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FINAL
ENVIRONMENTAL IMPACT STATEMENT
FOR
KONAWAENA HIGH AND INTERMEDIATE SCHOOL
GYMNASIUM
SOUTH KONA, HAWAII
D.A.G.S. JOB NO. 01-16-5903.2

BY THE
DIVISION OF PUBLIC WORKS, D.A.G.S.

APRIL 18, 1972

ENVIRONMENTAL CENTER
University of Hawaii
2550 Campus Road
Honolulu, Hawaii 96822

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I. Project Description and Need

A. Description

The project is located on a recently acquired parcel adjoining the existing school campus in Kealahou, South Kona, island of Hawaii, as shown on the attached site plan. The project will include a gymnasium of 24,000 gross floor area, parking for 250 cars, and landscaping.

B. Parking Area

1. Lot "A" (50,000 square feet) is located mauka of the gymnasium.
2. Lot "B" (40,000 square feet) is located makai of the gymnasium.
3. Surfacing material is asphaltic concrete.
4. Stalls are diagonal and traffic will be one-way to facilitate driving.

C. Landscaping

1. Poinciana trees will be planted in the medial strips. Formosa Koa and Tulipwood will be planted outside the periphery of the parking areas.
2. Other shade trees will be planted around the gymnasium.
3. Ground cover will be planted on slopes to prevent erosion.
4. An irrigation system will be provided.

D. Need

1. The new gymnasium will replace an old wooden structure built in 1928. The old gym is too small and inadequate. Under the masterplan, the old gym will be demolished when the proposed physical education - locker/shower facility is completed.
2. The gymnasium is designed for multiple usage and will serve the community as well.
3. There are no facilities similar to the proposed gymnasium in the Kona area.

II. Impact of Project

A. Social

1. Public Safety

- a. The design will recognize public safety in all aspects and no compromises will be made. Exit requirements, railings, stairs and ramps are in accordance with the Uniform Building Code. Provisions for accessibility and toilet accommodations will be constructed to accommodate the handicapped in accordance with specifications of the American Standard Association.

2. Neighborhood Character

- a. The project will not disturb the present character of the neighborhood. The project will be aesthetically designed so as to be compatible with the existing school campus and/or the neighborhood character.
- b. The surrounding areas are mostly devoted to small scale farming. The commercial district is not located in the immediate area.
- c. The steep terrain and heavy growth will tend to isolate the gymnasium from the adjoining private properties.

3. Religious Institutions

- a. No churches will be displaced by this project.

4. Replacement Housing

- a. No housing will be affected by this project.

B. Economics

1. Employment

- a. This project will require a labor force for construction. After it is constructed, additional personnel will be required to operate it.

2. Removing Land From Tax Base

- a. Acquisition of additional land is not required since the project is to be built within the

existing school property. The land has already been removed from the tax base.

3. Displacement of Families and Businesses

- a. No families or businesses will be displaced.

4. Project Costs

Design Engineering	\$ 46,000
Construction & Contingencies	1,120,000
Equipment	6,000
Construction Engineering	<u>9,000</u>
Total Estimated Cost	\$1,181,000

5. Maintenance and Operating Features

- a. Maintenance and operating features will be kept to a minimum. Nite lights are on a time switch. Security gates and security screens are provided to minimize vandalism.

6. Replacement Facilities

- a. The project will replace the existing old and substandard gymnasium.

C. Environmental

1. Aesthetic

- a. The project will be aesthetically designed. The siting and exterior design have been approved by the Department of Planning and Economic Development.

2. Recreation

- a. No park lands will be acquired for this project.

3. Fire Protection

- a. No fire protection facilities will be displaced.
- b. Fire protection will be provided by the County Fire Department.

4. Public Utilities

- a. The project will be serviced by public utilities, all connections of which will

be approved by the various utility companies and governmental agencies.

5. Conservation

- a. The project will have no adverse effects on fish and wild life resources.
- b. The area is overgrown with coffee trees which have very little commercial value. The areas will be landscaped with new trees and plants.
- c. All areas disturbed during construction will be grassed.

6. Natural and Historic Landmarks

- a. There are no natural or historic landmarks located within the project area.

7. Noise Pollution

- a. Noise will be generated during construction from heavy equipment such as tractors, carry-alls, drilling rigs and trucks.
- b. Controlled blasting (use of explosives) will probably be utilized instead of ripping by tractors because of the lower cost in loosening the rocky material. Blasting will facilitate the excavation work, thereby decreasing the overall duration of the noise and dust pollution.
- c. Pile driving is not required.
- d. Ventilating fans will be the gravity type and will not cause noise pollution.

8. Dust Pollution

- a. Although the grading work is extensive, the dust pollution should not be a serious problem because of the following conditions:
 - 1) High precipitation in this region will tend to keep the ground moist. Grading work is scheduled for the fall and winter months.
 - 2) The soil (adobe and rock) will not yield as much fine particles as compared to ordinary clay.

- 3) Built up areas of the school campus are in the opposite direction of the prevailing wind.
- 4) Sprinkling will be required whenever excessive dust conditions occur.
- 5) Sand blasting is not required.

9. Water Pollution

- a. An intercepting ditch will be constructed along the upper boundary to protect the parking area and gymnasium.
- b. The total run-off for this project is 40 cubic feet per second based on a rainfall recurrence interval of 10 years.
- c. The ditches and underground drain system will be connected to the existing County Trunk underground system located in the roadway fronting the gymnasium.
- d. Backflow preventer will be installed for the irrigation system.

10. Environmental Protection in Construction Specifications

- a. Refer to attachment, Section 1-G, Environmental Protection.
- b. Use of explosives will be controlled by Chapter 96, Revised Laws of Hawaii, 1955, as amended.
- c. Chapter 43, Air Pollution Control, Department of Health.

11. Waste Disposal

- a. Solid wastes are to be stored in metal containers and burned in the school incinerator. The school will dispose of the debris and ashes.
- b. A new cesspool will be constructed to serve the gymnasium. The cesspool will be located near the County Road so that the sewer line can be easily connected in the future to the proposed Kona Coast Sewerage System.

12. Education

- a. The project is an educational facility,
see Project Description and Need.

III. Adverse Environmental Effects Which Cannot Be Avoided Should The Project Be Implemented

- A. The area will have to be cleared and graded for construction. Measures will be taken to minimize dust problems during construction. All grading work shall be approved by the Department of Public Works, County of Hawaii.
- B. Drainage patterns will be modified within the school grounds. The new underground drainage system will be connected to the existing County box culvert drain.
- C. Some plant life and grassing will be affected; however, new grassing and landscaping will be provided.

IV. Alternatives

- A. An alternative considered would be to abandon the project, in which case the Using Agency would be without a needed facility to carry on their program.
- B. Another alternative considered would be to resite the project. It is to be noted that the siting is in accordance with the master plan and/or in accordance with the orderly growth of the school campus.

V. Relationship Between Local Short-Term Uses of Man's Environment and The Maintenance and Enhancement of Long-Term Productivity

- A. The project entails a trade-off between depletion of the resources for construction and the enhancement of the educational, social and cultural needs of the community.
- B. Education is a prime goal of the State of Hawaii. Education is compulsory up to age 18.

VI. Irreversible and Irretrievable Commitments of Resources

A. Land

1. The land is already owned by the State of Hawaii.

B. Labor

1. The project will require a labor force for construction. Additional personnel will be required to operate the facility.

C. Material

1. Construction materials used in this project are irretrievable, except for portable items which may be re-used. Concrete and masonry may be re-cycled as landfill material.

VII. Social Costs and Benefits of Project

The benefits derived from this project, being an educational facility, are intangible in nature. It can be said that an education is invaluable in order to enjoy life to the fullest, economically, culturally and socially.

As a goal of the State of Hawaii to provide equal educational facilities for all students, the project will be designed within the current construction cost, providing a standard facility in accordance with the Educational Specifications.

The benefits are immeasurable in human resource in comparison to the capital outlay.

AG SHDP

INDUSTRIAL ARTS

PARKING (LOT "A")

PROPOSED GYM

PARKING (LOT "B")

TRUE NORTH

PREVAILING WINDS

GYMNASIUM

KONAWAENA HIGH & INTERMEDIATE

KESUAKUKUA HAWAII

NOT TO SCALE

COUNTY ROAD

CAFETERIA

CLASSROOMS

PLANTING

GYM (EXIST)

PLAY FIELD



DIVISION 1 - GENERAL

SECTION 1G - ENVIRONMENTAL PROTECTION

The Contractor shall comply with the following requirements for pollution control in performing all construction activities:

1. RUBBISH DISPOSAL

- a. No burning of debris and/or waste materials shall be permitted on the project site.
- b. No burying of debris and/or waste material except for materials which are specifically indicated elsewhere in these specifications as suitable for backfill shall be permitted on the project site.
- c. All unusable debris and waste materials shall be hauled away to an appropriate off-site dump area. During loading operations, debris and waste materials shall be watered down to allay dust.
- d. No dry sweeping shall be permitted in cleaning rubbish and fines which can become airborne from floors or other paved areas. Vacuuming, wet mopping or wet or damp sweeping is acceptable.
- e. Enclosed chutes and/or containers shall be used for conveying debris from above to ground floor level.
- f. Cleanup shall include the collection of all waste paper and wrapping materials, cans, bottles, construction waste materials and other objectionable materials, and removal as required. Frequency of cleanup shall coincide with rubbish producing events.

2. DUST

- a. Dust shall be kept down at all times, including non-working hours, weekends and holidays, by sprinkling water.

Work done by the Contractor in complying with this requirement shall be done and paid for in accordance with Subsection 4.2(e) "Force Account Work" and Subsection 9.4(d) "Force Account Work" of the General Requirements and Covenants, respectively, except for the following work:

- 1) For areas planted with ground cover and grass, payment for sprinkling water for dust control will not apply as soon as planting is initiated and thereafter. Such sprinkling shall be considered as maintenance, and its cost shall be included in the lump sum bid price.
- 2) Sprinkling during the compaction period (starts as soon as material is delivered to the fill area until the compacted layer is accepted by the Engineer) shall be considered as water required for the compaction of the material and shall not be paid for under this section. The cost shall be included in the lump sum bid price.

Payment shall be made by Change Order at the end of each month.

- b. Wet grinding, when required by the Engineer in correcting an error made by the Contractor, shall be done at no cost to the State.
- c. Wet cutting will be required for cement masonry blocks, concrete and asphaltic concrete pavements unless attachments are used with dry cutting equipment to capture the dust created thereby.
- d. No unnecessary shaking of bags will be permitted where cement, mortar and plaster mixing is done unless the dust therefrom can be confined.
- e. No dry power brooming will be allowed in unconfined areas. Vacuuming, wet mopping, wet sweeping, or wet power brooming may be used instead. Air blowing will be permitted only for cleaning erected forms prior to pouring.

3. NOISE

- a. All internal combustion engine powered equipment shall have mufflers to minimize noise.
- b. No blasting and use of explosives will be permitted without prior approval of the Engineer.
- c. Pile driving operations shall be confined to the period between 8:00 a.m. and 5:30 p.m., Monday through Friday. Pile driving will not be permitted on weekends and legal State and Federal holidays. (NOT REQUIRED)
- d. Starting up of non-highway vehicular equipment shall not be done prior to 6:45 a.m. without prior approval of the Engineer.

4. EROSION

During interim grading operations the grade shall be maintained so as to preclude any damages to adjoining property from water and eroding soil. Temporary berms, cut-off ditches, and other provisions which may be required because of the Contractor's method of operation shall be installed at no cost to the State. Drainage outlets and silting basins shall be constructed and maintained as shown on the plans.

5. OTHERS

- a. Wherever trucks and/or vehicles leave the site and enter surrounding paved streets, the Contractor shall prevent any material from being carried onto the pavement. Waste water shall not be discharged into existing streams, waterways, or drainage systems such as gutters and catch basins unless treated to comply with Department of Health water pollution regulations.
- b. Trucks hauling debris shall be covered as required by PUC Regulation. Trucks hauling fine materials shall be covered.

- c. No dumping of waste concrete will be permitted at the job site unless otherwise permitted in the Special Provisions.
- d. Except for rinsing of the hopper and delivery chute, and for wheel washing where required, concrete trucks shall not be cleaned on the job site.
- e. Except in an emergency, such as a mechanical breakdown, all vehicle fueling and maintenance shall be done in a designated area. A temporary berm shall be constructed around the area when runoff can cause problems.
- f. Spray painting will not be allowed unless done by the "airless spray" process.

6. SUSPENSION OF WORK

Violation of any of the above requirements or any other pollution control requirements which may be specified in the Technical Specifications herein shall be cause for suspension of the work creating such violation. No additional compensation shall be due the Contractor for remedial measures to correct the offense. Also, no extension of time will be granted for delays caused by such suspensions.

If no corrective action is taken by the Contractor within 72 hours after a suspension is ordered by the Engineer, the State reserves the right to take whatever action is necessary to correct the situation and to deduct all costs incurred by the State in taking such action from monies due the Contractor.

The Engineer may also suspend any operations which he feels are creating pollution problems although they may not be in violation of the above mentioned requirements. In this instance, the work shall be done by force account as described in Subsection 4.2(e) "FORCE ACCOUNT WORK" of the General Requirements and Covenants and paid for in accordance with Subsection 9.4(b) "FORCE ACCOUNT WORK" therein. The count of elapsed working days to be charged against the contract in this situation shall be computed in accordance with Subsection 8.8(d) "CONTRACT TIME" of the General Requirements and Covenants.

NOTE TO ARCHITECT: Notify the Public Works Engineer in writing at or before the Pre-Final submittal of any proposed changes to the above requirements.