



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

PMS-575.14

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

FILE COPY

February 12, 2014

MAR 08 2014

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

14 FEB 20 AM 10:36

RECEIVED

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

FROM: Michael H. Shigetani, Public Works Manager *MHS*
Facilities Development Branch, Project Management Section

SUBJECT: **Iliahi Elementary School Covered Play Court**
Tax Map Key 7-5-027: 002
Wahiawa, Oahu, Hawaii

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 tis 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 feel free to contact Mr. Benjamin Miura, Project Coordinator at 586-0429.

MHS:BM:lm

Enclosures

c: Benjamin Miura, Project Coordinator, Facilities Development Branch

**AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)**

Project Name 'Iliahi Elementary School New Covered Play Court
Island: O'ahu
District: Wahiawā
TMK: 7-5-027: 002
Permits: Variance from Pollution Controls (Noise Permit)
Grubbing, Grading, and Stockpiling
Building Permit
Certificate of Occupancy
Waiver (Building Height)

Proposing/Determination Agency: Department of Education
Facilities Development Branch
1151 Punchbowl Street, Room 501
Honolulu, Hawaii 96813

Benjamin Miura, Project Management
586-0429

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

14 FEB 26 P4:14

RECEIVED

Consultant: Gerald Park
Gerald Park Urban Planner
95-595 Kanamee Street No. 324
Mililani, Hawaii 96789

T: 625-9626

Address, Contact Person, Telephone)

Status (check one only):

_X_DEA-AFNSI

Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The Department of Education proposes to construct a covered play court at Iliahi Elementary School. The project will provide a covered facility where students can engage in outdoor play with minimal exposure to potential accidents caused by inclement weather. The structure also will serve as a covered, multi-purpose center for school activities and functions protect from the daily rain.

The single-story structure will be located in an open area on the southwest side of the school. The approximately 7,700 square feet will provide one regulation basketball court, two regulation volleyball courts, and four half-court basketball courts.

The cost of the project is estimated at \$1.2 million. Construction is projected to commence in summer 2014 and should be completed in nine (9) months.

DRAFT ENVIRONMENTAL ASSESSMENT

***‘ILIAHI ELEMENTARY SCHOOL
NEW COVERED PLAY COURT***

Wahiawā, District of Wahiawā, O‘ahu, Hawai‘i



Prepared for

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

February 2014

DRAFT ENVIRONMENTAL ASSESSMENT

***'ILIAHI ELEMENTARY SCHOOL
NEW COVERED PLAY COURT***
Wahiawā, District of Wahiawā, O'ahu, Hawai'i

Prepared in Partial Fulfillment of the Requirements of Chapter 343, Hawai'i Revised Statutes

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

YFH Architects, Inc.
1100 Ward Avenue, Suite 760
Honolulu, Hawai'i 96814

February 2014

PROJECT PROFILE

Proposed Action:	'Iliahi Elementary School New Covered Play Court DOE Job No. Q72002-12
Location:	District of Wahiawā, O'ahu, Hawai'i
Address:	2035 California Avenue Wahiawā, Hawai'i 96786
Proposing/Determining Agency:	Department of Education Facilities Development Branch 1151 Punchbowl Street, Room 501 Honolulu, Hawai'i 96813
Tax Map Key:	7-5-027: 002
Land Area:	7.69 acres
Landowner:	State of Hawai'i (4.570 acres) City and County of Honolulu (3.120 acres)
Existing Use:	Public Elementary School
State Land Use Designation:	Urban
O'ahu General Plan:	Urban-Fringe
<i>Sustainable</i> Communities Plan (SCP):	Central O'ahu
SCP Land Use Map:	Residential and Low Density Apartment
Zoning:	R-7.5 Residential (School) P-2 General Preservation (Park)
Special Management Area:	Not Applicable
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:	Benjamin Miura, Project Coordinator Department of Education Project Management 1151 Punchbowl Street, Room 431 Honolulu, Hawai'i 96813 Telephone: 586-0429

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The Department of Education, State of Hawai'i, proposes to construct a multi-purpose covered play court at 'Iliahi Elementary School located in the town and District of Wahiawā, City and County of Honolulu, Hawai'i. 'Iliahi Elementary School ("Iliahi Elementary") is bounded by California Avenue and 'Iliahi Neighborhood Park to the north, Hidden Valley Estates to the east and south, and a meeting facility to the west. A Location Map is shown in Figure 1.

The property is identified as Tax Map Key 7-5-027:002 encompassing an area of 6.994 acres. 'Iliahi Elementary and 'Iliahi Neighborhood Park share the property. The State of Hawai'i (4.570 acres) and City and County of Honolulu (3.120 acres) own the property as Tenants in Common. A Tax Map is shown in Figure 2.

A. Purpose and Need for the Project

'Iliahi Elementary is located in Wahiawā Heights where rainfall is almost a daily occurrence that reduces the number of outdoor recesses for students. There is no other on-campus facility to accommodate indoor recess thus indoor recess is spent in the classroom or covered walkway areas. The wind pushes the rain onto the covered walkways thus exposing students to slips and falls.

Thus a purpose of the project is to provide a covered facility where students can engage in outdoor play with minimal exposure to potential accidents caused by inclement weather. Secondly, the covered play court will also serve as a covered, multi-purpose center for school activities and functions and protected from the daily rain.

The project also will provide an area for court sports as there are no basketball and volleyball courts on campus where children can recreate.

B. Technical Characteristics

1. Covered Play Court

A single-story structure with a building footprint of approximately 7,696 square feet (100'-0" X 74'-0") will be erected in the southwest corner of the property near Building "D". The project will provide one regulation basketball court, two regulation volleyball courts, and four half-court basketball courts. The court surface will be an all weather court surface per DOE standards. .

Poured in place concrete foundation and floor, framed with steel posts and trusses, and topped with a standing seam metal roof. The finished floor will be at elevation 1,122 feet. The upper half of the exterior will be wrapped with metal or translucent siding on four sides and the lower half by chain link fencing approximately 10-feet in height below the siding. Translucent siding will allow natural light into the interior and chain link fencing allows for ventilation and security. A continuous 5-foot overhang above the chain link fencing encircling the structure will provide some shelter and shade from the elements.

The structure is sited approximately 20 feet from the exterior wall of Building “D” and setback 19 feet and 43 feet from the west and south property lines, respectively.

The height of the structure measured from grade to top of roof is approximately 30-feet. The structure exceeds the building height for the residential zoning district by approximately 5+ feet. The Department of Education will seek a building height Waiver from the Department of Planning and Permitting City and County of Honolulu to allow the encroachment.

New ADA (“Americans with Disability Act”) accessible walkways will connect the play court to the adjacent buildings. A roof cover over the walkways will be presented as an Additive Alternative pending cost estimates. The court will be accessed through perimeter gates on four sides.

2. Circulation and Off-Street Parking

Changes to on-campus vehicle circulation and parking configuration are not proposed.

3. Infrastructure

Domestic water for hose bib connections will be supplied from the existing on-campus water system.

There are no scheduled bathroom facilities thus students will use restroom facilities in Buildings “D” or “E”.

An 18” drain line aligned along the west property will remain in-place.

Perforated pipes will be installed under the structure to capture and detain runoff from the play court covering. Excess runoff will sheet flow into an existing drain inlet near the southwest corner of the school grounds.

Electrical power will be routed in underground conduits from the existing on-campus electrical system to an electrical panel installed on an inside wall.

Fire sprinklers are not required for the structure.

4. Demolition and Grading

The grass covered building site is free of above ground structures thus demolition *per se* will not be required. The area to be disturbed for construction is approximately 12,060 square feet. Earthwork quantities are estimated at 75 cubic yards of excavation and 191 cubic yards of embankment. A Grading Plan is shown on Figure 7.

Two existing trees will be removed and relocated elsewhere on-campus.

The existing play apparatus at the northwest end Building “D” will remain in place.

5. Landscaping

Areas surrounding the play court affected by the work will be grassed. Additional landscape plantings are not proposed.

C. Economic Characteristics

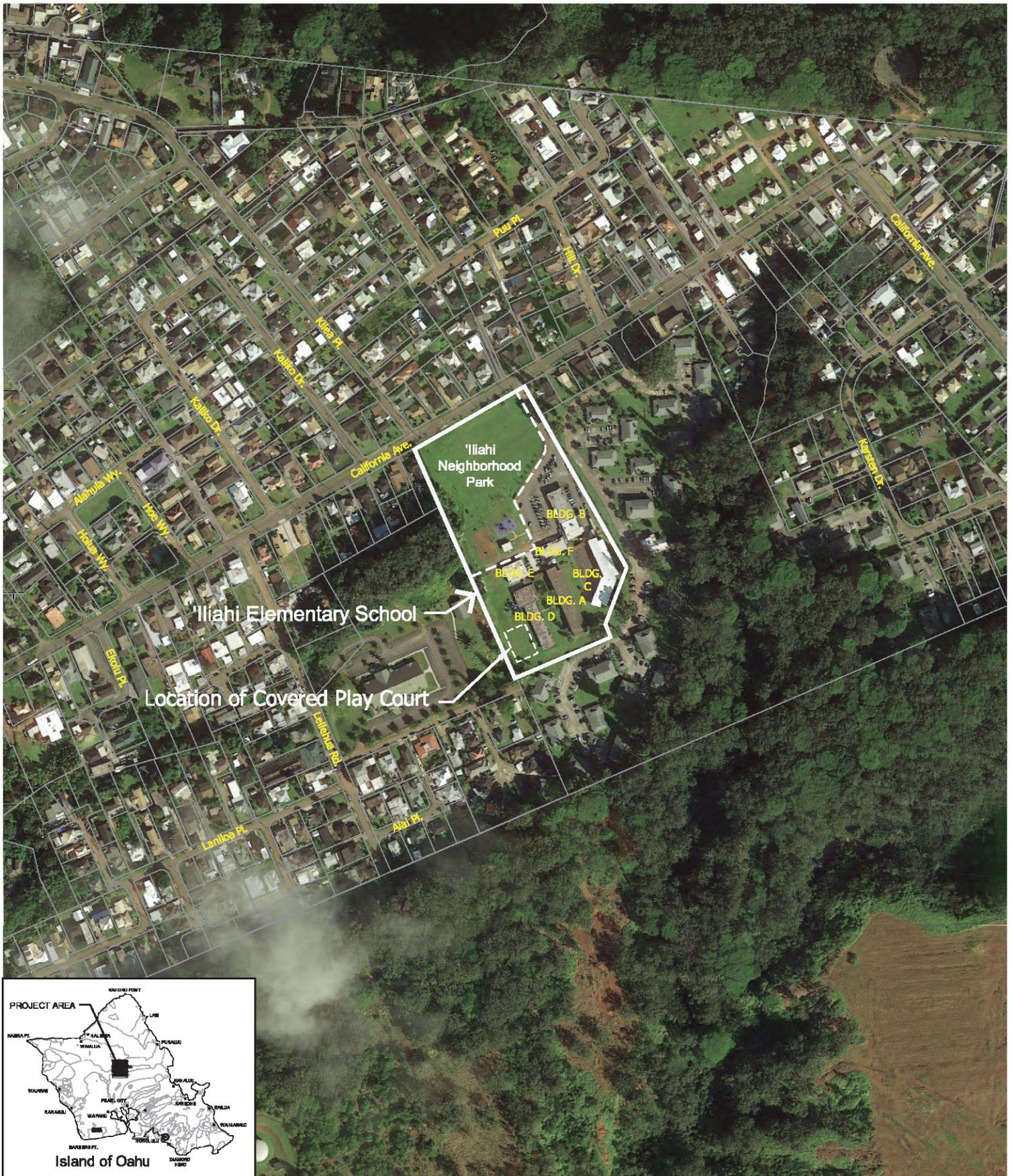
Construction costs are estimated at \$1.2 million and will be funded by the State of Hawai'i. Construction is projected to commence in summer 2014 and should be completed in nine (9) months.

D. Social Characteristics

The covered structure will have an occupant load of 513 persons.

Walkways to and areas at the covered play court will be ADA accessible and compliant with ADA guidelines for play area facilities.

Additional staffing is not required. Use of the play court by grade level, day, and time will be scheduled by teachers and school administrators. Custodial staff will open and secure the facility daily.



Source: Google Earth.com

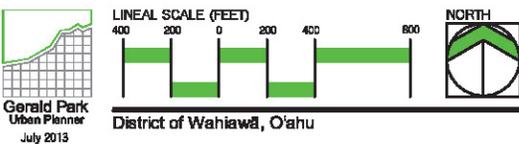
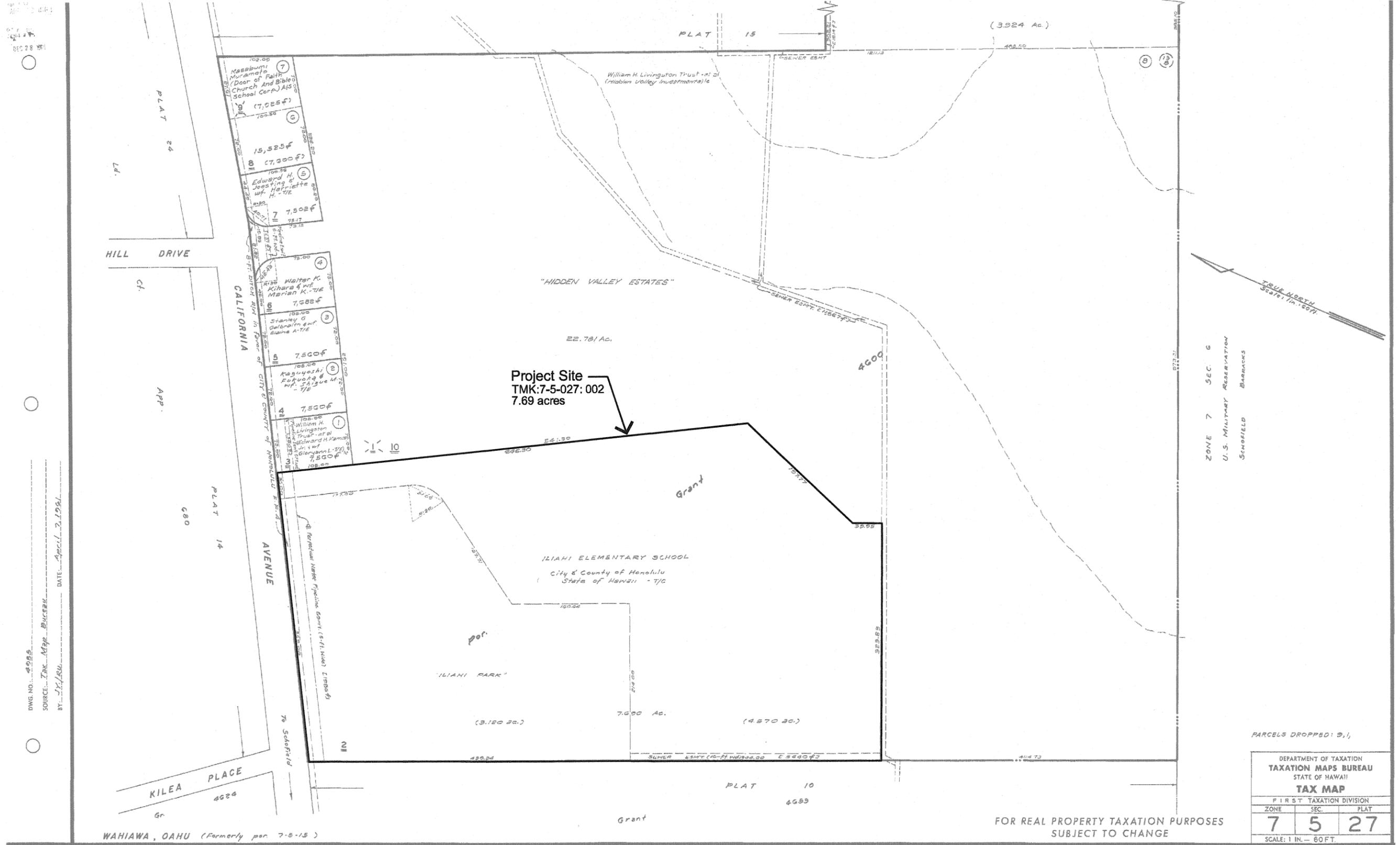
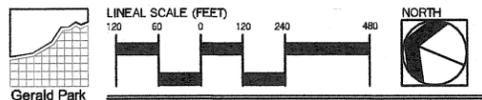


Figure 1
 Location Map
 'Iliahi Elementary School - Covered Play Court



DWG. NO. 4085
SOURCE: Tax Map Bureau
BY: J.M.R.
DATE: April 2, 1981

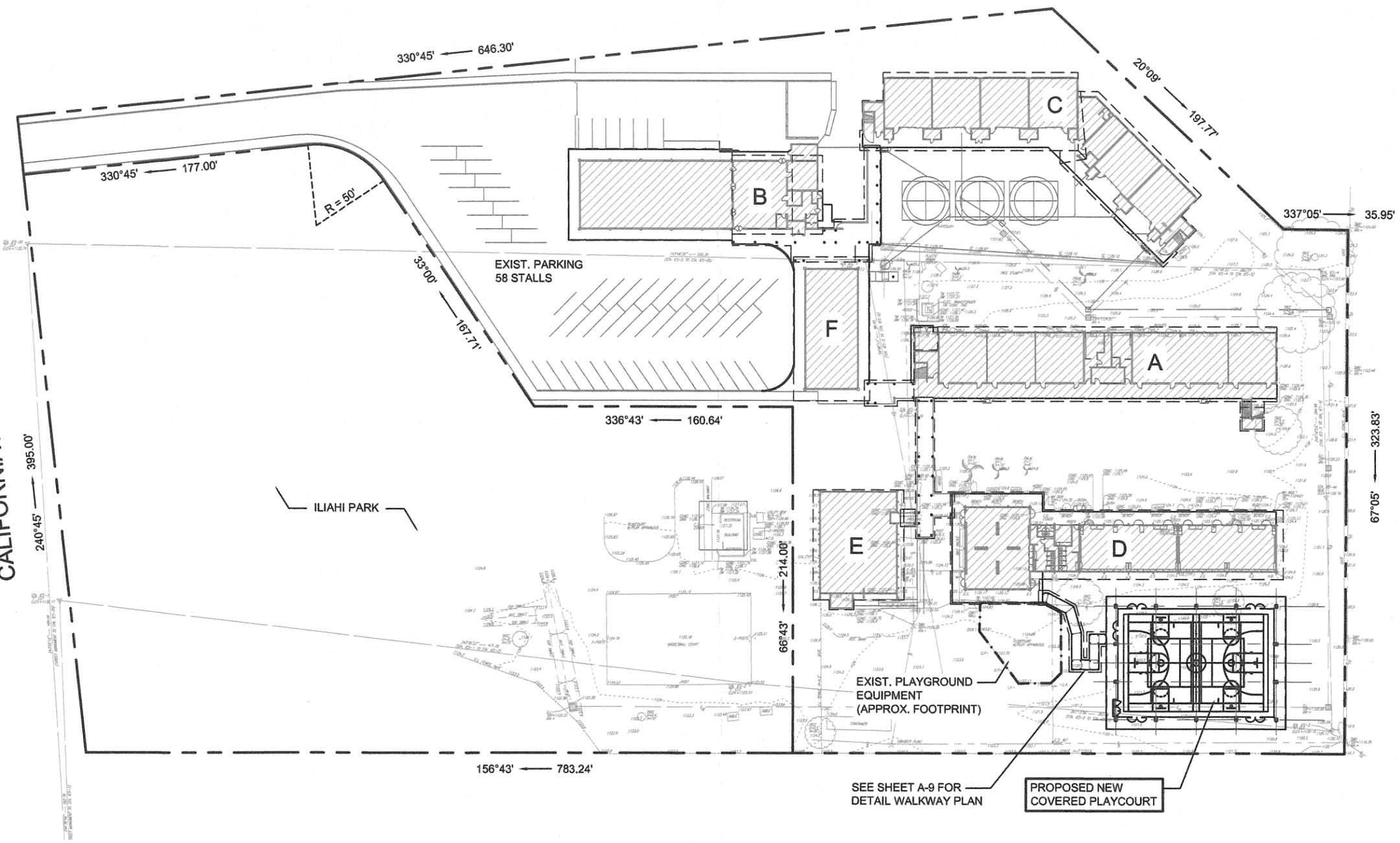
Source: City & County of Honolulu, Property Tax Division



Gerald Park
Urban Planner
July 2013
District of Wahiawā, O'ahu

Figure 2
Tax Map
'Iliahi Elementary School - Covered Play Court
Department of Education, State of Hawaii

CALIFORNIA AVENUE



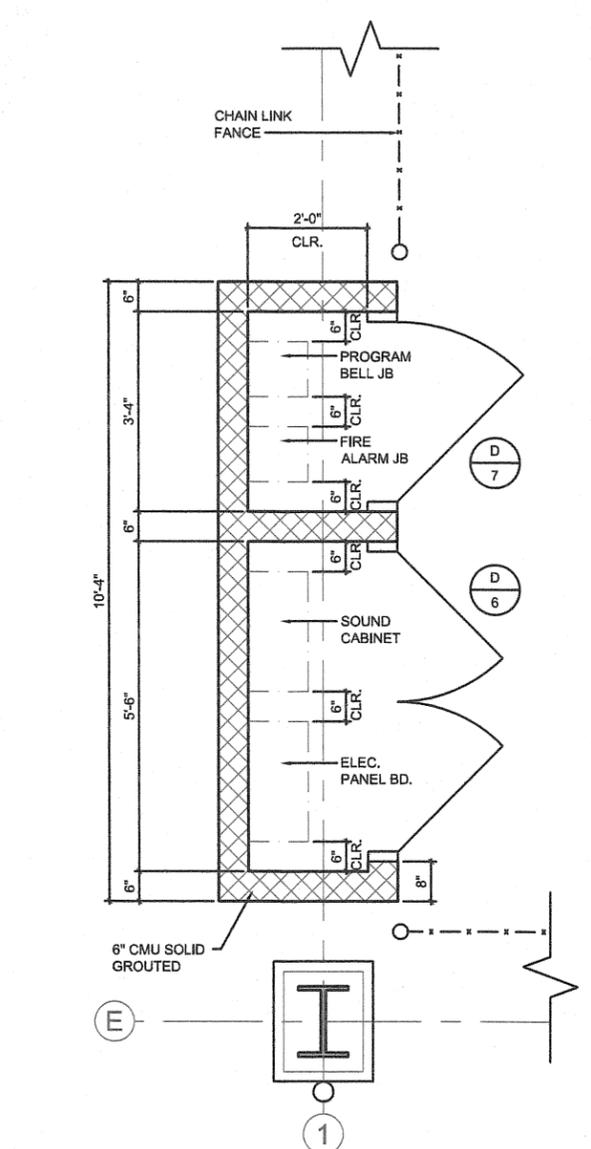
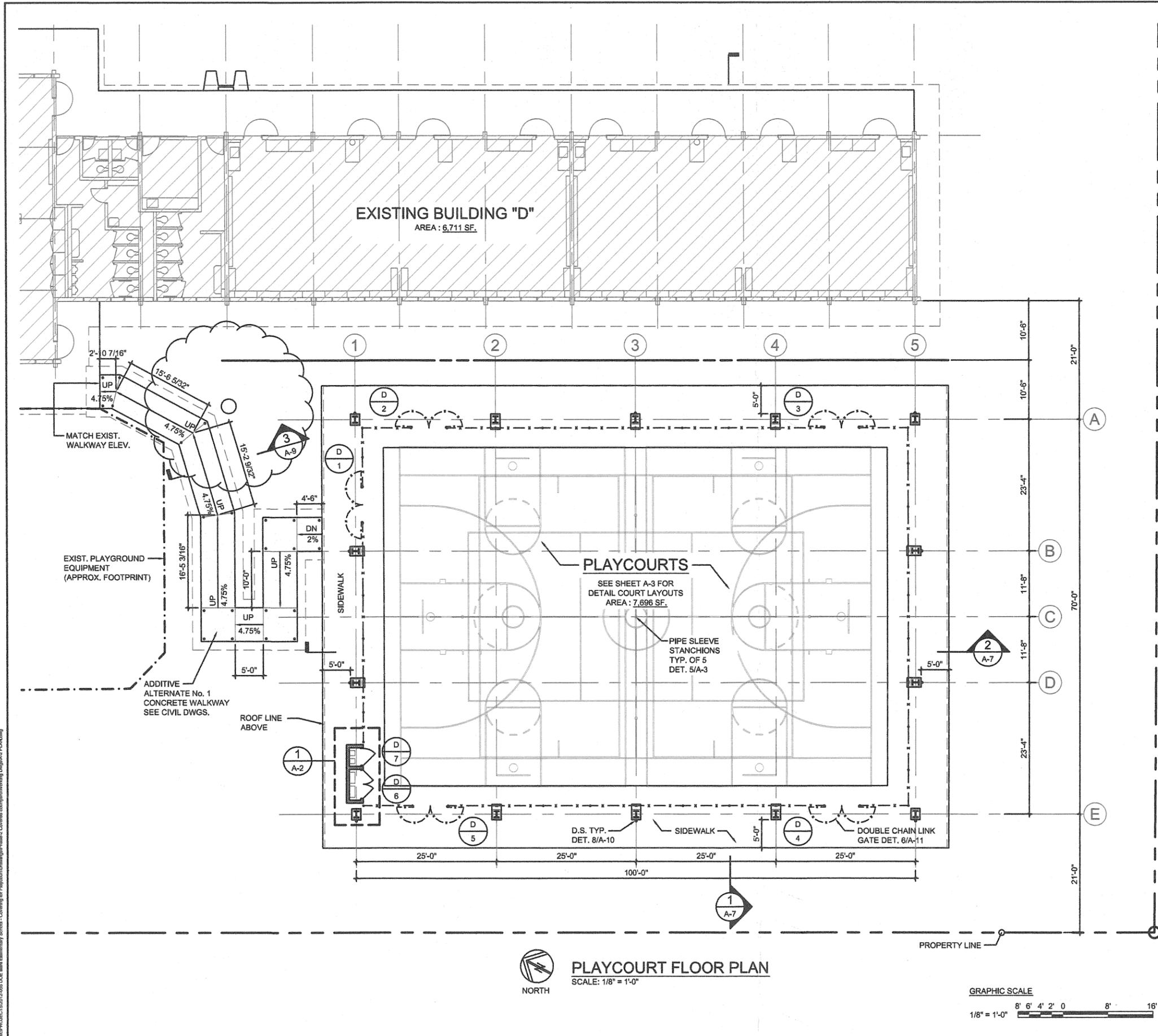
OVERALL SITE PLAN
SCALE: 1/32" = 1'-0"

SEE SHEET A-9 FOR
DETAIL WALKWAY PLAN

PROPOSED NEW
COVERED PLAYCOURT

REVISION NO.	SYMBOL	DESCRIPTION	SHT. OF	DATE	APPROVED
DEPARTMENT OF EDUCATION STATE OF HAWAII					
IILIAHI ELEMENTARY SCHOOL COVERING FOR PLAYCOURT 2030 CALIFORNIA AVENUE WAIKAKA OAHU HAWAII					
OVERALL SITE PLAN					
YFH ARCHITECTS, INC.			JOB NO.	DRAWING NO.	
DESIGNED BY: LMH	CHECKED BY: JM	Q72002-12	A-1		
DRAWN BY: KN	APPROVED BY: LMH	DATE	SHEET		
SCALE: AS SHOWN		SEP. 2013	6		
EXPIRATION DATE OF THE LICENSE		OF 26	SHTS		

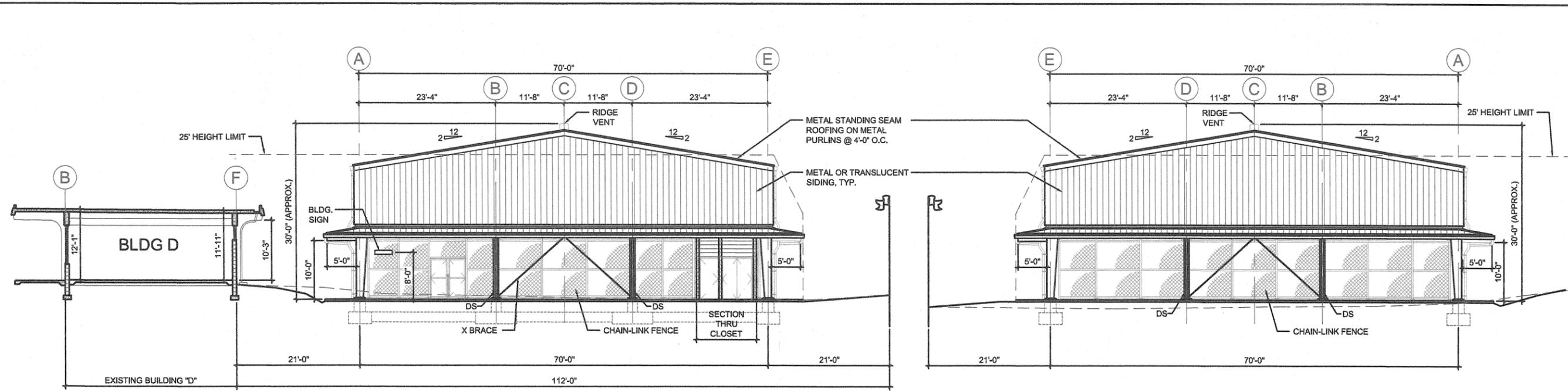
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REVISION NO.	BY	DESCRIPTION	SHT.	DATE	APPROVED:
DEPARTMENT OF EDUCATION STATE OF HAWAII					
ILIAHI ELEMENTARY SCHOOL COVERING FOR PLAYCOURT 2032 CALIFORNIA AVENUE WAIHANA OAHU HAWAII					
PLAYCOURT FLOOR PLAN					
YFH ARCHITECTS, INC.		JOB NO.	DRAWING NO.		
DESIGNED BY: LMH	CHECKED BY: JM	Q72002-12	A-2		
DRAWN BY: KN	APPROVED BY: LMH	DATE	SHEET		
SCALE: AS SHOWN	SEP. 2013	7	26 SHTS		
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EXPIRATION DATE OF THE LICENSE					

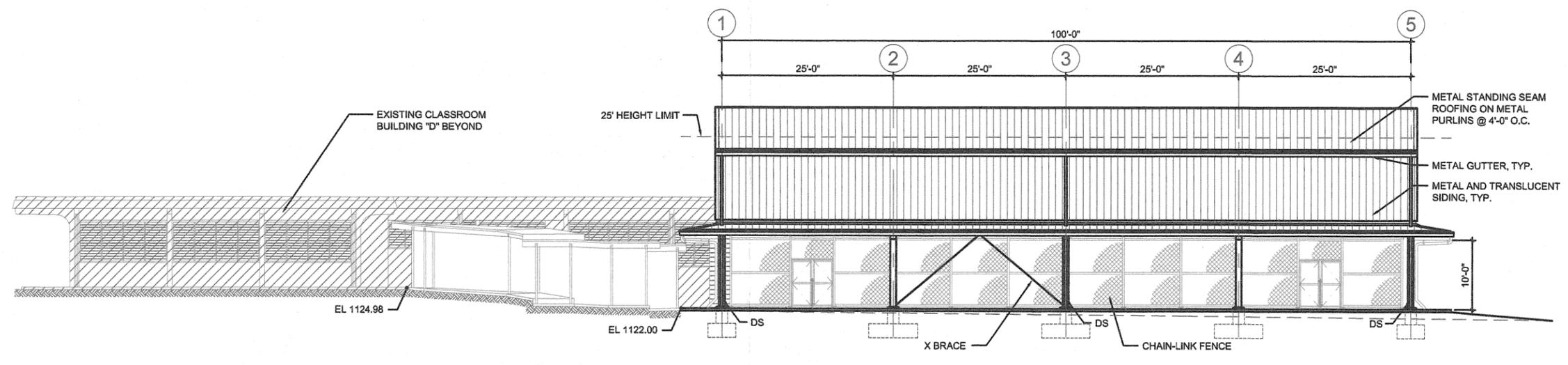
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Figure 4

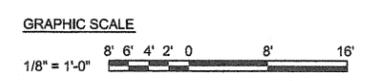


1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

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

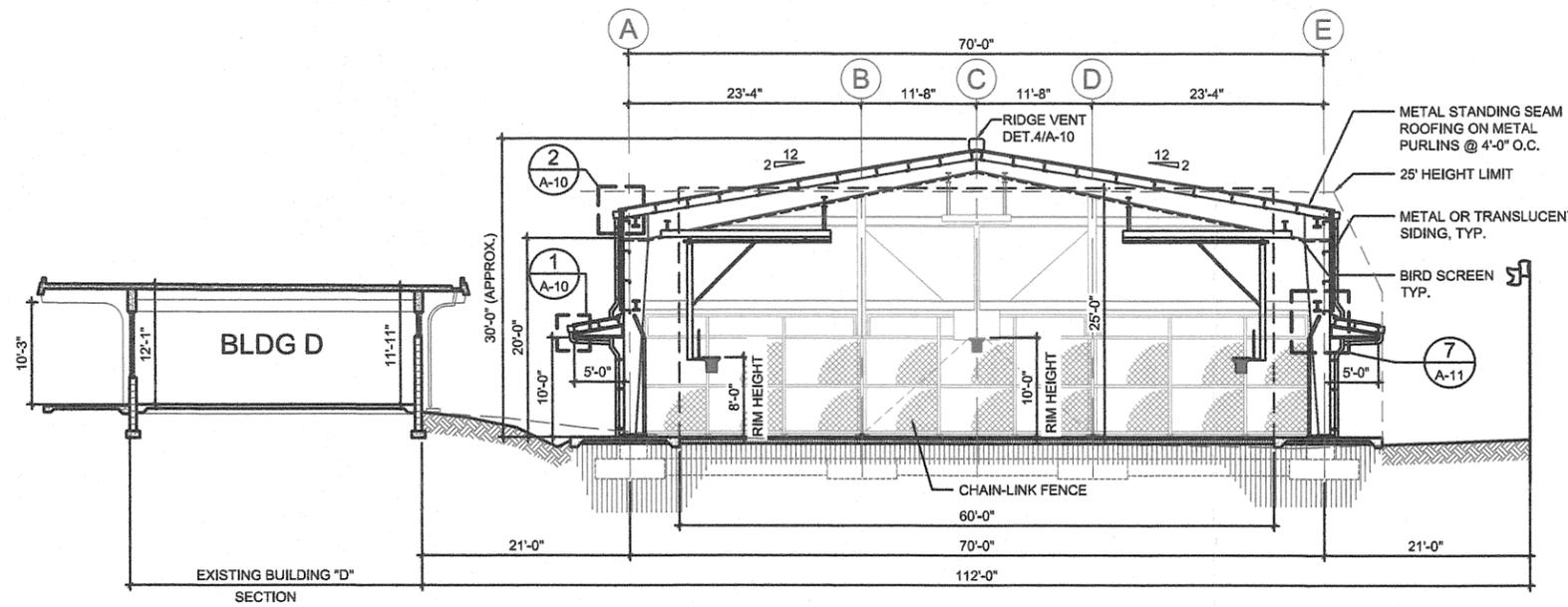


2 WEST ELEVATION (EAST SIM.)
SCALE: 1/8" = 1'-0"

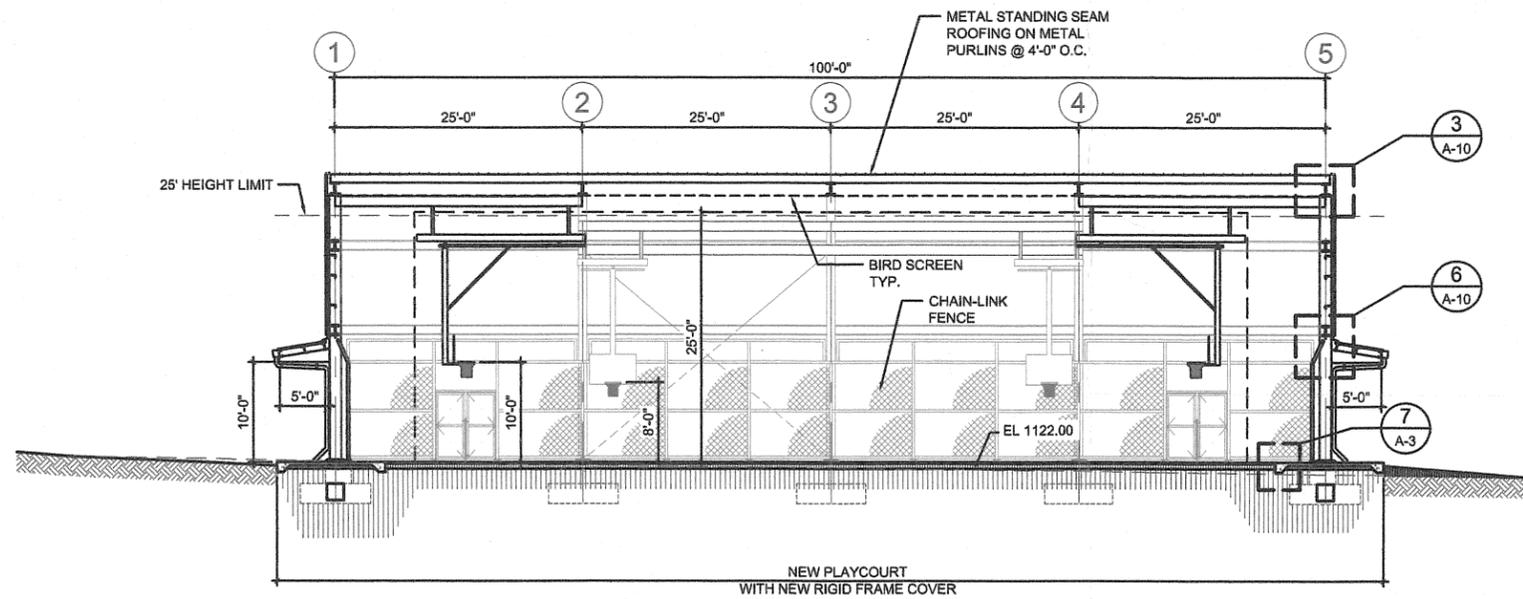


REVISION NO.	BY	DESCRIPTION	DATE	APPROVED
DEPARTMENT OF EDUCATION STATE OF HAWAII ILIAHI ELEMENTARY SCHOOL COVERING FOR PLAYCOURT <small>2038 CALIFORNIA AVENUE WAIHANA, OAHU, HAWAII</small>				
EXTERIOR ELEVATIONS				
YFH ARCHITECTS, INC.		JOB NO.	DRAWING NO.	
DESIGNED BY: LMH	CHECKED BY: JM	Q72002-12	A-6	
DRAWN BY: KN	APPROVED BY: LMH	DATE	SHEET	
SCALE: AS SHOWN	EXPIRATION DATE OF THE LICENSE	SEP. 2013	11	OF 26

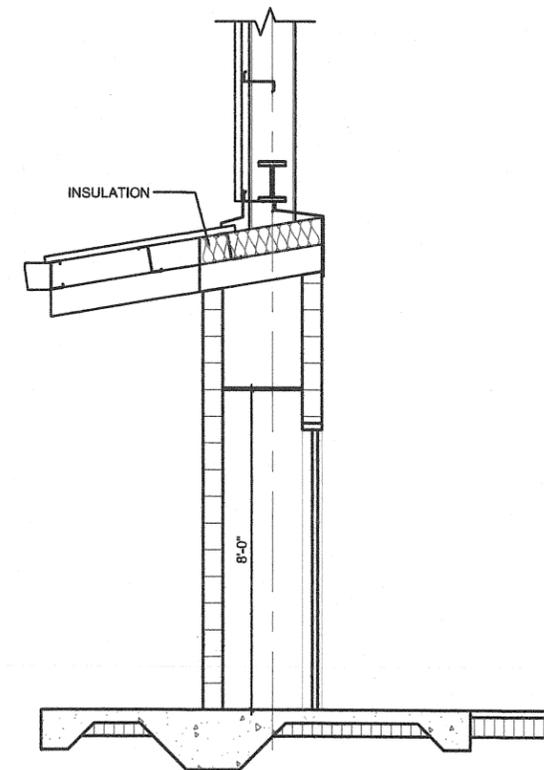
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1 SECTION
A-7
SCALE: 1/8" = 1'-0"



2 SECTION
A-7
SCALE: 1/8" = 1'-0"



3 STORAGE SECTION
A-7
SCALE: 1/2" = 1'-0"



REVISION NO.	SYMBOL	DESCRIPTION	SHT. OF	DATE	APPROVED
DEPARTMENT OF EDUCATION STATE OF HAWAII ILIAHI ELEMENTARY SCHOOL COVERING FOR PLAYCOURT 2038 CALIFORNIA AVENUE WAIKAKA, OAHU, HAWAII					
BUILDING SECTIONS					
YFH ARCHITECTS, INC.			JOB NO.	DRAWING NO.	
DESIGNED BY:	LMH	CHECKED BY:	JM	Q72002-12	A-7
DRAWN BY:	KN	APPROVED BY:	LMH	DATE	SHEET 12
SCALE: AS SHOWN			SEP. 2013	OF 26	SHTS

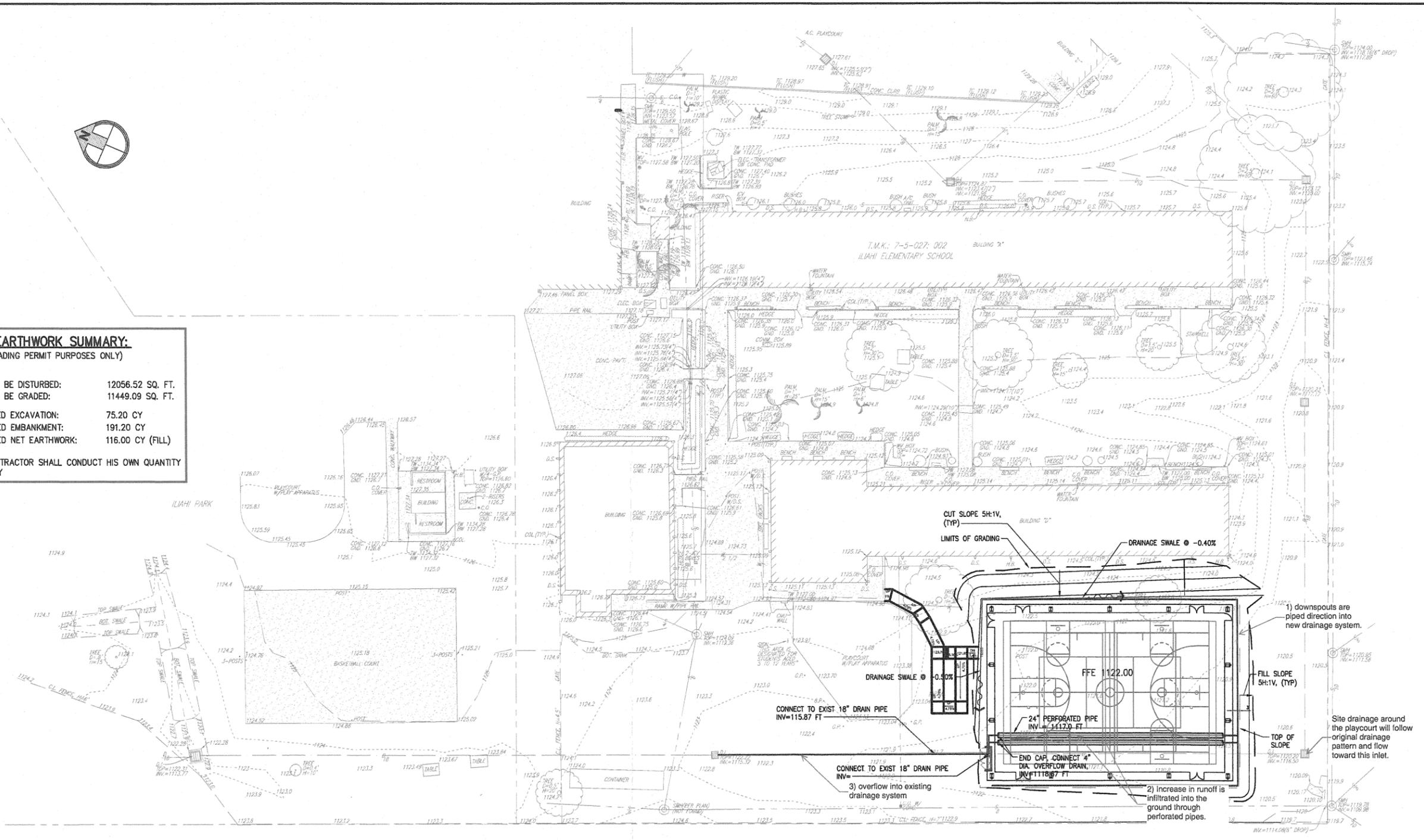
04_07 Feb 2014 - 1:08pm
 MICROPROJECTS\2013\2013\2013\05\DOE Iliahi Elementary School - Covering for Playcourt\Drawings\Phase-2\Covered courtyard\Working Drawings\A-67 ELEV & SECTION.dwg

SITE EARTHWORK SUMMARY:
(FOR GRADING PERMIT PURPOSES ONLY)

AREA TO BE DISTURBED: 12056.52 SQ. FT.
AREA TO BE GRADED: 11449.09 SQ. FT.

ESTIMATED EXCAVATION: 75.20 CY
ESTIMATED EMBANKMENT: 191.20 CY
ESTIMATED NET EARTHWORK: 116.00 CY (FILL)

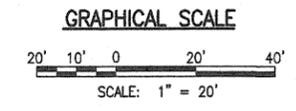
THE CONTRACTOR SHALL CONDUCT HIS OWN QUANTITY SUMMARY



NOTES:

1. THE CONTRACTOR SHALL REFER TO THE SOIL INVESTIGATION REPORT FOR THE PROPOSED CAMPUS-WIDE IMPROVEMENTS PREPARED BY MYOUNGHEE NOH & ASSOCIATES, DATED OCT. 10, 2012 FOR CONTAMINATED SOIL LOCATIONS AND REQUIREMENTS.

1 OVERALL GRADING PLAN
C.4.00 SCALE: 1" = 40'-0"



APPROVED:

MANAGER AND CHIEF ENGINEER, DPP _____ DATE _____

CHIEF, CIVIL ENGINEERING BRANCH, DPP _____ DATE _____

REVISION NO.	SYMBOL	DESCRIPTION	SHT. OF	DATE	APPROVED

DEPARTMENT OF EDUCATION
STATE OF HAWAII

ILIAHI ELEMENTARY SCHOOL
COVERING FOR PLAY COURT
2035 CALIFORNIA AVENUE
WAHIAWA, HAWAII 96786

OVERALL GRADING PLAN

DESIGNED BY: JML	CHECKED BY: RSS	JOB NO. Q72002-12	DRAWING NO. C.4.00
DRAWN BY: RSS	APPROVED BY: _____	DATE: Sept. 2013	SHEET: OF 3-3 SHEETS

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION WILL BE UNDER MY OBSERVATION

40012
EXPIRATION DATE OF LICENSE

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Figure 7

A. Background Information

The town of Wahiawā is situated on the "saddle" created by overlapping lava flows from the Wai'anae and Ko'olau volcanoes. The "saddle" or Schofield Plateau (also called the Leilehua Plateau) is bordered by the Wai'anae Mountain to the west, the Ko'olau Mountain to the east, the Waialua Plain to the north, and the 'Ewa and Pearl Harbor Plains to the south.

The elevation of the town varies from approximately elevation 840 feet above mean sea level at Malulu Place in lower Wahiawa to about elevation 1,200 feet at the end of California Avenue in upper Wahiawā. The town can be characterized as possessing an appealing climate---the mean temperature averages 72 degrees Fahrenheit, annual rainfall averages slightly less than 60 inches, and cool light trade winds (generally less than 10 knots) prevail most of the year (Lau, 1977).

Encircled by Lake Wilson---a man-made irrigation reservoir---the town extends linearly in an east-west direction. Schofield Barracks Military Reservation and Wheeler Army Air Base to the south and the plantation villages of Poamoho and Whitmore to the north are located just outside Wahiawā. Mililani Town / Mililani Mauka, a suburban residential community, and Waipi'o Acres, a small established residential subdivision, are located approximately 2.5 miles to the south.

'Iliahi Elementary School opened for instruction in 1963 with the construction of two permanent buildings. Four other permanent buildings were constructed between 1964 and 1972. No other structures have been erected on the campus since that time. Buildings "A" and "C" are two-story and Building "D" one-story classroom buildings. The three classroom buildings house 24 classrooms. Building "F" (administration), Building "B" (cafeteria / dining room), and Building "E"(library) are one story buildings.

The school is built on a "flag lot" with access from California Avenue. The three non-classroom buildings are arrayed at the front of the school with the classrooms buildings behind. The cafeteria / dining room, which is approximately 300 feet from California Avenue, is nearest to the road.

The school is part of the Department of Education's Leilehua Complex. Schools comprising the complex include 'Iliahi, Hale Kula, Helemano, Ka'ala, Solomon, Wahiawā, and Wheeler Elementary, Wahiawā and Wheeler Middle, and Leilehua High School. In general, elementary schools "feed" students into the Middle Schools which "feed" students into Leilehua High School.

Iliahi Elementary School operates as a year round school with instruction beginning in early August and ending in May of the following year. The school is staffed by 55 full-time and 5 part-time employees.

For school year 2013-2014, the school reports having an enrollment of 426 students in grades K-5 including regular and special education students. The design enrollment for the school is 450 students.

Kama'aina Kids operates an "after" school program at the school. Program days and hours are Monday, Tuesday, Thursday, and Friday from 2:05 to 5:30 PM and Wednesdays from 12:40 to 5:30 PM.

School bus service is not available for all students. A bus drops off and picks up special education students each school day.

B. Environmental Characteristics

1. General

Located in the southwest corner of the school, the building site is bounded by an existing play apparatus on the north, Building "D" on the east, a multi-family building to the south that is part of Hidden Valley Estates community, and a meeting facility (Church of Latter Day Saints) to the west. The building site is a grassed lawn used as the recess area for grade 1 and grade 2 students. There are no recreational structures on the building site but a play apparatus adjoins it to the north (See Photograph 1).



Photograph 1. Site of Play Court Looking North. Play Apparatus in the Background.

Chain link fencing of varying height separates the school from adjoining areas. At some locations gates in the fencing allow access to and from the school and adjoining properties.

2. Topography

The entire site has been modified by construction of structures, walkways, impervious surfaces, a paved parking area, and open space. Ground elevation ranges from a high of 1,130 feet along the eastern side to a low of about 1,120 feet on the west.

Elevation across the building site slopes from a high elevation of 1,124 feet above mean sea level near Building "D" to a low elevation of 1,121 feet.

3. Soils

The Soil Conservation Service (1972) soil map for the area identifies a single soil type--- Leilehua silty clay, 2 to 6 percent slopes (LeB) --- over the entire property. Leilehua silty clay is a well-drained soil found on the uplands of the island of Oahu which developed from weathered igneous rock. The surface layer is about 12 inches thick; the subsoil about 36 inches deep is dark reddish-brown and dusky-red silty clay. This soil is extremely acid throughout. Permeability is moderately rapid, the erosion hazard slight, and runoff is slow.

Site improvements probably have blurred the distinctions between soil layers. More than likely the existing surface and part of the subsurface soil is a mixture of Leilehua clay, imported engineered fill, and imported topsoil.

4. Hydrology

a. Surface Water

There are no surface water features on the premises. The nearest surface water feature is a man-made water storage reservoir called Wahiawā Reservoir or Lake Wilson that surrounds the town. The reservoir was built in 1905 by the Wahiawa Water Company for irrigation purposes and is owned by the Wahiawa Water Company and the George Galbraith Trust (Kim and Park, 1999). The reservoir is fed by the North and South Forks of Kaukonahua Stream.

The 3 billion gallon reservoir is a popular for freshwater sport fishing, recreational boating, and aesthetic enjoyment. The lake is designated the Wahiawā Public Fishing Area and is the largest freshwater impoundment and freshwater sport fishery in the state (DLNR, No Date).

Located on the south fork of Kaukonahua Stream, Wahiawā Freshwater State Park provides permanent boat launching facilities, vehicle-trailer parking, a comfort station, and areas for passive recreation. Both the public fishing area and freshwater park are administered by the Department of Land and Natural Resources, State of Hawai'i.

b. Ground Water

Wahiawā Town overlies the Wahiawaā aquifer of the Central Sector (Mink and Lau, 1990). The Wahiawā aquifer is characterized by a high level (fresh water not in contact with seawater) unconfined sedimentary aquifer found in dike compartments. The aquifer is currently used for drinking and rated ecologically important. Salinity is low (250-1,000 mg/l Cl⁻) and the aquifer is considered irreplaceable and highly vulnerable to contamination.

5. Flood Hazard

A Flood Insurance Rate Map ("FIRM") panel is not printed for this section of Wahiawā. The map index includes the notation PANEL NOT PRINTED (AREA IN ZONE D). Zone D is defined as "areas in which flood hazards are undetermined, but possible (Federal Emergency Management Agency, 2011)".

6. Biological Resources

The building site is landscaped with grass and two medium size trees---silver trumpet (*Tabebuia argentea*) and silver buttonwood (*Conocarpus erecta*) or olive (*Olea europaea*). No other maintained landscape plantings are associated with the site.

A clump of Guinea grass grows next to the southwest corner of Building "E". Uncultivated Guinea grass, ginger, and sandalwood (?) saplings sprout along the perimeter fence on the west side of the property.

Terrestrial fauna and avifauna were not observed at the time of our field investigation. Domestic dogs and cats were seen in improved areas adjoining the school and mongoose are probably established in areas with tall grass.

Common birds including mynah, barred dove, sparrow, mejiro, rice bird, and pigeon may roost in trees on neighboring lots.

7. Archaeological and Cultural Resources

Cultural Surveys Hawaii (2013) conducted a Literature Review and Field Inspection for the proposed project. The purpose of this project was to gather historical, ethnographic, and cultural information as may inform development of the proposed Iliahi Elementary School play court. The area of interest for the study is the entire *ahupua'a* of Wahiawā, with the focus on the southwest portion of the Iliahi Elementary School campus. Proposed project plans include grubbing and grading for the play court; installation of electrical lines; possible drainage improvements, although an 18-inch drain line aligned along the west property will remain in place; and the removal of two existing trees that may be relocated within the school campus.

Excerpted passages from the Literature Review and Field Inspection report are presented below and in other sections of this assessment. The Literature Review and Field Inspection report is attached as Appendix A.

Traditional and historic documentation suggests the Wahiawā area was highly significant in traditional Hawaiian times. It was associated with Hawaiian royalty and is the location of Kūkaniloko, a birthing site considered one of the most sacred places on O'ahu, located northwest of the project area. Researchers have also noted the presence of extensive agricultural terraces in the area which could have supported a substantial population in pre-Contact O'ahu. A large Hawaiian village continued to exist in Wahiawā at least up to the mid-nineteenth century.

During the early nineteenth century, sandalwood was removed from throughout the Wahiawā area, which would have altered the environment significantly. In the 1800s the introduction of cattle that grazed throughout Wahiawā continued the environmental alterations. Toward the end of the nineteenth century, western entrepreneurial, agricultural, and military interests began to focus on Wahiawā. While residential tracts were being constructed in downtown Wahiawā in the early twentieth century, the surrounding areas including the project area were under pineapple cultivation. Wahiawā is famous for pineapple cultivation, which continued within the project area until at least the mid-twentieth century and the construction of Iliahi Elementary School.

An archaeological investigation conducted adjacent to the project area (Hommon and Ahlo 1983) documented no significant archaeological findings. Additionally, no findings were reported during construction of Hidden Valley Estates, the condominium complex adjacent to Iliahi Elementary School. No archaeological investigation reports were found at SHPD for the Church of Jesus Christ of Latter-day Saints, constructed in 2002 just west of the project area.

Additionally, no findings have been reported within the project area during construction of school buildings between 1963 and 1971, or during ground disturbing activities associated with improvements to the school.

C. Land Use Controls

The State Land Use Commission under the authority of Chapter 205, Hawai'i Revised Statutes classifies all land in the State of Hawai'i as Agricultural, Conservation, Rural, and Urban. Uses in the Agricultural District are regulated by the Land Use Commission; uses in the Conservation District by the Board of Land and Natural Resources, uses in the Rural District by the Land Use Commission, and uses in the Urban District by the respective county government. The zoning powers of the respective counties also govern uses in other than the Conservation District.

- Developed areas in Wahiawā Town including the 'Iliahi Elementary School site is classified Urban by the State Land Use Commission.

The use of Urban designated land is under the authority of the City and County of Honolulu and its applicable plans, ordinances, and regulations. City land use policies and controls for O'ahu are vertically aligned or tiered for managing growth and land uses beginning with the General Plan for the City and County of Honolulu ("General Plan"), community development plans and sustainable community plans, and zoning. Special districts and special management area rules provide supplementary controls for defined areas where man-made features and natural resources should be protected and managed.

The General Plan for the City and County of Honolulu ("General Plan") is the first tier. It sets forth broad objectives and policies in eleven functional areas such as Economic Activity, Natural Environment, Energy, Physical Development and Urban Design, and Public Safety. The Population component and its objectives and policies are keys to managing growth. The component establishes a population distribution pattern for eight geographic regions comprising the county. Each region has an upper and lower limit (percentage) of the islandwide population for a targeted year (currently 2025).

The General Plan also includes a General Plan Development Pattern Map depicting the eight districts and the desired development pattern for and within the respective district.

- Wahiawā is in the Central O'ahu region of the island and the development pattern is to maintain developed areas within the district as "Urban-Fringe".

Development Plans or Sustainable Communities Plans prepared for the eight geographic regions in the County comprise the second tier. Although encompassing eight regions where each area's values, vision, and policies for accommodating growth are different, the plans collectively support the General Plan. The Central Oahu *Sustainable Communities Plan* (2002) 1) describes the role of Central O'ahu in Oahu's development pattern, 2) articulates a vision for Central O'ahu to the year 2025, 3) prescribes land use development and infrastructure policies, and 4) describes means for implementing the plan (DPP, 2002).

The Central O'ahu SCP reaffirms the directed growth policies of the General Plan. The Plan acknowledges that growth will take place and establishes a Community Growth Boundary encircling the entire district. The boundary identifies areas where growth and infill can occur (inside the boundary) and areas where agriculture, open space, and natural resources should be maintained and preserved (areas outside the boundary).

- Wahiawā Town is entirely inside the Community Growth Boundary.

The Urban Land Use map component of the Sustainable Communities Plan designates upper Wahiawā including the site of 'Iliahi Elementary School Residential and Low Density Apartment.

The Plan also posits policies and planning principles for school facilities in Central O'ahu. As written, the policies do not apply to the proposed project.

- As new residential developments are reviewed as part of the project application review and approval process, the State Department of Education should report to the Department of Planning and Permitting whether the DOE will be able to provide adequate school facilities, either at existing schools or at new school sites so that needs from the proposed development can be met.
- Developers should pay their fair share of all costs needed to provide adequate school facilities for the children living in their developments.

Zoning comprises the third tier of the City's land use management system. As shown on zoning maps for the county, land is the county is zoned for certain uses and density (for example R-5 Residential with a minimum lot size of 5,000 square feet). The Land Use Ordinance (which incorporates the zoning maps) prescribes the types of uses permitted in zoning districts and associated development standards. The LUO also establishes requirements for parking, specific use standards, signs, development in flood districts and special districts, and administration and enforcement procedures.

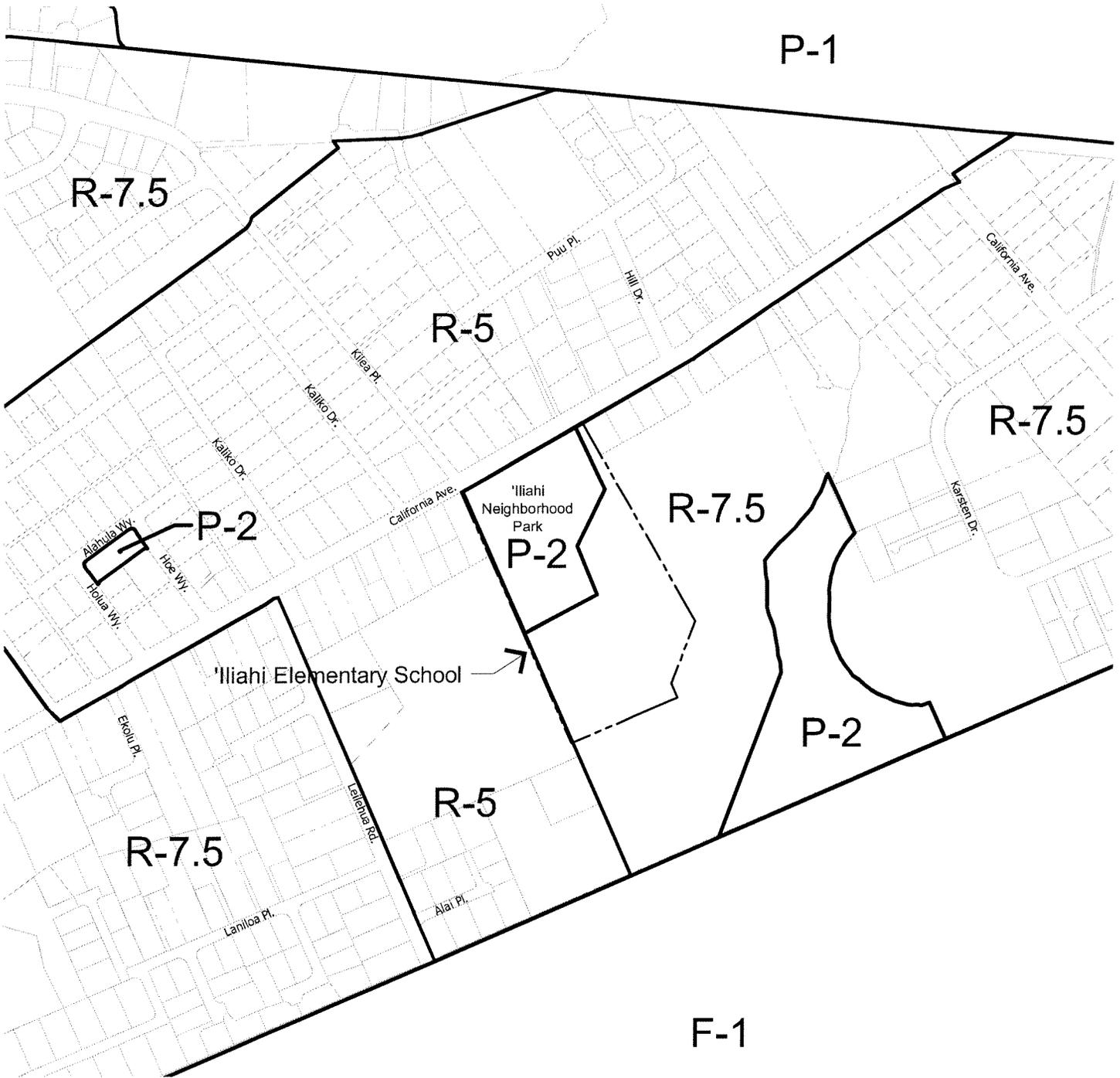
- The school property is zoned R-7.5 Residential (See Figure 8). Public uses and structures are permitted in the zoning district pursuant to Article 3, Table 21.3 Master Use Table of the Land Use Ordinance, City and County of Honolulu.

D. Public Facilities and Services

California Avenue, a two-lane, two-way, undivided, paved **roadway** lies within a 50-foot right-of-way. Fronting the school, the road lacks curbs and gutters. An asphalt concrete walkway on the school side of the road accommodates pedestrians and other users. The posted speed limit is 25 mph fronting the school and park.

One two-lane, two-way driveway links California Avenue and the school. The approximately 36-foot wide driveway features two 12-foot paved traffic lanes with concrete curbs. Six foot and 4-foot wide sidewalks paralleling the driveway provide pedestrian access to and from California Avenue.

The parking lot is striped for 51 vehicles. Park users are allowed to park in the school parking lot. Additional parking is provided behind the cafeteria and next to the library.



Legend

- R-5 RESIDENTIAL (5,000 SF. LOT MINIMUM)
- R-7.5 RESIDENTIAL (7,500 SF. LOT MINIMUM)
- P-1 PRESERVATION (RESTRICTED)
- P-2 PRESERVATION (GENERAL)
- F-1 FEDERAL & MILITARY PRESERVATION

Source: Hawaii Statewide GIS Program Website & City & County of Honolulu (DPP) Website

Figure 8
Zoning Map
'Iliahi Elementary School - Covered Play Court

Gerald Park
 Urban Planner
 July 2013

LINEAL SCALE (FEET)
 400 200 0 200 400 800

District of Waihiwā, O'ahu

A location outside the cafeteria is designated as a pick-up drop-off area for the school bus.

The Route 62 bus travels on California Avenue providing **public transportation** between Wahiawā Heights and the Wahiawā Transit Center on California Avenue (and points beyond). There are no bus stops fronting the school.

Bikeway or bike lanes on either side of the roadway are not provided. Crosswalks nearest the school are at the intersections of California Avenue and Hill Drive (on the upper side) and California Avenue and Kilea Place (on the lower side).

Domestic **water** is provided by the Board of Water Supply system. Water for the school is metered through a 2" lateral from an existing 8" PVC main in California Avenue.

The school is served by the municipal **wastewater** system. Wastewater mains include a 10" VC line along the south property line and an 8" VC line in a sewer easement along the west property line. Both lines discharge into an off-site manhole where wastewater is conveyed along Alai Place through the town's wastewater system to the Wahiawā Wastewater Treatment Plant in lower Wahiawā

The building site and adjoining lawn area are graded to slope to a drain inlet near the southwest corner of the school grounds. **Drainage** improvements in the immediate area include a 12" drain line and drain inlets along the south property line and an 18" drain line and inlets along the west property line. The two drain lines and inlets are within the school property. Runoff from the 12" line and surface flow from the lawn area discharges into the drain inlet and conveyed through the 18" line to drainage structures at 'Iliahi Neighborhood Park.

Electrical, communication, and street lights are provided from overhead distribution systems on the school side of California Avenue. Electrical distribution lines from the road into the school grounds are placed underground.

Police protection originates from the Wahiawā Police Station located at the end of North Cane Street and **fire** protection from the Wahiawa Fire Station on California Avenue. Although originating from different locations, both services are about 2.0 miles to the west of the school.

'Iliahi Neighborhood Park, a city **park**, adjoins the school on its northern side. Improvements at the 3.1 acre park include a comfort station, outdoor basketball/volleyball court, softball field, children's play apparatus, and picnic tables. The playfields and courts are not lighted for night use. The park is under the jurisdiction of the Department of Parks and Recreation, City and County of Honolulu. There is no off-street parking but users can park at the school parking lot. Park user vehicles must leave when Office and Custodial staff leave at day's end as the driveway gates will be secured.

On sunny days school students and the after school program uses the park for recess. The basketball court is a rally point for the school's monthly Fire Evacuation Drill. The park is used also for overflow parking for school related events such as May Fest, Kindergarten Parent Orientation, and Parent Day for each grade level.

3

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. Time was spent in the field noting conditions at the building site and in the vicinity of the 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:

- The building site is a grass lawn;
- There are no structures on the building site;
- There are no rare, threatened, or endangered flora or fauna on the building site;
- There are no archaeological resources associated with the school site;
- There are no on-going cultural practices associated with the school grounds;
- The school is not located in a flood hazard area;
- There are no streams, ponds, or wetlands on the school site; and
- Construction is projected to start in summer 2014 when school is not in session.

A. Short-term Impacts

Construction will temporarily affect ambient air quality. Site work activities will raise fugitive dust that can settle in adjoining areas. Site work will be limited to the building site and the limited area to be disturbed should aid in mitigating dust generation and erosion. The general contractor will employ dust control measures to prevent work site and construction equipment and activities from becoming significant dust generators. Control measures shall comply with Chapter 60.1, Air Pollution Control, Title 11, State Department of Health (and revisions thereto).

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/m³ 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.

Like fugitive dust, construction noise 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 would be generated by heavy machinery during site work. After site work is completed, reductions in sound levels, frequency, and duration can be expected.

Residential uses and schools are considered noise sensitive areas. Building "D", a classroom building, is located about 19 feet from the building site and construction noise will be clearly audible inside the classrooms. The structure is constructed of cement masonry unit walls which can effectively aid in noise mitigation but open (or closed) wood louver windows facing the work site will allow outside noise into the classroom. This impact

cannot be avoided but will be mitigated by scheduling construction during summer 2014 when school is not in session.

Construction will overlap into the school year and a time / work schedule will be developed in consultation with school administrators. A summer 2014 start up should preclude site work activities, dust, and noise from interfering with classroom instruction.

Community Noise Control regulations (State Department of Health, Title 11, Chapter 46 Noise Control for Oahu) establish maximum permissible sound levels for construction activities occurring within "acoustical" zoning districts. Based on the residential zoning for the property, the project is classified as a Class A zoning district for noise control purposes. The maximum permissible daytime (7 a.m. to 10 p.m.) sound level in the district is 55 dBA during daytime and 45 dBA during nighttime for stationary noise sources and equipment related to construction (§11-46-4). 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 contractor will be responsible for obtaining and complying with conditions attached to the permit.

Although limited in area, site work will expose soil thus creating opportunities for erosion (fugitive dust and suspended sediment in construction related runoff). With the project limits the area to be grubbed and graded is estimated at 11,450 square feet. Earthwork quantities are estimated at 75 cubic yards of excavation and 191 cubic yards of fill. Trenching and stockpiling excavated or imported material will be performed in accordance with Chapter 14, Article 14 of the Revised Ordinances of Honolulu, 1990, as amended. Furthermore work shall be done in accordance with the Rules Relating to Soil Erosion Standards and Guidelines.

Best Management Practices (BMPS) for erosion and drainage control during construction will be incorporated into grading plans. Best Management Practices (BMPs) will include erecting silt fences around the project limits, grassing all exposed areas after grading work is completed, placing absorbent socks around drain inlets to minimize sediment from entering the drainage system, and constructing stabilized construction access pads at the entrances to the building site to protect roads and driveways from mud, dirt, and rocks. The contractor may implement other BMPs based on field conditions and their experience in working with similar work sites.

Best Management Practices also will be implemented pursuant to City and County of Honolulu Rules Relating to Storm Drainage Standards, Section II, Storm Water Quality.

Site work will not exceed one acre thus a NPDES General Permit Authorizing Discharges of Storm Water Associated with Construction Activity will not be required from the State Department of Health.

Areas within the project limits disturbed by construction will be restored to pre-construction conditions or better.

Vehicles carrying workers and material will contribute to traffic on California Avenue and Kamehameha Highway, the only vehicle entry into Wahiawā. Material deliveries will be scheduled during non-peak traffic hours to minimize impact on traffic.

A field office and base yard will be set up near the building site at a location to be determined. Material will be unloaded near the building site and/or stockpiled in the base yard. Construction equipment will be stored in the base yard and the yard secured after working hours.

During the field inspection, no surface archaeological sites and no evidence of traditional Hawaiian activities were observed. The absence of any surface remains is not surprising since the project area's environment has been significantly altered for more than 150 years. The area's history of deforestation, cattle grazing, and pineapple cultivation followed by urban development would have eradicated any evidence of traditional practices that may have formerly been evident in the project area. There is no evidence within the project area of any ongoing cultural practices.

Given the more than 150 year-long history of environmental alterations followed by modern development of the project area and its surroundings, the general absence of findings during extensive construction within the immediate vicinity of the project area (i.e., Hidden Valley Estates; Church of Jesus Christ of Latter-day Saints) and Iliahi Elementary School campus, and the lack of findings during the field inspection, there is very little potential for encountering pre-Contact or post-Contact subsurface cultural deposits related to traditional Hawaiian land use and habitation, historic use of the area, and/or human remains during construction. Based on the findings of this literature review and field inspection, no adverse impact to historical or cultural resources is anticipated by the implementation of this project.

Based on the lack of findings within the proposed play court area in the southwest portion of the Iliahi Elementary School campus during the current field inspection, and the lack of previous archaeological studies during recent development projects within the current study area and its immediate vicinity, no historic properties are present in or within the project's immediate vicinity with the exception of some of the Iliahi Elementary School buildings. The proposed play court project will have no adverse effects on Iliahi Elementary School buildings.

No further archaeological work is recommended for the proposed Iliahi Elementary School play court project. In the unlikely event that any human remains or other significant subsurface deposits are encountered during the course of development activities, all work in the immediate area will stop and the SHPD promptly notified.

B. Long-term Impacts

The principal impact of the project is to provide a covered, all-weather structure for year 'round recreational use. The covered structure will protect students from rain during inclement weather and the sun and heat on "hot" days thus providing for their health and safety.

Noise associated with use of the play court should not be significantly different or "louder" than noise now emanating from children playing on the open lawn and play apparatus. Noise will not be constant during the school day but occur when the play court is used for recess, P.E. classes, and school functions.

Runoff from the covered play court will be captured and detained in perforated pipes under the play court and allowed to percolate into the ground. Excess runoff will sheet flow over the lawn area into an existing drain inlet as occurs currently. The proposed improvements

will not significantly alter on-site drainage patterns and storm water discharge into the existing drainage system.

Increases in energy costs can be mitigated by incorporating natural lighting and energy efficient light fixtures/luminaries into the design of the structure and its electrical system.

The play court will present a new object to be seen on campus and from limited off-campus locations. At one-story in height, it will be about the same height as Building "D". "Tucked away" near the southwest corner of the school the structure should not be readily visible to passersby on California Avenue. It will be visible from portions of 'Iliiahii Neighborhood Park and from several multi-family structures nearest the building site in Hidden Valley Estates.

Existing trees, shrubs, and chain link fencing will screen the play court from the meeting facility and residential dwellings to the south and west of the building site. Over time, the play court will architecturally blend with the school buildings and facilities become part of the built-up campus setting.

The play court will replace a grass play field and reduce open space. The play field has functioned as a recreation space for students and gathering place for school activities for many years. And for many years, inclement weather has curtailed outdoor activities / events whereby students are ushered into indoor recreation activities. Given the small size of the school site (4.5 acres), the number and placement of permanent buildings and walkways, and the parking lot, there is not much expansion room on the premises. Alternative locations were evaluated but deemed to not be feasible. The grass field where the project is proposed is the only real alternative left for a covered play court. The grass play field cannot be replaced but the adjoining county park with its grass open field can be used (shared) by the school for outdoor recreation.

The proposed use or addition will not affect existing City and County of Honolulu land use controls for the property and school. County zoning regulations allow public uses and structures as permitted uses in the residential zoning district.

The height limit for residential zoning districts is 25-feet. The proposed play court has an approximate height of 30-feet and will be taller than the adjoining Building "D". The Department of Education will seek a Waiver to allow a 5+ feet encroachment above the required height limit. The Waiver will neither call into question the use and development standards of the residential zoning nor alter the character of adjoining residential areas nearest the building site.

Pole mounted outdoor lighting is not proposed. The structure may be outfitted with security lighting that is not significantly different from lights and fixtures for the other school buildings. The fixtures can be shielded so as to not illuminate adjoining residential areas.

A. No Action

A no action alternative would maintain the status quo of the site thus precluding the occurrence of all environmental impacts, short and long-term, beneficial and adverse disclosed in this Assessment. Resources committed to planning and design of the facility will be foregone and the purpose of the project not achieved.

B. Alternative Location

An alternative location adjacent to Building "C" was considered. The original plan was to build a fabric cover over an existing paved play court adjacent to the building. This location was dropped from consideration because of building code issues.

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 Hawai'i

Department of Health

Variance from Pollution Controls (Noise Permit)

City and County of Honolulu

Department of Planning and Permitting

Grubbing, Grading, and Stockpiling Permit
Building Permit for Building, Electrical, Plumbing Sidewalk/Driveway and Demolition Work
Certificate of Occupancy
Waiver (Building Height)

6

AGENCIES AND ORGANIZATIONS TO BE CONSULTED

State of Hawai'i

- Department of Health
 - Environmental Planning Office
- Department of Land and Natural Resources
 - Historic Preservation Division

City and County of Honolulu

- Board of Water Supply
- Department of Parks and Recreation
- Department of Planning and Permitting
- Police Department
- Fire Department

Others

- AOAO Hidden Valley Estates
- Church of Jesus Christ of Latter Day Saints
- Hawaiian Electric Company, Inc.
- The Honorable Marcus R. Oshiro, Representative, 39th Representative District
- The Honorable Donovan M. Dela Cruz, Senator, 22nd Senatorial District
- The Honorable Ernest Y. Martin, Chair, Honolulu City Council
- Wahiawā Neighborhood Board No. 26
- Wahiawā Community and Business Association
- Wahiawā Public Library (Placement)

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;

A Literature Review and Field Inspection (2013) of the site of the play court concluded:

“Given the more than 150 year-long history of environmental alterations followed by modern development of the project area and its surroundings, the general absence of findings during extensive construction within the immediate vicinity of the project area (i.e., Hidden Valley Estates; Church of Jesus Christ of Latter-day Saints) and Iliahi Elementary School campus, and the lack of findings during the field inspection, there is very little potential for encountering pre-Contact or post-Contact subsurface cultural deposits related to traditional Hawaiian land use and habitation, historic use of the area, and/or human remains during construction. Based on the findings of this literature review and field inspection, no adverse impact to historical or cultural resources is anticipated by the implementation of this project.”

In the event subsurface deposits are encountered during the course of development activities all work in the immediate area will stop and the State Historic Preservation Division notified of the finds.

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

The project does not curtail the beneficial uses of the environment.

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

5) Substantially affects 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 and measures, such as BMPs 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 on public facilities are not anticipated. The project will not increase population in the area.

7) Involves a substantial degradation of environmental quality;

Original environmental conditions on the 4.5 acre lot were previously modified by construction of the school in 1962 and subsequent addition of buildings and associated improvements. Thus the quality of the environment is that of an operating school, existing conditions described in this assessment, and the residential setting in which the school is located.

The covered play court will not substantially degrade environmental quality. It is anticipated that the needed facility will improve and provide educational and recreational opportunities for students.

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

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

Rare, threatened, or endangered flora and fauna were not observed on the building site. Plant materials used in the landscaping are common to the island of O'ahu and the State of Hawai'i.

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 will 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.

Construction is projected to start in summer 2014 when school is not in session. Site work should be completed before school resumes in the fall but erection of the structure will not. Impacts associated with construction of the building will continue for several months into the school year. This overall impact cannot be avoided and the contractor will develop a time / work schedule in consultation with school administrators.

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

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.

'Iliahi Elementary School is not located in an environmentally sensitive area.

There are no surface water sources on the premises and the school is not within a flood prone or flood hazard areas.

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

County and state plans do not identify significant scenic vistas and/ or panoramic views for 'Iliahi Elementary School and upper Wahiawā.

13) Requires substantial energy consumption.

Substantial energy consumption is not anticipated.

REFERENCES

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APPENDIX A

**Literature Review and Field Inspection including Cultural History Iliahi
Elementary School Play Court Project Wahiawā Ahupua‘a, Wahiawā District,
O‘ahu TMK: [1] 7-1-002-008 por.**

Draft

**Literature Review and Field Inspection including
Cultural History**

Iliahi Elementary School Play Court Project

Wahiawā Ahupua‘a, Wahiawā District, O‘ahu

TMK: [1] 7-1-002-008 por.

DOE Job No. Q72002-12

Prepared for
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Management Summary

Reference	Literature Review and Field Inspection including Cultural History Iliahi Elementary School Play Court Project, Wahiawā Ahupua'a, Wahiawā District, O'ahu, TMK: [1] 7-1-002-008 por. (Groza et al. 2013)
Date	October 2013
Project Number (s)	Cultural Surveys Hawai'i, Inc. (CSH) Job Code: WAHIAWA 1 Department of Education, State of Hawai'i (DOE) Job No. Q72002-12
Investigation Permit Number	CSH conducted the archaeological fieldwork for this investigation under state archaeological permit number 13-06, issued by Hawai'i State Historic Preservation Division/Department of Land and Natural Resources (SHPD)
Project Location	The project area is located at 2035 California Avenue in Wahiawā in central O'ahu within the Iliahi Elementary School campus. The project area is depicted on the 1992 Hau'ula and 1998 Waipahu U.S. Geological Survey (USGS) 7.5-Minute Series Topographic Quadrangles.
Land Jurisdiction	State of Hawai'i, City and County of Honolulu.
Agencies	This study was prepared to facilitate planning and possibly consultation with the State Historic Preservation Division, Department of Land and Natural Resources (SHPD).
Project Description	<p>The DOE is proposing to construct a multi-purpose covered play court in the southwest portion of the Iliahi Elementary School campus approximately 19 ft from the existing Classroom Building D. Construction of the single-story structure, measuring 100 ft by 74 ft, will provide one regulation basketball court, two regulation volleyball courts, and four half-court basketball courts. The structure will consist of a poured-in-place concrete foundation and floor, framed with steel posts and trusses, and topped with a standing seam metal roof. The upper half of the exterior will be wrapped with metal or translucent siding on four sides and the lower half by chain link fencing approximately 10 ft in height below the siding. Translucent siding will allow natural light into the interior and chain link fencing allows for ventilation and security. A continuous 5-ft overhang above the chain link fencing encircling the structure will provide some shelter and shade from the elements.</p> <p>Planned subsurface disturbance consists of grubbing and grading; an 18-inch drain line aligned along the west property will remain in place although drainage improvements may be necessary; installation of electrical lines; and the removal of two existing trees that may be relocated within the school campus.</p>
Project Acreage	7,696 sq ft (0.176 acre) within the 7.69-acre Iliahi Elementary School

Document Purpose	This archaeological literature review and field inspection study was completed for use as a planning document and to support the project's historic preservation compliance. This investigation is not an archaeological inventory survey, per the requirements of Hawai'i Administrative Rules (HAR) Chapter 13-276; however, through historical, cultural, and archaeological background research, and a field inspection of the project area, this investigation was intended to identify any cultural resources that may be affected by the project. Based on results, cultural resource management recommendations are presented. ¹
Fieldwork Effort	The fieldwork component for this Literature Review and Field Inspection (LRFI) was conducted on 3 October 2013 by CSH archaeologist Randy Groza, M.A. under the general supervision of Hallett H. Hammatt, Ph.D. (Principal Investigator). This fieldwork consisted of a limited field inspection of the Iliahi Elementary School Play Court project area to identify any surface archaeological features, and to investigate and assess the potential for impact to historic properties.

<p>Results Summary</p>	<p>The project area primarily consists of a maintained lawn within the southwest portion of the Iliahi Elementary School campus. No historic properties were observed within or in the immediate vicinity of the project area during the field inspection of the study area. However, some of the Iliahi Elementary School buildings were constructed in 1963 and are therefore 50 years old. The buildings are thus considered cultural resources. No surface archaeological sites and no evidence of traditional Hawaiian activities were observed.</p> <p>While traditional and historic documentation suggest that the Wahiawā area was highly significant in traditional Hawaiian times, extensive environmental alterations have been ongoing within the project area and its vicinity since the early 1800s. Sandalwood was removed from throughout the Wahiawā area in the early nineteenth century. Cattle were then introduced and grazed throughout Wahiawā. At the end of the nineteenth century, pineapple cultivation began in the project area and its vicinity and continued until at least the mid-twentieth century and the construction of the Iliahi Elementary School.</p> <p>An archaeological investigation conducted adjacent to the project area (Hommon and Ahlo 1983) documented no significant archaeological findings. Additionally, no findings were reported during construction of Hidden Valley Estates, the condominium complex adjacent to Iliahi Elementary School. No archaeological investigation reports were found at SHPD for the Church of Jesus Christ of Latter-day Saints, constructed in 2002 just west of the project area. Additionally, no findings have been reported within Iliahi Elementary School or the project area during construction of school buildings between 1963 and 1971, or during ground disturbing activities associated with ongoing improvements to the school.</p>
<p>Recommendations</p>	<p>Based on the lack of findings within the proposed play court area in the southwest portion of the Iliahi Elementary School campus during the current field inspection, and the lack of previous archaeological studies during recent development projects within the current study area and its immediate vicinity, no historic properties are present in or within the project's immediate vicinity with the exception of some of the Iliahi Elementary School buildings. The proposed Play Court Project will have no adverse effects on Iliahi Elementary School buildings.</p> <p>No further archaeological work is recommended for the proposed Iliahi Elementary School Play Court Project. As always, if in the unlikely event that any human remains or other significant subsurface deposits are encountered during the course of development activities, all work in the immediate area should stop and the SHPD should be promptly notified.</p>

¹ In historic preservation parlance, cultural resources are the physical remains and/or geographic locations that reflect the activity, heritage, and/or beliefs of ethnic groups, local communities, states and/or nations. Generally, they are at least 50 years old, although there are exceptions including buildings and structures; groupings of buildings or structures (historic districts); certain objects; archaeological artifacts, features, sites, and/or deposits; groupings of archaeological sites (archaeological districts); and, in some instances, natural landscape features and/or geographic locations of cultural significance.

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Section 1 Introduction

1.1 Project Background

At the request of Gerald Park Urban Planner, Cultural Surveys Hawai'i, Inc. (CSH) has conducted an archaeological literature review and field inspection study for the Iliahi Elementary School Play Court Project, Wahiawā Ahupua'a, Wahiawā District, O'ahu, Tax Map Key (TMK): [1] 7-1-002-008 por. The project area is shown on a 1992 Hau'ula and 1998 Waipahu U.S. Geological Survey (USGS) map (Figure 1), an aerial photograph (Figure 2), and tax map (Figure 3). The project area is located within the southwest portion of the Iliahi Elementary School campus at 2035 California Avenue in Wahiawā. We understand that Iliahi Elementary School is named after the Hawaiian word “*iliahī*” (“All Hawaiian kinds of sandwood”; Pukui and Elbert 1984:91) but in this study we follow the spelling used by the school without the glottal stop.

The Department of Education, State of Hawai'i, is proposing to construct a multi-purpose covered play court in the southwest portion of the Iliahi Elementary School campus approximately 19 ft from the existing Classroom Building D. Construction of the single-story structure, measuring 100 ft by 74 ft, will provide one regulation basketball court, two regulation volleyball courts, and four half-court basketball courts. The structure will consist of a poured-in-place concrete foundation and floor, framed with steel posts and trusses, and topped with a standing seam metal roof. The upper half of the exterior will be wrapped with metal or translucent siding on four sides and the lower half by chain link fencing approximately 10 ft in height below the siding. Translucent siding will allow natural light into the interior and chain link fencing allows for ventilation and security. A continuous 5-ft overhang above the chain link fencing encircling the structure will provide some shelter and shade from the elements.

Planned subsurface disturbance consists of grubbing and grading; an 18-inch drain line aligned along the west property will remain in place although drainage improvements may be necessary; installation of electrical lines; and the removal of two existing trees that may be relocated within the school campus. Figure 4 through Figure 7 show plans for the play court structure.

1.2 Historic Preservation Regulatory Context

The proposed project is subject to Hawai'i State environmental and historic preservation review legislation (Hawai'i Revised Statutes [HRS] Chapter 343 and HRS Chapter 6E-8/Hawai'i Administrative Rules [HAR] Chapter 13-275, respectively). While this investigation does not fulfill the requirements of an archaeological inventory survey investigation (per HAR Chapter 13-276), it serves as a document to facilitate the proposed project's planning and supports historic preservation review compliance by assessing if there are any major archaeological concerns within the project area and to develop data on the general nature, density and distribution of archaeological resources.

1.3 Scope of Work

The scope of work for this archaeological literature review and field inspection study was as follows:

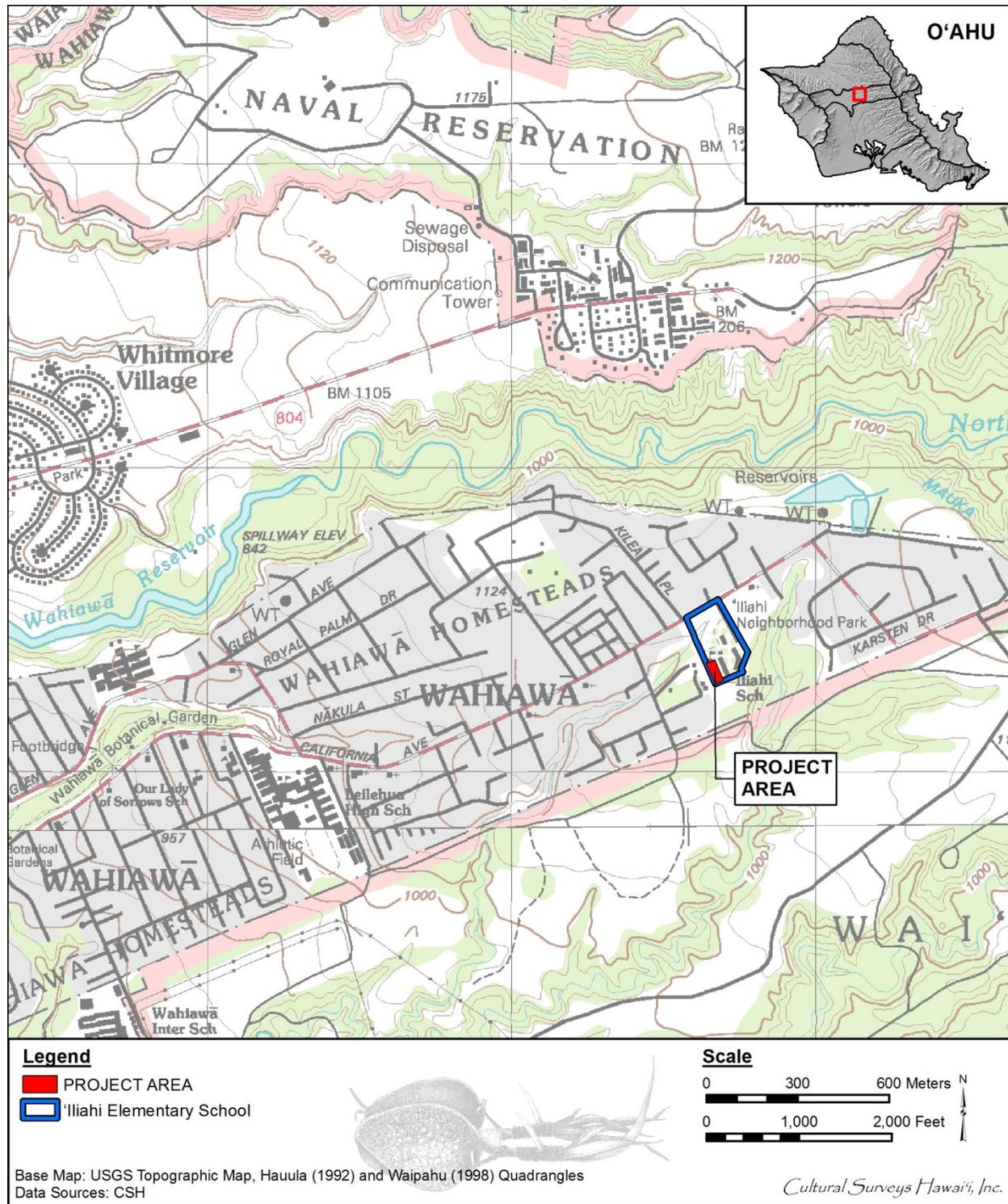


Figure 1. Portions of the 1992 Hau'ula and 1998 Waipahu USGS 7.5-minute topographic quadrangles, showing Iliahi Elementary School and the project area



Figure 3. Aerial photo showing Iliahi Elementary School and the project area (source: Google Earth Imagery 2013)

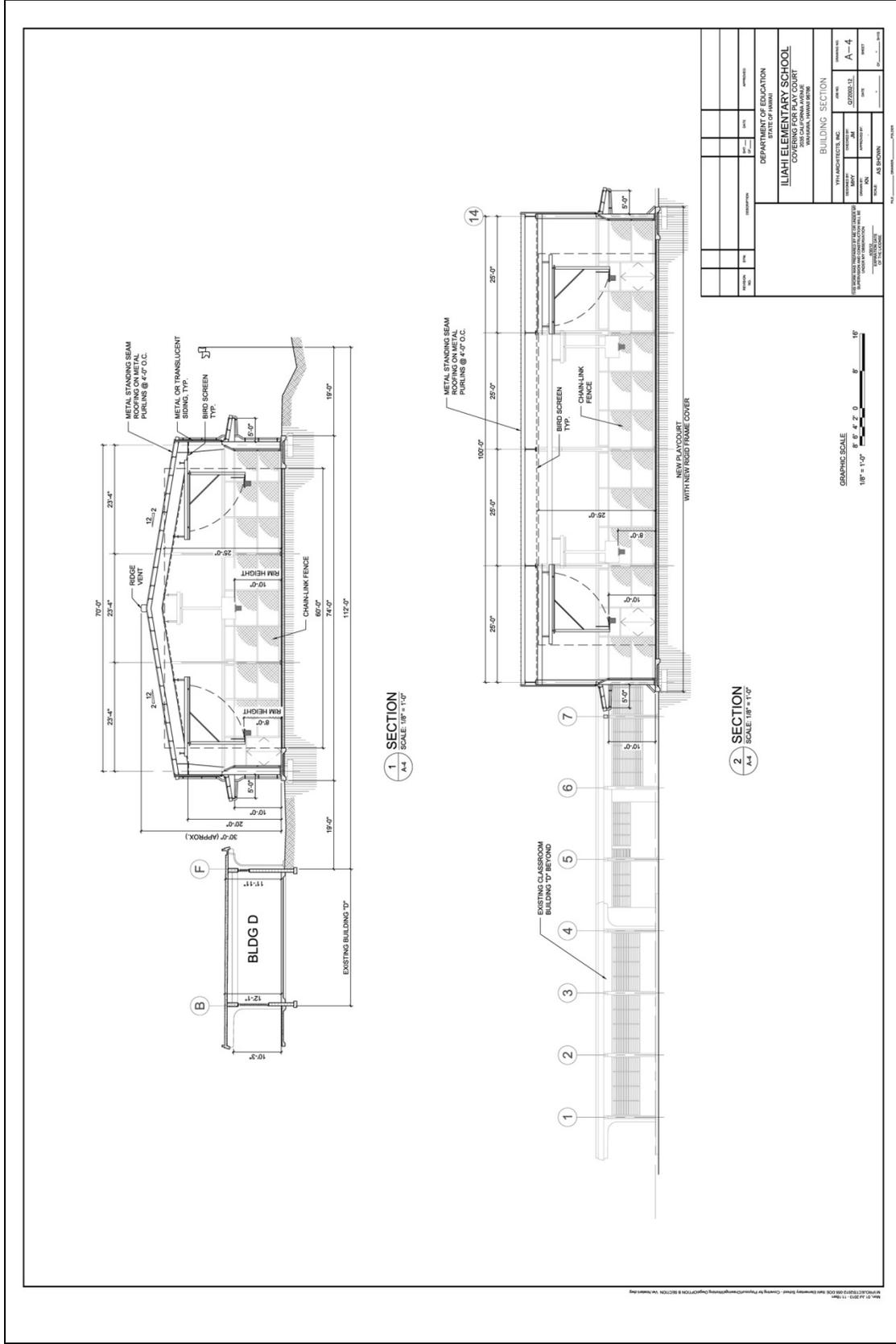


Figure 7. Play court side view plans (provided by client)

1. Historical research to include study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.
2. Limited field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This assessment will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.
3. Preparation of a report to include the results of the historical research and the limited fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. It will also provide mitigation recommendations if there are archaeologically sensitive areas that need to be taken into consideration.

1.4 Environmental Setting

1.4.1 Natural Environment

The project area is in central O'ahu within the town of Wahiawā on the Leilehua Plain between the Waianae and Ko'olau Mountains. Iliahi Elementary School is situated between North and South Kaukonahua Streams and approximately 150 m east of an intermittent tributary of North Kaukonahua Stream. Elevations within the project area are approximately 1,100 ft above mean sea level (AMSL). The school grounds slope gently to the south. Rainfall varies from 59-79 in (1,500-2,000 mm) per year (Juvik and Juvik 1998:62-64).

According to the U.S. Department of Agriculture (USDA), sediments within the project area consist solely of Leilehua silty clay, 2 to 6% slopes (Figure 8). Leilehua silty clay series are described as "well-drained soils on uplands on the island of Oahu. These soils developed in material weathered from basin igneous rocks. They are gently sloping to moderately sloping" (Foote et al. 1972:81). These sediments are used for pasture, sugarcane, and pineapple. Natural vegetation associated with Leilehua silty clay are Bermuda grass, guava, Formosa *koa*, and eucalyptus (Foote et al. 1972:81). Vegetation within the project area currently consists primarily of a maintained lawn.

1.4.2 Built Environment

The project area is within the southwest portion of the Iliahi Elementary School campus, adjacent to School Building D. The school is primarily surrounded by residential housing with the Iliahi Neighborhood Park to the north, and the Church of Jesus Christ of Latter-day Saints to the west.

The project area is bounded by a chain-link fence on the south and west boundaries, Building D to the east, and an open field to the north. A play structure is in the northeast portion of the project area. Two volleyball poles are in the center of the project area. There are two drains, one in the southwest portion and one just north of the northwest portion of the project area.

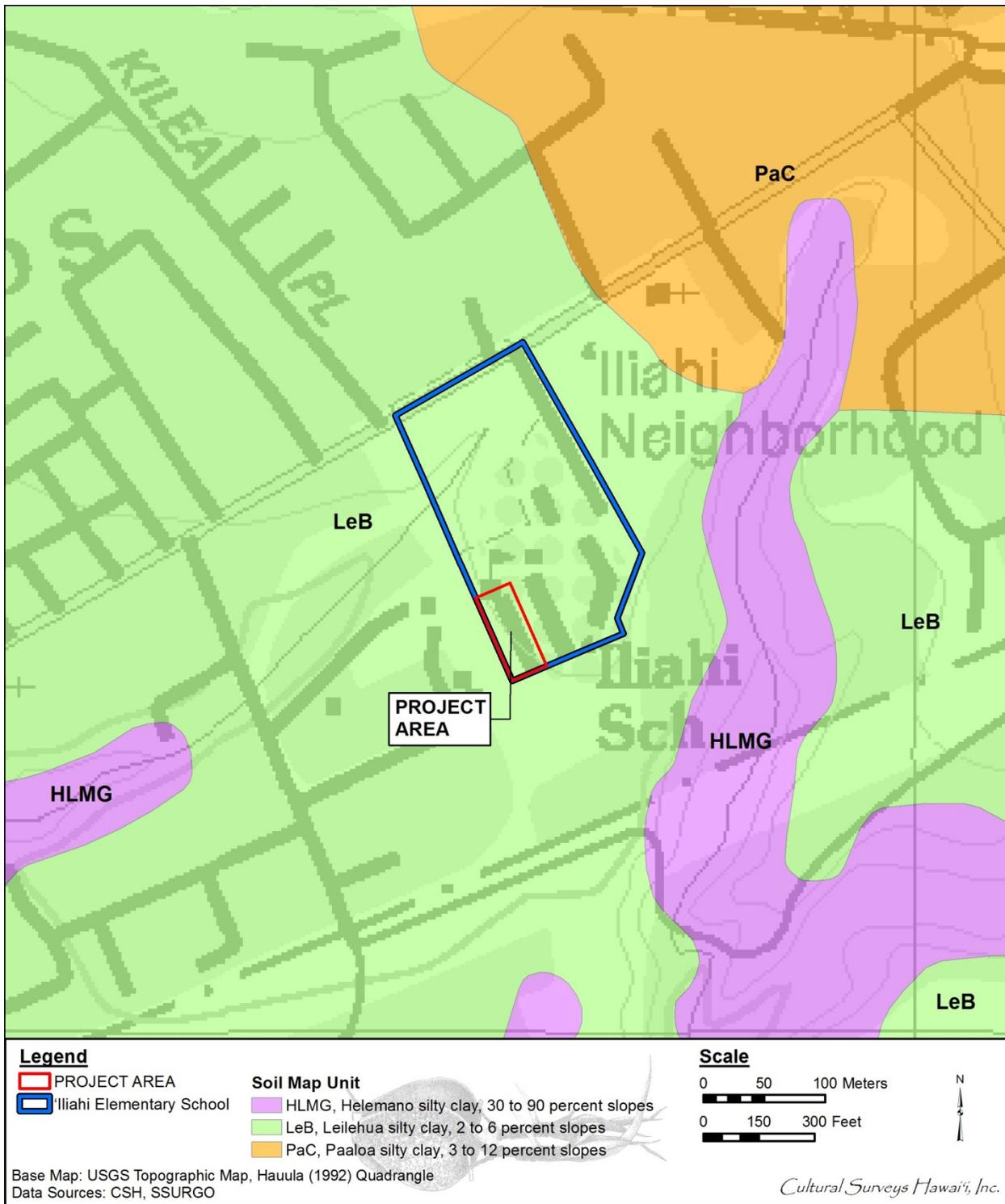


Figure 8. Portion of the 1992 Hau'ula, and 1998 Waipahu USGS 7.5-minute topographic quadrangles showing the sediment types within the project area (Foote et al. 1972)

Section 2 Methods

2.1 Field Methods

The fieldwork component of this literature review and field inspection was carried out under archaeological research permit number 13-06, issued by the Hawai'i SHPD, per HAR Chapter 13-13-282. Fieldwork was conducted on 3 October 2013 by Randy Groza, M.A. The fieldwork required one person-day to complete.

In general, the purpose of the field inspection was to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. Fieldwork consisted of the systematic traverse of the study area and photographic documentation of the landscape and any above-ground structures.

2.2 Document Review

Background research included a review of previous archaeological studies on file at SHPD; review of documents at Hamilton Library of the University of Hawai'i at Mānoa, the Hawai'i State Archives, the Mission Houses Museum Library, the Hawai'i Public Library, and the Archives of the Bishop Museum; study of historic photographs at the Hawai'i State Archives and the Archives of the Bishop Museum; and study of historic maps at the Survey Office of the Department of Land and Natural Resources. Historic maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona 'Aina database (www.waihona.com).

This research provided the environmental, cultural, historic, and archaeological background for the project area. The sources studied were used to formulate a predictive model regarding the expected types and locations of historic properties in the project area.

Section 3 Background Research

Iliahi Elementary School is situated in the south central aspect of the *ahupua'a* of Wahiawā (Wahiawā is both a traditional place name and a modern district designation). This section presents a review of the available documentary evidence for the general character of the Wahiawā area as it had evolved in the years before Western Contact in the later eighteenth century. During most of the nineteenth century to the mid-twentieth century, development of Wahiawā lands adjacent to and including the present project area included cattle grazing and pineapple agriculture.

3.1 Traditional and Historical Background

3.1.1 Mythological and Traditional Accounts

According to E.S. Craighill Handy and Elizabeth Handy:

Wahiawā was from very ancient times, identified with the ruling *ali'i* of Oahu. The name analyzed is *Wahi* (place), *a* (belonging to), *wa* (noise). Perhaps the name goes back to the time when Hi'iaka was in this general area and could see waves dashing against the coast afar off and hear the ocean's ceaseless roar . . . [Handy and Handy 1972:465]

The Handys suggest a “sizable population” filled the Wahiawā area in traditional Hawaiian times, based on the “various areas of *lo'i* northwest of the present town of Wahiawā”:

There were extensive terraces that drew water from Wahiawa Stream, both above and below the present town. There were many small terrace areas along the sides of the valleys of all the streams of this general area. These streams tap the southwest slopes of the Ko'olau range where it begins to lose altitude but it is still very wet in the hinterland. The peculiarity of this area, apart from distance from the sea, is that it is the only extensive level area on [O'ahu] that is quite high. [Handy and Handy 1972:465]

Hawaiian historian Samuel M. Kamakau describes the chiefs of Wahiawā:

The chiefs of Lihue, Wahiawa, and Halemano on Oahu were called *Lo* chiefs, *po'e Lo Ali'i* [people from whom to obtain a chief], because they preserved their chiefly kapus . . . They lived in the mountains (*i kuahiwī*); and if the kingdom was without a chief, there in the mountains could be found a high chief (*ali'i nui*) for the kingdom. Or if a chief was without a wife, there one could be found—one from chiefly ancestors. [Kamakau 1964:5]

One of the *Lo ali'i* was Kūkaniloko. Kūkaniloko is also the name of “one of the two famous places in the Hawaiian islands for the birth of children of tapu chiefs . . . Kūkaniloko is said to have been established by Nanakaoko and his wife Kahihokalani, whose son, Kapawa, heads the list of the important *alii* born here” (McAllister 1933:134, 135). It is located approximately 200 m west of the intersection of Kamehameha Highway and Whitmore Road, and 3,700 m west of the current project area. Associated with, and located near, Kūkaniloko was Ho'olonopahu *heiau* where “were kept the sacred drums of Opaku and Hawea which announced the birth of an *alii*”

(McAllister 1933:147). Sacred sites like Kūkaniloko and Ho'olonopahu suggest the significance of the Wahiawā area in the Hawaiian consciousness during pre-Contact times.

In 1925, John Holani Hao (1925) composed, the following *mele* in honor of Kūkaniloko:

He Mele No Kukaniloko

<i>No Kukaniloko ko'ū aloha,</i>	For Kukaniloko is my aloha,
<i>Ke kupa noho kula a o Kalakoa,</i>	Native dwelling on the plains of Kalakoa,
<i>Kahi hanau hoi o na alii,</i>	Birthplace of the alii,
<i>Wohi hoi a o Hawaii nei;</i>	Wohi chiefs of Hawaii nei;
<i>Walea i ke kui lei Ahihi,</i>	Taking pleasure in stringing lei of Ahihi,
<i>Lei hookipa no ka malihini;</i>	A lei of welcome for the visitor;
<i>Paa mai uka i ka uhiwai,</i>	The uplands are covered by fog,
<i>O ke kehau anu ko ke kuahiwi;</i>	The cold mist of the mountains;
<i>Halihali mai ana i ke ala,</i>	Carrying along the scent,
<i>Ke ala o maile Nohoanu;</i>	The fragrance of maile in the cold;
<i>Auau aku i ka wai o Kuaikua,</i>	Bathing in the waters of Kuaikua,
<i>Wai hooheno a na'lii;</i>	Cherished waters of the alii;
<i>Na mamo hoi a Kakuhihewa,</i>	The descendants of Kakuhihewa,
<i>A na pua a ka Na'i Aupuni;</i>	And progeny of the Conqueror of the Nation;
<i>Nana i rula mai a pololei,</i>	Who ruled with righteousness,
<i>Me ka ihe laumeki i ka lima;</i>	With barbed spear in hand;
<i>A he puuwai koa me ka wiwoole;</i>	And a brave and fearless heart;
<i>Imi maluhia no ka lahui;</i>	In pursuit of peace for the people;
<i>Hui pau ia mai na ailana,</i>	Completely joining the islands,
<i>Mai Hawaii a Niihau,</i>	From Hawaii to Niihau,
<i>Noho hoomalu ia me ke kaulike,</i>	Living in peace with equality,
<i>Mamalahoā kanawai;</i>	The law of Mamalahoā;
<i>Hainaia mai ana ka puana,</i>	Let the refrain be told,
<i>No Kukaniloko ko'ū aloha.</i>	For Kukaniloko is my aloha. [Hao 1925]

Due to Kūkaniloko's cultural and historical significance, McAllister (1933) reported "this site is the only site on Oahu that is being officially preserved." The site is listed on the National and

Hawai'i Registers of Historic Places. Currently, the Hawai'i State Parks maintains and manages Kūkaniloko Birthstones State Historic Site in partnership with the Friends of Kūkaniloko, and the Hawaiian Civic Club of Wahiawā.

John Papa ʻĪʻĪ documented traditional trails in his nineteenth century memoirs, one of which extended past Kūkaniloko. ʻĪʻĪ described the trail through central Oʻahu, connecting the north and south shores of the island; in the general area of Wahiawā, the trail ran to:

. . . Kukaniloko, the birthplace of chiefs. Just below the main trail was the descent to the stream of Kuaikua, where there was a diving place and a palace for travelers to rest. Beyond was Paka stream and the maika field of Kapalauauai, which lay beyond the pond belonging to the village. There the trail met with the one from Kolekole and continued on to the stream of Waikakalaua . . . [ʻĪʻĪ 1959:98-99]

3.1.2 Early Historic Period

Wahiawā enters the historical record in the sandalwood trade of the early 1800s. The Hawaiian Islands began exporting sandalwood to China shortly after 1800 and commerce flourished until the supply dwindled in the mid-1830s. Sandalwood trade was solely traded by the *aliʻi* beginning with Kamehameha. At the height of the sandalwood boom, Kamehameha was buying foreign ships, including six vessels between 1816 and 1818, to transport his own wood to China (Kuykendall 1965:87). According to Samuel Kamakau, Wahiawā was a prime source for the valuable wood, though harvesting it was difficult:

Ka-lani-moku and all the chiefs went to work cutting sandalwood at Wahiawa, Halemano, Puʻukapu, Kanewai, and the two Koʻolau. The largest trees were at Wahiawa, and it was hard work dragging them to the beach. [Kamakau 1992:207]

By the time the trade collapsed in the 1830s, its effects on the Hawaiian population and landscape had been devastating:

The chiefs, old and young, went into the mountains with their retainers, accompanied by the king and his officials, to take charge of the cutting, and some of the commoners cut while others carried the wood to the ships at the various landings; none was allowed to remain behind. Many of them suffered from food; because of the green herbs they were obliged to eat they were called 'Excreters of green herbs' (*Hilalele*), and many died and were buried there. The land was denuded of sandalwood by this means. [Kamakau 1992:252]

Iliahi Elementary School is named after the sandalwood tree (*Santalum freycinetianum*; *ʻiliahi*) that was particularly associated with the general vicinity (Pukui et al. 1984:91).

Serano Edwards Bishop's missionary family moved to the Pearl City area in 1836. Bishop recorded his observations during family visits to missionary John S. Emerson in Waialua. He describes the "naked plains" following the removal of sandalwood in the Wahiawā vicinity:

There was then no road save a foot path across the generally smooth upland. We forded the streams. Beyond Kipapa gulch the upland was dotted with occasional groves of Koa trees. On the high plains ti abounded often so high as to intercept the view. No cattle then existed to destroy its succulent foliage. According to

statement of the natives a forest formerly covered the whole of the then nearly naked plains. It was burned off by the natives in search of sandal-wood which they detected by its odor when burning. [Bishop 1916:45]

In 1845, the Board of Commissioners to Quiet Land Titles, also called the Land Commission, was established “for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property” (Chinen 1985:8). This led to the Māhele, the division of lands between the king of Hawai‘i, the *ali‘i*, and the common people, which introduced the concept of private property into Hawaiian society. In 1848, Kamehameha III divided the land into four categories: certain lands to be reserved for himself and the royal house were known as Crown Lands; lands set aside to generate revenue for the government were known as Government Lands; lands claimed by *ali‘i* and their *konohiki* (supervisors) were called Konohiki Lands; and habitation and agricultural plots claimed by the common people were called *kuleana* (Chinen 1985:8-15). The Waihona ‘Aina (2000) Māhele database does not list any Land Commission Awards (LCAs) for Wahiawā Ahupua‘a. Lloyd Soehren (2013) reports that there is no mention of Wahiawā in Māhele documents since Waialua District lands were taken in 1913 to create Wahiawā District. Princess Victoria Kamāmalu was awarded the majority of Waialua District. Soehren’s (2013) research does indicate that Wahiawā lands were designated School Land in 1850. The land was to be sold for public school support.

Nees (1995) however reports that Kamehameha III retained Wahiawā as Crown Lands. Then in 1853, 2,128 acres of Wahiawā land were sold as Grant 973 to Robinson and Company. Robinson and Company later leased the lands to Waialua Agricultural Company for pineapple cultivation.

While no LCAs were registered in the vicinity of the project area, the lack of LCA claims may not indicate the absence of an indigenous Hawaiian population in the south-central portion of Wahiawā in the mid-nineteenth century. Discussing the growth of Hawaiian education during the reign of Kamehameha III (1824 to 1854), Samuel Kamakau notes, “At Kahalepo‘ai, Hauone, Kalakoa, Wahiawa, Halemano, and Kanewai there were larger villages with teachers and schoolhouses . . . (Kamakau 1992:424).

3.1.3 Mid- to late 1800s

What became of the “larger village” at Wahiawā during the second half of the nineteenth century is unrecorded. Further, there is no documentation of any Hawaiian presence in the general area of the proposed Iliahi Elementary School play court area. Historic documents indicate that the entirety of Wahiawā had been leased to James Robinson, an O‘ahu businessman who grazed cattle throughout the area (Nedbalek 1984:18).

Sereno Edwards Bishop describes observing cattle throughout the Wahiawā area during a trip in 1853 from the ‘Ewa side of O‘ahu to Waialua:

Once while making the trip down to Waialua, to which there was a good horse trail, I discovered that even at that early day the cattle had made great inroads into the forests of ti plants which had theretofore clad the foothills and upland pasturages, even to the highest tracts. [Bishop 1916:60]

Towards the end of the 1800s, following the overthrow of the Hawaiian monarchy, western military, entrepreneurial, and agricultural interests would further transform the Wahiawā

landscape. Following the annexation of the Hawaiian Islands by the United States in 1898, a presidential order of 20 July 1899 set aside Waianae Uka lands as a military reservation. Ten years later, in 1909, these lands would become the site of Schofield Barracks, named after Lieutenant General John M. Schofield. The northern boundary of Schofield Barracks is just south of Iliahi Elementary School.

In 1897 Byron Clark, a Californian, arrived in the Hawaiian Islands and became the Hawaiian Republic's commissioner of agriculture. Clark sought affordable land to purchase in O'ahu,

But to buy or lease suitable land from private individuals proved too expensive. Searching for alternatives, Clark went to the government land office. He learned there was one piece of land, indeed the only one on the island of Oahu, that might be available for settlement. The tract was called Wahiawa. It had previously been leased to Oahu businessman James Robinson for cattle grazing. By the time of Clark's inquiry, the area had been designated homestead land by the Land Act of 1895. To receive title, each settler must live on and cultivate a portion of the land for three years. [Nedbalek 1984:18]

Clark organized a group of families, mainly from California, who would join him in settling a 1,300-acre tract of land that had previously been used for cattle grazing. The homesteaders began formalizing and refining the physical organization of their Wahiawā settlement, which they named the Wahiawa Colony Tract. The group initiated their organization with the formation of an agricultural cooperative called the Hawaiian Fruit and Plant Company. The co-op plan was established with the intent of shipping fresh produce to Honolulu and California. Settlement of Wahiawā and distribution of the lands progressed as follows:

Plots of land, twenty acres for each man plus twenty for his wife and twenty for each child, were distributed on a first-come-first-choice basis. Initially each settler lived in a house on his five-acre parcel in the town site and farmed his other land in the surrounding area. It was soon discovered, however, that each settler preferred to reside on his own farmstead, holding his town lot in reserve. The homesteaders abandoned the village plan and agreed that one man, Thomas Holloway, would live on their 145-acre central lot site. On 27 August 1902 a trust deed, often referred to as the Holloway Trust, formally set aside the central town lots for the use and benefit of the Wahiawa Settlement Association resident landowners. Within a few years most public facilities would be located there. [Nedbalek 1984:20]

A 1901 map (Figure 9) shows the project area lands within the Waialua Agricultural Company, Ltd. and also Grant 4600 to J.W. Welte. Welte was one of the original homesteaders in Wahiawā (Wahiawa Historical Society 2012). This map also details a gulch extending more or less east/west across the north portion of Iliahi Elementary School, and a second gulch immediately to the southeast. Waialua Agricultural Company, which was later known as Waialua Sugar Company, was established in 1898 by Castle and Cooke. Benjamin Dillingham, pursuing new business for his railroad, persuaded Castle and Cooke to lease lands. Castle and Cooke organized the Waialua Agricultural Company and soon began a program of land purchases and leases to increase the plantation's capacity. Some 600 acres that originally comprised the lands were reported to be "unimproved lands covered with lantana and stones, several hundred acres

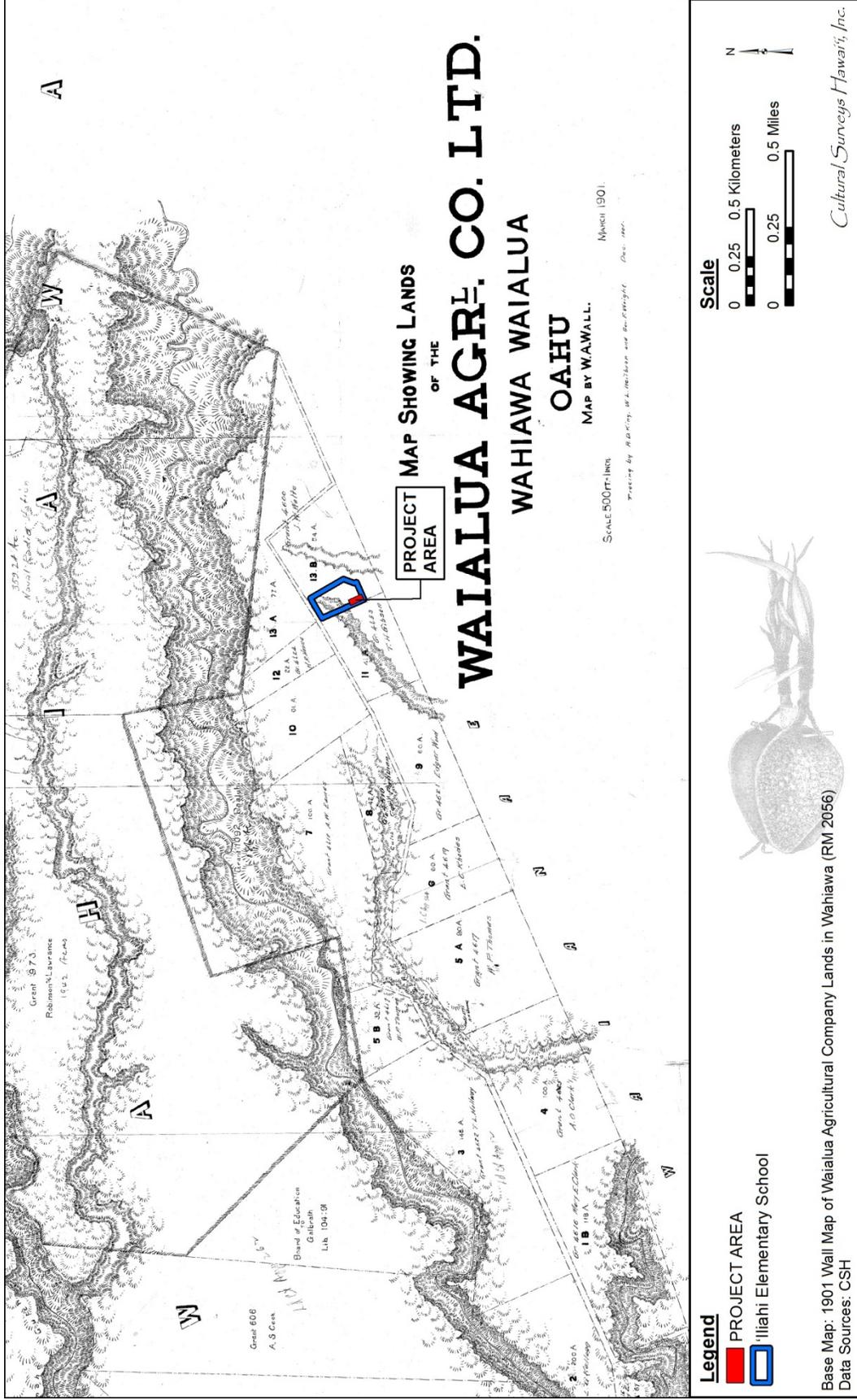


Figure 9. 1901 Waialua Agricultural Company, Ltd. map by W.A. Wall (RM 2056), showing the project area within agricultural incorporated lands and Grant 4600 to J.W. Welte

of rice and ranch land, a small mill, one five million gallon pumping station, no reservoirs or railroads, one small set of steam plows and other equipment of a small plantation” (Clark 2007:58).

3.1.4 Early 1900s

James D. Dole founded the Hawaiian Pineapple Company in 1901. He purchased 61 acres in Wahiawā where he developed a pineapple plantation and a cannery. Dole described Wahiawā at that time as “a park-like stretch of some 1,400-acres of third-class pasture land, dotted with shacks of 13 hopeful homesteaders for whom [the] general sentiment was merely pity” (Nedbalek 1984:26). Dole, however, was determined to grow and can pineapple that could then be shipped and sold worldwide. To transport the pineapple from Wahiawā to Honolulu, Dole persuaded the Oahu Railway and Land Company (OR&L) to extend its rail line to Wahiawā. OR&L completed the extension in 1906. Pineapple production at Wahiawā had increased so rapidly that in 1907 Dole constructed a new cannery at Iwilei, near the shipping facilities of Honolulu Harbor. Demand for pineapple continued to increase for many years (Bruggencate 2003:41).

The Wahiawa Colony Tract homesteaders also grew pineapple, although Clark did not initially believe that the fruit could be produced “in large plantations as is the sugar industry” (Larsen 2012:71). However, within a few years of producing increasing amounts of pineapple, Clark “became a primary source of planting material that helped launch the new industry” of pineapple cultivation (Larsen 2012:71). Figure 10 shows the project area and vicinity in 1906 cultivated in pineapple. Adjacent to and just south of the project area are grazing lands.

A 1909 article in *Paradise of the Pacific* describes the homesteaders’ lands prior to pineapple cultivation as having been previously disturbed by only “the hoof-beats of scared cattle, or hunters startling the pheasants and wild pigs.” By 1909, pineapple cultivation had expanded from the original 1,400 acres to 5,000 acres, extending throughout Wahiawā. The designation of “Wahiawa, the Land of a Million Pines” was far exceeded by the 1909 crop when one cannery packed some five million pineapples (Brown 1909:52-53).

During the first decades of the twentieth century, the central portion of the Wahiawa Colony Tract settlement gradually became Wahiawā Town. Some of the town’s streets were also named for the early homesteaders—including Clark (for Byron Clark), Kellogg (for Leonard Kellogg), Thomas (for William P. Thomas), and Eames (for Alfred W. Eames) Streets.

A Land Court Application map (Figure 11) shows the current project area within the Wahiawa Homesteads and land granted to J. W. Welte (Grant 4600). Grant 4847 to the northwest was owned by James D. Dole. The Waianae Uka Military Reservation, which later became Schofield Barracks, is shown to the south.

A 1919 U.S. Army fire control map (Figure 12) of O‘ahu shows the Iliahi Elementary School project area east of Wahiawā Town, which is taking shape in a grid of streets across the former homestead tracts. Unimproved roads extend east to and through Iliahi Elementary School and adjacent to the project area. South of the town and the project area, Schofield Barracks is fully established and rail lines course through pineapple fields and out of Wahiawā to Honolulu.

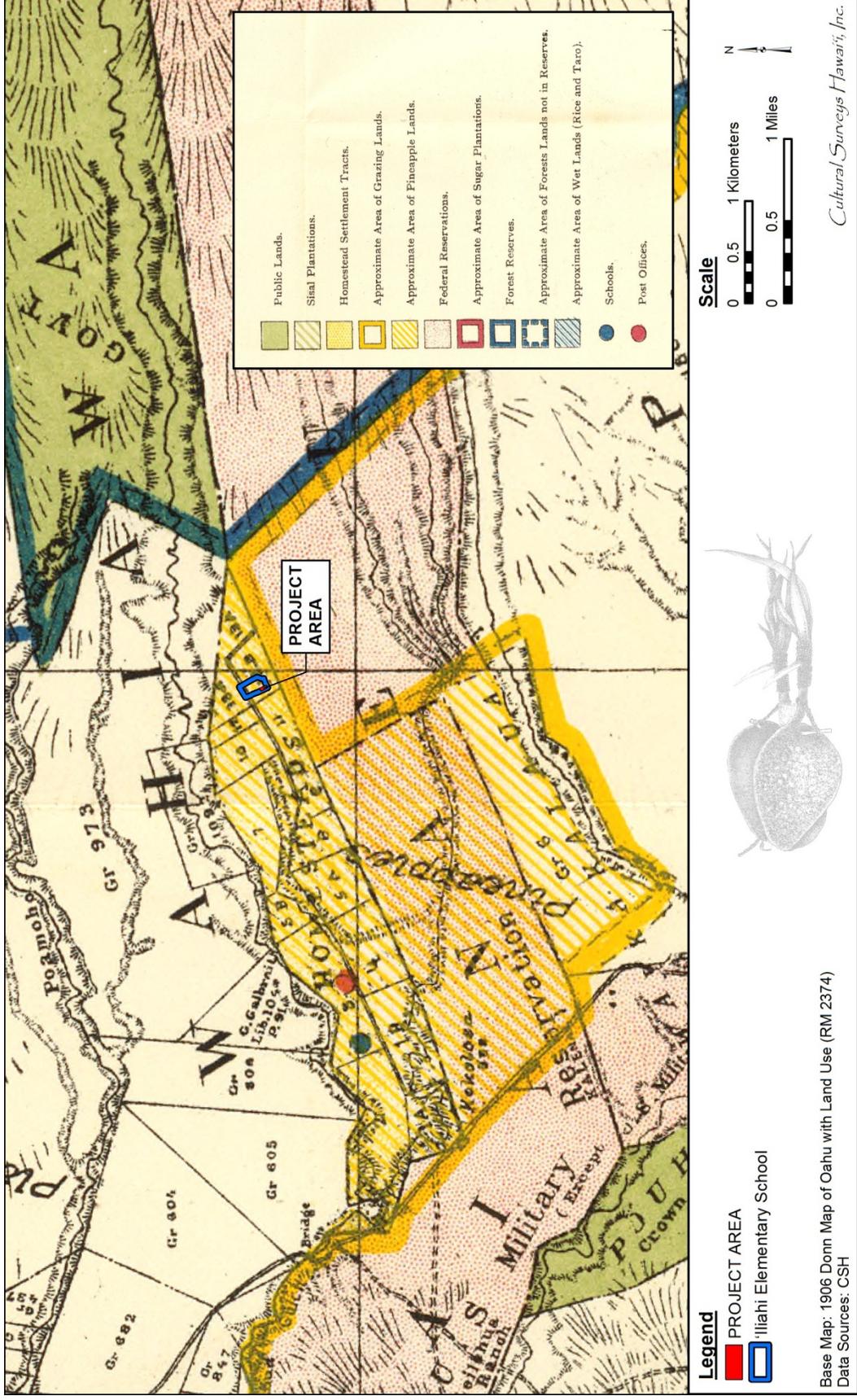


Figure 10. 1906 Oahu, Hawaii Territory Survey map, by John M. Donn (RM 2374), showing the project area within “pineapple lands” and adjacent to “grazing lands”

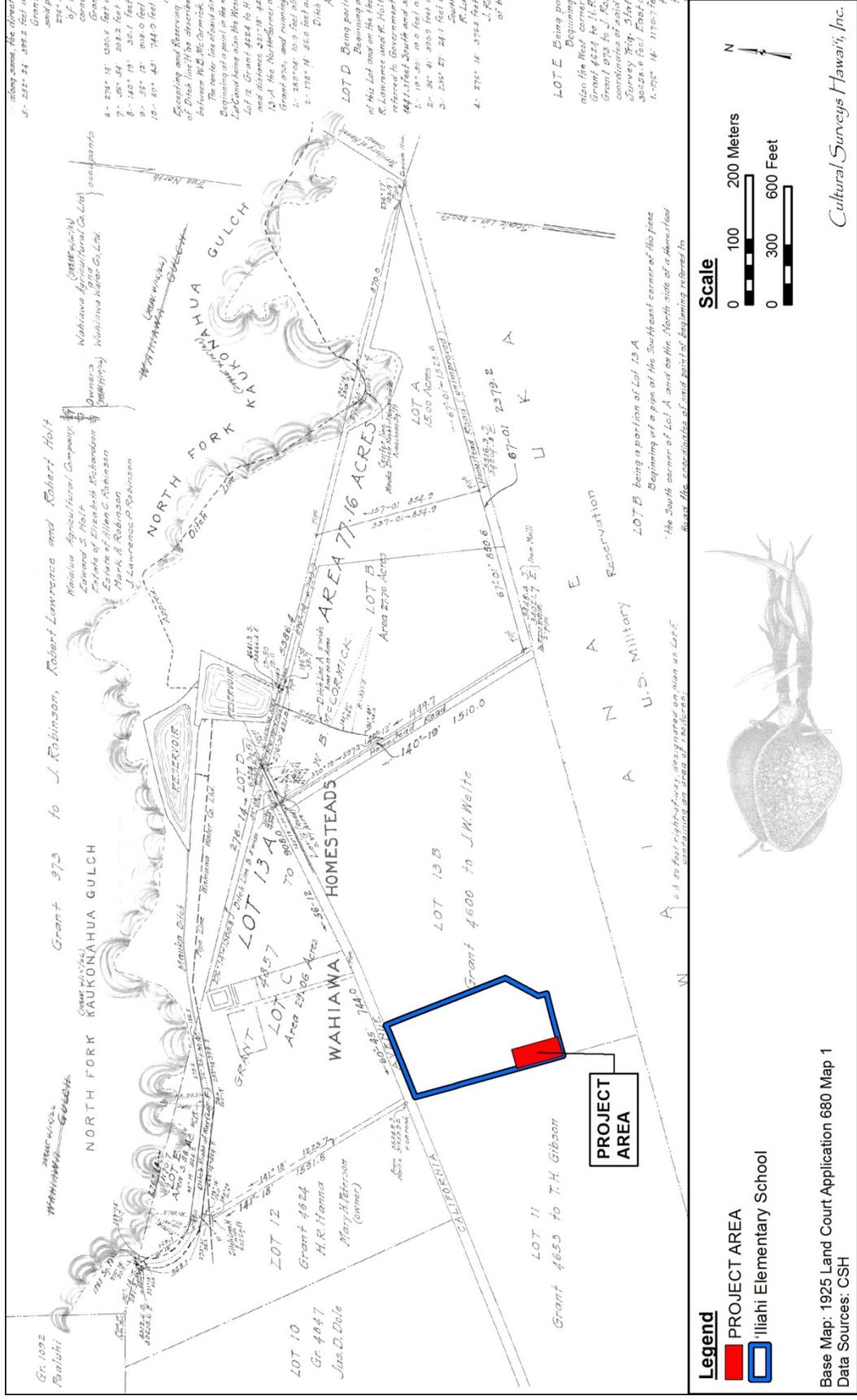


Figure 11. 1925 Land Court Application Map (LCApp 680 by W.A. Wall), showing the project area within the Wahiawa Homesteads and Waianae Uka U.S. Military Reservation to the south

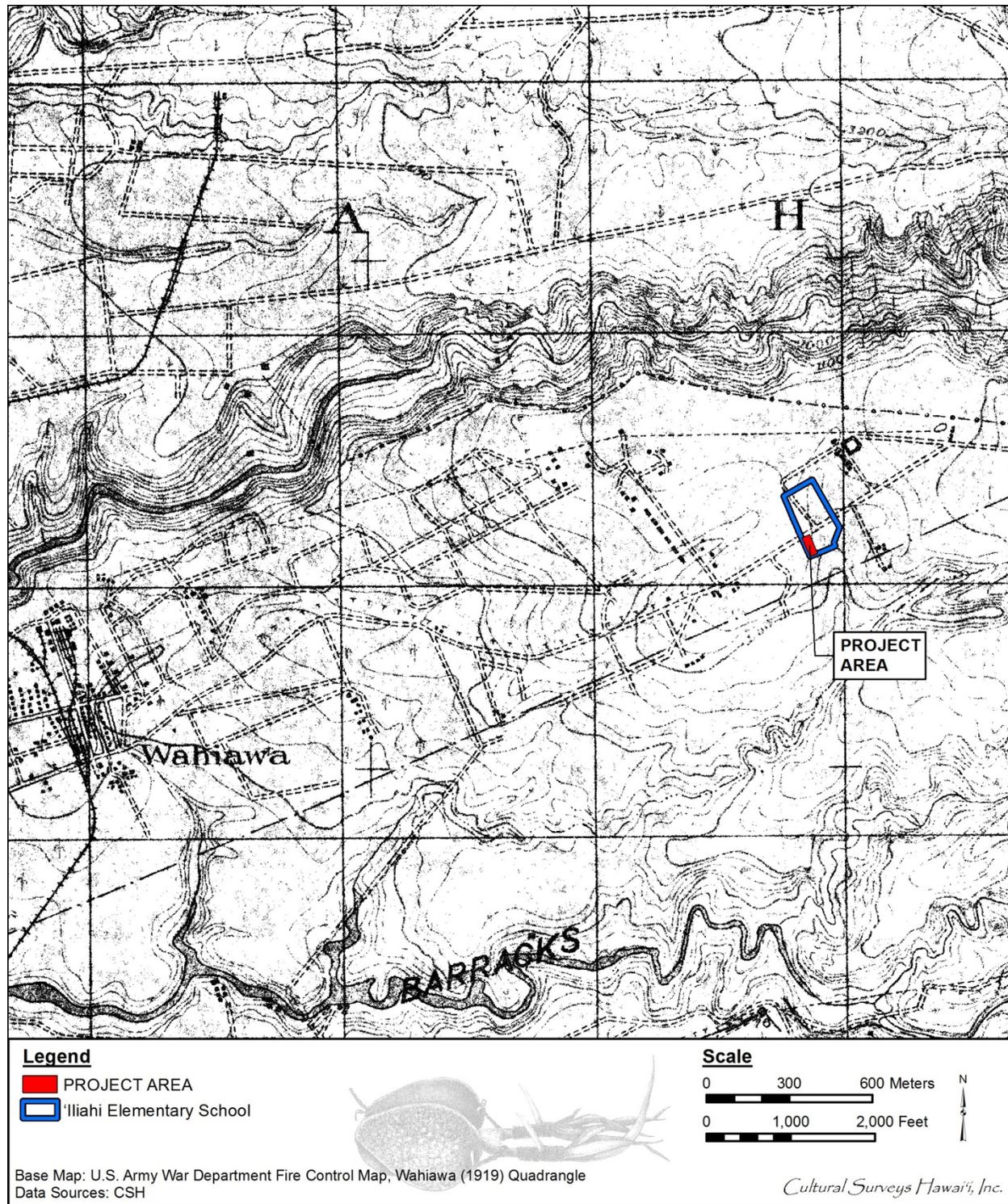


Figure 12. Portion of the 1919 Wahiawa U.S. Army War Department Fire Control topographic quadrangle showing Iliahi Elementary School and the project area

A reservoir was constructed west of Wahiawā Town at the confluence of the north and south forks of Kaukonahua Stream. Water was crucial to the Waialua Agricultural plantation's survival and growth:

The key to Waialua's irrigation was Wahiawā Dam and Reservoir. The 2.5-billion-gallon capacity reservoir was completed in two years, on 23 January 1906. It was the largest reservoir in Hawaii and the most economical as well. Lately known as Lake Wilson, it provided 90 percent of Waialua Sugar Company's surface water . . .

The dam itself, at 136 feet, is the highest earthen dam in Hawaii. Sited at the 1000 foot elevation, it measures 461 feet long and is 580 feet thick at the base. It created a 7-mile-long reservoir that took advantage of the natural streambeds and canyons located in the Kaukonahua gulch. [Wilcox 1996:109]

The Wahiawā Reservoir continues to aid in flood control and the storage of storm water.

The permanent supply of water provided by the Wahiawā Reservoir allowed the homesteaders to plant a variety of crops for daily use as well as animal feed. Pineapple, however, was the dominant crop and did not need irrigation. Homesteaders soon required assistance with the increased pineapple harvest as well as every-day work in the pineapple fields. This work attracted immigrant laborers, including Japanese, Chinese and Korean, many of whom were former sugar plantation workers. Since the laborers had worked and resided in Hawai'i for several years, they had families. Thus entire families moved to live and work in Wahiawā. As was the custom on sugar plantations, various camps that were segregated by race were developed to house the laborers and their families (Nedbalek 1984:29, 36-37).

As indicated on a 1936 U.S. Army Wahiawā quadrangle map (Figure 13), Kaukonahua Camp, which housed pineapple laborers and their families is approximately 2,200 m northwest of the project area. The unimproved roads extending east from Wahiawā Town toward the project area are now paved. A building is south of the current project area and roads immediately south and west of the project area are unimproved.

By 1936, only one of the original homesteaders, Jared Smith, remained in Wahiawā. He later wrote an article that appeared in the 3 December 1943 edition of *The Honolulu Advertiser*:

Clark, the founder would have had it continue just as it was intended . . . he dreamed it would be a tourist resort and a city of American homes surrounded by a rich farming community, came out of the growth of the pineapple industry.

One of the original members of the homestead association [A.W. Eames] built a cannery on this home lot [in the settlement center] and covered four other Wahiawā city blocks, which he had acquired by purchase, with labor camps. This was done despite the opposition of the founder [Clark], who saw in this commercialization the end of his dream city and the purely American farming community. [Larsen 2010:76]

Little change within the immediate vicinity of the project area is evident on 1943 U.S. Army Kaukonahua and Schofield Barracks quadrangle maps (Figure 14) as compared to the 1936 map (Figure 13).

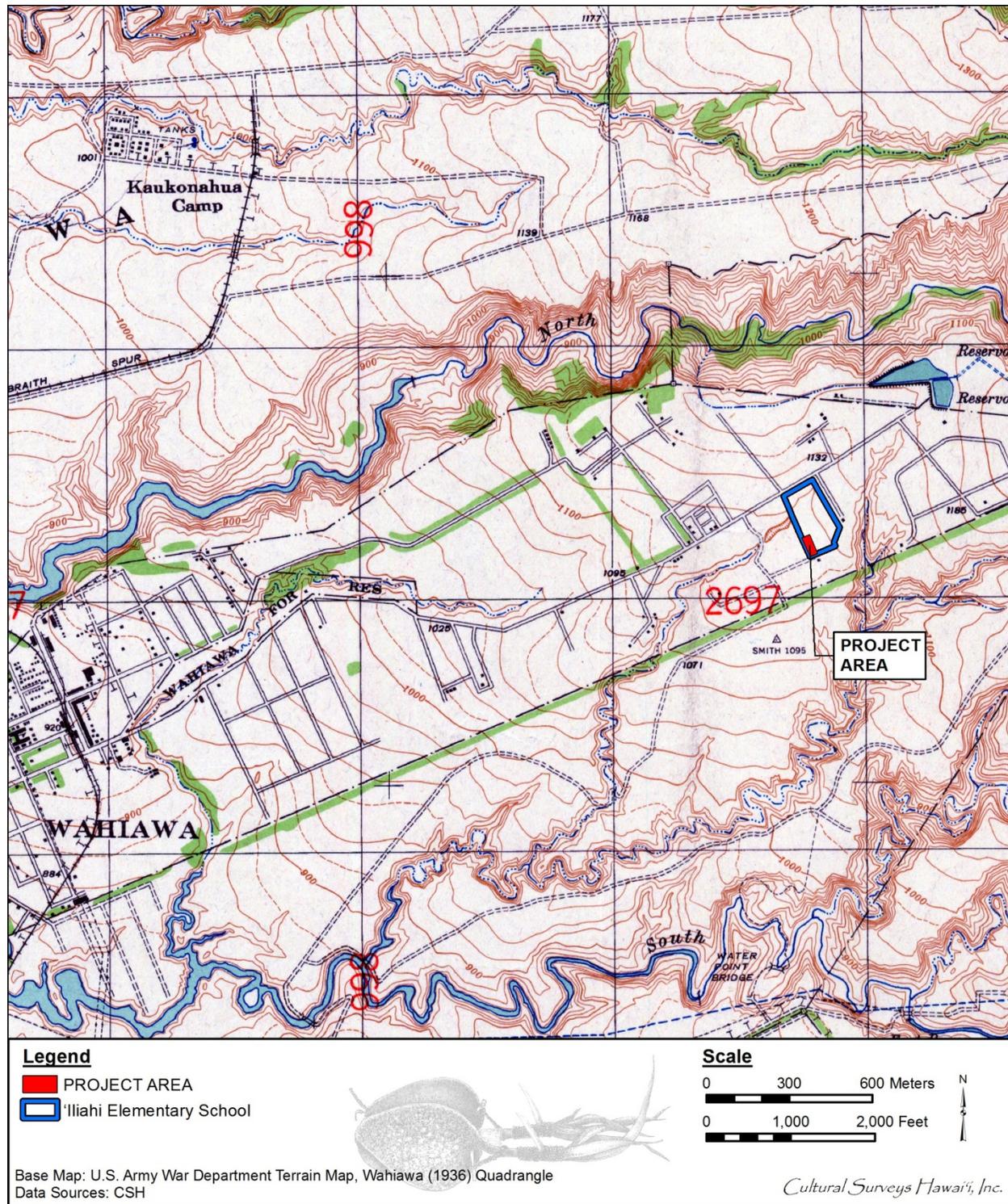


Figure 13. Portion of the 1936 Wahiawa U.S. Army War Department Terrain topographic quadrangle showing Iliahi Elementary School and the project area

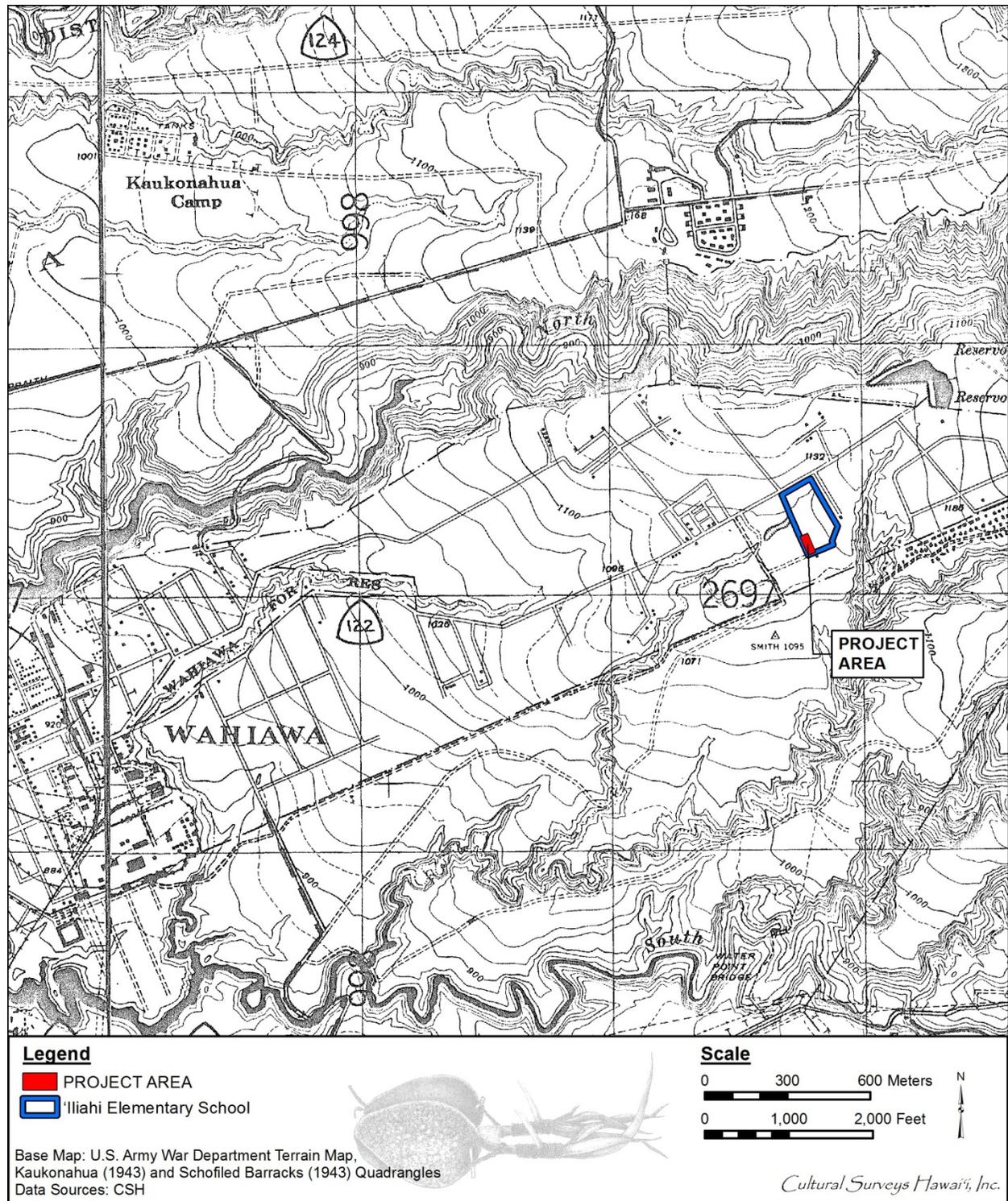


Figure 14. Portion of the 1943 Kaukonahua and Schofield Barracks U.S. Army War Department Terrain topographic quadrangle showing Iliahi Elementary School and the project area

3.1.1 Post World War II to Present

The start of World War II further accelerated development within Wahiawā Town to accommodate the needs of the growing military population. Wahiawā Elementary School on Lehua Street closed its doors in the 1940s to become the new Wahiawā General Hospital. The Office of Civil Defense established a 42-bed wartime medical facility in the wood frame buildings that had formerly housed the school. At the end of World War II, the facility remained in operation under the leaders of the Wahiawā Hospital Association. The 72-bed acute care facility was dedicated in 1958, under the official name that it retains today, Wahiawā General Hospital (Nedbalek 1984:77).

At the corner of Lehua Street and California Avenue stood the old Wahiawā Hotel, located where Wahiawā General Hospital now stands. The old Wahiawā Hotel was operated by Mary Johnson until World War II, when it was formally taken over by the Army for nurses' quarters. Following World War II, the old Wahiawā Hotel was used as living quarters for area school teachers. By the 1960s, Wahiawā teachers who had been quartered at the teachers' cottages (as they referred to them) were forced to relocate as plans for the new Wahiawā Branch Library were underway (Nedbalek 1984:77).

Figure 15 shows residential development extending east from Wahiawā Town, near the project area and north of California Avenue. By 1977-1978 (Figure 16), Iliahi Elementary School was constructed and residential in-fill has occurred.

Modern Land Use

Iliahi Elementary School was originally constructed in 1963 (Hawai'i State DOE 2013). School records indicate that the individual buildings were constructed between 1963 and 1971. The City and County of Honolulu Department of Planning and Permitting (2013a) website lists permits for various improvements--some of which would have included ground disturbance--including additions and alterations in 1971, a new building in 1971, and multiple permits for electrical work in the 1980s. More recent work has included replacing the cafeteria grease trap (2001); replacing an existing fence (2002); telecommunication infrastructure improvements (2003); replacing the public address system (2007); and a new restroom and water meter (2011).

The 23-acre Hidden Valley Estates condominium complex was constructed adjacent to the east and south boundaries of Iliahi Elementary School in the mid-1980s. The Church of Jesus Christ of Latter-day Saints, just west of the project area, was constructed in 2002, according to the City and County of Honolulu Department of Planning and Permitting (2013b) website.

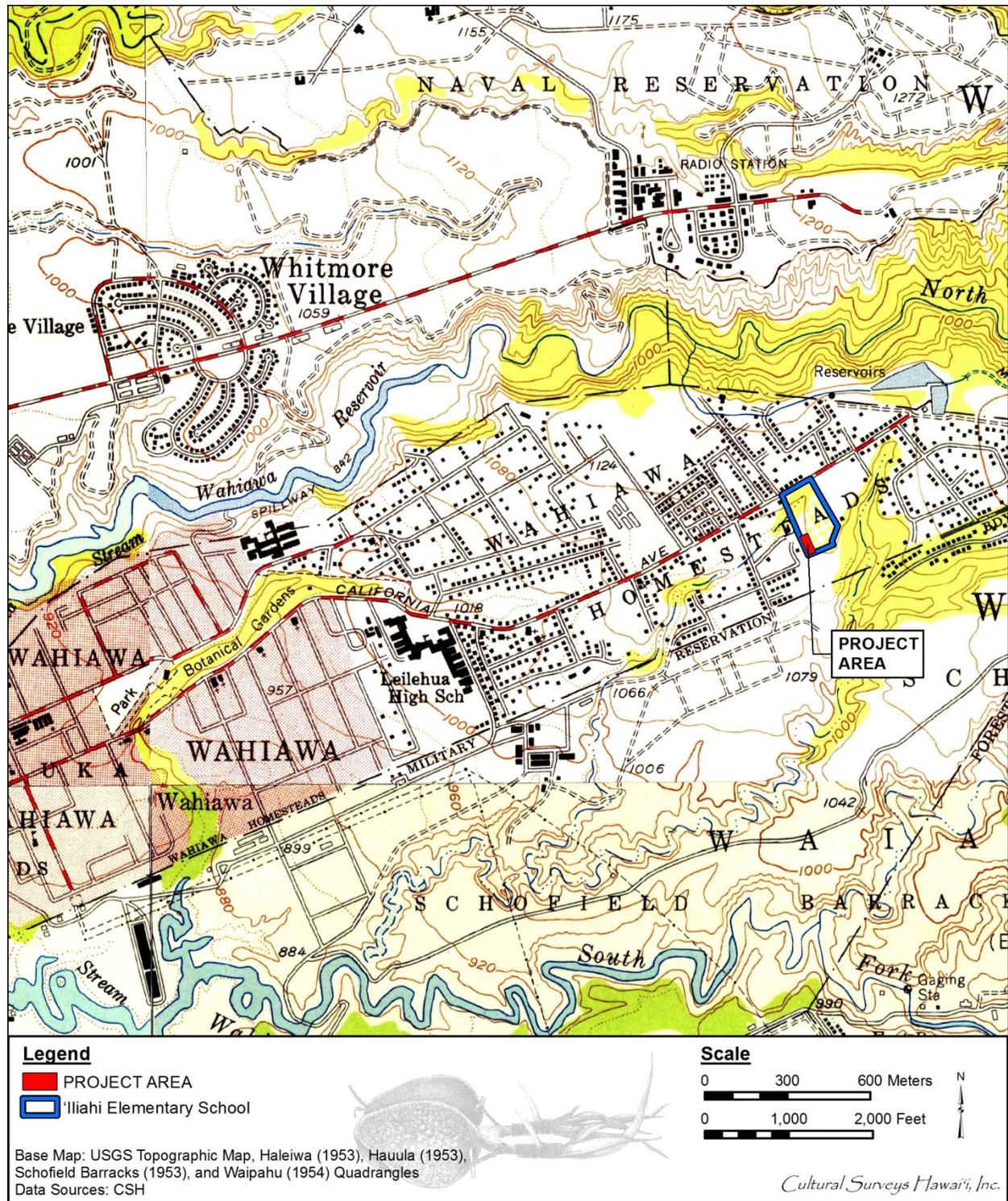


Figure 15. Portion of 1953 Haleiwa, 1953 Hauula, 1953 Schofield Barracks, and 1954 Waipahu USGS topographic quadrangles showing Iliahi Elementary School and the project area

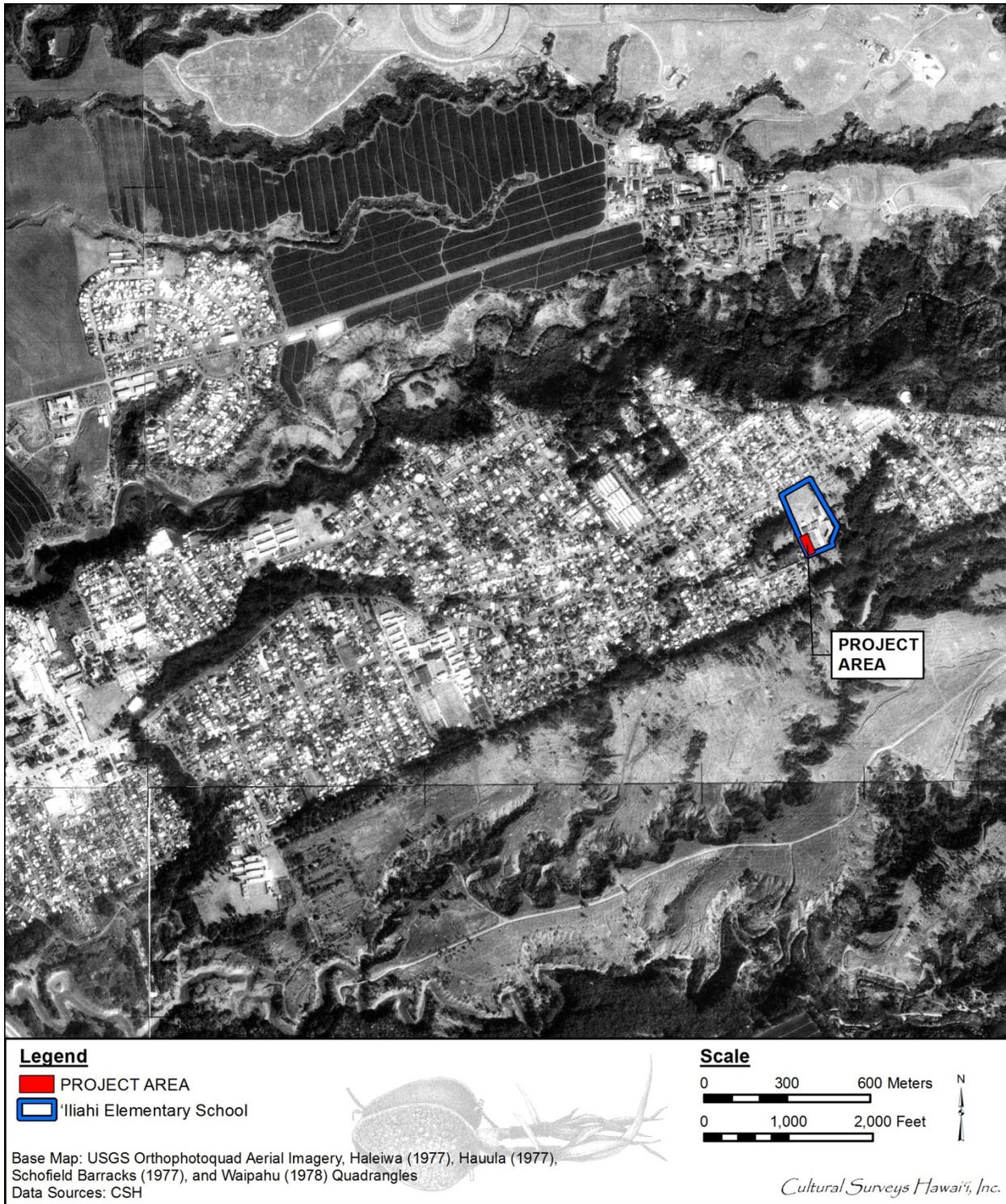


Figure 16. Portion of 1977 Haleiwa, 1977 Hauula, 1977 Schofield Barracks, and 1978 Waipahu U.S. Geological Survey Orthophoto showing Iliahi Elementary School and the project area

3.2 Previous Archaeological Research

3.2.1 Early Research

Three archaeological sites in Wahiawā (Figure 17) were recorded during the first attempt at a comprehensive survey of sites on the island of O‘ahu accomplished by J. Gilbert McAllister of the Bishop Museum in 1930. Site 218 is Kūkaniloko which, as noted in the previous section, was “one of the two famous places in the Hawaiian islands for the birth of children of tapu chiefs” (McAllister 1933:134). McAllister describes the site as it appeared in the early 1930s:

There is now little to see at Kukaniloko. It is an inclosed [sic] area about one-half acre in size, with many large stones, some just visible, others protruding to a height of 3 to 4 feet, scattered about on a well-kept lawn. Tall trees border the site. To the old Hawaiians these stones were all named and represented alii, but now the only name remembered is Kahamaluihi, a flat stone near the center of the group. The old Hawaiians of today remember that in their childhood they were never allowed by their parents to approach even near the sacred birthplace, an indication of the great respect in which Kukaniloko was held, even a century after contact with Europeans and more than a half century after the coming of the missionaries. [McAllister 1933:136]

McAllister also recorded Site 219, Ho‘olonopahu *heiau*, adjacent to Kūkaniloko:

Hoolonopahu was a heiau which functioned in connection with Kukaniloko (site 218). Here were kept the sacred drums of Opuku and Hawea which announced the birth of an alii. Nothing now remains of the temple. The land is planted in pineapples. [McAllister 1933:137]

A third site that was identified by McAllister was approximately 1,590 m south of the current project area (Figure 17). Site 204, the Oahunui Stone, was “in the gulch near the division line between Ewa and Waialua” (McAllister 1933:132). McAllister (1933) reports:

In the nineties it seems to have been a favorite expedition for Honoluluans to ride out to Oahunui and walk around this stone. Oahunui is also the name of one of the former chiefs of Oahu. He came under the influence of the cannibal chief (Site 220), Lo Aikanaka, and learned to like human flesh. It is reported that he killed and ate his two nephews, the children of his older sister, who shared with him the royal power and prerogative. Lehuanui avenged the death of his children by killing Oahunui and his wife, Kilikiliula, who had it within her power to save her children. It is said that Oahunui and Kilikiliula and the attendants that participated in the killing and cooking of the children were turned into stone and are still to be seen. [McAllister 1933:132]

3.2.2 Recent Studies

As shown on Figure 18, the majority of archaeological studies within the vicinity of the project area have been conducted within the central portion of Wahiawā in the vicinity of Wahiawā Town, as well as within military installations to the south and north. One study (Hommon and Ahlo 1983) was conducted adjacent to the project area, and another study (Robins

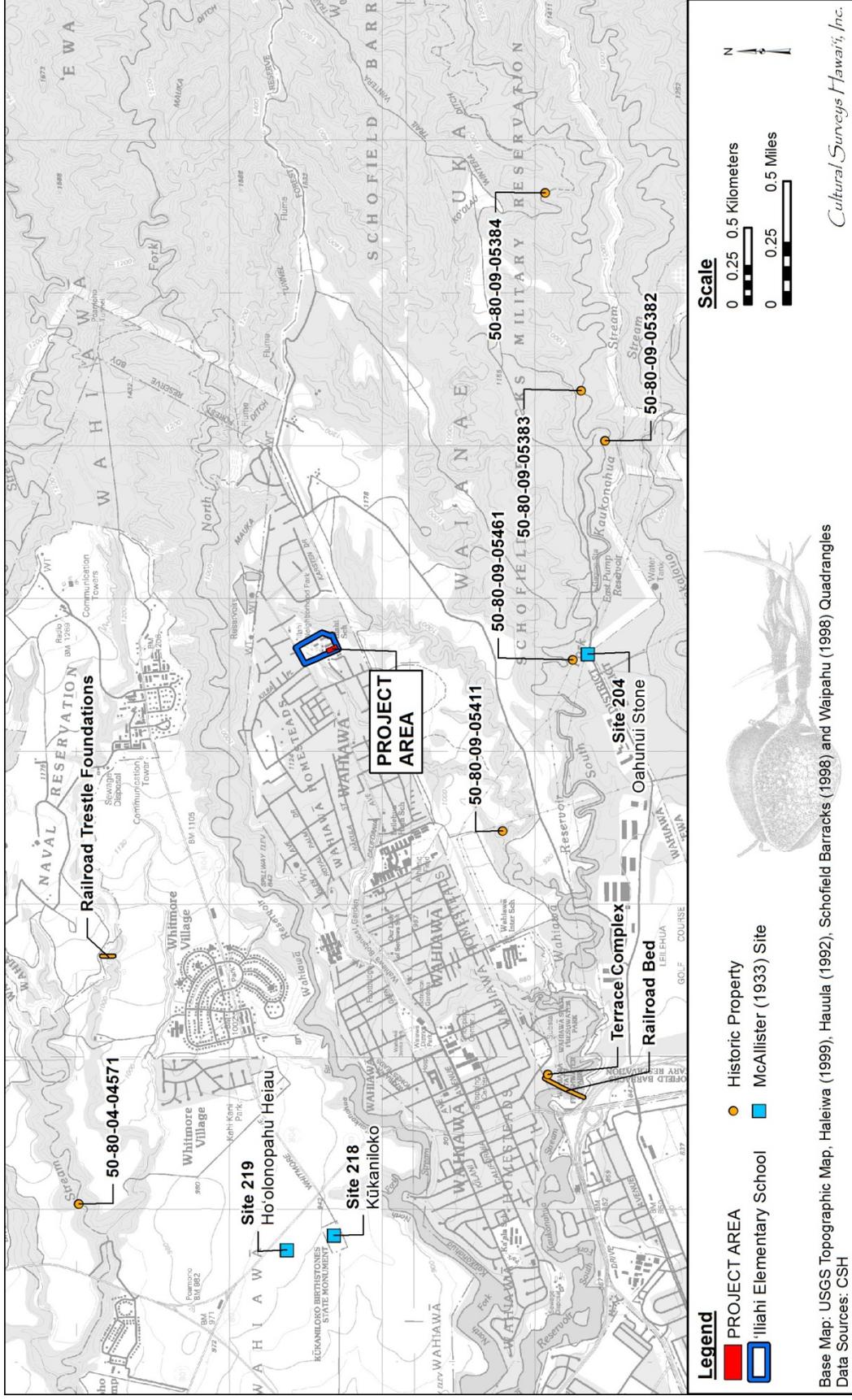


Figure 17. Portion of the 1992 Hau 'ula and 1998 Waipahu USGS 7.5-minute topographic quadrangles showing previously identified archaeological sites located near the project area

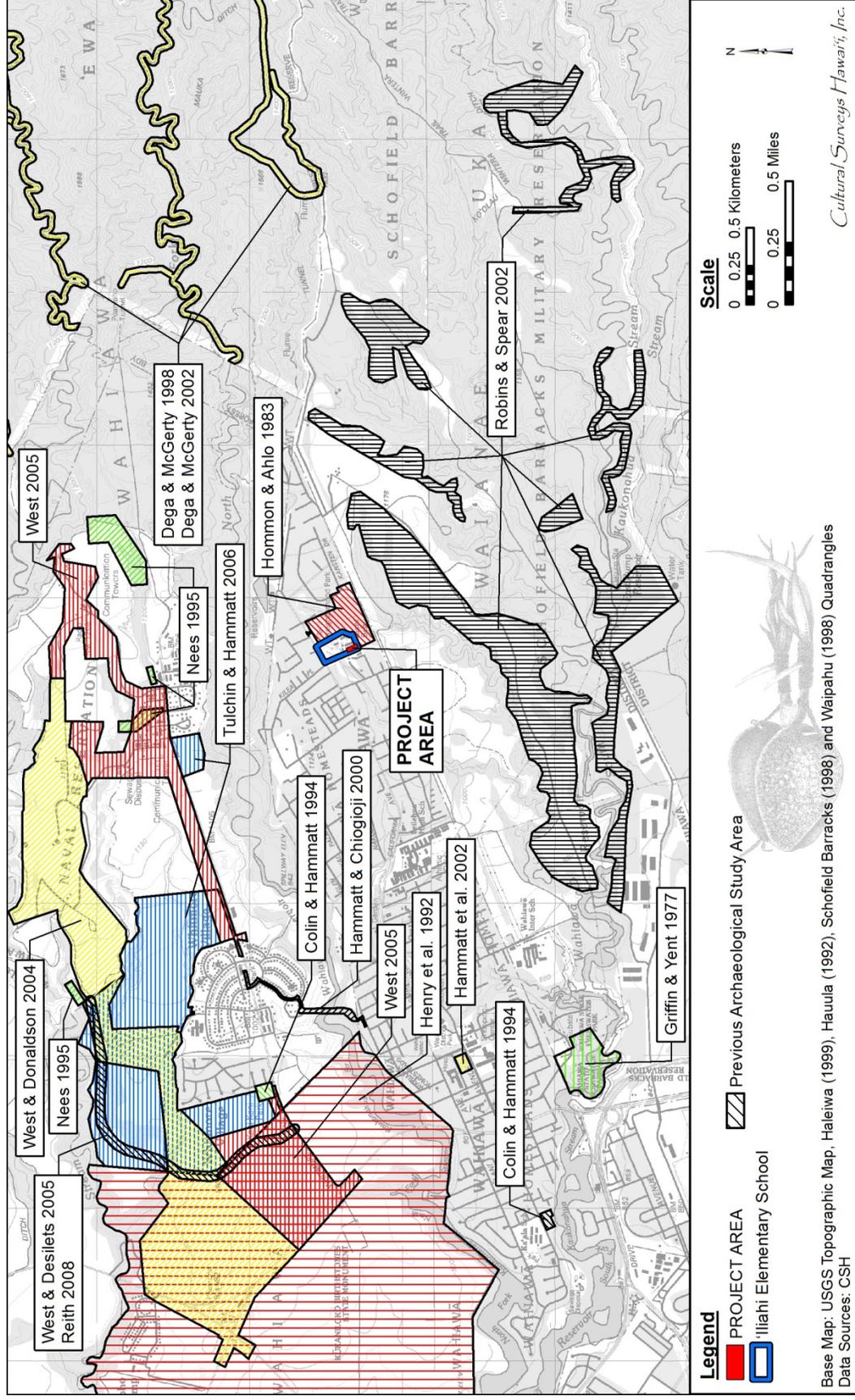


Figure 18. Portion of the 1992 Hau 'ula and 1998 Waipahu USGS 7.5-minute topographic quadrangles showing previous archaeological studies conducted near the project area

and Spear 2002) was conducted just to the south. As described in section 3.2.3, no significant findings were identified adjacent to the project area (Hommon and Ahlo 1983). Several sites within a portion of Schofield Barracks Training Area just to the south of the project area were determined to be significant (Robins and Spear 2002).

A summary of findings during archaeological investigations within the east and central portion of Wahiawā is presented in Table 1; their locations are shown on Figure 18. While the majority of these archaeological investigations describe a lack of findings or the presence of modern trash in gulches and along slopes, several studies (Griffin and Yent 1977; Henry et al. 1992; Dega and McGerty 1998, 2002; Tulchin and Hammatt 2006) identified archaeological sites whose locations are shown on Figure 17.

3.2.3 Studies Conducted Near the Current Project Area

Hommon and Ahlo 1983

In 1983, Science Management, Inc. completed an archaeological reconnaissance survey of a 12-acre parcel of land adjacent to Iliahi Elementary School and the current project area (Hommon and Ahlo 1983). No significant archaeological sites were documented during the survey. The area contained trash deposits and was actively being used for dumping in 1983. Several house foundations, a road remnant, and the plantation style Hopper house were also identified. “No further action with regard to archaeological research or conservation” was recommended (Hommon and Ahlo 1983:8).

Hidden Valley Estates condominium complex has been constructed within the 23-acre area under investigation by Hommon and Ahlo (1983). The SHPD library does not have a report documenting any finds during the construction of the complex.

Robins and Spear 2002

In 1996, Scientific Consultant Services/Cultural Resource Management Services (SCS/CRMS, Inc.) conducted a cultural resources inventory survey and subsurface testing within portions of the Schofield Barracks Training Area (Robins and Spear 2002), some of which is south of the current project area. A total of 73 archaeological sites, all of which were determined to be significant, were identified. Data recovery was recommended for 50 sites and preservation was recommended for 19 sites. Three historic roads were determined to have been sufficiently documented. The East Range portion of their survey, south of the current study, was determined to have a “low sensitivity rating.” The East Range included SA-1 through SA-7. SA-2, whose north boundary is 414 m south of the current study, contained no archaeological sites. Findings within SA-2 included “dilapidated vehicles and unidentified machinery” (Robins and Spear 2002:58). Although two attempts were made to find McAllister’s (1933) Site 204, the Oahunui Stone, no site or site remnants were found (Robins and Spear 2002:56).

SCS/CRMS, Inc. did however identify several sites south of the current project area during the survey. The sites are historic or have an undetermined age. The closest site, SIHP # 50-80-09-5461, a historic concrete foundation utilized as military infrastructure, is 1,400 m to the south (see Figure 17). No further work was recommended. SIHP # 50-80-09-5411, a pecked boulder whose age is undetermined, is 1,450 m southwest of the current project area. Data recovery was recommended. Three other sites are more than 2,000 m southeast of the current project area: SIHP # 50-80-09-5382 consists of two historic military features, a tunnel and a concrete structure

for storage; SIHP # 50-80-09-5383 is an alignment of undetermined age that may have been used for agriculture; SIHP # 50-80-09-5384 is a historic concrete structure/ditch. Data recovery was recommended for SIHP #s 5382 through -5384 (Robins and Spear 2002).

Table 1. Previous Archaeological Studies Conducted within the Project Area Vicinity

Source	Type of Investigation	General Location	Findings
McAllister 1933	Island survey	O'ahu Island	Site 218, Kūkaniloko; Site 219, Ho'olonopahu Heiau; Site 204, Oahunui Stone
Griffin and Yent 1977	Archaeological survey	Wahiawā Fresh Water Park	Documented remains of railway trestle and associated roadbed, small complex of four terraces and a rock alignment; broken concrete and coral blocks found in terrace complex (terrace historically constructed or was prehistoric site historically modified); no site numbers assigned
Hommon and Ahlo 1983	Archaeological reconnaissance survey	Wahiawā; east end of California Avenue, adjacent to project area	No significant archaeological sites documented
Henry et al. 1992	Archaeological inventory survey	Kamananui and Wahiawā (Galbraith Trust Lands)	Field work resulted in relocation of Kūkaniloko birthstones (SIHP # 50-80-04-218), and identification of a stacked stone agricultural wall (SIHP # -4571; see Figure 17); Poamoho Heiau was not relocated (Saifuku [1987] reported on the location of Poamoho Heiau, which he observed in the 1940s); no findings during shovel test units
Colin and Hammatt 1994	Archaeological assessment	Whitmore Village, TMK: [1] 7-1-0-:64	No surface archaeological sites identified; no further work recommended
Nees 1995	Archaeological reconnaissance survey	Naval Computer and Telecommunications Area Master Station	No findings during survey; gulches contained historic trash.
Dega and McGerty 1998	Cultural resources inventory survey	Kawailoa Training Area	Identified 34 sites consisting of pre-Contact trails, habitation, and agriculture sites including one dated to AD 1470-1680

Source	Type of Investigation	General Location	Findings
Hammatt and Chiogioji 2000	Archaeological assessment	Whitmore Village and Wahiawā	No surface archaeological sites or evidence of traditional Hawaiian activity observed
Dega and McGerty 2002	Cultural resources inventory survey	Kawailoa Training Area	Identified additional 14 sites within same area previously surveyed by Dega and McGerty (1998); sites included traditional and historic agricultural, habitation, transportation, and markers
Hammatt et al. 2002	Archaeological assessment and cultural impact evaluation	Wahiawā Community Transit Center	No findings during field inspection; no evidence of traditional Hawaiian practices; determined no adverse impact on historical or cultural resources by project implementation
Robins and Spear 2002	Cultural resources inventory survey	Portions of Schofield Barracks Training Area	Site 204 (Oahunui Stone) not found; 73 archaeological sites identified; data recovery recommended for 50 sites and preservation recommended for 19 sites
West and Donaldson 2004	Archaeological survey	Hawaii Regional Security Operations Center (HRSOC), TMK: [1] 7-1-02:7 por.	No findings during survey or subsurface testing
West 2005	Archaeological survey (addendum)	HRSOC, TMK: [1] 7-1-02:007 por.	No findings
West and Desilets 2005	Archaeological survey (second addendum)	HRSOC, TMK: [1] 7-1-02:007 por.	No findings
Tulchin and Hammatt 2006	Field inspection and literature review	North of Whitmore Village	Series of historic railroad trestle foundations identified as a spur off OR&L Helemano Extension (see Figure 17) found during field inspection of 324-acre area proposed for residential development
Rieth 2008	Archaeological monitoring	HRSOC, TMKs: [1] 7-1-001:005 por., [1] 7-1-002:010 por.	No findings

3.3 Background Summary

Background research lacks documentation of traditional Hawaiian activities within the project area. Therefore possible cultural impacts are anticipated to be low. This section summarizes research findings.

3.3.1 Burials

There are no documented prehistoric or historic burials within or in the vicinity of the project area. The project area lies within a landscape that had been utilized for cattle grazing after the removal of the sandalwood forest by the 1830s. Pineapple cultivation began by 1900 and continued until the area was developed and urbanized in the mid-twentieth century. Additionally, soil type and geology within the project area make it unlikely that the area once served as a traditional Hawaiian burial place.

3.3.2 Hawaiian Trails

There is no documentation of any traditional trails running through or near the project area. John Papa ʻĪʻi described a traditional trail connecting the north and south shores of Oʻahu that was in the general area of Wahiawā, however this trail ran well west of the present project area.

3.3.3 Traditional Hunting Practices

There is no evidence or documentation of any traditional hunting practices specifically associated with the present project area.

3.3.4 Traditional Gathering Practices for Plant Resources

While the project area is east of the urban landscape of Wahiawā Town, there is no evidence of any former gathering of plant resources within the specific project area. Additionally, there is no evidence of any on-going gathering practices.

3.3.5 Cultural Sites

The removal of sandalwood that likely took place in and within the vicinity of the project area, followed by the introduction of cattle and then the decades-long pineapple cultivation before the landscaping and construction of Iliahi Elementary School, would have disturbed and altered the original landscape, removing any cultural sites or properties.

3.4 Predictive Model

Based on background research, the apparent lack of findings during construction of Hidden Valley Estates adjacent to Iliahi Elementary School, and the lack of findings during improvements to the school, the potential for findings during the field inspection is low.

Section 4 Results of Field Inspection

A field inspection was carried out by Randy Groza, M.A. under the overall supervision of Hallett H. Hammatt, Ph.D. on 3 October 2013. No cultural resources or historic properties were identified within the project area. Several Iliahi Elementary School buildings were constructed beginning in 1963, however, Building D, which is adjacent to the project area (Figure 19), was constructed in 1968 and is therefore 45 years old.

A field inspection of the project area was conducted; the area primarily consists of a maintained lawn (Figure 20 through Figure 24). A play structure that will be preserved is set on artificial turf within the northern-most portion of the project area (Figure 20). Two volleyball net poles within the center of the project area (Figure 25), and two trees (Figure 26 and Figure 27) adjacent to Building D will be removed. The trees may be transplanted in another portion of the school grounds, however, no specific location has been determined. A very small *iliahi* tree (Figure 28) surrounded by orange plastic fencing is between the two trees planned for removal; school personnel indicated that transplanting would kill the tree and they would prefer that it remain in place. An 18-inch drainage line extending along the west portion of the project area will remain in place although drainage improvements may be necessary. Currently, drainage access (Figure 29 and Figure 30) is within the southwest and just north of the northwest portions of the project area.

No historic properties were observed within the immediate vicinity of the project area. In fact, several buildings near the project area are relatively new. The 23-acre Hidden Valley Estates condominium complex was constructed in the mid-1980s adjacent to the east and south boundaries of the Iliahi Elementary School (Figure 31; see Figure 19). The Church of Jesus Christ of Latter-day Saints (Figure 32 through Figure 34; see Figure 19), constructed in 2002 (City and County of Honolulu, Department of Planning and Permitting 2013b), is just west of the project area.



Figure 19. Aerial photograph showing the locations of Building D, Hidden Valley Estates, and the Church of Jesus Christ of Latter-day Saints in relationship to the project area



Figure 20. Overview of project area with play structure in northern-most portion, view to southeast, Building D to the left



Figure 21. Overview of project area from north portion of the project area, view to south (play structure is to the right, Hidden Valley Estates is in background)



Figure 22. Overview of project area from southeast portion of the project area, view to northwest (play structure is in northern-most portion of project area)



Figure 23. Overview of project area from south portion of the project area, view to north (Iliahi Elementary School Building D in the background)



Figure 24. Overview of project area from northwest portion of the project area, view to southeast (volleyball poles are in center with Building D [left] and Hidden Valley Estates [right] in background)



Figure 25. Volleyball poles in center of project area, view to southwest



Figure 26. Tree planned for removal, view to southeast; second tree planned for removal is in background, and *'iliahi* tree is between the two other trees, surrounded by orange fencing



Figure 27. Tree planned for removal, view to southeast (Building D to left; Hidden Valley Estates in background)



Figure 28. 'Iliahi tree within project area between two trees planned for removal, view to south



Figure 29. Drainage in southwest portion of project area, view to northeast (see also Figure 31)



Figure 30. Drainage just north of northwest portion of project area, view to southeast (play structure and Building D in background)



Figure 31. Hidden Valley Estates surrounding south and east portion of Iliahi Elementary School, view to east-southeast; chain link fence forms boundary for the project area and school grounds (school drainage to left)



Figure 32. The Church of Jesus Christ of Latter-day Saints just west of the project area, view to west



Figure 33. Chain link fence separating Iliahi Elementary School and project area from the Church of Jesus Christ of Latter-day Saints, from southwest portion, view to northwest



Figure 34. Chain link fence separating Iliahi Elementary School and project area from the Church of Jesus Christ of Latter-day Saints, from northwest portion, view to southwest (Hidden Valley Estates in background)

Section 5 Summary and Recommendations

5.1 Summary

At the request of Gerald Park Urban Planner, CSH has conducted an archaeological Literature review and field inspection study for the Iliahi Elementary School Play Court Project, Wahiawā Ahupua‘a, Wahiawā District, O‘ahu. The purpose of this project was to gather historical, ethnographic, and cultural information as may inform development of the proposed Iliahi Elementary School play court. The area of interest for the study is the entire *ahupua‘a* of Wahiawā, with the focus on the southwest portion of the Iliahi Elementary School campus. Proposed project plans include grubbing and grading for the play court; installation of electrical lines; possible drainage improvements, although an 18-inch drain line aligned along the west property will remain in place; and the removal of two existing trees that may be relocated within the school campus.

Traditional and historic documentation suggests the Wahiawā area was highly significant in traditional Hawaiian times. It was associated with Hawaiian royalty and is the location of Kūkaniloko, a birthing site considered one of the most sacred places on O‘ahu, located northwest of the project area. Researchers have also noted the presence of extensive agricultural terraces in the area which could have supported a substantial population in pre-Contact O‘ahu. A large Hawaiian village continued to exist in Wahiawā at least up to the mid-nineteenth century.

During the early nineteenth century, sandalwood was removed from throughout the Wahiawā area, which would have altered the environment significantly. In the 1800s the introduction of cattle that grazed throughout Wahiawā continued the environmental alterations. Toward the end of the nineteenth century, western entrepreneurial, agricultural, and military interests began to focus on Wahiawā. While residential tracts were being constructed in downtown Wahiawā in the early twentieth century, the surrounding areas including the project area were under pineapple cultivation. Wahiawā is famous for pineapple cultivation, which continued within the project area until at least the mid-twentieth century and the construction of Iliahi Elementary School.

An archaeological investigation conducted adjacent to the project area (Hommon and Ahlo 1983) documented no significant archaeological findings. Additionally, no findings were reported during construction of Hidden Valley Estates, the condominium complex adjacent to Iliahi Elementary School. No archaeological investigation reports were found at SHPD for the Church of Jesus Christ of Latter-day Saints, constructed in 2002 just west of the project area. Additionally, no findings have been reported within the project area during construction of school buildings between 1963 and 1971, or during ground disturbing activities associated with improvements to the school.

During the field inspection, no surface archaeological sites and no evidence of traditional Hawaiian activities were observed. The absence of any surface remains is not surprising since the project area’s environment has been significantly altered for more than 150 years. The area’s history of deforestation, cattle grazing, and pineapple cultivation followed by urban development would have eradicated any evidence of traditional practices that may have formerly been evident in the project area. There is no evidence within the project area of any ongoing cultural practices.

Given the more than 150 year-long history of environmental alterations followed by modern development of the project area and its surroundings, the general absence of findings during extensive construction within the immediate vicinity of the project area (i.e., Hidden Valley Estates; Church of Jesus Christ of Latter-day Saints) and Iliahi Elementary School campus, and the lack of findings during the field inspection, there is very little potential for encountering pre-Contact or post-Contact subsurface cultural deposits related to traditional Hawaiian land use and habitation, historic use of the area, and/or human remains during construction.

Based on the findings of this literature review and field inspection, no adverse impact to historical or cultural resources is anticipated by the implementation of this project.

5.2 Recommendations

Based on the lack of findings within the proposed play court area in the southwest portion of the Iliahi Elementary School campus during the current field inspection, and the lack of previous archaeological studies during recent development projects within the current study area and its immediate vicinity, no historic properties are present in or within the project's immediate vicinity with the exception of some of the Iliahi Elementary School buildings. The proposed play court project will have no adverse effects on Iliahi Elementary School buildings.

No further archaeological work is recommended for the proposed Iliahi Elementary School play court project. As always, if in the unlikely event that any human remains or other significant subsurface deposits are encountered during the course of development activities, all work in the immediate area should stop and the SHPD should be promptly notified.

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