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Office of the Governor
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FINAL

ENVIRONMENTAL IMPACT STATEMENT

for

WAIANAË COMMUNITY DEVELOPMENT PROJECT

by

HAWAII HOUSING AUTHORITY

December 17, 1971

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INTRODUCTION:

This project is a joint effort involving the Hawaii Housing Authority and Reliance Construction Corp. to provide moderate cost residential units in the Waianae area. The project land area is approximately 53 acres, surrounds the Waianae Intermediate School and fronts on Farrington Highway on both sides of the school property. At this writing, the land had already been cleared and grubbed to conduct site investigations prior to this requirement for an environmental impact statement. Top soil has been imported into the area designated as a tree farm and a sprinkler system installed to prepare for the landscaping requirements of the project.

Plans indicate that about 444 residential units, both single family units and garden apartments are feasible for the area. A recreational building will be constructed at the Makaha end of the area near Farrington Highway. All utility lines will be placed underground.

Existing characteristics and conditions of the environment:

Area Population

The total population of the Waianae coast is 23,842. The growth trend is upward at an annual rate of 3.8%. A large majority of the population lives along a narrow coastal strip of about 10 miles between Makaha and Nanakuli, and in several large valleys extending back into the Waianae Mountain range. This is the population directly affected by the project.

Site Conditions

The difference in elevation on the site ranges from 4 feet above sea level to about 24 feet at specific high points near the back of the property on the Makaha

side. Most of the area, however, contains grade differentials of less than 2 feet per hundred and is generally flat. The surface is covered with gravel, cobbles and boulders of cemented coral, and earth moving operations have taken place to discover possible underground cavities and expansive soil conditions. Numerous holes are visible on the surface and are partially filled with coral fragments and kiawe (mesquite) branches. These holes are up to 10 feet wide and up to 8 feet deep. Underground water encountered near mean sea level by test borings was saline in quality. The property does not abut or contain any rivers or other bodies of water and is approximately 1,000 feet away from the ocean at its nearest point.

Atmosphere and Climate

The climate at the project site and in the surrounding areas of the Waianae coast is generally arid. The annual mean precipitation is 19.91 inches in Waianae with 66.68 inches in Waianae Mauka and 21.96 in Waianae Valley. The annual mean temperature is approximately 73.5 degrees Fahrenheit.

Zoning and Land Use designated in Master Plan, comprehensive long range plans.

The land was designated for schools and public facilities in the Detailed Land Use Map (DLUM) with State land use district designated as urban. An amendment to the DLUM is being processed to change the designation to residential. In order to adopt a Planned Development Housing District, the general plan requires amendment. The factors justifying the amendment are:

1. the school and the public facilities are adequately provided for and have no need for more land.

2. there is a definite and urgent need for housing in the Waianae area and the property is ideally suited for residential purposes.

Biological Factors

The area is devoid of fauna except, perhaps, for some rats and mice that may live in the numerous holes in the coral. Possible inhabitants of the site prior to clearing and grubbing operations are several species of rats: (the black, house or roof rat (*Rattus Rattus*), the Alexandrine rate (*Rattus Alexandrinus*) which have aboreal habits, and the mongoose (*Herpestus javanicus auropuntatus*) which is abundant at elevations from sea level to 2,000 feet, especially on the leeward side of the island. Also possible were the existence of feral dogs, cats and pigs, although it is unlikely due to the close proximity of the area to the highway and the school grounds.

Cultural Factors

This area does not have significant scenic value since it is basically a flat piece of land. Its value as a residential area is enhanced by its close proximity to the Waianae Intermediate School property, which it abuts, and the Waianae High School and the proposed regional park close by. No archeological or historical sites and objects are within the area.

1. THE ENVIRONMENTAL IMPACT OF THE PROPOSED PROJECT.
2. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED.
(Both 1 and 2 treated below)

Modification of Regime

The project development will include the importation of many kinds of plants that were not originally present on the area. The following is a list of the kinds of plants we anticipate using in the landscaping scheme for this residential community.

<u>Common Name</u>	<u>Scientific Name</u>
Alibang bang	Bauhinia binata
Bottlebrush	Callistemon lanceolatus
Rainbow Shower	Cassia Hybrida
Royal Poinciana	Delonix regia
False Olive	Elae odendron orientalis
Golden Rain Tree	Koelreuteria Formosa
Allspice	Pimenta officinalis
Monkey Pod	Samanea Saman
Silver Trumpet Tree	Tabebuia argentea
Moir's Pink Tecoma	Tabebuia pallida var. moir
Gold Tree	Tabebuia Donnell-Smithii
Fiddle Leaf Fig	Ficus Lyrata
Narra	Pterocarpus indicus
Coral Tree	Erythrina crista-galli
Autograph Tree	Clusia rosea Jacq.
Almond Tree	
Golden Shower	Cassia fistula
Norfolk Island Pine	Araucaria excelsa
Noni Indian Mulberry	Morinda Citrifolia
Sealing Wax Palm	Aracaria excelsa
Paper Bark Tree	Melaleuca Leucadendron
Poinciana	Delonix regia
Hong Kong Orchid Tree	Bauhinia blakeana
Kamani Tree	Calophyllum inophyllum
False Kamani	Terminalia catappa
Lauhala, Hala, Puhala, Pandanus and Screw Pine	Pandanus Odoratissimus
Opiuma, Manila Tamrind, Madras Thorn	Pithecellobium Dulce
Coconut Tree, Coco Palm, Niu	Cocos Nucifera
Blue Latan Palm	Latania Loddigesii
Cleander	Peach

The site is now generally inhospitable to the plants we intend to import, due to the absence of fertile, friable soil which contains adequate amounts of humus material for healthy plant growth. The site will be sculptured by cutting and filling operations prior to adding topsoil to provide adequate drainage and for aesthetic variations in land form. Other physical modifications of regime include the construction of paved streets and a pedestrian walkway system. Micro climatic conditions will be altered by the addition of topsoil which will induce greater moisture retention.

Resource Depletion

The resources being depleted would be coral, a possible game habitat, open spaces and forests.

Emissions, Effluents, Solid Wastes and Noise

Airborne emissions at the project site would include emissions generated from the operation of cars, trucks, generators, tractors and other construction equipment. All government emission control regulations will be complied with.

Water borne effluents are not anticipated to be a problem since there are no rivers or streams running through the project. Water will be used for dust control and irrigation but runoff will be negligible.

All solid wastes (construction debris) will be trucked away from the site for disposal in compliance with government ordinances. These wastes would be comprised primarily of wood and wood products and containers.

Noise emissions will be caused by equipment such as tractors, bulldozers, scrapers, trucks and compactors during construction. Efforts will be made to create a minimum of disturbance to surrounding areas.

Chemicals

It is anticipated that some chemical fertilizers and pesticides will be used to establish plant growth in the project. The following is a list of the chemicals that may be used:

Fungicides:	Manzate D (maneb plus zinc) Manzate 200 (maneb) Benlate (systemic)
Insecticides:	Lannate
Herbicides:	Karmex Pre-emergence Hyvar x Non selective sterilant Anmate x
Fertilizer:	Fertilizer # 12-24-12 (general use) Lawn Fertilizer # 6-4-2

3. ALTERNATIVES TO THE PROPOSED ACTION.

Housing is the best alternative use for this site. The land is classified "Very Poor Suitability" for agriculture. The location is poor for industrial use, considering availability of local labor and proximity to industrial markets. Industrial use would also be detrimental to the community at that site next to the schools and the park. The community at present has more land classified for resort uses than it can use and resort use of the site would deteriorate the neighborhood for residential use. Use of this land as a park would be illogical since a major regional park of about 80 acres is planned across Farrington Highway.

4. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.

The use for which the land is proposed, that of building residential units, is a long-term use which optimizes the productivity of this site. Housing is urgently needed in the Waianae area in the short term as well as over the long term.

It is anticipated that the proposed development will not generate increased population in Waianae, but rather replace existing units in a dilapidated condition and relieve overcrowded situations.

We have checked with all the various public agencies and utility companies and have been informed that facilities available at the site are considered adequate to handle this development:

Traffic - the area is served by a major thoroughfare, Farrington Highway, which connects with Kamehameha Highway.

Water - the area is served by a 16 inch water main which runs along Farrington Highway. Also planned by the Board of Water Supply is a reservoir in the hills Mauka of Waianae town.

Drainage - The City and County of Honolulu has just completed the first phase of Kaupuni Stream Flood Control Project which is located just Waianae of the project site. The drainage system for the planned residential community will conform to City and County Public Works standards.

Sewage Disposal - The city has an extensive sewage program for the Waianae district. Construction of a sewage treatment plant has been completed and a trunk line from Waianae town to the plant has been built. A 30 inch trunk line runs in front of the project along Farrington Highway.

Utilities - Existing lines for electric power and telephone usage are adequate to serve the needs of this proposed project.

Refuse Disposal - The Refuse Division confirms that they can handle the development.

5. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED.

The commitment of land would constitute an irreversible and irretrievable commitment of a valuable and scarce resource. Concomitant to the use of the land would be the loss of open space, forest lands and possible wildlife habitat.

6. ANALYSIS OF THE ECONOMIC AND SOCIAL BENEFITS DERIVED FROM IMPLEMENTATION OF ENVIRONMENTAL QUALITY CONTROL WITH RESPECT TO THE HOUSING PROJECT.

In general, the implementation of environmental quality control provides a check against abuse of the environment, weighs the relative value of various uses of land, and creates an awareness of specific actions that may prove detrimental to mankind in the short, as well as in the long run.

It is quite possible, aside from the general consensus that housing is an item of the highest priority among the needs of people everywhere, that in the process of building residential units on a specific area of land, actions detrimental to the long-term welfare of mankind may be involved. This could involve improper or unwarranted earth moving, cutting or filling operations, inadequate drainage provisions, improper use of chemicals, improper discharge and disposal of liquid and solid wastes and disregard for aesthetic values in building design, land planning and landscaping, and possibly destruction of important resources and historical-archeological sites.

The conclusion therefore, is that albeit the economic costs may be greater to the developer when proper procedures are exercised, there are many benefits gained by the future residents of this community, the larger society of which they are a part, and the developer in establishing a reputation for sound planning and development of housing projects.