

FINAL

ENVIRONMENTAL IMPACT STATEMENT

For

KEKAHA GARDENS SUBDIVISION

By

HAWAII HOUSING AUTHORITY

November 30, 1971

ENVIRONMENTAL CENTER  
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2550 Campus Road  
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**Environmental Impact Statement**

**For**

**Kekaha Gardens Subdivision**

**By**

**Hawaii Housing Authority**

**INTRODUCTION:** This Environmental Impact Statement is submitted to comply with the requirements of Governor's Executive Order, dated August 23, 1971, which requires all projects utilizing State funds and/or State lands to complete such a statement. The project described below, involves the use of State lands on the island of Kauai at Kekaha. The enabling legislation authorizing the use of State lands for this project is found in Act 68 signed on May 9, 1968, Session Laws of Hawaii 1968, Section 2B(c). This Act empowers the Board of Land and Natural Resources (with prior approval of the Governor and authorization by concurrent resolution of the Legislature) to enter into a development agreement with a private developer for development and disposition of public lands.

Senate Concurrent Resolution No. 65 authorized the development of approximately 35 acres of State land at Kekaha, Kauai. This concurrent resolution was adopted on May 22, 1969.

**DEVELOPMENT  
OBJECTIVES:**

The continued expansion of existing military facilities in the Kekaha area and the continued viability of industrial agriculture have created

a demand that is currently not being met in the area of low-cost housing facilities. The Board of Land and Natural Resources has been empowered to take action to relieve this situation. Accordingly, the Board will require that this project will conform to the following objectives:

1. Provide homesites or homes within reach of low and moderate income families.
2. Develop a residential area equal or superior to Kauai County and Department of Health standards.
3. Incorporate design criteria that will reflect careful consideration of local physical problems and traffic conditions.

**DESCRIPTION  
OF AREA:**

The proposed area for development contains a gross area of 35 acres approximately 30 miles south and west of Lihue at the western end of Kekaha Town. It is situated at the northwest corner of Kaunualii Highway and Akialoa Road, mauka of the Kekaha Beach. It adjoins the proposed commercial and apartment developments which front on Akialoa Road. The property is in an urban district designated by the Land Use Commission. Kauai County's zoning regulations permit residential development in this district.

The area is relatively flat with a gentle rise to an elevation of about 20 feet in the central and western portions as compared to the surrounding ground elevation of about 10 feet. The soil is generally sandy and is presently covered with keawe trees and brush. Existing unlined channels in the vicinity of this property indicate sand, coral, and sandstone below existing ground.

The temperature is generally in the seventies except during the summer months when they rise to the mid-eighties. The annual rainfall slightly exceeds 20 inches. Rainfall records indicate that during winter months, flood storms may occur.

The development involves the planning, design, and construction of 146 single unit residences on fee simple lots with a unit mix of 3, 4 and 5 bedroom homes. The price range is \$30,000 to \$33,500. Plans have been submitted for approval to the following agencies:

Department of Land and Natural Resources, State of Hawaii

Department of Health, State of Hawaii

Planning Department, County of Kauai

Department of Public Works, County of Kauai

Board of Water Supply, County of Kauai

During construction, work will be subject to checking by the County of Kauai Building Department, State of Hawaii Health Department (Kauai County) and Department of Land and Natural Resources. Inspection will consist of site inspection to insure compliance with building plans submitted. It is estimated that construction will be completed about September, 1973. At the completion of construction, the Department of Land and Natural Resources will make a final inspection and review; the developer will file with the County of Kauai tracings of construction plans accurately reflecting the improvements made; and the County of Kauai will return the performance bond and cancel the subdivision agreement.

All work is to be done in conformance with FHA regulations as described in Sections 235 and 203. These requirements will assist the ultimate purchasers in securing financing at preferred rates.

I. The environmental impact of the proposed action:

Kekaha Gardens is designed to fulfill the commitments of Act 68 which provides that utilization of public lands for low to moderate income housing needs be made available wherever State lands can be made available.

At the present time, the existing lands are not being utilized by the land owner and the development of low to moderate income housing is considered essential to the development and continued viability of the Kekaha area.

The general character of the terrain as described earlier is one of relative flatness and a sandy soil. It is the sandy soil that present, perhaps, the more significant impact on the environment by the proposed development. At the present time, the sewage disposal method is designed as cesspools. This technique is considered by the Department of Health on Kauai as not in keeping with the general plan of water quality management, due to the high water table at the project site and also the tendency of the sand to fill up and clog the cesspools. To alleviate this problem, the developer will provide cesspools that are lined to prevent sand from entering the underground holding facility, but still allow the dispersal of the sewage material. The cesspools are lined with an 8-foot diameter concrete ring with foot backing of gravel around the rings. Keeping in perspective the basic premise that this project must provide housing to low/moderate income families, the lined cesspool technique has been selected as most practical. In addition, the developer has conducted percolation tests

to insure that maximum disposal is obtained. As the permanent sewage treatment facility at Waimea is designed and put into operation, the County of Kauai can make available to the residents of Kekaha Gardens the option of connecting to the more sophisticated treatment plant. The provisions of connecting to the permanent sewage treatment plant at Waimea will be determined by the County of Kauai as the treatment plant is completed and made available. At this time, the means of connection and methods of reimbursement are undetermined. It has been the traditional practice that as permanent sewage treatment facilities are made available, assessments are made to the individual homeowners to compensate for the connection expenses. The balance of the development proper will enhance the general character of the area, particularly in the province of flood control. The implementation of a residential subdivision includes provisions for storm water runoff, both in a formal manner through storm drains and gutters. In addition, the individual improvements that will ensue as a result of private citizens putting in landscaping and ground cover, will preclude the ravaging of the terrain proper by storm water runoff.

The sandy character of the terrain will work in favor of the contractor during the development of the project since there will be a minimum of dust and erosion problems due to massive or extensive cutting and filling. The flat terrain will allow for efficient construction practices to be followed in the laying out of individual home lots and the amenities required. It is important at this point to emphasize the fact that under the FHA requirements, all work at the pre-home building phase, must be of a quality that will enable purchasers to qualify for FHA financing. Therefore, there will be a minimum of cutting and filling of the existing terrain. Nevertheless, the contractor has been instructed to take

the necessary precautions to keep dust and erosion down to the absolute minimum. These precautions will consist of (a) keeping site work to the minimum required and (b) utilizing water wagons on those areas that will by necessity experience heavy traffic flow. The existing keawe trees and brush will be cleared in accordance with County regulations governing this phase of operations; the material will be removed and not be disposed of at the site as has been the practice. Insofar as endangered species are concerned, there is no known habitat in the project area. The Department of Land and Natural Resources has advised that due to the prior influx in the immediate area of Man, the probability of endangered species living in the immediate area is remote. The development of Kekaha Gardens is not expected to increase the traffic flow or patterns currently existing to any noticeable degree. It should be pointed out that Waimea Town is approximately 3000 in population, and Kekaha Town is of a similar size. The increased load on the existing highway system is not considered to be of any great impact. One of the more significant factors to be considered by both the land owner and the developer is the preservation of the rural, open space character of the project. It is considered that Kekaha Gardens will constitute an oasis in the sparsely populated sector of Kauai where the project is to be built. The retention of the open spaces and also the availability of the beach front across the road will be maintained for both the use of the future residents of the Kekaha Gardens as well as the traveling populace. It must be remembered however, that the basic premise that this development is being implemented under, precludes extensive or highly sophisticated amenities that normally would be associated with more expensive developments. The overriding consideration of low/moderate income housing is of primary importance.

Regarding the availability of basic utilities such as potable water, electrical power, garbage collection and disposal, it is expected that the County and the Department of Land and Natural Resources are proceeding to provide these to the development. Again, the cost factors are of extreme importance to the success of the development. As outlined earlier the involvement of several State and County agencies insure the availability of all necessary utilities to the development site. The implementation of the project and its impact on the existing environment is considered to be minimal due to the nature of the development. The project does not provide or involve systems or means by which the existing ecology of the area will be permanently damaged or impaired. The residential subdivision is not similar in nature to a factory or other industry oriented activity that can create serious environmental impact on the existing ecosystems in an area. The low density character is to be maintained throughout the implementation stages of the project. At such time that future developments such as Kekaha Gardens develop to create an increased load on the area, then these considerations will become more meaningful.

II. Any adverse environmental effects that cannot be avoided should the proposal be implemented:

Those environmental effects that could be classified as adverse, are to be considered definitely temporary in nature. These are effects that will come about as a result of the construction work that is necessary to alter the terrain to make it suitable for the construction of homes on the improved land. As previously stated, the contractor is to be fully cognizant of these effects and insure that all practical means to abate potential sources of pollution during the term of construction are taken. The single greatest problem area is expected

to be the noise that will be generated during the construction phase. This is not expected to be of great significance, however, since the area is sparsely populated and the contractor will observe the normal working hours. The use of unusual heavy equipment is not considered essential due to the sandy character of the site. There will be no blasting or use of pile drivers which create loud and excessive noise since there is no provision for vertical high-rise structures. The term of site work is not scheduled for more than 90 days and at this point, the actual building of houses will ensue. The total adverse effects that will take place that cannot be avoided will be the removal of existing keawe trees and brush to make more suitable the site proper for residential development.

II. Alternatives to the proposed action:

The basic alternative to the proposed project is, of course, that the project be terminated. In view however, of the socio-economic benefits to be derived from the implementation of this project to provide low/moderate income housing in a badly needed area, it is not to the advantage of all concerned that the project be terminated. In addition, the minimal negative environmental impact which is limited to the construction phase of the development, cannot be considered of sufficient importance to terminate the project.

IV. The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity:

During the short-term degradation period (construction and improvements to site) the alterations and changes to the existing terrain will provide for a certain amount of pollution that is inherent in every effort of Man when the landscape is extensively changed from the existing condition. As previously

explained, the character of the landsite in question lends itself to minimum environmental problems since the permeability of the sandy soil allows the contractor to efficiently work the land. The relationship of land to Man is not considered of great importance since the land will not require the extensive additional preparation of using specialized equipment that would in their use, create problems of dust, noise, and erosion.

V. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented:

Resources that would be committed during the period of development that is involved prior to the building of the houses would generally fall into the area of Land, Water and Air.

Water: During the construction period, and also when the development has been completed and home purchasers have taken occupancy of their lots, Water as a resource would be committed in the form of the existing water table that could be affected by the ground water charge of sewage effluent from the development's cesspool system. All efforts will be taken to insure that the transmittal of pathogenic bacteria is minimized so that the public health hazard aspect will not be a serious consideration. Also, the availability of a permanent sewage treatment plant at Waimea in the future provides the development and the homeowners the prerogative of connecting to the sewage treatment plant when it has been completed. The project itself however, cannot provide this amenity since the costs involved could price the homes out of the specific market that the development is geared to reach.

An additional commitment of Water as a resource would of course be the transmittal of potable water to the development for the use of the residents. The

Kauai County Board of Water Supply has assured all involved that there is sufficient potable water for the use of the Kekaha Gardens residents. The adjoining beach which would constitute the recreational amenities provided to the development is another resource of Water in a different form. There would not be any effect on the aquatic life that could be attributed from the project since the use of the beach and the ocean would be in keeping with the recreational provisions of Hawaii's shoreline and beaches. No toxic discharges containing materials that could prove detrimental to the marine biota would emanate from the development. There would be no disruption of any marine life cycles or food chain directly attributable to the residents or their life style.

Economic loss to any existing or potential fishing industry is also not a consideration since the extent of fishing would in all probability be limited to the individual fisherman catching fish for sport or his own consumption. In this same general area, the utilization of the beach proper for purely recreational purposes precludes the need to close the beach for pollution purposes that could be attributed to the project. The discharge of nutrients in a quantity sufficient to cause algal blooms is not considered to be of sufficient importance.

Air: Again, during the construction phase, the potential for dust in quantities sufficient to constitute a public health hazard is not considered to be of any import. The contractor has been instructed to take those precautions necessary to prevent and/or abate fugitive dust that could develop during the construction phase due to an unusually dry work period.

Once the preliminary site work has been completed, the introduction of noxious substances or particulate matter is not considered a problem due to the nature

of the project which is a subdivision for residential use. There is no industry authorized under urban/residential zoning and this precludes the possibility of emissions of a noxious nature.

The potential of economic loss of existing industries is not considered to be important since the area presently is not being utilized in this manner. The improvements also will not lend themselves to economic loss attributable to discharges or emissions normally connected with industrial or agricultural activities. The loss of visual or aesthetic amenities is also considered a major factor since the homes being planned are single unit dwellings limited to the height limitations normally associated with residential subdivisions. The development of Kekaha Gardens is seen by all involved agencies as an improvement to the existing use of land which presently is idle. The generation of tax revenues to the County of Kauai is one indication of the increased benefits that can be attributed to the implementation of this project. While the tax revenues will perhaps, not offset the demands by the residents for sewage treatment, solid waste disposal, police and fire protection, schools, and other community services, the existing facilities in adjoining Waimea and Kekaha towns are considered more than adequate to meet the impact that will be presented by the 146 additional family units represented by Kekaha Gardens.

ECONOMIC AND SOCIAL COST BENEFIT ANALYSIS:

In a project of this nature which is designed primarily to provide badly needed housing for low/moderate income families, it is difficult to evaluate the full potential for socio-economic and social cost benefits. It is appropriate to comment at this point that all building requirements that will meet compliance

with the stringent FHA mortgage loan requirements will be met. This plus the fact that all applicable State and County agencies have been directly involved in the development phase of Kekaha Gardens is indicative of the importance that is attached to the success of this project.

The disruptive nature of the construction phase necessary for site preparation is considered minimal in view of the benefits to be derived. The attention being paid to maintaining as close an equilibrium as possible to the previous condition of the terrain has been made clear to the contractor involved. There will be no massive earthmoving done with subsequent bare areas left unworked; it is the intent of the developer to proceed on a scheduled program of site work to be closely followed by laying of utility lines and finally, house building. The phased program of development is being conducted primarily in the interests of cost savings, but realize also certain environmental benefits as well. A survey of the existing site will reveal that at the present time, the locale is able to withstand change; in fact, the proposed improvements can be considered changes for the better as the project matures and the individual homeowners provide their respective touches for improvements.

The overriding need for low/moderate income housing as provided by this development is the most significant factor to be considered. As outlined in Act 68, the providing of residential areas adjacent to the existing facilities such as Pacific Missile Range, Kentron, and Kekaha Sugar Plantation is of extreme importance and concern. Kekaha Gardens has been reviewed by not only the previously mentioned State and County agencies, but also to the companies whose employees would be potential purchasers, as well as the West and East Kauai Rotary; Kauai Economic Opportunity, Ltd; Kauai Community officials; Mayor's

Manpower and Housing Committee; and the Kekaha-Waimea Community Association. All of these organizations have endorsed the development as being of vital import. The relatively minor environmental problems that will be encountered as a result of site work cannot be considered equal to the benefits to be derived.