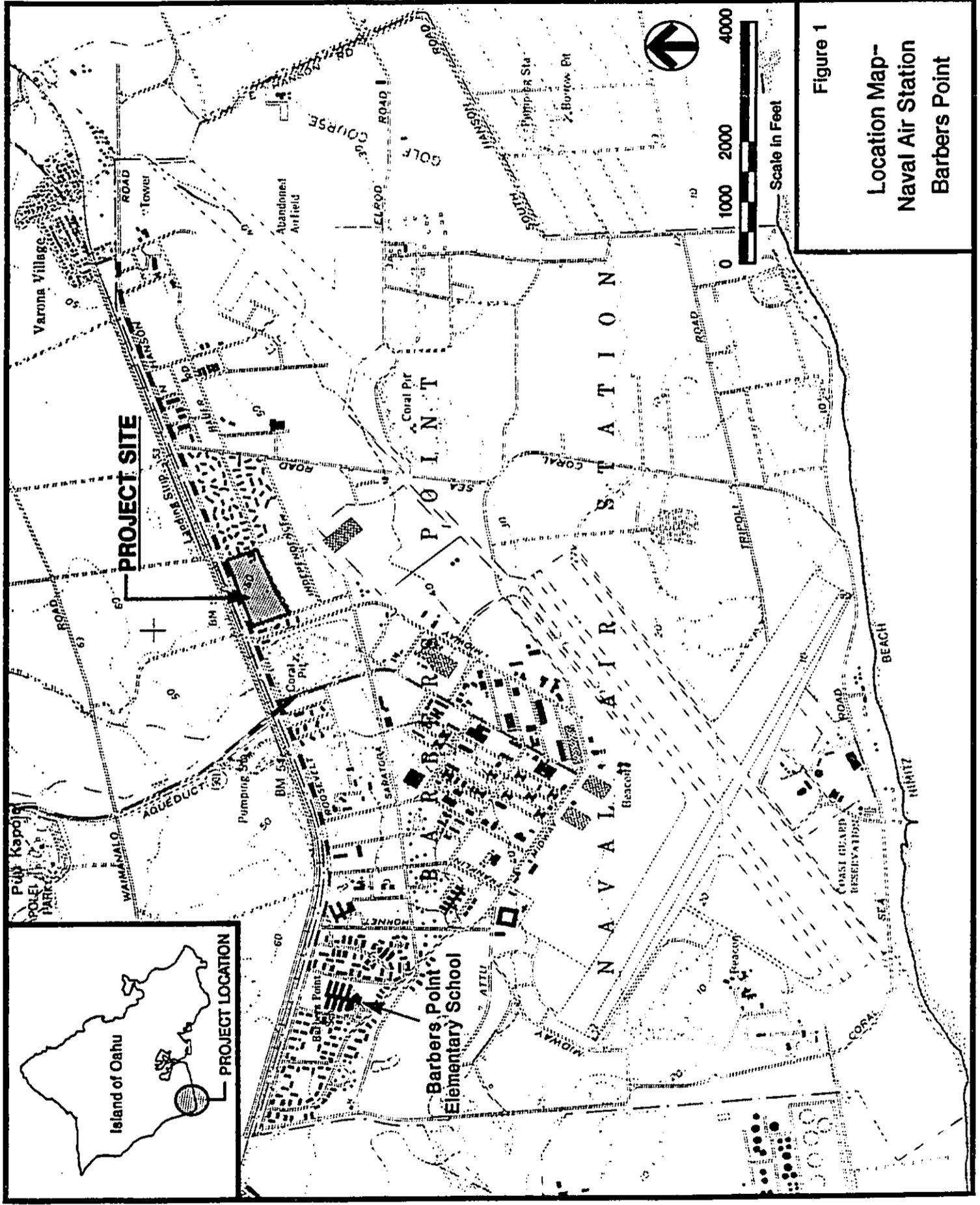
2.1 Project Location

1. NASBP is located on the south side of the island of Oahu, some 12 miles west of downtown Honolulu. It is bounded on the west by Campbell Industrial Park, and on the north and east by land currently in cane sugar cultivation. Access to the base is via Barbers Point Access Road which branches off of Interstate Highway H-1.

2. The proposed military family housing project is located on a 15.3-acre flat, cleared plot west of and adjacent to the enlisted personnel Makai Housing Area. It is bordered by Franklin D. Roosevelt Avenue to the north, by Bougainville Street and Nassau Avenue on the east and west, and by a dirt road facing the flight line to the south (see Figures 1 and 2).

2.2 Project Features

1. The 116 proposed family housing units will consist of 80 two-bedroom units (69 percent) and 36 three-bedroom units (31 percent) which would be developed as two-story, 4-plex structures, slab on grade. Carports with exterior storage areas are included. Supporting facilities include all utilities, roadways and walkways, landscaping, one or more playgrounds, communications, and street lighting. All the units will be centrally air-conditioned. A new access road will be constructed between Bougainville Street and Nassau Avenue. One possible conceptual housing layout is shown in Figure 3. Type A units shown in the Figure are three-bedroom and Type C units are two-bedroom.



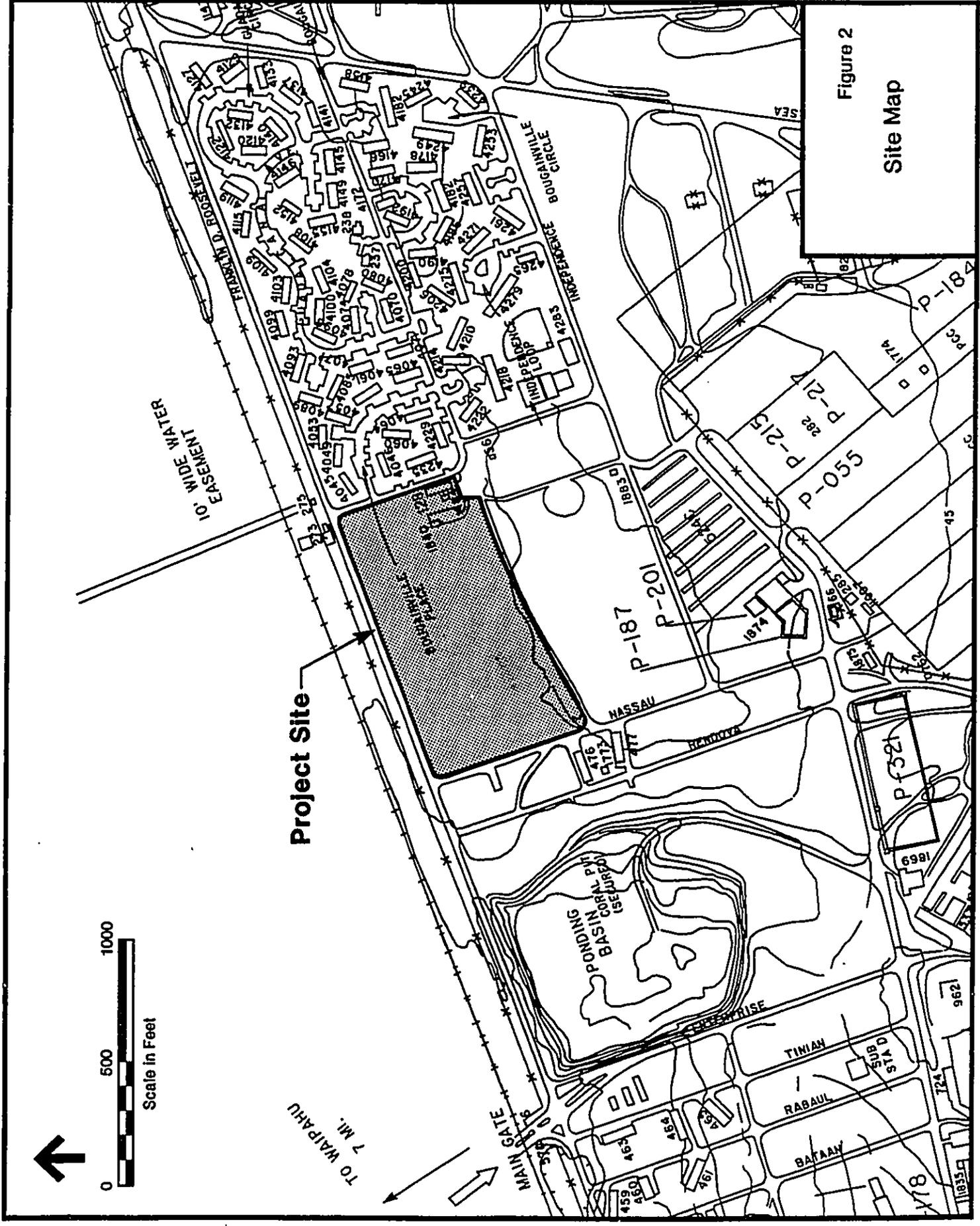


Figure 2
Site Map

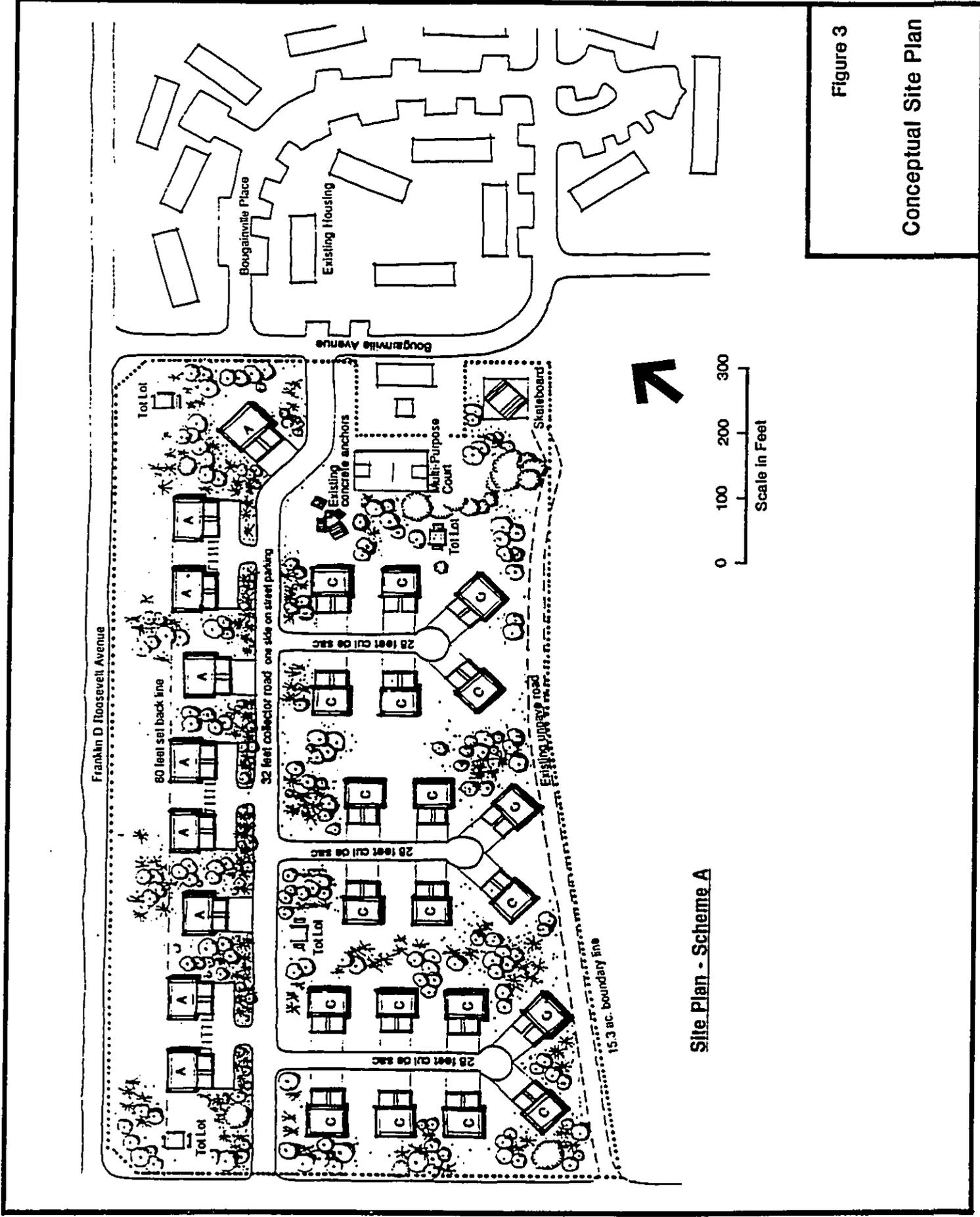


Figure 3
Conceptual Site Plan

2. Six of the three-bedroom housing units will be constructed in such a way to accommodate handicapped residents. The contractor will allot extra space and other features in these units which may be converted to provide ramped entrances, lower counters, grab bars, and related amenities for the physically challenged.

2.3 Project Construction

1. The Directorate of Oahu Consolidated Family Housing (DOCFH) is responsible for the operation and maintenance of all military family housing on Oahu and is the proponent for the proposed action. Funding for the proposed action is being provided by Congressional military construction appropriations through Headquarters U.S. Army Corps of Engineers (HQUSACE). The project will be procured by the U.S. Army Corps of Engineers, Honolulu District, on behalf of DOCFH, by a Request for Proposals (RFP) for a one-step turnkey contractor. The turnkey contractor will be responsible for both detailed design and construction.

2. Of necessity this Environmental Assessment can evaluate only conceptual plans for the proposed housing. It is anticipated, however, that the fully designed project will generally resemble the conceptual configuration. The DOCFH will operate and maintain the new family housing area, along with the other family housing units there. Building No. 128 at the southeastern corner of the housing site, a 2,400 square-foot former transmitter building, will not be demolished, but will be retained for use by the Naval Air Reserve Detachment. The existing former antenna foundations (designated "concrete anchors") in the same general location will also remain.

CHAPTER 3
ALTERNATIVES TO THE PROPOSED ACTION

3.1 Alternate Site at NASBP

South of the existing unpaved road which is the southern boundary of the proposed project site, an open field of approximately the same size was previously considered as an alternate housing site. However, it has since been recommended to remain undeveloped because of its proximity to the large open hangar sheltering four VP (Patrol) air squadrons based at NASBP. Other open sites at NASBP do exist, but they also are already targeted for similar housing projects. Therefore, the proposed project which is the focus of this EA has no readily available alternate site.

3.2 Alternate Sites on Private Lands

Construction of housing on private land involves land acquisition costs as well as construction costs. Because of the very high cost of land on Oahu, construction of military family housing on private land is not economically feasible.

3.3 Lease Units from Private Sector

Attempts to obtain family housing space by leasing units from the private sector have been made in the past by the Oahu Consolidated Family Housing Office (OCFHO), with some success. However, this is not a favorable alternative at NASBP since it subjects a minority of personnel to inequitable financial burden and long commutes, and is a detriment to personnel morale and operational readiness. Indeed, a large portion of Barbers Point military personnel already live in civilian

housing, and it is these personnel for whom this project will serve. In any case, affordable housing for the civilian population on Oahu is already tight without competition from military families.

3.4 No Action

The no action alternative would prevent OCFHO from constructing housing to meet identified consolidated military family housing needs. A greater number of military personnel with families and dependents would require off-base housing in the surrounding communities, further contributing to the tight supply of civilian rental housing.

CHAPTER 4 AFFECTED ENVIRONMENT

4.1 NASBP Background

1. Aviation activity at Barbers Point began in the 1930's with the establishment of an emergency landing field in Ewa to support the airfield at Ford Island. As the need for operational airfields in Hawaii became urgent, this emergency landing field became an interim airfield while the NASBP was being completed. Construction work on the interim airfield was started in 1940 and work on the NASBP began in November 1941. The Naval Air Station was commissioned in 1942. (Master Plan, 1985).
2. In addition to the airfield, buildings for personnel housing, hangars, storage and schools were planned as permanent construction. After the attack on Pearl Harbor, plans were revised to use temporary wood-frame buildings to conserve critical materials and time. Housing and messing accommodations for 2,000 enlisted men were provided in nine barracks, a mess hall and galley, a bakery and a cook's quarters. In August 1942, these facilities were expanded to accommodate 4,000 men. Today the air station spans nearly 3,615 acres, has a population of approximately 3,000, and is the workplace for over 800 civilians.
3. Operation and maintenance of the VP (Patrol) squadrons is the primary mission of the Station. NASBP also hosts diverse activities like the Joint Casualty Resolution Center, Naval Investigative Services, and Navy Medical Command, Pacific Region. In addition, the air station supports aircraft from all military services and Pacific allies transiting through Hawaii or participating in mid-Pacific exercises.

4.2 Geology

1. Oahu was formed by two volcanoes which are now the Koolau Range on the east and the Waianae Range on the west. Lava from the younger Koolau Volcano banked against the already eroded flank of the Waianae Volcano to form the central area of Oahu. As the building of the Waianae and Koolau volcanoes came to an end, Oahu sank in the rising ocean water caused by a retreating Ice Age. The rise and fall in sea level has occurred several times. (Macdonald et al., 1986). During one of the last rises, probably about 80,000 years ago, the sea stood at a level about 25 feet higher than it is now and remained there for some centuries. Coral reefs from that period form a platform around the edge of the island varying in width from a few feet in some places to as much as five miles at Ewa.

2. This reef platform and the resulting coralline limestone and calcareous sediments derived from the disintegration of older coral reefs make up NASBP. Sinkholes--natural cavities in the emerged coralline reef--are also present at the Station. In most cases, they are remnants of the original reef structure that have been enlarged or otherwise structurally altered through solution by groundwater.

4.3 Topography

1. Topography of the air station is generally level with the exception of several coral pits which are the remnants of previous limestone mining operations. The coastal plain surface slopes very gently southward toward the ocean at a gradient of about 1 foot in 260 feet. Ground elevations vary from sea level to approximately 50 feet above mean sea level. Areas along the shoreline and the sides of the coral pits are the only areas where steep slopes restrict development.

2. Located as it is along the northernmost boundary of NASBP, the elevation of the proposed project site is approximately 50 feet above mean sea level. The adjacent coral pit located to the west which serves as a drainage collector is a former quarry about 45 feet deep. (R. M. Towill, 1990)

4.4 Soils

1. Soils at NASBP and at the proposed housing site consist of a thin layer (mostly less than six inches) of soft, residual silt overlying coralline limestone of low to moderate hardness. As classified by the U.S. Soil Conservation Service, soil at the project site is designated Mamala stony clay loam, 0 to 12 percent slopes (MnC). This is soil of moderate permeability and slow to medium runoff. The Land Study Bureau gives soil at the site an overall productivity rating of "E", the lowest rating possible.

2. The limestone strata contains many cavities and caverns (sink holes) that may not be visible from the ground surface. There appears to be possible evidence of one such sink hole on the proposed housing site which is nearly barren of any vegetation except for a few scattered xerophytic kiawe (*Prosopis pallida*) trees and Guinea grass (*Panicum maximum*). Near the northwestern corner of the site is a single large tree which exhibits astonishingly lush green growth where none else exists. It is suspected that the tree is growing out of a fresh to brackish water sink hole. The base of the tree trunk has been mounded up with rock and dirt as if to provide a measure of safety by filling the sink hole.

4.5 Hydrology

1. The groundwater in the southern Ewa District consists of a lens-shaped body of fresh water which floats on top of the salt water under the island. This lens is thickest beneath the center of the island and thins toward the margins, terminating more or less at the shoreline. Recharge to the volcanic aquifer occurs by infiltration of rain water in the Waianae Mountains.

2. In the coralline aquifers, salinity in the groundwater increases as the shoreline is approached and with depth. Salinity and silica are the most significant characteristics which determine the use of southern Ewa District groundwater. Chloride values between 500 and 1,000 parts per million (ppm) throughout NASBP are common. The groundwater beneath the proposed project site is believed to lie in this range. The boundary of fresh water with less than 50 ppm chloride (potable water) lies well inland of the Station, and only brackish water from the transition zone could be reached by wells on Navy property. (Traverse Group, 1988)

4.6 Climate and Air Quality

1. Northeasterly trade winds prevail during all months of the year, except from November through March when the trades are sometimes interrupted by moderate to strong southerly Kona winds associated with cyclonic storm fronts. Barbers Point is in the lee of the Koolau mountain range and receives very little rainfall associated with the prevailing tradewinds. Nearly 90 percent of its rainfall comes with kona winds from October through April, with the wettest month being January, averaging only 4.7 inches. Thunder-storms are rare in the summer months and occur only infrequently during the winter. Average annual rainfall is about 20 inches.

2. Some regional air quality impacts may be associated with the current and on-going construction of housing in the area to the north associated with the Villages of Kapolei development. These will be short-term impacts related to construction vehicle activity, site preparation, and earth-moving. Air emissions are also generated by maintenance activities at the Avionics Shop in Hangar 282, including engine runup testing associated with the VP squadron P-3 Orion aircraft. In 1988, 24-hour air quality sampling at Barbers Point measured 24 micrograms per cubic meter (m^3) of suspended particulates and less than 5 micrograms/ m^3 of sulfur dioxide. Primary national ambient air quality standards are 75 micrograms/ m^3 for particulates and 80 micrograms/ m^3 for sulfur oxides.

3. Once completed, the new housing will displace the air quality impacts associated with cane fire smoke. Presently, cane fields are burned once every two years and the ensuing fires result in the emission of particulates, carbon monoxide, and trace amounts of other organics. Campbell Estate presently cooperates with NASBP by warning residents of the day fires will be burning. This allows residents to close windows and avoid hanging clothes out to dry during the brief fires.

4. Industrial sources at the Campbell Industrial Park affect air quality in the region. The maximum concentrations of total suspended particulates (TSP) and sulphur dioxide are in compliance with existing federal and state air quality standards. (Helber, Hastert, and Kimura, 1989)

4.7 Flood Hazard

1. According to the Federal Emergency Management Agency Flood Insurance Rate Map (Panel 130, September 4, 1987), the project site is located in Zone D, which is an area in which flood hazards are undetermined. The site also

lies outside parts of the Station which may be subject to inundation from tsunamis or from runoff of a 100-year (up to one percent chance of occurrence in any given year) storm (Master Plan, 1985).

2. However, because NASBP is in a relatively flat, low area, the Station is probably at risk to flooding under certain conditions. This may be especially true in the near future when the area east of Barbers Point access road becomes urbanized as part of the Villages of Kapolei development. Drainage infrastructure will need to contain excess runoff to its existing levels.

4.8 Flora and Fauna

1. Two species of endangered plants are found on the Station. The 'akoko (*Euphorbia skottsbergii*, var. *kalaeloana*) was declared endangered on August 24, 1982 and may be found only at Campbell Industrial Park and NASBP. Specimens are located almost a mile southeast of the proposed housing site. *Achyranthes rotundata* (no common name) was officially listed on March 26, 1986. This species is endemic to Oahu where it occurs on the talus slopes behind Kaena Point and in the Ewa Plains area. Two populations of this species are found at Campbell Industrial Park and a third smaller population is located in the southwestern corner of the Station, about 2.3 miles from the proposed housing site. (Botanical Consultants, 1984) No other proposed Endangered or depleted species of plants are located on or adjacent to the site. Except for a few trees, the site is regularly cut back to reduce overgrowth.

2. Of the twenty-three species of birds recorded at the Station, five are considered indigenous; the Black-crowned Night-Heron, Great Frigatebird, Pacific Golden Plover, Sanderling, and Ruddy Turnstone. The latter three species are

considered regular migrant visitors. The Oahu 'Elepaio (*Chasiempis sandwichensis gayo*), an endemic species, has been reported in low numbers around the densely wooded area in the southeast section of the Station. In the absence of previous reports of 'Elepaio from the Ewa plains, this finding may indicate a recent range extension.

3. The most abundant bird species on the Station is the introduced Zebra or Barred Dove (*Geopelia striata*) (Master Plan, 1985). This bird likely frequents the proposed housing site around dawn and at sunset, feeding on small seeds available from the grasses there. The barred dove is designated a game bird by the State of Hawaii, but no hunting is allowed on Station. Urban birds such as the introduced Myna and the House Sparrow likely inhabit the nearby Makai Housing area, which has many trees and bushes. Animals that could inhabit the grassy housing site include the Small Indian Mongoose, various species of rats or small lizards. No birds, fish or other wildlife on the federal endangered or threatened list have been observed at NASBP (see Letters, Appendix A).

4.9 Noise

1. Aircraft operations are the principal noise generators at Barbers Point. Approximately 318 aircraft operations occurred on an average busy day in 1987 and included aircraft such as C-130's, F-4's, A-4's, P-3's and a variety of helicopters, to name just a few. An average 266 busy days occur every year.

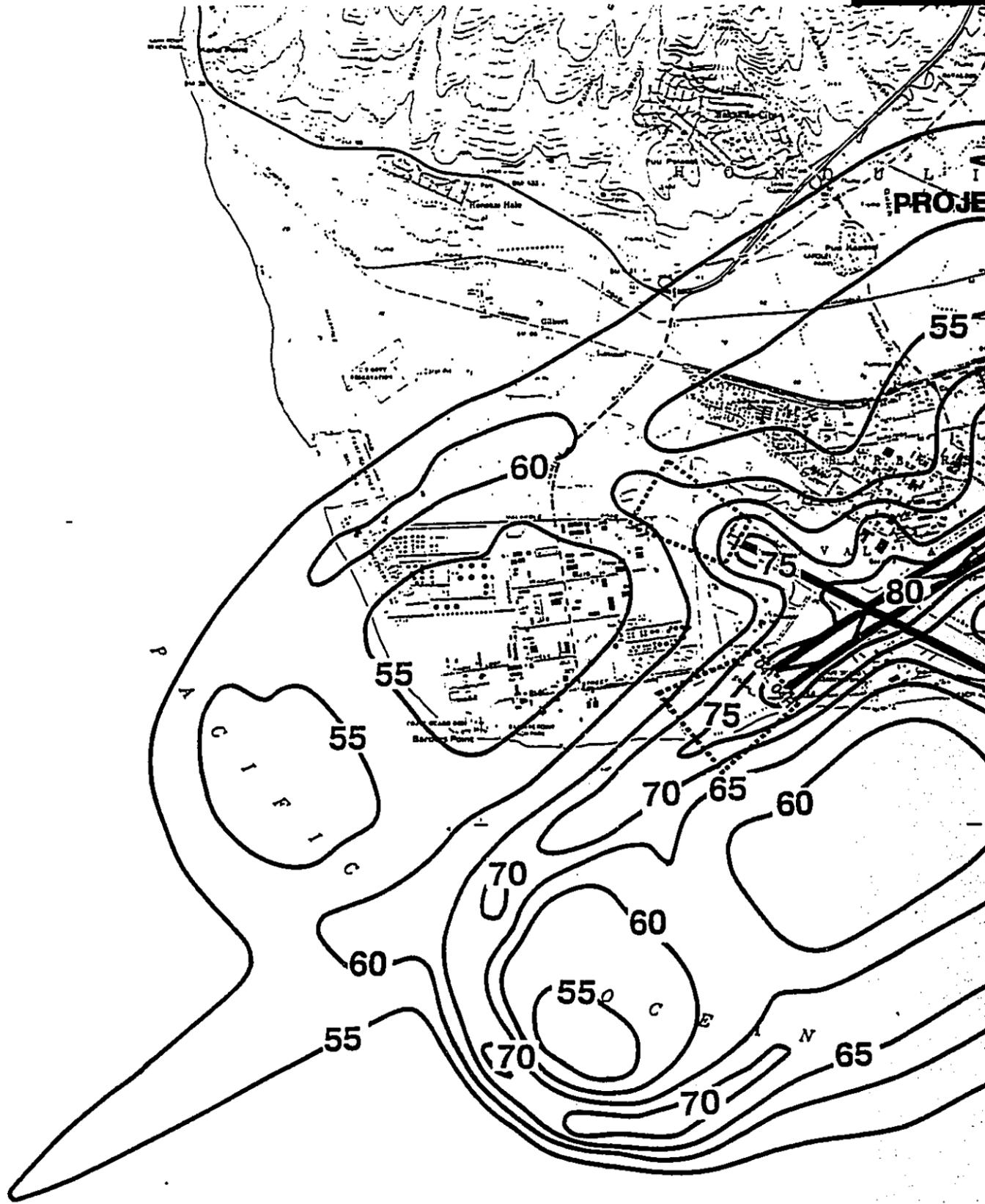
2. In 1987, the Naval Facilities Engineering Command commissioned a study to document the noise environment on and around NASBP. The study included noise monitoring around the station, collection of operations data, and the development of noise exposure contours for existing operations. The resulting July

1989 publication, "Naval Air Station Barbers Point-Air Installations Compatible Use Zones (AICUZ) Noise Contours and Supporting Data", was consulted for this EA to determine the noise environment at the proposed project site.

3. During the course of the study, the Navy and the major landowner surrounding the station at the time, the Estate of James Campbell, entered into an agreement concerning the development of certain lands adjacent to the air station. As a result, the Navy agreed to implement new aircraft procedures to minimize noise and safety impacts off-station in exchange for easements limiting the type and density of land use development. The resulting 1989 AICUZ map reflects this reduced flight path dispersion adopted by the Navy; a projected 10.7 percent increase in the annual level of operations relative to base year (1987) operations; and the planned move of the TACAMO (Take Charge and Move Out) command and control mission, currently based at NASBP, to a continental Air Force Base.

4. Based on mean year Day-Night Sound Level (Ldn) contours and the relocation of the TACAMO mission, noise levels at the project site will be between 60-65 Ldn (see 1989 AICUZ MAP Figure 4). Even with Honolulu International Airport operations, noise levels will remain between 60 and 65 Ldn. The Ldn noise exposure metric represents an accumulation of the noise associated with individual events, based on the loudness of the event and its duration. It also considers the time of day that events occur, recognizing that activity at night may be more intrusive than the same event occurring during daytime hours. By Federal standards, residential housing development is considered acceptable in areas where exterior noise does not exceed 65 Ldn.

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Source: Naval Air Station Barbers Point Air Installations Compatible Use Zones (AICUZ) and Supporting

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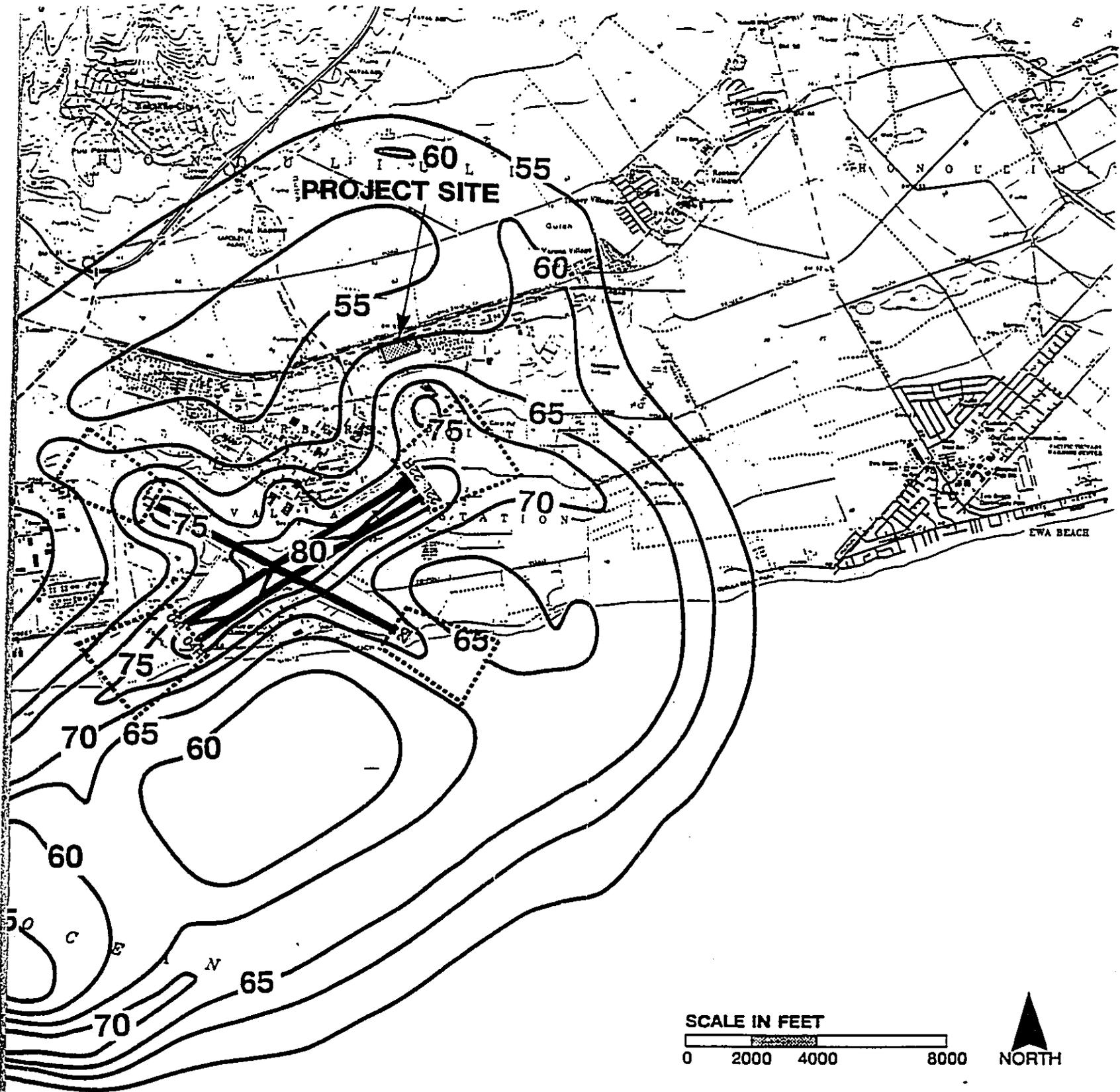


Figure 4
1989 AICUZ

4.10 Land Use

1. The proposed housing site is bordered by Franklin D. Roosevelt Avenue, Nassau Avenue, an unpaved, dirt road (facing the flight line) and Bougainville Street. Bougainville Street curves through the housing area to the east, which is set aside for enlisted personnel. South of the dirt road is another open field, approximately twin in size to the northern one, which is in close proximity to the large open hangar sheltering the four VP (Patrol) air squadrons based at NASBP. A new aircraft operations facility is planned on a portion of this southern "twin" parcel. West of the housing site is a narrow strip of undeveloped land between Nassau and Rendova Avenues, the middle of which is occupied by two small general warehouses, Building Nos. 476 and 477 (see Figure 2).

2. Land immediately north and outside the Station (about 50 yards from the proposed housing site) is cultivated in cane sugar by Oahu Sugar Co. under lease from Campbell Estate. This area will be acquired and developed by the State of Hawaii for the future Villages of Kapolei, converting 890 acres of agricultural land to residential, commercial, and public use.

3. According to the NASBP Existing Land Use maps, the project site is designated as Outdoor Recreation/Conservation. Existing Land Use designations which surround the proposed housing include Family Housing to the east, Outdoor Recreation/Conservation at the twin site to the south, and Supply/Storage where the two small general warehouses are situated to the west. Also, directly south of these warehouses is a small Community Facilities designation.

4. Although State and City land use designations are not enforceable on Federal lands, they are mentioned here. The State Land Use designation for the

site is Urban. On the City and County of Honolulu Development Plan Land Use map, the project site is designated as "Park". City and County zoning is F-1, Federal. The site is not within the City's Special Management Area designed to protect coastal resources.

5. Consistency and compliance with the State of Hawaii Coastal Zone Management Program is not required since the proposed housing development occurs entirely on Federal lands and does not constitute an action directly affecting the State's coastal zone. The nearest coastal zone area is across Franklin D. Roosevelt Avenue on land now in cane sugar cultivation. This land has been designated Urban and is planned by the State of Hawaii for housing in the near future.

4.11 Archaeological/Historic Resources

1. There are numerous archaeological sites and hundreds of archaeological features within NASBP, most of which have been evaluated as Category I, "areas of great importance which must be preserved." Archaeological features are considered to represent the remains of past aboriginal or indigenous Hawaiian activities. These features range from large habitation complexes to walls and established burial sites. Most of these features are located in undeveloped areas in the southeast corner of NASBP and along the western boundary of the Station makai of existing housing. There are no known archaeological features within the proposed housing site. (Traverse Group, 1988)

2. There are three known historical sites within NASBP as well which are classified as Category III, "areas of value to the cultural heritage of the installation which should be preserved, if practicable." These include 8 World War II bunkers,

a linear-stacked limestone wall believed to be significant to understanding historic ranching and/or agricultural use of the Ewa Plain, and a C-shaped enclosure with undetermined but possible military historic value.

3. The proposed housing site has no obvious evidence of prior military-era use except for remnants of a World War II era radio antenna tower foundation to the east near the Makai Housing area. The foundation consists of a tripod arrangement of three massive, 8-foot square concrete pyramidal cubes, which apparently were foundations for antenna guy wires. In the midst of the three foundations is a 6-foot square flat concrete pad which provided the base for a tall metal antenna tower. Another 8-foot by 12-foot concrete pad on the western side of the foundations is all that remains of a small building which probably provided some support function related to the antenna. The antenna itself was probably a transmitting facility, based on the presence of (former) Transmitter Building No. 128, about 100 feet to the southeast.

4. Except for the concrete buildings in the southeast corner, the rest of the proposed project site is an open field free of structures. No archaeological or historic resources are apparent. There are no sites at the Station listed on the National Register of Historic Places (NRHP) or on the State of Hawaii Register. A draft study prepared by the Bishop Museum has determined that several sites in the area are eligible for nomination to the National Register of Historic Places. None of these sites is within the proposed project area.

4.12 Hazardous and Toxic Wastes

1. A separate preconstruction contamination survey was conducted by Unitek Environmental Consultants, Inc. to assess the presence of any toxic materials

and wastes at the proposed housing site. Site reconnaissance was performed by walking transects across the property and by driving the perimeter of the subject site and surrounding area. The study is included in Appendix B of this EA.

2. North of the installation boundary fence there is a Chevron petroleum pipeline located parallel to Franklin D. Roosevelt Avenue. An electrical supply substation number 273 is located northeast of the site across this same road. Within the site, Building No. 128 was previously used as a transmitter station, and the smaller Building No. 484 was used as an electrical equipment facility and stores a portable electric generator. There was no visible or documented evidence of a fuel storage tank associated with this generator. Both of these buildings will remain available for use by the Naval Air Reserve. Also, west of Building No. 128 is a concrete pad approximately 100 feet by 40 feet, which is painted as a tennis court. It was formerly used for parking.

3. In the same area, a former flammable materials storage building, Building No. 1840, was located to the northwest of these two structures. It has been removed and only its foundation is visible.

4. About 15 fifty-five gallon drums which had been painted yellow and filled with concrete, presumably to be used as traffic barriers, were observed in two areas at the site. Four drums were located in the site's southeast corner, and eleven drums were located in the site's southwest corner. They did not appear to contain toxic or hazardous materials or wastes.

5. Located on the west side of the site along Nassau Street is an active single-phase 10 KVA pole mounted transformer. The transformer may contain PCB's. There was no visual indication of leakage from the transformer.

4.13 Aesthetic Considerations

Because of the flatness of the terrain, the only outstanding scenic resources on the Station are the sweeping views up and down the beach, especially looking toward Diamond Head off in the distance.

4.14 Circulation and Traffic

No studies or traffic data are available for NASBP. Traffic on the Air Station is generally light and is not considered a problem. Two in-bound lanes through the Main Gate area are the major access to the Station and seem sufficient. However, there is a circulation problem where Franklin D. Roosevelt Avenue and Enterprise Avenue intersect just inside the Main Gate. This leaves very little room for adequate traffic controls, visitor and commercial vehicle parking, and pass, ID office, and sentry house. This is only a peak period traffic problem and is currently resolved by stationing extra traffic control officers at the Main Gate to direct traffic during the morning and afternoon peak. (Yamashita, 1990)

4.15 Infrastructure and Utilities

1. Water System

a. Three sources supply potable water at NASBP. The primary source is the water tunnel located about 2 miles north of the project site (Well No. 2103-03). The second source is from the water system at West Loch, which is provided with booster pumps. The third source is from a well owned by Oahu Sugar Company which is available for emergency conditions. Two 1-million gallon storage tanks in the vicinity of the pumping station maintain a constant head on the system

and store fresh water for fire and peak demands. The entire system is operated and maintained by PWC Pearl Harbor. Average water consumption is approximately 2.5 million gallons per day (mgd). (Traverse Group, 1988)

b. The existing base water distribution system is looped around the vicinity of the project. The existing water lines adjacent to the project consist of: a 24-inch water main north of the site along Franklin D. Roosevelt Avenue; an 8-inch water main west of the site along Nassau Avenue; and a 6-inch water main east of the site along Bougainville Street. (Corps of Engineers, 1990)

2. Wastewater System

NASBP is served by the City and County of Honolulu's municipal Honouliuli Wastewater Treatment Plant which is nearing its design capacity of 25 mgd. However, the City has plans to expand the plant to about 37 mgd, scheduled for completion in 1992. Within the project site, there is no existing sanitary sewer system, but there is an existing system to the east of the project site which services the adjacent housing area. There is also an 18-inch sewer main which runs in a westerly direction just north of Independence Road. (Corps of Engineers, 1990)

3. Drainage System

a. NASBP is located at the lower end of a 2,800-acre watershed area in the Waianae Range. Runoff from higher areas enters the base at three streams along the northern boundary. For lower frequency floods (generally less than 4-year recurrence interval), runoff from the two easternmost streams (Makakilo and Makalapa Gulch) is generally confined to depressions located on the base or on immediately adjacent lands. During heavier sustained rainfall, approximately once

in two years, water enters the coral pit via a culvert which crosses under Roosevelt Road.

b. There is some concern that off-station land development sponsored by the State of Hawaii could aggravate storm water runoff characteristics on station. At present, the land immediately north and outside of the station (about 50 yards from the proposed housing site) is cultivated in cane sugar, but there are plans to transform those agricultural lands to urban use in the near future.

c. There is no existing storm drainage system in the vicinity of the housing site. Currently the project site drains via overland flow toward a low point on Franklin D. Roosevelt Avenue. Any flow which doesn't infiltrate naturally into the coralline substrate collects there until it reaches the roadway elevation. If the storm water volume is great enough, the runoff crosses Franklin D. Roosevelt Avenue and flows toward the limits of NASBP just to the north. The only existing storm drainage system in the area consists of curb inlets located along Bougainville Street (in the adjacent family housing area). (Corps of Engineers, 1990)

4. Electrical and Telephone System

Electric and telephone service is supplied to NASBP by Hawaiian Electric and Hawaiian Telephone Companies. To provide electricity, there is a primary three phase, three wire aerial 11.5 KV feeder that routes along Franklin D. Roosevelt Avenue. Telephone distribution system circuit conductors are to be installed along Franklin D. Roosevelt Avenue on joint use poles. (Corps of Engineers, 1990)

4.16 Socio-economic Conditions

1. Population

Population growth at Barbers Point since 1980 has been almost negligible. In 1980 there were 2,942 persons living at NASBP, and in 1988 there were 2,947 persons. (State of Hawaii, 1989)

2. Family Housing

854 dwelling units, most of them multi-family, provide the majority of housing for military families at NASBP. Other Barbers Point military personnel live at Iroquois Point, Puuloa Point, and Lualuelei military housing areas. (Hamada, 1990)

3. Employment

There are about 4,500 military and over 800 civilian positions on NASBP.

4. Education

One public school, Barbers Point Elementary, is located at NASBP along Boxer Road near existing family housing. This school is just over 1 mile west of the proposed family housing site and is made up entirely of military dependents. Students in the upper grades are bused to Ilima Intermediate and Campbell High School off-base. There is a child-care center and a Family Home Care program at NASBP for children below school age.

CHAPTER 5
ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

5.1 Geology/Topography

Construction of the housing on the 15.3-acre site will replace with structures what is now an open, grassy field with a few scattered trees. Excavation depth will be minimal because the site will be built up to aid drainage. Topsoil will be brought to the site to facilitate grading and landscaping. The project will not involve major grading which would affect the geology or the topography of the area.

5.2 Soils

There will be no long-term generation of soil erosion from this project. The site will be graded to aid drainage and some topsoil will be brought to the site and compacted to allow for the re-establishment of grasses, plants, and shade trees.

5.3 Hydrology

The brackish groundwater resource beneath NASBP and beneath the proposed housing area is undeveloped and is not expected to be used by the project for landscaping or any other purposes. Potable water resources are confined by caprock to inland basal aquifers, and groundwater underlying NASBP becomes more brackish towards the coast. The proposed construction of housing at the site should have no significant impact on the area's hydrology.

5.4 Air Quality

1. Construction of the housing will create increased dust from the removal of asphalt, from soil brought in for landscaping, and from pollutant emissions accompanying the operation of vehicles and equipment. To mitigate the effects of construction activities, dust control measures such as water sprinkling will be implemented by the contractor to reduce dust levels, as necessary.

2. Air quality impacts from construction of the villages of Kapolei will also be mitigated through such measures. As these homes are built, agricultural nuisance from cane fires will be eliminated. Air quality impacts from industrial sources at Campbell Industrial Park will have to be monitored by the responsible governmental agencies to assure continued compliance.

3. According to the Air Quality Impact Report prepared by J.W. Morrow for Kapolei Village, at complete buildout of the proposed 5,000 units, project-generated traffic will increase ambient carbon monoxide levels in the area but will be well within Federal standards. The State of Hawaii standards are stricter but, with the possible exception of the H-1 Makakilo Interchange area, will not create new exceedances. In relation to the Kapolei development, impacts to air quality from traffic generated by the proposed 116 units will be insignificant.

5.5 Flood Hazard

1. The urbanization of the area to the north of the proposed family housing site poses two potential flood hazards. Runoff from the development of the Villages of Kapolei is planned to be discharged into the coral pit west of the proposed housing site by using detention basins within a proposed golf course. It

is estimated that the coral pit can contain runoff from a 50 or even a 100-year storm. However, silt washing into the pit must be periodically removed to ensure that infiltration rates are maintained. (R. M. Towill, 1990)

2. The other threat is from sheet flows crossing Franklin D. Roosevelt Avenue and into the proposed housing area. Increased urbanization to the north is likely to add to these flows considerably. Drainage plans for the new development include a possible drainage ditch parallel to Franklin D. Roosevelt Avenue which would lead into the coral pit. This should collect the downhill flow of runoff providing it is properly sized. The proposed family housing site itself will be constructed to allow for proper site grading, filling, and related drainage provisions to control runoff and prevent ponding.

5.6 Flora and Fauna

Consultation with the State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, and with the U.S. Fish and Wildlife Service, indicates there are no known threatened or endangered plant or animal species on the site. Construction of housing will include appropriate landscaping of adjacent yards and grassy areas.

5.7 Noise

1. Based on the "Naval Air Station Barbers Point-Air Installations Compatible Use Zones (AICUZ) Noise Contours and Supporting Data", there will be no major noise impacts at the project site. Because of Hawaii's open-living conditions, the State Department of Transportation, Airports Division, recommends that the 60 Ldn (Day-Night Average Sound Level) contour be used as the base

level for determining land use compatibility, rather than the Federal level of 65 Ldn. However, because the housing is Federally funded, Federal standards apply.

2. The installation of central air-conditioning and capability of total closure will also ensure that interior noise remains at comfortable levels. Nevertheless, aircraft noise levels should remain under 65 Ldn which is considered Federally acceptable for dwelling units. The housing will be setback 80 feet from Franklin D. Roosevelt Avenue (see Figure 3).

5.8 Land Use

The proposed housing is compatible with surrounding land uses. It will be situated next to existing housing on the east and will be bordered by Outdoor Recreation/Conservation land to the south, as designated in the NASBP 1985 Master Plan.

5.9 Archaeological/Historic Resources

1. The proposed construction of family housing units should have no effect on potentially significant cultural resources. However, a brief reconnaissance survey and limited subsurface testing in sinkhole areas is recommended.

2. In compliance with Section 106 of the National Historic Preservation Act and Army Regulation AR 420-400, periodic construction monitoring by qualified archaeological personnel, in coordination with the Hawaii State Historic Preservation Office (SHPO), shall be performed in order to ensure the protection of any potential cultural resources.

5.10 Hazardous and Toxic Wastes

1. During the site reconnaissance, no evidence of gross surface contamination was observed. No stained soil, stressed vegetation, or empty containers suggesting dumping of hazardous or toxic wastes was observed. There were no indicators of underground storage tanks such as concrete pads, fill pipes, or vent pipes observed at the subject site.

2. It is recommended that the utility pole mounted transformer on the west side of the subject site be sampled and analyzed to determine if any PCB is present in the dielectric fluid. Concentrations of PCB's above 50 parts per million require regulatory compliance. However, PCB transformers can remain in use as long as they do not represent a possible threat of contamination to food or feed.

5.11 Aesthetic Considerations

What is presently an open field will be developed with housing. The new housing will be similar to the existing housing to the east of the site. Views of the mountains or from the coastal highway will not be obstructed by the project.

5.12 Circulation and Traffic

1. Additional traffic generated by the occupants of the proposed family housing is not expected to significantly impact traffic patterns at NASBP. The proposed 116-unit family housing project is expected to generate an average of 626 vehicle trips per day on Franklin D. Roosevelt Avenue, with approximately 58 trips during the morning peak hour and 70 trips during the afternoon peak hour. (Institute of Transportation Engineers, 1982). The capacity of this roadway is

estimated at 1500 vehicles per hour per two way volume total, or 750 vehicles per hour per lane. The traffic contribution to this roadway will be 10 percent or less of the road's capacity.

2. A majority of the vehicle trips are expected to occur on base. The small number of trips generated would neither significantly affect roadway conditions nor necessitate roadway improvements. The project also should not significantly impact ingress-egress traffic during peak periods when the four way stop control causes congestion inside the Main Gate. Ingress traffic during the morning period consists mostly of civilian and military commuters from off-base, as does afternoon egress traffic.

5.13 Utilities

1. Utilities will all be adequately provided for in the following manner:

a. Water System--Water connections for the project will be made to the existing 8-inch line on Nassau Avenue and the existing 24-inch line on Franklin D. Roosevelt Avenue. A factor-generated population of 420 persons occupying the 116 units is expected to use about 150 gallons per capita, or approximately 63,000 gallons per day. Most of the water will come from a military well source, Barbers Point Shaft, about 2 miles north of the project site.

b. Wastewater System--Within the project site, there is no existing sanitary sewer system, but there is an existing system to the east of the project site which services the adjacent housing area. However, the main sizes there are too small, and instead connections will be made to an 18-inch sewer main which runs in a westerly direction just north of Independence Road. The project is expected to use

an average daily wastewater flow of 120 gallons per capita, or approximately 50,400 gallons per day. The City Department of Public Works has been advised of project plans relative to discharge to the municipal Honouliuli Wastewater Treatment Plant.

c. Drainage--Paved surfaces associated with development of roads and housing may lower infiltration rates on the site. At this time there is no designated area on the proposed project site to dump future storm runoff and no storm drainage connections may be made to curb inlets in the adjacent family housing area or to the associated storm drainage system. Instead, trench drains may be built to help the ground absorb excess water. Adequate grading would provide positive surface drainage away from all structures and toward the trench drains. The additional amount of runoff created as a result of developing the Villages of Kapolei above NASBP will be contained with a large stormwater detention basin and a system of swales, culverts and channels. (R. M. Towill, 1990)

d. Electrical and Telephone System--Electrical connections will be made to the three phase, three wire aerial 11.5 KV feeder that routes along Franklin D. Roosevelt Avenue and will be looped underground throughout the project site. Telephone system circuit conductors will be installed along Franklin D. Roosevelt Avenue on joint use poles.

5.14 Social Conditions

1. Construction of the proposed housing at NASBP will help to alleviate the overall military family housing shortage on Oahu. The housing will most likely be occupied by Pearl Harbor or other Navy personnel.

2. The provision of 116 new family housing units at NASBP should not represent a major social impact. Of the 854 housing units on base, the additional 116 units will represent a 13.6 percent increase in housing. Likewise, assuming off-base military families relocate on-base, a factor-generated population of 420 persons occupying the 116 units will represent a 14.3 percent increase in the 2,947 military personnel and dependents residing on base.

3. Based on State Department of Education estimates, approximately 35-40 young children of military personnel occupying the 116 two and three-bedroom family housing units will attend Barbers Point Elementary. This school is made up entirely of military dependents and has available space to accommodate the extra students. (Saka, 1990) The project may also expect to generate about 25 intermediate and high school students.

4. The child-care center at NASBP has a waiting list for prospective children, most of whom are cared for during the day through the Family Home Care Program. However, a new child-care facility is planned for FY93 which will alleviate the shortage in child-care assistance. In the interim, if there are children from the proposed family housing who need day-care, they will be provided for by the Family Home Care program. (Siskel, 1991).

CHAPTER 6
ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVE ACTIONS

6.1 Alternate Site on NASBP

Other open sites at NASBP do exist, but they also are already planned for similar housing projects. Therefore, the proposed project which is the focus of this EA has no alternate site.

6.2 Alternate Sites on Private Lands

Besides being economically infeasible, construction of housing on private land will likely have environmental consequences similar in scope to the proposed project at NASBP.

6.3 Lease Units from the Private Sector

This alternative would have no environmental impact on NASBP. The 15.3-acre site would remain as an open field.

6.4 No Action

The no action alternative would require a greater number of military personnel with families and dependents to seek off-base housing in surrounding communities, further contributing to the tight supply of civilian rental housing. This alternative would leave the 15.3-acre site as an open field, with no environmental consequences.

CHAPTER 7
CONCLUSIONS

1. This Environmental Assessment concludes that the proposed action to construct one-hundred sixteen (116) new housing units at Barbers Point Naval Air Station in Fiscal Year 1991 does not constitute a major Federal action having significant effects on the quality of the human environment.

2. An Environmental Impact Statement (EIS), as defined by AR-200-2 and the Council on Environmental Quality (CEQ) Regulations CFR 1500, is not required.

3. It is recommended that a Finding of No Significant Impact (FNSI) be prepared and notice of the availability of the EA and FNSI be given to the public by making it available in the State of Hawaii Department of Health, Office of Environmental Quality Control (OEQC) Bulletin.

8. REFERENCES

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24. Yamashita, Byrnes (Pacific Division Naval Facilities Engineering Command) Personal Communication. November 1990.

9. LIST OF PREPARERS

<u>Name/Title</u>	<u>Expertise</u>	<u>Experience</u>
Funakoshi, Rodney Y. EA preparer	Environmental and Land Use Analysis	BA, MURP; 10 yrs EIS studies; Wilson Okamoto & Associates, Inc.
Gorst, Bruce W. EA preparer	Environmental and Land Use Analysis	BA, English; Wilson Okamoto & Associates, Inc.

10. LIST OF INDIVIDUALS AND AGENCIES CONSULTED

FEDERAL AGENCIES

1. U.S. Department of the Interior
Fish and Wildlife Service
Honolulu, Hawaii

STATE AGENCIES

1. State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife

INDIVIDUALS

1. Roger Au, Staff Civil Engineer, NAS Barbers Point
2. Eric Bjorken, U.S. Army Corps of Engineers
3. Lise Ditzel-ma, Project Engineer, U.S. Army Corps of Engineers
4. Curtis Noborikawa, Electrical Engineer, Navy Public Works Center
5. Tom Saka, Department of Education, Business Services Branch
6. Bernie Siskel, Recreational Activities Director, NAS Barbers Point
7. David Sox, Social Environmental Specialist, U.S. Army Corps of Engineers
8. Robert Weber, Senior Environmental Scientist, Unitek Environmental Consultants
9. Ed Yamada, Contract Monitor, U.S. Army Corps of Engineers
10. Byrnes Yamashita, Planner, Pacific Division Naval Facilities Engineering Command

Appendix A
Agency Response

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
KEITH W. AHUE
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AQUACULTURE DEVELOPMENT
PROGRAM
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CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE HISTORIC PRESERVATION
STATE PARKS
WATER RESOURCES MANAGEMENT

November 23, 1990

Mr. Rodney Y. Funakoshi
Project Manager
Wilson Okamoto & Associates
P.O. Box 3530
Honolulu, HI 96814

RECEIVED
NOV 26 1990

WILSON OKAMOTO & ASSOCIATES

RE: Environmental Assessment for the Construction of 91 Family Housing Units,
Barber's Point Naval Air Station

Dear Mr. Funakoshi:

Thank you for including the Division of Forestry and Wildlife (DOFAW) in your plans regarding the proposed construction of 91 family housing units at Barber's Point Naval Air Station. Because of time constraints, we did not have the time to visit the site. However, from looking at the map and knowing a little history about the area, I don't foresee you encountering any threatened and endangered plant or animal species on the site. Your EA, however, should address this. Whether you need an intensive botanical survey of the area is your prerogative. I recommend that if you have any doubt, take the time and effort to have a botanical survey taken.

I would like to review your EA after it is completed and will provide comments at that time. Thank you.

Very truly yours,

A handwritten signature in cursive script that reads "Michael G. Buck".

Michael G. Buck
Administrator



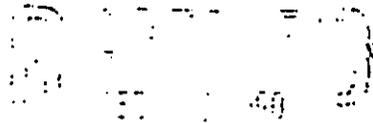
United States Department of the Interior

**FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS OFFICE**

P.O. BOX 50167
HONOLULU, HAWAII 96850

RyF-

Mr. Rodney Y. Funakoshi
Project Manager
Wilson Okamoto & Associates
P. O. Box 3530
Honolulu, Hawaii 96811



November 30, 1990

Subject: Environmental Assessment (EA) for Construction of FY 91 Family Housing Units, Barbers Point Naval Air Station, Oahu, Hawaii

Dear Mr. Funakoshi:

This responds to your November 9, 1990 letter requesting our review of the subject project proposal. Specifically, you requested we provide information on any species protected under the Endangered Species Act or any other species within our jurisdiction or special interest which may be found in the project area.

There are no listed or proposed endangered or threatened species of plants or animals which would either be found in the vicinity of, or would be affected by, the housing project. There are no other species of special interest to this Service which would be affected by the proposed development.

Thank you for allowing us to review the proposal.

Sincerely yours,

William R. Kramer
Acting Field Office Supervisor
Fish and Wildlife Enhancement

DOCUMENT CAPTURED AS RECEIVED

Appendix B
Preconstruction Contamination Survey



Unitek Environmental Consultants, Inc.

2889 Mokumoa Street
Honolulu, Hawaii 96819
Telephone: (808) 836-0555
Fax Phone: (808) 839-0786

December 3, 1990

Wilson Okamoto and Associates
1150 South King Street
Honolulu, Hawaii 96814

Attention: Mr. Rodney Funakoshi

Reference: Family Housing project at Barbers Point Naval Air Station
Project 9076

On October 29, 1990, Mr. Michael Coyle, Environmental Scientist and Mr. Robert Weber, Senior Environmental Scientist with Unitek Environmental Consultants, Inc. performed visual reconnaissance of the proposed housing site for hazardous or toxic materials and wastes. The site location and boundaries were identified earlier that day in a meeting with Mr. Rodney Funakoshi and Mr. Bruce Gorst, Planners with Wilson Okamoto & Associates, and Mr. Roger Au, Staff Civil Engineer at Barbers Point Naval Air Station. Site reconnaissance was performed by walking transects across the property and by driving the perimeter of the subject site and surrounding area.

The site is rectangular shaped and covers 18 acres, which is bordered by Nassau Road to the west, Roosevelt Drive to the north, Bougainville Avenue to the east and a dirt road to the south. The subject site elevation is approximately 50 feet above mean sea level and the topography is relatively flat. Site vegetation consists of grasses, small shrubs and a few larger hardwood trees. It appears that the site had been grubbed and graded in recent years, as reported by Mr. Au. A 1977 aerial photograph shows the site to be thickly vegetated.

There is a residential housing development located east of the site. South of the site there is an undeveloped lot, beyond which is a hangar for P-3 Orion aircraft and the naval air station flight line. West of the site there are two storage warehouses. Beyond the warehouses is an undeveloped area containing a large (multi-acre) sink hole that is used to collect storm water runoff. Across Roosevelt Drive to the north are sugar cane fields. A Chevron petroleum pipe line is located parallel to Roosevelt Drive, north of the installation boundary fence. Electrical supply substation number 273 is located northeast of the site along Roosevelt Drive.

Presently there are two unoccupied concrete hollow tile structures located in the southeast area of the site. Building number 128 is a two story structure which was formerly used as a transmitter station. Located west of Building 128, is a smaller one-story structure, Building 484. This building was used in the past as an electrical equipment facility. An electric generator is stored on the north side of the electric building. No access was obtained to either building. Both buildings will remain available for use by the Naval Air Reserve.



Family Housing Project at Barbers Point Naval Air Station
Project 9076; December 3, 1990, Page 2 of 2

Located west of Building 128, is a concrete pad, approximately 100 feet by 40 feet, which is painted as a tennis court. Formerly this pad was used for parking. Building 1840 was located on the northwest corner of the pad and used for flammable materials storage. The building has been removed and no evidence of its existence or contents were observed during the site reconnaissance. Three large concrete footings are located in the east central area of the site. These structures may have been used in the past as docking tower footings for derigibles.

During the site reconnaissance, four fifty-five gallon drums were stored in the southeast area of the site and eleven drums were observed along the Nassau Road on the west side of the site. These drums had been painted yellow and filled with concrete. They appeared to have been used as vehicular traffic barriers. At the time of inspection, there were no toxic or hazardous materials or wastes observed stored in these drums.

Located on the west side of the site along the Nassau Street is a pole mounted transformer. The transformer may contain PCBs. There was no visual indications of leakage from the transformer.

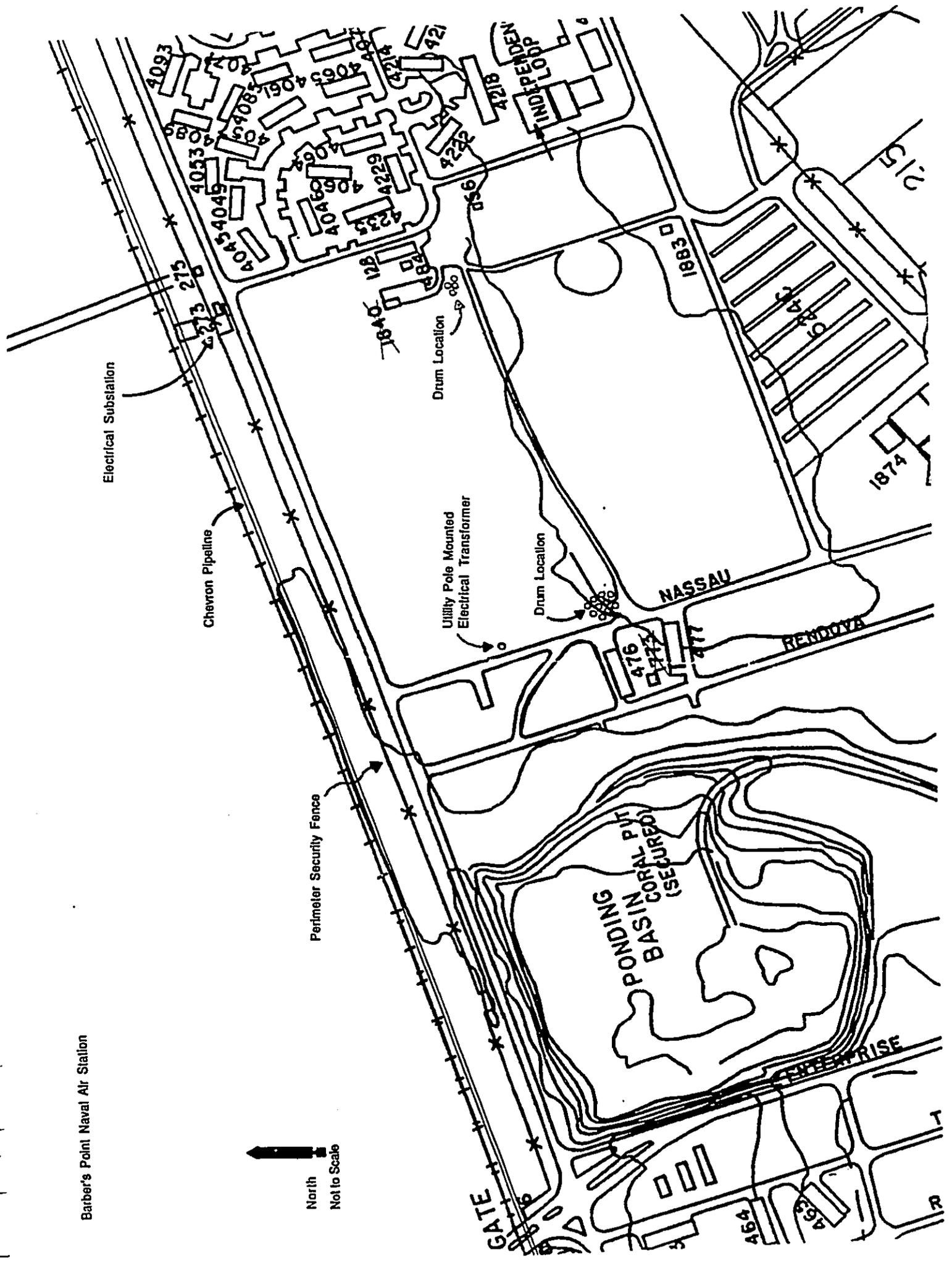
During the site reconnaissance, no evidence of gross surface contamination was observed. No stained soil, stressed vegetation, or empty containers suggesting dumping of hazardous or toxic wastes was observed. There were no indicators of underground storage tanks, such as concrete pads, fill pipes, or vent pipes observed at the subject site.

It is recommended that the utility pole mounted transformer on the west side of the subject site be sampled and analyzed to determine if any PCB is present in the dielectric fluid. Concentrations of PCBs above 50 parts per million require regulatory compliance. However, PCB transformers can remain in use as long as they are not leaking and do not represent a possible threat of contamination to food or feed.

Respectfully,

Robert Weber
Manager, Enviroscience Division
for Unitek Environmental Consultants, Inc.

RW/shy
enclosures



Barber's Point Naval Air Station

North
Not to Scale