Margaret
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JOHN WAIHEE
GOVERNOR
STATE OF HAWAII

HOALIKU L. DRAKE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

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OFC. OF ENVIRONMENTAL
QUALITY CONTROL

June 12, 1992

Mr. Brian Choy, Director
Office of Environmental
Quality Control
220 So. King St., 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: Nanakuli, Residence Lots, Scattered
Nanakuli, Oahu, Hawaii

Attached for your appropriate action are the following:

1. OEQC Form for Publication of EIS Documents in the OEQC Bulletin.

2. Four copies of the Environmental Assessment.

If there are any questions, please have your staff call Mr. Richard Fujita of the Design and Construction Branch at 586-3819.

Sincerely,

Ray Soon, Administrator
Land Development Division

RS:RF:dp/3604B

139

1992-06-23-OA-FEA - Nanakuli Homestead Lots

JUN 23 1992

ENVIRONMENTAL ASSESSMENT

HAWAIIAN HOME LANDS SITE IMPROVEMENTS FOR SCATTERED HOMESTEAD RESIDENCE LOTS NANAKULI, OAHU, HAWAII

TMK 8-9-04: 16,78,100,107,148,152
TMK 8-9-05: 72,73,74

PREPARED FOR:
STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

PREPARED BY:
BELT COLLINS & ASSOCIATES

MAY 1992

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MAY 1992

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Department of Hawaiian Home Lands, State of Hawaii

1.2 APPROVING AGENCY

Department of Hawaiian Home Lands, State of Hawaii

1.3 AGENCIES CONSULTED

City and County of Honolulu

Department of Land Utilization
Department of Public Works
Board of Water Supply
Department of Parks and Recreation

State of Hawaii

Department of Health
Department of Transportation
Department of Education
Department of Land and Natural Resources,
Historic Preservation Division

1.4 PROJECT BACKGROUND AND OBJECTIVES

The objective of the proposed project is to obtain subdivision approval for 8 lots (TMK 8-9-05:72,73,74, and 8-9-04:portion of 16), to process a boundary change for 1 lot (TMK 8-9-04:148, and to provide site improvements to all thirteen homestead residence lots thereby preparing them for construction of single-family residences for beneficiaries of Hawaiian Homes Commission Act. The proposed project site is located on the leeward side of Oahu in the Nanakuli community on lands designated as Hawaiian Home Lands by the Hawaiian Homes Commission Act of 1920 (Hawaii Revised Statutes, Volume 1).

1.4.1 Hawaiian Homes Commission Act

The Hawaiian Homes Commission Act (HHCA) of 1920 was enacted by the Congress of the United States on July 9, 1921, and is considered a government sponsored homesteading program. The beneficiaries of the act are native Hawaiians, defined to be any descendants of not less than one-half of the blood of the races inhabiting the Hawaiian Islands previous to 1778. The Act represents an attempt to return native Hawaiians to the land.

With statehood in 1959, the HHCA became a provision of the State Constitution, and title to Hawaiian home lands, which had been vested in the United States, transferred to the State of Hawaii. Responsibility for administering the HHCA also passed to the State.

The Act designates approximately 200,000-plus acres of public land located on the five major Hawaiian Islands as Hawaiian home lands, and includes authorities to:

1) lease, not sell, land to native Hawaiian beneficiaries for 99-year periods at a rental rate of $1 per year;

2) offer financial assistance to individual homesteaders through low-interest loans for agricultural development and home construction; and

3) provide agricultural and other experts to aid the beneficiary homesteaders in developing their farms and ranches.

Roughly 3,000 acres in Nanakuli and 2,000 acres in Lualualei, located in the Waianae District of Oahu, are designated as Hawaiian home lands. Additional designated lands on Oahu include approximately 4,000 acres in Waimanalo in the District of Koolaupoku, small portions of land in the Auwaiolimu, Kewalo, and Kalawahine areas and various sites on the Neighbor Islands.

The HHCA established the Department of Hawaiian Home Lands (DHHL), headed by an executive board, the Hawaiian Homes Commission, for the purpose of administering the provisions of the Act as amended. The Chairman of the Hawaiian Homes Commission also serves as the Director of DHHL.

Several funds and accounts were established by the Act to fund the various activities called for in the HHCA. A principal source of funding is an entitlement to 30 percent of the State's receipts derived from the leasing of cultivated sugarcane lands under any other provision of law or from water licenses. Additional income is generated from special legislative appropriations, repayment of principal and interest on loans, and interest income on deposits.

1.4.2 Recent Conditions

Although the intent of the HHCA is not specific in the Act itself, the general implied goal of the Act was to encourage the development of rural homesteading by native Hawaiians. However, economic trends favoring urbanization and the limited availability of affordable housing have resulted in significant demand for residential homestead lots rather than agricultural or pastoral homesteads. As of March 31, 1991, DHHL reported that 4,757 beneficiaries were on the Oahu island-wide residential wait list. (Commission meeting report, April 30, 1991).

As a result of recommendations made by a joint Federal and State task force in 1983, DHHL has developed an accelerated awards program in which residential homestead houselots that have not yet been provided with site improvements such as access roads, paved roads, water or electric power, are awarded to qualified beneficiaries. As additional funds become available improvements are made to the houselots awarded under the accelerated program.

1.5 PROJECT AND SITE DESCRIPTION

The proposed site is located in Nanakuli, a small leeward community located in the Waianae District of Oahu. Nanakuli lies approximately 18 miles to the west of Honolulu and is bounded by high surrounding ridges on three sides and by the shoreline to the west. Nanakuli is estimated to have a resident population of 8,185 (Data Book State of Hawaii, 1990).

Homestead residence lots were first developed in Nanakuli in 1929. In 1983, the Nanakuli Development Plan showed 895 existing and programmed residential homestead lots. The majority of these lots are currently occupied by beneficiaries of the HHCA.

The proposed project is situated in the lower Nanakuli Valley, *mauka* of Nanakuli Beach Park. The project includes site improvements to 13 scattered residential lots covering approximately 4.06 acres in total. The lots of the proposed project are located in a subdivision bounded by Haleakala Avenue, Nanakuli Avenue, Lepeka Avenue, and Pililaau Avenue. These programmed lots are interspersed amongst existing residence homestead lots in an established community on Hawaiian home lands. (See Figure 1.1, Location Map)

The Nanakuli scattered residence lots project supports the objectives of the HHCA by increasing the number of available improved lots for lease to qualified native Hawaiians.

1.6 SUMMARY OF POTENTIAL IMPACTS, PROPOSED MITIGATION MEASURES, AND ALTERNATIVES

Short term impacts of the proposed project on the existing environment due to necessary grading and topsoil importation would include soil compaction, loss of vegetation, increased water percolation as well as increased noise and fugitive dust during construction. Mitigation measures will be carried out to counteract these anticipated impacts. No long term impacts are anticipated.

Three alternatives to the project have been considered: no action, delayed project, and alternate sites. Delayed project or no action would result in an extension of the waiting period for HHCA beneficiaries claiming use of designated home lands. No alternative Hawaiian home land sites were available in the Nanakuli area; therefore the alternative site option was rejected.

1.7 GOVERNMENT PERMITS AND APPROVALS

Grading Permits	Department of Public Works, City and County of Honolulu
Subdivision Approval	Department of Land Utilization, City and County of Honolulu

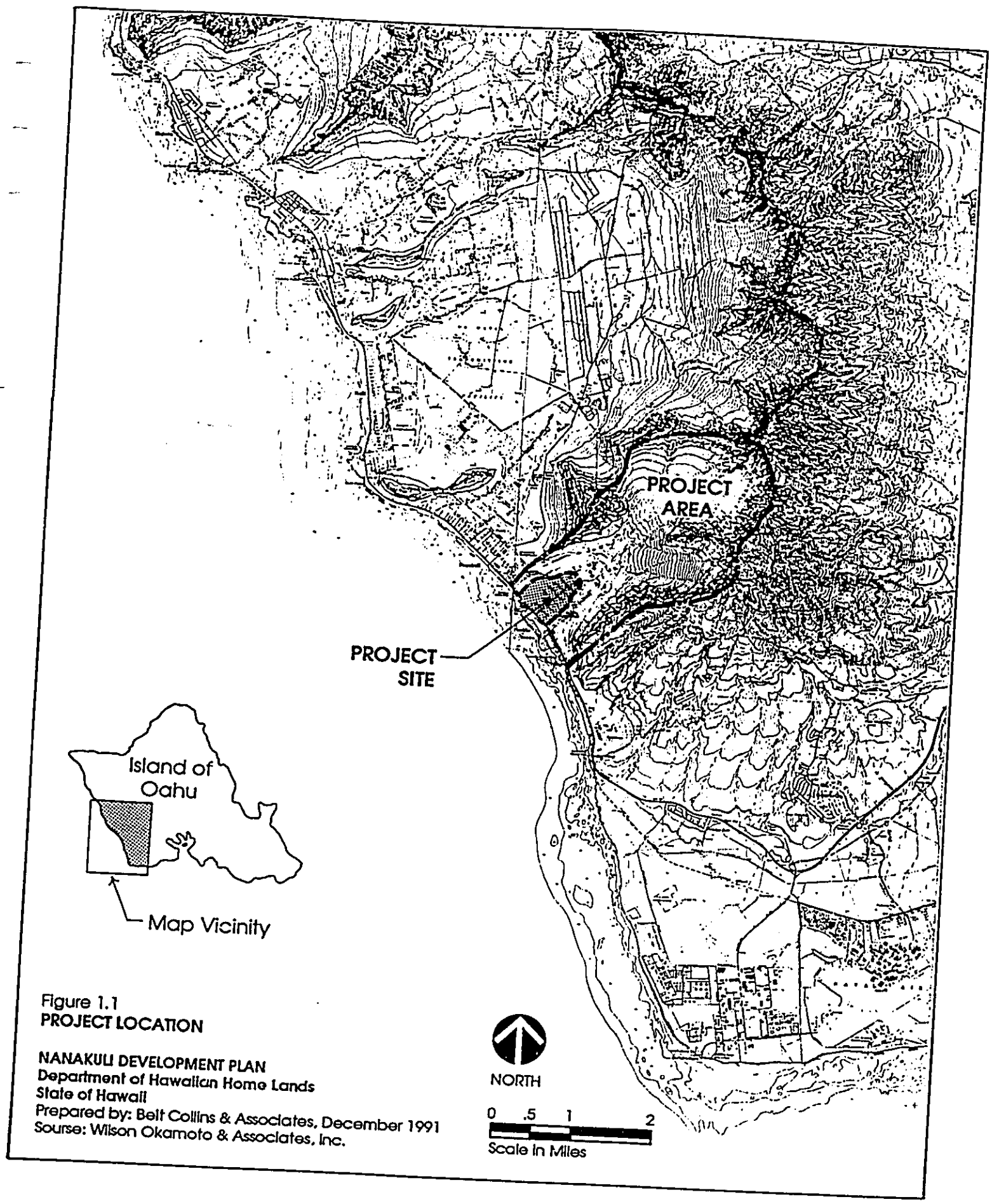

Figure 1.1
PROJECT LOCATION

NANAKULI DEVELOPMENT PLAN
Department of Hawaiian Home Lands
State of Hawaii
Prepared by: Belt Collins & Associates, December 1991
Sourse: Wilson Okamoto & Associates, Inc.

CHAPTER 2

PROJECT DESCRIPTION

2.1 PROJECT SITE

2.1.1 LOCATION AND DESCRIPTION

The proposed project, identified on Tax Maps (TMK) 8-9-04 and 8-9-05, is composed of 13 residential lots in the community of Nanakuli, in leeward Oahu. Located approximately 18 miles from downtown Honolulu, Nanakuli is the first of a series of communities on the Waianae Coast. The area consists of an entire *ahupua'a* (a land division extending from the uplands to the sea) in the Nanakuli Valley.

The proposed project site is bounded by Haleakala Avenue and Nankuli stream and lies *mauka* of Nanakuli Beach Park and *makai* of Nanakuli intermediate and high schools. The project's lots are on designated Hawaiian home lands referred to as Nanaikapono Residence lots. The proposed lots are interspersed amongst existing single family Hawaiian homestead residences as well as some vacant unimproved lots.

Figure 2.1 shows lot locations, and Table 2.1 shows the square footage of each lot.

TABLE 2.1

SQUARE FOOT COVERAGE OF NANAKULI RESIDENCE LOTS, SCATTERED

Tax Map Key	Square Footage	Lots
8-9-04: portion of 16	18,035	12-A, 12-B
8-9-04: 78	22,000	214
8-9-04: 100	21,998	242-A-1
8-9-04: 107	22,000	249
8-9-04: 148	10,999	246-B
8-9-04: 152	10,998	219-B
8-9-05: 72	11,914	A
"	10,000	D
8-9-05: 73	10,080	B
"	11,040	E
8-9-05: 74	10,080	C
"	11,040	F
Total	170,184	

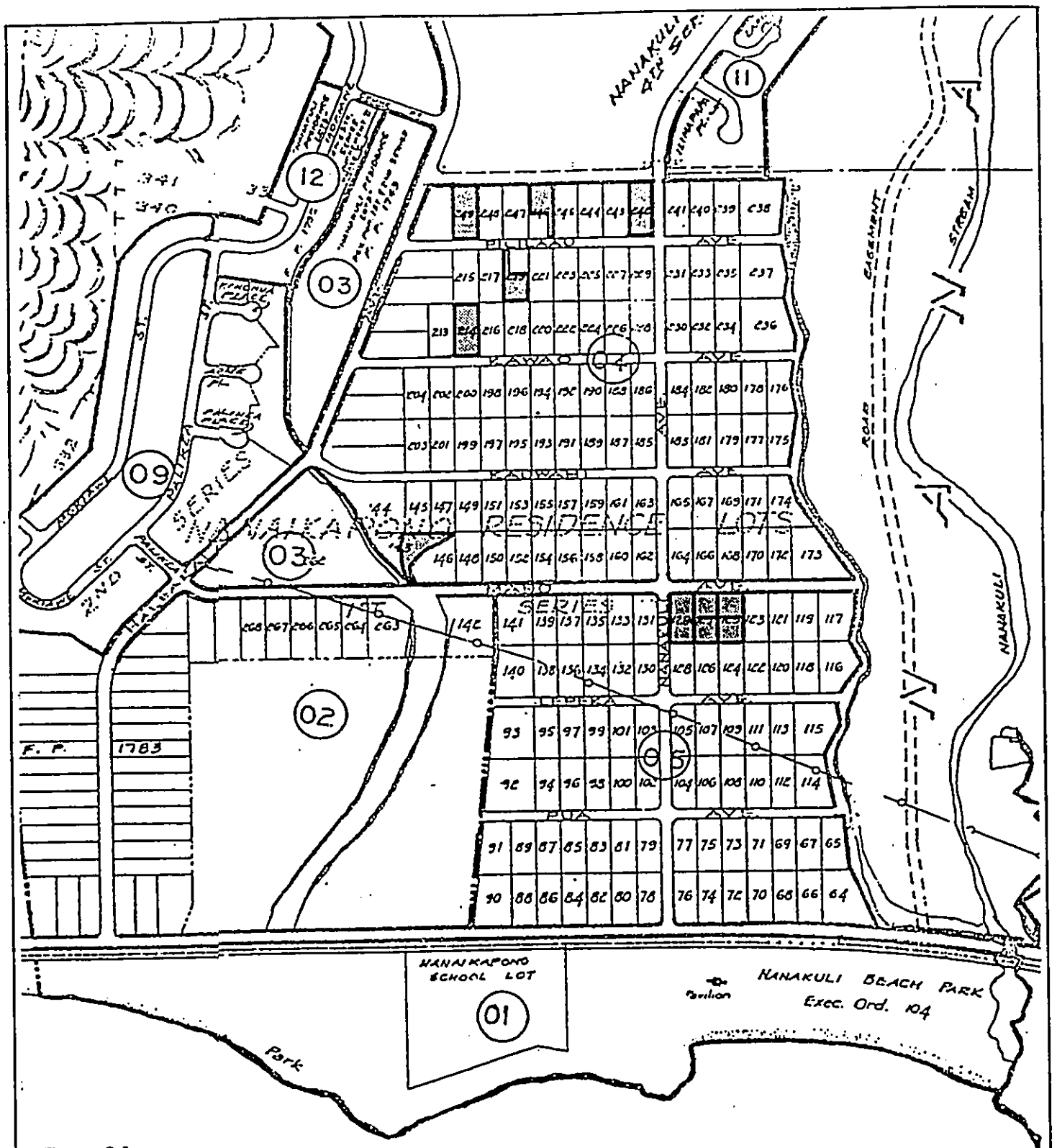

Figure 2.1
NANAKULI RESIDENCE LOTS, SCATTERED

NANAKULI DEVELOPMENT PLAN
Department of Hawaiian Home Lands
State of Hawaii
Prepared by: Belt Collins & Associates, December 1991
Sourse: Tax Map Key, Zone 8, Section 9

In general, most of the project's lots have gentle slopes ranging from 0% to 3% towards Mano Avenue. Two of the lots have slopes of approximately 7%. As a result, it is anticipated that minimal grading will be necessary for nine of the 13 lots. The remaining lots will not require grading.

Direct access to nine of the proposed lots is provided from Mano Avenue, Pilihau Avenue, Kawao Avenue, and Nankuli Avenue, while the remaining are flag lots. Access to the Nanaikapono subdivision is provided by Nankuli or Haleakala Avenues, *mauka* of Farrington Highway.

Drainage is provided by a system composed of various drainage channels and ditches and a curbside gutter system. Several of the proposed project lots are adjacent to these drainageways.

All lots have utility services near the lot line, as well as existing curbs, gutters, and sidewalks. One lot will require a small portion of concrete sidewalk, curb, and gutter to provide an uninterrupted sidewalk.

2.1.2 LAND OWNERSHIP

The Nanakuli Homestead area is one of five areas on Oahu under the jurisdiction of the Hawaiian Home Lands Commission. This area is referred to as Government (Crown) Land of Nankuli. Legal ownership of Hawaiian Home Lands was vested with the State of Hawaii in 1959. By the authorities granted in the HHCA, DHHL may lease these lands to qualified beneficiaries for a nominal fee.

2.1.3 LAND USE DESIGNATIONS AND CONTROLS

The State Land Use designation for the Nanaikapono residence lots is Urban. All lots have an R-5 zoning according to the Zoning Map of the City and County of Honolulu.

2.2 PROPOSED FACILITIES AND ACTIVITIES

The project lots are situated in an established community of homestead single family residences and residence lots.

The project consists of upgrading access and utility services to 13 scattered lots, which cover approximately 4.06 acres in total. The scope of work includes clearing, grubbing and grading; installation of sewer and service laterals and meter boxes; relocation of utility poles as necessary; removal of existing trees and other encumbrances as required; construction of driveway aprons and a small portion of concrete sidewalk as required. These site improvements are necessary for the construction of light, wood-frame, single-family residential structures anticipated for these lots.

Stockpiles of miscellaneous soils, construction materials and rubbish will need to be removed. During a site visit it was noticed that three of the project's lots fronting Mano Avenue were being used as a contractor's yard. The remaining lots, interspersed amongst

existing residences, have experienced some encroachment by the adjacent residences. This encroachment consists primarily of storing various materials and rubbish as well as use of the project lots as extensions of adjacent yards.

2.3 PROJECT SCHEDULE AND COST

Site improvements for the 13 lots are estimated to cost approximately $175,000.

2.4 NEED FOR THE PROJECT

As of March 31, 1991, there were 4,757 qualified beneficiaries on the Oahu Island Wide residential wait list. According to DHHL, some of the beneficiaries have been wait listed since the list's inception in 1977.

This project provides the necessary site improvements to make land availabe for home construction. Single family residences will be constructed and awarded to HHCA beneficiaries on the Oahu island-wide wait list under a lease agreement.

CHAPTER 3

EXISTING CONDITIONS, POTENTIAL IMPACTS, AND PROPOSED MITIGATION MEASURES

3.1 PHYSICAL ENVIRONMENT

3.1.1 TOPOGRAPHY

3.1.1.1 Existing Conditions

The sites are scattered over approximately 90 acres of gently sloping terrain in the Nanakuli Valley. This area has an average slope of approximately 2% to 3%.

The various lots range in elevation from approximately 18 to 100 feet above sea level with slopes ranging from 0% to 8%. Most of the lots are relatively level with the exception of two lots which have slopes of approximately 8%.

3.1.2 Potential Impacts

To provide level and buildable lots, it is anticipated that ten of the scattered lots will require minimal grading. No other impacts to topography are anticipated.

3.1.3 Mitigation Measures

No mitigation measures are proposed. Grading required for the proposed project would not substantially alter existing topography or the visual nature of the property.

3.2 GEOLOGY AND SOILS

3.2.1 Existing Conditions

The Nanakuli Valley is the result of erosion that followed the shield building period of the Waianae Volcano. As eruptions became less frequent, the V-shaped amphitheater-headed valley was cut by Nanakuli Stream into the basalt as eruptions became less frequent. Gravel and clay, formed by weathering and erosion, washed down, some of it depositing on the valley floor. In addition, alluvium of marine origin was deposited in upland valley areas as the sea level rose and fell during the glacial period. Thin-bedded lava flows and associated rocks are mainly covered with soil on the Nanakuli Valley floor (Decker, 1987). Vertisols, which are typical of slopes and floors of dissected amphitheater valleys of drier regions, are characteristic of the project area. The project area lies in this valley on sedimentary formations of alluvium, colluvium and mudflow deposits dating from the Pleistocene Age.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

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The soil on the scattered lots is classified as IV, Lualualei Stony Clay, with an approximate thickness of about 5 feet. This well drained soil is considered to have only a slight erosion hazard and slow runoff.

According to the ALISH (Agricultural Lands of Importance to the State of Hawaii) maps of 1977, the proposed project area is situated on land not designated as important agricultural land.

3.2.2 Potential Impacts

The soils report prepared by Walter Lum Associates, Inc. (June 18, 1991), the soils engineer, indicates that the on-site surface soil is moderately expansive. A possible impact of moderately expansive soils is the potential movement of structures built over this type of soil. As a result, it is anticipated that during the house construction phase, excavation and filling with non-expansive materials will be required. Compaction of fill materials as well as existing soils will also be required. Although topsoil will be stockpiled from the grading process, it may be necessary to import additional topsoil.

3.2.3 Mitigation Measures

In order to minimize the possible effect of the moderately expansive soils, such as movement of structures, the building contractor will be required to remove and replace the expansive soils with non-expansive soils to a depth of about 2 to 3 feet below slabs on grade and foundations. Should any buried rubbish, cesspools, or other subsurface structure be encountered, it should be removed and backfilled with select non-expansive soils during the house construction phase. Appropriate compaction of fill materials as well as existing soils will also be required. To further minimize possible impacts, slab on grade foundations should be permitted on sites that have been compacted and filled with non-expansive soils to a depth of 3 feet; otherwise beam on post construction is preferable. All grading, excavation and fill work will be done in accordance with the soil engineer's recommendations.

Due to the existing urbanized nature of the subdivision, addition of topsoil and fill is viewed as having a positive impact; therefore, no mitigation measures, beyond meeting site appropriate building and engineering codes for construction and foundation work, are necessary.

3.3 AIR QUALITY AND NOISE

3.3.1 Existing Conditions

Primarily exposed to the northeast tradewinds off the ocean, the project site generally enjoys good air quality. The Hawaii air quality standards are generally more retrictive than national standards and those standards have not been exceeded at the nearest Department of Health monitoring station, located approximately 15 miles south, near Campbell Industrial Park.

Nanakuli is located approximately 2.5 miles north of the Hawaiian Electric Company's (HECO) power generating facility. However, this facility is located in the adjacent valley, so the dispersion of emissions into Nanakuli is limited to some degree.

Existing noise levels are consistent with typical suburban neighborhoods.

3.3.2 Potential Impacts

Construction of site improvements call for the grubbing and grading of lots. During the short term, fugitive dust and emissions from construction vehicles and equipment could possibly adversely affect air quality. However, impacts would be limited in scope because of the small size of the lots. No long term adverse impacts on air quality are expected.

Temporary noise impacts on the surrounding neighborhood are expected during construction due to construction equipment and vehicles.

3.3.3 Mitigation Measures

The short term erosion impact will be mitigated by sodding and planting all slopes and exposed areas as soon as final grades have been established. The contractor will be required to conduct all work in accordance with the air pollution control standards and regulations of the State Department of Health. Frequent watering of exposed soil will be done to control fugitive dust. Impacts such as increases in emissions from vehicles and equipment are expected to be insignificant and do not require mitigation measures.

Short term noise impacts would be minimized by limiting construction activities to daylight hours, generally between 7:30 a.m. and 4:30 p.m., Monday to Friday (excluding holidays).

3.4 HYDROLOGY

3.4.1 Existing Conditions

Climate. The project site is located on the Waianae coast which is considered a dry area with arid summers. The average monthly temperature in Waianae, approximately five miles north of Nanakuli, ranges from 72 degrees F. in the coolest month to 79 degrees F. in the warmest month (State of Hawaii Data Book, 1990). Typically, areas at sea level experience little variation in temperature between day and night. The mean annual rainfall in Waianae is 20 inches, due chiefly to a few winter storms (Atlas of Hawaii, 1973).

Groundwater. Potable water on Oahu is derived from two sources, a fresh water aquifer created by a basal, lens-shaped body of groundwater floating on denser salt water and high level aquifers caused by rainwater impounded in dikes.

The potable water for Nanakuli Valley is provided by the City and County of Honolulu Board of Water Supply from wells located at Kunia and Ho'ae'ae in the Pearl Harbor Basin groundwater control area (a basal lens aquifer).

Surface Water and Drainage. Nanakuli Stream provides the major drainage way for the valley. The subdivision in which the scattered lots are located has an existing gravity drainage system consisting of channels, ditches, catch basins, storm drain manholes and curbside gutters. Two lots are adjacent to the cement drainage canal which runs towards the ocean. The additional drainage from the proposed lots would make use of the existing drainage system.

3.4.2 Potential Impacts

Groundwater resources. No impacts on groundwater are anticipated as a result of the proposed project.

Surface Water and Drainage. No significant impact to the drainage system is expected due to site improvements of the scattered lots.

3.4.3 Mitigation Measures

Groundwater. No mitigation measure are proposed since no adverse impacts on groundwater are anticipated.

Surface Water and Drainage. Because the scattered lots will make use of the existing drainage system in the subdivision, no additional mitigation measures are deemed necessary.

3.5 NATURAL HAZARDS

3.5.1 Existing Conditions

According to the National Flood Insurance Program Flood Insurance Rate Map, the proposed site is in Zone D, an area in which flood hazards are undetermined (Federal Emergency Management Agency, 1987). The site is located outside of the 100-year storm inundation zone and tsunami evacuation area.

Earthquake risk in the project's subdivision is minimal. The island of Oahu is classified as a Seismic Zone 2 area, in which damage would be minor in the event of an earthquake (Uniform Building Code, 1979).

3.5.2 Potential Impacts

Although natural hazards such as flooding and earthquakes could potentially impact the proposed project, they are considered unlikely.

3.5.3 Mitigation Measures

Flood management presently occurs through existing drainage ways which are part of the subdivision infrastructure. Development of the proposed lots would include connection to those drainage ways; therefore, further mitigation measures appear unwarranted.

The Uniform Building Code, 1979, provides guidelines for construction to mitigate earthquake damage to infrastructure and buildings. All work on the lots would follow those guidelines.

3.6 FLORA

3.6.1 Existing Conditions

The lots are covered with a variety of weeds and grasses (almost exclusively introduced species) as well as some trees and scrub brush. Characteristic plants found in this low lying arid area include kiawe trees, koa haole, finger and pili grass (Atlas of Hawaii, 1973). Since the subdivision is almost entirely developed, the vegetation is typical of second growth. Due to the developed nature of this area, it is unlikely that any endagered species are still present.

3.6.2 Potential Impact

Existing garbage, scrub brush, grasses, and trees will be removed from the lots. Kiawe trees with average trunk diameters of approximately 1-2 inches will be removed. A mango tree located on one of the lots will be retained.

3.6.3 Mitigation Measures

No mitigation measures are proposed to reduce the impact of the project on existing vegetation. The impact of the site improvements is considered an enhancement to the subdivision.

3.7 FAUNA

3.7.1 Existing Conditions

Fauna observed on site include domestic dogs and cats. Exotic bird species typical of urban areas are most likely present. It is unlikely that the project site provides an important habitat for any endangered species due to its urbanized nature and its second growth vegetation. No wetland exists on the proposed project lots.

3.7.2 Potential Impacts

The impact on faunal populations due to development of the residential lots is considered insignificant due to the existing developed nature of the subdivision and the absence of any recorded endangered species on the site.

3.7.3 Mitigation Measures

No mitigation measures are considered necessary.

3.8 ARCHAEOLOGY

3.8.1 Existing Conditions

Two features of historical significance have been identified in Nanakuli Valley. The first is a set of old railroad tracks which run along the *makai* side of Farrington Highway. These tracks are listed on the National Register of Historic Places. The second is the Ilihune Heiau located on the ridge top along the Waianae side of the valley. A reconnaissance survey conducted by the State Historic Preservation Office (SHPO) along the Kahe side of Nanakuli stream in June of 1982 found no archeological sites of significance in the lower valley.

Since the proposed project lots are situated the lower valley and in a subdivision which has undergone substantial surface and subsurface alteration during the installation of the infrastructure, it is unlikely that any sites of archaeological significance exist on the scattered lots.

3.8.2 Potential Impacts

The proposed project is considered unlikely to affect any archaeological resources.

3.8.3 Mitigation Measures

No mitigation measures are deemed necessary. However, in the unlikely event that archaeological features are uncovered during the development of the lots, DHHL has an agreement with the State Historic Preservation Office (SHPO) to monitor excavations so any features found receive proper treatment.

3.9 SOCIOECONOMIC ENVIRONMENT

3.9.1 PUBLIC FACILITIES AND SERVICES

3.9.1.1 Existing Conditions

3.9.1.1.1 Schools and Libraries

Nanakuli has two elementary schools, an intermediate and high school, and one private school. Total public school enrollment in the area is approximately 2,800 children An elementary school and the combined intermediate and high school, are located adjacent to the subdivision.

The Waianae Library serves the Waianae Coast community and is located about five miles north of the Nanaikapono Residence Lots.

3.9.1.1.2 Health Care

The Waianae Comprehensive Health Center, a non-profit corporation, provides outpatient clinic and emergency services to Waianae Coast residents. The health center is

located about five miles north of the proposed project site. Ambulance service is provided by the Waianae Fire Station. The Waianae Comprehensive Health Center has a helipad for use during medical evacuations. The nearest full service hospital is the newly constructed St. Francis Medical Center West, located in Ewa Beach.

3.9.1.1.3 Police and Fire Protection

A fire station is located in the project subdivision at the intersection of Nankuli and Mano Avenue. In every case, fire hydrants are one lot away from each of the proposed project lots.

The Wainae Police substation provides police protection for the Wainae coast. The substation is located approximately five miles from the project site.

3.9.1.1.4 Traffic

Farrington Highway is a shoreline highway providing access to the Waianae Coast communities. Haleakala and Nanakuli Avenues are the primary access roadways into the Nankaipono Residence lot subdivision from Farrington Highway. There are three existing traffic signals in Nanakuli Valley located along Farrington Highway at and between the intersections of Nanakuli and Haleakala Avenues.

According to the Department of Transportation, Highways Division, no traffic counts have been taken at these intersections within the last 10 years. Therefore, Level-Of-Service (LOS) information is not available.

3.9.1.2 Potential Impacts

Further development of 13 residential lots is estimated to increase the total population of the subdivision by approximately 48 persons, assuming an average family size of approximately 3.6 persons (State of Hawaii Data Book, 1990). However, existing infrastructure has been designed to handle the subdivision at build-out, so no significant adverse impacts are expected. Using typical figures from the Standards Highway Capacity Manual, it is estimated that an additional 10 trips in the AM and 13 trips in the PM will be generated as a result of the construction of 13 single family residences.

3.9.1.3 Mitigation Measures

No mitigation measures are necessary because the project lots are part of the programmed subdivision. As a result, no unanticipated demand on public services and facilities will ensue.

3.9.2 PUBLIC UTILITIES

3.9.2.1 Existing Conditions

Electrical power for the Nanakuli community is supplied by HECO's Kahe Power Plant via 12 kilovolt overhead distribution lines.

Hawaiian Telephone company provides service to Nanakuli through a switching station located along Farrington Highway.

Cable TV service is supplied by Oceanic Cablevision via overhead lines.

Solid waste is collected by private contractor and taken to the City and County of Honolulu landfill at Waimanalo Gulch.

Wastewater from Nanakuli is treated at the Waianae Wastewater Treatment Plant. The plant is presently handling 2.8 mgd and has a 5.2 mgd capacity. All wastewater from the proposed project would be transmitted to the Waianae Wastewater Treatment Plant through existing pipes in the subdivision.

Potable water is delivered to the Nankuli community through a 12-inch main along Nanakuli Avenue to an 9-inch loop system along Mano Avenue, Kauwahi Avenue, Kawao Avenue, Pililaau Avenue, Palikea Street, and Mokiawe Street. Planned water service to the 13 residential lots would be provided through the existing system without enhancements.

3.9.2.2 Potential Impacts

At present, all utilities currently provided to the Nankuli Community are capable of accomodating the anticipated increase in demand.

3.9.2.3 Mitigation Measures

No mitigation measures are required.

3.9.3 HOUSING AND POPULATION IMPACTS

3.9.3.1 Existing Conditions

At present there are 4,757 persons of Hawaiian ancestry on the DHHL Oahu island wide residential waiting list. Of the 895 existing and programmed lots in the Nanakuli Development Plan of 1983, very few remain undeveloped. The proposed project does not add to the total number of programmed lots, but provides site improvements to existing parcels, thus making them available for construction of single family residences.

3.9.3.2 Potential Impacts

Grading, installation of services, and construction of proper accesses to the lots in the proposed project will permit construction of 13 single family homes to proceed. When completed, these homes will be awarded to qualified beneficiaries under the HHCA and will help to reduce the DHHL waiting list.

3.9.3.3 Mitigation Measures

Since the impacts would be positive, no mitigation measures are necessary.

3.9.4 EMPLOYMENT IMPACTS

3.9.4.1 Existing Conditions

Employment opportunities in the Nanakuli area are generally limited. With the recent development of Ko Olina and Kapolei additional employment has become available in the construction and visitor industry.

3.9.4.2 Potential Impacts

Construction employment opportunities produced by the proposed project may provide short term employment in the Nankuli area.

3.9.4.3 Mitigation Measures

The scale of the proposed project is so small that a significant impact on the demand for construction workers on Oahu is unlikely. No mitigation measures are proposed.

3.10 SUMMARY OF POTENTIAL IMPACTS AND PROPOSED MITIGATION MEASURES

Potential impacts and mitigation measures can be divided into short term impacts related to construction activities, and long-term impacts of a project This chapter discusses both temporary and long term impacts of the development of the Nanakuli residence lots.

3.10.1 TEMPORARY IMPACTS

Short term impacts of the project associated with construction activities include noise from equipment, fugitive dust caused by grading work, and erosion potential from soil exposed prior to landscaping. Other impacts due to construction in the area are expected to be insignificant. All operations would be conducted in conformance with the State Department of Health regulations concerning noise, vehicle emissions, and toilet facilities.

Construction would be limited to daylight hours to minimize noise impacts. The erosion potential would be minimized by limiting the soil exposed at any given time, through proper grading techniques, and by planting. Dust would be controlled by regular water sprinkling of exposed areas.

3.10.2 LONG-TERM IMPACTS

No adverse long-term impacts are anticipated. The majority of the subdivision is already developed, therefore there is no negative visual impact relating to the project.

CHAPTER 4

POSSIBLE ALTERNATIVES

4.1 NO ACTION

Under this alternative, no new residential lots would be serviced in the lower Nanakuli Valley subdivision. This would further delay construction of needed housing for native Hawaiians. Since residential lots are limited, the waiting period for HHCA beneficiares currently on the Oahu Residential wait list would be longer.

4.2 DELAYED PROJECT

Delay of the project would have the same effect as the "no action" alternative. Servicing the lots at a later date may also result in increased construction costs.

4.3 ALTERNATIVE SITES

There are no alternative sites designated as Hawaiian Home Lands in the Nanakuli area. Designation of additional lands and residential development of those lands would require considerable more time to implement thereby delaying the awarding of homestead lots.

CHAPTER 5

DETERMINATION

Based on the results of the foregoing analysis and on the significance criteria contained in Chapter 343, Hawaii Revised Statutes, and Title 11, Chapter 200, Administrative Rules of the State of Hawaii Department of Health, the proposed project is judged to have no potentially significant adverse effects on the environment. This determination is based primarily on the fact that the proposed project occurs in a previously developed urban environment. The proposed project does not significantly differ from the surrounding area.

CHAPTER 6

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