DAVID Y. IGE
GOVERNOR

KEITH T. HAYASHI
INTERIM SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

November 19, 2021

TO: Mr. Keith E. Kawaoka
Acting Director, Office of Environmental Quality Control
Department of Health

FROM: Edward S. Ige
Facilities Director, Facilities Development Branch

SUBJECT: **Chapter 343, Hawaii Revised Statutes, Draft Environmental Assessment and Anticipated Finding of No Significant Impact**
Kanoelani Elementary School – Shade Structure
Waipio, District of Ewa, Oahu, Hawaii
Job No.: Q84206-18
Tax Map Key: (1) 9-4-115: 003

The Hawaii State Department of Education has reviewed the Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) determination. Please publish this determination in the next edition of the Environmental Notice.

The project will provide increased capacity of the cafeteria by providing a covered facility for remote outdoor dining. Secondarily, the structure will serve as a covered, multi-purpose facility for school activities and functions.

A Portable Document Format copy of the DEA-AFONSI has been submitted to the Office of Environmental Quality Control (QEQC), and will be uploaded to the OEQC website. A printed copy of the DEA-AFONSI will be mailed to the Hawaii Documents Center.

Should you have any questions, please contact William George, Project Coordinator of the Facilities Development Branch, Project Management Section, at (808) 784-5129 or via email at william.george@k12.hi.us.

ESI:wg

c: Facilities Development Branch

From: webmaster@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Monday, November 29, 2021 9:19:20 AM

Action Name

Kanoelani Elementary School Shade Structure

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

ʻEwa, Oʻahu

Tax Map Key(s) (TMK(s))

[1] 9-4-115: 023

Action type

Agency

Other required permits and approvals

Variance from Pollution Control, DCAB Review, Historic Site Review (Chapter 6E HRS), Board of Water Supply Plan Review, Grubbing, Grading and Stockpiling, Building, Electrical, Plumbing, and Demolition Work, Honolulu Fire Department Plan Check

Proposing/determining agency

Department of Education, State of Hawaiʻi

Agency contact name

William George

Agency contact email (for info about the action)

William.george@k12.hi.us

Agency contact phone

(808) 768-5125

Agency address

3633 Waialae Avenue
Honolulu, Hawaii 96816
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Gerald Park Urban Planner

Consultant contact name

Gerald Park

Consultant contact email

gpark@gpup.biz

Consultant contact phone

(808) 625-9626

Consultant address

95-595 Kanamee Street #324
Mililani, Hawaii 96789-1431
United States
Map It

Action summary

The Department of Education, State of Hawai'i, proposes to construct improvements at Kanoelani Elementary School, District of 'Ewa, O'ahu, Hawai'i. The proposed action will increase the cafeteria capacity to accommodate the growing student population with remote food service and / or a dining facility,

The project is proposed at the south end of the campus on a grass lawn that is free of structures. A covered structure open on three sides will be constructed. Exterior walls are not proposed except the side facing Building C will be enclosed by a CMU wall. A capacity of 378 students is projected.

Roof runoff from the structure will be piped to an underground stormwater retention system to be constructed on the hillside to the east of the building site. The system is designed to hold approximately 4,000 cubic feet of water which would percolate into the ground.

The cost of the project is estimated at $7.0 million

Reasons supporting determination

See Draft Environmental Assessment, Section 7, Determination of Significance.

Attached documents (signed agency letter & EA/EIS)

- Kanoelani-Elem-School-Draft-EA.pdf
- DEA-AFONSI-Letter-Kawaoka-Kanoelani-ES-School-Shade-Structure-Q84206-18-signed.pdf

Action location map

- Kaneolani-Elem-School-Figure-1-Vicinity-Map-1-003.zip

Authorized individual

Gerald Park

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

DRAFT ENVIRONMENTAL ASSESSMENT

KANOELANI ELEMENTARY SCHOOL SHADE STRUCTURE

Waipio, District of ʻEwa, Oʻahu, Hawai'i

Prepared for

Department of Education, State of Hawaiʻi
Office of School Facilities and Support Services
Facilities Development Branch-Project Management Section
3633 Waialae Avenue
Honolulu, Hawaiʻi 96816

Kepakemapa 2021

DRAFT ENVIRONMENTAL ASSESSMENT

KANOELANI ELEMENTARY SCHOOL SHADE STRUCTURE

Waipio, District of 'Ewa, O'ahu, Hawai'i

Prepared in Partial Fulfillment of Chapter 343, Hawai'i Revised Statutes and Hawai'i Administrative Rules Chapter 11-200.1, Department of Health, State of Hawai'i

Prepared for

Department of Education, State of Hawai'i
Office of School Facilities and Support Services
Facilities Development Branch-Project Management Section
3633 Waialae Avenue
Honolulu, Hawai'i 96816

Prepared by

Gerald Park Urban Planner
95-595 Kaname'e Street, #324
Mililani, HI 96789

WhiteSpace Architects
2051 Young Street, 2nd Floor
Honolulu, HI 96826

Kepakemapa 2021

PROJECT PROFILE

Project:	Kanoelani Elementary School Shade Structure DOE Job No. Q84206-18
Street Address:	Kanoelani Elementary School 94-1091 Oli Loop Waipahu, O'ahu, Hawai'i
Proposing/Determining Agency:	Department of Education Facilities Development Branch State of Hawai'i 3633 Waialae Avenue Honolulu, Hawai'i 96816
Tax Map Key:	[1] 9-4-115: 023
Land Area:	6.0 acres
Land Owner:	State of Hawai'i
State Land Use Designation:	Urban
General Plan:	Rural
Sustainable Communities Plan:	Central Oahu
SCP Land Use Map:	*Residential and Low Density*
Zoning:	P-2 General Preservation
Special Management Area	Outside Special Management Area
Existing Use:	Public Elementary School
Need for Environmental Assessment:	Chapter 343, Hawai'i Revised Statutes §343-5(a)(1) Propose the use of state or county lands or state or county funds
Anticipated Determination:	Finding of No Significant Impact
Project Contact:	William George, Project Manager Department of Education Facilities Development Branch 3633 Waialae Avenue Honolulu, Hawai'i 96816 Telephone: (808) 768-5125 Email: William.george@k12.hi.us

TABLE OF CONTENTS

TABLE OF CONTENTS

FIGURES

TABLES

PHOTOGRAPHS

SECTION 1
DESCRIPTION OF THE PROPOSED ACTION

The Department of Education, State of Hawai'i, proposes to construct improvements at Kanoelani Elementary School, District of 'Ewa, O'ahu, Hawai'i. Kanoelani Elementary School ("School") is located in the Gentry Waipio residential community in Central Oahu. The School is bounded by Waipio Community Park to the north, residential dwellings the the east and south, and Oli Loop to the west.

The project area is identified as Tax Map Key [1] 9-4-115: 023 with an area of 6.0 acres. The lot is owned by the State of Hawai'i. A Vicinity Map and Tax Map are shown as Figures 1 and 2, respectively.

A. Purpose of the Proposed Action

The purpose of the proposed action is cited from the language appropriating funds for the project: Plans, design, and construction to increase the cafeteria capacity to accommodate the growing student population; including alternative or remote food service and / or dining facility, ground and site improvements; equipment and appurtenances.

B. Technical Characteristics

1. Demolition

The project is proposed at the south end of the campus on a grass lawn between Buildings A and B on the north, Building C on the east, a row of three portable classrooms on the west, and residential dwellings on the south (A Site Plan is shown as Sheet A100). Building C is a two-story classroom building and the others are one-floor in height.

The grass lawn will be grubbed and graded to design elevation. An outdoor concrete "stage" in the northeast corner will be demolished. A painted map of the United States including Hawaii and Alaska on the floor of the stage will be removed and relocated elsewhere on campus. Existing water lines adjoining and under the building site will be either be demolished and removed or cut and plugged and left in place.

There are no structures on the lawn thus no building will be demolished. Six areca palms behind the stage will be removed and several trees on a grass slope to the east will be removed.

2. Shade Structure

A covered structure open on three sides will be constructed. Exterior walls are not proposed except the side facing Building C will be enclosed by a CMU wall. The approximately 8,000 square foot structure (92' X 87') will serve principally as an open-air dining space with secondary uses as a breakout classroom, covered recreation area, performance area, and meeting space for the school and community (See Floor Plan, Sheet A 103). A capacity of 378 students is projected.

The structure will be erected on a poured in place concrete foundation and floor. The pre-engineered metal structure will be partially framed with CMU and topped by a pitched standing seam metal roof. Roll up gates on three sides will provide access, security, and air circulation. The building height is 25 feet and will not exceed the allowable height limit for the zoning district. Exterior Elevations are shown as Sheet A 202).

A raised stage (400 square feet) and storage rooms flanking the stage are proposed. Restroom facilities are available in the adjoining classroom buildings.

Roof runoff from the structure will be collected and piped to an underground stormwater retention system to be constructed on the hillside to the east of the building site (See Site Plan Sheet A100). An area of approximately 1,500 square feet will be excavated and four 48" diameter perforated pipes 45 feet in length installed. Aggregate will be deposited under and around the pipes for percolation and stability. Backfilling will restore the hillside to pre-construction conditions. The system is designed to hold approximately 4,000 cubic feet of water. An 8" diameter overflow will connect to an existing 18" drain line to the north of the retention system. A new storm drain manhole will be constructed for the connection. Civil Details of the system are shown as Sheet 503.

An existing 18" drain line passes under the building site. The line will be left in place and jacketed in concrete to mitigate against damage.

Water is available from the on-site water distribution system. New water lines will replace lines that are demolished. Restrooms are not provided so connection to the on-site wastewater system is not required.

The covered structure will be equipped with a sprinkler system in lieu of providing a fire lane for a fire apparatus. An 8" fire service line will be aligned along the south and east sides of the structure. A Site and Utility plan is shown as Sheet C 203.

C. Economic Characteristics

The cost of the project is estimated at $7.0 million and will be funded by the State of Hawai 'i. The improvements will be constructed in one phase with construction start-up in June 2022 and completion by August 2023 (14 months). Work will commence after all permits and approvals have been received.

D. Social Characteristics

A significant portion of the grass lawn and ancillary improvements will be removed from use for recess, school assemblies, outdoor performances, and a play area for the after-school program. Displaced uses can be resumed "under roof" when the structure is completed.

Source: Google Maps 2021 Imagery

LINEAL SCALE (FEET)
250 125 0 125 250 500

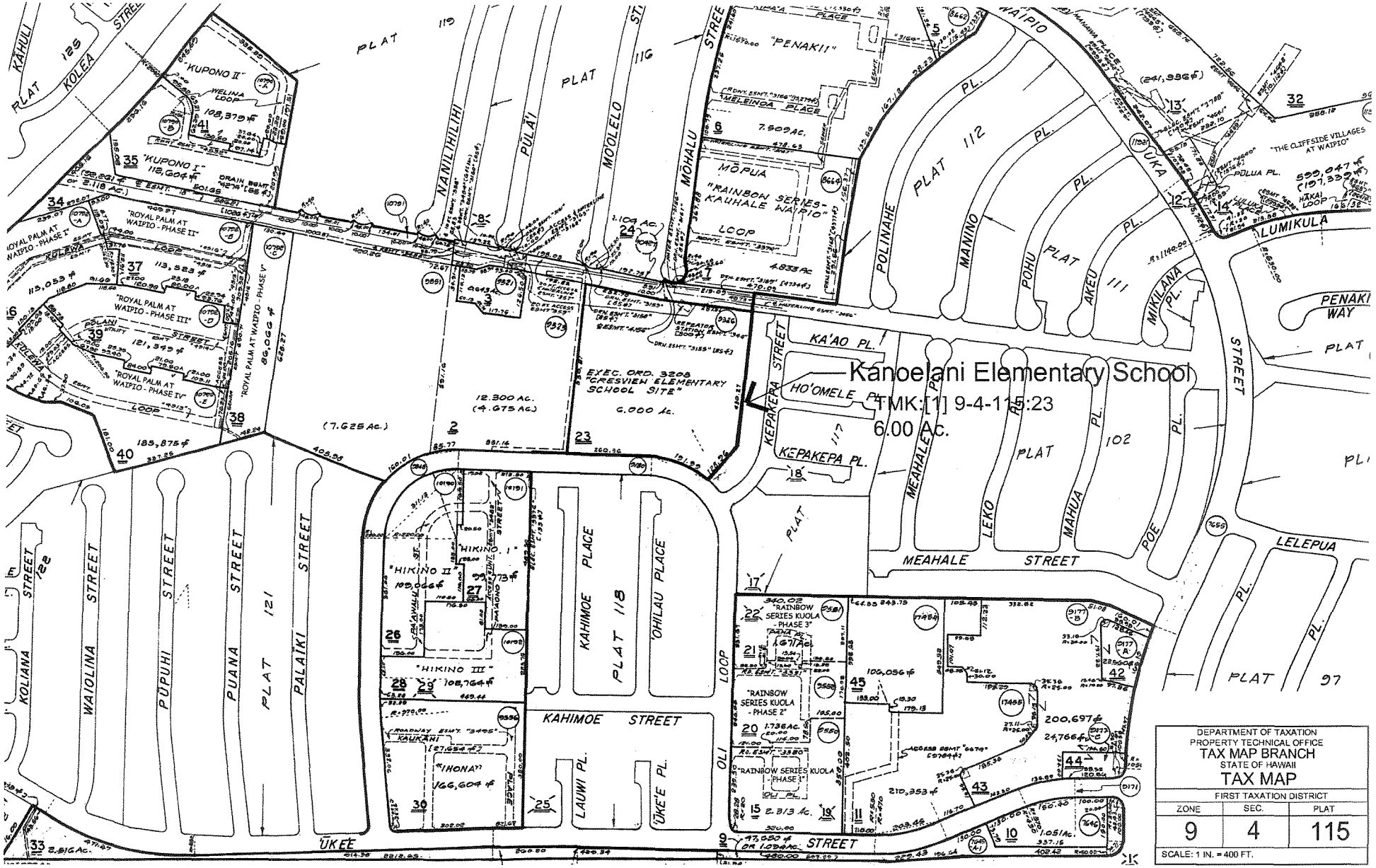
NORTH

Figure 1
Vicinity Map
Kanoelani Elementary School

Gerald Park
Urban Planner
March 2021

Waipi'o, District of 'Ewa, O'ahu

Department of Education, State of Hawai'i



Source: City & County of Honolulu GIS Website

LINEAL SCALE (FEET)
200 100 0 100 200 400

NORTH

Gerald Park
Urban Planner
March 2021

Figure 2
Tax Map
Kanoelani Elementary School

Waipi'o, District of 'Ewa, O'ahu

Department of Education, State of Hawai'i

Source: Google Maps 2021 Imagery

LINEAL SCALE (FEET)
50 25 0 25 50 100

NORTH

Figure 3
Campus Map
Kanoelani Elementary School

Gerald Park
Urban Planner
March 2021

Waipi'o, District of 'Ewa, O'ahu

Department of Education, State of Hawai'i

Sheet A101

Site Plan

P21
NO SCOPE

P22
NO SCOPE

P23
NO SCOPE

P24
NO SCOPE

P25
NO SCOPE

P26
NO SCOPE

P27
NO SCOPE

CLASSROOM BLDG B
NO SCOPE

CLASSROOM BLDG B
NO SCOPE

CLASSROOM BLDG C
NO SCOPE

P28
NO SCOPE

SHADE STRUCTURE
SEE SHADE STRUCTURE FLOOR PLAN ON 1/A103

DETENTION BASIN, SEE CIVIL

CLASSROOM BLDG A
NO SCOPE

CLASSROOM BLDG A
NO SCOPE

SEE CAFETERIA FLOOR PLAN ON 1/A101

LIBRARY BLDG E
NO SCOPE

P1
NO SCOPE

P2
NO SCOPE

P3
NO SCOPE

P4
NO SCOPE

P5
NO SCOPE

P6
NO SCOPE

ADMIN BLDG G
NO SCOPE

CLASSROOM BLDG F
NO SCOPE

PARKING

1 SITE PLAN
Scale: 1" = 20'

REVISION NO.	SYM.	DESCRIPTION	SHT__ OF__	DATE	APPROVED:

PHILIP K. WHITE
LICENSED PROFESSIONAL ARCHITECT
No. 5537
HAWAII, U.S.A.

License Expires 4-30-22

This work was prepared by me or under my supervision, and construction of this project will be under my observation.

DEPARTMENT OF EDUCATION
STATE OF HAWAII

KANOELANI ELEMENTARY SCHOOL
CAFETERIA - EXPANSION/RENOVATION

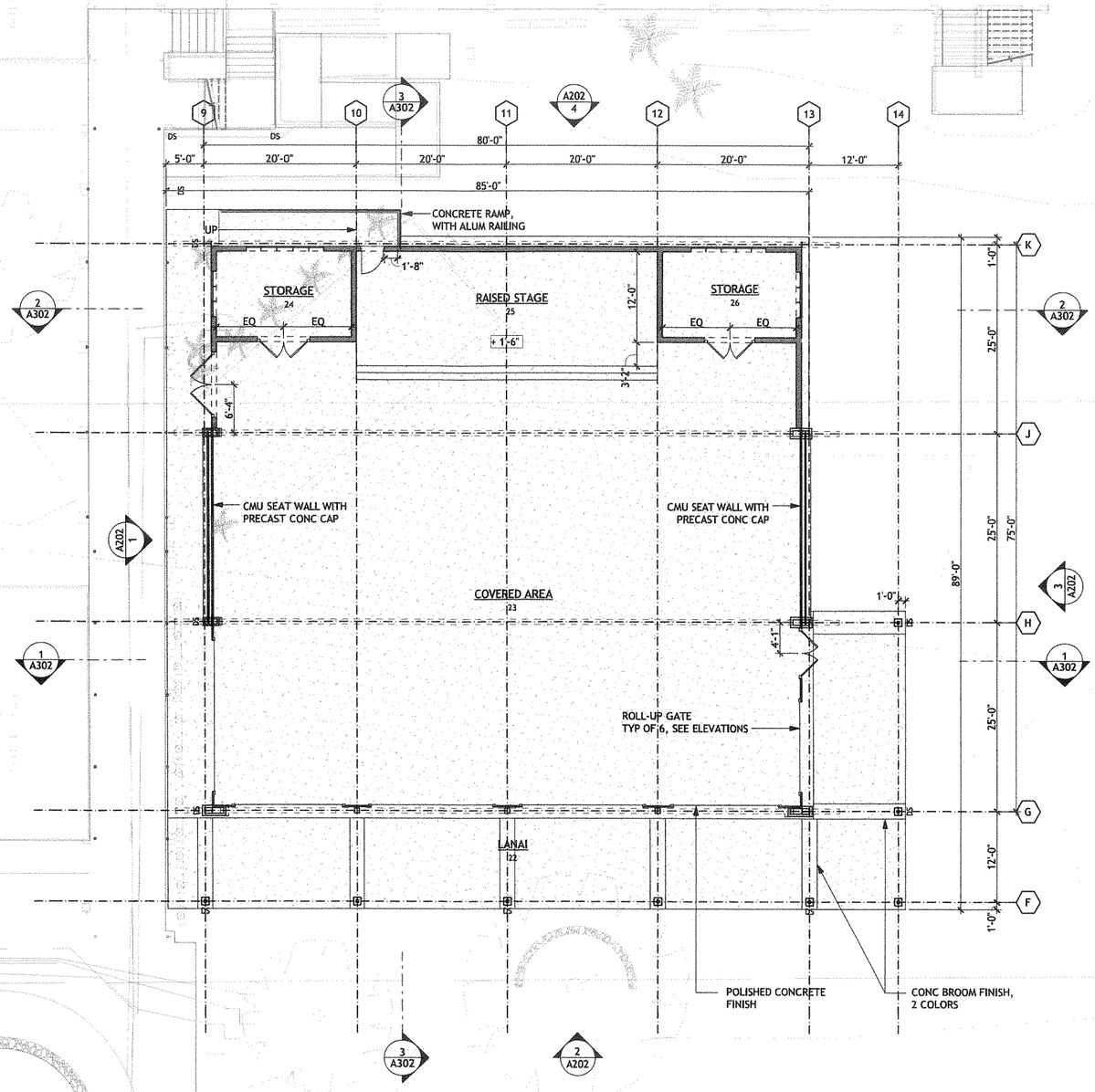
WAIPAHU OAHU HAWAII

SITE PLAN

WHITESPACE ARCHITECTS		JOB NO.	DRAWING NO.
DESIGNED BY: PW, LA	CHECKED BY:	Q84206-18	A100
DRAWN BY:	APPROVED BY:	DATE 05/20/221	SHEET 9 OF 81 SHTS
SCALE:			

FILE _____ DRAWER _____ FOLDER _____

CLASSROOM BLDG B
NO SCOPE



CLASSROOM BLDG A
NO SCOPE

P1
NO SCOPE

P2
NO SCOPE

P3
NO SCOPE

1 FLOOR PLAN - SHADE STRUCTURE

Scale: 1/8" = 1'-0"

0 4' 8' 16'

REVISION NO.	SYM.	DESCRIPTION	SHT__ OF__	DATE	APPROVED:

PHILIP K. WHITE
LICENSED PROFESSIONAL ARCHITECT
No. 5537
HAWAII, U.S.A.

License Expires 4-30-22

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DEPARTMENT OF EDUCATION
STATE OF HAWAII

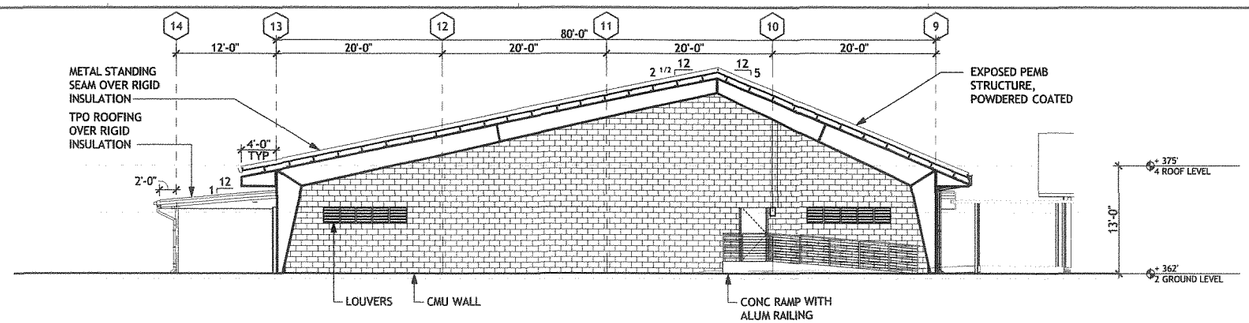
KANOELANI ELEMENTARY SCHOOL
CAFETERIA - EXPANSION/RENOVATION

WAIPAHU OAHU HAWAII

FLOOR PLAN - SHADE STRUCTURE

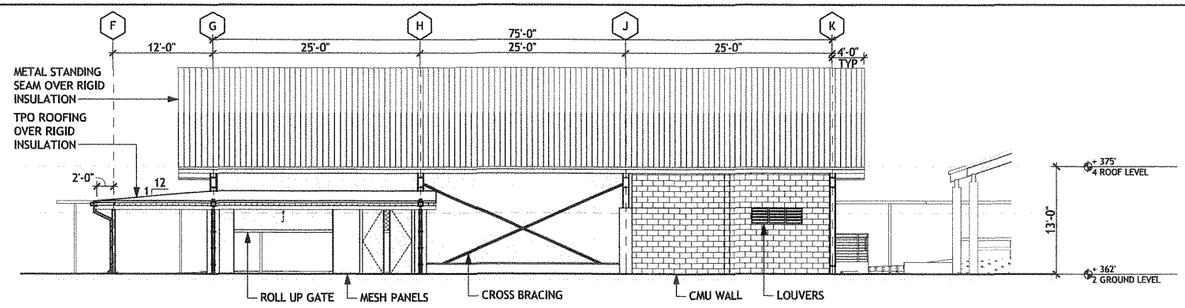
WHITESPACE ARCHITECTS		JOB NO.	DRAWING NO.
DESIGNED BY: PW, LA	CHECKED BY:	Q84206-18	A103
DRAWN BY:	APPROVED BY:	DATE 05/20/221	SHEET 12 OF 81 SHTS
SCALE:			

FILE _____ DRAWER _____ FOLDER _____



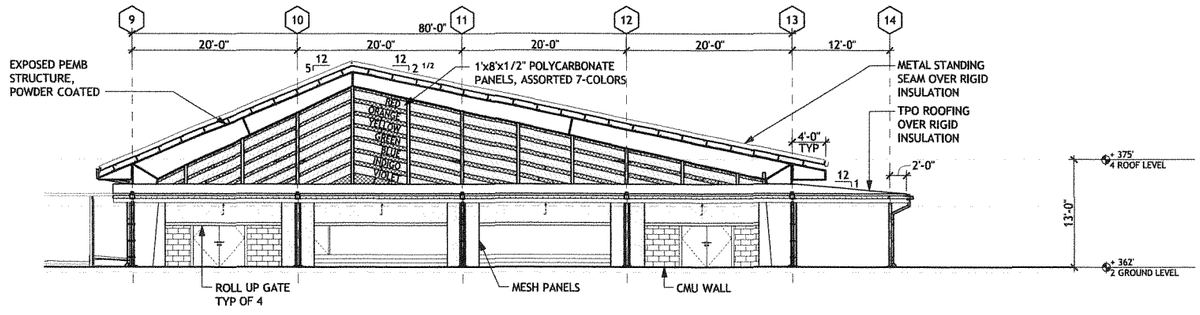
4 CLASSROOM ELEVATION

Scale: 1/8" = 1'-0"



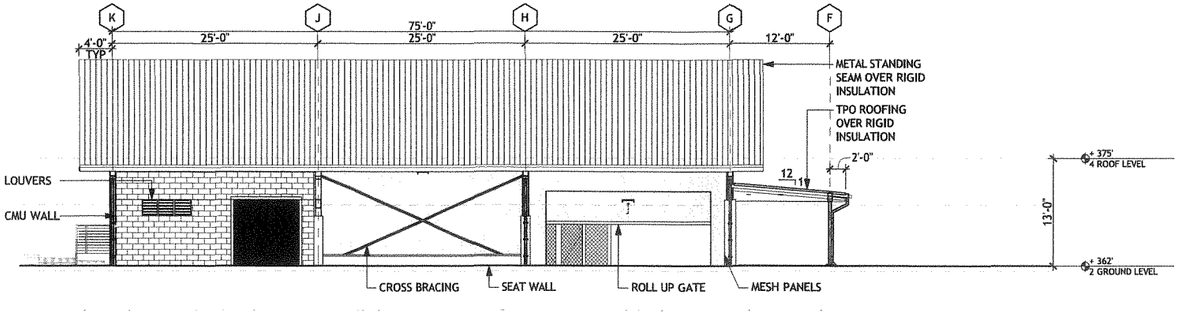
3 RESIDENTIAL ELEVATION

Scale: 1/8" = 1'-0"



2 PORTABLES ELEVATION

Scale: 1/8" = 1'-0"



1 WALKWAY ELEVATION

Scale: 1/8" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT__ OF__	DATE	APPROVED:

PHILIP K. WHITE LICENSED PROFESSIONAL ARCHITECT No. 5537 HAWAII, U.S.A.

License Expires 4-30-22

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DEPARTMENT OF EDUCATION
STATE OF HAWAII

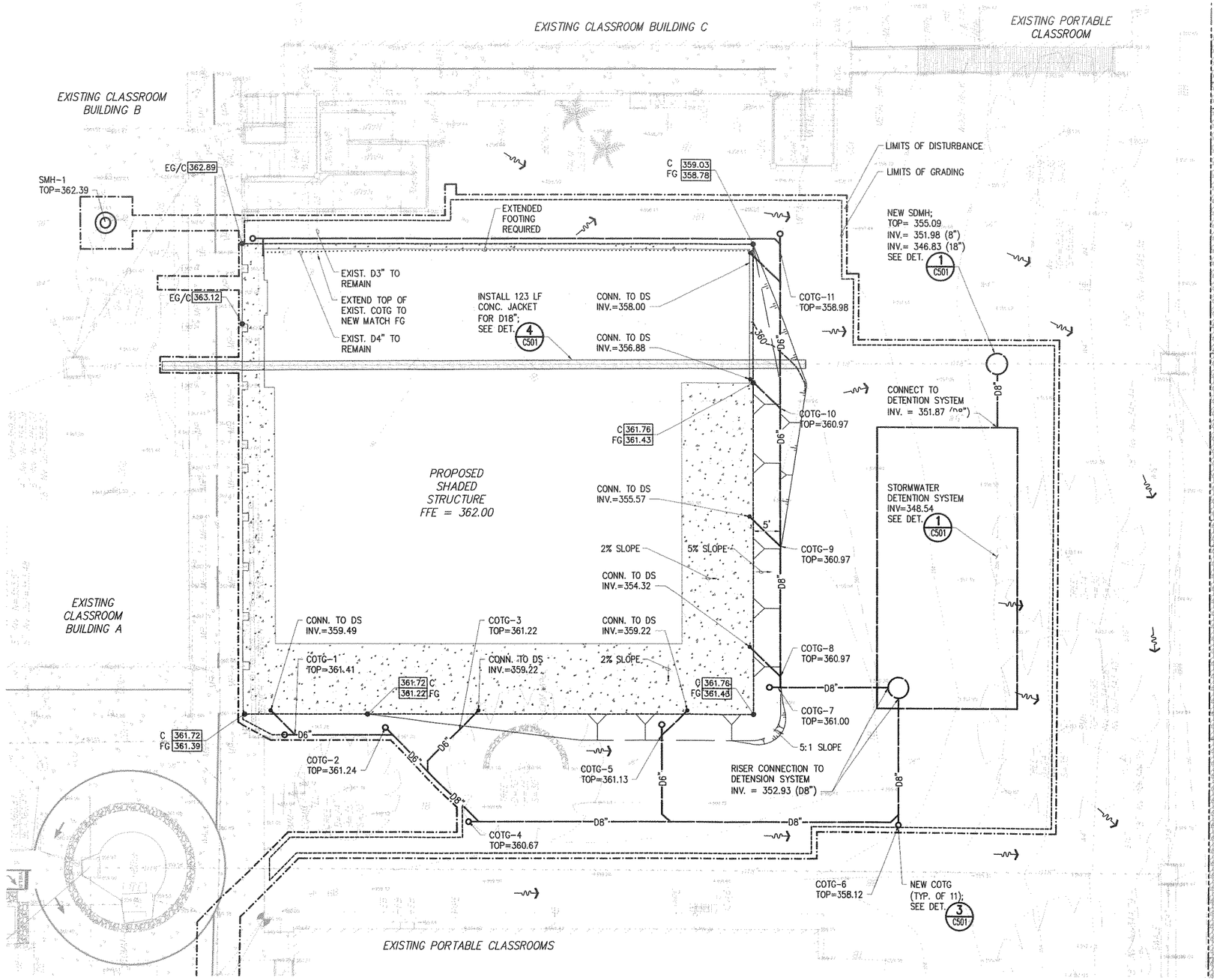
KANOELANI ELEMENTARY SCHOOL
CAFETERIA - EXPANSION/RENOVATION

WAIPAHU OAHU HAWAII

EXTERIOR ELEVATIONS - SHADE STRUCTURE

WHITESPACE ARCHITECTS		JOB NO.	DRAWING NO.
DESIGNED BY: PW, LA	CHECKED BY:	Q84206-18	A202
DRAWN BY:	APPROVED BY:	DATE 05/20/221	SHEET 18 OF 81 SHTS
SCALE:			

FILE _____ DRAWER _____ FOLDER _____



GRADING AND DRAINAGE PLAN – SHADE STRUCTURE

SCALE: 1"=10'

LEGEND:

- PROPERTY LINE
- LIMITS OF DISTURBED AREA
- LIMITS OF GRADING
- EXIST. CONTOUR
- 360 PROPOSED CONTOUR
- EXIST. DRAIN LINE
- D8" NEW DRAIN LINE
- TOP OF SLOPE
- BOTTOM OF SLOPE
- 5% SLOPE
- 5:1 SLOPE
- EXIST. CONCRETE
- NEW CONCRETE
- 362.0 C CONCRETE ELEVATION
- 361.5± FG FINISHED GROUND ELEVATION
- 358.5 EG EXIST. GROUND ELEVATION
- EXIST. SPOT ELEVATION
- FLOW DIRECTION

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP — DATE

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED:

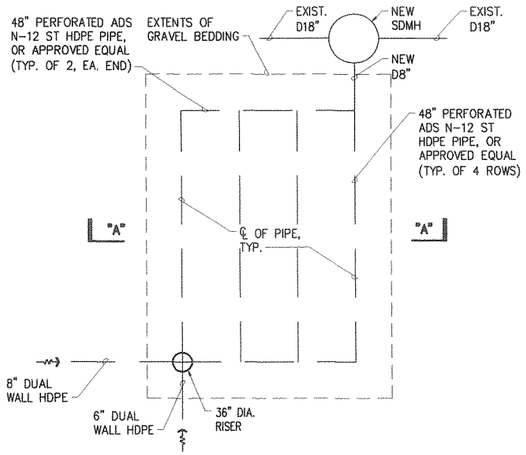
DEPARTMENT OF EDUCATION
STATE OF HAWAII

KANOELANI ELEMENTARY SCHOO
CAFETERIA - EXPANSION/RENOVATION

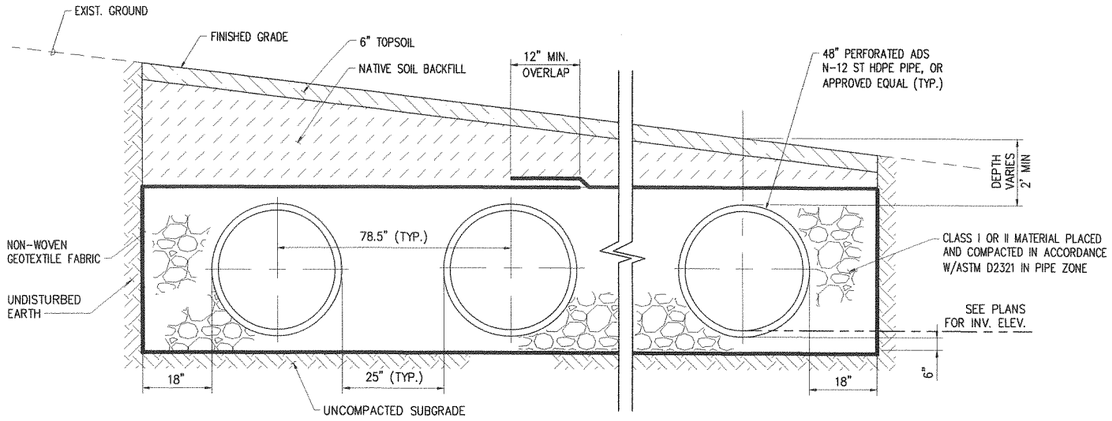
WAIPAHU OAHU HAWAI

GRADING AND DRAINAGE PLAN
SHADE STRUCTURE

THE LIMTIACO CONSULTING GROUP, INC.		JOB NO.	DRAWING N
DESIGNED BY: TLCG	CHECKED BY:	Q84206-18	C302
DRAWN BY:	APPROVED BY:	DATE: 05/20/2021	SHEET 10 OF 36 SI
SCALE:			

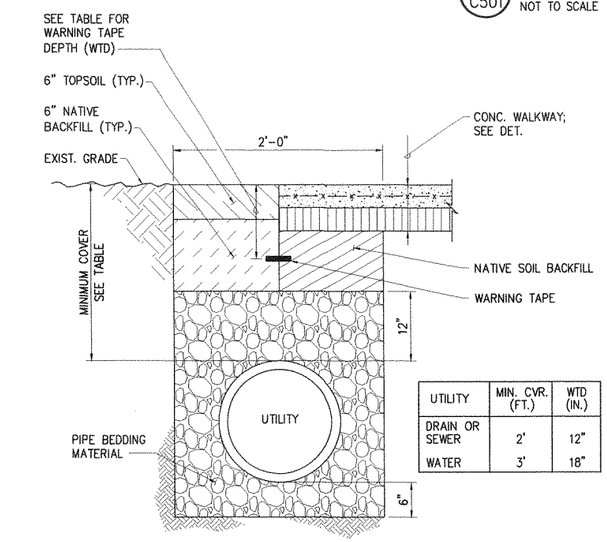


PLAN



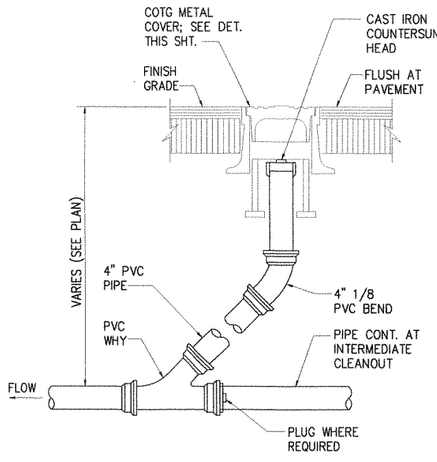
SECTION A-A

1 / C501 STORMWATER DETENTION SYSTEM DETAIL
NOT TO SCALE

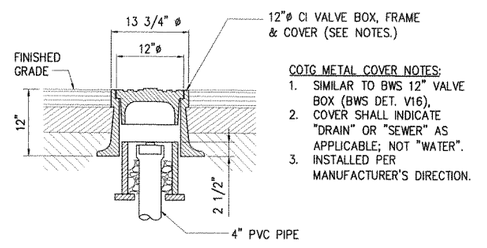


UTILITY	MIN. CVR. (FT.)	WTD (IN.)
DRAIN OR SEWER	2'	12"
WATER	3'	18"

2 / C501 UTILITY TRENCH DETAIL
NOT TO SCALE

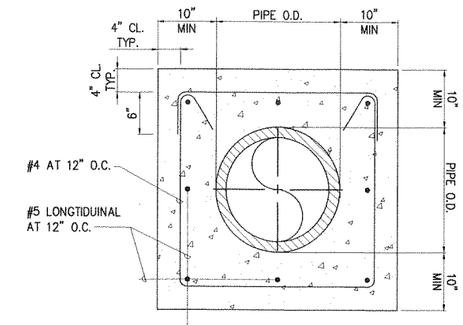


3 / C501 CLEANOUT TO GRADE DETAIL
NOT TO SCALE

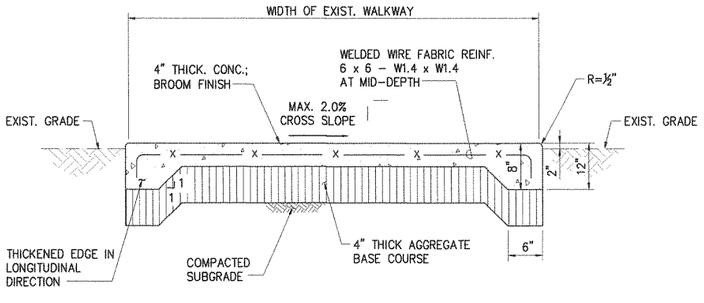


COTG METAL COVER NOTES:
1. SIMILAR TO BWS 12" VALVE BOX (BWS DET. V16),
2. COVER SHALL INDICATE "DRAIN" OR "SEWER" AS APPLICABLE; NOT "WATER".
3. INSTALLED PER MANUFACTURER'S DIRECTION.

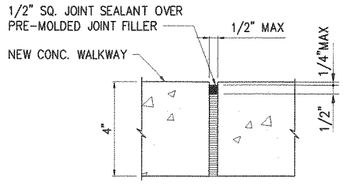
COTG METAL COVER DETAIL



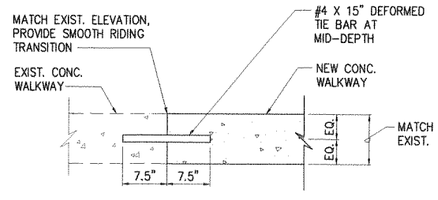
4 / C501 DRAIN LINE REINFORCED CONCRETE JACKET DETAIL
NOT TO SCALE



5 / C501 CONCRETE WALKWAY DETAIL
NOT TO SCALE



6 / C501 EXPANSION JOINT DETAIL
NOT TO SCALE



7 / C501 CONCRETE CONNECTION DETAIL
NOT TO SCALE

NOTE:
TIE BAR SHALL BE PLACED MID DEPTH AT 18" O.C. MAX. DRILL 1/2" DIA. HOLE AND FILL WITH NON-SHRINK EPOXY GROUT. CLEAN AND ROUGHEN EXPOSED SURFACE AND APPLY EPOXY-RESIN ADHESIVE PRIOR TO POURING CONCRETE.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP — DATE

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED:

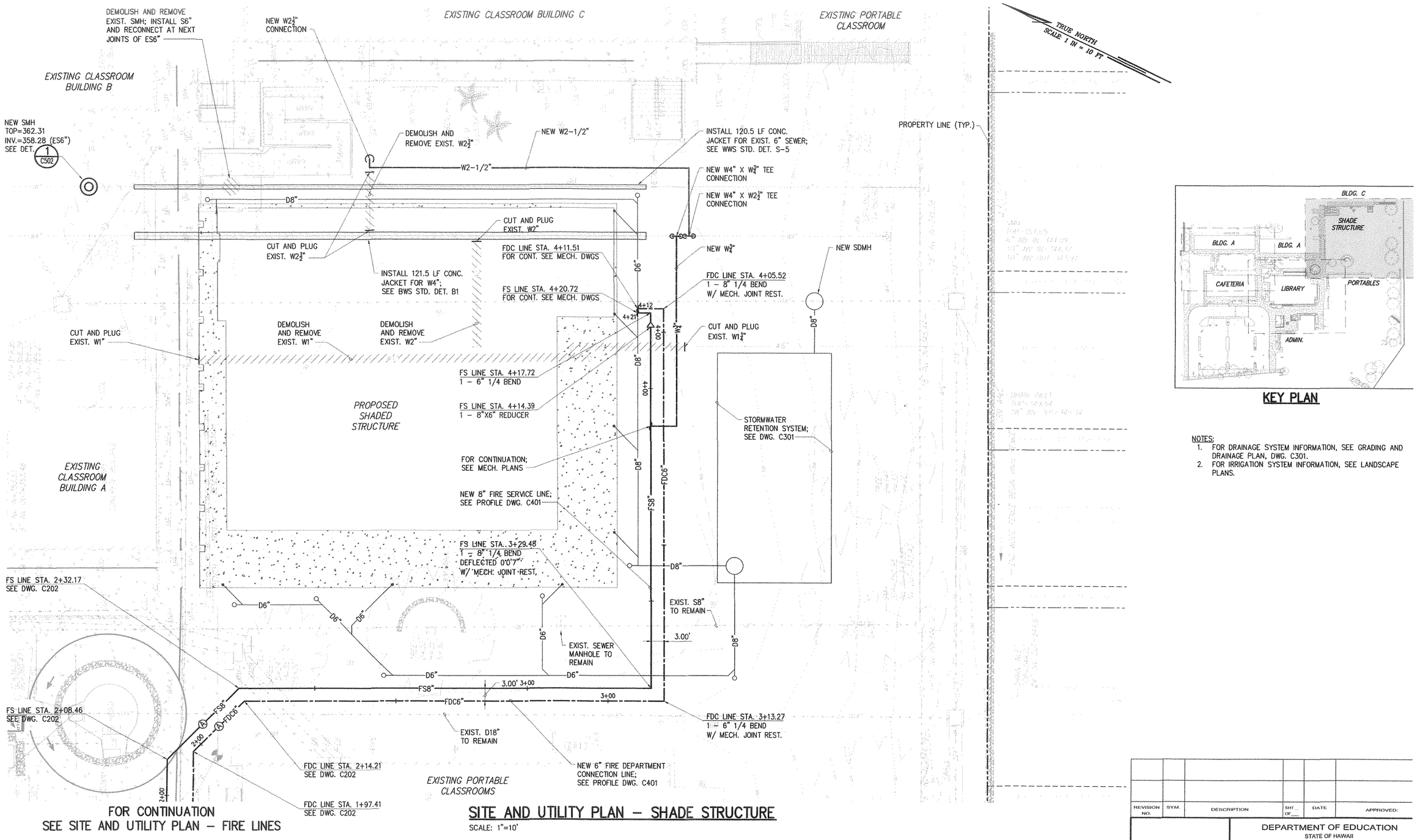
DEPARTMENT OF EDUCATION
STATE OF HAWAII

KANOELANI ELEMENTARY SCHOO
CAFETERIA - EXPANSION/RENOVATION

WAIPAHU — OAHU — HAWAI

CIVIL DETAILS 1

THE LIMTIACO CONSULTING GROUP, INC.		JOB NO. Q84206-18	DRAWING NO. C501
DESIGNED BY: TLCG	CHECKED BY:		
DRAWN BY:	APPROVED BY:	DATE 05/20/2021	SHEET 13 OF 36 SI
SCALE:			



SITE AND UTILITY PLAN - SHADE STRUCTURE

SCALE: 1"=10'

KEY PLAN

NOTES:
1. FOR DRAINAGE SYSTEM INFORMATION, SEE GRADING AND DRAINAGE PLAN, DWG. C301.
2. FOR IRRIGATION SYSTEM INFORMATION, SEE LANDSCAPE PLANS.

LEGEND:

- PROPERTY LINE
- EASEMENT LINE
- EXIST. SEWER LINE
- EXIST. DRAIN LINE
- EXIST. WATER LINE
- D8" NEW DRAIN LINE
- W2" NEW WATER LINE
- FS8" NEW FIRE SERVICE LINE
- FDC6" NEW FIRE CONNECTION LINE
- NEW CONCRETE JACKET
- NEW DRAIN MANHOLE
- NEW SEWER MANHOLE
- EXIST. SEWER MANHOLE TO BE DEMOLISHED

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED:

DEPARTMENT OF EDUCATION
STATE OF HAWAII

KANOELANI ELEMENTARY SCHOO
CAFETERIA - EXPANSION/RENOVATION

WAIPAHU OAHU HAWAI

SITE AND UTILITY PLAN - SHADE STRUCTURE

THE LIMTIACO CONSULTING GROUP, INC.		JOB NO.	DRAWING
DESIGNED BY: TLCG	CHECKED BY:	Q84206-18	C203
DRAWN BY:	APPROVED BY:	DATE: 05/20/2021	SHEET 8 OF 36 SI
SCALE:			

SECTION 2
DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Background

Kanoelani Elementary School opened in 1982 at its present location with two permanent buildings and several portable classrooms. Additional permanent buildings were later added and today the campus features 7 permanent buildings and 14 portable classrooms (Department of Education, 2006).

Table 1. Campus Buildings

Building	Design Use	Year Built	# Floors
A	Classroom	1982	1
B	Classroom	1982	1
C	Classroom	1984	2
D	Serving Kitchen	1987	1
E	Library	1998	1
F	Classroom	1987	1
G	Administration	1998	1
*P1 - P28	Portable Classrooms	1966 - 1997	1
*14 Portables			

Source: Department of Education, 2006

Enrollment in kindergarten to Grade 6 and Special Education totaled 756 students in school year 2020-2021 (Communication, 2021). The design capacity is 800 students. Full-time staff numbers 105 to include administrators, clerical staff, specialty positions, faculty, and support personnel.

The School is part of the Leeward Oahu School District Pearl City-Waipahu Complex Area of the Leeward Oahu School District. Complex areas consist of elementary, middle, and high schools within geographic areas on Oahu. Kanoelani Elementary School is in the Pearl City Complex that includes Lehua, Manana, Momilani, Palisades, Pearl City, Pearl City Highlands, and Waiau Elementary Schools; Highlands Intermediate School, and Pearl City High School. Elementary schools "feed" students to the intermediate school which in turn "feed" students into high school.

The grass lawn is located in a U-shaped area formed by Buildings A and B to the west, Building C to the north, and a row of portable classrooms to the south (See Photograph 1). The open side faces residential dwellings to the east. Within these boundaries, the lawn is about 56,000 square feet in area. It is slightly raised above adjoining areas and trends downwards along a grass slope to the east (See Photograph 2). Measured from the edges of the adjoining buildings. A raised structure / platform in the northeast corner has a level surface with a map of the continental United States including Hawai'i and Alaska. The

platform is used for outdoor performances. The lawn is usually used for recess, school assemblies, and a play field for the after-school program

Photograph 1. West View of Lawn Area. Building A in background and Building C on the Right.

Photograph 2. Approximate Location of Underground Retention System.

B. Climate

The climate of the Waipio area can be characterized as warm and tropical. Annual rainfall averages 108 inches with precipitation averaging 6.5 inches in June and 11.8 inches in March. Normal monthly high temperatures range from a low of 80^0 F January to a high of 890 F in August. Monthly low temperatures range from 65^0 F in February to a high of 74^0 F in August (Department of Design and Construction, 2015).

Prevailing winds blow from a northeast direction at an average 10-13 mph.

C. Topography

The building site is relatively flat with ground elevation averaging 361 feet over the building site. The site of the underground detention system ranges in elevation from 360 feet at the top of slope to 356 feet along the toe of the slope.

D. Soils

Based on Soil Conservation Soil Maps (1972) it appears that the major soil type is Molokai silty clay loam (Symbol MuB). Characteristics for this soil is slow to moderate runoff and slight to moderate erosion hazard. This soil was mapped in 1972 well before the area was urbanized for development of the Gentry Waipio community. Mass grading for residential subdivision, commercial uses, and industrial warehousing probably altered the surface of the soil type and imported engineered fill and topsoil altered its composition. This act of land transformation more than likely also occurred at the School site.

E. Flood Hazard and Drainage

The Flood Hazard Assessment Map for the Waipio community places it in Flood Zone D which is defined as "unstudied areas where flood hazards are undetermined but flooding is possible".

The building site is well drained. Runoff from Buildings A and B are conveyed by an 18" drain lines under the building site to a drain inlet at the bottom of the hill. A second 18" drain line extends from a circular monument near Building A, passes the portable classrooms, and discharges into a second inlet at the bottom of the hill.

Runoff from the lawn flows from west to east downhill into two drain inlets and a lined swale at the bottom of the hill. The inlets discharge runoff into a 24" line which outlets into the municipal system in Oli Loop.

F. Water Resources

1. Surface Water

There are no freshwater streams, rivers, ponds, or wetlands on the school grounds.

LEGEND

Source: DLNR Flood Assessment Tool Website

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND *(Note: legend does not correspond with NFHL)*	
SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:	
	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.
NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.	
	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.
OTHER FLOOD AREAS	
	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

LINEAL SCALE (FEET)
150 75 0 75 150 300

NORTH

Gerald Park
Urban Planner
March 2021

Figure 4
Flood Hazard Assessment Map
Kanoelani Elementary School

Waipi'o, District of 'Ewa, O'ahu

Department of Education, State of Hawai'i

2. Groundwater

Groundwater maps prepared by Mink and Lau (1990) show Waipi'o overlies the Waiawa aquifer of the Pearl Harbor aquifer sector (See Table 2). The Waiawa aquifer is characterized as an unconfined basal aquifer occurring in flank lavas. It provides fresh drinking water, is considered irreplaceable, and highly vulnerable to contamination.

Table 2. Aquifer Classification System

Aquifer Code	**30202111**
Island Code	3 - Oahu
Aquifer Sector	02 - Pearl Harbor
Aquifer System	02 - Waiawa
Aquifer Type, Hydrogeology	1 - Basal
Aquifer Condition	1 - Unconfined
Aquifer Type, Geology	1 - Flank
Status Code	**11111**
Developmental Stage	1 - Currently Used
Utility	1 - Drinking
Salinity (mg/l Cl^-)	1 – Fresh (<250)
Uniqueness	1 - Irreplaceable
Vulnerability to Contamination	1 - High

Source: Mink and Lau, 1990

G. Biological Resources

The building site is sparsely vegetated with the grass lawn the principal form of vegetation. Formosan koa are planted on the grass slope to the east. A shower tree and gold tree grow on the south side of the lawn near the row of portable classrooms. Short (c. 3"-0") areca palms are planted behind the raised stage.

H. Historical Resources

No historic features were observed on the ground surface during the field inspection. The lawn area (and the remainder of the campus) has been graded, filled, and terraced to accommodate construction of permanent and temporary buildings, pavements, walkways, drainage and utilities, and landscaping.

I. Land Use and Controls

State and County land use controls are cited below:

State Land Use Designation: Urban
General Plan Development Pattern:
Sustainable Communities Plan (SCP): Central Oahu
SCP Land Use Map: Residential and Low Density Apartment
Zoning: P-2 General Preservation (See Figure 4)

Source: City & County GIS Website.

3/9/2021, 10:58:47 AM

Parcel Info

Zoning

A-1 A-2 AG-1 AG-2 B-1 B-2 F-1 I-2 IMX-1 P-2 R-5

LINEAL SCALE (FEET)
250 125 0 125 250 500

NORTH

Gerald Park
Urban Planner
March 2021

Waipi'o, District of 'Ewa, O'ahu

Figure 5
Zoning
Kanoelani Elementary School

Department of Education, State of Hawai'i

Public uses and structures are permitted in the P-2 General Preservation zoning district (Land Use Ordinance, Table 21-3). Public uses and structures "mean uses conducted by or structures owned or managed by the federal government, the State of Hawaii or the city to fulfill a governmental function, activity or service for public benefit and in accordance with public policy" (Land Use Ordinance, Definitions, 1968). A public school is identified as a typical example of public uses and structures.

The School is not located on or near the shoreline and is outside of the County delineated Special Management Area ("SMA"). SMA permitting is not required.

J. Public Facilities

Oli Loop, a two-lane, two-way, all-weather surfaced roadway bounds the School on the west. The street is fully improved with curbs, gutters, sidewalks, and planting strips on both sides of the travel lanes. The speed limit is 25 mph fronting the School.

Potable **water** is supplied by the Board of Water Supply, City and County of Honolulu. Water is supplied from a lateral in Oli Loop. The on-site water system distributes domestic water throughout the campus.

Fire flow is delivered by 6" fire service lines from Oli Loop.

The on-site wastewater system consists of 8" and 10" laterals. Wastewater is collected and discharged into a main in Oli Loop and conveyed

Protective services originate from the Pearl City Police Station on Waimano Home Road in the Pearl City community. The station is approximately 3.0 miles to the east of the Waipi'o community.

Fire protection originates from the Waikele Fire Station (Station 42) on Lumiaina Street approximately 1.6 miles away.

The City and County of Honolulu recently operationalized a stand-alone Ambulance facility in Waipi'o on Uke'e Street. The two-ambulance facility is approximately 0.5 miles away.

Waipi'o Neighborhood Park bounds the School to the north. The City-owned **park facilities** include a comfort station, play fields for baseball, softball, and a multi-purpose field for youth football and soccer. Courts are provided for basketball, volleyball, and tennis (Department of Parks and Recreation, 1997).

The School uses the park for recess, drills, PE activities, and occasionally school-wide events such as May Day and a fun run (Communication, 2021).

K. Views

The Central O'ahu Sustainable Communities Plan (2021) does not identify Kanoelani Elementary School as an feature to be seen in panoramic or stationary views for the Gentry Waipio community.

SECTION 3
SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

A. Assessment Process

The scope of the project was discussed with the Project Manager for the Department of Education and the consulting architect. State and County agencies were contacted for information relative to their jurisdiction, expertise, and areas of concern. Time was spent in the field surveying site conditions and conditions in the vicinity of the School. Comments were sought from public agencies and property owners adjoining the building site. From the discussions and field investigations, existing conditions and features that could be affected by or affect the project were identified. These influencing conditions are:

- Kanoelani Elementary School opened in 1982;
- There are no archaeological features on the building site;
- There are no rare, threatened, or endangered flora and fauna on the building site;
- There are no surface water bodies on the premises;
- Existing water and sewer service is adequate;
- Construction will preclude use of the grass lawn for outdoor recreation and school functions in the short and long-term.

B. Short-term Impacts

1. Air Quality

Construction will temporarily affect air quality. Demolition, grubbing, grading, stockpiling, backfilling and other soil (or earth) moving activities will raise fugitive dust that can settle in adjoining areas. Windy conditions coupled with exposed soil can create severe dust problems. The general contractor will employ dust control measures to prevent the building site and construction equipment and activities from causing significant dust generation. Control measures shall comply with Chapter 60.1, Air Pollution Control, Title 11, Department of Health, State of Hawaii (and revisions thereto). The site work contractor may implement alternative methods adaptable to the scope of the improvements and features of the site.

Most construction equipment and vehicles are diesel powered and emit exhaust emissions typically high in nitrogen dioxide and low in carbon monoxide. The Federal and State nitrogen dioxide standard ---100mg/m^3 per annum---which is an annual standard, is not likely to be exceeded during construction. Carbon dioxide emissions should be less than that generated by automobile traffic on adjoining streets. Aldehyde odors from diesel equipment may be detected but should be dispersed by the prevailing winds.

2. Noise

Construction noise, like fugitive dust, cannot be avoided. Exposure to noise will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Maximum sound levels in the range of 82-96 db(A) measured at 50 feet from the source will be generated by heavy machinery during site work. school. After site

work is completed, reductions in sound levels, frequency, and duration can be expected as the building foundation is formed, concrete footings and matting poured, and CMU posts erected to support the pre-engineered metal building, roof trusses, and the roof.

Community Noise Control regulations establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the preservation zoning for the site, the site is considered to be located in the Class A zoning district for noise control purposes. The maximum permissible daytime sound level in the district attributable to stationary noise sources and equipment related to construction activities is 55 dBA during daytime (7:00 AM to 10:00 PM) and 45 dBA during nighttime (10:00 PM to 7:00 AM) (Chapter 46, Community Noise Control, 1996). As disclosed above, construction noise occasionally will exceed the 55 dBA threshold.

In general, construction activities cannot exceed the permissible noise levels for more than ten percent of the time within any twenty-minute period except by permit or variance. Any noise source that emits noise levels in excess of the maximum permissible sound levels cannot be operated without first obtaining a noise permit from the State Department of Health. Although the permit does not attenuate noise per se it regulates the hours during which excessive noise is allowed.

The general contractor will obtain and comply with conditions attached to the permit. Work will be scheduled between the hours of 7:00 AM to 3:30 PM Mondays through Fridays. The contractor will also ensure that construction equipment with motors is equipped with mufflers in proper operating condition.

Noise will be audible over the 14 month construction period but should not adversely interfere with classroom instruction given the location of the project area, the modest scale of construction, and the distance from nearby classroom buildings. In general adjoining buildings have their exterior walls facing the building site and this would aid in noise attenuation.

Noise would be audible at nearby residences to the east which are approximately 80 feet from the site of the covered shelter and 40 feet from the underground retention site.

Installing the underground retention system does not involve building construction per se and excavation equipment should not adversely affect existing acoustical conditions.

Construction activities will comply with Chapter 46 Community Noise Control, Title 11, Administrative Rules, Department of Health, State of Hawai'i.

3. Erosion

Site work will create opportunities for erosion (fugitive dust and suspended sediment in runoff). Grubbing, grading, and stockpiling of excavated and imported material will be performed in accordance with the erosion control ordinance of the City and County of Honolulu, approved grading plans, and Rules for Water Quality of the Department of Planning and Permitting, City and County of Honolulu.

Best Management Practices (BMPS) for erosion and drainage control during construction will be incorporated into a detailed Erosion Control Plan. BMPs such as silt curtains erected

around work sites and gravel blankets placed at vehicle access points are typical for construction sites. Additional BMPS will be considered based on-site conditions.

The overall project area exceeds one acre thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will be required from the State Department of Health.

4. Flora

Rare, threatened, or endangered flora or candidates for that status are not found on the building site. Recorded vegetation is primarily grass and weedy specimens. The few trees are all common to the Island of O'ahu and the State of Hawai'i.

Several *Formosan koa* trees on the sloping hillside will be removed. Small areca palms behind the open platform will be removed and could be replanted elsewhere on campus.

5. Archaeological Features

No surface archaeological features were observed during the field investigation. In the absence of such features, environmental impacts are not anticipated.

In the event that subsurface features are unearthed, work in the immediate area will cease and the proper authorities (both historical and police) notified of the finds. Treatment and disposition of the finds will adhere to established protocols of the State Historic Preservation Division and/or the Honolulu Police Department.

6. Traffic

Vehicles carrying workers and material will contribute to traffic on Oli Loop and nearby streets. Material deliveries will be scheduled during non-peak traffic hours to minimize impact on school traffic. As much as practical building materials will be off-loaded at a construction base yard or at the building site.

To minimize traffic impacts during construction, the contractor will:

- Post notices alerting drivers of scheduled work at access ways to the building site;
- Post flagmen for traffic control;
- Schedule work to avoid student drop-off and pick- up times; and
- Coordinate construction work and traffic movement/mitigation with School administrators.

7. Safety

As with any building project worker safety and the safety of persons (children and adults) interfacing with the job site are of paramount importance. The general contractor will coordinate with School administrators for identifying safe routes for students, workers, and vehicle movement to / from and around / adjoining the building site.

Plywood fencing or dust curtains will be erected around the building site for dust containment, noise attenuation, and overall safety for school children, staff, and construction workers. Walkways near the building site may be relocated during

construction for safety reasons. The contractor and School administrators will collaborate on a safety plan for the duration of construction.

C. Long-term Impacts

Anticipated long-term impacts include but are not limited to:

- Adding an 8,000 square foot structure to the existing building inventory.
- Providing a covered, all-weather, multi-use structure for use as a remote dining area.
- Secondary uses would include a classroom breakout space, performance area, student displays, recreation, and community use.
- Shielding students from inclement weather, the sun, and heat on "hot" days thus providing for their health and safety.
- Reducing available open space by approximately 8,000 square feet.
- Noise should not be "louder" than noise now emanating from children playing on the existing lawn. Noise will not be constant during the school day but occur during lunch service and school functions.
- Post-development storm water runoff quantity is expected to increase due to the increase in impervious roof surfaces. The increase cannot be avoided and the storm water system will be designed for a "net zero increase" in runoff quantity. Runoff will be collected and piped to the underground retention system for ground infiltration and aquifer recharge.
- Energy costs cost will increase but can be mitigated by natural lighting and energy efficient light fixtures/luminaries.
- The structure will present a new object to be seen on campus. At a height of 30'-6" feet it would rise slightly above the adjoining one-story classroom building (Building A) and appear to be about the same height as the two-story classroom building (Building C). Building C is at a lower elevation than the shade structure thus the appearance of similar height.
- Over time, the covered structure will blend with Buildings A. B, and C as part of the building "fabric" for this section of the campus.
- The proposed use will not affect land use controls for the property. County zoning regulations allow public uses and structures as permitted uses in the residential zoning district. Elementary schools are defined as a "public use". Kanoelani Elementary School is the principal land use for the property and the shade structure is an accessory to the principal use.
- The 30'-6" high structure slightly exceeds the building height for the zoning district. The Department of Education will request a Waiver from the City and County of Honolulu to allow the proposed building height.
- The structure may be made available to community groups and organizations for meetings and associated functions.
- The project is not anticipated to increase enrollment capacity or student population.
- Regular maintenance and periodic repairs will maintain the useful life of the structure. Repair, renovation, and replacement costs will be funded by the Department of Education.

SECTION 4
ALTERNATIVES TO THE PROPOSED ACTION

A. No Action / Delay the Action

A No Action / Delay the Action alternative will maintain the status quo of the physical environment and preclude the occurrence of all impacts, short and long term, beneficial and adverse disclosed in this Assessment. A No Action alternative will not achieve the stated objectives of the project. Delaying the Action only suspends the project until such time that it can be constructed.

B. Alternative Location

There is no alternative location for the structure on the school campus.

SECTION 5
AGENCIES AND ORGANIZATIONS TO BE CONSULTED IN THE ENVIRONMENTAL ASSESSMENT PROCESS

Pre-Assessment Consultation

Melvin and Sandra Lum
Howard and Frances Nonaka
Federito and Gloria Vinluan
Travis Goto and Melissa Gushiken
Thomas and Jeanne Iwashita
Horie Family Trust

State of Hawaii

Department of Land and Natural Resources
Historic Preservation Division
Department of Health

City and County of Honolulu

Department of Planning and Permitting

Other

Hawaiian Electric Company
Waipahu Neighborhood Board No. 22
Pearl City Public Library
Waipahu Public Library (Placement)

SECTION 6
PERMITS AND APPROVALS

Permits and approvals required for the project and approving authorities are listed below. Additional permits and approvals may be required pending final construction plans.

State of Hawai'i

Department of Health

Variance from Pollution Control (Noise Permit)
Disability and Communications Access Board

Department of Land and Natural Resources
State Historic Preservation Division – Chapter 6E Review

City and County of Honolulu

Board of Water Supply

Department of Planning and Permitting

Grubbing, Grading, and Stockpiling Permit
Building Permit for Building, Electrical, Plumbing, Sidewalk/Driveway and Demolition Work
Waiver (Height and Lot Area)

Honolulu Fire Department

Plan Check

SECTION 7
DETERMINATION OF SIGNIFICANCE

Hawai'i Administrative Rules, Title 11, Department of Health, Chapter 200.1 (Environmental Impact Statement Rules) establishes criteria for determining whether an action may have significant effects on the environment (§11-200.1-13). The relationship of the proposed project to these criteria is discussed below.

1) Irrevocably commit a natural, cultural, or historic resource;

   Natural, cultural, and historic resources were not observed on the premises. Should site work encounter subsurface deposits work in the immediate area will cease and authorities notified of the finds.

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

   The proposed improvements are considered a beneficial use of the open grass lawn. There are no other areas on campus for locating the shade structure in proximity to the school Cafeteria.

3) Conflict with the State's environmental policies or long-term environmental goals established by law;

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

4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;

   The project will not substantially affect the economic or social welfare of the State.

5) Have a substantial adverse effect on public health;

   Public health will not be affected. Short-term environmental impacts in the form of fugitive dust, construction noise, and minor erosion can be expected during construction. These impacts can and will be mitigated by measures described in this Assessment.

6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

   Substantial secondary impacts on public facilities are not anticipated.

7) Involve a substantial degradation of environmental quality;

   A substantial degradation of environmental quality is not anticipated in the short and long terms.

8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;

The project does not involve a commitment for larger actions.

9) Have a substantial adverse effect on a rare, threatened or endangered species, or its habitat;

Rare, threatened, or endangered flora and fauna are not present on the building site

10) Have a substantial adverse effect on air or water quality or ambient noise levels;

Site work is the first major activity and grubbing, grading, and excavation generally result in impacts on air quality, ambient noise levels, and water quality. Construction will generate noise that will be audible in nearby classrooms and adjoining residences and dust that can settle outside the project limits. Site work and building contractors are aware of dust and noise impacts and will comply with air quality and noise regulations of the State Department of Health.

The general contractor will implement measures for controlling erosion and safe guarding water quality during construction and post-construction. Mitigating measures are prescribed in the Rules for Water Quality, Department of Planning and Permitting, City and County of Honolulu.

The general contractor can also implement measures based on experience with similar job sites, site conditions, and recommendations from School administrators.

11)Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

Kanoelani Elementary School is not located in an environmentally sensitive area and this criterion does not apply.

12) Have a substantial adverse effect on scenic vistas and view planes, day or night, identified in county or state plans or studies, or,

Scenic vistas and view planes of Kanoelani Elementary School are not identified in state and county plans. This criterion should not apply.

13) Require substantial energy consumption or emit substantial greenhouse gases.

Substantial energy consumption is not anticipated.

REFERENCES

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