

FEB 08 2012



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STATE OF HAWAII
DEPARTMENT OF EDUCATION

P.O. BOX 2360
HONOLULU, HAWAII 96804

Letter No. PMS-373.12

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

January 24, 2012

TO: Mr. Gary Hooser, Director
Office of Environmental Quality Control
Department of Health

FROM: Duane Y. Kashiwai, Public Works Administrator
Facilities Development Branch

SUBJECT: Keaukaha Elementary School - Cafeteria
Tax Map Key 3rd Division 2-1-020: 001
Portion of Keaukaha Tract No. 1, Waiākea,
District of South Hilo, Hawai'i

DM

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

The Department of Education, State of Hawaii, has reviewed the Draft Environmental Assessment for the subject project and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish this determination in the next Environmental Notice.

One printed copy of the Draft Environmental Assessment and a CD with the document in .pdf format are attached. The Environmental Notice publication form will be e-mailed to OEQC.

Should you have any questions, please contact Mr. Ryan Yamamoto of the Facilities Development Branch, Project Management Section at 586-0966.

DYK:RY:lh

Attachments

c: Nhan Nguyen, Design Partners

OEQC Publication Form The Environmental Notice

Instructions to Applicant or Agency:

1. Fill out this Publication Form and email to: oeqc@doh.hawaii.gov
2. Send a pdf copy of the EA / EIS and 2 hardcopies to OEQC. Mahalo.

Name of Project: Keaukaha Elementary School Cafeteria Draft EA
Applicable Law: Chapter 343, Hawai'i Revised Statutes
Type of Document: Draft Environmental Assessment
Island: Hawai'i
District: Waiākea
3rd Division, 2-1-020: 001

Permits Required: Plan Approval; Grubbing, Grading, Excavation, and Stockpiling; Building, Electrical, and Plumbing; NPDES; Variance from Pollution Controls; Chapter 6E Clearance

Name of Applicant or Proposing Agency: Department of Education, State of Hawai'i, Facilities Development Branch
1151 Punchbowl Street, Room 501, Honolulu, Hawaii 96813. Contact: Ryan Yamamoto, (808) 586-0966
Address
City, State, Zip
Contact and Phone

Approving Agency: Department of Education, State of Hawai'i
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813
Contact and Phone Ryan Yamamoto, Project Coordinator @ 586-0966

Consultant: Gerald Park Urban Planner, 95-595 Kaname'e Street, #324, Mililani, Hawai'i
96789. (808) 625-9626
Address
City, State, Zip
Contact and Phone

Project Summary:

Short-term construction impacts include raising fugitive dust, mechanical and equipment noise, potential for construction related runoff, grubbing vegetation, land alteration, potential impacts on traffic circulation, and loss of open space used for outdoor recreation and school functions. There are no streams or historic features on the ground surface to be affected.

A new and larger cafeteria will benefit students, faculty, Keaukaha School as a whole, parents of students, and the Keaukaha community. The existing cafeteria will be renovated into classrooms adding to the classroom stock with benefits for students and faculty.

The cafeteria *per se* will neither affect ambient air quality nor generate noise and use of the facility is not expected to adversely affect surrounding areas. No significant increase in vehicle traffic is anticipated as a result of this project. The new cafeteria will serve the same function and uses as the existing cafeteria but at a different location. There should be no significant increase in domestic water usage and wastewater flow compared to existing conditions. Storm water runoff will increase but will be retained on-site.

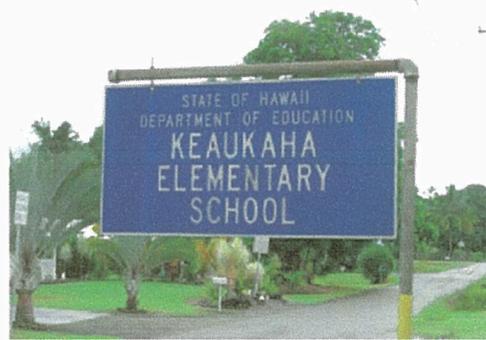
Designed as a sustainable building, the cafeteria will have lower operating costs, conserve energy and water, provide for the health and comfort of its users, and demonstrate a State commitment to sustainable building design and energy conservation. At one-story in height, it will be the same height as many campus buildings thus promoting the low-rise character of the school.

Open space currently used for outdoor recreation and school functions will be affected and this impact cannot be avoided. The Department of Education will confer with the Department of Parks and Recreation County of Hawai'i about using a section of Hualani Park during normal school hours for outdoor activities.

DRAFT ENVIRONMENTAL ASSESSMENT

KEAUKAHA ELEMENTARY SCHOOL CAFETERIA

Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i



Prepared for

Department of Education
State of Hawai'i
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813

November 2011

DRAFT ENVIRONMENTAL ASSESSMENT

KEAUKAHA ELEMENTARY SCHOOL CAFETERIA

Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawai'i

DOE Project Number Q11001-10

Prepared in Partial Fulfillment of the Requirements of Chapter 343, Hawaii Revised Statutes and Title 11-200, Hawaii Administrative Rules, Department of Health, State of Hawai'i

Prepared for

Department of Education

State of Hawai'i

Facilities Development Branch

1151 Punchbowl Street, Room 501

Honolulu, Hawai'i 96813

Prepared by

Gerald Park Urban Planner

95-595 Kaname'e Street #324

Mililani, Hawai'i 96789

and

Design Partners, Inc.

1580 Makaloa Street

Suite 1100

Honolulu, Hawai'i 96814

November 2011

PROJECT PROFILE

Proposed Action: Keaukaha Elementary School Cafeteria
DOE Project No. Q11001-10

Location: Portion of Keaukaha Tract No. 1, Waiākea,
District of South Hilo, Hawai'i

Street Address: Keaukaha Elementary School
240 Desha Avenue
Hilo, Hawai'i 96720

Proposing Agency: Department of Education
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813

Determining Agency: Department of Education
Facilities Development Branch, Planning Section
1151 Punchbowl Street, Room 501
Honolulu, Hawai'i 96813

Tax Map Key: 3rd Division, 2-1-020: 001
Land Area: 276,360 square feet or 6.34 acres
Landowner: Department of Hawaiian Home Lands

Existing Use: Public Elementary School
State Land Use Designation: Urban
General Plan: Low Density Urban
Zoning: RS-10
Special Management Area: Not Within Special Management Area

Need for Assessment: Chapter 343, Hawai'i Revised Statutes
§343-5 (1) Propose the use of state or county
lands or the use of state or county funds.

Anticipated Determination: Finding of No Significant Impact

Contact Person: Ryan Yamamoto, Project Coordinator
Department of Education
Facilities Development Branch
PO Box 2360
Honolulu, Hawai'i 96804

Telephone: 586-0966

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The Department of Education, State of Hawaii, proposes to construct improvements at Keaukaha Elementary School located at Keaukaha Tract No. 1, Waiākea ahupua'a, District of South Hilo, County of Hawai'i, State of Hawai'i. Keaukaha Elementary School is located approximately 2,000 feet north of Hilo International Airport and bounded by Desha Avenue on the north, Baker Avenue on the east, Hualani Park on the south, and Pua Avenue on the west. A Vicinity Map is shown in Figure 1.

The 6.344 acre school site is identified as Tax Map Key: 3rd Division, 2-1-020: 001 and owned by the Department of Hawaiian Home Lands (Hawaii County Real Property Tax Office, 2011). A Tax Map is shown in Figure 2.

A. Need for the Project

The purpose of the project is to construct a new permanent cafeteria building. The existing cafeteria is too small, antiquated, and falls short of Department of Education space programming standards for a cafeteria based on student enrollment. In addition to students at Keaukaha School, the cafeteria also serves meals to students of Ke 'Umeke Ka'eo Public Charter School. The Charter School occupies the same site and shares some school facilities with Keaukaha School.

To support the new cafeteria building, the proposed action includes drainage improvements and the installation of underground water, sewer, power, and communication systems and upgrading of same as needed. Modification to an existing parking lot near the proposed cafeteria building also is proposed.

B. Technical Characteristics

1. General

The new cafeteria will be constructed in the southwest corner of a large, rectangular-shaped open field at the rear of the school. The open field is approximately 62,000 square feet in area and used for recreational play and organized school activities during the school year.

A "construction area" of approximately 55,000 square feet has been designated and will be fenced for safety and security purposes during construction. Within the construction area, existing pavements, play apparatus areas, grass and trees, and some fencing will be demolished and existing utilities cut and plugged (See Sheet C-2.0, Demolition Plan).

The location of the new cafeteria and proposed improvements are shown on Sheet C-3.0 and described in the text below

A construction office and baseyard will be established between Classroom Buildings "B" and "C" in proximity to Pua Avenue.

2. Cafeteria Building

The new cafeteria will be a single-story structure with an approximate net floor area (or "building footprint") of 12,600 square feet. The principal uses under roof are described below and a Floor Plan shown on Sheet A-2.1.

The planned 5,624 square foot student dining area will be the largest space and central feature of the building. The dining area will also function as a multi-purpose room for student art displays, large group instruction, and assemblies. An area for a portable stage (680 square feet) has been set aside on the east end of the dining area for performances and other uses. The cafeteria also will continue to function as a meeting place for the community. The dining area will have a maximum occupancy of 384 persons.

The dining room is located to maximize the amount of exterior wall openings for natural light and cross ventilation.

An approximately 2,600 square foot food serving kitchen is proposed with infrastructure for possible future conversion to a full cooking conventional kitchen. Meals will not be prepared at the cafeteria but prepared at and transported to Keaukaha School from a central kitchen at Hilo Intermediate School. Support areas for the kitchen include a manager's office, locker room, and dry storage.

The kitchen will be equipped with two convection ovens to allow the school to occasionally prepare simple meals if needed. The provision of walk in freezers and a large grease trap are provided for future conversion to a complete conventional kitchen.

A 660 square foot staff dining room will be located in the southeast corner of the cafeteria. The dining room will also function as a faculty lounge and meeting place for teachers.

Space is allocated for ancillary uses as follows:

- A+ Program office
- Dressing rooms for boys and girls
- Restrooms for boys and girls
- Adult unisex restroom
- Storage space for chairs
- Custodial service center with shower and locker areas

The height of the proposed structure will be 27'-0" measured from finished grade to top of roof ridge (See Sheet A-4.1, Exterior Elevations and Sheet A-5.1, Longitudinal Sections) well below the 35-foot building height for the zoning district. The cafeteria will be erected on a poured in place concrete slab on spread-footing foundations. Concrete masonry exterior walls and columns will support glulam arch beams and pre-engineered wood trusses topped with a standing seam metal hip roof system over plywood sheathing.

The building will be painted with a light, earth-tone exterior color scheme to blend and complement the existing classroom buildings.

3. Infrastructure

Domestic water service will be provided from an existing 2" service lateral inside the school grounds.

Wastewater from the cafeteria will be discharged through a service lateral into a 10" off-site County of Hawai'i sewer main in Pua Avenue. The service lateral size will be determined at a later time but a 4" lateral is presumed.

Existing drainage patterns will be maintained where possible. The building pad will be graded to provide positive drainage away from the building foundation. Five drywells will be constructed to receive roof run-off from the cafeteria and adjoining classroom buildings. The drywells will have grated inlets to allow excess to overflow and surface flow onto lawn areas.

A pre-cast concrete grease trap will be installed in a paved driveway between the cafeteria and Pua Avenue. A 6" lateral will connect the grease trap to an off-site County wastewater main in Pua Avenue. The grease trap will be sized in accordance with the 1997 Uniform Plumbing Code (Appendix H).

Electrical power will be routed in underground ductlines from the existing on-campus electrical system. Telecommunication, fire alarm, program bells, and intercom systems also will be routed in underground ductlines separate from electrical lines.

4. Circulation and Off-Street Parking

Vehicle access will be taken from Pua Avenue on the west. An existing parking area will be expanded to provide a loading area at the rear of the cafeteria kitchen and a service yard. The service yard will provide space for trash receptacles, recycling bins, an electrical transformer, and an above-ground liquid propane gas tank. The service yard will be enclosed on three sides by a 6-foot high CMU wall and open to the sky.

A 20-foot wide, paved fire apparatus driveway will be constructed from the existing parking area along the west and south sides of the cafeteria to comply with fire code requirements.

5. Accessibility

The new cafeteria building will connect to the school's existing walkway between the Library and Building E. The walkway will be reconstructed in compliance with Americans with Disabilities Act Accessibility Guidelines.

6. Sustainable Design Features

The project will incorporate sustainable design features to best conform to Hawaii High Performance School Guidelines and Leadership in Energy and Environmental Design ("LEED") guidelines. The project will not seek LEED certification from the U.S. Green Building Council, however, it will be designed to achieve LEED Silver rating equivalent under LEED 2009 for Construction and Major Renovation.

Architectural, mechanical, electrical, and civil engineering design features for the project will maximize energy performance, use natural day lighting, promote natural air circulation,

reduce water usage, use materials with low VOC (volatile organic compounds), provide for indoor air quality and thermal comfort, and reduce site disturbance.

Photovoltaic (PV) panels will not be installed as part of the project. The DOE, however, is reviewing third party installation and operation of PV panels statewide for public schools. The project will provide accommodation for PV panels and associated electrical facilities if deemed appropriate as the design progresses.

7. Landscaping

Landscaping will buffer, screen, provide shade, and frame views of and from the cafeteria. Grass will be the predominant plant material or ground cover but the judicious use of small trees, canopy trees, shrubs, other types of groundcover, and palms will add form and color around the building, play areas, and edges of the former open field (See Sheet L-1.1, Landscape Plan). The "plant palette" emphasizes the use of water conserving, low maintenance Native Hawaiian plants and Polynesian-introduced plants over other varieties of tropical plants. A permanent irrigation system is not required.

C. Economic Characteristics

Construction costs are estimated at \$6.5 million and will be funded by the Department of Education, State of Hawai'i.

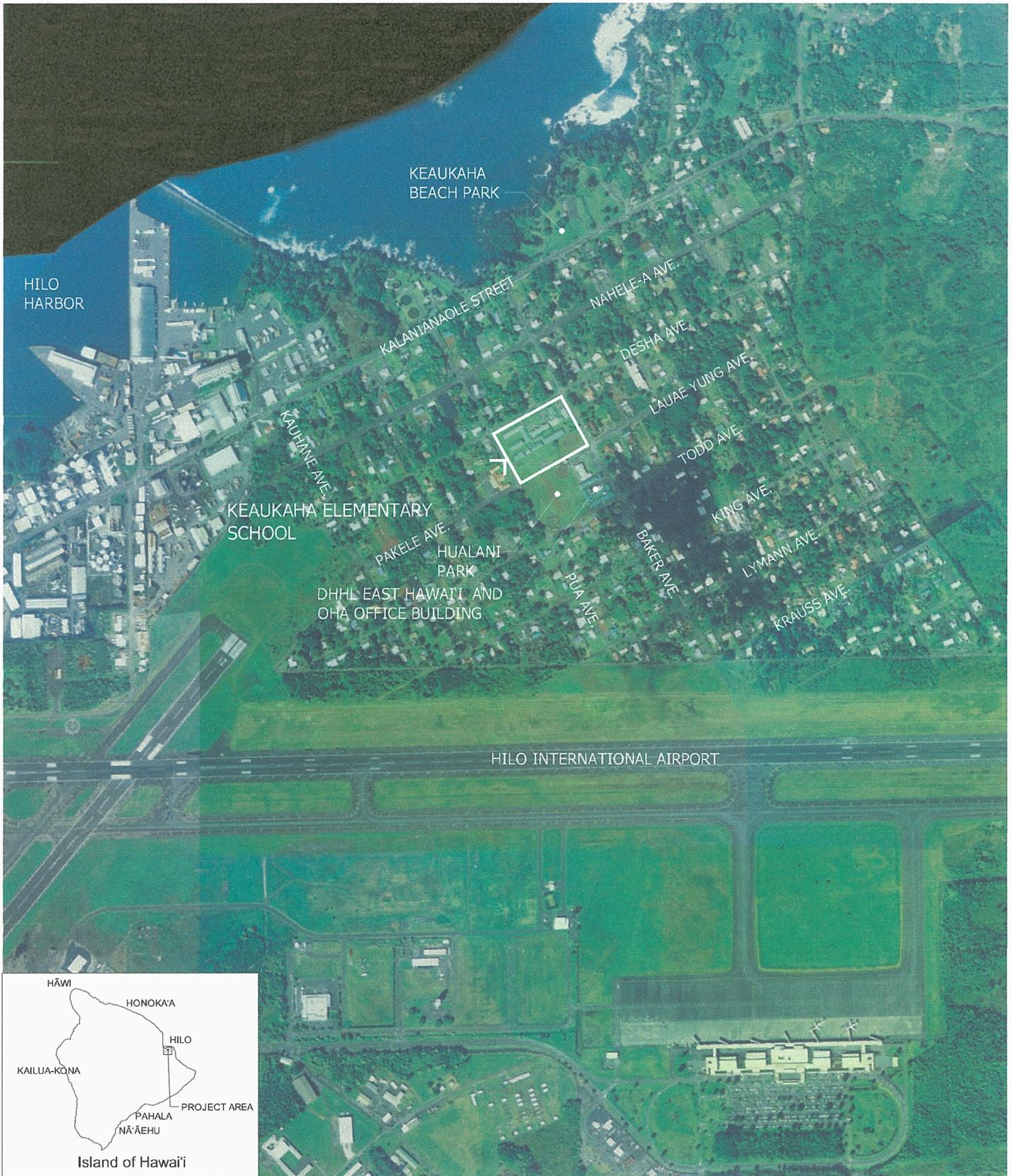
Construction will commence after all design plans are approved and construction permits received. Construction is projected to commence in December 2012 with completion in April 2014.

D. Social Characteristics

A replacement playground for two play apparatus' will be constructed between the cafeteria and Classroom Building "G" and a new basketball court (94' X 60') on the east side of the new cafeteria.

The Department of Education will confer with the Department of Parks and Recreation, County of Hawaii about the use of Hualani Park for outdoor recreation and school functions during normal school hours.

The existing cafeteria will be converted into two classrooms and a faculty center if sufficient funds are available in the construction budget. Plans for the classrooms and faculty center have not been prepared at this time.



Source: University of Hawai'i, Coastal Geology Group Website

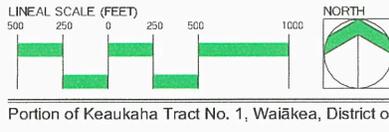
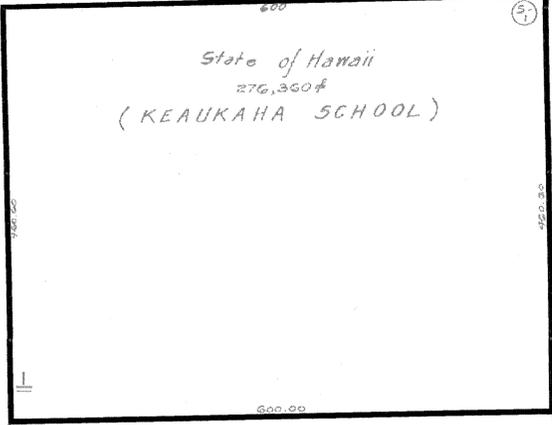
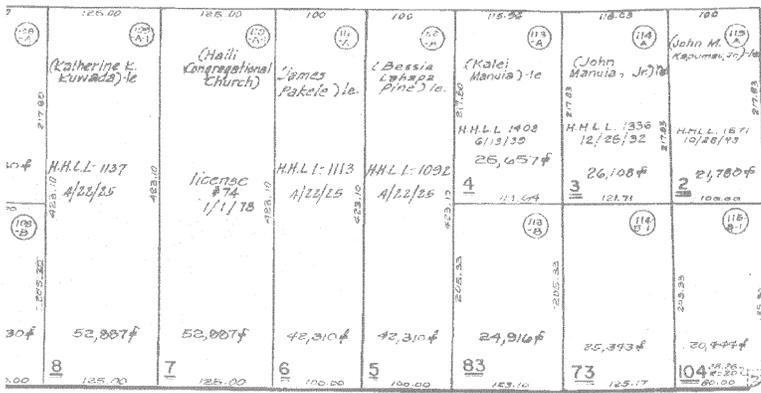
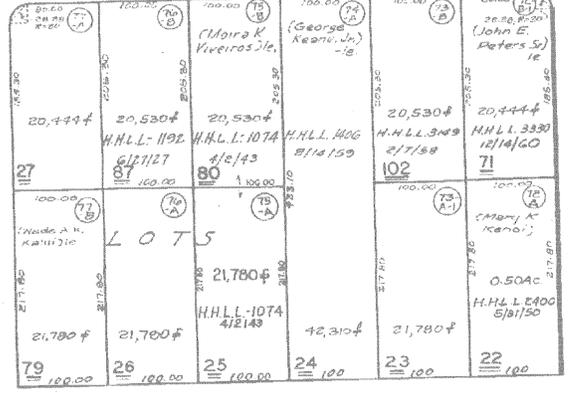
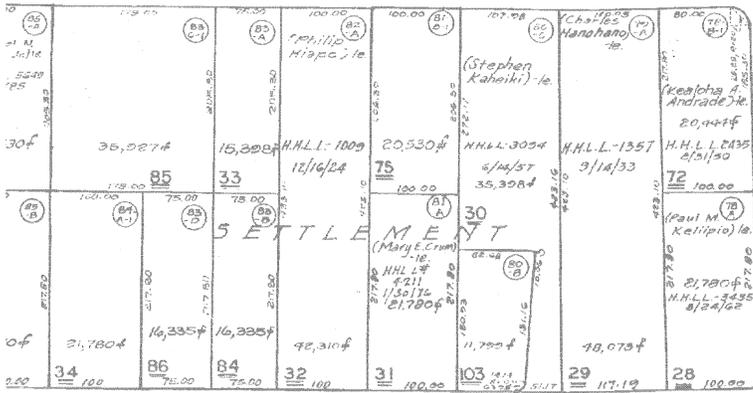
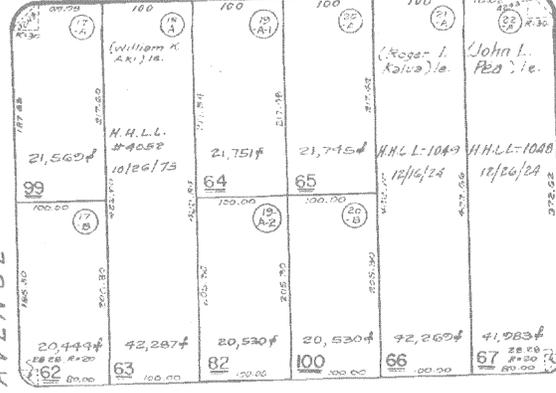
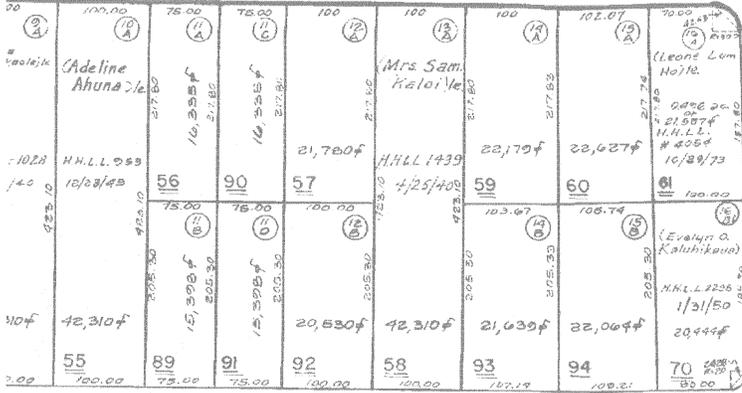


Figure 1
Vicinity Map
Keaukaha Elementary School Cafeteria

1 NAOLE

5 STREET



ELE LANE

Plat 22

KEAUKAHA ELEMENTARY SCHOOL
 TMK:2-1-20:001
 276,360 SF.

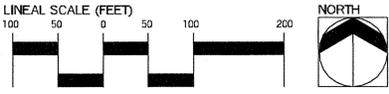
owned by the Hawaiian Home Lands
 otherwise Noted.

Dropped parcels: 13, 16, 17, 18, 19, 20, 43, 44, 45, 21, 76, 78

SUBJECT TO CHANGE

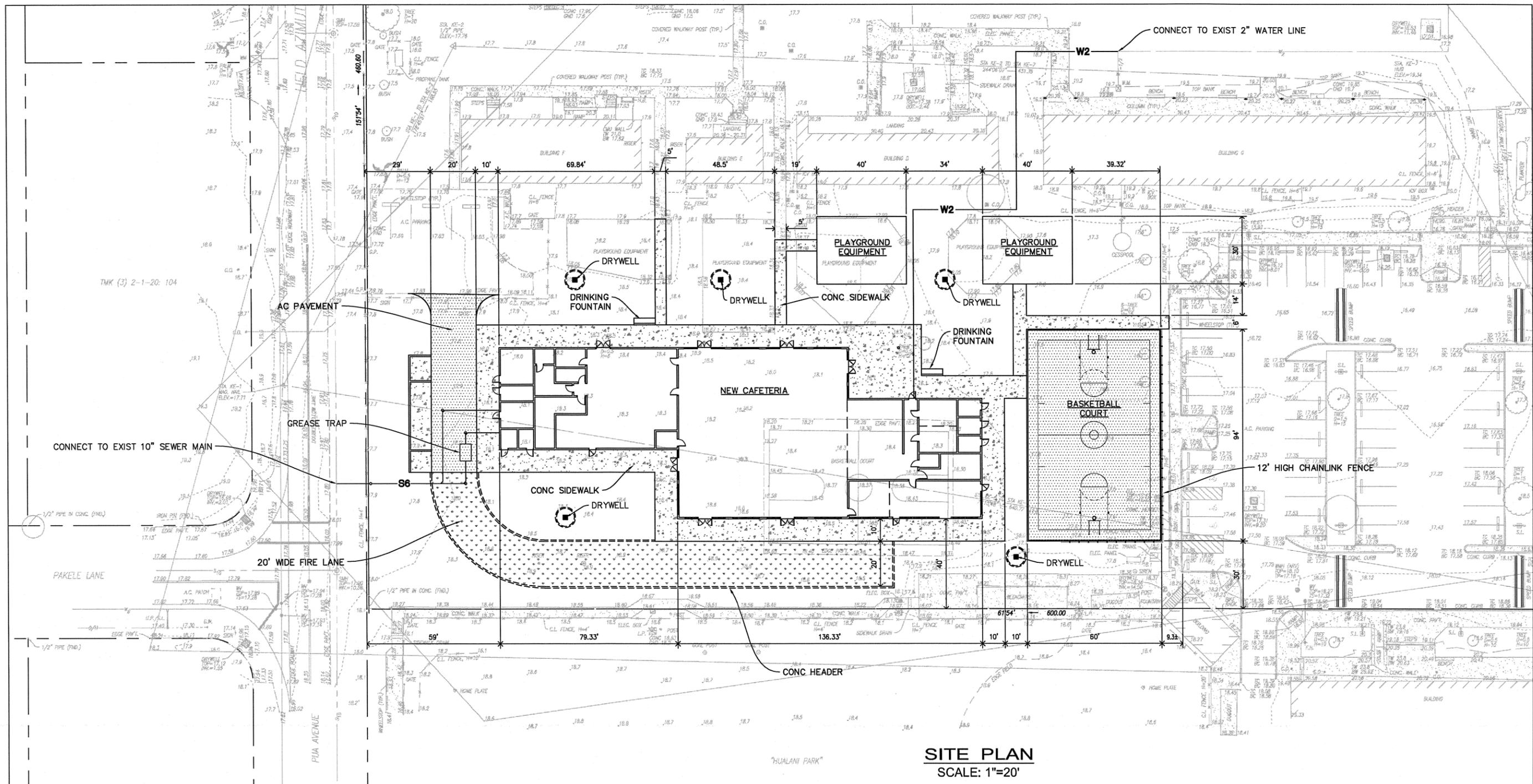
TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
TAX MAP		
THIRD DIVISION		
ZONE	SEC.	PLAT
2	1	20
CONTAINING PARCELS		
SCALE: 1 in. = 100 ft.		

Source: County of Hawai'i Website



Portion of Keaukaha Tract No. 1, Wai'alea, District of South Hilo, Hawai'i

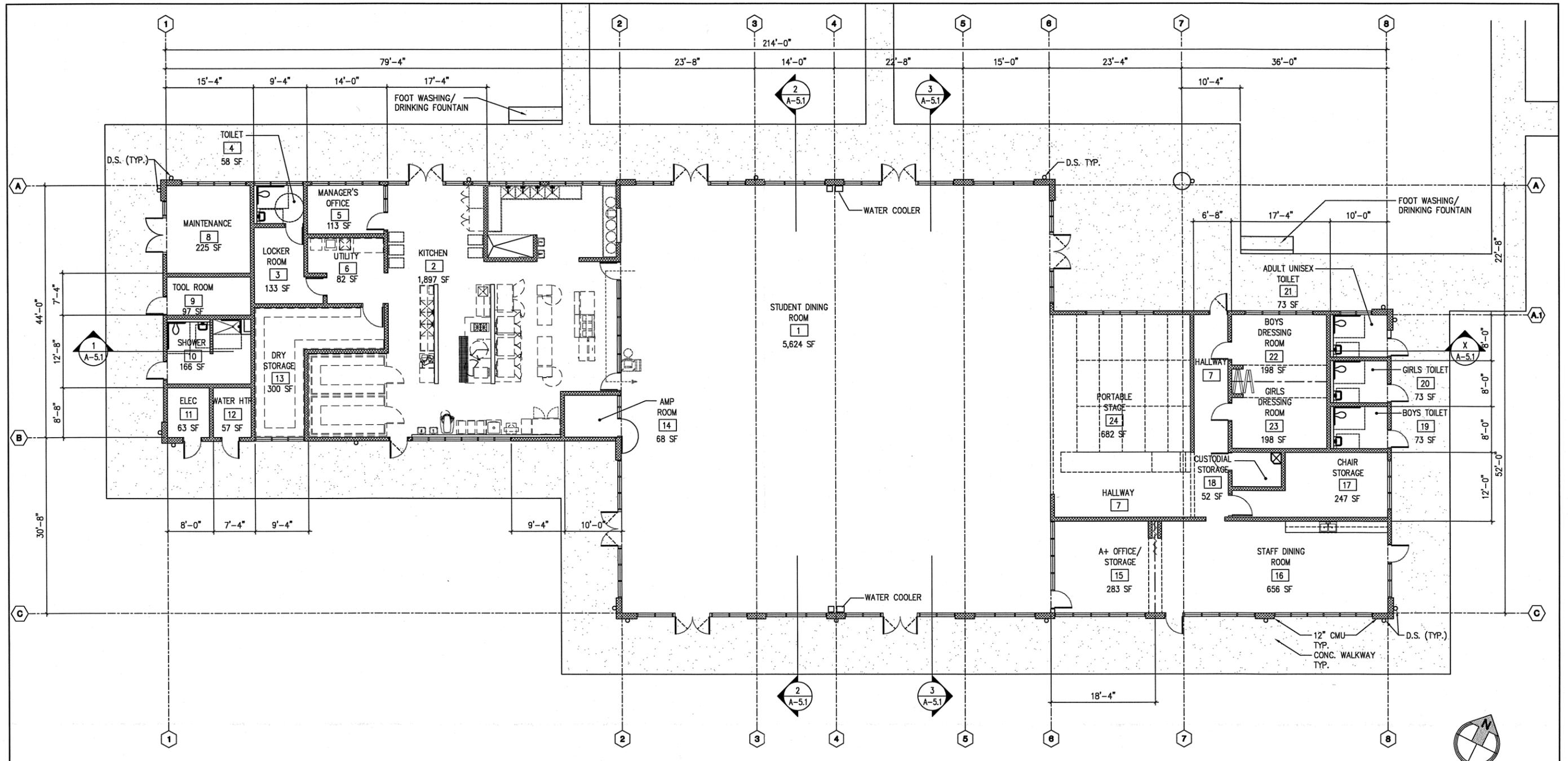
Figure 2
 Tax Map
 Keaukaha Elementary School Cafeteria



SITE PLAN
SCALE: 1"=20'

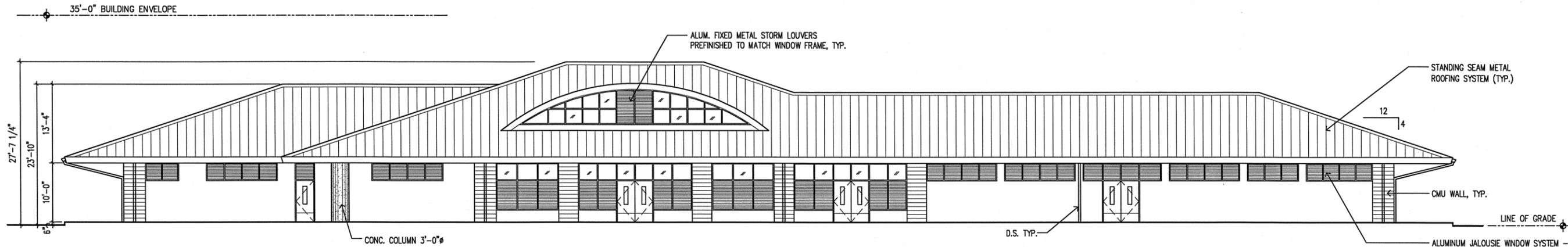
REV. NO.	BY	DESCRIPTION	DATE	APPROVED BY

DEPARTMENT OF EDUCATION STATE OF HAWAII KEAUKAHA ELEMENTARY SCHOOL CAFETERIA WAIAKEA, SOUTH HILO, HAWAII			
SITE PLAN			
DESIGN PARTNERS INC		DOE JOB NO.	DRAWING NO.
DESIGNED BY: CYO	CHECKED BY: CYO	DATE	C-3.0
DRAWN BY: CYO	APPROVED BY: HKH	SHEET	
SCALE: 1" = 20'-0"		OCT 2011	OF 1 SHEETS

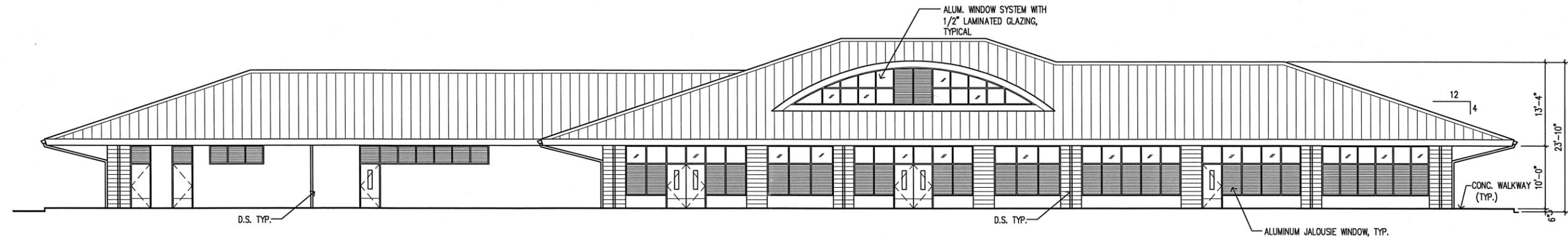


1 CAFETERIA BUILDING FLOOR PLAN
 A-2.1 SCALE: 1/8" = 1'-0"

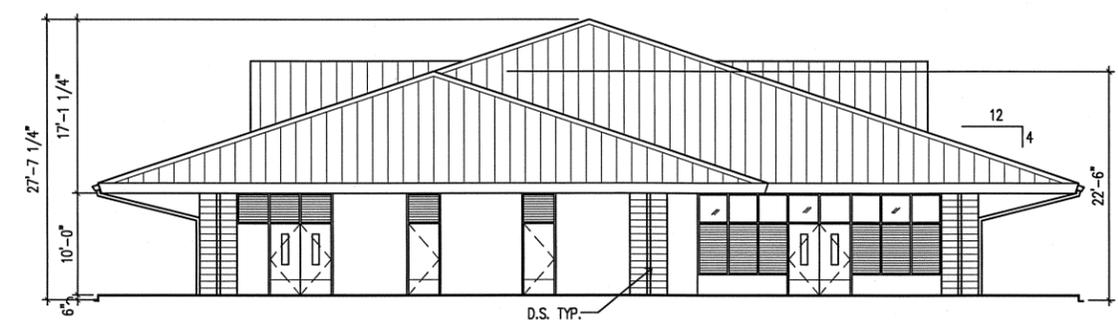
DEPARTMENT OF EDUCATION STATE OF HAWAII				
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII				
FLOOR PLAN				
DESIGN PARTNERS INC		DOE JOB NO.	DRAWING NO.	
DESIGNED BY: VI, NN	CHECKED BY: NN	Q11001-10	A-2.1	
DRAWN BY: RB	APPROVED BY: NN	DATE	SHEET	
APRIL 30, 2012			OCT 2011	
EXPIRATION DATE OF THE LICENSE		SCALE: AS SHOWN	OF ___ SHTS.	



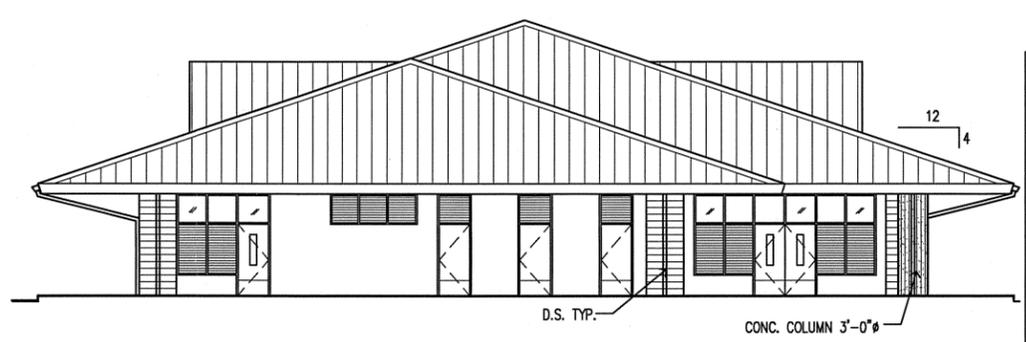
1 **NORTH ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"



2 **SOUTH ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

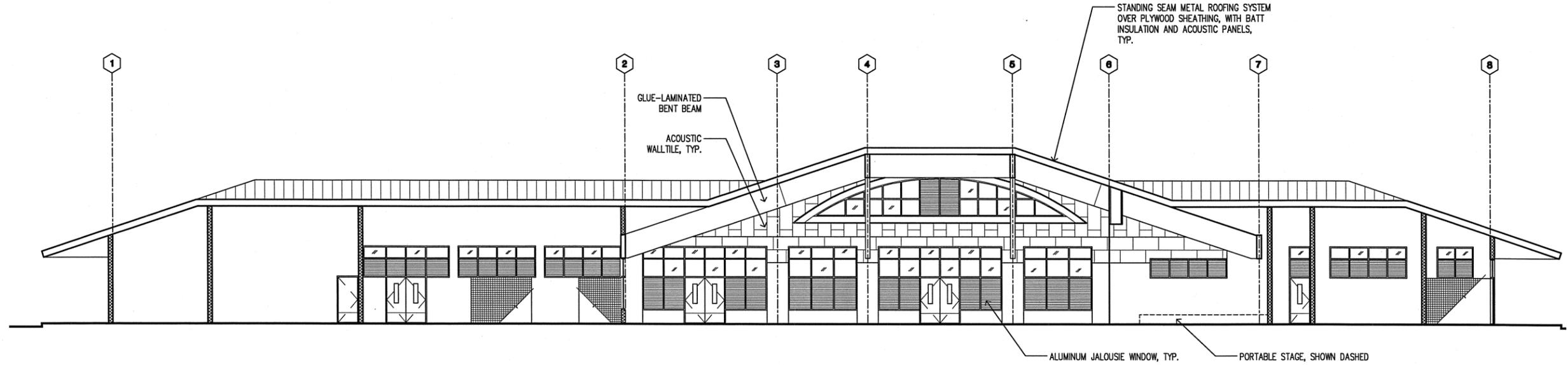


3 **WEST ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

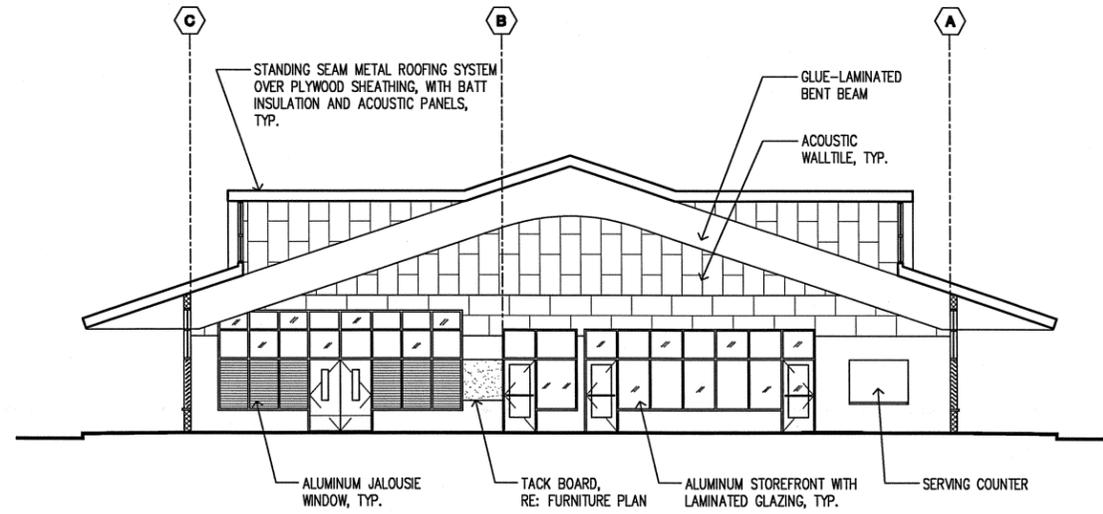


4 **EAST ELEVATION**
A-4.1 SCALE: 1/8" = 1'-0"

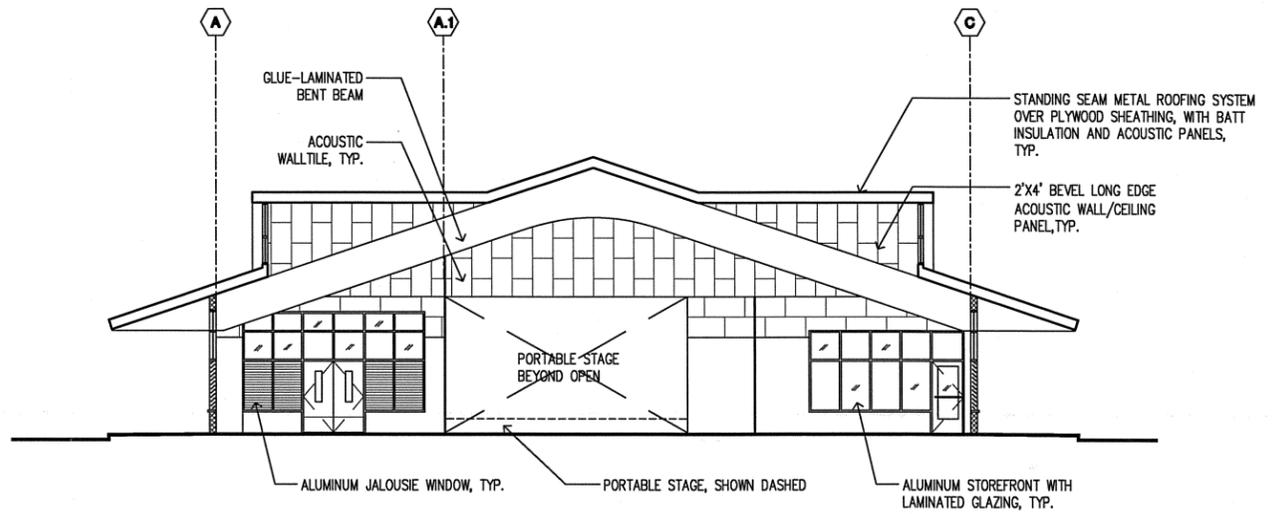
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DEPARTMENT OF EDUCATION STATE OF HAWAII					
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII					
EXTERIOR ELEVATIONS					
DESIGN PARTNERS INC			DOE JOB NO.	DRAWING NO.	
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1 LONGITUDINAL SECTION
 A-5.1 SCALE: 1/8" = 1'-0"

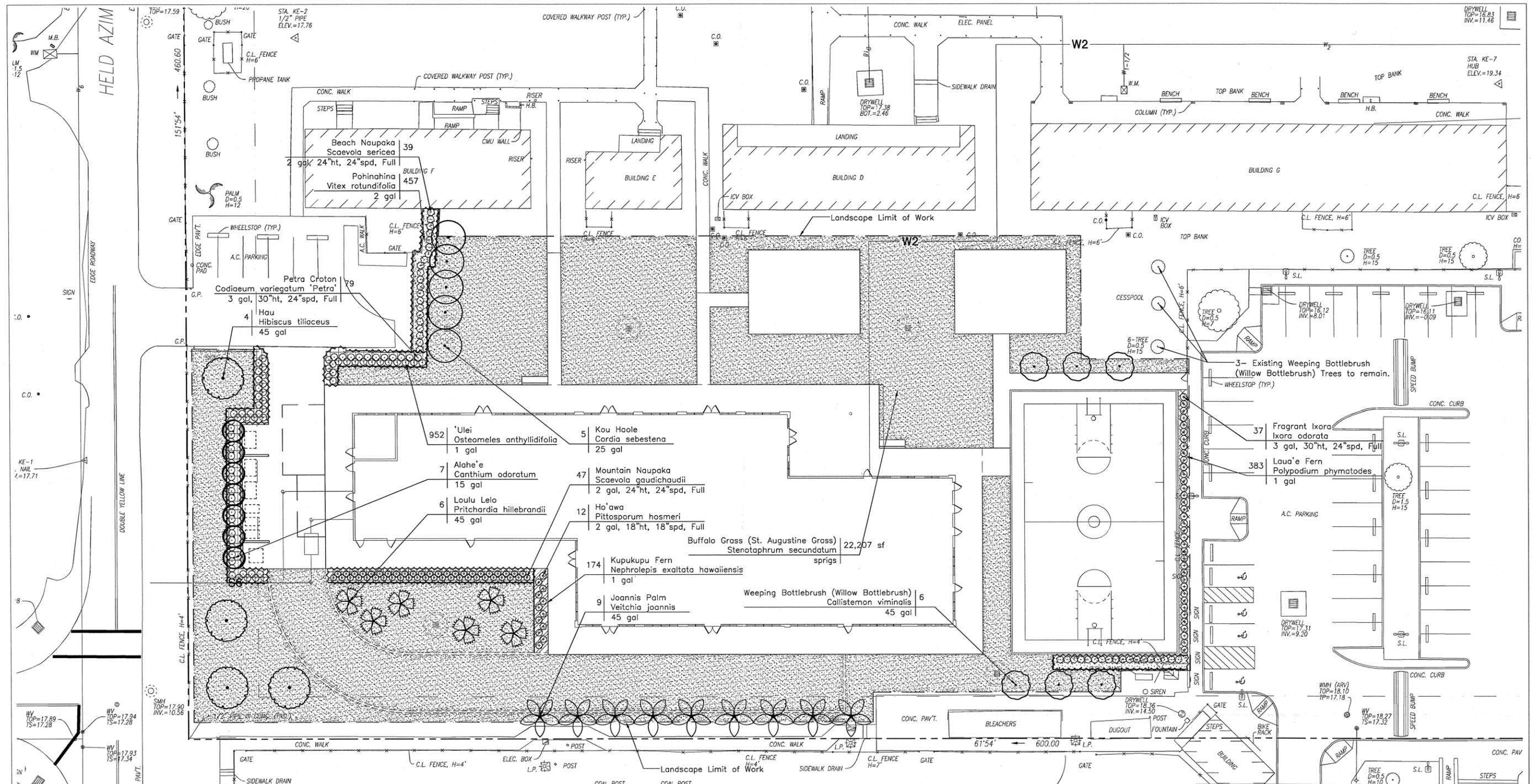


2 CROSS SECTION TOWARD KITCHEN
 A-5.1 SCALE: 1/8" = 1'-0"



3 CROSS SECTION TOWARD STAGE
 A-5.1 SCALE: 1/8" = 1'-0"

REV. NO.	SYMB.	DESCRIPTION	SHT. OF	DATE	APPROVED BY:
DEPARTMENT OF EDUCATION STATE OF HAWAII					
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA KEAUKAHA, HILO, HAWAII					
BUILDING SECTIONS					
DESIGN PARTNERS INC			DOE JOB NO.	DRAWING NO.	
DESIGNED BY: VI, NN		CHECKED BY: NN	Q11001-10	A-5.1	
DRAWN BY: RB		APPROVED BY: NN	DATE	SHEET	
SCALE: AS SHOWN			OCT 2011	OF 1 SHEET	



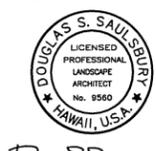
1 LANDSCAPE PLAN
L-1.1 SCALE: 1/16" = 1'-0"

Automatic Irrigation System Notes:
All planting areas will be automatically watered with LEEDS compatible equipment. The irrigation heads will be low flow rotary type nozzles. The irrigation controller shall be adjusted daily with a rainsensor/ weather sensing system.



REV. NO.	SYMBOL	DESCRIPTION	SHEET NO.	DATE	APPROVED BY:

DEPARTMENT OF EDUCATION STATE OF HAWAII	
KEAUKAHA ELEMENTARY SCHOOL CAFETERIA WAIKAEKA, SOUTH HILO, HAWAII	
LANDSCAPE PLAN	
DESIGNED BY: DSS	CHECKED BY: DSS
DRAWN BY: DSS	APPROVED BY: DSS
SCALE: 	DATE: OCT 2011
DRAWING NO. L-1.1	SHEET 1 OF 1 SHEETS



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
APRIL 30, 2012
EXPIRATION DATE OF THE LICENSE

2

DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Existing Uses and Structures

Keaukaha Elementary School (also Keaukaha School), established in 1930 at its present location, provides K-6 regular education and special education services. It is one of seven elementary schools in the Hilo Complex of public schools comprising the Hilo-Laupahoehoe-Waiakea Complex Area in Hawai'i County. The school has a design capacity of 360 students.

In school year 2010-2011, enrollment at Keaukaha School totaled 357 students in regular education and special education classes. The school principal is the sole administrator who manages the school and a staff of 24.5 certified teachers. Staffing includes classroom teachers, computer teachers, counselor, librarian, student services coordinator, and literacy and numeracy coaches.

Although located on Hawaiian Homestead Land, Keaukaha School is not a Hawaiian Language Immersion Program school but rather an English, cultural based K-6 school. A Hawaiian Language Immersion Program was started at Keaukaha School in 1987 and in 2001 the program sought and received Public Charter School status from the Board of Education. The program, now called Ka 'Umeke Ka'eo Public Charter School, operates as a separate educational entity from Keaukaha School. The program, however, continues to be housed in Keaukaha School buildings and is managed by the Principal of Keaukaha School. The current school enrollment is 196 students in grades K-4.

Since the first school building (Building A) was constructed in 1930, permanent structures were added as the school expanded with the last permanent structure constructed in 1983. Several portable classrooms on the east side of the campus were erected in 1999. The cafeteria was built in 1951 as part of a 5 classroom building program. Perhaps unique only to Keaukaha School, each of the seven buildings is named after individuals associated with the Kamehameha lineage.

<u>Building</u>	<u>Name</u>	<u>Year Built</u>	<u>Function</u>
A	Kūhiō	1930	Administration, Classroom
B	Pi'ikoi	1951	Classroom
Cafeteria	Kahanu	1951	Multi-Purpose
C	Kekaulike	1956	Classroom
D	Kaumuali'i	1954	Kindergarten
E	Kāwananakoā	1963	Classroom
F	Keli'iahonui	1973	Library, Computer Lab
G	Kapi'olani	1983	Classroom

The existing cafeteria was converted from a conventional kitchen to a serving kitchen several years ago. Meals are prepared at Hilo Intermediate School and delivered to Keaukaha School in vans. Approximately 515 lunches and 130 breakfasts are prepared and sold daily. The meal count includes students at Keaukaha School and Ka 'Umeke Ka'eo

Public Charter School. The cafeteria is staffed by one full-time cafeteria helper on-site and two staff members from Hilo Intermediate School that assist during meal services. There are three lunch periods daily to serve all the students.

In addition to its primary function, the cafeteria building is used for school and community activities. The Keiki Step Preschool program uses the dining room in the mornings (Mondays through Thursdays) and the A+ after school program during the afternoons. The school also has an 'Ohana night each month and holds professional development sessions for faculty, staff, and district level in-service training.

Monthly meetings of the Keaukaha Community Association and special meetings conducted by the Department of Hawaiian Home Lands and Office of Hawaiian Affairs are held at the cafeteria. The latter two entities occupy office buildings adjoining the school.

The site of the new cafeteria is located on the southern end of the school and bordered by Pua Avenue on the west and Hualani Park on the east and south. The construction area is a large open grass field. The field is fenced on three sides by chain link fencing. Four play apparatus are arrayed on the north and a paved play court is located near the middle of the field. During recess, children were observed climbing the play apparatus, using the playcourt, and playing pick-up field games. Students also use the adjoining County park field for free play.

Existing conditions are shown in the Site Photographs.

B. Climate

Owing to its proximity to Hilo International Airport, the climate at Keaukaha Elementary School is similar to weather conditions and data recorded at the Airport. The average daily low temperature at the Airport ranges from approximately 60^o Fahrenheit ("F") in February and March to 70^o F in August and September.

Rainfall averages 120-130 inches per year. Annual rainfall amounts have varied over the past 10 years ranging from a low of approximately 86 inches to a high of 211 inches. The winter months have the highest average rainfall while the summer has the lowest.

Wind patterns are largely a function of the interaction between the northeasterly trade winds and Mauna Loa volcano. In general, the trades are more persistent in the summer than in the winter, and stronger in the afternoon than at night. In the absence of trade winds, winds become light and variable. Diurnal heating and cooling of the island gives rise to onshore breezes during the day and offshore breezes during the night (Wilson Okamoto, 2003).

C. Topography

The open field is generally flat with no unusual topographical features. The width of the field is "crowned" near its center with an elevation of 18.4 feet and slopes towards the east and west directions. Ground elevation along the east boundary is approximately 17.6 feet and about 17.7 feet on the west.

The field also slopes away and towards the center of the field from the array of play apparatus' on the north and the edge of the County park on the south.



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6

Aerial: Coastal Geology Group Website
Photographs: Gerald Park

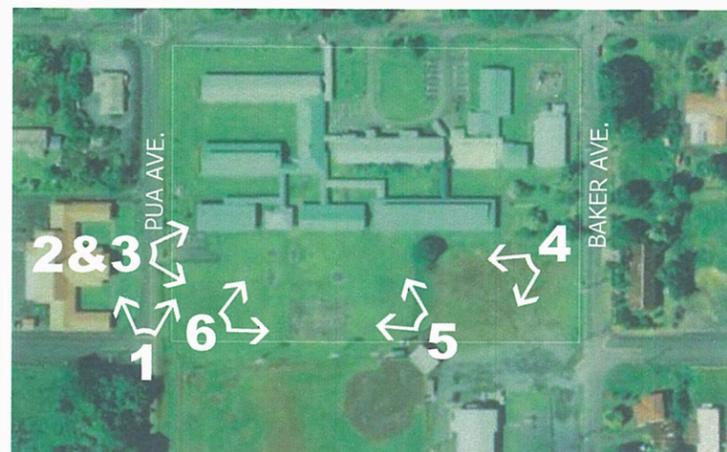


Photo Key Map
GRAPHIC SCALE IN FEET
80 40 0 80 160

Photograph 1. Pua Avenue Looking North. Open Field is on the Right

Photograph 2. Open Field Looking East

Photograph 3. Recess.

Photograph 4. Open Field Looking West.

Photograph 5. View to the Northwest.

Photograph 6. View to the Northeast.



D. Soils

Keaukaha Tract I is developed on a soil type classified as Keaukaha extremely rocky muck (rKFD) 6 to 20 percent slopes (Soil Conservation Service, 1973). The Keaukaha series consists of thin, well-drained organic soil overlying pahoehoe lava rock. The soil is generally found on the low levels of Mauna Loa volcano at elevations ranging from sea level to 1,000 feet. The surface layer is a dark brown muck about 8 inches thick. The soil is rapidly permeable, runoff is slow, and the erosion hazard is slight.

E. Hazards

The Flood Insurance Rate Map (Federal Emergency Management Agency, 1988) for the area (See Figure 3) designates the school site "Zone X" which is defined as "areas determined to be outside the 500 year flood plain". During the field investigation, standing water was observed on the road shoulder of Pua Avenue and at the driveway entry to the parking lot behind the cafeteria.

Low-lying coastal lands in Keaukaha are subject to tsunami inundation. The 1946 tsunami that devastated Hilo had a reported wave height of 32 feet above sea level at Keaukaha and the 1960 tsunami had a wave height of 13 feet (Macdonald and Abbott, 1974).

Keaukaha School is located within a County of Hawai'i Civil Defense delineated tsunami evacuation zone (County of Hawai'i, 2003). For the residential area surrounding the school, Kauhane, Pua, and Baker Avenues are identified evacuation roads to Hilo International Airport on the south. Secured airport gates at the end of the identified roads are opened during an evacuation period.

The Island of Hawai'i is susceptible to seismic activity originating in fault zones under and adjacent to the island. The Hawaii County Code relating to the Uniform Building Code places the island in seismic Zone 4. The rating system is based on a scale of 1 to 4, with a rating of 4 having the highest risk associated with seismic activity. The Hawai'i County Building Code requires that all new structures be designed to resist forces to seismic Zone 4 standards (Wilson Okamoto, 2003).

Keaukaha is located below the Mauna Loa northeast rift zone in Volcanic Hazard Zone 3 (US Geological Survey, No Date). Zone 3, which is the third highest of nine hazard zones established for the Island of Hawaii, is defined as 1 to 5 percent of area covered by lava since 1800 and 15 to 75 percent of area covered by lava in the last 750 years.

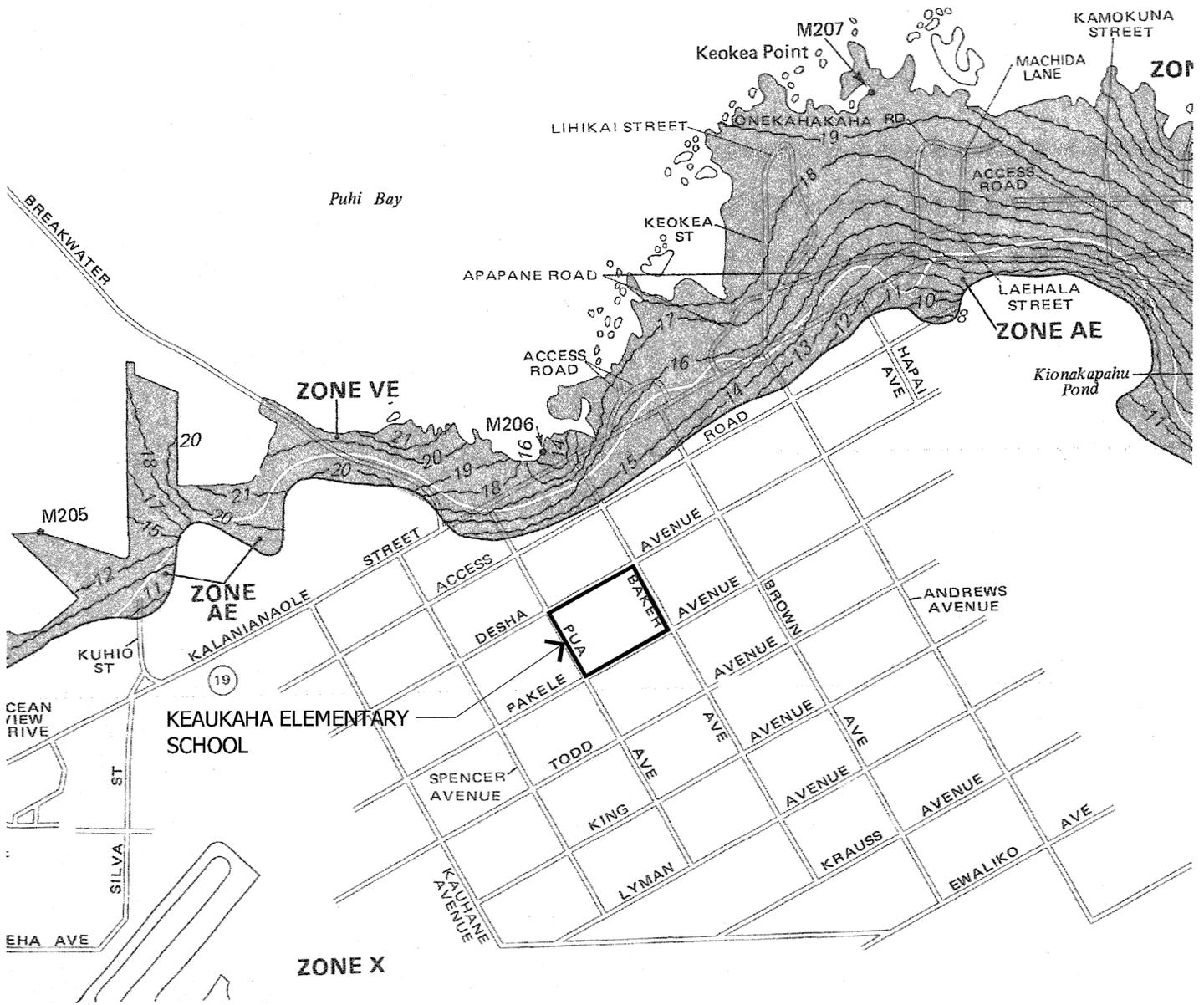
F. Water Resources

1. Surface Water

There are no streams, lakes, ponds, open bodies of water, or wetlands on the premises.

2. Ground Water

Most of the City of Hilo including Keaukaha is developed over the Hilo aquifer system of the Northeast Mauna Loa Aquifer Sector (Commission on Water Resources Management, 2008). The Hilo aquifer is composed of a basal, unconfined aquifer of horizontally extensive



Source: Federal Emergency Management Agency
 Flood Insurance Rate Map
 Map Number 155166 0885 C
 Date: Sept. 16, 1988.

Legend

- Special Flood Hazard Zone Subject to Inundation by the 1% Annual Chance Flood
- Zone X Areas Determined to be Outside 500 Year Flood Plain
- Zone A No Base Flood Elevation Determined.
- Zone AE Base Flood Elevation Determined.
- Zone VE Coastal Flood with Velocity Hazard (Wave Action) Base Flood Elevation Determined.

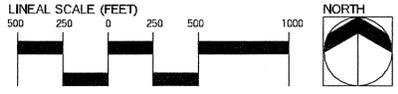


Figure 3
 Flood Insurance Rate Map
 Keaukaha Elementary School Cafeteria

lavas. Basal groundwater extends several miles inland to the crest of Mauna Loa where groundwater occurs as high level dike and perched water.

The sustainable yield of the Hilo aquifer is estimated at 349 million gallons per day. The aquifer has been developed and currently used as a source for drinking water.

G. Historic Resources

Owing to the improved and grassed condition of the open field, archaeological features were not observed on the ground surface. The State Historic Preservation Division has no record by tax map of archaeological surveys performed at the school. Archaeological surveys have been performed in the Kekaha area for parks (Scientific Consulting Services, 2004; 2006), trails (Rechtman Consulting, 2009), roads (Cultural Surveys Hawaii, 2010), and facilities at Hilo Harbor (Haun & Associates, 2000).

The existing cafeteria was constructed in 1951 and may qualify as a historic structure since it is 50+ years old.

H. Cultural Resources

Cultural resources are not known to be associated with the construction area. Residents of Keaukaha, however, consider the adjoining Hualani Park complex to be a valuable cultural and educational resource for the community (DHHL, 2010).

I. Botanical Resources

The open field is sparsely vegetated with grass the dominant vegetation. Two individual trees----bottle brush and nara---and a row of weeping bottle brush planted along the eastern edge of the open field are the only trees present.

J. Wildlife Resources

Wildlife resources were not observed during a field investigation but may frequent the open field at other times.

K. Acoustical Quality

Keaukaha School is not a source of loud, persistent, and disturbing noise compared to industrial uses at and around Hilo Harbor. For sure noise emanates from the school but is considered to be customary and reasonable school noises. A noise study for Hilo International Airport noted "extremely low background ambient noise levels were measured (40 to 45 Day-Night Average Sound Level or DNL) ...in the Hawaiian Home Lands, Keaukaha residential subdivision north of the airport, due to its distance from the surf and major highways" (Ebisu, in Wilson Okamoto, 2003). Over the course of a typical school day, there are several instances when noise exceeds this ambient range and can be heard in nearby residential areas. School related noise results from the school bell ringing several times a day, students congregating during lunch, recreational sounds during recess and PE, and from vehicle traffic on surrounding streets before and after school. When students are in class, ambient noise levels from the school more than likely are less than 40-45 DNL.

Because of its location north of Hilo International Airport, Keaukaha Elementary School and other schools, offices, churches, and approximately 200 residences in the subdivision are exposed to noise from jet aircraft taking off and landing at the airport. For the year 2000, base level noise exposure ranged between 60 to 65 DNL in the Keaukaha Tract I subdivision. In comparison noise exposure was 75 DNL measured along the Runway 8/26 (Ibid).

Helicopters, primarily tour helicopters, also are a source of aircraft noise. Helicopter flight paths do not overfly Keaukaha but one ingress and egress route is aligned northwest-southeast to the west of the subdivision. Noise exposure from helicopters is projected at between 65 to 70 DNL by the year 2020.

At these existing and projected noise exposure levels, jet aircraft and helicopter noises are audible inside classrooms at Keaukaha School. It has not been determined if said noises affect classroom instruction.

L. Land Use Controls

Pursuant to Chapter 205 HRS, the Hawaii Land Use Law, the State Land Use Commission classifies all land in the State of Hawaii into one of four classifications: Urban, Agricultural, Conservation, or Rural. The project site is designated Urban. Uses and activities in the Urban district are regulated by the respective counties.

The County of Hawai'i General Plan (2005) places Keaukaha School in the Low Density Urban district (Land Use Pattern Allocation Guide Map No.9). This land use designation provides for "residential, with ancillary community and public uses; and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acres (Ibid, Section 14.1)".

The school site is zoned RS-10 for residential uses (See Figure 4) with a minimum 10,000 square foot lot size. Elementary schools are permitted in the RS-10 zoning district as "public uses and structures" (Section 25-5.3 (a) (12), County of Hawaii Zoning Code). Keaukaha School and the new cafeteria are thus consistent with the zoning for the lot.

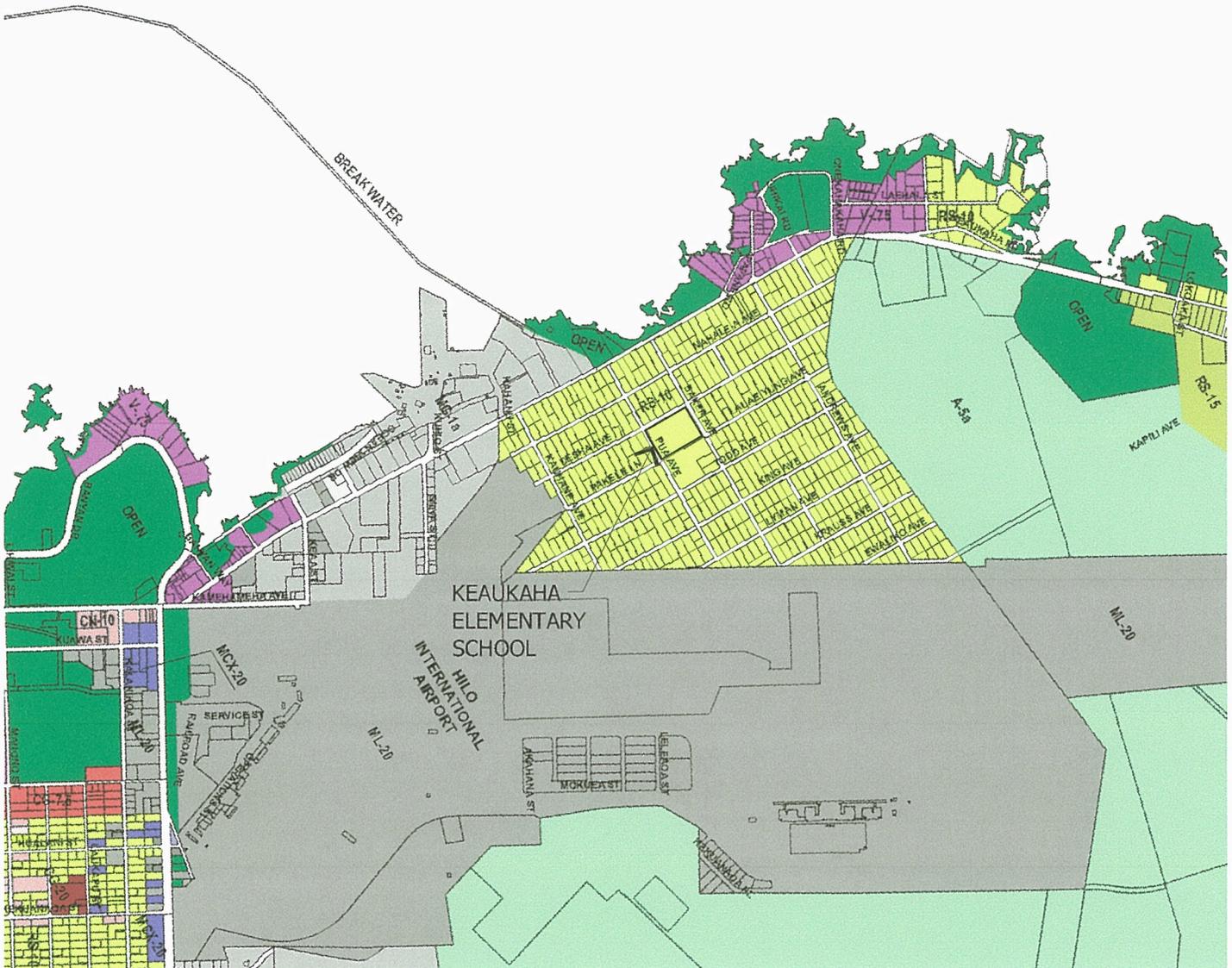
The property is not located within the County delineated Special Management Area.

M. Public Facilities

1. Circulation

The primary vehicle entry to Keaukaha School is from Desha Lane, a two-way, two-lane roadway on the north side of the school. The paved road is not improved with curbs, gutters, and sidewalks. The posted speed limit is 25 miles per hour but a 20 mile per hour is in effect when school is in session.

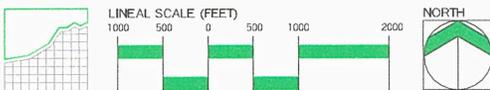
Pua Lane borders the school on the east. The two-lane, two-way roadway lacks curbs, gutters, and sidewalks. The approximately 18-foot wide road features a grassed shoulder on the school side. Vehicles diagonally park on the shoulder although No Parking signs are posted. The speed limit is 25 miles per hour but a 20 mile per hour limit is in effect when school is in session.



Source: County of Hawaii Website, <http://www.co.hawaii.hi.us/maps/zone/maps.htm>

Legend

A-5a	Agricultural District	(Min. Building Site of 5 Acres)
CG-20	Neighborhood Commercial District	(Min. Land Area of 20,000 sf., Required for Each Building Site)
CG-7.5	General Commercial District	(Min. Land Area of 7,500 sf., Required for Each Building Site)
CN-10	Neighborhood Commercial District	(Min. Land Area of 10,000 sf., Required for Each Building Site)
MCX-20	Industrial-Commercial Mixed District	(Min. Land Area of 20,000 sf., Required for Each Building Site)
MG-1a	General Industrial District	(Min. Land Area of 1 Acre, Required for Each Building Site)
ML-20	Limited Industrial District	(Min. Land Area of 20,000 sf., Required for Each Building Site)
OPEN	Open District	
RS-10	Single Family Residential District	(Min. Building Site Area of 10,000 sf.)
RS-15	Single Family Residential District	(Min. Building Site Area of 15,000 sf.)
V-7.5	Resort-Hotel District	(Min. Land Area of 7,500 sf., Required for Each Dwelling Unit)



Gerald Park
Urban Planner
November 2011

Portion of Keaukaha Tract No. 1, Waiākea, District of South Hilo, Hawaii

Figure 4
Zoning
Keaukaha Elementary School Cafeteria

2. Water

Domestic water is available from Department of Water Supply 6" water mains in Desha and Pua Avenues. Water is drawn through a 2" meter on Desha Avenue and distributed throughout the school grounds..

Fire flow is provided from fire hydrants on streets surrounding the school. Fire hydrants nearest to the new cafeteria are at Pua and Desha Avenues and Pua Avenue and Pakele Lane.

3. Sewer

Approximately half of Keaukaha Subdivision Tract 1 to include Keaukaha School is connected to the County of Hawai'i sewer system (say from Kalaniano'le Avenue inland to Pakele Lane and Todd Avenue). The school is connected to a sewer main in Desha Avenue. The cafeteria will connect to a 10" sewer main in Pua Avenue

4. Drainage

The open field appears to be graded to receive runoff from the school buildings where it is allowed to evaporate or percolate into the ground. Besides roof drains on the school buildings facing the open field, drain inlets were seen in the open field near the County park parking lot and the intersection of Pakele Lane and Pua Avenue.

5. Power and Communication

Electrical power and communication systems are available from overhead systems on Desha Avenue, underground systems along Pua Avenue, and within the school.

6. Protective Services

Fire protection originates from the Central Fire Station on Kino'ole Street at Ponahawai Street about 3.0 miles away in Hilo.

Police protection originates from the Police Department's main station on Kapiolani Street in Hilo about 3.5 miles from the school.

7. Parks

Hualani Park, a 4.8 acre County of Hawai'i park, adjoins the school on its east and south sides. The park is improved with a gymnasium (Kāwananakoā Gymnasium) for indoor recreational activities and facilities for field sports including baseball, football (and soccer), and play apparatus for children. Associated improvements include a covered grandstand and bleachers for one of the baseball fields, field lights for night use, an electronic scoreboard, and an off-street parking lot.

Keaukaha residents refer to the park as Keaukaha's "Piko" or center and identify the park as a valuable cultural and educational resource for the community (DHHL, 2010).

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

The scope of the project was discussed with the consulting architect, members of the design team, and staff of the Facilities Development Branch, Department of Education. State and County agencies were contacted for information relative to their areas of expertise. The Principal of the school and staff kindly provided information about the school. Time was spent in the field noting site conditions and conditions in the vicinity of Keaukaha Elementary School. The sum total of the consultations and field investigations helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- Rare, threatened, or endangered flora or fauna are not found on the property;
- Archaeological resources are not found on the proposed cafeteria site and traditional cultural practices are not associated with the property;
- The school is not located in a flood hazard area;
- The school is located within a tsunami evacuation zone;
- There are no streams, ponds, or wetlands on the premises;
- County water is available from the existing on-site water system.; and
- Wastewater from the cafeteria will discharge into the County of Hawai'i system.

As a prelude to actual construction, existing utilities to the open area will be cut and plugged. Temporary hook-up to the water system will provide water for dust control. The construction area will be fenced and dust curtains erected around the site. A construction office will be erected (or a modular trailer used for an office) and the area around the office fenced for security and safety purposes. The general contractor will select a location for construction vehicle access to Pua Avenue; the access will be secured by a gate.

A. Short-term Impacts

Site work, a necessary function to prepare the land for building the temporary and permanent improvements to follow, is the first and probably the most disruptive construction activity on the environment. Approximately 55,000 square feet will be cleared and grubbed. Grubbing will remove vegetation and grading will establish preliminary and final design elevations.

Site work is a persistent source of fugitive dust. Site contractors are aware that fugitive dust is a nuisance to construction workers, people living and working near work sites, and in this instance school age children and staff. Because the project is proposed on school grounds, it is imperative for the contractor to maintain stringent dust controls. Water sprinkling is probably the most effective dust control measure given the size of the project site and the scale of the proposed improvements. Hilo's frequent (and heavy) rainfall will help in dust control. The contractor, however, may choose to implement other measures and best management practices based on their experience with similar projects and job site conditions. The frequent rainfall can result in muddy conditions. The contractor will be responsible for general housekeeping of the site and for keeping adjacent streets free of dirt, mud, and construction litter and debris. Pollution control measures shall comply with Chapter 60.1, Air Pollution Control regulations of the State Department of Health.

Keaukaha soils pose a slight erosion hazard under normal conditions. Dust generation can be magnified on windy days and the contractor will have to implement stringent dust control measures at those times.

Construction of the proposed improvements will involve grading and excavation. These activities are not anticipated to affect site topography since the area is relatively flat and free of unusual topographical features. Site work will involve excavation and grading to achieve the desired finish elevation. An area of approximately 55,000 square feet will be grubbed graded and the grading quantity is estimated at 2,000 cubic yards. Site work activities will expose soil thus creating opportunities for erosion and construction-related runoff. Impacts associated with site work can be mitigated by complying with standards, regulations, and Best Management Practices ("BMPs") specified in Chapter 10, Hawai'i County Code for erosion and sedimentation control. BMPs will be prepared for review and approval by the Departments of Public Works and Environmental Management. Examples of BMP measures include erecting silt/dust fences around the work site, placing filters around drain inlets, placing gravel fill at driveways to the construction area, and covering exposed soil with grass or other ground cover.

An NPDES permit for storm water runoff associated with construction activities will be required because more than one acre will be disturbed during construction.

Schools are considered noise sensitive facilities. Construction noise may be audible in classrooms and buildings adjoining the construction area but exposure is expected to vary in volume, frequency, and duration. Classroom buildings are located over 50 feet from the construction area and construction noise is not expected to persistently interfere with instruction. Construction barriers or fencing will be erected around the job site for noise mitigation, dust control (with dust screens), and people safety.

Noise will vary also by construction phase, the duration of each phase, and the type of equipment used during the different phases. For this project, noise will be most pronounced during the early stages when the site is grubbed, graded, and the foundation poured. Noise will diminish as the structure is erected and roofed. Once the structure is completed, most construction activities will take place inside and the exterior walls will help to attenuate noise.

Community Noise Control regulations establish a maximum permissible sound level for construction activities occurring within (acoustical) zoning districts. Land zoned residential is placed in the Class A zoning district. The maximum permissible sound level for excessive noise sources (to include stationary noise sources and construction and industrial activities) in the Class A zoning district is 55 dBA from 7:00 am to 10:00 pm and 45 dBA from 10:00 pm to 7:00 am (Hawaii Administrative Rules, Chapter 46, Community Noise Control, 1996). Construction activities often produce noise in excess of the permissible daytime noise level and a variance (or Noise Permit) may be needed. The contractor will be responsible for obtaining the variance and complying with applicable conditions.

Construction during nighttime hours is not proposed. Construction can be scheduled when school is not in session. This form of mitigation would preclude dust, noise, and construction vehicle traffic from adversely affecting daily school activities and provide for the safety of students, parents, and school staff.

The project is proposed on land that has been significantly altered by previous site work and construction of buildings and driveways. The open field has been altered by previous site work, landscaping in the form of grass, and several recreation facilities thus historic features were not observed. Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds. If *iwi kupuna* are uncovered and appear to be less than 50 years old, the County of Hawai'i Police Department will be notified. If the burials appear to be more than 50 years old, then the State Historic Preservation Officer and Hawai'i Island Burial Council will be notified. As a matter of protocol, both agencies will be notified for inspection and proper disposition of the finds.

Grass and on-site trees will be removed. The observed species are common to the Island of Hawai'i and State of Hawai'i. None are considered rare, threatened or endangered or proposed for that status.

A school driveway and parking lot off Pua Avenue will be the principal vehicle access for the cafeteria. Construction of the proposed service area and loading zone and construction traffic to and from the job site will, at times, temporarily impede traffic circulation on Pua Avenue. To minimize impacts, the contractor will:

- Post notices alerting drivers of scheduled work on and around the driveway and Pua Avenue;
- Position traffic cones or other directional devices to guide vehicles around work areas;
- Post flagmen for traffic control;
- Cover open trenches with steel plates during non-working hours and post safety devices with warning lights at night alerting motorists of the construction area; and

Vehicles carrying workers and material will contribute to traffic on Kalaniana'ole Street, the only direct route from Hilo Town and Hilo Harbor and on Pua Avenue. Material deliveries will be scheduled during non-peak traffic hours to minimize impact on traffic. Construction material will be unloaded at the construction area and not in the road right-of-way.

B. Long-term Impacts

The new cafeteria will replace the existing cafeteria that was constructed in 1951. Few persons would dispute the contention that a new and larger cafeteria will benefit students, faculty, Keaukaha School as a whole, parents of students, and the Keaukaha community.

Ambient air quality should not be adversely affected in the long-term. The principal source of air pollution is expected to be exhaust emissions from vehicles entering and exiting the school grounds and not the cafeteria. Emissions will be dispersed by the prevailing winds.

Cooking odors are not anticipated since the cafeteria will be a serving rather than a conventional kitchen. Meals will continue to be prepared at Hilo Intermediate School and delivered to Keaukaha School. Left over food will be returned to the central kitchen. Refuse (paper trays, napkins, and plastic utensils) will be deposited in on-site trash bins for collection and disposal or recycling.

Cafeteria operations and student use will generate noise during meals but this is to be expected in a congregate setting. Noise generally will be confined to within the cafeteria and should not affect classroom instruction in nearby buildings. Following meals there will be minimal noise emanating from the cafeteria until after school uses occupy the building. Aside from the school *per se*, there are limited noise sensitive uses such as residences to be affected.

Except for van that delivers daily meals (four trips per day for breakfast and lunch), no significant increase in vehicle traffic is anticipated as a result of this project. A change in delivery circulation is expected as the van will access the cafeteria from Pua Avenue rather than Desha Avenue as is now the case.

The new cafeteria will serve the same function and uses as the existing cafeteria but at a different location. Although larger in floor area than the existing cafeteria, there should be no significant increase in domestic water usage and wastewater flow compared to existing conditions. Consequently additional demands placed on existing public facilities are not anticipated. Changes or fluctuations in water use and wastewater flow are a function in part of student enrollment and not an in kind replacement building.

Storm water runoff is expected to increase. Runoff will be directed into drywells for retention and percolation into the ground. Low spots in the landscaped areas around the cafeteria also will aid in drainage control. A combination of on-site/off-site mitigation may be undertaken such that there are no adverse impacts to adjacent properties.

Electrical consumption and associated costs will be reduced through the use of energy efficient lighting, zone lighting in the dining area, occupancy sensors for automatically controlling light in the office, dry storage, and restrooms, fixtures, and using natural lighting and ventilation.

The cafeteria will be designed as a sustainable building as prescribed in LEED 2009 for Construction and Major Renovation. It is anticipated that the building will have lower operating costs, conserve energy and water, provide for the health and comfort of its users, and demonstrate a State commitment to sustainable building design and energy conservation.

The new cafeteria will present a new object to be seen on campus. At one-story in height, it will be the same height as many campus buildings. Trees and shrubs planted near or alongside the building will "soften" its mass and add a vertical element to its form. The new building will be visible to passersby on Pua Avenue and Hualani Park users because of its location adjacent to a road and public park, respectively. A Conceptual Rendering of the new cafeteria is shown on Figure 7.

Constructing the cafeteria at the proposed location will displace open space currently used for outdoor recreation and school functions. Relocating playground equipment and a multi-purpose will replace some existing recreation facilities but will not replace the existing open field. This impact cannot be avoided. To provide outdoor recreation space for students, the Department of Education will confer with the Department of Parks and Recreation County of Hawai'i about using a section of Hualani Park during normal school hours for outdoor activities.

Renovating the existing cafeteria into classrooms will allow for additional learning environments for grade levels for example that are sharing classrooms, classes where there are no classrooms *per se*, and programs/activities in makeshift space. The additional classrooms will add to the classroom stock with benefits for students and faculty.

A. No Action

A no action alternative would not achieve the objective of the project and would maintain the status quo of the cafeteria and the open field. A no action alternative would preclude the occurrence of all environmental impacts, short and long-term, beneficial and adverse described in this Assessment. State of Hawai'i resources committed to the planning and design of the cafeteria would be foregone.

B. Alternative Sites

There are no alternative sites on the school grounds large enough to construct a cafeteria. The open field is the only available area that can accommodate the proposed improvements.

Permits required for the project and responsible authorities are identified below. Additional permits and approvals may be required depending on final construction plans.

State of HawaiiDepartment of Health

NPDES General Permit
Variance from Pollution Controls (Noise Permit)

Department of Land and Natural Resources

State Historic Preservation Division 6E Clearance

County of Hawai'iDepartment of Planning

Plan Approval

Department of Public Works

Building, Electrical, and Plumbing Permit
Grubbing, Grading, Excavation and Stockpiling Permit

6

AGENCIES AND ORGANIZATIONS TO BE CONSULTED IN THE ENVIRONMENTAL ASSESSMENT REVIEW PROCESS

State of Hawai'i

Department of Hawaiian Home Lands
Department of Health
Department of Land and Natural Resources
 State Historic Preservation Division
Department of Transportation
 Airports Division
Office of Hawaiian Affairs

County of Hawai'i

Department of Environmental Management
Department of Parks and Recreation
Department of Planning
Department of Public Works
Department of Water Supply
Police Department
Fire Department

Elected Officials and Organizations

The Honorable William P. Kenoi, Mayor
Councilmember Dennis Onishi, Council District 4
Senator Malama Solomon, 1st Senatorial District
Representative Jerry L. Chang, 2nd Representative District
Hawaii Electric Light Company
Hawaii Tribune Herald
Hilo Public Library (Placement)
UH Hilo Library (Placement)
Keaukaha Community Association
Keaukaha Parent Teacher Association
Keaukaha School Foundation

Pre-assessment Consultation

State Historic Preservation Division
Planning Department, County of Hawai'i
Department of Water Supply, County of Hawai'i

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below:

1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

Natural or cultural resources are not associated with the open field/cafeteria site.

Should excavation unearth subsurface archaeological sites, artifacts, or cultural deposits, work in the immediate area will cease and the proper authorities notified for disposition of the finds.

2) Curtails the range of beneficial uses of the environment;

The project does not curtail the beneficial uses of the environment. The proposed project is a replacement project built on a different site but serving the same purpose and use as the existing cafeteria.

Constructing the new cafeteria on an open field used for recess and play by students cannot be avoided. Some of the playground facilities will be relocated and reconstructed but the loss of open space cannot be avoided.

Using the adjacent Hualani Park for outdoor recreation may be suitable mitigation measure but will require approval of the Department of Parks and Recreation, County of Hawai'i.

3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

The project does not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

4) Substantially affects the economic or social welfare of the community or State;

The project is not anticipated to substantially affect the economic or social welfare of the community or the State. It is anticipated, however, in the long-term that the project will provide more than just a cafeteria but a place for large group instruction, musical performances, assemblies, and other uses.

The cafeteria also will continue to be used as a meeting place for the community.

5) Substantially affects public health;

Public health will not be adversely affected. Short-term environmental impacts in the form of fugitive dust, noise from construction equipment, and minor erosion can be expected. These impacts can and will be mitigated by measures described in this Assessment and measures, such as best management practices for erosion control, to be submitted with construction plans and documents.

6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

Substantial secondary impacts are not anticipated.

7) Involves a substantial degradation of environmental quality;

Environmental quality will not be substantially degraded.

8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The project does not involve a commitment for larger actions that would affect the environment or surrounding area where the cafeteria is proposed.

9) Substantially affects a rare, threatened or endangered species, or its habitat;

Flora observed in the grassed open field is common to the County of Hawai'i and not listed or proposed for rare, threatened or endangered status.

10) Detrimentially affects air or water quality or ambient noise levels;

Ambient air quality will be affected by fugitive dust and combustion emissions during construction but can be controlled by measures stipulated in this Assessment. Construction noise may be pronounced during site preparation work but should diminish once the structural improvements are completed. All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Erosion control measures will be prescribed in grading plans and best management practices prepared for the project.

Construction noise will be audible at different parts of the school for the duration of construction. Food service operations and students talking will generate noise during lunch periods but this is to be expected. Following lunch periods and cafeteria clean up, there should be little to no noise emanating from building users.

11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

Keaukaha Elementary School is not located in an environmentally sensitive area.

12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or;

The one-story cafeteria building will not affect identified scenic vistas and view planes.

13) Requires substantial energy consumption.

Energy consumption and associated costs will be reduced through the use of energy efficient lighting, zone lighting in the dining area, occupancy sensors for automatically controlling light in the office, dry storage, and restrooms, fixtures, and using natural lighting and ventilation. PV panels may be included in the final design plans and would aid in reducing energy costs.

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