LINDA LINGLE
GOVERNOR

MAY 23 2010

KATHRYN S. MATAYOSHI
INTERIM SUPERINTENDENT

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

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

Letter No. PMS-500.10

May 12, 2010

TO: Ms. Katherine Puana Kealoha, Director
Office of Environmental Quality Control
Department of Health

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

SUBJECT: Finding of No Significant Impact for
Wailuku II Elementary School
Wailuku, Maui, Hawaii TMK (2) 3-5-001:77 and 78 (por.)

The Department of Education, Facilities Development Branch, has reviewed the comments received during the 30-day public comment period which began on March 23, 2010. This agency has determined that the project will not have significant environmental effects and has issued a Finding of No Significant Impact. Please publish notice in the May 23, 2010, issue of the OEQC Environmental Notice.

We have enclosed the following items:

1. One (1) hard copy of the Final EA and one (1) electronic copy (PDF) on a compact disc.

2. A complete OEQC Publication Form (on compact disc).

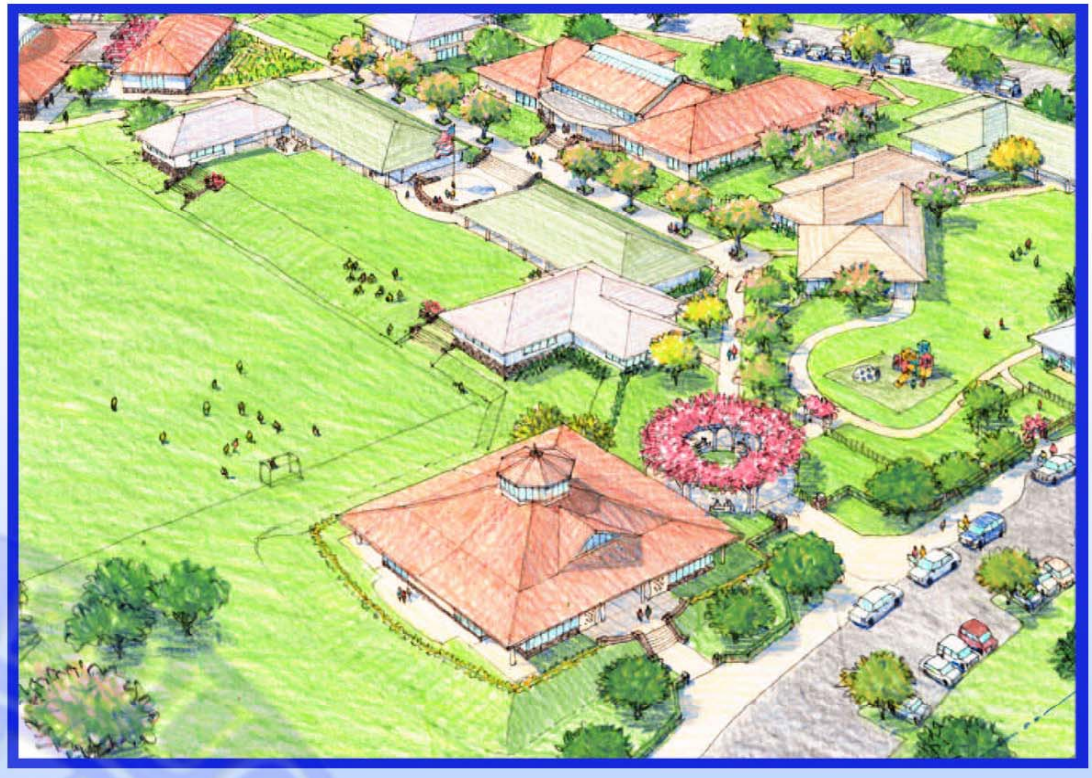
If you have any questions, please have your staff call Robert Purdie of our Project Management Section at 586-0408.

DK:RP:lh

Enclosures

WAILUKU II ELEMENTARY SCHOOL

Wailuku, Island of Maui
TMK: (2) 3-5-001:77 and 78 (por.)



Final Environmental Assessment
and
Project District Phase II Application and Amendment

GROUP 70
INTERNATIONAL

May 2010

WAILUKU II ELEMENTARY SCHOOL

TMK: (2) 3-5-001:77 and 78 (por.)
Wailuku, Island of Maui

Final Environmental Assessment (FEA)
and
Project District Phase II Application and Amendment

This environmental document is prepared in accordance with the requirements of Chapter 343, HRS, Hawai'i Administrative Rules, Title 11, Department of Health, and Maui County Code Chapter 19.45 Project District Processing Regulations.

Applicant:
State of Hawai'i Department of Education
Facilities Development Branch
P.O. Box 2360
Honolulu, HI 96804

Applicant
State of Hawai'i Department of Education,
Facilities Development Branch

MAY - 6 2010
Date

Approving Agency:
State of Hawai'i Department of Education
Facilities Development Branch (EA)
and
County of Maui Department of Planning and Permitting
(Project District Phase II Application and Amendment)

Prepared By:
Group 70 International, Inc.
Architecture • Planning • Interior Design • Environmental Services
925 Bethel Street, 5th Floor
Honolulu, Hawai'i 96813
808-523-5866

May 2010

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1.0
Introduction

1.0 INTRODUCTION

This Final Environmental Assessment (FEA) has been prepared in accordance with the requirements of Chapter 343, HRS, Hawai'i Administrative Rules, Title 11, Department of Health, and Maui County Code Chapter 19.45 Project District Processing Regulations. The proposed action involves the use of State funds toward the construction of the school campus by the State of Hawai'i Department of Education (DOE).

1.1 PROJECT INFORMATION SUMMARY

Type of Document:	Final Environmental Assessment (FEA) and Project District Phase II Application and Amendment
Project Name:	Wailuku Elementary School II
Applicant:	State of Hawaii Department of Education Office of Business Services Facility Development Branch P.O. Box 2360 Honolulu, HI 96804
Accepting Authority (EA):	State of Hawaii Department of Education
CH. 343, HRS Trigger:	Use of State Funding (DOE).
Project Location:	Kehalani Muaka west of Honoapiilani Hwy, Wailuku, Maui, Hawai'i *(Figure 1-1)*
Tax Map Key:	(2) 3-5-001:77 (por.) and (2) 3-5-001:78 (por.) *(Figure 1-2)*
Land Court Lot:	Lot 3-A-2, Lot P-1 (por.), and Lot R-6 (por.)
Fee Landowner:	Kehalani Mauka, LLC 1100 Alakea Street, 27th Floor Honolulu, Hawai'i 96813
Project Area:	Approximately 14 Acres
State Land Use District:	Urban District
Maui Island Plan (Draft 2030):	Elementary School *(Figure 1-3)*
Wailuku-Kahului Community Plan:	Project District 3 (Wailuku)
County of Maui Zoning:	Project District 3

PD-WK/3 Subdistrict: Village Mixed-use

Special Management Area: Outside SMA *(Figure 1-4)*

Flood Zone: Zone X (outside 500-Year Flood) *(Figure 1-5)*

Anticipated Determination: Finding of No Significant Impact (FONSI)

1.2 OVERVIEW OF PROPOSED PROJECT

Kehalani Mauka is located on the slope of the West Maui mountains in Wailuku on the Island of Maui. Kehalani Mauka will provide a total of 2,400 homes on 550 acres upon completion. Approximately 30% of the project has been completed. The master plan includes single family and multi-family residences, commercial retail, parks, and a community center.

The school site is centrally located within the Kehalani Mauka development, and has the design enrollment of 550 students with 69 faculties and staff. The proposed project consists of the construction of Grades K-5 Classroom Buildings, a Library, a Dining Hall, an Administrative Building, a Covered Playcourt, a Playfield, and a total of 133 Parking Stalls. The school strives to achieve LEED-Silver certification. The school will provide various safe and welcoming gathering places of multiple types and sizes, and will serve as the center of the community. The school's cafeteria and the south parking lot will be dedicated for after-school community uses. School hours typically extended from 8:00 AM to 2:00 PM.

After school activity usage is expected to have similar pattern as the existing Wailuku Elementary School, which includes: A+ program (approximately 160 students) from 2:00-5:30 daily; tutoring services with private companies daily in classrooms from 2:00-4:30 (approximately 65 students); homework help and tutoring by school staff 3 times per week from 2:00-3:30 (approximately 65 students). Evening events include mainly cafeteria use for community organizations 2-3 times per week from 5:30-9:30 PM, and school events for parents from 6:30-8:30 PM every week. The library will also be used as an alternative meeting site for school events for small groups of parents.

1.3 PROJECT SITE

The Wailuku II Elementary School project site consists of approximately 14 acres of former sugarcane plantation land located in the Kehalani Mauka development, immediately south of historic Wailuku town *(Figure 1-1)*. The site is identified as portions of Tax Map Key (2) 3-5-001:77, and (2) 3-5-001:78 (*Figure 1-2)*. Kehalani Mauka, LLC is the owner of the proposed site. The site is to be dedicated to DOE for Wailuku II Elementary School development.

1.4 REASONS FOR PREPARING THIS ENVIRONMENTAL ASSESSMENT

Kehalani Mauka, LLC is dedicating the site for Wailuku II Elementary School development by DOE. This Environmental Assessment (EA) is required pursuant to Chapter 343, Hawai'i Revised Statutes (HRS); the Environmental Impact Statement Rules, Title 11, Chapter 200 of the Hawai'i Administrative Rules (HAR); and Maui County Code Chapter 19.45 Project District Processing Regulations. The EA provides a written evaluation of the technical, environmental, social and economic aspects of the proposed project. In addition, the EA identifies the anticipated impacts resulting from the proposed project and their significance. Strategies to mitigate potential impacts and possible alternatives to the proposed project are also identified. The assessment includes a comparison of the project impacts against 13 significance criteria listed in §11-200-12, to provide determination as to whether an Environmental Impact Statement shall be required or not.

1.5 AGENCIES AND PUBLIC CONTACTED IN PRE-CONSULTATION

The State Department of Education has committed to involve the community in the planning for Wailuku II Elementary School. A Charrette process was conducted as a series of focused planning and intensive on-site decision-making sessions by a team of interested "stakeholders". Four main goals were accomplished from the process: (1) a common vested interest in the design and support of the project's vision; (2) prudent decisions as a result of input gathered from all stakeholders'; (3) collaborative effort in producing a set of documents that address all aspects of design; and (4) efficient and cost-effective end product as a result of the collaborative process.

Listed below are the agencies and other parties contacted regarding the proposed project prior to the publication of the Draft EA.

The agencies and organizations contacted and/or participated in the Charrette process during the pre-consultation period include:

Federal Agencies
U.S. Fish and Wildlife
U.S. Army Corps of Engineers

State of Hawai'i Agencies
State Department of Education, Maui
State Department of Education, Facilities Development Branch
State Department of Accounting and General Services (DAGS), Maui
Department of Accounting and General Services
Department of Business, Economic Development & Tourism (DBEDT)
Department of Business, Economic Development & Tourism (DBEDT), Office of Planning
Department of Transportation
Department of Agriculture
Department of Health
Department of Health, Clean Water Branch

Department of Health, Environmental Health
Department of Land and Natural Resources (DLNR)
Department of Land and Natural Resources (DLNR), Historic Preservation Division
Office of Environmental Quality Control
Office of Hawaiian Affairs
Department of Hawaiian Homelands
Department of Defense
Hawaii State Civil Defense
Department of Human Services
Department of Labor and Industrial Relations
University of Hawai'i, Environmental Center
Hawaii Housing Finance & Development Corporation
Department of Education, School Complex Superintendent's Office (Baldwin-Kekaulike-Maui)
Wailuku Elementary School

County of Maui Agencies
County of Maui Department of Parks and Recreation
County of Maui Department of Public Works
County of Maui Department of Water Supply
County of Maui Planning Department
Fire Department
Police Department
Office of the Mayor
Maui Civil Defense Agency
Office of Economic Development

Elected Officials
State Senator Shan S. Tsutsui.
State House Representative Joseph Souki
State House Representative Gilbert Keith-Agaran
Council Member Michael Victorino

Other Parties and Associations
Wailuku Public Library
Kahului Public Library
Hawai'i State Library
Kehalani Community Association
Wailuku Main Street Association

Maui Community
Kahu Charles Kauluwehi Maxwell Sr.
Leslie James Aupuni Vida 111
Ms. Kathy Juan
Ms. Yaeko Mabe Sasaki
Richard Komo
Felipe Barroga
Susan Asato
Leslie James Vida Jr.

Developer
Kehalani Mauka LLC

The agencies and organizations contacted and/or participated in the Charrette process during the pre-consultation period include:

State of Hawai'i Agencies
State Department of Education, Maui
State Department of Education, Facilities Development Branch
State Department of Accounting and General Services (DAGS), Maui

Maui Community
Joella Taguchi, Wailuku Resident & Parent
Dallas Taguchi, Iao School Student
Quincee Taguchi, Wailuku Elementary Student
Wendy Kobashigawa, Wailuku Elementary Parent
Spencer Powell, Iao School Student
Kalena Potter, Wailuku Elementary Student (Grade 5)
Makana Keola-Igarta, Wailuku Elementary Student (Grade 5)

Developer
Jay Nakamura, Kehalani Mauka LLC
Rik Papa, Stanford Carr Development

Figure 1-1: Project Location

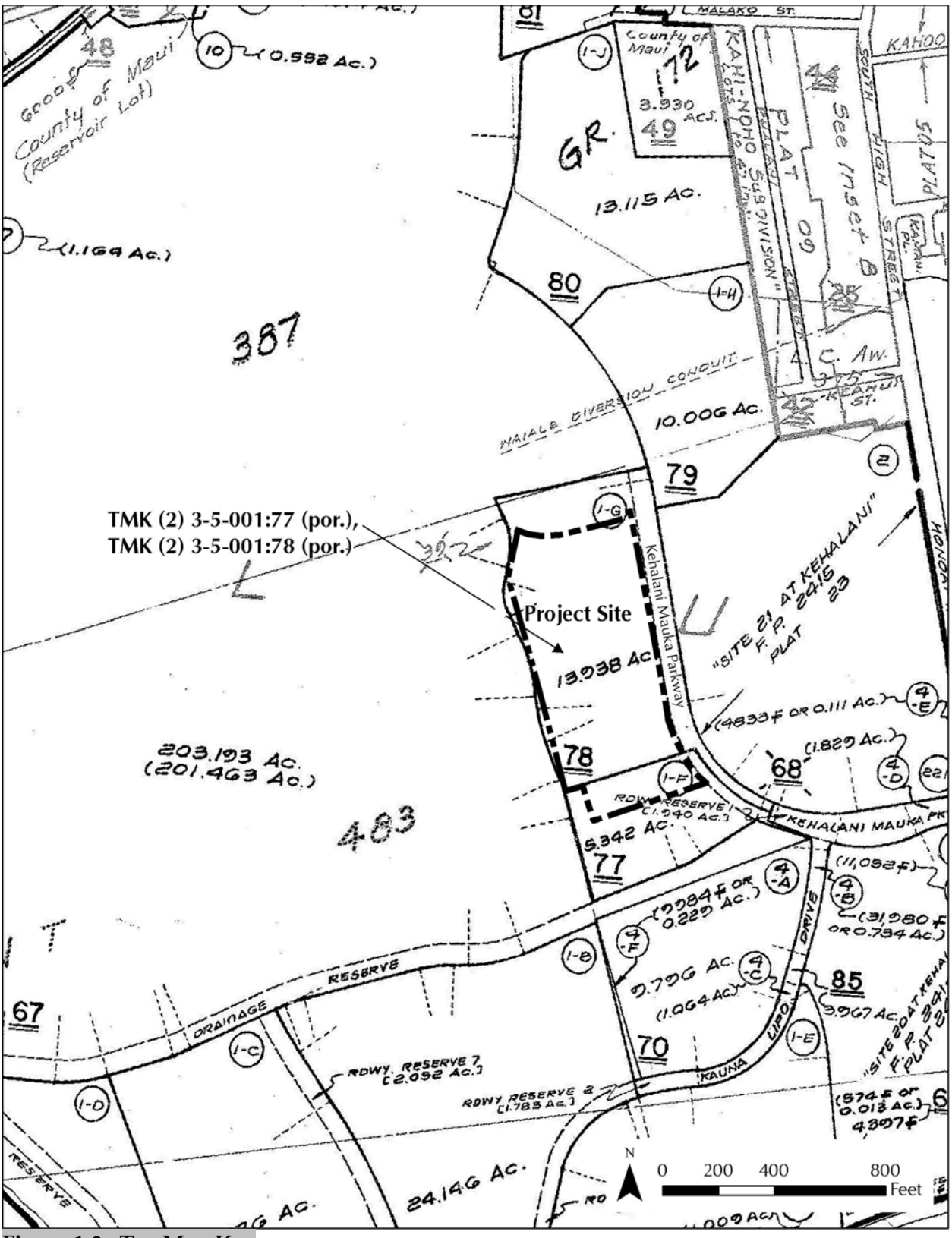

Figure 1-2: Tax Map Key

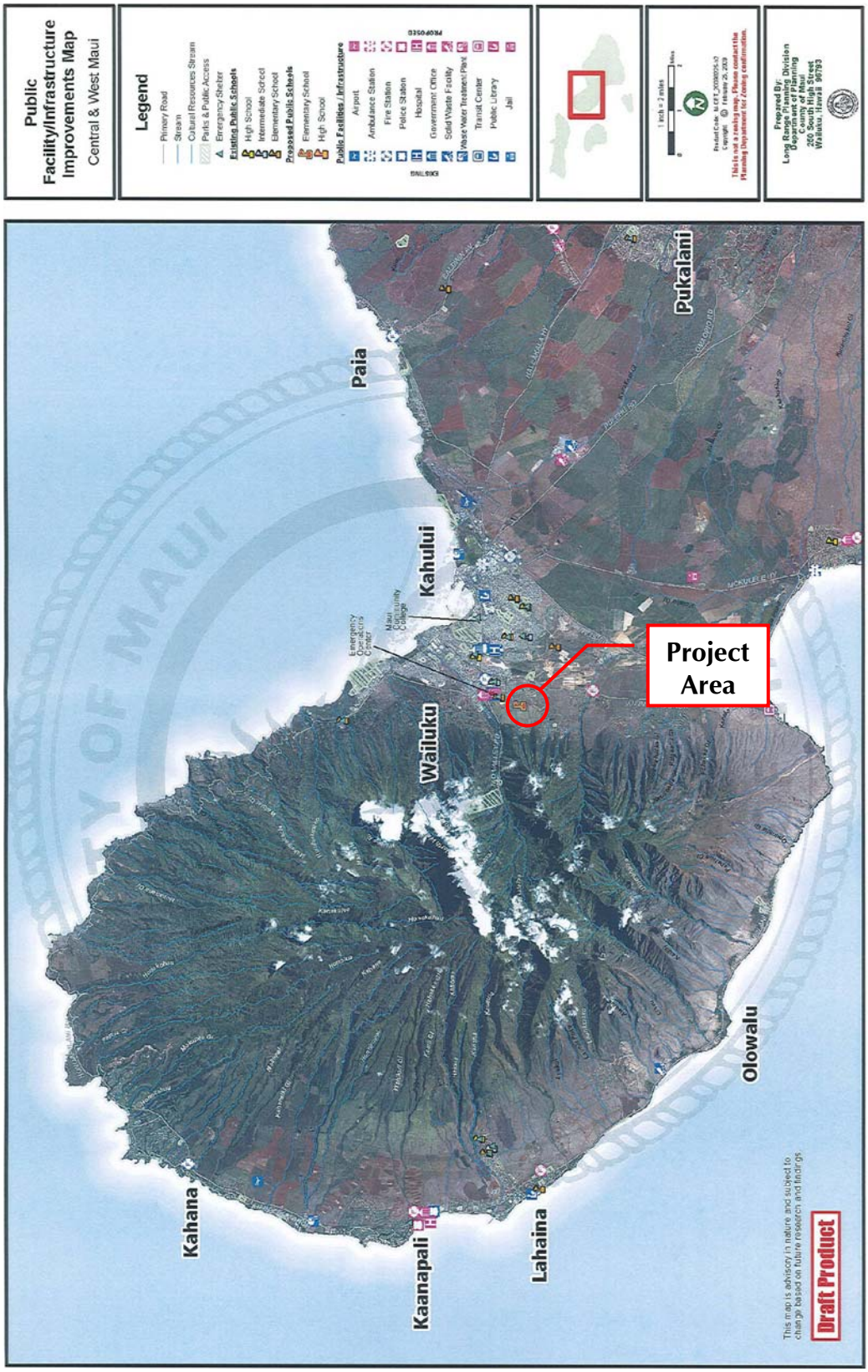

Figure 1-3: Island Plan (Draft 2030) Map

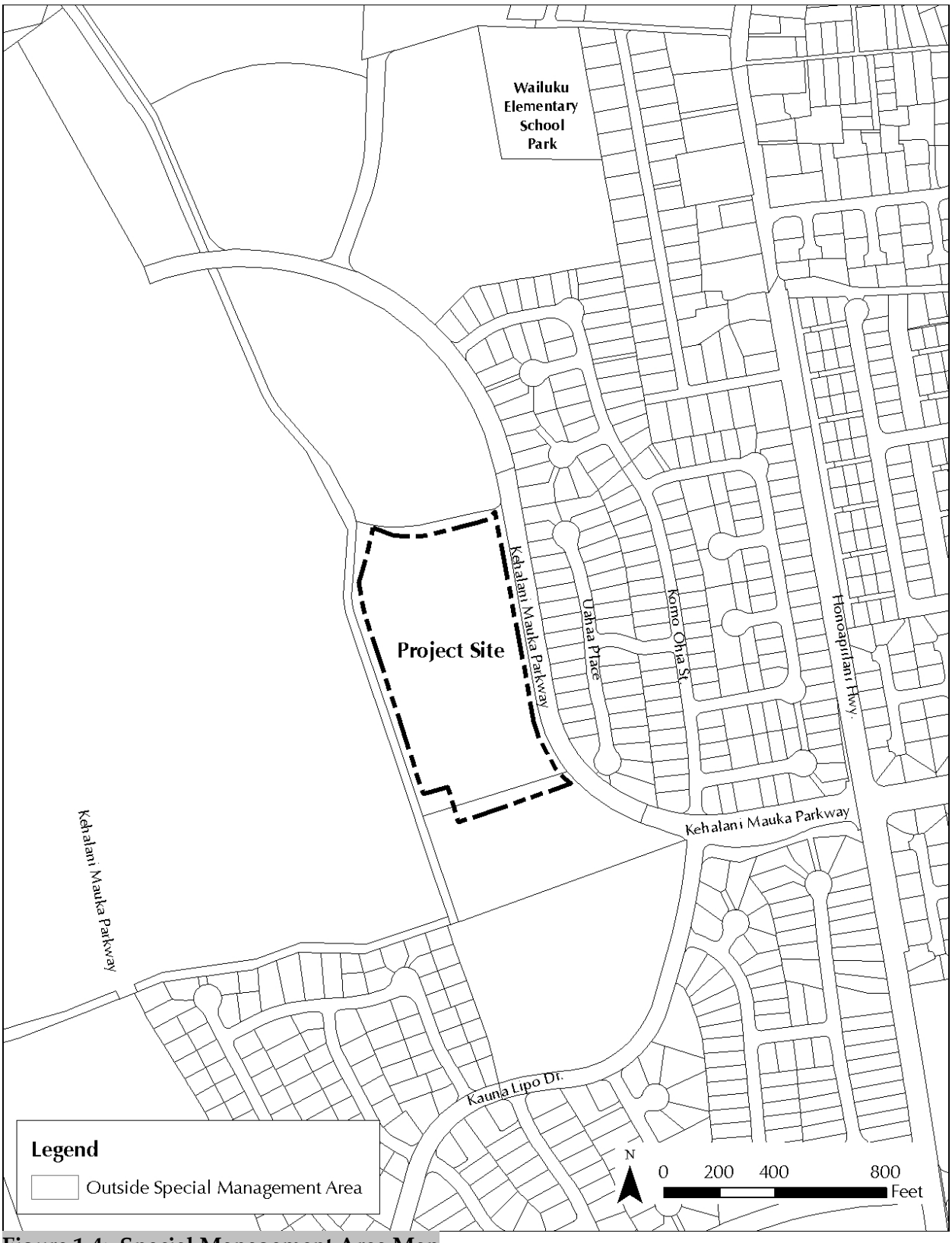

Figure 1-4: Special Management Area Map

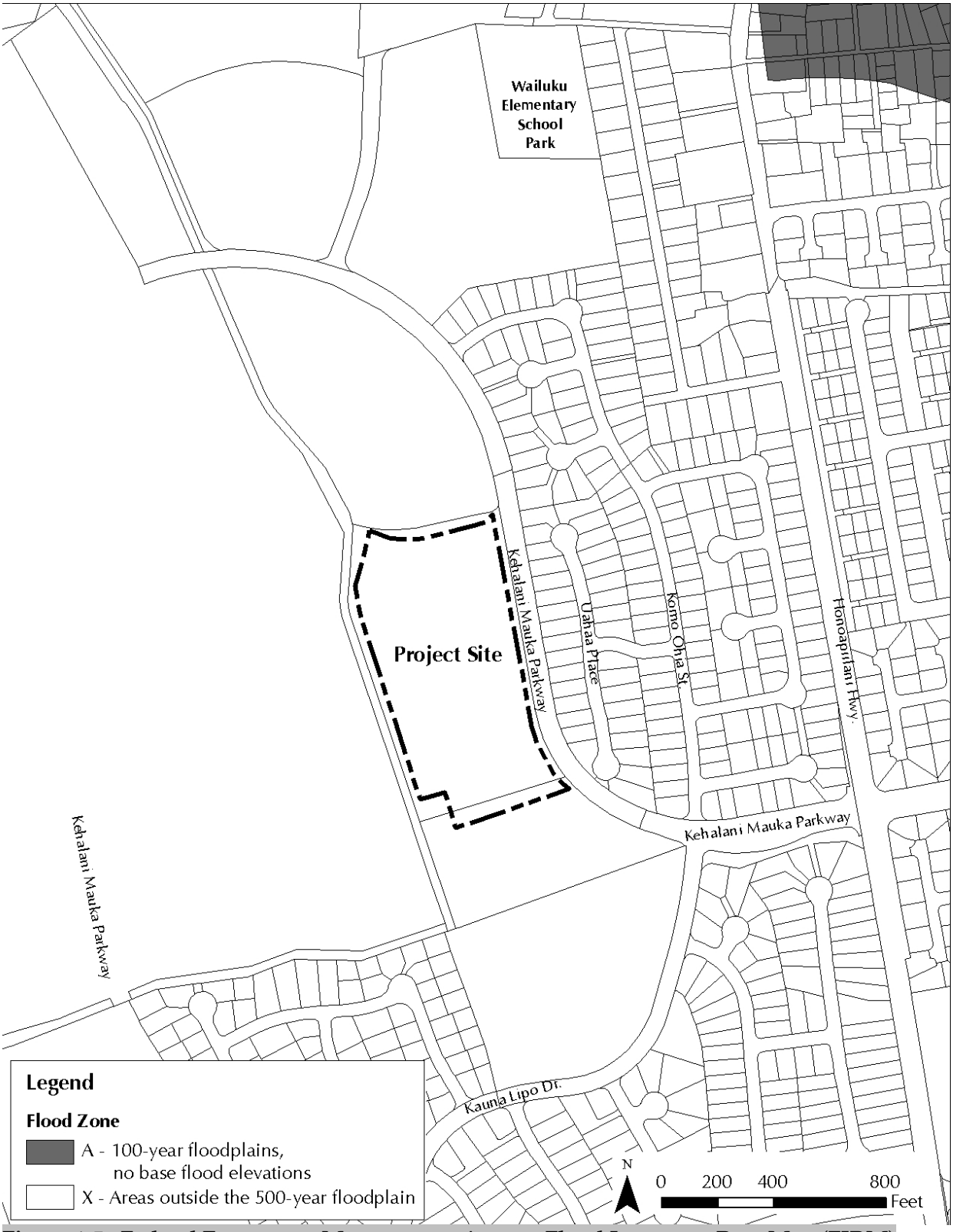

Figure 1-5: Federal Emergency Management Agency Flood Insurance Rate Map (FIRM)

2.0
Project Description

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SITE CHARACTERISTICS

The project site being reviewed in this Environmental Assessment is part of Kehalani Mauka master planned community, located in Wailuku-Kahului Project District 3 on the Island of Maui. The project site parcel is identified as Tax Map Key (2) 3-5-001:77 (por.) and (2) 3-5-001:78 (por.) and consists of approximately 14 acres which is owned by Kehalani Mauka, LLC. However, the site is to be dedicated to the State of Hawai'i Department of Education. The Kehalani Mauka master planned community is located between Honoapiilani Highway, Kauikahi Drive, and Main Street. It's location along the east side of the West Maui mountains provides one of the coolest climates in central Maui and panoramic vistas of the Maui plains and Haleakala. The district of Wailuku is generally warm and sunny throughout the year with temperatures ranging from 70 to 80 degrees Fahrenheit. Wailuku is exposed to prevailing tradewinds occur mainly through the dry seasonal months of May through September. Rainy seasonal months of October through April produce strong wind conditions varying from trades from the northeast to southerly winds known as "Kona winds". Average annual rainfall for Wailuku ranges between 20 to 40 inches.

The school site is bordered by planned multi-family residential complex, which is also part of the Kehalani Mauka master planned community, and a vehicle access easement to the north. To the east, the parcel is bordered by Kehalani Mauka Parkway. The east is bordered by Kehalani Parkway, the main connector road for the development. The south property line is shared with a future community center for the development. Along the western edge of the site, there is an existing irrigation ditch. The ditch is still active and serves agricultural lands to the south and will be relocated offsite by the Kehalani Mauka developer.

The site generally oriented along a north-south axis. The project site slopes from east to west, from an elevation of 389 feet above mean sea level (MSL), at the midpoint of the parcel by Kehalani Mauka Parkway, up to 461 feet MSL at the midpoint of the western edge of the site. The topography of the site has an average slope of 11%. Along Kehalani Parkway the slope is very steep at nearly 1:1 for the first 15-20 feet and then levels to a more consistent 11% slope. Since the site was formerly agriculture land, there are no trees or significant land features other than an occasional mound and gully. The terrain is composed of ʻĪao series soil derived from basic igneous rock. The site is presently unoccupied. The Maui Community College resides approximately two miles away to the northeast of the project site. Urban areas, in proximity to the site, include the commercial district of Wailuku and Kahului, located approximately one mile and two miles to the north and east, respectively. The surrounding residential communities include Wailuku, Waikapu, and Kahului.

2.2 OVERVIEW OF NEED

Kehalani Mauka is located in Wailuku-Kahului Project District 3, which requires the developer to provide its fair and equitable share for the impact the project has upon public educational facilities as is deemed necessary by the Department of Education. According to the Department of Education, Facilities Development Branch the growing residential development in Central Maui, including Kehalani Mauka, will increase demand for educational facilities as follow:

2.2.1 Residential Development - Baldwin Complex

In the Central Maui area, approximately 27 newly completed or proposed residential projects which will eventually affect the two elementary schools in the Baldwin High School complex at Waihe'e and Wailuku. Many of the projects are larger, rural or agricultural lots which will be developed at a slower, individual builder pace. The largest master-builder project is the Kehalani project with 2,400 homes. Construction in Kehalani is expected to continue through 2017, with 314 residential units expected to be completed in 2009, 174 in 2010, 154 units in 2011, and 265 in 2012 (providing market conditions).

The total count of planned, but not yet built, units is approximately 3,918 single family units and 3,071 multi-family units. The largest project in the list of proposed residential projects is the A&B Wai'ale project which will include approximately 1,400 units. Also, Mā'alaea Mauka is expected to have up to 1,100 units.

2.2.2 Residential Development - Maui High Complex

There are 13 residential projects that would affect the three elementary schools in the Maui High School complex: Kahului, Lihikai and Pōmaikai'i. The total count of proposed but not yet constructed units is 3,280 single family units and 1,447 multi-family units. The largest of these projects is the Maui Lani development which expects to build a total of 2,815 units. Construction is expected to be roughly 200 homes per year in Maui Lani during the peak years of 2010 through 2012. That does not include development by HRT, Ltd. which has plans for 926 units in Maui Lani (no announced construction time line). Based on the projected total number of units in both complexes, at build out, the project would generate approximately 3,200 elementary students. That would translate into a need for four to eight additional elementary schools in Central Maui.

2.2.3 Recent Enrollment Patterns

Waihe'e and Wailuku are older schools on smaller campuses. Waihe'e has exceeded its facility capacity of 765 since the mid-1990's. Its enrollment of approximately 850 students since the mid-90's has declined slightly in the past four years. Enrollment projections are expected to range between 750 and 800 in the next six years. Wailuku is a small campus of six acres with a large facility capacity of 1,078. Enrollment averaged around 900 since the mid 90's and enrollment projections range between 900 and 950 students for the next six years.

The service area of Pōmaikai'i was designed in 2007 with the idea that some areas would be temporarily served by Pōmaikai'i in the Maui High School complex and then move to the

Wailuku II Elementary School campus, which is in the Baldwin complex.

2.3 DESCRIPTION OF THE PROPOSED PROJECT

The proposed project consists of the construction of Grades K-5 Classroom Buildings, a Library, a Dining Hall, an Administrative Building, a Covered Playcourt, a Playfield, and a total of 171 Parking Stalls. DOE strives to achieve LEED-Silver certification for this school. Access and egress will be from Kehalani Mauka Parkway. The school will provide various safe and welcoming gathering places of multiple types and sizes, and will serve as the center of the community. The school's cafeteria and the south parking lot will be dedicated for after school community uses. School hours would be held from 8:00 AM to 2:00 PM. This proposed project will require infrastructure improvements, including the development of parking spaces to accommodate public and employee vehicles, driveways and accessibility, and use of utilities. Landscaping will also be installed to minimize paved areas and enhance the overall appearance of the proposed project. Construction is planned to begin in 2011 and the school can accommodate the maximum enrollment of 550 students. Full enrollment is projected to be in 2015.

The following is a brief description of the proposed functional plan for the Wailuku II Elementary School from the *Wailuku II Elementary School Draft Pre-design Report (2009)*. *Figure 2.1* shows the site plan for the new school.

2.3.1 Site Plan

In response to these themes, the team arrived at the following design strategies. The site is organized around a large playfield called "The Gathering Place". The Administration, Cafeteria and Library buildings are positioned as anchors around this field and connected by a tree-lined pedestrian walkway called the "Street". Interspersed along the street are classroom buildings which we called "Houses". General parking areas are located on the north and south ends of the site. Connecting the parking areas is an access drive along the rear of the site that also contains staff parking.

The classroom buildings are designed to appear residential. To accomplish this, the buildings have been arranged in clusters rather than linear massings. Grades K-1 forms one cluster. Grade 2 and 3 have adjacent clustered buildings and Grades 4-5 are housed in the only 2-story building on campus. Clusters will be interconnected by covered walkways that also double as lanais.

Moreover, the overall campus organization is intended to reflect the character of Wailuku where residential houses are interspersed amongst historic buildings. The more iconic anchor buildings also provide a form of way finding for students, staff and visitors. The "Street" connecting these buildings will be tree-lined like the Main Street and High Street in Wailuku.

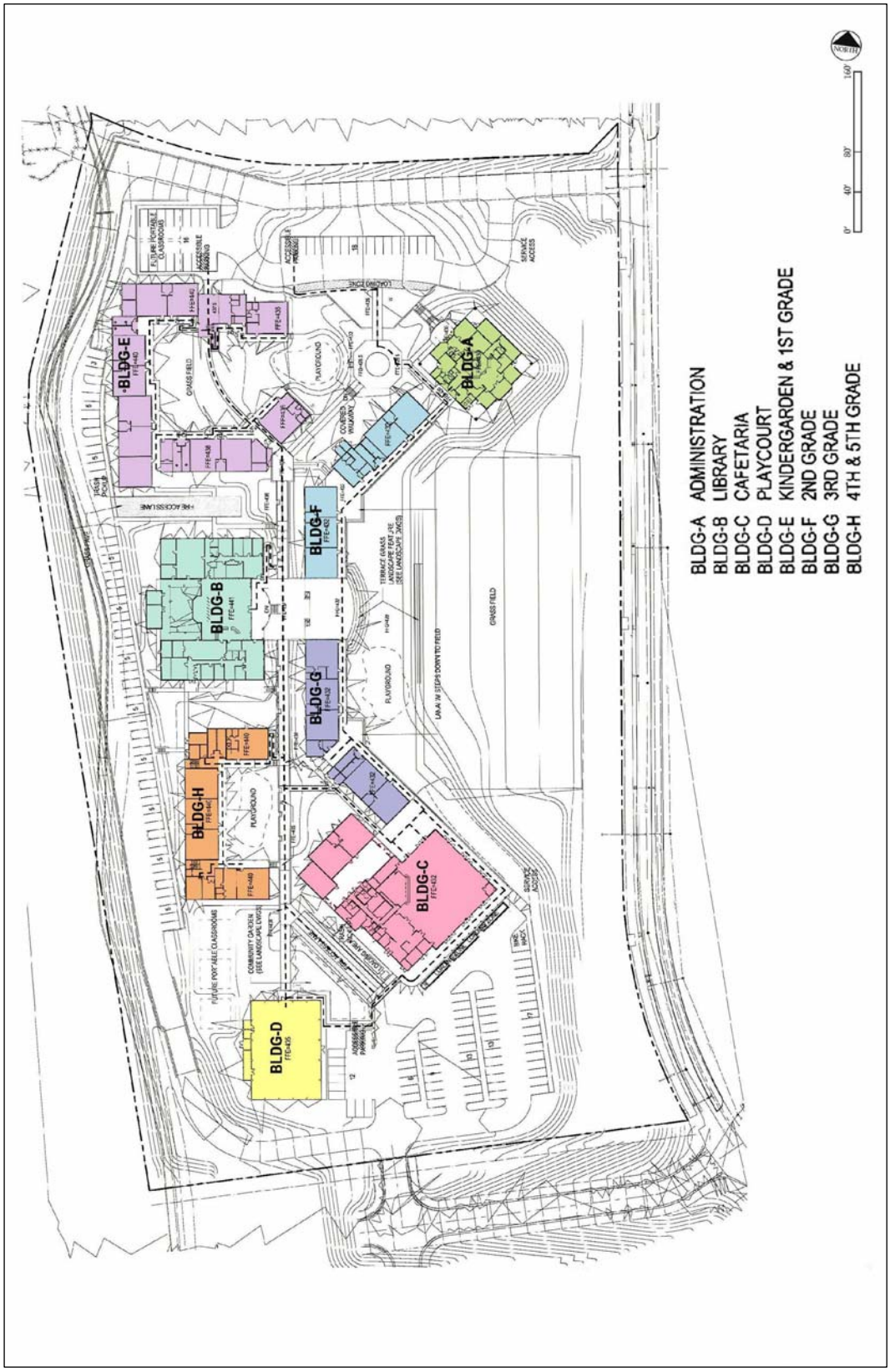

Figure 2-1: Wailuku II Elementary School – Site Plan
(Source: Group 70 International, Inc.)

2.3.2 Support Buildings

Building A: Administrative Building: With its pyramidal form and lantern-like cupola, the Administration Building will be a beacon for the school. Signaling to the community that the importance of learning and also reaching out to the neighborhood as a place of gathering. Placed upon a terrace, the new school will be a prominent site for Kehalani community who drive along the parkway. Its form and massing is akin to the historic Wailuku Courthouse building whose symmetrical façade and red tile roof are certainly well-known in Wailuku town.

Directly adjacent to the admin building is a trellised courtyard. The octagonal-shaped arbor marks the entry to the school campus from the drop-off area. Students, staff and visitors are guided to this entry by landscaping and walls. It signifies the start of the pedestrian walkway and entry node. Benches in the arbor are envisioned for students and guests. In Wailuku, it is common to see grandparents arrive early to pick-up their grandchildren. The census notes that nearly 30% of grandparents in Wailuku are caregivers for grandchildren. The arbor will provide a place for them to wait away but near the Administration lobby and in close proximity to the K-1 playground.

Building B: Library Building: Aligned with the plaza and "Gathering Place", the library is the center of the campus. Besides the library and computer resource center, the library contains student activities and counseling functions for the school. So it will be both figuratively and literally, it will be a focal point to student lifestyle. A covered entry loggia provides a gathering location as well as signifies the entrance to the building. The building's location along the "Street" will create opportunities for exterior activities, social and educational. Behind the story reading room, there is an opportunity to create a courtyard. This courtyard will provide another learning venue from which there will be notable views of the West Maui Mountains.

Building C: Cafeteria Building: With more than 6,000 SF, the dining area of this building is the main interior gathering space of the school. It will contain a stage, serving kitchen, dressing rooms, storage area, custodial center and restrooms. The pyramidal form of this building mimics the Admin Building and acts as the southern terminus for the "Street".

Adjacent to this facility will be a cluster of 2 supplemental classrooms and the staff dining room. Connected by an open courtyard, these spaces provide flexibility and unique learning spaces. Combined with the playcourt and large playfield, this complex is intended to be available for public use. The variety of size and number of spaces will provide opportunity for multiple public uses to occur simultaneously while allowing the remainder of the campus to be secured. There is even a location for a future community garden.

Building D: Covered Playcourt: The multi-purpose court combines a basketball court and three volleyball courts. With more than 7,485 SF, the building also includes a boy's restroom, a girl's restroom, storage, and an electrical room.

2.3.3 Classroom Buildings

The classroom buildings appear as "houses", providing a child-friendly welcoming environment. This is especially important for kindergarten students for whom Wailuku II may

be their first educational experience. While they look like the single-wall plantation style residences, common to Wailuku, these classroom building will be built using durable construction materials. Fiber cement board with a battens over metal framing will provide a "board and batten" appearance for the walls. We propose using heavy duty asphalt shingle roofing with different colors to reinforce the residential appearance. By designing the lanai/walkways into the buildings, we avoid the potential for these walkways to be removed as value engineering items. It also provides seating and gathering areas for students.

Building E: Kindergarten & First Grade: The K-1 cluster surrounds their playfield and playground creating an environment of safety which is especially important for these students. Classrooms and the faculty center are dispersed throughout to provide for supervision of the outdoor areas. The cluster is located at the entry to the school and has its own parking area to facilitate parent drop-offs.

Building F: Second Grade & Third Grade: The grade 2 and 3 classroom buildings are on a terrace overlooking and reaching out to the main playfield, we have called the "Gathering Place". Between the two buildings is a plaza. The plaza and the terraced playfield can serve as a stage for events. Students will be able to use the covered walkways for fellowship or watching other students playing in the field. Moreover, this play field also serves as a gathering place the entire school and even for large community events. The vistas from this location will be remarkable in either mauka or makai direction.

Building G: Fourth Grade & Fifth Grade: The grade 4-5 classroom building is located adjacent to the cafeteria and covered playcourt. As upper elementary students, we envisioned that this building should provide some special features as privileges for the "senior" students on campus. The building will be the only 2-story building on campus. It will have its own dedicated courtyard, proximity to the playcourt and the highest views on campus.

2.3.4 Parking Areas

Parking is organized to provide for different types of vehicular access to the campus. The north parking area provides drop-off/pick-up for parents who drive and parking for visitors. Located adjacent to the Administration Building, this area provides parking for visitors and also campus deliveries. Furthermore, the circulation is arranged to utilize the former access road for queuing. While the developer has included this land to the school, there is a requirement to maintain an easement through this former road for utilities to mauka properties. As such, it seems logical to maintain this as an access road for the campus so as to allow future access to the easement and queuing as mentioned.

The south parking area is accessed from a shared driveway with the future community center. The State Department of Education intends to acquire ownership of the shared driveway parcel. It will provide drop-off/pick-up areas for buses that service communities beyond walking or biking distance from the school. This area will also be used by buses for field trips. The playcourt or cafeteria can provide staging areas for field trip events. The south parking provides the largest number of vehicular parking stalls in order to service events at the cafeteria. Total on-site parking capacity is 133 vehicles.

The future community center to the south sits on approximately 6 acres and shares a common

property line with the school. The developer has agreed to share the community center parking with the school for larger events which might occur on either parcel. This is important since no street parking is allowed along Kehalani Parkway.

2.4 PHYSICAL CHARACTERISTICS OF THE PROJECT

2.4.1 Lot Characteristics

The proposed site is Lot 3-A-2 and portion of Lot P-1 and Lot R-6 of Tax Map Key, (2)3-5-001:77 (por.) and (2)3-5-001:78(por.). The proposed site consists of approximately 14 acres and is part of the Kehalani Mauka master planned community in Wailuku. The site is approximately 1,100 feet wide and 560 feet deep. The project site slopes from east to west, from an elevation of 396 feet above mean sea level (MSL), at the midpoint of the parcel by Kehalani Mauka Parkway, up to 462 feet MSL at the midpoint of the western edge of the site.

2.4.2 Floor Plans

As described by *Figures 2-1* the floor plan design of the buildings surround a central "Gathering Place". The overall campus organization is intended to reflect the character of Wailuku where residential houses are interspersed amongst historic buildings. Iconic anchor buildings will provide a form of wayfinding for users. *Table 2-1* provides a summary of the proposed floor plan for each program space.

Table 2-1: Program Space Summary

Program Spaces	**Gross Area` (SF)**
Building A - Administrative Building	6,812
Building B - Library	14,396
Building C - Cafeteria	15,924
Building D - Covered Playcourt	7,485
Building E - Kindergarten & First Grade	19,883
Building F - Second Grade Building	8,797
Building G - Third Grade Building	8,461
Building H - Fourth and Fifth Grade Building	17,091
Total	**98,849**

Building Height: The school site is designated as Village Mixed-use subdistrict within the Wailuku-Kahului Project District 3. According to the Maui County Code Section 19.80.030, the height limits in the Village Mixed-use subdistrict shall be four stories or forty-five feet. The school campus composes of one and two stories structures, with the maximum height of 38-ft. (Building C) which is very well within the Maui County Code height limits.

2.5 INFRASTRUCTURE

The purpose of this assessment is to provide an overview of the preliminary civil engineering design of the Wailuku II Elementary School project. This assessment evaluates the existing site conditions and presents proposed site grading, drainage, water, fire, wastewater, and roadway improvements.

Grading Plan

The subject project will require both excavation and embankment for the construction of the entire site. The estimated amount of earth work for excavation and embankment is 98,700 and 23,200 cubic yard, respectively. Majority of the project site will be in a "cut" condition due to building height envelopes and roadway grade restrictions. Proposed grading will generally slope downward from the west to east. The use of retaining walls will be implemented throughout the site to help with grading. Retaining walls will vary in height ranging from two to six feet.

Severe erosion hazards are not expected during construction due to the existing topography and location of the project site. However, erosion control measures will be incorporated before and during construction to minimize soil loss.

Infrastructure

Domestic Water: The project site currently has no existing domestic water service. DOE is currently working with the Department of Water Supply to identify potential water source for the project. An existing 12-inch ductile iron water distribution line owned and maintained by the County of Maui is located within Kehalani Mauka Parkway fronting the site. Proposed water service for Wailuku II Elementary School will tie into the existing 12-inch water line.

Fire Protection Water: Like the domestic water system, water for fire protection will tie into the existing 12-inch waterline within Kehalani Mauka Parkway. Several existing fire hydrants along Kehalani Mauka Parkway will be reinforced by a proposed fire protection system within the project site. A proposed dedicated fire line will be the main feed for fire protection water. Fire hydrants will also be located throughout the project site.

Sewer: The project site currently generates no wastewater flow. An existing 12-inch sewer line runs along Kehalani Mauka Parkway fronting the site. An existing 8-inch sewer stub-out will be the connection point for the proposed sewer system that will service Wailuku II Elementary School. Sewage from the project will be transmitted to the Kahului Wastewater Treatment Facility.

Drainage: The existing onsite storm water runoff generated by the site flows in a west to east direction and enters the drainage system constructed within Kehalani Mauka Parkway. The existing offsite runoff generated mauka of the project site is currently intercepted by the Waihe'e Ditch located along the western boundary of the project site. The Kehalani Master Plan drainage design makes provisions to intercept proposed runoff generated by developments within the Kehalani Community. The Waikapu retention basin serves as the main retention

area. Runoff generated by Wailuku II Elementary School will also connect to this system. An onsite underground detention system will also help detain runoff generated by the project site. Offsite runoff will be allowed to enter the project site. Although it is anticipated that future roadways mauka of the project site will intercept offsite flows from entering the project site, the onsite drainage system will be designed to accommodate offsite flows and allowed to pass through.

Roadway: Roadways that will service Wailuku II Elementary School will connect to existing Kehalani Mauka Parkway. There are two roadways connecting the site to the Parkway, one along the northern boundary and one along the southern boundary. The two accesses will provide adequate fire access circulation and provide access to buses, faculty and parents dropping off children. Maximum slope for roadways within the project will be held at 12%. The roadway accesses will be designed to provide the maximum sight distance in accordance with county and American Association of State Highway and Transportation Officials (AASHTO) standards.

Access Roads

Kehalani Parkway has a divided median along the southern portion of the school site and the County will not allow an additional curb cut. However, DOE school campuses typically require two vehicular access points at opposite ends of the campus for drop-off/pick-up, deliveries and fire access. The developer has agreed to share the existing curb cut as a common driveway servicing the school and community center. Since the school will be built before the community center, DOE intends to purchase a portion of the community center parcel and develop the driveway with an easement to the developer for future use.

The Kehalani master plan originally provided for an access road adjacent to the north property line of the school. This road would have serviced mauka neighborhood communities. However, subsequently, the developer decided not to connect those mauka neighborhoods using this road and included this parcel in the school site. The developer does require an easement for utilities in this portion of land as there are existing connection points in Kehalani Parkway that service the mauka neighborhoods.

The potential impacts associated with short-term construction activities, including mitigation to minimize potential impacts, are addressed in *Chapter 3.0* of this document.

2.6 DEVELOPMENT SCHEDULE AND SUMMARY OF PROJECTED COSTS

Project development and implementation is scheduled to begin immediately following approval of necessary land use permits and available funding. The development of the project will be in one phase. The construction is expected to begin in summer 2011 and the school is schedule to open in fall 2012.

The proposed project will have a project cost/investment of $37.5 million. Of these costs the major items are construction, building design consultants, furnishings and equipment, site design consultants, infrastructure, and utilities. All of the project costs will be funded by the State of Hawai'i Department of Education's approved Capital Improvement Project budget.

2.7 REQUIRED APPROVALS AND PERMITS

The County of Maui will require the following permits: Project District Phase II & III permits; Plan Approval; Building Plan Approval (Fire); Electrical Permit; Plumbing Permit; Grubbing & Grading Permit; and Water Use Permit.

2.8 SUSTAINABILITY

Wailuku II Elementary is required to be certified as silver or higher under the Leadership in Energy & Environmental Design (LEED) program as administered by the United States Green Building Council (USGBC). The current version of this program is LEED for Schools Version 3.0 which was launched in April 2009.

According to the *Wailuku II Elementary School Draft Pre-design Report (2009) t*he sustainable design strategy for this campus was initiated through an eco-charrette on April 9, 2007. The charrette brought together a wide variety of stakeholders from DOE, DAGS, and design and consultant teams. This section will discuss important strategies and concepts derived from the eco-charrette.

Energy & Atmosphere

Every sustainable design strategy should start with a discussion about reducing energy use. Energy use directly affects the use of fossil fuels, heat gain and is the single highest contributor to carbon footprint. Reducing the energy use of a campus also has the greatest impact in reducing operating costs.

Reducing energy use starts with building orientation. For educational buildings, energy use can be significantly impacted by using natural sunlight to replace artificial illumination from electrical fixtures. This strategy is called daylighting. When reflected indirectly, natural sunlight does not cause heat gain to spaces. Ideally, buildings should be orientated along the east-west axis to maximize daylighting from the sun as it travels from east to west. The Wailuku II site is elongated along the north-south axis and slopes from west to east. Buildings orientated along the east-west axis would have required significant terracing and foundation wall which would have added a great deal of cost and accessibility challenges. The existing orientation and slope of this site dictates that buildings be orientated along the north-south axis.

Another aspect of the site is its proximity to the West Maui Mountains. The mountains cut off late afternoon sun, keeping low angle heat gain from the west facing walls. As such, west facing windows can be larger and do not need sun shading devices.

Tradewinds are predominant for the site from the typical ENE direction. However, charrette participants from Wailuku Elementary said that in the afternoon there commonly occurs a strong wind from the north direction.

The area is noted as one of the coolest for Maui. As such, there are times when temperature and humidity are comfortable without air conditioning. DOE is willing to consider mixed mode air

conditioning (AC) for Wailuku II. Mixed mode uses AC when temperature and humidity are outside the comfort zone on a psychrometric chart, and then shuts down AC when climate factors are within the comfort zone. The use of mixed mode AC will provide substantial savings in energy use. Use of this strategy is dependent on providing cross ventilation and ceiling fans to maximize natural ventilation.

The following is a summary of the strategies that will be considered in the design process.

1. Utilize skylights and/or light pipes: These elements bring light from the roof directly to ceiling light fixtures and are not affected significantly by sun orientation. The Cafeteria and Library provide excellent opportunities to use large skylights. Products such as Kalwall should be considered as they provide substantial daylighting while blocking UV and are hurricane resistant.
2. Block early morning eastern sun: The early morning sun can increase heat within spaces, so blocking it is vital to keeping spaces cooler and avoid dependence on air conditioning. Buildings with east facing walls should minimize windows and use wall insulation. Where appropriate, covered corridors will be located on the east side of buildings to create a buffer for enclosed spaces.
3. West facing windows: Consider the use of larger west facing windows to provide daylight and views. The West Maui Mountains block low angle sunlight creating an opportunity for normally protecting west walls.
4. Incorporate light shelves and sun shades for south facing windows: While the general building orientation is north-south, courtyards create several opportunities for south facing glazing. The strategy uses larger windows with two vertical projections: a light shelf which reflects sunlight into the space and a shade shelf above which blocks sunlight from directly entering spaces. The Grade 4-5 and the K-1 buildings both have two potential wings which can accommodate this feature.
5. Renewable Energy: The site offers potential opportunity for renewable energy generation. There is substantial sunlight and numerous potential locations for PV locations (cafeteria, playcourt, grade 4-5 building, etc).
6. Mixed Mode AC System: Consider the use of a mixed mode AC system which incorporates both natural ventilation and mechanical air conditioning. The cooler climate of Wailuku heights seems ideal for this strategy. Design spaces with cross ventilation and ceiling fans to promote natural ventilation when AC is off.
7. Enhanced Commissioning: Commissioning is a quality control process in which a third party engineer peer reviews the mechanical and portions of the electrical engineering design, confirms the subcontractor submittals and oversees the training and startup of these systems. It has been shown that commissioning improves the energy efficiency of a building and reduces operating costs.

Sustainable Sites

1. Site selection: Because the project is part of a master planned community, this credit is anticipated to be obtainable. There is an existing EIS for the development which addressed the land selection.
2. Bicycle storage and changing rooms: these spaces can be provided since the Education Plan *(Appendix L)* required both showers and bicycle racks on campus.
3. Low-emitting and fuel efficient vehicles: Providing dedicated parking stalls for these

environmentally friendly vehicles can be easily done.

4. Maximizing open space: The intent is to provide a substantial amount of open space for playgrounds and playfields, therefore this credit may be achievable.
5. Stormwater Design: Two credits in this category may be achievable. There is ample opportunity to retain stormwater within the site and provide some quality treatment thru bioswales or other passive methods.
6. Light pollution: Use of cut-off exterior light fixtures typically achieves this credit.
7. Site master plan: DOE requires us to plan for future expansion by locating 5 potential portable classroom locations on campus.
8. Joint use of facilities: DOE requires their new school campuses to accommodate some level of public use of their facilities. As stated in the conceptual design, the Wailuku II site plan proposed to make the playcourt, cafeteria, two supplemental classrooms and playfield available for joint use.

Water Efficiency

1. Water efficient plumbing fixtures: Building water conservation can be achieved by simply committing to using water efficient plumbing fixtures. The market provides a wide range of these fixtures including low-flow and ultra low-flow water closets, dual flush water closets, waterless urinals and automated lavatory faucets. It has been observed that use of these fixtures throughout the project can result in 30% or more in water efficiency. Achieving higher levels will require additional water efficiency commitments.
2. Site water conservation: controlled mitigation is dependent upon the use of high efficiency or drip irrigation systems as well as the use of drought tolerant landscaping. The challenge here is that these decisions can increase project first costs. Since there is a finite budget for the project, these will be considered in greater depth during design.
3. Wastewater innovation: this credit can be achieved by using alternative wastewater treatment systems such as constructed wetlands which use specific plants to remove pollutants. Unfortunately, Maui County and State of Hawaii Dept of Health will not consider alternative wastewater treatment for this site.

Materials & Resources

1. Construction waste management: management of construction waste is achievable to various degrees depending on the island. Recycling programs and non-profit savage organizations are well-established on Oahu but less of these resources exist on Maui. However, it is realistic to expect a contractor to at least achieve 50% diversion.
2. Recycled content: use of materials with recycled content to obtain two credits can be reached. The construction industry continues to do a good job in increasing the breadth and depth of products in this category. Attention needs to be paid to substitution requests which lack high recycled content.
3. Regional materials: this credit category will be difficult to obtain more than one credit. Materials in this category must be harvested in Hawaii. That typically limits projects to the use of aggregate in concrete and CMU, landscaping and stone.

Indoor Environmental Quality

1. Construction Indoor Air Quality Management: air quality management during construction and before occupancy can be achieved by a responsible contractor.
2. Low-emitting materials: the construction industry has a plethora of products whose performance equals or exceeds the LEED standards for Low Volatile Organic Compound.
3. Indoor chemical and pollutant control: typically, this category can be achieved by providing door mats to every exterior entry and separate ventilation system for chemical storage a large copier rooms.
4. Controllability of lighting: projects can achieve this credit by providing multiple lighting controls for each space.
5. Thermal Comfort and Design: buildings meeting the Hawai'i State Energy Code normally exceeds the requirements of this credit.
6. Daylight and Views: A majority of spaces will have daylight and views in order to reduce energy allowing some credits to be obtained.

LEED 2009 for Schools New Construction and Major Renovations Checklist

The eco-charrette concluded by completing a LEED 2009 for Schools New Construction and Major Renovations credits spreadsheet. At the time, LEED for Schools V2.2 was in effect. However, the analysis reflects the current V3.0 system. The proposed credits are only suggestions for investigating further during design. Each credit needs to be vetted through studies, computer modeling, cost assessment and collaboration with the design team. The proposed credits are anticipated to be generally achievable. The non-achievable credits are those which appear beyond reach due to any number of reasons. The possible credits are still under consideration but require more study.

According to the preliminary review, the following LEED for School V3.0 credits are projected:

52	Proposed LEED for School Credits
7	Non-achievable LEED for School Credits
52	Possible LEED for School Credits
52	Total anticipated credits and rating = LEED Silver (50-59 credits required)

2.9 CONNECTIVITY OF THE PROJECT TO THE SURROUNDING NEIGHBORHOOD

The school is adjacent to the proposed community center and centrally located within walking distance from residential subdivisions within Kehalani Mauka and the proposed community park.

The Kehalani Mauka Parkway and Kauna Lipo Drive form a loop roadway within the subdivision that all residents must use to enter and leave the subdivision. The former roadway serves the east, north and west sections of the subdivision and provides exit routes to Honoapiilani Highway on the east and to Kuikahi Drive on the south. The Kauna Lipo Drive

serves the south section of the subdivision and connects the two segments of Kehalani Mauka Parkway that leave the subdivision.

The proposed project's location within the Kehalani Mauka subdivision is easily accessible to the residents of the community. The school would be located along the downhill (east) section of Kehalani Mauka Parkway which would provide access to most of subdivision. Most of the residents on the east and north sections of the subdivision would have to pass the school while traveling to Honoapiilani Highway. Residents on the west section of the subdivision could utilize either Kehalani Mauka Parkway or Kauna Lipo Drive to get to the school site. Residents on the south side of the subdivision would utilize Kauna Lipo Drive to get to Kehalani Mauka Parkway to get to the school site. Residents in the east section of the subdivision serviced by Komo Ohia Street have convenient access to Kehalani Mauka Parkway and the school site.

3.0
Description of the Environmental Setting, Potential Impacts and Mitigation Measures

3.0 DESCRIPTION OF THE ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES

3.1 CLIMATE

Existing Conditions – Maui's climate varies by terrain but relatively uniform year-round with mild temperatures, moderate humidity, and relatively consistent northeasterly tradewind. Average annual rainfall for Wailuku is approximately 31 inches. The 50-year, 1-hour rainfall is 3.0 inches at Wailuku. Rainy seasonal months of October through April produce strong wind conditions varying from trades from the northeast to southerly winds known as "Kona winds". The project area's location along the east side of the West Maui mountains provides one of the coolest climates in central Maui. The annual variations in temperature encountered in the area (based on temperatures recorded at Kahului Airport) range between 70 and 80 degrees Fahrenheit on the average (Maui County Data Book, 2008).

Impacts and Mitigation – The proposed project will have no effect on climate conditions, therefore, no mitigation measures are required.

3.2 GEOLOGY AND TOPOGRAPHY

Existing Conditions – The proposed project site is located along the east side of the West Maui mountains at about 400 feet above mean sea level (MSL). Geologically, the terrain is composed of ʻĪao series soil derived from basic igneous rock. See *Section 3.3* for a further discussion on soils.

The ground surface of the site is currently covered with overgrown brush and weeds. The project site generally slopes in an easterly direction toward the existing Kehalani Mauka Parkway with an average slope of approximately 11 percent. Onsite elevations range from 461 to 389 feet mean sea level (MSL).

Moderate earth movement will be required in order to implement the plan.

Impacts and Mitigation – Of the 14-acre site, approximately 98,849 sq. ft. of buildings and support facilities will be developed. The balance of the remaining will be open space, parking, and access easements. Surrounding the proposed buildings, open space will be preserved for outdoor classroom activities. The proposed project intends to take advantage of existing terrain and design buildings and landscape in such a way that will take advantage of existing natural conditions. Therefore, the proposed project will not substantially alter the overall existing topography of the project site. The proposed facility and parking areas will be flattened and smoothed along with the area for the playground and walkways. No substantial fill or excavation is being proposed for the project. The geology and topography of the area will not be significantly affected. Mitigation measures related to soils and grading are described in the following section.

3.3 SOILS AND GRADING

Existing Conditions – According to *Soil Survey of the Island of Hawai'i* (USDA, 1972), soils at the project site belong primarily to the IbC ('Īao Cobby Silty Clay, 7 to 15 percent slopes) and IcC ('Īao Clay, 7 to 15 percent slopes), refer to *Figure 3-1*. The 'Īao series consists of well-drained soils on valley fill and alluvial fans developed from basic igneous rock. They are nearly level to moderately sloping. In a representative profile the surface layer is dark-brown clay about 15 inches thick. The subsoil, about 45 inches thick, is very dark brown, dark-brown, and very dark grayish-brown clay and silty clay. The substratum is clay alluvium. The soil is neutral in the surface layer and subsoil. In places roots penetrate to a depth of 5 feet or more. Permeability is moderately slow, runoff is medium, and the erosion hazard is moderate.

Impacts and Mitigation – The proposed project will require both excavation and embankment for the construction of the new roadways and relatively flat, terraced buildable areas for the proposed building structures. The majority of the project will be in a "cut" condition due to building height envelopes and roadway grade restrictions. Overall, the site will be graded to maintain the existing drainage patterns. Finish grades throughout the site will vary in elevation from 389 feet to 461 feet mean sea level (MSL). Slopes will vary between 0 to 12% after improvements with maximum 2:1 slopes along the embankments. Retaining walls will vary in height from 2 to 6 feet.

Temporary erosion control measures will be incorporated during the construction to minimize soil loss and erosion hazards. Best Management Practices will include temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, inlet protection, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties. An application for a National Pollution Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health for review and approval. Permanent sediment control measures will be used once construction is completed.

3.4 SURFACE WATER AND STORM WATER RUNOFF

Existing Conditions – There are no existing sources of surface water located on the proposed site. An existing concrete ditch (Waihe'e Ditch) meanders along the western border of the site and intercepts offsite runoff generated mauka of the site. The ditch is still active and services agricultural lands to the south. There are plans to construct temporary diversion ditches to the west of the project site when the existing Waihee ditch within the project site is removed. Per the Kehalani Drainage Master Plan, the diversion ditches are designed to intercept a large majority of the runoff before it enters the school site. When the properties mauka of the project site are developed with their own permanent drainage system, the temporary diversion ditches will be removed. An underground 60-inch drainpipe to the west of the site will be constructed to convey existing irrigation water through Waihee ditch. The nearest major surface water source, in proximity to the proposed site, is Waiale Reservoirs, which is located about 0.7 miles east of the site. there is no perennial, intermittent stream, or wetland presented in or adjacent to the proposed project area. Direct and indirect impact to the Waters of the United States

(WOUS) by construction of project structures and associated ground disturbing activities is not anticipated. The project site is not located in the Ground Water Management Area.

Runoff on the site is medium, erosion hazard is moderate, and permeability is moderately slow. The on-site flows naturally drain in an easterly direction toward the existing Kehalani Mauka Parkway (Austin, Tsutsumi & Associates, Inc, 2009).

Impacts and Mitigation – In addition to reducing peak flow rates, the proposed storm water management system will provide water quality treatment and reduce the discharge of pollutants to the maximum extent practicable. To attain LEED credits for water quality, 90% of the annual storm runoff volume must be treated. The focus is on treating the more common smaller storms rather than just the infrequent peak storm events, since the smaller storms contain most of the runoff pollutants. The project will incorporate natural and structural Best Management Practices (BMPs) to control storm water quality as follow.

- Grass Swales and Landscape Areas: The surface storm water runoff from road and parking areas will be directed to grass and landscaped areas where possible to provide vegetative filtration and allow percolation into the underlying soil.

- Structural Filtration Systems: These underground units remove pollutants by having storm water flow through specialized filtration media contained within cartridges. The selected filtering device will be rated for removal of at least 80% of the total suspended solids.

An appropriate maintenance plan will be developed for each BMP which will require accumulated debris and sediments to be removed during regularly scheduled maintenance and disposed at a County approved disposal site.

LEED and the EPA accept the above methods of storm water quality control as storm water best management practices that reduce the pollutant loads associated with storm water runoff. Maui County does not specifically require water quality treatment of storm water.

No significant impact to groundwater underlying the project site is anticipated during the construction and operation of the proposed school. Construction of the proposed facility is unlikely to introduce or release any substance into the soil that could adversely affect groundwater quality.

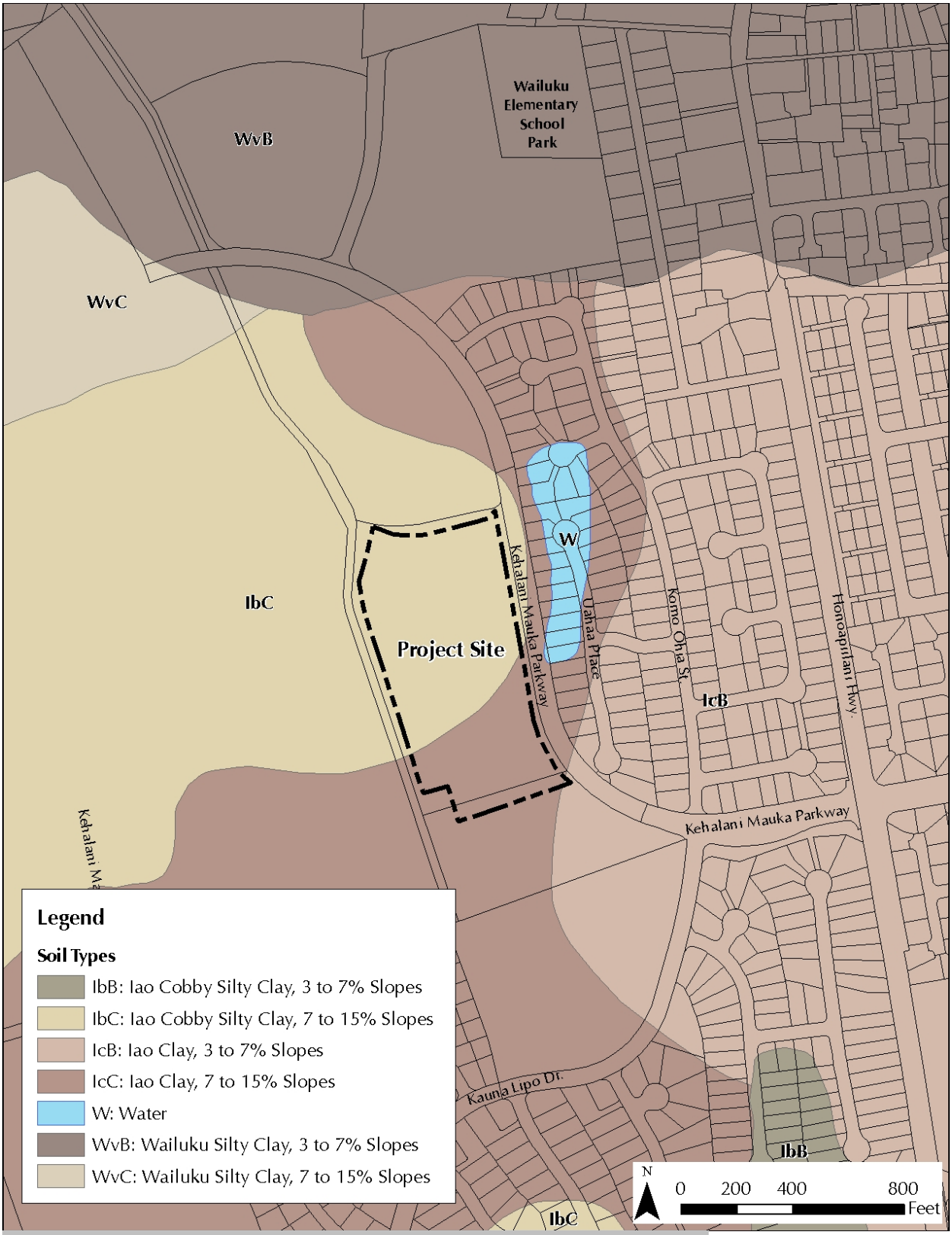

Figure 3-1: Natural Resources Soil Conservation Survey (NRCS) Map

3.5 FLOOD AND GEOLOGIC HAZARDS

Existing Conditions – The Federal Emergency Management Agency's *Flood Insurance Rate Map (FIRM)*, Panel No. 150003 0170B identifies the proposed project site within Zone C designation (areas of minimal flooding) refer to *Figure 1-5*. The Flood Insurance Program does not have regulations for development within this district.

In terms of seismic risk, the Island of Maui is rated Zone 2B Seismic Probability Rating (*Uniform Building Code*, Volume II, Chapter 16, Division IV). Zone 2B areas are at moderate-to-severe risk from major earthquake damage, especially to poorly designed and/or built structures.

Impacts and Mitigation – In general, geologic and flood conditions impose no major constraints on the project. As required, all of the buildings will be constructed in compliance with Federal Building Ordinance Regulations and meet County Building Code under the *Uniform Building Code* appropriate to the Zone 2B Seismic Probability Rating.

3.6 FLORA

Existing Conditions – A botanical survey was conducted by Rana Productions, Ltd (2009). The survey identified existing flora species and habitat on site. The survey also determined if the site contains plant species which are currently listed, or proposed for listing as endangered or threatened under either the federal or the State of Hawai'i's endangered species programs. The project area is former sugarcane plantation land, and currently supports vegetation that is associated with natural growth on highly disturbed land. The majority of the property has transitioned from barren field to grassland, completely dominated by Guinea grass. Some shrubs are starting to appear, such as castor bean (*Ricinus communis*), slender mimosa (*Desmanthus virgatus*), koa haole (*Leucaena leucocephala*), and hairy abutilon (*Abutilon grandifolium*). If left alone, the vegetation would likely shift gradually to a mixed Guinea grass/shrubland.

Recently disturbed small areas along the roadway are leveled areas being used to store construction supplies, and temporary access roads. These areas support the greatest variety of plants, whose growth is a response to the disturbance of the dominant Guinea grass ground cover. A majority of the 59 species recorded are ruderal weeds with low occurrence values (Uncommon or Rare). Only one species recorded, 'uhaloa (*Waltheria indica*) is regarded as a native plant. This species is a common indigenous plant found throughout the islands, particularly on drier sites. This gives a ratio of 1.6% of the plant species on the property as native.

The vegetation present on the site is almost completely alien as demonstrated by the fact that only one native plant species was recorded during course of this survey. The lands surveyed are former sugar canes lands on which the vegetation is in the early successional stages of changing from former sugar cane fields, to fallow fields, to grassland and if not further disturbed would eventually become shrublands. From a botanical perspective there are no resources that are special or unique present on the site. No plant species currently listed, or proposed for listing

under either the federal or the State of Hawai'i endangered species programs were detected during the course of this survey.

Impacts and Mitigation – Site grading for construction will disturb vegetation at the site. Temporary ground cover vegetation will be used during this period. Landscaping will establish new vegetation as turf grass ground cover and landscape plants and trees. It is recommended that where appropriate and practicable native plant species be used in landscaping efforts. Not only is this ecologically prudent, but if the appropriate plants are used will also likely save maintenance and water costs over the long term.

3.7 FAUNA

Existing Conditions – An avian and mammalian survey of the project site was conducted by Rana Productions, Ltd (2009). The survey identified existing fauna species and habitat on site. The survey also determined if there are avian or mammalian species or habitat for such species which are listed as endangered, threatened or proposed for listing under either the federal or the State of Hawai'i's endangered species programs. A total of 91 individual birds of nine different species, representing five separate families, were recorded during station counts. Bird species detected during the course of time spent on the project site are considered to be alien to the Hawaiian Islands. There were no avian species detected during the course of this survey which are currently listed, or proposed for listing under either the federal or State of Hawai'i endangered species statutes. Avian diversity is low, in keeping with the habitat at the project site. The Zebra Dove (*Geopelia striata*) accounted for slightly less than 64 percent of the total number of birds detected. An average of 18 individual birds was recorded per station count. No mammalian species currently listed, or proposed for listing under either the federal or State of Hawai'i endangered species statutes was detected during the course of this survey.

Although not detected during this survey, both the endangered Hawaiian Petrel (Pterodroma sandwichensis), and the threatened endemic sub-species of the Newell's Shearwater (Puffinus auricularis newelli), may over-fly the project area between April and the end of November each year. Both species have been recorded flying to and from their nesting colonies located in the mountains to the west and east of the project site. Both of these pelagic seabird species nest high in the mountains in burrows excavated under thick vegetation, especially uluhe (Dicranopteris linearis) fern. There is no suitable nesting habitat for either of these seabird species on, or close to the proposed school site.

Impacts and Mitigation – Site grading for construction will disturb avian and mammalian at the site. Temporary ground cover vegetation will be used during this period. Landscaping will establish new habitat as turf grass ground cover and landscape plants and trees. The principal potential impact that construction and operation of the proposed school poses to Hawaiian Petrels and Newell's Shearwaters is the increased threat that birds will be downed after becoming disoriented by lights associated with the project during the nesting season. The two main areas that outdoor lighting could pose a threat to these nocturnally flying seabirds is if, 1) during construction it is deemed expedient, or necessary to conduct nighttime construction

activities, 2) following build-out the potential operation of streetlights and athletic field lighting during the seabird nesting season.

Nighttime construction is not currently planned. If nighttime construction activity or equipment maintenance occurs, the associated lights should be shielded. Large flood/work lights should be placed on poles that are high enough to allow the lights to be pointed directly at the ground.

If streetlights or facility lighting is installed in conjunction with the school, it is recommended that lights be shielded to reduce the potential for interactions of nocturnally flying Hawaiian Petrels and Newell's Shearwaters with external lights and man-made structures (Reed et al. 1985, Telfer et al. 1987). This measure would serve the dual purpose of minimizing the threat of disorientation and downing of Hawaiian Petrels and Newell's Shearwaters, while at the same time complying with the Maui County Code § 20.35et seq.that requires that exterior lights on Maui be shielded. The design of the school's facility lighting will utilize best practices for night lighting having full cutoff dark night fixtures.

3.8 AIR QUALITY

Existing Conditions – B.D. Neal and Associates completed an air quality assessment at the project site (2010) (*Appendix B*). Regional and local climate together with the amount and type of human activity generally dictate the air quality of a given location. The climate of the project area is very much affected by its elevation near sea level and by nearby mountains. The predominant trade winds tend to be channeled through the area by the mountains to the east and west. Except for periodic impacts from volcanic emissions (vog) and possibly occasional localized impacts from traffic congestion and local agricultural sources, air quality at the project area is relatively good. There is very little air quality monitoring data from the Department of Health for the project area, but the limited data that are available indicate that air contaminant concentrations are generally well within State and national air quality standards.

Impacts and Mitigation – Short-term impacts from fugitive dust will likely occur during the project construction phase. To a lesser extent, exhaust emissions from stationary and mobile construction equipment and from the disruption of traffic may also affect air quality during the period of construction. A dust control management plan will be developed which identifies and addresses activities that have a potential to generate fugitive dust.

The short-term effects on air quality during construction will be mitigated by compliance with provisions of Hawai'i Administrative Rules, Section 11-60.1-33 on Fugitive Dust. Fugitive dust emissions will be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering of open-bodied trucks. Other dust control measures may include limiting the area that can be disturbed at any given time and/or mulching or chemically stabilizing inactive areas that have been worked. Paving and landscaping of project areas early in the construction schedule will also reduce dust emissions. Excess exhaust emissions from traffic disruption can be mitigated by moving construction equipment and workers to and from the project area during off-peak traffic hours, and by minimizing road closures during peak traffic periods.

The proposed project will have no long-term impact on air quality from the increase in air pollution emissions in the project area (Neal, 2009). With the project in the year 2015, carbon monoxide concentrations were estimated to remain well within State and federal standards.

3.9 LAND USE

Existing Conditions – The surrounding region has historically been used for agriculture. The proposed project site is currently unoccupied and is a part of the on going Kehalani Mauka community master plan development. Thus, the project site is bordered by developed urban residential neighborhoods.

Development patterns on the Island of Maui are set by State Land Use District designations, by the County of Maui General Plan, and County Zoning District designations. The principal function of these land use classifications is to specify where land uses such as commercial, residential, industrial, agricultural, open and public areas are permitted. The existing land use designations of the project site and surrounding area are briefly summarized below.

State Land Use Designation - The proposed site is situated within the State Land Use Urban District. According to the Land Study Bureau Detailed Land Classifications, the area has not been classified for Agricultural use as it was reclassified to State Land Use Urban District for the Kehalani Mauka master planned community devlopment.

County of Maui General Plan (Draft 2030) - The Maui County General Plan Public Facility/Infrastructure Improvement Map designates the project area as Elementary School Use *(Figure 1-3)*.

County of Hawai'i Zoning - The County of Maui designates the proposed project area as Project District 3.

Coastal Zone Management Program - The parcel is not located in the Special Management Area established to administer the Coastal Zone Management (CZM) Program (*Figure 1-4*).

Impacts and Mitigation – The 14-acre site, approximately 98,849 square feet will be developed. The balance of the remaining acres will be open space, parking, and access easements. Surrounding the proposed buildings, open space will be preserved for outdoor classroom activities.

State Land Use Designation – the planned use of the project for a public school is consistent with the State land use classification. The State Land Use Urban District designation permitts school use on the site.

County of Maui General Plan (Draft 2030) – The proposed elementary school corresponds with the future public facility/infrastructure improvements goal of the Draft 2030 Maui County General Plan.

County of Hawai'i Zoning – Elementary School Use is permitted within the PD-3 (Wailuku-

Kahului Project District 3) zoning. The existing Project District Phase II for Kehanali Mauka must be amended, and a new Project District Phase II and Phase III permits are required for the new school site.

3.10 AGRICULTURE

Existing Conditions – The agricultural land on the proposed project site has been designated as "prime agricultural lands" *(Figure 3-2)*. Prime Agricultural Lands are defined by the State of Hawai'i Agricultural Lands of Importance to the State of Hawai'i (ALISH) Classification System as land best suited for the production of food, feed, forage and fiber crops. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Impacts and Mitigation – The project will result in the immediate loss of 14 acres of Prime Agricultural Land. The land was reclassified to allow for urban uses over 15 years ago, with the recognition that substantial amount of agricultural lands remain available on Maui.

3.11 ARCHAEOLOGICAL RESOURCES

Existing Conditions – Archaeological Services Hawai'i, LLC produced a summary report on archaeological resources at the project site (2009). An archaeological assessment of TMK 3-5-001: portion of 001 (Lots 2, 3, 5-14, 16-19, 20, 22, and 23) was conducted by Scientific Consultant Services, Inc (SCS) in 2004 . The survey was conducted to determine the presence/absence, nature, and extent of archaeological resources in the project area and evaluate their significance, and ensure compliance with the National Historic Preservation Act of 1966, as amended, Chapter 6E of the Hawai'i Revised Statutes (HRS), and in accordance with the guidelines established by the State Historic Preservation Division (SHPD), State Department of Land and Natural Resources (DLNR). This was the second Archaeological Inventory Survey report produced for Kehalani Mauka Subdivision area.

The project area is located in Lot 16 of this survey. *Figure 3-3* presents the archaeological resource locations. State Site Numbers have been assigned to the identified features. However, several of the site numbers pertain to more than one feature composing the site (for example site -5490 pertains to T-15, T-16, and T-19) and not all temporary sites (T-#) were assigned permanent site numbers.

The Inventory Survey (SCS, 2004) includes historic background research and settlement pattern analysis prior to field work, a complete pedestrian survey of the surveyed areas, representative subsurface testing, and reporting. Eight historic sites, designated as State Site Number 50-50-04-5473 (Hopoi Reservoir), -5474 (Kama Ditch), -5197 (Waihee Ditch), -5489 (historic-modern roadways), -5490 (historic ditches), -5491 (historic artifact), -5492 (clearing mounds from plantation era), and -5493 (unnamed ditch), were documented during the survey. Two of the sites, 50-50-04-5473 (Hopoi Reservoir), and 5474 (Kama Ditch), were previously recorded during the previous study.

Lot 16, where the project site is located, was subjected to the most intensive excavations for remnants of Hopoi Camp. Several important sites were recorded in this parcel. T-13, Waihee Ditch (Site -5197) which was constructed between 1905 and 1907 was the major site of this lot. Waihee Ditch runs north-south through the entire survey area for approximately 1,515 meters, and its width varies from 2 to 5 meters. The ditch runs along the western border of Lot 16 and continues far past Waikapu towards Ma'alaea. Waihee Ditch is currently in use, as substantial column of water is observed flowing through the channel. T-16 (Site -5490), a small, east-west running ditch (approximately 2-meter wide x 2-meter deep) also intersects Waihee Ditch. T-18 (Site -5489) a small, unpaved road segment along the northern boundary of Lot 16, T-20 (Site -5492) a clearing mound of linear basalt rock pile, and T-25 a modern, mechanically-created, earth berm (no State Site number designated) were also recorded in Lot 16.

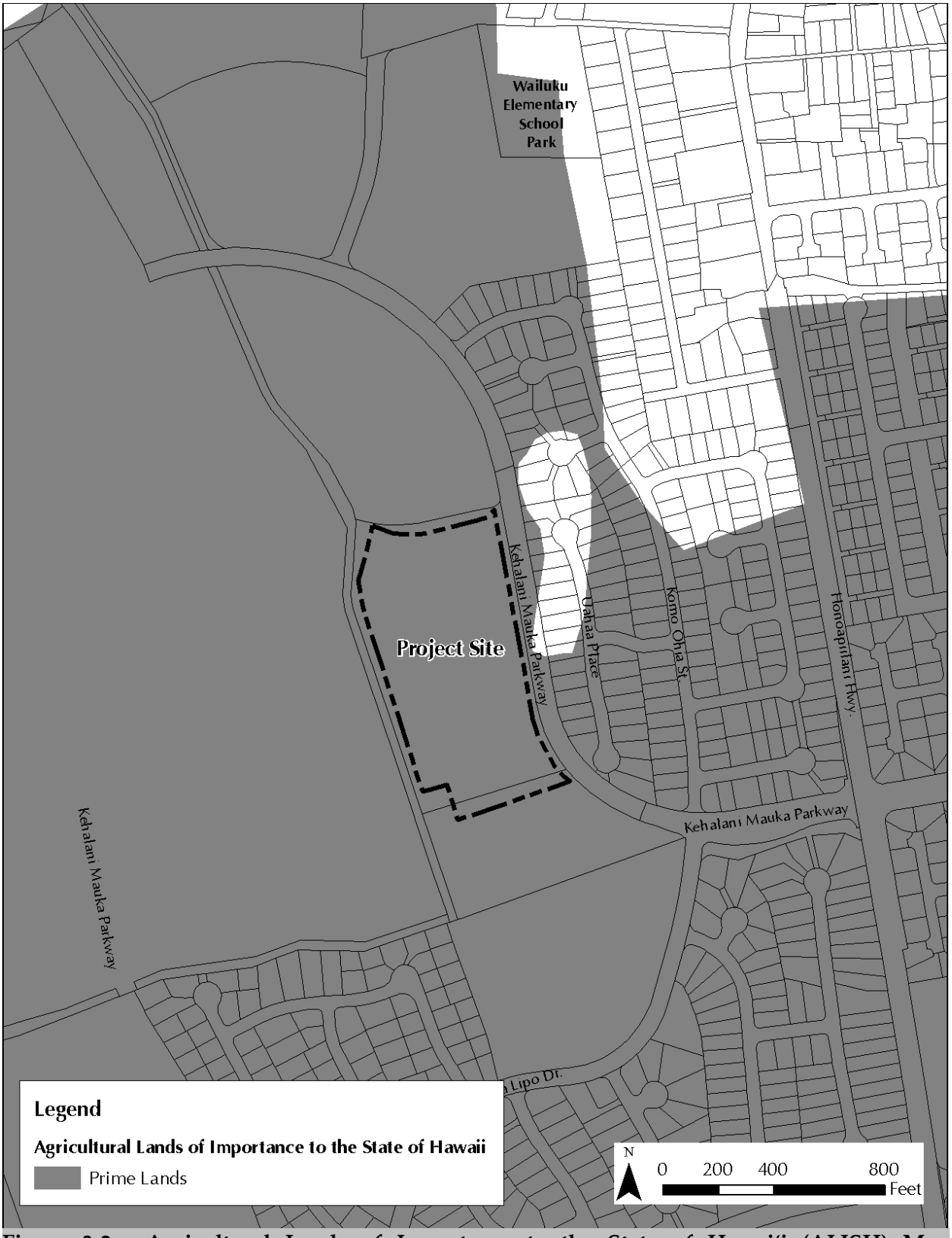

Figure 3-2: Agricultural Lands of Importance to the State of Hawai'i (ALISH) Map

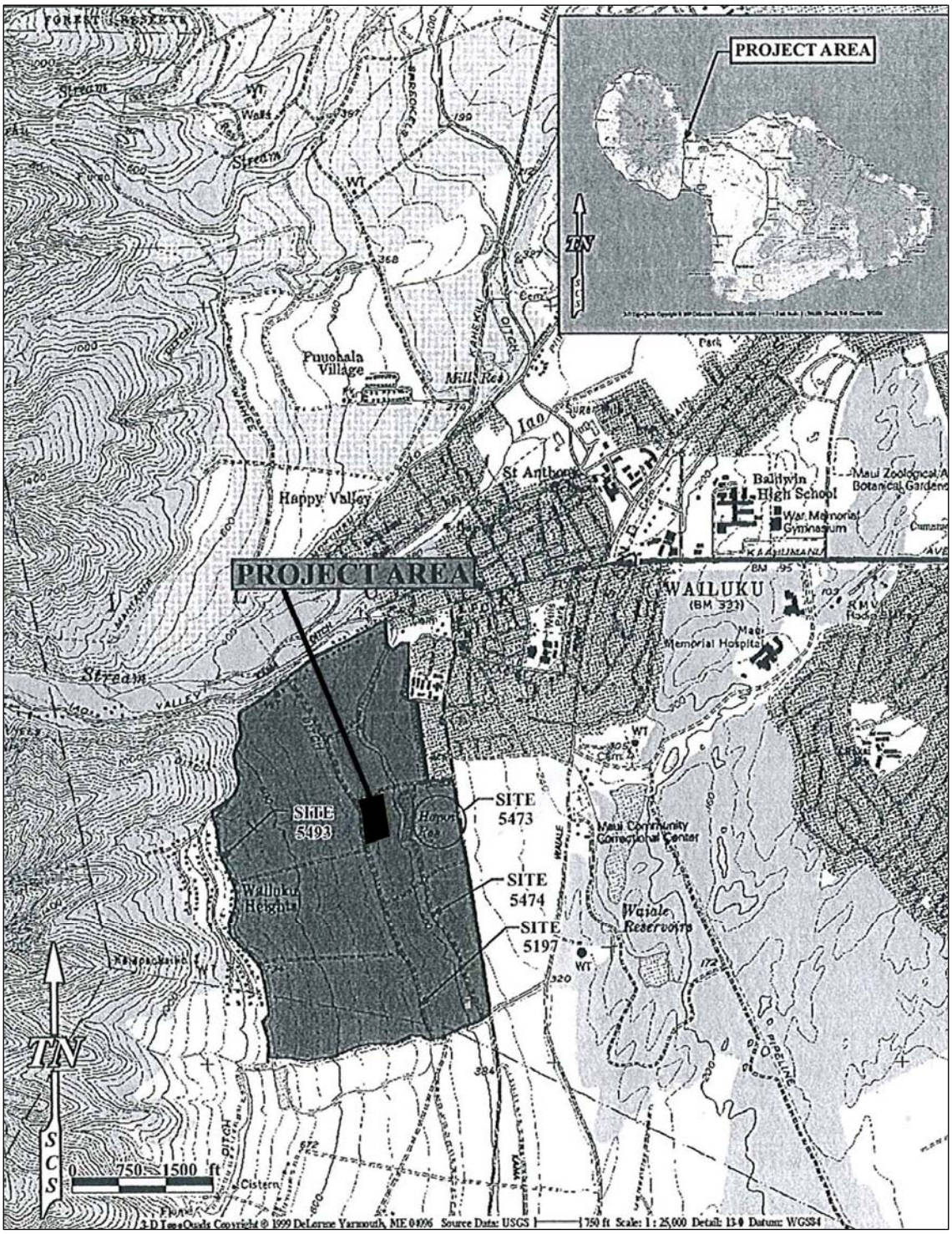

Figure 3-3: Locations of Archaeological Resources
(Base Map Source: SCS, 2004)

Seven historic glass and ceramic fragment (composing IF-6) were recovered from the surface near the northwestern flank of Hopoi Reservoir. Although considerable testing was conducted on Lot 16, the lot on which remains of the Hopoi Camp are anticipated, Hopoi Camp was not identified during this survey (SCS, 2004).

All eight sites, representing historic period activities on the survey area, were assessed as significant under Criterion D (SCS, 2004).

Impacts and Mitigation – Per SHPD's comments on the study by SCS (2004), no additional archaeological mitigation was recommended for the survey area. However, periodic field inspections of Lot 16 were recommended and when large-scale ground work is scheduled for Lot 16, SHPD and SCS shall be notified by the contractor so that SHPD and an assigned archaeologist may inspect the area for any remnants of Hopoi Camp. SHPD also recommended that the construction crew be made aware that remnants of the camp may exist and may be discovered during construction. Should any indication of the camp be identified, all work shall be stopped and SHPD and the responsible archaeologist will be notified. A monitoring plan for construction-related activities associated with the project site, prepared by Archaeological Services Hawaii, LLC (2009) is included as *Appendix C* of this report.

3.12 HISTORICAL AND CULTURAL RESOURCES

As part of this project, a cultural assessment was completed of the project area by CKM Cultural Resources LLC (2009). This assessment consisted of examination of historical documents, a review of existing cultural information, interviews, and preparation of the actual summary report. The complete report is included as an *Appendix D* of this report.

3.12.1 Historical Background

Wailuku is a vast area much of its surroundings and topographical features are common throughout this vast ahupua'a. The history of this ahupua'a heavy laden with much historical facts of war, rural life, the paradigm of lifestyles and much more. Wailuku's boundaries are large. The area of Wailuku begins near the 'ili[1] of Waihe'e extents out to the beginning of Pā'ia and is also bordered by the beginning of Mā'alaea and Lāhaina. This project site of which this report is compiled for is currently located beneath 'Īao Valley.

There are many 'ili within the ahupua'a of Wailuku which stretches from the shore to the peak of the mountains. This specific site is located on the lower portion of Wailuku. Such 'ili as Waiehu, Kahului, Waihe'e and Waikapū.

Waiehu: Today a common surf spot, Waiehu is near to the ocean making this area great for farming and ocean activities at the same time. Waiehu is part of the famous "Nā Wai 'Ehā." Waiehu's location made this area great for lo'i kalo or taro patches. Waiehu literally means "water spray." On a rough day in the ocean, Waiehu's atmosphere would seem a bit foggy; however, it is only the presence of the ocean's mist.

[1] Land division within Ahupua'a

Kahului: Kahului can be likened as Maui's metropolis today. As Kahului is the basis of most of Maui's population, many in traditional time resided here as well. Kahului was the area of where Wailuku's water exited. However, the ocean has eroded the stream mouth. Much of Kahului's landscape in traditional Hawai'i was the common communal living and farming. Kahului literally means "the winning." There is no explanation for this title; furthermore there is no direct translation for this area.

Waihe'e: The term comes from the taro patches that laden the valley walls and the basin of Waihe'e valley. Waihe'e was also part of the four famous waters. This valley like the other three provided much water to produce thousands of acres of taro. There really is no proper translation for Waihe'e as it was the name of a lo'i and the mana'o of someone who has long passed.

Waikapū: This area is also one of the four famous waters, this stream provided for much of the taro fields near upper Wailuku as well as Mā'alaea. The literal translation for Waikapū means, "The water of the conch." It was said that in traditional Hawai'i a conch shell resided in one of the caves and when used could be heard through out Hawai'i. However, one day a "mystical" dog by the name of Puapualenalena stole this pū.

These are some of the 'ili within this ahupua'a. As seen through the description of these 'ili, the Wailuku ahupua'a used the water that it was given. Nā wai 'ehā or the four waters converged on this plain and created some of the healthiest farming environments in all of traditional Hawai'i.

This ahupua'a is also home to "Nā Wai 'Ehā" or the four waters which will be mentioned at a later point in this compilation. Wailuku means "destructive water." There are many mo'olelo as to why such a beautiful and serene place can have such a negative connotation in its name. One such reason that this area may be called Wai-luku because of the numerous battles that has taken place in this area, refer to *Appendix D* for further detail. Another account is said to be because of the waters that rush down from 'Īao Valley. Much of Wailuku town is built on 'Īao Valley's streambed.

3.12.2 Cultural Background

The lifestyle of Wailuku was unlike that of anywhere else in traditional Hawai'i. There were the farmers, the fishermen, the mākua, the kūpuna and the keiki. It was one of the most communal societies on Maui. The topography of this area was abundant with lo'i kalo or taro patches. From Waihe'e to Waikapū much of the topography was fit for planting and farming large crops to feed large numbers of people. The bays and valleys of these areas were known as Nā Hono a Pi'ikea, much like the term Nā Hono a Pi'ilani . The saying meant the valleys and bays of Pi'ikea, sister of Pi'ilani. The Western portion of Maui is commonly referred to as the bays and valleys of Pi'ilani. However, in the Wailuku district, Pi'ilani's sister, Pi'ikea, claimed this portion.

Today, Wailuku is a fast changing society, even much different from its scene ten years ago. The area is largely residential and commercial properties. The water that once furnished all of Wailuku seldom flows through its streams, if it has not been filled in yet. Much of the water and

its sources has fallen victim to the Sugar Cane Era and the Golf Course Era. Many of the culturally significant sights, such as heiau and ahu, no longer exist due to these two eras. During these periods much of the land was cleared for sugarcane or golf course use as well as the abundant residential and commercial properties that exist to this day.

The term "aloha 'āina," was best shown in the Wailuku ahupua'a. 'Āina means land and Aloha generally means love, however always implies a relationship of reciprocity. In simple terms aloha 'āina means that you take care of the land and the land will reciprocate the favor. Wailuku's abundance of water helped in this process for the land to take care of Wailuku's people. The native vegetation that grew in the Wailuku district was filled with many common indigenous native introduced plants and endemic plants. However, none could have been more common than the terraces of lo'i kalo. No amount of emphasis can portray the importance of kalo in the lives of Hawaiians.

One essential plant used to construct thatched homes was the Pili grass (*heterogon contortus*). This grass was also quite common in these areas because of the arid climate conditions in near the Kahului coastline. Pili liked to grow in arid and dusty conditions. This grass was useful to Hawaiians by bunching dried clumps of grass to create a waterproofed house.

A well-known tree that grew in the uplands of Wailuku is the sandalwood (*Santalum freyecinetianum*), known in Hawaiian as 'Iliahi. The wood was traditionally used to scent kappa cloth. It was sometimes used to make 'ukeke, a musical bow, the only traditional Hawaiian stringed instrument. The leaves and wood of the sandalwood trees were also medicinally used, often in combination with 'awa and other woods.

Common to the Wailuku area was 'Iliahi's bastard. The naio (*myoporum sandwicense*) tree was the bastard sandalwood tree. This native tree had a hard, dark yellow green wood, scented like sandalwood. The leaves are narrow-oblong, pointed, grouped at the branch ends. The flowers are small, pink and/or white. This tree bears a small, white, round fruit.

Much of the ground cover near the coastal line was Pā'ū 'O Hi'iaka (*Jacquemontia Ovalifolia*). This was a ground-covering vine with abundant tubular flowers that range in color from light blue, purple, to white. This plant did not need much water, which in turn made the coastal lines and its surrounding areas a perfect place of growth for this plant.

While Hawaiians of the past used Pā'ū 'O Hi'iaka for curing keiki (children) of ea (thrush, a mouth disease), this plant is better known for the mo'olelo or story that explains its name. Long ago, Pele, volcano goddess, took her youngest sister, Hi'iaka, to the ocean. As Pele was out amongst the waves fishing, or some say surfing, the sun climbed higher and hotter in the sky. Meanwhile, Hi'iaka waited patiently on the shoreline for her sister. A plant near Hi'iaka, seeing that the sun's merciless rays were burning the keiki's tender young skin, took pity upon Hi'iaka and extended its vine branches to shield her. When Pele returned and saw that she was protected by the plant. In gratitude, Pele gave the plant its name, Pā'ū (skirt) o Hi'iaka (of Hi'iaka, my baby sister).

Another blossoming plant that may have resided in this area is the 'a'ali'i (*Dodonaca Viscosa*) bush. This hard wood native shrub is indigenous to the islands. This plant also grows well in

dryer climates. Ranging in heights of one to thirty feet, this shrub to tree is found growing in elevations up to 8,000 feet and wind swept open country. In today's day and age, 'a'ali'i is being used to reforest the island of Kaho'olawe. This island's water plate is cracked in half from missile testing by the U.S government in the late 1960's and '70's. Kaho'olawe is not able to retain water because of the cracked water plate, yet the 'a'ali'i is doing well in growing and flourishing on the island.

Another plant that grew in the area is called Huehue (*cocculus trilobus*) or 'Inalua. This plant produced an extremely purple berry, which when collected and smashed would be used to dye kappa (bark cloth made from the wauke tree- *broussonetia papyrifera*) with colors ranging from a deep dark purple hue to a light periwinkle.
Native trees of these areas would have been the Hau (*Hibiscus tiliaceus*), Loulu (*Pritchardia*), Kukui (*Aleurites moluccana* – candle nut tree: as can be seen growing on the ridges of Kahalawai).

Impacts and Mitigation – Based on the documentary research, there were no previously identified historic properties located within the project area. No specific documentation was found regarding, *iwi* (ancestral remains) in the project area. However, the cultural and historical setting of the project area indicates that there may be possible discovery of archaeological sites related to native Hawaiian cultural practices associated with settlement as well as historic sites related to agricultural practice during the course of development. The establishment of the burial laws (specifically the State of Hawai'i burial laws (1990), should be used to facilitate a process that provides a guideline for agencies and communities to derive an appropriate plan of action in the preparation and preservation of ancestral remains.

It is also highly recommended that native plants that are compatible to the surroundings should be used where possible for the proposed project.

Based on the interviews, the absence of cultural remains in the project area due to extensive previous disturbances of the site from sugarcane plantation and cattle grazing activities, no negative impacts are anticipated. The proposed developments will likely have "no effect" on significant cultural resources.

3.13 SOCIO-ECONOMIC CHARACTERISTICS

Existing Conditions – The estimated resident population for the island of Maui to grow from 129,471 in 2005 to 186,254 in 2030 (Draft Maui County 2030 General Plan Update, 2009). For the Wailuku-Kahului Community Plan region, the estimated year 2000 population was 41,503. The region's population is estimated to increase to 60,877 by the year 2020 (Maui County Planning Department, 2006). A mix of activities employs Wailuku residents ranging from service industries, agriculture, commercial, and government sector. Overall, Wailuku exhibits a higher proportion of service, trade, and government sector as Wailuku is the Island's center of governmental activity. With continued growth projected for the Maui County, as forecasted by the Department of Business Economic Development and Tourism, demands for education facilities within Wailuku District will likely grow.

Major public facilities located within vicinity of the proposed site include Wailuku Elementary School, Lihikai Elementary School, Kahului Elementary School, Waihee Elementary School, Wailuku Public Library, Maui County Police Department, Wailuku Fire Station, Maui Memory Medical Center, Wailuku War Memorial Park and Center, Wailuku Civic Center, Wells Park, Mokuhau Park, Maui Memorial Park, Keopuolani Park, and Maui Zoological and Botanical Gardens. Other private educational facilities located in Waimea include St. Anthony Grade School, Emanuel Lutheran School, Victory Christian Acdemy, and Isaiah Academy for Excellence.

Impacts and Mitigation – The project will create short-term benefits as a result of design and construction employment. The project will create jobs for local construction personnel. Local material suppliers and retail businesses can also be expected to benefit through a multiplier effect from the increased construction activities.

The principal socio-economic impact of the proposed project will be the creation of a public school which will provide educational services and community-gathering facilities. Long-term benefits of the proposed project will also include jobs for education instruction and administration. In addition to the creation of jobs, the State of Hawai'i and County of Maui will receive excise tax revenues on finished development and building materials, conveyance taxes, and income taxes on wages. The socio-economic impacts will be positive for the local community, as well as the City and State. No specific socio-economic mitigation actions are recommended.

3.14 VISUAL RESOURCES

Existing Conditions – The project site is located on vacant land in the center of Kehalani Mauka, a planned residential community. The existing views consist of the open space and West Maui Mountains to the west, open space to the north and south, and the surrounding residential neighborhood, Kahului Harbor, and Haleakala to the east *(Figures 3-4, 3-5, 3-6, and 3-7)*. The project site does not lie within a designated scenic corridor.

Impacts and Mitigation – The project scale and design will not significantly impact area views, views. Landscaping will be used to improve the visual character of the project site, along with building design incorporated with the surrounding environment. The elementary school will be designed in a cluster concept with mostly single story structures. The new complex will result in a beautifully designed elementary school campus, which will be a visual amenity to the community.

Figure 3-4: Existing Views to the South

Figure 3-5: Existing Views to the West

Figure 3-6: Existing Views to the East

Figure 3-7: Existing Views to the North

3.15 UTILITIES

Water System: Domestic water for the Wailuku-Kahului region is provided by the Department of Water Supply (DWS)'s Central Maui System. ʻĪao Aquifer is the major source of water for this system. This well draws from the ʻĪao basal groundwater aquifer, which is already producing up to its recommended sustainable yield. Therefore, it will not contribute additional new sustained water source capability to the DWS system (*Department of Water Supply, Draft Water Use and Development Plan 2009*). The project site currently has no existing domestic water service. DOE is currently working with the Department of Water Supply to identify potential water sources for the project. The County of Maui has been aware of and supportive of the proposed school project. Therefore, the Applicant is confident that water will be made available to the project.

An existing 12-inch ductile iron distribution waterline and 16-inch ductile iron transmission waterline are located within Kehalani Mauka Parkway fronting the site. An existing 12-inch waterline stub-out connection has been installed at the northeastern corner of the project site and a future 12-inch waterline is planned to run along the northern boundary within the existing 25 ft. wide utility easement "E-12" and service future mauka developments by Kehalani Mauka LLC. There are four (4) existing fire hydrants fronting the site along Kehalani Mauka Parkway.

Impacts and Mitigation – Onsite water system improvements will include a domestic water system, fire line system, and an irrigation system. The domestic system consists of a water meter, reduced pressure backflow preventer, and copper and ductile iron waterlines. The fire line system consists of a 10-inch double detector check assembly, fire hydrants and 12-inch ductile iron fire lines. Fire department connections will also be installed to supplement the project's fire system as most buildings within the project will have a fire sprinkler system. The proposed domestic water, fire, and irrigation meter lateral will connect to the existing 12-inch distribution waterline within Kehalani Mauka Parkway at the northeast corner of the site.

Per DWS's comment letter dated December 30, 2009, a temporary construction meter will not be issued for any Central Maui project. Non-potable water will be used for allowable construction activities. Reclaimable water from Kahului and Kihei Wastewater Treatment Plant and water from Waihe'e Ditch have been identified as possible sources for non-potable water. The use of reclaimable/non-potable water for construction dust control and will comply with applicable State Department of Health regulations.

Preliminary domestic water contributions are calculated at approximately 31,958 gallons per day (gpd), which is the average daily demand for domestic and irrigation use. Refer to *Appendix B of Appendix E* for preliminary water demand calculations. Fire hydrants are required to be installed at a maximum of 250 ft. intervals within the site.

Required fire flow within the project site is 2,000 gallons per minute (gpm) for duration of two hours, and fire hydrants are required to be installed at a maximum of 250 ft. intervals.

The proposed project will comply with the Hawai'i Administrative Rules (HAR) Chapters 11-54 and 11-55. This project will incorporate water efficient technology and design, and appropriate

vegetation and landscaping to moderate water irrigation demands. Low-flow water conserving fixtures will be used and ground cover which does not require irrigation will be used in large quantities. Appropriate native Hawaiian and Polynesian-introduced plants will be used where practicable where they do not raise safety and maintenance concerns. This follows recommendations in the Maui County Planting Plan for Plant Zone 4. Automated irrigation controllers will be equipped with rain-sensors or similar devices that allow real-time adjustments to the irrigation schedule based on hourly weather information.

Wastewater: The project site currently generates no wastewater flow. An existing 12-inch sewerline runs along Kehalani Mauka Parkway fronting the site. There are also two existing 8-inch sewer stub-outs to the site. One stubout is located at the northeastern corner of the site and a future 8-inch sewerline will run within existing easement "E-12" along the northern boundary of the site and service future mauka developments. The second 8-inch sewer stub-out is located at the southeastern corner of the site and will serve as the primary sewer connection point for the school. Wastewater from the project will be treated at the Kahului Wastewater Treatment Facility.

Impacts and Mitigation – An onsite sewer system will be installed to provide wastewater collection service to all proposed buildings. The collected sewage will be routed via gravity flow to the existing 8-inch sewer line stub-out at the southeastern portion of the site. This line connects to the 12-inch sewer line within Kehalani Mauka Parkway and is eventually treated at the Kahului Wastewater Treatment Facility. Preliminary wastewater contributions are calculated at approximately 9,435 gpd (average daily demand). Refer to *Appendix C of Appendix E* for preliminary wastewater contribution calculations.

Electrical, Telephone, and Cable Television Systems: Electrical power on the Island of Maui is provided by Maui Electric Company (MECo). Telephone and cable services for the project vicinity is provided by Hawaiian Tel (HTel), and Oceanic Time Warner Cable, respectively. Underground electrical, telephone, and cable lines are located along Kehalani Parkway and Kuikahi Drive.

Impacts and Mitigation – Since the project site is currently undeveloped, utilities will need to be brought on site. Electrical, telephone, and cable television transmission lines will be installed underground and connect with existing system on Kehalani Parkway. According to MECo, there is sufficient capacity to service the school. This project will likely use green/climate appropriate architecture incorporating energy efficient technology and design, and appropriate vegetation and landscaping to moderate climatic effects.

Solid Waste: Solid waste generated in Central Maui is disposed of at Central Maui Sanitary Landfill in Pu'unēnē, situated approximately six miles from the project area, or four miles southeast of Kahului airport. Recycling facility is also located in the landfill facility.

Impacts and Mitigation – Solid waste from construction activities are anticipated to have no significant short-term impacts on the existing solid waste collection and disposal system or the environment. There will be no demolition waste, as the property is currently undeveloped. The majority of pre-construction waste will be green waste from site clearing. Green waste will be recycled. The nature of the waste that will be generated by the construction of the proposed

school will be minimized by emphasizing full use of materials and recycling, and proper disposal of all solid waste will be specified.

After build-out, solid waste generated by operation activities on site will be collected and disposed at approved County solid waste disposal facilities. Recycling of solid wastes will be accommodated and implemented to the extent practicable. Composting of green waste will be encouraged and landscape maintenance will recycle as much as possible. Solid waste systems will be designed to comply with the applicable DOH and County requirements.

Drainage: The existing onsite storm water runoff generally flows in an easterly direction, through the project site and into the existing Kehalani Mauka Parkway drainage system. The Kehalani Mauka Parkway drainage system fronting the site consists of 24-inch and 36-inch drainpipes with 2 ft. curb/gutter and catch basins. There are two existing drain stub-outs to the site. The first stub-out consists of a 24-inch drainpipe and is located at the northeast corner of the site. A future drainline will run within easement "E-12" along the northern boundary of the site and service future mauka developments. The second stub-out consists of a 30-inch drainpipe and is located near the southeastern corner of the site. This stub-out will serve as the primary drainline connection point for the school.

There is existing runoff generated mauka of the project site, however, a portion of this runoff is currently intercepted by Waihe'e Ditch which meanders above and within the western boundary of the project. There are plans to construct temporary diversion ditches to the west of the project site when the existing Waihee ditch within the project site is removed. Per the Kehalani Drainage Master Plan, the diversion ditches are designed to intercept a large majority of the runoff before it enters the school site. When the properties mauka of the project site are developed with their own permanent drainage system, the temporary diversion ditches will be removed. An underground 60-inch drainpipe to the west of the site will be constructed to convey existing irrigation water through Waihee ditch. Construction of the temporary diversion ditches and 60-inch drainpipe will be constructed "by others" and are scheduled to be completed before construction of the school starts.

The Kehalani Master Plan drainage design makes provisions to intercept proposed runoff generated by developments within the Kehalani Community. The large 490 ac-ft Waikapu Retention Basin serves as the main retention area for the Kehalani Community and is designed to completely retain the increase in runoff per Maui County Standards. While no outflow is expected, an emergency overflow is provided and connects to Waikapu Stream.

Pre-development onsite runoff is estimated to be approximately 22.04 cubic feet per second (cfs), based on a 50-year/1-hour storm recurrence interval. The existing mauka offsite runoff is estimated to be 4.77 cfs, based on a 50-year/1-hour storm recurrence interval. Refer to *Appendix A of Appendix E* for preliminary hydrology calculations.

Per County of Maui Department of Water Supply (DWS)'s preconsultation letter dated December 30, 2009 the entire project site is within the two-year time of travel wellhead protection area (WHPA) of DWS sources overlying the ʻĪao aquifer.

Impacts and Mitigation – The Rational Method is used to determine stormwater runoff quantities for drainage areas less than 100 acres, based on a 50-year/1-hour storm. The proposed onsite drainage system will be designed to manage the 50-year/1-hour storm runoff from onsite and offsite drainage areas. Post-development onsite runoff for a 50-year/1-hour storm is calculated at 53.69 cfs, which is an increase of 31.65 cfs over existing conditions. The increase in runoff has been accounted for in the Kehalani Drainage Master Plan and will be retained in the offsite Waikapu Retention Basin.

The proposed drainage system improvements will include grated drain inlets, catch basins, area drains, manholes, underground drain lines, and water quality treatment systems. Runoff on the school grounds will be collected by drain inlets, catch basins, area drains, or swales and conveyed to the existing drainage system along Kehalani Mauka Parkway which eventually carries the flows to the Waikapu Retention Basin. A small portion of offsite runoff, calculated to be 4.77 cfs from the west is anticipated to enter the project site. The proposed onsite drainage system will be designed to accommodate these flows.

The State of Hawaii Department of Education has also indicated interest in making the project a Leadership in Energy and Environmental Design (LEED) Silver certified project. As such, the project will be designed to meet storm water quality measures. LEED projects are designed to minimize environmental impacts and ensure that development is done in a sustainable manner.

The following Best Management Practices (BPMs) to minimize infiltration and runoff will be implemented during construction:

- Designate a person on site during operating hours who will be responsible for supervising the use, storage, and handling of hazardous materials and take appropriate mitigation actions necessary in the event of a fire or spill
- Hazardous materials left on site when the site is unsupervised will be inaccessible to the public by the use of locked storage sheds, locked fencing, locked fuel tanks on construction vehicles or other techniques
- Construction vehicles and stationary equipment that are that are found to be leaking fuel, hydraulic fluid, and/or other hazardous materials will be removed from the site and from Well Head Protection area. If the vehicle/equipment is to be repaired in place, the leakage will be completely contained
- Storage and dispensing of flammable and combustible liquids from tanks, containers, and tank vehicles into the fuel and fluid reservoirs of construction vehicles or stationary equipment on the construction site will be in accordance with these standards and County Fire Code Chapter 16.04A
- Hazardous materials and other deleterious substances will not be allowed to enter stormwater systems.

3.16 ROADWAYS AND TRAFFIC

Existing Conditions – As part of this project, a traffic impact analysis was completed by AECOM (2009) (*Appendix F*). The school is scheduled to open for the 2012-2013 school year and reach its full occupancy of 550 students in the 2015-2016 school year. For this reason, the year

2015 was used as the forecast year for this study. This traffic analysis evaluated existing traffic operations, trip generation characteristics of the proposed project, analysis of the Year 2015 traffic conditions without the proposed project, identification and analysis of traffic impacts resulting from the proposed project, and recommendations.

Two roadways provide access to the Kehalani Mauka subdivision. The Kehalani Mauka Parkway provides direct access into the subdivision from Honoapiilani Highway and becomes a loop collector roadway within the subdivision. Kuikahi Drive intersects Honoapiilani Highway about a quarter mile south of Kehalani Parkway and goes mauka (westbound) to the Wailuku Heights subdivision. The Kehalani Mauka Parkway intersects Kuikahi Drive about a half mile mauka of Honoapiilani Highway and provides a second access route into the subdivision. The following intersections were selected for analysis in this study:

- Honoapiilani Highway and Kehalani Parkway
- Honoapiilani Highway and Kuikahi Drive
- Honoapiilani Highway and Waiko Drive
- Waiale Drive and Olomea Street
- Waiale Drive and Kuikahi Drive
- Waiale Drive and Waiko Drive
- Kuikahi Drive and Kehalani Parkway
- Kuikahi Drive and Alu Street Street

The locations of these intersections are identified in *Figure 3-8* in relationship to the project site.

Honoapiilani Highway is a two-lane primary arterial highway that connects West Maui to the Central Valley area. It is identified as Route 30 and is under the jurisdiction of the State of Hawai'i Department of Transportation (HDOT). The major intersections on this highway within the study area are signalized and have separate turning lanes. The roadway becomes a major collector road named High Street, and provides access to the government and commercial areas of Wailuku. The posted speed limit is 35 miles per hour (mph) through the study area with a section between Kuikahi Drive and Pilikana Street posted at 45 mph. The Maui Long Range Land Transportation Plan, prepared by Kaku Associates, Inc., (February 1997) deemphasizes the segment of Honoapiilani Highway between the Kuihelani Highway junction and Wailuku. The four lane Kuihelani Highway is identified as the arterial to handle regional traffic between Central and West Maui.

Waiale Drive is a two lane lane collector roadway that parallels Honoapiilani Highway on the east side between Waiko Drive and Kaahumanu Avenue. It serves existing developments along its route and provides another access route to Wailuku Town and Lower Main Street.

Kuikahi Drive is a two lane collector roadway aligned on an east-west orientation and intersects Honoapiilani Highway and Waiale Drive at right angles. West of Honoapiilani Highway it provides access to the Wailuku Heights subdivision and a second route to the Kehalani Mauka subdivision. It serves as a connecting link on the Honoapiilani Highwy-Kuikahi Drive-Waiale Drive route. Kuikahi Drive is being extended eastward from Waiale Drive as part of a new development project.

Kehalani Parkway serves as a collector roadway for the Makai and Mauka sections of the Kehalani Subdivision. The roadway section makai of the highway is named Kehalani Makai Parkway and serves the completed Makai subdivision. It terminates at the north-south aligned Kamole Street. Continued access to Waiale Drive is provided by Olomea Street and Kaupo Street. The mauka roadway section named Kehalani Mauka Parkway would be completed as the Mauka subdivision is completed. It is designed as a loop that will eventually connect with Kuikahi Drive about a half mile mauka of Honoapiilani Highway.

Waiko Drive is a two lane collector roadway on a east-west orientation about one and a quarter mile south of Kuikahi Drive. The mauka roadway serves the older Waikapu residential community while the makai roadway serves industrial uses on its route to the Kuihelani Highway.

Alu Drive is a two lane local street through the Wailuku Heights subdivision and provides a second route into Wailuku town.

The three study intersections on Honoapiilani Highway are controlled by traffic signals. All three intersections have separate turning lanes on the highway approaches with protected/permitted left turn movements. The traffic signal at the Kehalani Parkway intersection operates on an eight-phase timing plan while the other two intersections have simultaneous green phases for the side streets. The remaining study intersections not on the highway are stop controlled. All but one has stop signs on their minor street approaches. The Kuikahi Drive/Waiale Drive intersection is currently an all (three) way stop and is being improved to add traffic signals and a fourth approach for the Maui Lani 100 VMX project.

The Statewide Transportation Improvement Program (STIP) for FY 2008 thru 2013 does not list any roadway improvements in the study areas.

The peak morning direction of traffic flow on Honoapiilani Highway is toward Wailuku at Kehalani Parkway and toward West Maui at Waiko Drive. The afternoon traffic flow is toward Wailuku. There is a strong travel pattern from Honoapiilani Highway to Kuikahi Drive to Waiale Drive in both directions in both peak hours, creating high turning volumes at these intersections. The traffic volumes on Waiale Drive are higher than those on the highway.

Traffic counts were taken at the same study intersections in May 2007 for an earlier study. Comparison of the two sets of traffic counts shows that traffic on Honoapiilani Highway has remained stable or decreased in the two year period for two reasons. Traffic decreases have been noted on other highways in the State during the current economic downturn. Traffic volumes have also decreased on the highway and increased on Waiale Drive as more commuters utilize Waiale Drive to access Wailuku Town. Traffic volumes into and out of the Kehalani Mauka subdivision has increased on Kehalani Parkway and Kuikahi Drive with the growth of the mauka subdivision. Traffic volumes on Waiale Drive between Kuikahi Drive and Waiko Drive have also increased with the completion and occupancy of the Waikapu Gardens subdivision in the period.

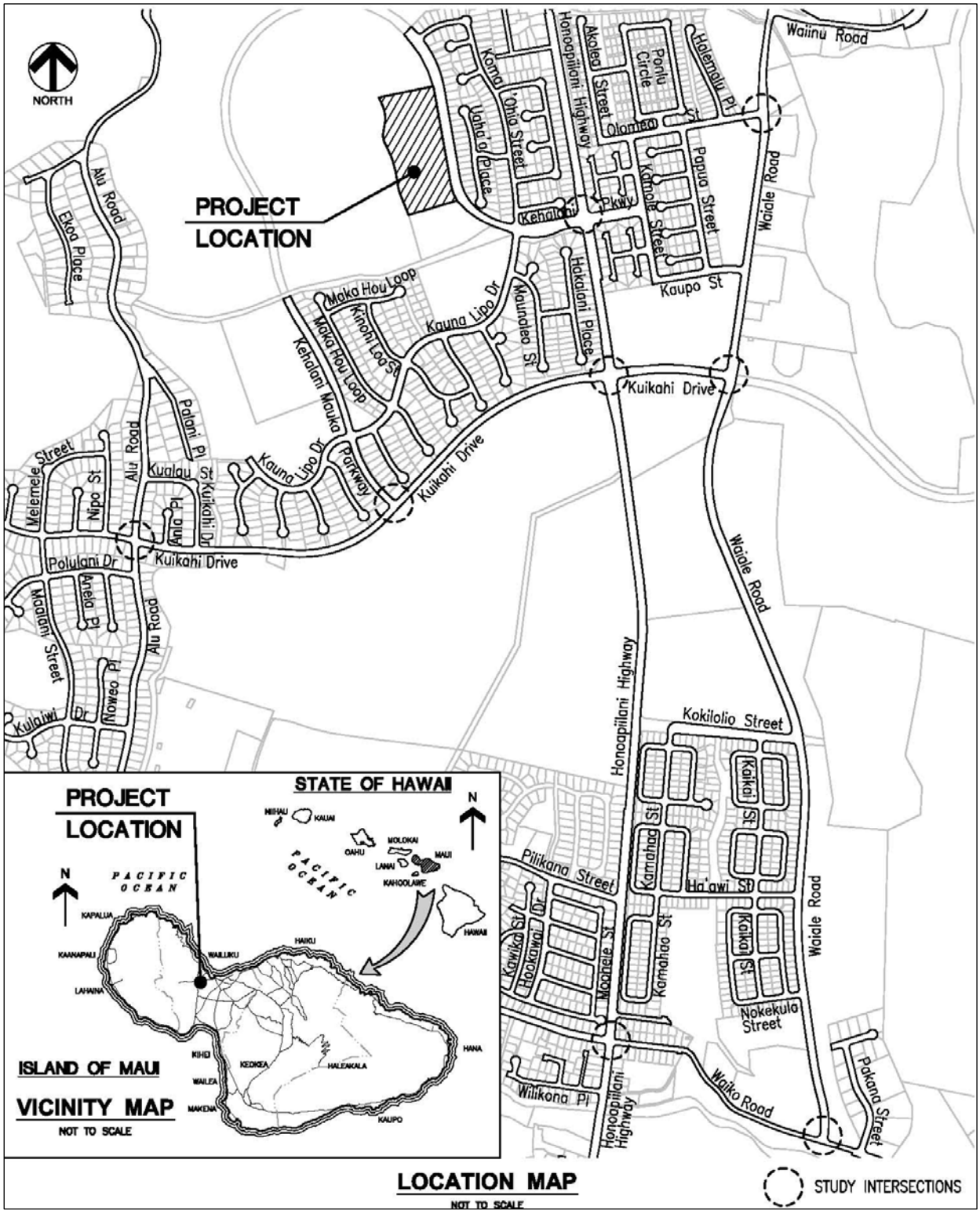

Figure 3-8: Project Site and Traffic Impact Study Intersections
(Source: AECOM 2009)

Impacts and Mitigation – As part of this project, a traffic impact analysis was completed by AECOM (2009). Traffic growth in the study area will come from regional growth in other areas whose traffic passes the project site and other projects planned in the vicinity of the proposed project. Therefore, the traffic which would be generated by these future projects was added to the estimate of regional traffic growth to obtain the ambient traffic forecast. Several projects are planned in the Wailuku/Kahului area including:

- The residential growth in the Kehalani Mauka subdivision
- The 180,000 sf commercial center in the Kehalani Makai subdivision
- A church school and preschool on Waiale Drive
- The Maui Lani 100 VMX/Affordable Housing Development

The forementioned Maui Long Range Land Transportation Plan forecasts an annual island wide growth rate of 1.6% in its 20 year forecast. Compounding this annual growth rate for a six year period (2009-2015) resulted in a 10.0% growth factor.

According to the study, the three signalized intersection's (Honoapiilani Highway and Kehalani Parkway, Honoapiilani Highway and Kuikahi Drive, and Honoapiilani Highway and Waiko Drive) levels of service (LOS) analysis will not change from the ambient to total with project forecasts. The Kuikahi Drive intersection will require mitigation to operate at LOS C during both peak hours - both Kuikahi Drive approaches would require separate left turn, through and right turn lanes. The Kuikahi Drive eastbound approach is forecast to operate at LOS D in both peak hours since its green phase would be shortened by the high volumes of opposing left turns. The two Waiko Drive approaches are currently operating at LOS D in the morning peak hour, and are forecast to remain so in forecast future. During the future afternoon peak the intersection is forecast to operate at LOS D due to the single lane on the Waiko Drive westbound approach. This also causes the northbound approach of Honoapiilani Highway to operate at LOS E.

The Waiale Drive/Olomea Street and Waiale Drive/Kuikahi Drive intersections (to be signalized by 2015) were also analyzed as traffic signal controlled intersections for the future ambient and total with project. With traffic signals, the Waiale Drive/Olomea Street intersection is forecast to operate at LOS C and B in morning and afternoon peak periods, respectively. Maui Lani Partners is currently improving the Waiale Drive/Kuikahi Drive intersection and installing traffic signals for their VMX project. With traffic signals, the intersection is forecast to operate at LOS C in the morning peak and at level D in the afternoon peak. Therefore, the proposed school project would not have an adverse traffic impact at both intersections.

The Levels of Service analysis for the unsignalized intersections, which include Waiale Drive and Waiko Drive, Kuikahi Drive and Kehalani Parkway, and Kuikahi Drive and South Alu Road indicate that the proposed school will not change the ambient and the total with project forecasts levels of service. The Waiale Drive approach to Waiko Drive is forecast to be operating at LOS F and E in the morning and afternoon peak hours, respectively. The Kuikahi Drive/Kehalani Parkway intersection is forecast to operate at LOS C in both peak hours. The two mauka intersections of Kuikahi Drive are forecast to be operating at LOS A and B in both peak hours.

The report concludes that the proposed elementary school project is forecast to add a small number of trips to the roadway system outside the Kehalani Mauka subdivision and would not have an adverse impact on traffic operations. The roadway system is expected to accommodate the increase in ambient traffic and school generated traffic with adequate mitigation.

Several locations were identified as needing mitigation in the future regardless of the proposed project. The report recommended mitigation measures for those locations as follow:

- Honoapiilani Highway and Waiko Drive- provide separate left turn lanes and traffic signal phases on Waiko Drive approaches.
- Honoapiilani Highway and Kuikahi Drive- provide separate left turn lanes and traffic signal phases on Kuikahi Drive approaches.
- Waiale Drive and Olomea Street- install traffic signals to mitigate long delays on Olomea Street.
- Kuikahi Drive and Waiale Drive- roadway improvements and traffic signals being installed for a new development.

During construction, the movement of construction-related vehicles may temporarily impede traffic flow on Kehalani Mauka Parkway. If necessary, phase times of the existing traffic signal at the intersection of Honoapiilani Highway and Kehalani Mauka Parkway can be modified to minimize impacts on traffic flow. To avoid traffic congestion along Kehalani Mauka Parkway from dropping off and picking up students, signs will be posted on both sides of the street fronting the school as follows "No Parking/No Stopping/No Standing".

3.17 NOISE

Existing Conditions – A traffic noise assessment was completed by Y. Ebisu and Associates (2010). The existing background ambient noise levels within the project area are relatively low and controlled by construction activities in the project area, and distant traffic and local traffic on roadways in the project area. Traffic and background ambient noise measurements were obtained in January 2010 at seven locations *(see Appendix G).* The existing traffic noise levels in the project environs along Honoapiilani Highway and Waiale Road are in the "Significant Exposure, Normally Unacceptable" category and greater than 65 Day-Night Sound Level (DNL) within 50 feet of the roadway's centerline. Along Kehalani Mauka Parkway (removed from Honoapiilani Highway), Olomea Street, and Kuikahi Drive, existing traffic noise levels are in the "Moderate Exposure, Acceptable" category at 50 feet or greater distance from the roadways' centerlines. The existing residual background noise levels at the school site were estimated to be approximately 40 dBA.

Impacts and Mitigation – No significant increases in traffic noise are predicted to occur as a result of project traffic following project build-out by CY 2015. Along Kehalani Mauka Parkway fronting the school site, traffic noise levels are expected to increase from approximately 56 to 59 DNL at 50 foot distance from the centerline in CY 2015. This 3 DNL increase is relatively small due to the present use of this roadway for access to a nearby construction site. Along Honoapiilani Highway, traffic noise levels are expected to increase by 1.1 to 2.5 DNL by CY 2015 as a result of project and non-project traffic. Along Kuikahi Drive and Waiale Road, traffic

noise levels are expected to increase by 1.2 to 3.8 DNL by CY 2015 as a result of project and non-project traffic. Project traffic will account for less than 0.4 DNL additional units of noise along Kehalani Mauka Parkway, Honoapiilani Highway, Kuikahi Drive, and Waiale Road in the immediate vicinity of the project. These levels of traffic noise increases resulting from project generated traffic are not considered to be significant. Therefore, traffic noise mitigation measures should not be required.

However, the noise from potential playground activities at the planned elementary school may be noticeable to neighboring residents. Anticipated noise levels at the closest residences to the project can be expected to reach 54-84 dBA. Locating playground equipment and playcourts as far as possible from existing residences is a noise mitigation measure which has been considered. In addition, most of the playground areas are located within the courtyards of classroom buildings, which should provide between 15 to 20 dBA of additional sound attenuation due to noise shielding effects from the buildings.

Short term impact from construction activities of the proposed project, particularly during the excavation and earth moving activities, is expected. Because construction activities are predicted to be audible within the project site and at adjoining properties, the quality of the acoustic environment may be degraded to unacceptable levels during periods of construction. The existing residences across Kehalani Mauka Parkway east of the school site are predicted to experience the highest noise levels during construction activities due to their closer proximity to the construction site. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work, and due to the administrative controls available for regulation of construction noise. The use of quiet equipment and properly muffled construction equipment should be required on the job site. Compliance with State Department of Health construction noise regulations are recommended as standard mitigation measures.

4.0
Alternatives to the Proposed Project

4.0 ALTERNATIVES TO THE PROPOSED PROJECT

Alternatives to the proposed action are addressed in this section. The potential benefits and impacts of alternative development schemes are evaluated along with the no-action alternative.

4.1 NO ACTION ALTERNATIVE

"No Action" means Wailuku II Elementary School would not be constructed. Instead, Kehalani Mauka, LLC, would retain ownership of the parcel and may use it for other purposes. The No Action alternative would not provide the additional elementary school capacity that DOE forecasts have identified for Central Maui region, and therefore would not meet the objectives of the proposed action. The "No Action" alternative is addressed in this EA as required by Chapter 343 and HAR §11-200. It also provides a baseline against which to measure the environment and social impacts of the proposed action. The "No Action" alternative would not create site construction impacts such as grading, vegetation disturbance, wildlife disturbance, traffic, noise and air emissions. Beneficial aspects of the project will also not be created, such as construction expenditure, construction employment, and related government revenues.

4.2 ALTERNATIVE SITES

The original school site, approved as part of the 1992 Phase II Project District Land Use Plan, was located to the south of the previous approved Kehalani Parkway alignment. Due to its location adjacent to the Parkway, the anticipated noise, traffic, and pedestrian safety concerns prompted the developer to relocate the school site to the current location. Also, the location of the original site was not centrally located and only connected to the residential community on one side and was not linked by a bike/pedestrian way. Therefore, the original site was not easily accessible from residential neighborhoods by foot/bike, and would not offer visibility and safety as the current site. Locating the school on the previously approved site would not be a desirable option. The environmental impacts at the alternative site in Kehalani Mauka would be greater than the proposed action.

4.3 ACTIONS OF A DIFFERENT NATURE PROVIDING SIMILAR BENEFITS

There are actions of a different nature that could potentially provide educational system benefits in comparison to the new Wailuku II Elementary School. Existing public elementary schools in the region could be temporarily supported with temporary portable facilities and affiliated staff to accommodate anticipated increased enrollment. Vouchers to private schools program would not increase the available classroom spaces. However, private schools would also need to provide suitable excess space to accommodate the projected enrollment demands. Increasing the enrollment at existing public and private schools in the Wailuku region is not a desirable option. For these schools, there will be economic cost of providing for the surge in enrollment. Depending on the location, the potential environmental impacts as a result of the permanent improvements to support the expanded enrollment could be similar or greater than the proposed action.

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5.0
Plans and Policies

5.0 PLANS AND POLICIES

The proposed action for development of a new elementary school may conform or conflict with established land use plans, policies and controls for the affected area. Conformance of the proposed project with State and County plans and public management strategies is also discussed in this section.

5.1 HAWAI'I STATE PLAN

Chapter 226 Hawai'i Revised Statutes is the basis of the Hawai'i State Plan, a long-term comprehensive plan that guides development through establishment of goals, objectives, policies, priorities and implementation measures. It is the goal of the Hawai'i State Plan, to achieve the following:

- A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.
- A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.
- Physical, social, and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life (Chapter 226-4, HRS).

The objectives and policies of the State Plan that are relevant to the Wailuku II Elementary School project are discussed below.

5.1.1 Population

The objectives for planning for the State's population include increasing and diversifying employment opportunities to provide a better economic quality of life for Hawai'i's people. It is also the objective of the State to manage population growth, increase socio-economic opportunity for Hawai'i's population, increase awareness regarding Hawai'i's limited capacity to accommodate population needs, balance growth of immigrant populations and pursue federal assistance. It is the policy of the State to:

- Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area. (Chapter 226-5, HRS).

The Wailuku II Elementary School project is consistent with the State's goals to develop land resources to meet the level of growth in the Central Maui region. Development of the land will provide necessary educational services to population in the region.

5.1.2 Economy: General

The objectives for planning the State's economy include increasing and diversifying employment opportunities to provide a better economic quality of life for Hawai'i's people. It is also the objective of the State to create a diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands. It is the policy of the State to:

- Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular (Chapter 226-6, HRS).

Wailuku II Elementary School is part of an educational system that will prepare Maui residents for future job markets. Without proper fundamental education, Maui residents would be unable to compete with other areas and the economy would stagnate. The school facilities can also facilitate public-private partnership in job trainings programs and curriculum planning. Development of the school will also provide short-term construction employment and expenditures.

5.1.3 Socio-Cultural Advancement: Education

Planning for the State's socio-cultural advancement with regard to education shall be directed towards provision of a variety of educational opportunities. It is the policy of the State to:

- Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.
- Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.
- Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning (Chapter 226-6, HRS).

The new elementary school project will directly support the educational policies of the State through provision of educational and recreational facilities.

5.1.4 Physical Environment: Land Based, Shoreline & Marine Resources

It is the objective of the State to make prudent use of Hawai'i's land-based, shoreline, and marine resources as well as to establish effective measures to protect Hawai'i's unique and fragile environmental resources. It is the policy of the State to:

- Exercise an overall conservation ethic in the use of Hawai'i's natural resources.
- Take into account the physical attributes of areas when planning and designing activities and facilities.
- Pursue compatible relationships among activities, facilities, and natural resources (Chapter 226-11, HRS).

The project will be designed to include environmental preservation and energy conservation measures in accordance with the USGBC's LEED for Schools certification requirements.

5.2 HAWAI'I STATE FUNCTIONAL PLANS

The Hawai'i State Plan is further defined by twelve State Functional Plans. While the Hawai'i State Plan establishes long-term objectives for Hawai'i, the Functional Plans further define the State Plan by identifying major statewide concerns, defining current strategies for the functional area, and providing strategies for departmental policies, programs, and priorities. The twelve areas addressed by the plans are: agriculture, conservation lands, employment, energy, health, higher education, historic preservation, housing, recreation, tourism, transportation and water resources development.

The State Education Function Plan is guided by the Board of Education directives and the programs of the State Department of Education. The following categories are addressed in the plan: academic excellence, basic skills, education workforce, facilities and services, alternatives for funding and delivery, autonomy and flexibility, increased use of technology, personal development, students with special needs, early childhood education, Hawai'i's cultural heritage, research programs and communication activities.

Objective A(4): Services and Facilities.
Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

The proposed project will directly meet this objective through provision of accessible educational facilities and services to Wailuku students as well as providing a gathering place for the community and a venue for community events.

5.3 HAWAI'I ADMINISTRATIVE RULES, CHAPTER 15-15, LAND USE COMMISSION RULES

Hawai'i Administrative Rules, Title 15, Subtitle 3 State Land Use Commission, Chapter 15 Land Use Commission Rules provides for the establishment of State Land Use Districts. The project site is currently designated Urban. Section 15-15-18 sets forth the following standards for determining "U" or Urban district boundaries (paraphrased).

- Bounded by lands characterized by "city-like" concentrations of people, structures, services and infrastructure.
- Availability to basic services such as schools and parks.
- Satisfactory location free from flood zones and other adverse environmental effects.
- Contiguous with existing urban areas.
- Land in appropriate locations for new urban concentrations, such as designated urban growth areas on the County General Plan.
- Land that will not contribute to scattered urbanization patterns.

The project site meets the standards of HAR Section 15-15-18 as it is adjacent to existing "city-like" development, services and infrastructure. The site is designated for development as a Project District in the County's Wailuku-Kahului Community plan and designated for a future elementary school in the County's Draft Maui Island Plan Public Facility/Infrastructure Improvements Map (February 25, 2009). Project lands will not contribute to scattered development and are not located within a flood zone.

5.4 COASTAL ZONE MANAGEMENT PROGRAM

In 1972, the Federal government enacted the Coastal Zone Management (CZM) Act to protect and preserve the natural resources, land and water uses of the coastal zone. This process is achieved by providing assistance to coastal states, to develop and manage Coastal Management Programs. Implementing authority for the Federal CZM Program (Public Law 104-150, as amended in 1996) has been delegated to the State of Hawai'i under Chapter 205A, HRS.

The proposed project area is not designated, nor located within a Special Management Area as delineated by the County of Maui. Therefore, the project is not subject to Chapter 205A, HRS.

5.5 COUNTY OF MAUI GENERAL PLAN

The General Plan for the County of Maui was last adopted in 1980, and has been subsequently updated, most recently in 1990. The purpose of the General Plan is to recognize and state the major problems and opportunities concerning the needs and the development of the County and the social, economic, and environmental effects of such development. The Plan seeks to guide the sequence, patterns and characteristics of Maui County development.

The Maui County General Plan is guided by five major themes: 1) Protect Maui County's agricultural land and rural identity; 2)Prepare a directed and managed growth plan; 3) Protect Maui County's shoreline and limit visitor industry growth; 4) Maintain a viable economy that offers diverse employment opportunities for residents; and 5) Provide for needed resident housing. The proposed project is supportive of Theme No. 2: Prepare a Directed and Managed Growth Plan. This theme supports quality of life for residents through balancing growth demands with provision of human services and physical infrastructure.

The project is relevant to the following applicable policies and objectives defined in the Maui County General Plan:

I. A. Population

Objective 1
To plan the growth of resident and visitor population through a directed and managed growth plan so as to avoid social, economic and environmental disruptions.

Policy 1b
Balance population growth by achieving concurrency between the resident employee work force, the job inventory created by new industries, affordable resident/employee housing,

constraints on the environment and its natural resources, public and private infrastructure, and essential social services such as schools, hospitals, etc.

II. B. Visitor Industry

Policy 4a
Cooperate with the State Department of Education and the University of Hawaii to provide educational and training facilities to residents employed in the visitor industry.

IV. D. Energy

Objective 1
To make Maui County more self-sufficient in its need for non-renewable energy and more efficient in its use of energy.

Policy 1e
Seek to incorporate energy-saving building design concepts and devices in government buildings.

V. B. Recreation and Open Space

Objective 1
To provide high quality recreational facilities to meet present and future needs of our residents of all ages and physical ability.

Policy 1d
Develop facilities that will meet the different recreational needs of the various communities.

Objective 2
To provide a wide range of recreational, cultural and traditional opportunities for all our people.

Policy 2h
Support Federal, State and County and community initiatives to preserve open space, expand recreational facilities and provide after school programs for youth.

The proposed project demonstrates overall support to the applicable plans and policies of the Maui General Plan. It will contribute to managed growth by providing essential public services to a growing community. The multipurpose facility at the school will be available for community uses and a place that could accommodate educational programs that address the needs of the greater community. Emphasis on sustainable building practices and energy consumption will be given through conformance to the LEED Silver certification standards. The project will also provide numerous recreational facilities for elementary school students.

5.6 COUNTY OF MAUI GENERAL PLAN 2030 (DRAFT)

The County of Maui Department of Planning has been in the process of updating its General Plan. The General Plan 2030 initiative has put forth that the Countywide Policy Plan, Maui

Island Plan and Community Plans will comprise the future General Plan which will guide future growth and policy creation in the County. Currently (December 2009), draft versions of the Countywide Policy Plan and the Maui Island Plan are available for review. The proposed project will be evaluated further with respect to these Draft Countywide Policy Plan and Draft Maui Island Plan in the FEA. Evaluation of the project with respect to the adopted Wailuku-Kahului Community Plan is provided below.

5.7 WAILUKU-KAHULUI COMMUNITY PLAN

The Wailuku-Kahului Community Plan (March 6, 1998) is one of nine community plans for Maui County. The Plan advances planning goals, objectives, policies and implementation considerations to guide decision-making within the Wailuku-Kahului region through the year 2010. The Plan is based on three key planning themes, 1) Provision of needed public facilities and infrastructure, 2) Preservation and enhancement of significant natural resources, and 3) Enhancement of neighborhoods. The Plan identifies the need for an elementary school as a regional problem. The proposed project supports the following applicable goals, objectives, policies, and implementing actions set forth in the Wailuku-Kahului Community Plan:

Land Use

- Establish a site for future higher educational institution north of the research and technology park project district.

Housing and Urban Design

- Provide landscaped buffer areas between Pi'ilani Highway and adjacent communities to mitigate highway noise and to reduce the visual impact of development. Both Pi'ilani Highway and South Wailuku Road shall be landscaped to achieve a parkway character.

Physical and Social Infrastructure: Education

- Require the delivery of quality educational facilities at the time such facilities are needed. Emphasize advanced planning so that school facilities such as classrooms, playgrounds, libraries, cafeterias, and other appurtenant structures are delivered in a timely manner so as to eliminate the use of portable facilities.
- Build a elementary school to serve the Wailuku region when required to accommodate growth.
- Plan and locate a site for an elementary school to serve the Wailuku region.

The project area is located in the Wailuku-Kahului Community Plan region, which is one of nine Community Plan region established in the County of Maui. Community Plans provide specific recommendations to address General Plan goals, objectives and policies. Both the General Plan and Community Plans guide government action and decision-making. The updated Wailuku-Kahului Community Plan was adopted by the County Council through Ordinance 3061 in May 2002.

The Wailuku-Kahului Community Plan designates the project area within Project District 3 area. According to the Plan, the project district shall provide units of all types, including affordable housing, an easily accessible neighborhood commercial center of at least 20 acres, a continuous system of parks and open space areas which would include pedestrian ways and

green belts with buffer zones along the highway, and public use areas to accommodate a school, park, and any other public facilities that may be required. The 2002 Community Plan recommended a spatial allocation of 10 acres for an elementary school.

The Wailuku-Kahului Community Plan also identifies major problems and opportunities for the region, which provide the underlying basis for the Plan's goals, objectives and policies. The following issues are applicable to the proposed science building project.

1.a. AIRPORTS AND HARBOR FACILITIES AND OTHER PUBLIC FACILITIES.

"…Overcrowding in school facilities is a problem. Sites are needed for new or expanded school facilities."

Although it is unclear whether the statement refers to primary, secondary or post-secondary education, the proposed project will provide a much-needed facility to serve Maui's residents on a site already identified for educational use.

2.a. GEOGRAPHIC LOCATION AND INVENTORY OF DEVELOPED AND DEVELOPABLE LANDS.

"…These attributes create opportunities for commercial and industrial development; public mass transit; residential housing; regional recreational facilities; medical facilities; agricultural diversification; and higher education facilities."

The proposed project will provide a much-needed facility to serve Maui's residents on a site identified for educational use.

The following Wailuku-Kahului Community Plan goals, objectives and policies are applicable to the proposed action:

CULTURAL RESOURCES

Goal: Identification, protection, preservation, enhancement, and where appropriate, use ofcultural practices and sites, historic sites and structures, and cultural landscapes and view planes that:

1. Provide a sense of history and define a sense of place for the Wailuku-Kahului region; and

2. Preserve and protect native Hawaiian rights and practices customarily and traditionally exercised for subsistence, cultural and religious purposes in accordance with Article XII, Section 7, of the Hawai'i State Constitution, and the Hawai'i Supreme Court's PASH opinion, 79 HAW. 425 (1995).

Objectives and Policies (applicable to project):

3. Protect and preserve historic, cultural and archaeological sites and resources through on-going programs to identify and register important sites, and encourage their restoration. This

shall include structures and elements that are a significant and functional part of Hawai'i's ethnic and cultural heritage.

5. Require development projects to identify all cultural resources located within the project area as part of initial project studies. Further, require that all proposed activity include recommendations to mitigate potential adverse impacts on cultural resources.

An archaeological inventory survey was conducted for the proposed project and found no archaeological, cultural or historic properties (See discussion in *Section 3.12*, with full report included in Appendix C). As discussed in *Section 3.12*, the project will not adversely affect traditional Hawaiian rights related to gathering, access, or other customary activities within the project area or its vicinity, or any cultural practices or beliefs.

EDUCATION

Objectives and Policies:

1. Allocate sufficient land areas as part of residential project district specifications to meet future school site needs.

2. Encourage the Department of Education to provide recreation facilities for schools, thus expanding opportunities for public use of presently shared facilities.

3. Coordinate the development of school facilities with the State Department of Education in conjunction with planned residential projects.

This project will accommodate educational facility needs from current and on-going residential development in Wailuku as identified by DOE. The project will also provide recreational facilities for public use.

URBAN DESIGN

Goal: An attractive and functionally integrated urban environment that enhances neighborhood character, promotes quality design, defines a unified landscape planting and beautification theme along major public roads and highways, watercourses and at major public facilities, and recognizes the historic importance and traditions of the region.

Objectives and Policies for the Wailuku-Kahului Region in General (applicable to project):

11. Use native Hawaiian plants for landscape planting in public projects to the extent practicable.

16. Encourage the review of architectural and landscape architectural plans for major government projects by the County's Urban Design Review Board.

The project's landscape plan includes numerous native plant species. The project will be reviewed by the County's Urban Design Review Board.

6.0
Findings Supporting Anticipated Determination

6.0 FINDINGS SUPPORTING ANTICIPATED DETERMINATION

6.1 ANTICIPATED DETERMINATION

After reviewing the significance criteria outlined in Chapter 343, Hawai'i Revised Statutes (HRS), and Section 11-200-12, State Administrative Rules, Contents of Environmental Assessment, it is anticipated that the proposed action will not result in significant adverse effects on the natural or human environment. A Finding of No Significant Impact (FONSI) is anticipated for this project.

6.2 REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The potential impacts of the development and future use after construction of the proposed Wailuku II Elementary School have been fully examined and discussed in this Draft Environmental Assessment. As stated earlier, there are no significant environmental impacts expected to result from the proposed action. This determination is based on the following assessments:

(1) Involve an irrevocable loss or destruction of any natural or cultural resources.

The proposed project does not involve known destruction of existing natural or cultural resources. The subject lands are undeveloped agricultural lands with no significant natural resources. As previously noted, no significant archaeological or historical sites were found to exist within the project site. During the course of construction, if there are any cultural or archaeological remnants unearthed, the Historic Preservation Division (SHPD) of the State Department of Land and Natural Resources will immediately be notified, and their treatment will be conducted in strict compliance with SHPD requirements.

(2) Curtail the range of beneficial uses of the environment.

The proposed action does not curtain the range of beneficial uses of this location on Maui. The project will provide additional educational facilities to meet existing and future requirements of the Central Maui area. The construction of the new Wailuku II Elementary School will provide a beneficial use, to the citizens of the state, and the residents of Maui in particular, by increasing access to public educational programs and providing facilities for community use (cafeteria and shared parking facility with the community center). Construction and operation of the new facilities will be performed in accordance with Federal, State and County regulations, thereby minimizing potential impacts to the air and water quality and ambient noise levels. The project is also consistent with the planned land use and the draft 2030 Wailuku-Kahului General Plan's planned infrastructure and facility improvement for the area.

(3) Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The proposed project will not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders. Construction-related impacts of noise, dust, and emissions will be mitigated by the contractor's compliance with the State Department of Health Administrative Rules.

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

The proposed action will have positive direct and indirect economic benefits to the State and County through the flow of construction spending and employment incomes through the economy. The project would also improve public educational services to Maui residents. As discussed in Section 3.13, the proposed action is not expected to adversely affect traditional Hawaiian rights related to gathering, access, or other customary activities within the project area or its vicinity or any cultural practices or beliefs. There are no Native Hawaiian (or other ethnic group's) cultural practices customarily and traditionally exercised for subsistence, cultural and religious purposes that are known to occur on the project area. The scale of the new building will not affect regional wind patterns or important mauka-makai views, including those from the ocean to the West Maui Mountains. Design and construction work will generate indirect and induced employment opportunities and multiplier effects, but not at a level that would generate any significant expansion. The project will create short-term and long-term employment that will be beneficial to the local economy.

(5) Substantially affects public health.

The proposed action will not substantially affect public health. Typical short-term construction-related impacts (e.g., noise and air quality) are anticipated, but will be temporary and will comply with State and County regulations. Standard construction best management practices will be used to minimize the temporary impacts. Though none are known, if project area soils are found to contain hazardous or regulated materials, the necessary abatement will be conducted prior to construction in accordance with applicable Federal and State regulations to minimize potential impacts to human health and the environment. Also, the proposed action will not generate sufficient solid waste or other emissions to have a significant adverse effect on public health.

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

The proposed action is part of a planned community, approved in 2002, and will not produce substantial secondary impacts. It is not designed to directly foster population growth or to promote economic development. The project will support existing and future development within the Central Maui region.

(7) Involves a substantial degradation of environmental quality.

The proposed action will not substantially degrade environmental quality. Long-term impacts to air and water quality, noise levels, and natural resources would be minimal. The use of standard construction and erosion control best management practices will minimize the anticipated construction-related short-term impacts.

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

Development of the proposed school is not a commitment to a larger action, and will not promote substantial population growth. Instead, it is intended to partially fulfill anticipated demands for elementary education in an area already approved for growth.

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

There are no endangered plants or animal species nor is their habitat for such species located within the project site.

(10) Detrimentally affects air or water quality or ambient noise levels.

Short-term effects on air, water quality or ambient noise levels during construction will be mitigated by compliance with County of Hawai'i and State Department of Health rules which regulate construction-related activities.

After construction, the potential impacts to air and water quality are anticipated to be minimal. No significant increases in traffic noise are predicted to occur as a result of project traffic following project build-out.

At the Wailuku II Elementary School, DOE has committed itself to utilizing "green architecture" and sustainable design wherever possible. In the design of the school facilities, water efficient appliances and environmentally conscious design efforts will be utilized as much as feasible to reduce minimal impacts on air or water quality.

No detrimental affects to air or water quality or ambient noise levels are anticipated to result with the development of the proposed action.

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

The project site is not 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.

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

The project site is currently undeveloped and the improvements will enhance the appearance of the area. The architecture will be designed to reflect the architectural character of the historic Wailuku town. Landscaping will also be used to improve the visual character of the constructed site and area.

(13) Require substantial energy consumption.

Construction of the project will not require substantial energy consumption relative to other similar projects. After the project is completed, as much as possible energy will be conserved by using modern energy efficient appliances and fixtures and green design concepts.

6.3 SUMMARY

Based on the above findings, further consideration of the project's impacts through the preparation of an Environmental Impact Statement is not warranted. A Finding of No Significant Impact (FONSI) is anticipated for this project. Wailuku II Elementary will provide great public benefits while resulting in minimal impacts to the surrounding environment.

7.0
List of References

7.0 LIST OF REFERENCES

7.1 REFERENCES

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8.0
Agencies, Organizations, and Individuals Receiving Copies of the Draft EA

8.0 LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED AND/OR INFORMED IN THE EA PROCESS

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Draft EA Comments Received	Receiving Final EA/ FONSI
Federal Agencies					
U.S. Fish and Wildlife	x		x	x	x
U.S. Army Corps of Engineers	x		x	x	x
State of Hawai'i Agencies					
Department of Accounting and General Services	x	x	x	x	x
Department of Accounting and General Services, Maui District Office	x		x		x
Department of Business, Economic Development & Tourism (DBEDT), Office of Planning	x		x		x
DBEDT	x		x		x
Department of Transportation	x	x	x	x	x
Department of Agriculture	x		x		x
Department of Health	x		x	x	x
Department of Health, Clean Water Branch	x	x	x	x	x
Department of Health, Environmental Health	x	x	x		x
Department of Land and Natural Resources (DLNR)	x	x	x	x	x
DLNR, Historic Preservation Division	x		x		x
Office of Environmental Quality Control	x		x		x
Office of Hawaiian Affairs	x		x		x
Department of Hawaiian Homelands	x		x		x
Department of Defense	x	x	x	x	x
Hawaii State Civil Defense	x			x	x
Department of Human Services	x		x		x
Department of Labor and Industrial Relations	x	x	x		x
University of Hawai'i, Environmental Center	x		x		x
Hawaii Housing Finance & Development Corporation	x		x		x

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Draft EA Comments Received	Receiving Final EA/ FONSI
Department of Education, Facilities Development Branch	x		x		x
Department of Education, Maui District	x		x		x
Department of Education, School Complex Superintendent's Office (Baldwin-Kekaulike-Maui)	x		x		x
Wailuku Elementary School	x				
County of Maui					
Department of Water Supply	x	x	x		x
Department of Public Works	x	x	x	x	x
Department of Planning and Permitting	x		x	x	x
Department of Housing & Human Concerns	x	x	x	x	x
Department of Parks and Recreation	x		x	x	x
Department of Environmental Management			x		x
Department of Transportation			x	x	x
Fire Department	x		x		x
Police Department	x	x	x	x	x
Office of the Mayor	x		x		x
Maui Civil Defense Agency	x				
Office of Economic Development	x				
Elected Officials					
State Senator Shan S. Tsutsui.	x		x		x
State House Representative Joseph Souki	x		x		x
State House Representative Gilbert Keith-Agaran	x		x		x
Council Member Michael Victorino	x		x		x
Libraries					
Wailuku Public Library	x		x		x
Kahului Public Library	x		x		x
Hawai'i State Library	x		x		x
Citizen Groups, Individuals & Consulted Parties					
Kehalani Community Association	x		x		x

Respondents and Distribution	Pre-Consultation	Pre-Consultation Comments Received	Receiving Draft EA	Draft EA Comments Received	Receiving Final EA/ FONSI
Kehalani Mauka, LLC	x		x		x
Wailuku Main Street Association	x		x		x
Kahu Charles Kauluwehi Maxwell Sr.	x				
Leslie James Aupuni Vida 111	x				
Ms. Kathy Juan	x				
Ms. Yaeko Mabe Sasaki	x				
Richard Komo	x				
Felipe Barroga	x				
Susan Asato	x				
Leslie James Vida Jr.	x				

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9.0

Project District Phase II Application and Amendment

COUNTY OF MAUI
DEPARTMENT OF PLANNING
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
TELEPHONE: (808) 270-7735 FAX: (808) 270-7634

APPLICATION TYPE: PROJECT DISTRICT DEVELOPMENT APPROVAL

DATE: January 25, 2010 **PROJECT VALUATION:** $37.5 Million

PROJECT NAME: Wailuku II Elementary School

PROPOSED DEVELOPMENT: Construction of a new 550-student elementary school requiring Project District Phase II approval and amendment

TAX MAP KEY NO.: (2)3-5-001:77, (2)3-5-001:78 (Pors.) **CPR/HPR NO.:** n/a **LOT SIZE:** Approx. 14 Acres

PROPERTY ADDRESS: Kehalani Project District, west of Kehalani Mauka Parkway

OWNER: Kehalani Mauka, LLC **PHONE:(B)** 537-5220 **(H)** n/a

ADDRESS: 1100 Alakea Street, 27th Floor

CITY: Honolulu **STATE:** HI **ZIP CODE:** 96813

OWNER SIGNATURE: See Letter of Authorization

APPLICANT: State Department of Education, Facilities Development Branch

ADDRESS: P. O. Box 2360

CITY: Honolulu **STATE:** HI **ZIP CODE:** 96804

PHONE (B): 586-0408 **(H):** n/a **FAX:** 586-3234

APPLICANT SIGNATURE: Ron Kashu

AGENT NAME: Jeffrey H. Overton - Group 70 International, Inc.

ADDRESS: 925 Bethel Street, 5th Floor

CITY: Honolulu **STATE:** HI **ZIP CODE:** 96813

PHONE (B): 523-5866 **(H):** n/a **FAX:** 523-5874

EXISTING USE OF PROPERTY: Vacant Land

CURRENT STATE LAND USE DISTRICT BOUNDARY DESIGNATION: Urban

COMMUNITY PLAN DESIGNATION: Project District 3 **ZONING DESIGNATION:** PD-3

OTHER SPECIAL DESIGNATIONS: none

9.0 PROJECT DISTRICT PHASE II APPLICATION AND AMENDMENT

This section has been prepared in accordance with the requirements of the Maui County Code Chapter 19.45 Project District Processing Regulations.

9.1 EVIDENCE OF LAND OWNERSHIP

State Department of Education, Facilities Development Branch, is the applicant of the Project District Phase II approval for Wailuku II Elementary School. As shown in property tax records in *Appendix K*, Kehalani Mauka, LLC is the current legal owner of the subject land to be developed – TMK (2) 3-5-001:77 and 78 (pors.) However, the land is currently in the process of purchase by the State Department of Education. A notarized letter of authorization from legal owner (Kehalani Mauka, LLC) is provided in *Appendix I*, which provides authorization for the applicant to use the parcel and to apply for the Project District Phase II approval.

9.2 LEGAL DESCRIPTION OF THE LAND BEING DEVELOPED

The Wailuku II Elementary School project site consists of approximately 14 acres of land located in the Kehalani Mauka Development. The project site encompasses Lot 3-A-2 and portion of Lot P-1 and Lot R-6 which located on TMK (2) 3-5-001:77 and 78 (pors.) of the Kehalani Mauka subdivision.

Legal description of Lot 3-A-2, Lot P-1, and Lot R-6 is shown in *Figure 9-1*. Boundary description of portion of Lot-P-1 that is currently in subdivision approval process is shown in *Figure 9-2*.

9.3 LIST OF LANDOWNERS AND RECORED LESSEES OF REAL PROPERTY WITHIN 500 FEET OF THE SUBJECT PARCEL

A list of landowners and recorded lessees of real property within 500 feet of the subject parcel has been obtained from the most current listing as provided via the Maui County Department of Finance, Real Property Division website. The list and a map (drawn to scale) clearly define the 500-feet notification boundary and the parcels affected (refer to *Appendix J).*

9.4 PRELIMINARY SITE PLAN ANALYSIS

9.4.1 Drainage

Storm water drainage will be managed at the project site. Development of the site will manage storm water to avoid an increase in discharge rate to adjoining properties. The existing onsite storm water runoff generally flows in an easterly direction, through the project site and into the

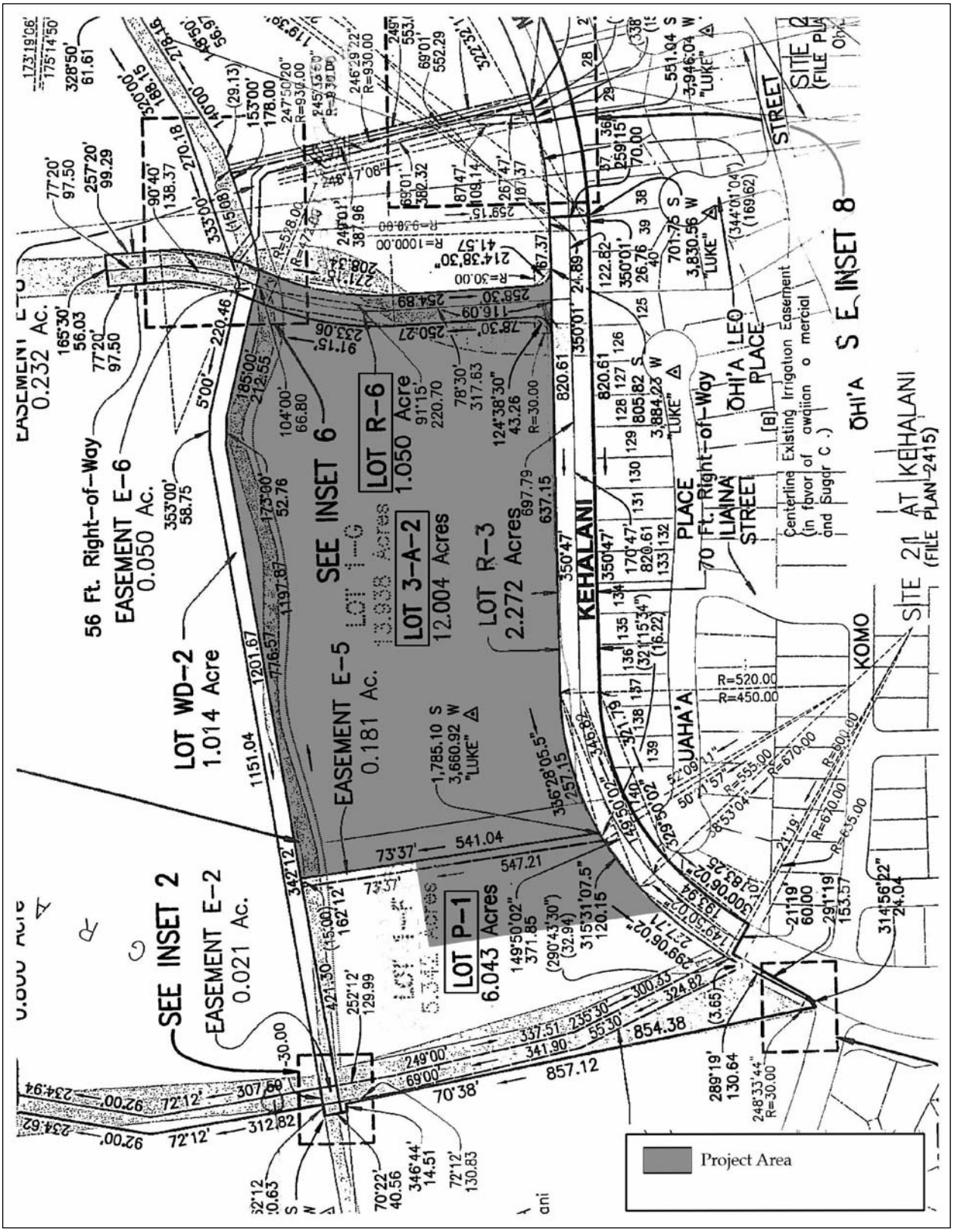


Figure 9-1: Legal Lot Descriptions

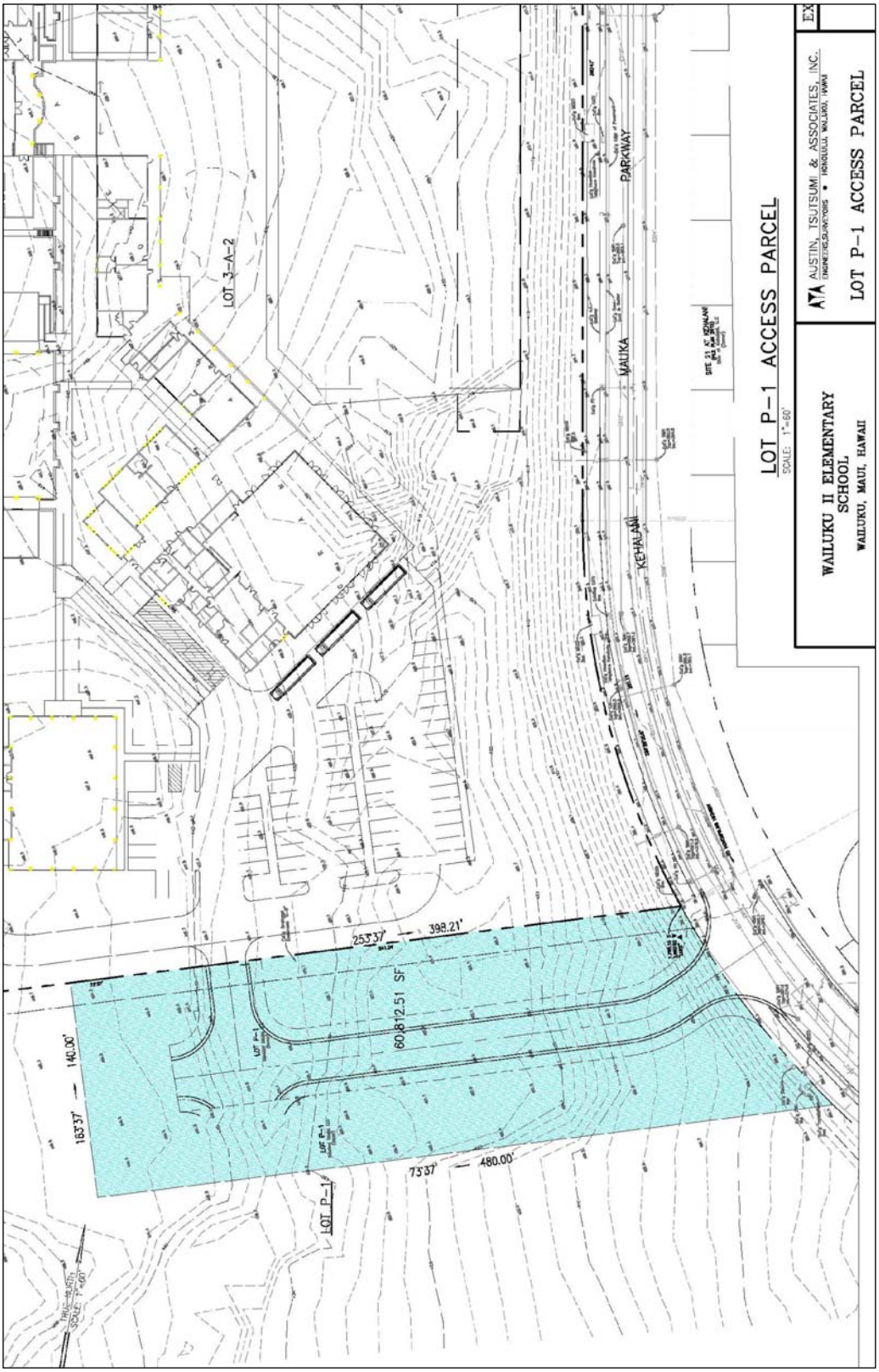


Figure 9-2: Boundary Description of Portion of Lot P-1 (Shared Driveway Parcel)

existing Kehalani Mauka Parkway drainage system. The Kehalani Mauka Parkway drainage system fronting the site consists of 24-inch and 36-inch drainpipes with 2 ft. curb/gutter and catch basins. There are two existing drain stub-outs to the site. The first stub-out consists of a 24-inch drainpipe and is located at the northeast corner of the site. A future drainline will run within easement "E-12" along the northern boundary of the site and service future mauka developments. The second stub-out consists of a 30-inch drainpipe and is located near the southeastern corner of the site. This stub-out will serve as the primary drainline connection point for the school.

There is existing runoff generated mauka of the project site, however, a portion of this runoff is currently intercepted by Waihe'e Ditch which meanders above and within the western boundary of the project. There are plans to construct temporary diversion ditches to the west of the project site when the existing Waihee ditch within the project site is removed. Per the Kehalani Drainage Master Plan, the diversion ditches are designed to intercept a large majority of the runoff before it enters the school site. When the properties mauka of the project site are developed with their own permanent drainage system, the temporary diversion ditches will be removed. An underground 60-inch drainpipe to the west of the site will be constructed to convey existing irrigation water through Waihee ditch. Construction of the temporary diversion ditches and 60-inch drainpipe will be constructed "by others" and are scheduled to be completed before construction of the school starts.

The Kehalani Master Plan drainage design makes provisions to intercept proposed runoff generated by developments within the Kehalani Community. The large 490 ac-ft Waikapu Retention Basin serves as the main retention area for the Kehalani Community and is designed to completely retain the increase in runoff per Maui County Standards. While no outflow is expected, an emergency overflow is provided and connects to Waikapu Stream.

The proposed onsite drainage system will be designed to manage the 50-year/1-hour storm runoff from onsite and offsite drainage areas. Post-development onsite runoff for a 50-year/1-hour storm is calculated at 53.69 cfs, which is an increase of 31.65 cfs over existing conditions. The increase in runoff has been accounted for in the Kehalani Drainage Master Plan and will be retained in the offsite Waikapu Retention Basin.

The proposed drainage system improvements will include grated drain inlets, catch basins, area drains, manholes, underground drain lines, and water quality treatment systems. Runoff on the school grounds will be collected by drain inlets, catch basins, area drains, or swales and conveyed to the existing drainage system along Kehalani Mauka Parkway which eventually carries the flows to the Waikapu Retention Basin.

A small portion of offsite runoff is anticipated to enter the project site, calculated to be 4.77 cfs from the west. The proposed onsite drainage system will be designed to accommodate these flows. Refer to *Figure 9-3* for preliminary drainage improvements.

9.4.2 Street and Parking

There are two roadways connecting the site to the Kehalani Mauka Parkway, one along the

northern boundary and one along the southern boundary. The two accesses will provide adequate fire access circulation and provide access to buses, faculty, and parents dropping off children. Maximum slope for roadways within the project will be held at 12%. The roadway accesses will be designed to provide the maximum sight distance in accordance with county and American Association of State Highway and Transportation Officials (AASHTO) standards.

Parking is organized to provide segregate the types of vehicular access to the campus. General parking areas are located on the north and south ends of the site. Connecting the parking areas is an access drive along the rear of the site that also contains staff parking. The total on-site parking capacity is 157 vehicles. The north parking area, with its location adjacent to Building A or the Administrative Building, provides drop-off/pick-up for parents and serves as visitors parking. The traffic circulation utilizes the former access road (refer to *Section 2.5*) at the connection with the northern part of Kehalani Mauka Parkway.

The south parking area is accessed from the common driveway of the school and the future community center connecting the southern part of Kehalani Mauka Parkway. It will provide drop-off/pick-up areas for buses. The south parking provides the largest number of vehicular parking stalls (84 vehicles) in order to service events at Building C or the cafeteria.

Refer to *Figure 9-4* for parking and roadways alignment.

9.4.3 Utilities

Water System: Currently there are no water source in place to specifically serve the mauka areas of the Wailuku-Kahului Project District 3. Proposed new wells in this vicinity are being planned and may serve as potential water source for the school project and for the future mauka development. Onsite water system improvements will include a domestic water system, fire line system, and an irrigation system. The domestic system consists of a water meter, reduced pressure backflow preventer, and copper and ductile iron waterlines. The fire line system consists of a 10-inch double detector check assembly, fire hydrants and 12-inch ductile iron fire lines. Fire department connections will also be installed to supplement the project's fire system as most buildings within the project will have a fire sprinkler system. The proposed domestic water, fire, and irrigation meter lateral will connect to the existing 12-inch distribution waterline within Kehalani Mauka Parkway at the northeast corner of the site

Preliminary domestic water contributions are calculated at approximately 31,958 gallons per day (gpd), which is the average daily demand for domestic use and irrigation. Fire hydrants are required to be installed at a maximum of 250 ft. intervals within the site. Refer to *Figure 9-5* for preliminary water system improvements.

Required fire flow within the project site is 2,000 gallons per minute (gpm) for a duration of two hours and fire hydrants are required to be installed at a maximum of 250 ft. intervals.

Sewer: An onsite sewer system will be installed to provide wastewater collection service to all proposed buildings. The collected sewage will be routed via gravity flow to the existing 8-inch sewer line stub-out at the southeastern portion of the site. This line connects to the 12-inch

sewer line within Kehalani Mauka Parkway and is eventually treated at the Kahului Wastewater Treatment Facility. Preliminary wastewater contributions are calculated at approximately 9,435 gpd (average daily demand). Refer to *Figure 9-6* for *pr*eliminary sewer system improvements Plan.

Electrical System: The School's electrical service will originate from underground MECO facilities located along Kehalani Mauka Parkway. A pad mounted utility transformer near the Cafeteria building will provide 480 volt, 3 phase power to the School. Energy usage demand is estimated to be between 600,000-700,000 kwh per year. According to MECo, there is sufficient capacity to service the school.

Sustainable Design Strategies:

The following energy conservation measures will be incorporated into the design:

- Daylight Harvesting – Daylighting controls will be provided to dim or switch off lighting in response to available daylight.
- LED Site Lighting – Pole mounted Area (parking lot) and pathway lighting will be LED based for energy efficiency and improved lighting quality over High Pressure Sodium.
- Site Lighting Control – Site lighting will be provided with integral occupancy sensors where appropriate. This will allow the LED based luminaires to dim to a low light level when people are not sensed in the immediate area. In addition, site lighting will be controlled via a programmable lighting relay panel with photocell input. The lighting relay panel will allow for flexibility in setting the time schedule when site lighting is turned on and off.
- Occupancy Sensors – Occupancy Sensors will be provided to control interior lighting during unoccupied periods. Manual wall switches will also be provided to give the occupant control over the lighting within their space.
- Limit or eliminate Interior Night Lights – Emergency Egress lighting will be turned off with the normal lighting within the same space instead of leaving them on 24/7 as Night Lights. Night Lights will only be provided where requested by the Owner.
- Energy Efficient Lamps – Lamp sources will be chosen with an emphasis on energy efficiency. The majority of lighting will be based on High Performance T8, T5 or T5HO fluorescent lamps.
- Reduced Design Illumination Levels – Light levels will be designed to meet but not exceed current IESNA recommendations. In addition to saving energy, this will reduce the amount of heat generated by artificial lighting.
- Maximizing Daylight Penetration – the building will be designed to maximize penetration of indirect sunlight into each space though the use of optimized external shading elements, skylights, cupolas and solar tubes. Direct sunlight will be minimized to limit glare and solar heat gain within the space.
- Educational Metering Systems – Opportunities to provide building occupants with information on their energy usage will be sought out and developed.
- Renewable Energy Ready – At a minimum, the School will be designed with infrastructure ready for Photovoltaic or Wind energy generation systems.

Telephone and Cable Television Systems: Telephone and cable services for the project vicinity is provided by Hawaiian Tel (HTel), and Oceanic Time Warner Cable, respectively. Underground electrical, telephone, and cable lines are located along Kehalani Parkway and Kuikahi Drive.

9.4.4 Grading

The proposed project will require both excavation and embankment for the construction of the new roadways and relatively flat, terraced buildable areas for the proposed building structures. The majority of the project will be in a "cut" condition due to building height envelopes and roadway grade restrictions. Overall, the site will be graded to maintain the existing drainage patterns. Finish grades throughout the site will vary in elevation from 389 feet to 461 feet above mean sea level (MSL). Slopes will vary between 0 to 12% after improvements with maximum 2:1 slopes along the embankments. Retaining walls will vary in height from 2 to 6 feet.

Temporary erosion control measures will be incorporated during the construction to minimize soil loss and erosion hazards. Best Management Practices will include temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, inlet protection, slope protection, stabilized construction entrances and truck wash-down areas. Periodic water spraying of loose soils will be implemented to minimize air-borne dirt particles from reaching adjacent properties. An application for a National Pollution Discharge Elimination System (NPDES) permit will be submitted to the State Department of Health for review and approval. Permanent sediment control measures will be used once construction is completed. Refer to *Figure 9-3* for preliminary grading plan.

9.4.5 Landscape Planting

To reflect the landscape context of its surrounding and micro-climates, the Wailuku Project District Design Guidelines divided the site into three landscape zones. The school site falls within the "Mid-slope Zone", which extends the landscape character of the historic Wailuku. The design and structure of landscaping within this zone would be formal in nature but rustic in material and detail and incorporates the use of plants with an "old style Hawai'i" connotation.

Landscape Design Concept: the following landscape elements have been incorporated to reflect the Wailuku Project District landscape concept.

1. A formal layout of the promenade, but with the use of rustic materials such as the planting of Koa and cement rubble masonry walls and pilasters.

2. Use of cement rubble masonry walls for the entry signwalls.

3. Plants to be included in the landscape include species such as Puakenikeni, Plumeria, 'Ohi'a Lehua Mamao, Hapu'u, Gingers, Monstera, Hibiscus, Ti and Naupaka which have an "old style Hawaii" connotation.

4. Plants such as Milo, Kukui, Naupaka and 'Akulikuli which have a more rural character as

they can often be seen growing in the wild, whether it is along the shoreline or in more upland areas.

5. Large canopy trees such as "Queen's Hospital" White Shower Trees and Jacaranda to reflect the rural character and specimen, historic trees of Wailuku.

The landscape design concept, as shown in *Figure 9-5*, is to create an aesthetically pleasing, quality environment. The landscape design will be based on function and simplicity that minimizes erosion, provides shade, enhances opportunities for cultural development, and promotes pride in the school and community. The landscape design will also apply the principles of sustainable design and special consideration will be given to the safety of students and the maintenance of the landscaping. The school's landscaping will consist primarily of grassed areas with accent planting at the campus entry, building entries, and at major gathering areas such as courtyards.

Large, flowering canopy trees such as "Queen's Hospital White" Shower Trees will be planted at the main entry road and parking lot/drop-off, while Jacaranda will be planted at the interior roadway and parking lots. These large trees will not only provide shade and reduce the heat island effect, but will help to reflect the ambiance of the Wailuku area which is characterized by specimen, historic trees.

Native Hawaiian and Polynesian-introduced plants will be used where possible for their cultural significance; the landscape is meant to also serve as outdoor learning spaces where students may learn about the natural environment.

- Accent trees such as Thornless Hala will be planted to highlight the entry.

- Milo will be planted at the parking lot on the south side of the campus.

- Within the heart of the campus, a promenade of Koa will be planted. The formal layout of the trees reflects an extension of the historic Wailuku landscape character, while the use of Koa blends elements of the upland landscape zone.

- Small canopy trees such as 'Ohi'a Lehua Mamo (Yellow 'Ohi'a) and Koai'a will be used for accent.

- Groundcovers such as 'Aki'aki, Naio Papa, Naupaka, Pohinahina and 'Ulei will be planted on slopes and to reduce water consumption.

A combination of native Hawaiian, Polynesian-introduced, and introduced species of shrubs will be used such as Ti, Nanu (Native Hawaiian Hibiscus), Tiare Gardenia, Hibiscus, Monstera and Ginger. These plants will not only provide accent, color and fragrance, but the foliage and flowers can also be used for decoration. Flowering vines such as Bougainvillea will be planted at the trellis to provide shade and color.

Due to the sloping site, retaining walls will be required. Where possible, the walls will be

seatwall-height to provide built-in seating opportunities. The use of moss rock will recall the imagery of the dry-laid rock walls found within historic Wailuku.

Landscape planting along the Kehalani Mauka Parkway frontage will be provided with root barriers to prevent uplifted sidewalks, curbs, and pavements.

To minimize maintenance:

- A 120-day maintenance period will be specified to allow the plants to become established prior to turnover.

- A minimum 2'-6" wide gravel maintenance strip with geotextile weed control fabric below will be installed around the perimeter of the buildings. The maintenance strip allows convenient maintenance of both the landscaping and the buildings, allows for increased air circulation around the buildings, provides for visual inspections for the entry points of insects and pests into the buildings, and keeps irrigation water away from the buildings. The inorganic mulch will also provide the additional benefit of conserving water by reducing irrigation demand.

- Groundcovers will be planted where slopes exceed 4:1.

- Organic mulch will be installed around the base of trees to reduce the need for trimming and protect plants from string trimmer and mower damage.

Playgrounds:

Playground equipment will be designed for specific age groups and may also include fitness equipment appropriate for children 8 years and older. Play equipment will meet accessibility requirements and safety regulations per the most current editions of the Americans with Disabilities Act guidelines (ADAAG), the American Society for Testing and Materials "Standard Consumer Safety Performance Specification for Playground Equipment for Public Use" (ASTM F 1487), and the latest guidelines of the U.S. Consumer Product Safety Commission (CPSC). Appropriate fall protection surfacing will be provided.

Landscape Irrigation Design Concept: The landscape irrigation design concept is to promote the healthy growth of the plant material while conserving water. The irrigation system will be separated according to grass and groundcover areas, as well as full sun versus shaded areas. This will ensure that plants that require larger amounts of water will be sufficiently irrigated, without over-watering those that are less thirsty.

The irrigation system sprinkler heads will be selected so their precipitation rates do not exceed the infiltration rate of the soil; this will conserve water by eliminating run-off. It will also prevent the leaching of nutrients, pesticides and fertilizers in the soil past the root zone. Fixed-spray, pop-up heads will be used to irrigate smaller planting areas, while gear-driven rotor heads will be used for larger areas. The layout of the sprinkler heads will be designed to provide a uniform distribution pattern. The radius and arc of the irrigation heads will be

adjusted to minimize over-spray onto buildings, walkways and roads. Low angle nozzles will be used in high wind areas to reduce the amount of wind drift and pressure compensation and/or regulating devices will be used to reduce misting.

Water flow within the irrigation system will be designed to not exceed 5 ft. per second through any section of pipe. The irrigation system run times will be scheduled to occur during the evenings or early morning hours, to reduce the losses due to evaporation, reduce the amount of diseases in the lawn, and reduce the amount of wind drift as winds are usually lighter. Station run times will be monitored during the maintenance period to prevent over watering which can lead to disease, runoff, and leaching of nutrients and pesticides. Rain sensing devices will be incorporated in the system for water conservation purposes. The automatic irrigation controllers will be located on the exterior of the buildings for ease of access and installed in stainless steel enclosures for increased vandal resistance. Features like cycle and soak, water budgeting and multiple start times will provide flexibility of scheduling and minimize runoff.

9.4.6 Architectural Design Concepts and Guidelines

The Wailuku Project District Design Guidelines established the overall architectural theme for residential and non-residential architectural structures in the community. The guideline encouraged the use of Hawaiian Plantation "Charles W. Dickey" and Contemporary Hawaiian style. Those two styles are characterized by the use of forms and materials which provide protection from the climate that may include deep set windows and doors, arcades, interior courtyards, hip and gable roofs with broad and split-pitches and extensive overhangs, and covered lanais and patios. Contemporary Hawaiian style using strong, bold lines that emphasizes horizontal planes rather than vertical planes is recommended. A mix of one and two-story masses, use of a focal vertical element, and stepped walls and angles in plan and elevation are desirable. Building materials, per the guideline, may include indigenous stone, wood siding, smooth stucco/plaster, concrete tile roofs, standing-seam metal roofs, and accent materials such as wood shutters, copper, brass, and glass.

Design for the Administration, Cafeteria and Library buildings are inspired by the historic buildings of Wailuku town. While not intending to be historic replications, these buildings are shall be more iconic in massing – incorporating central symmetrical forms. The materials will also reflect the Territorial period Wailuku buildings by utilizing steeper pitched roofs, red concrete or clay tile roofing and cement plaster walls.

Roofing: In keeping with the design parti, there are two distinct roofing materials proposed for the project. The Administration, Library and Cafeteria buildings will be roofed with a "red" metal roof. Akin to the historical buildings in the Wailuku community, the red roofing will set apart these buildings as iconic structures in the campus, creating a unique sense of place in this primarily residential community.

The classroom buildings will be roofed with asphalt shingle. There will be four different colors of asphalt shingle which will reduce the scale of the buildings and reinforce the idea that the classrooms represent the Wailuku residential neighborhoods.

The covered playcourt will be a metal roof with translucent roof panels to allow for daylight.

Note there are selective locations where low slope roofs will be used. These include the kitchen, custodial and storage portion of the cafeteria, and a center portion of Classroom Building H behind the mansard.

Skylights: We intend to use translucent roof assembly like Kalwall for the cafeteria and library main spaces. This material allows natural daylight into the space while blocking UV sunlight. In addition, it has hurricane resistant properties.

For the classrooms and other areas, light pipes will be incorporated to provide daylighting. These products are simply a polished aluminum cylinder with a plexiglass dome on top and a diffuser at the ceiling level. They are very cost effective.

Ceiling Material: Acoustical ceiling tile will be the primary ceiling material. On sloped ceilings, gypsum board will be installed, although this needs to meet acoustical design requirements.

Wall Material: The Administration, Library, Cafeteria and Classroom Building H are intended to have CMU exterior walls. As cost allows, an EFS or cement plaster coating will b used on the exterior surface in keeping with the design intent of making these buildings follow the historical reference.

The classrooms buildings will have metal stud or wood framed walls. The exterior skin will be a fiber cement board such as Hardi-board or equal. This material is very durable, resistant to weathering and can have high levels of recycled material. The interior of the wall assembly will use impact-resistant gypsum board up to 8'-0" high. This material is highly resistant to scratching and can also contain recycled material.

Windows: The DOE typical window specifications suggest jalousie windows or operable windows with no more than 12-inch spacing between mullions, to deter vandalism and theft. For this project, operable windows (typically awnings and hoppers) will be used. The glazing will typically be high-performance glass with high visible light transmittance and high insulating values.

Floor Material: Typically, slab on grade will be the primary substrate for all buildings. The DOE Ed Specs govern flooring material for all spaces.

9.4.7 Building Elevations

Refer to Figures 9-6 to 9-13 for building elevations.

9.4.8 Building Sections

Refer to Figures 9-14 to 9-19 for building sections.

9.4.9 Construction Phasing

The school will be constructed in one phase. The construction is anticipated to begin in 2011, with the school opening date in July 2012.

9.4.10 Open Spaces

Approximately 2.7 acres of the site is dedicated as open space use.

9.4.11 Land Uses

Of the 14-acre site, 10 acres will be allocated for school use, 2.7 acres for open space use, and 1.3 acres will be developed for a shared driveway (see *Figure 9-20*). The shared driveway will serve both the school and the future community center.

9.4.12 Signage

The school entry sign wall is shown in *Figure 9-21.* The size of the sign is approximately 22 ft. wide by 6 ft. high. The sign is an arc-shape retaining stone wall with bronze pin letters on precast concrete field.

9.5 PROPOSALS FOR RECREATION AND COMMUNITY FACILITIES

According to the Hawai'i Administrative Rules Department of Education Title 8 Subtitle 2, all public school buildings, facilities, and grounds shall be available for general recreational and community uses when not otherwise used for instructional purposes.

9.6 FLOOR AREA RATIOS, LOT COVERAGE, NET BUILDABLE AREA, OPEN SPACE RATIOS, AND IMPERVIOUS RATIOS

9.6.1 Floor Area Ratio

Per Maui County Code, floor area ratio means the ratio of the total gross floor area of a structure or structures, to the total lot area. Maui County Code section 19.80.030 Wailuku-Kahului Project District 3, Village Mixed Use District allows a maximum floor area ratio of 2.0 (per ordinance 2052, 1991). For this development, the total gross floor area is 98,849 sq.ft. (see *Table 2-1*), which yields the floor area ratio of 0.16.

9.6.2 Lot Coverage Ratio

Per Maui County Code lot coverage means the area of a lot occupied by all roofed structures. Maui County Code section 19.80.030 Wailuku-Kahului Project District 3, Village Mixed Use District allows a maximum lot coverage ratio of 0.6. The approximate lot coverage for this development is 90,000 sq.ft., which yields the lot coverage ratio of 0.15.

9.6.3 Net Buildable Area

Total buildable floor area for Wailuku II Elementary School is 98,849 sq.ft. (see *Table 2-1*).

9.6.4 Open Space Ratios

Per Maui County Code, the open space ratio is obtained by dividing the net lot width into the open-space width. Net lot width (NLW) means the average width of the lots less the required yard setback, measured parallel to the seaward boundary. Since the site is surrounded by residential subdistrict, the required setback is ten feet. The NLW of the site is therefore 540 ft. Open-space width (OSW) means the net lot width (NLW), less all obstructed space, measured along the same line as the net lot width. The OSW of the site is approximately 120 ft. Thus, the open space ratio is 0.2.

9.6.5 Impervious Surface Ratios

Total impervious surface area which includes pavement, concrete sidewalks, and buildings is approximately 265,443 sq.ft. or 6.09 acres. The imperious surface ratio on the approximately 14-acre site is therefore 0.43.

9.7 STATEMENT ON POTENTIAL ENVIRONMENTAL, SOCIOECONOMIC, AND AESTHETIC IMPACTS

As discussed in details in Chapter 3 of this report no significant impact is anticipated as a result of the development of this project.

9.8 PROPOSED PROJECT DISTRICT PHASE II AMENDMENT

In accordance with Chapter 19.45 of the Maui County Code, this application has been prepared on behalf of the State of Hawaii Department of Education to meet the requirements for a Project District Phase II application in order to amend the boundary of the school, community center, and the location of the open space use affecting approximately 17.7 acres of the project district. The overall scope of the development plan for the subject area has not changed; however, the spatial relationships among the land uses within the 17.7-acre area have been reconfigured to more fully integrate their common use elements.

Standards for the Wailuku-Kahului Project District were established in 1991 through Ordinance No. 2052. The Project District's land use categories and acreages for the Wailuku-Kahului Project District 3 identified in Maui County Code Chapter 19.80 is as follows:

Residential	**364 acres**
Village Mix Use	**71 acres**
to be developed as follows:	
Residential	34 acres

School	10 acres
Community Center	5 acres
Neighborhood Commercial	22 acres
Park/Open Space	**114 acres**
to be developed as follows:	
Parks	20 acres
Open Space/roadways/Drainageways	94 acres
Total Acreage	**549 acres**

As shown in *Figure 9-22*, the 2002 Kehalani Mauka Project District Phase II amendment (Docket No. PH2 2002/0004) was approved for the modification of the following subdistrict categories:

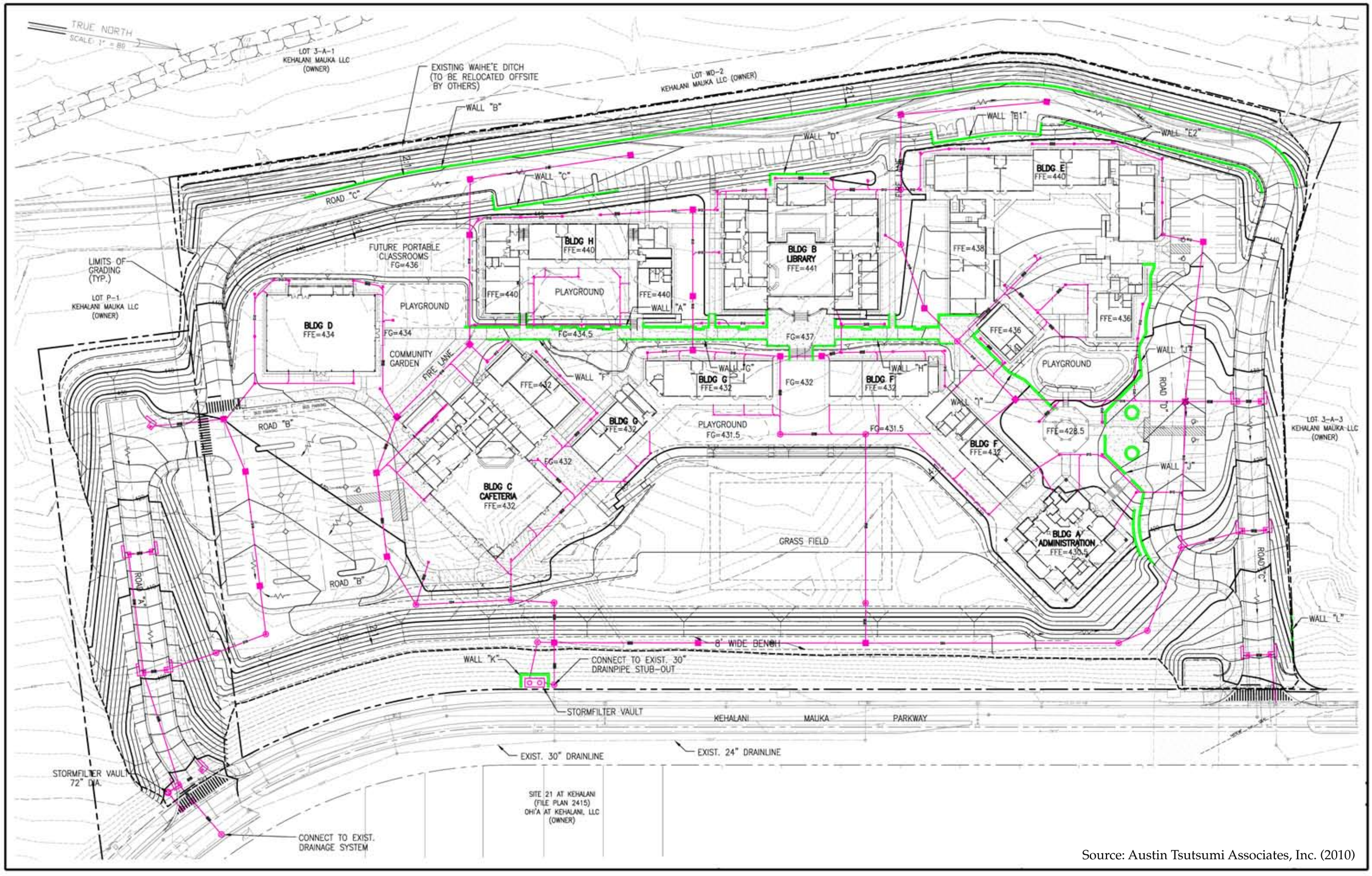
VMX Community Center	5 acres
VMX School	10 acres
VMX/Multi-family Residential	10 acres
Residential/Park/Open Space	20 acres
Park	15 acres
Roadways/Drainageways	5 acres
Total Acreage	**65 acres**

The Applicant is requesting an amendment to the 2002 Kehalani Mauka Project District Phase II in order to amend the boundary of the school, community center, and the location of the open space use affecting 17.7 acres as shown in *Figure 9-23*. The proposed amendment request includes the following:

- 10 acres – School site boundary to include an access road located north of the previously approved school site, to include areas to the south of the previously approved school site, and to exclude areas to the east of the previously approved school site
- 5 acres – Community Center site to exclude the areas to the north of the previously approved Community Center site, and to include the area previously approved for the park site. A shared driveway (1.3 ac.) which will provide second access to the school, per DOE's requirement, and access to the future community center will be located in this area
- 2.7 acres – Open space use to be located east of the proposed school site

Total Acreage 17.7 acres

The above land use categories and acreage are consistent with County Zoning. The overall Kahalani Mauka Project District land use density allocations and public services and utility demands will not be affected by the reconfiguration of the land use boundaries and locations proposed by the Project District Phase II amendment. The proposed spatial reconfiguration will continue to provide an integrated and functional master planned community in accordance with the Wailuku-Kahului Community Plan.



Source: Austin Tsutsumi Associates, Inc. (2010)

Figure 9-3 Preliminary Grading and Drainage Plan

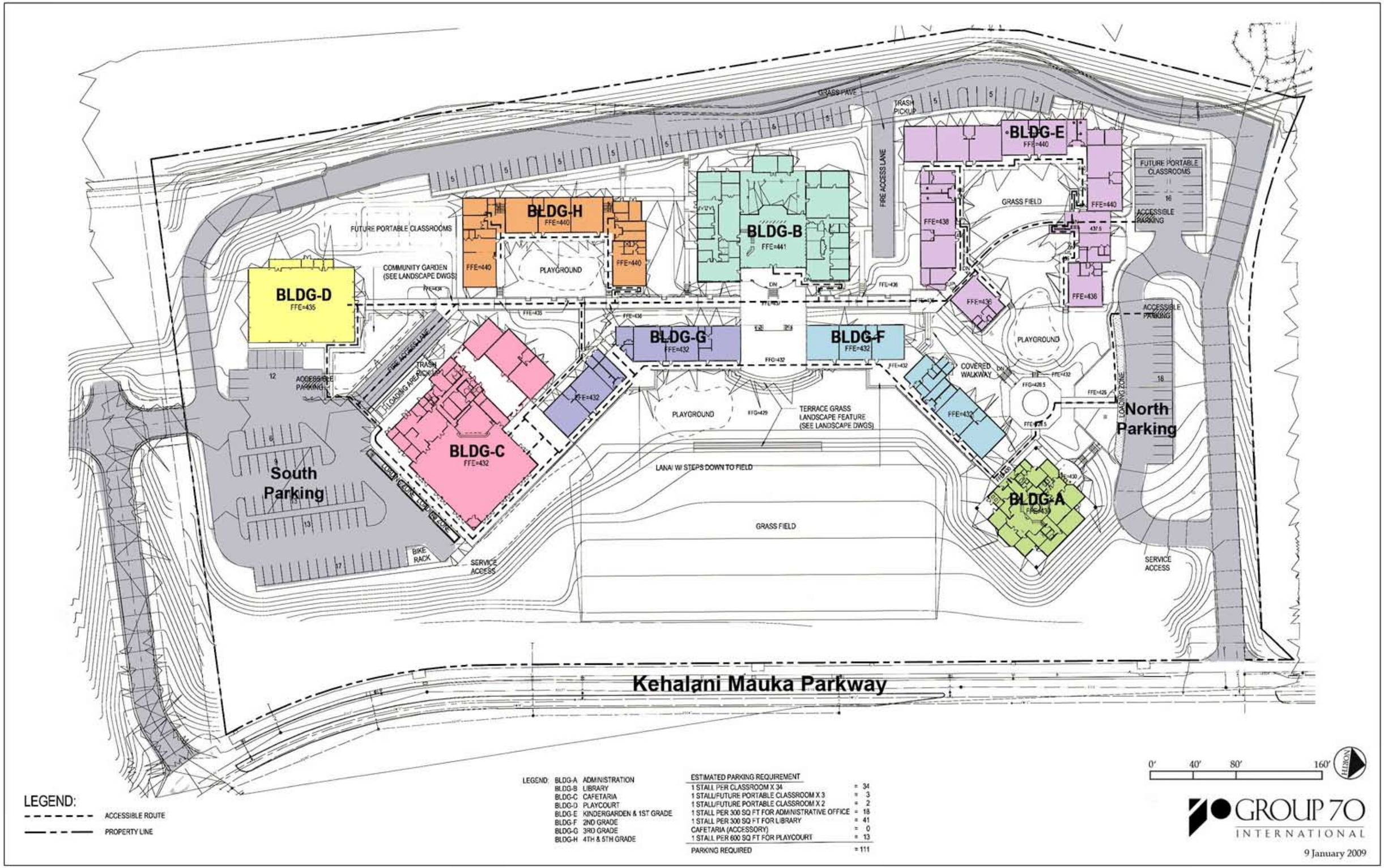
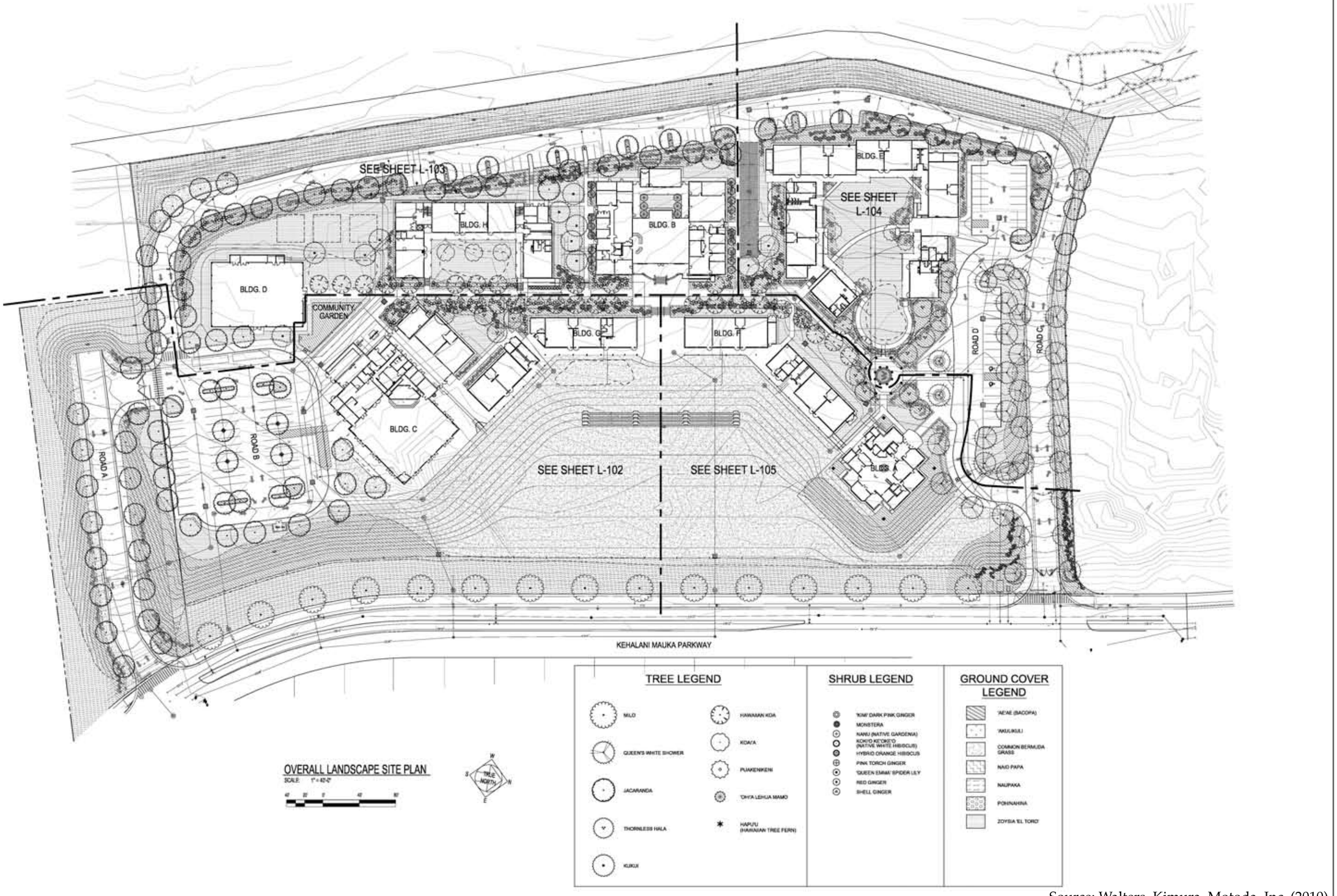
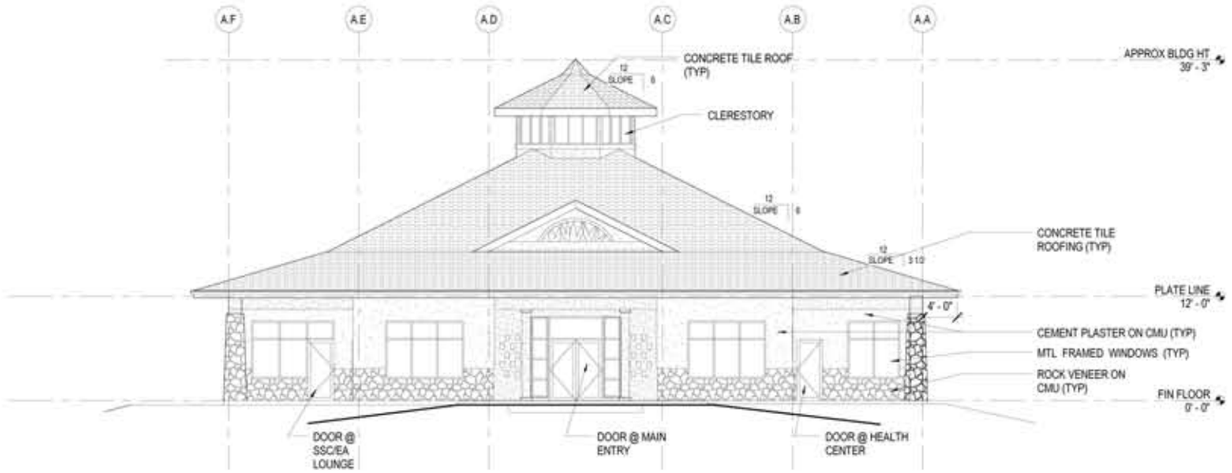


Figure 9-4 Streets and Parking

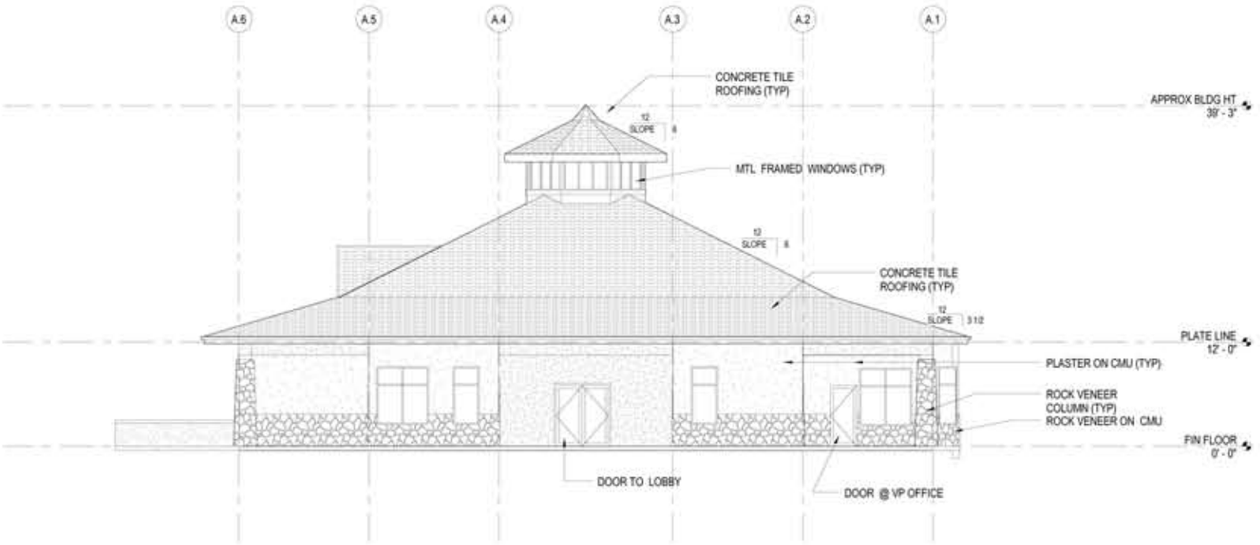


Source: Walters, Kimura, Motoda, Inc. (2010)

Figure 9-5 Landscape Site Plan



BLDG'A' - ADMINSTRATION EAST ELEVATION (FRONT ELEVATION)
SCALE: 1/8" = 1'-0"



BLDG 'A' - ADMINSTRATION NORTH ELEVATION (RIGHT ELEVATION)
SCALE: 1/8" = 1'-0"

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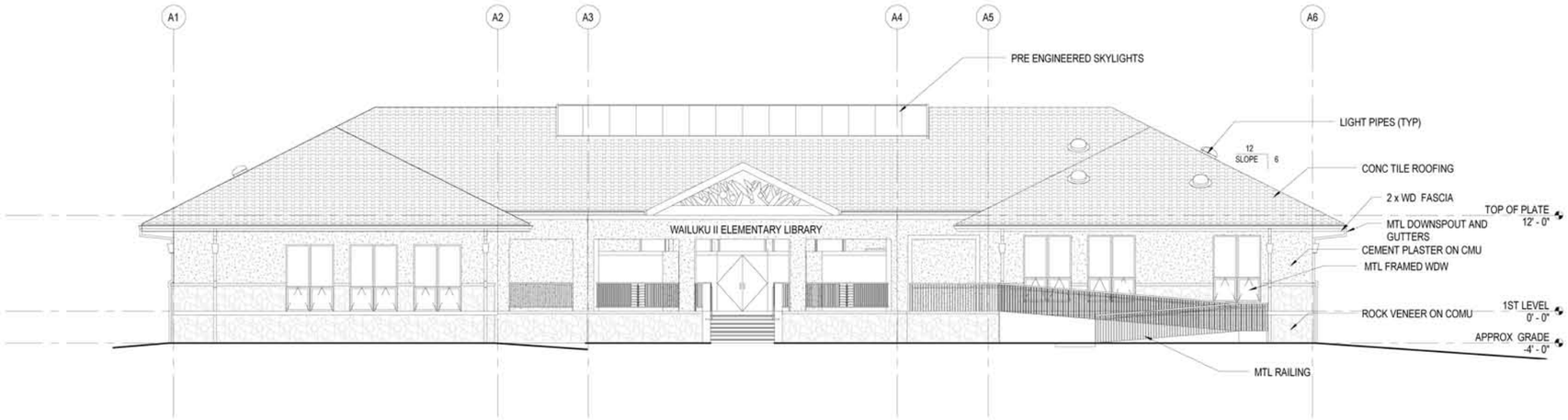
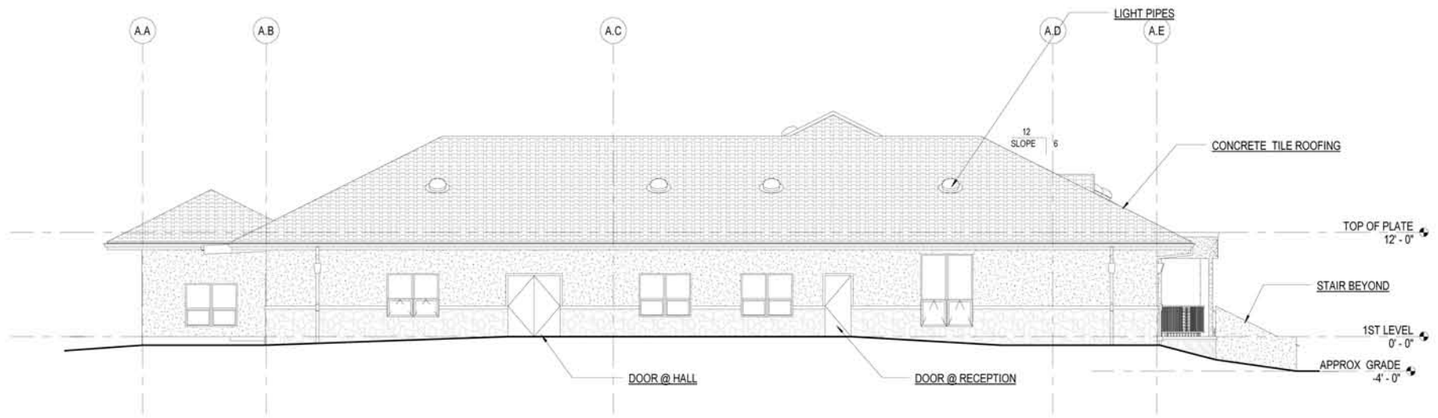
Figure 9-6 Building A Elevation



BLDG 'B' - LIBRARY EAST ELEVATION (FRONT ELEVATION)

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



BLDG 'B' - LIBRARY SOUTH ELEVATION (LEFT ELEVATION)

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

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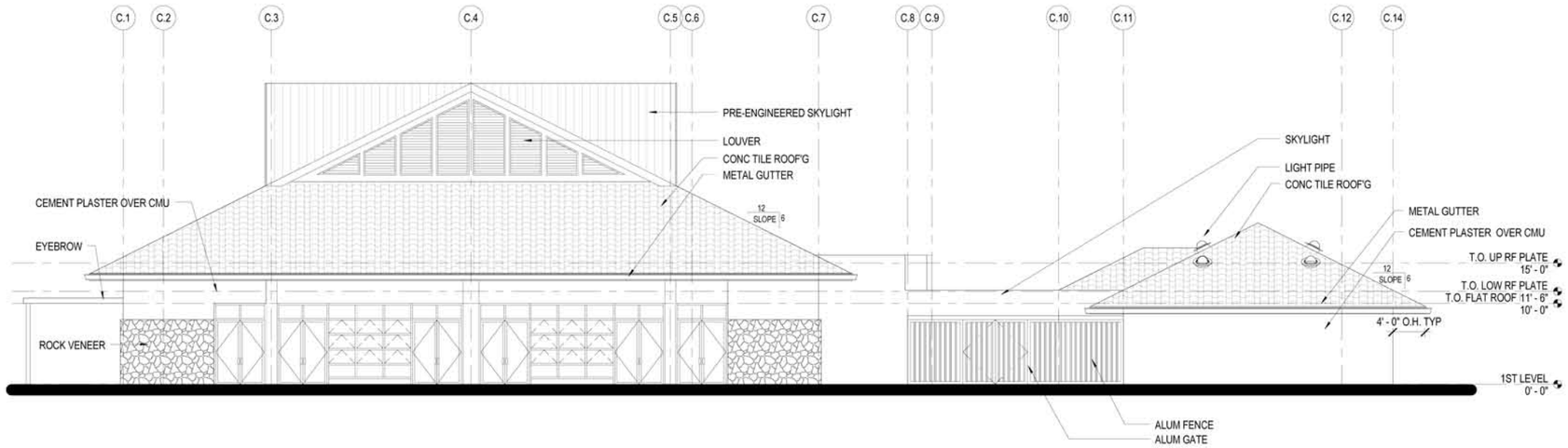
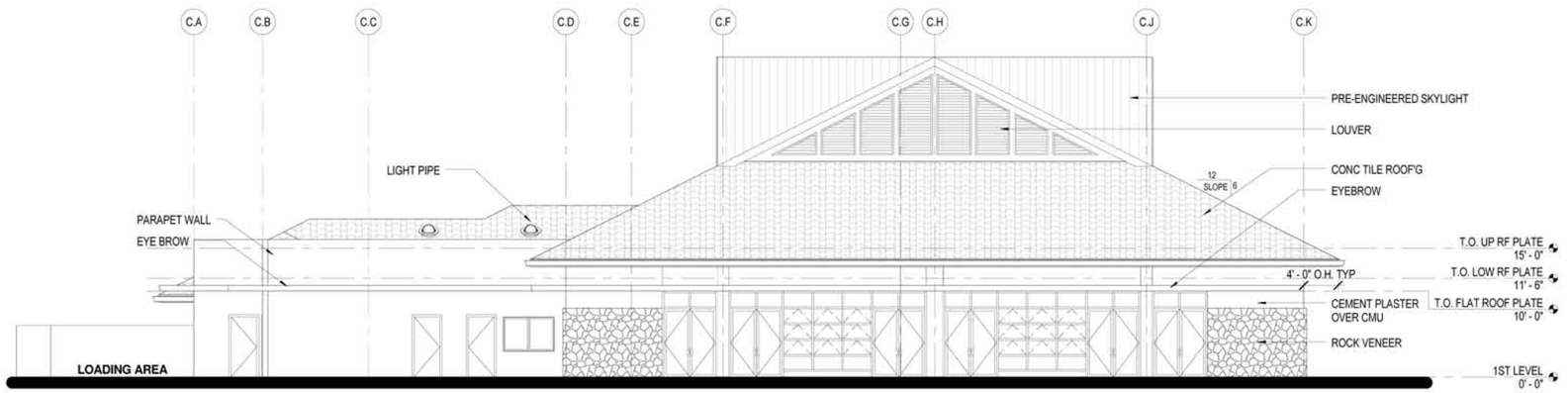
Figure 9-7 Building B Elevation



BLDG 'C' - CAFETARIA - NORTH ELEVATION

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



BLDG 'C' - CAFETARIA - EAST ELEVATIONS

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

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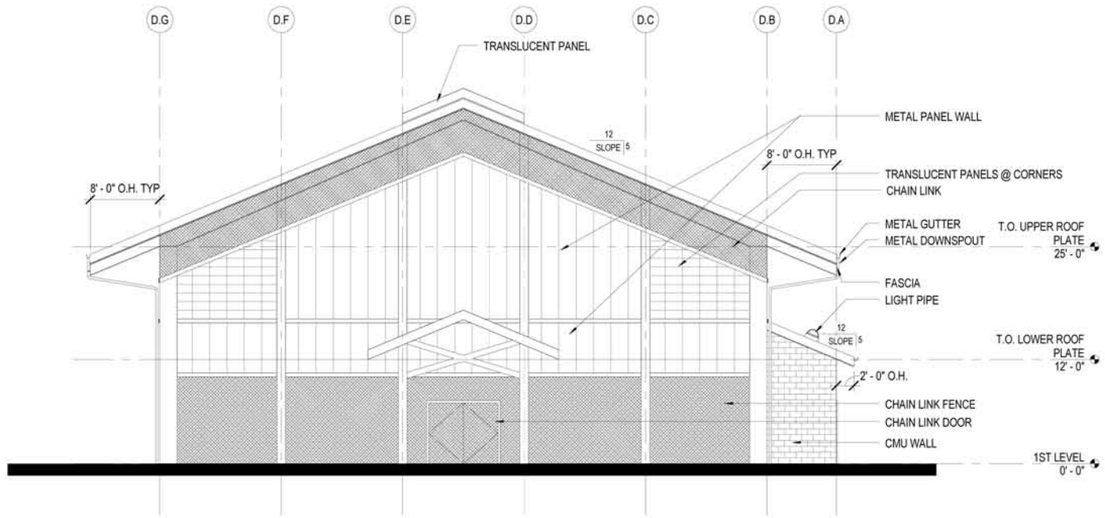
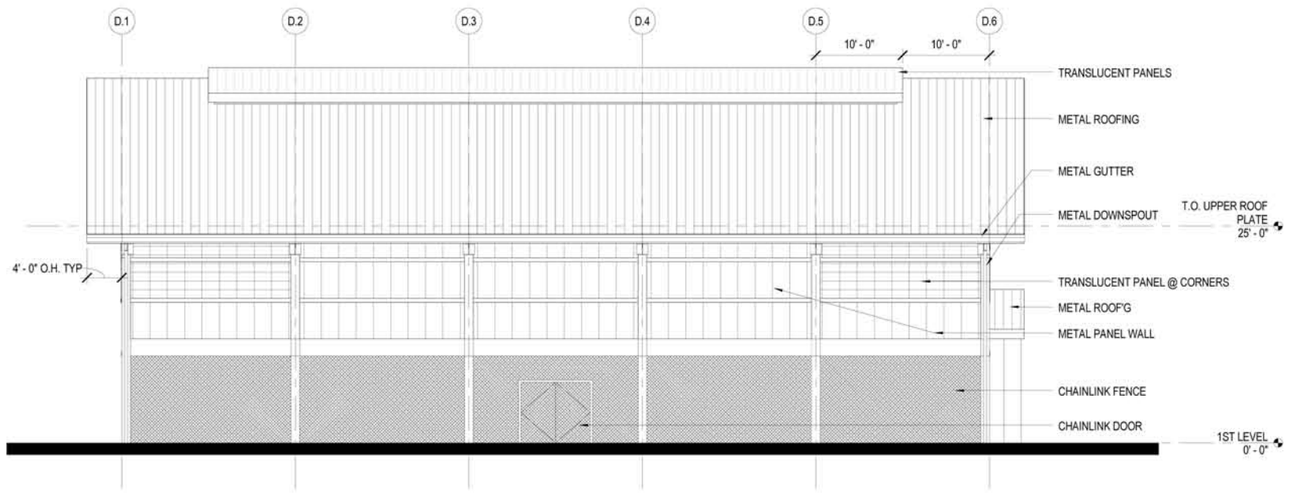
Figure 9-8 Building C Elevation



BLDG 'D' - COVERED PLAYCOURT - NORTH ELEVATION

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



BLDG 'D' - COVERED PLAYCOURT - EAST ELEVATION

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

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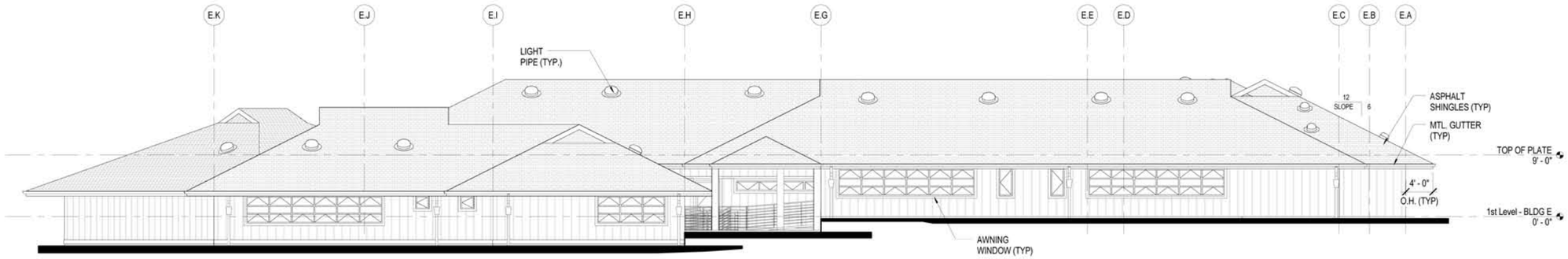
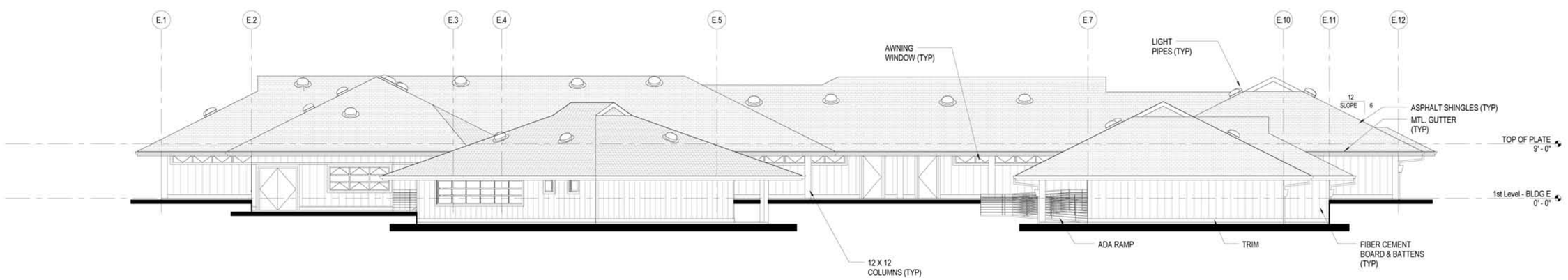
Figure 9-9 Building D Elevation



BLDG 'E' EXTERIOR ELEVATION - NORTH ELEVATION

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



BLDG 'E' EXTERIOR ELEVATION - EAST ELEVATION

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

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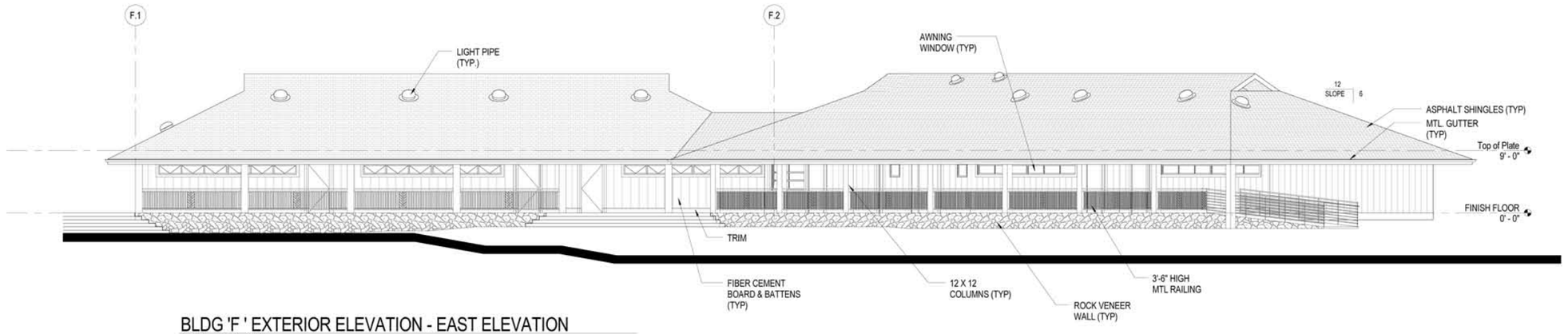
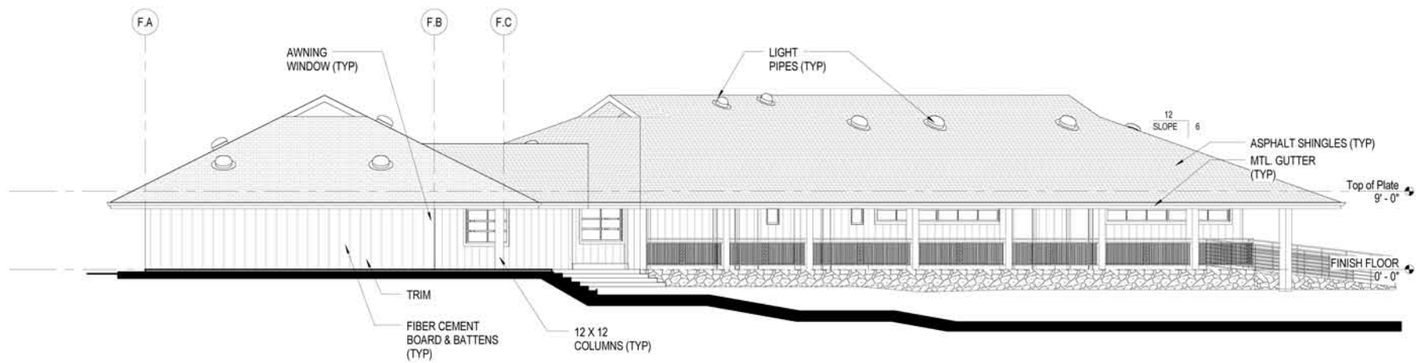
Figure 9-10 Building E Elevation



BLDG 'F ' EXTERIOR ELEVATION - EAST ELEVATION

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



BLDG 'F' EXTERIOR ELEVATION - SOUTH ELEVATION

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

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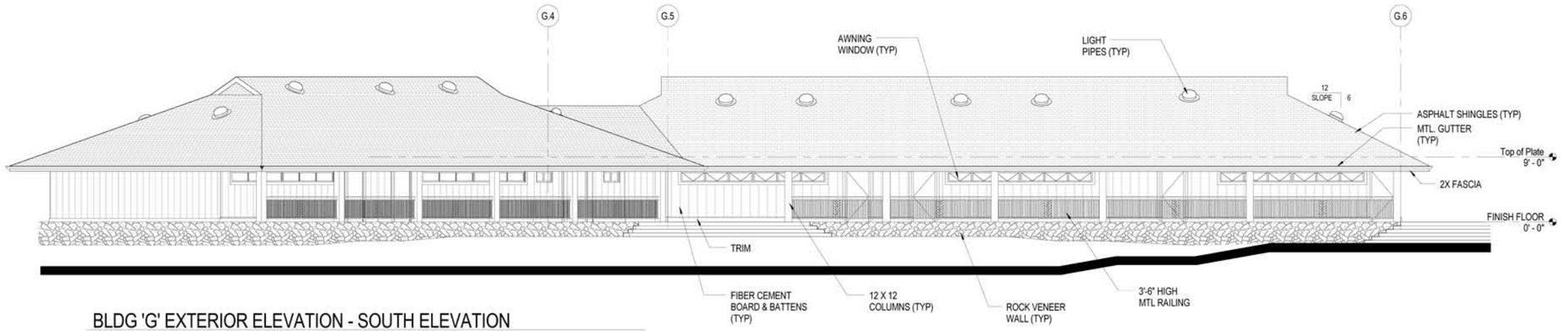
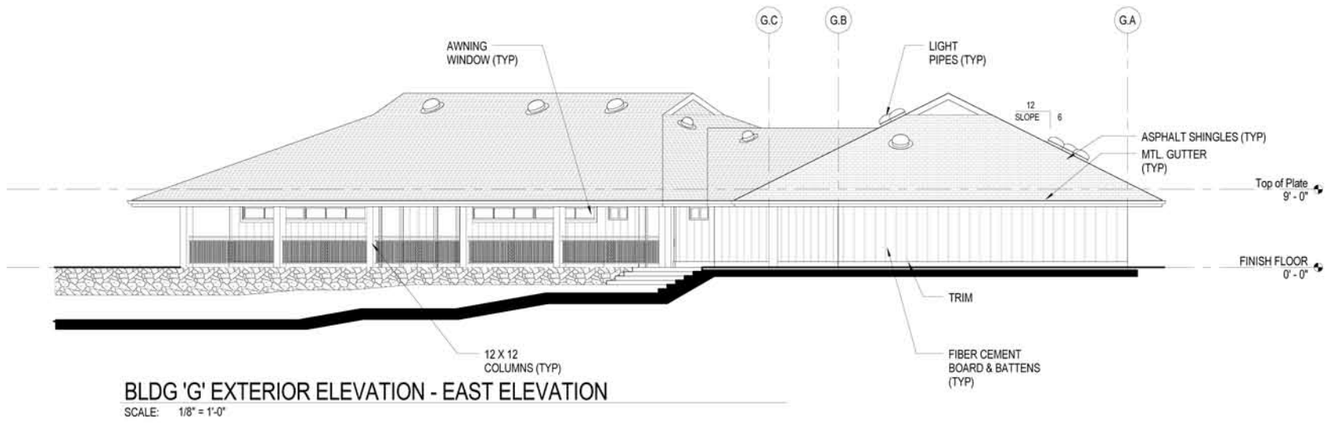
Figure 9-11 Building F Elevation



BLDG 'G' EXTERIOR ELEVATION - SOUTH ELEVATION

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



BLDG 'G' EXTERIOR ELEVATION - EAST ELEVATION

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

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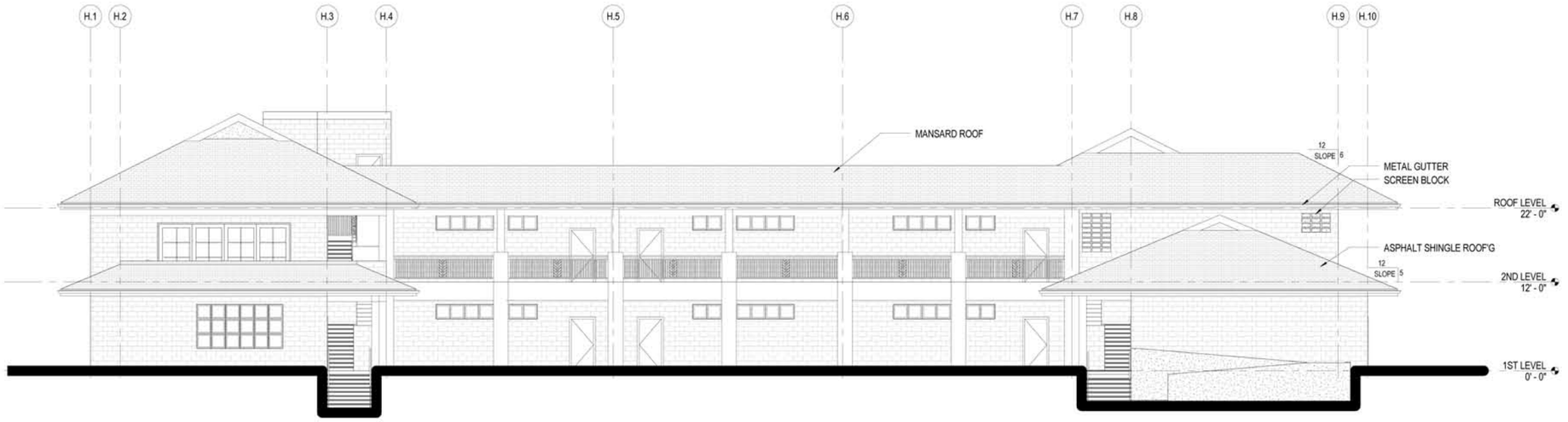
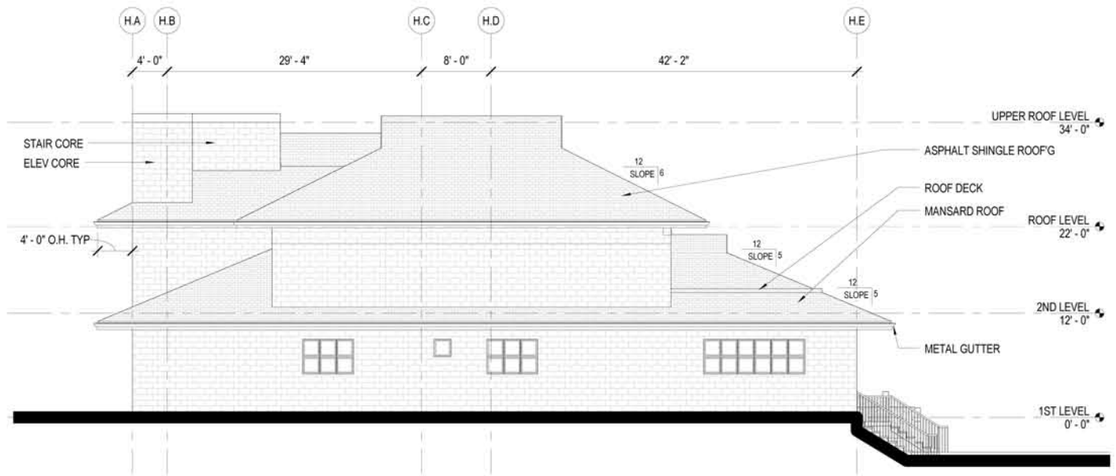
Figure 9-12 Building G Elevation



BLDG 'H' 4TH & 5TH GRADE - EAST ELEVATION

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



BLDG 'H' - 4TH & 5TH GRADE - SOUTH ELEVATION

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

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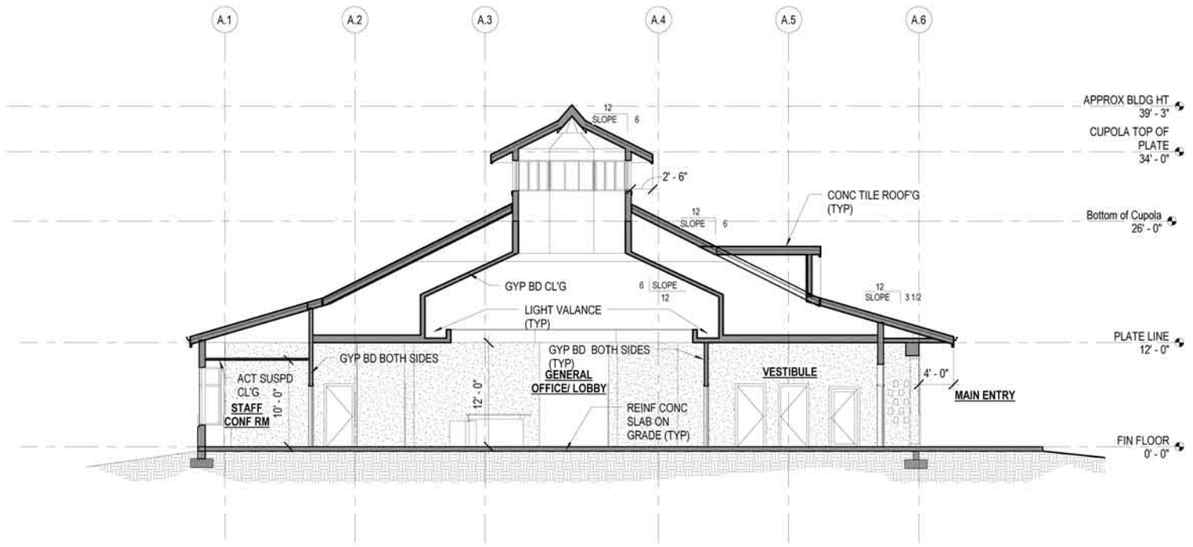
Figure 9-13 Building H Elevation



BLDG 'A' - ADMINSTRATION BUILDING SECTION

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

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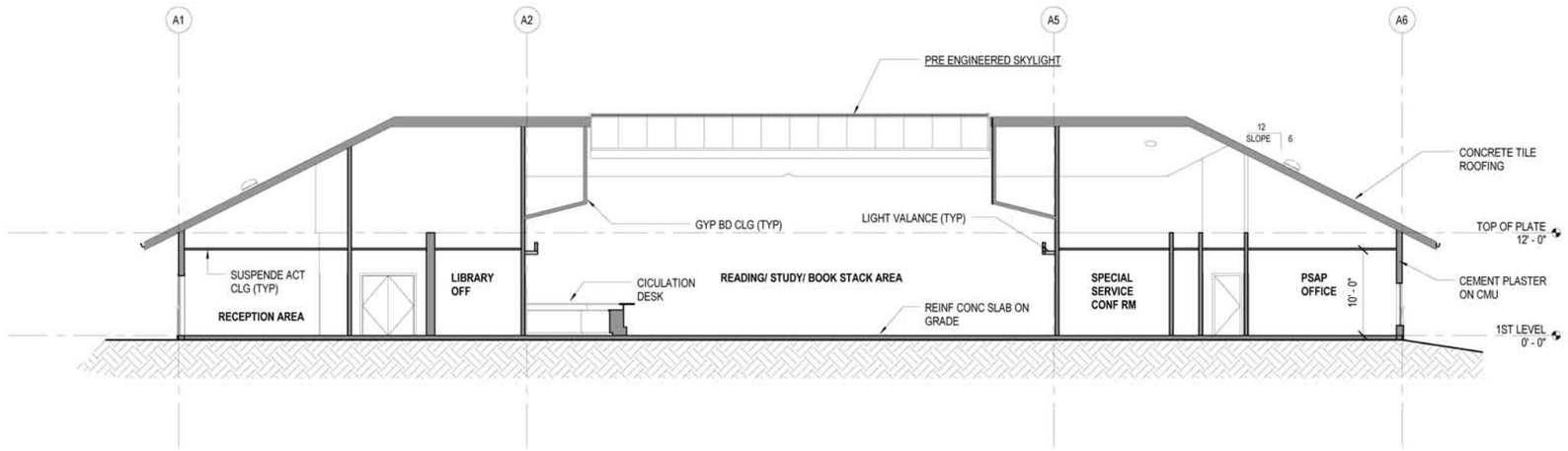
Figure 9-14 Building A Section



BLD 'B' - LIBRARY SECTION
SCALE: 1/8" = 1'-0"

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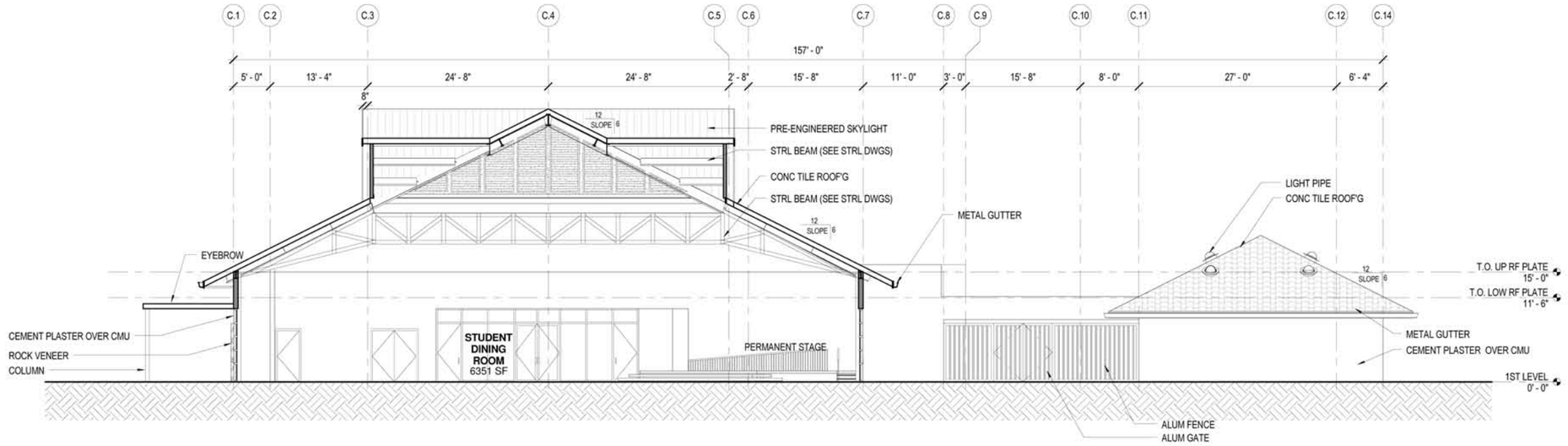
Figure 9-15 Building B Section



BLDG 'C' - CAFETARIA - CROSS SECTION

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

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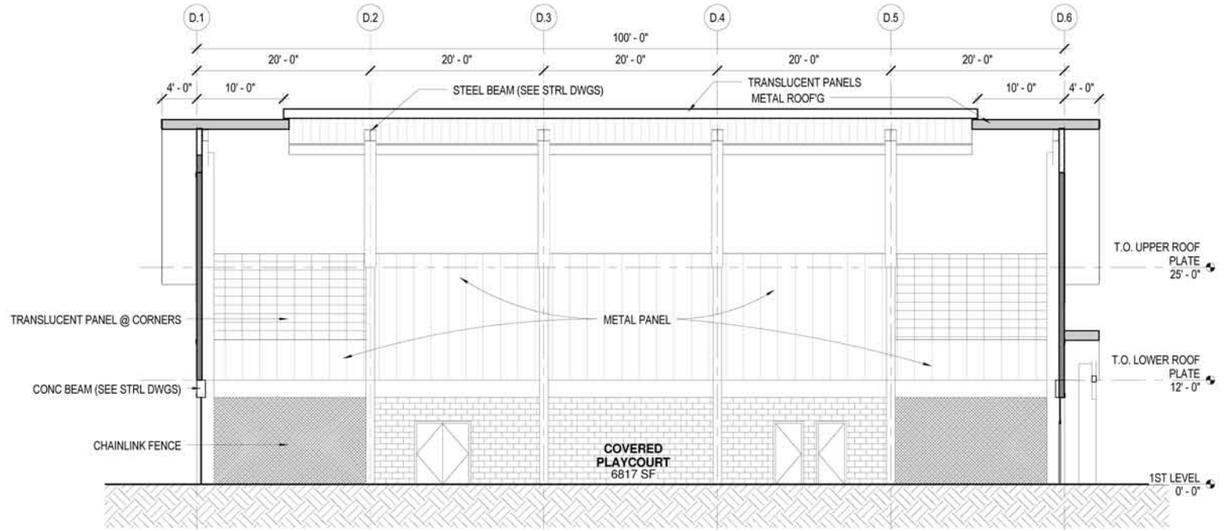
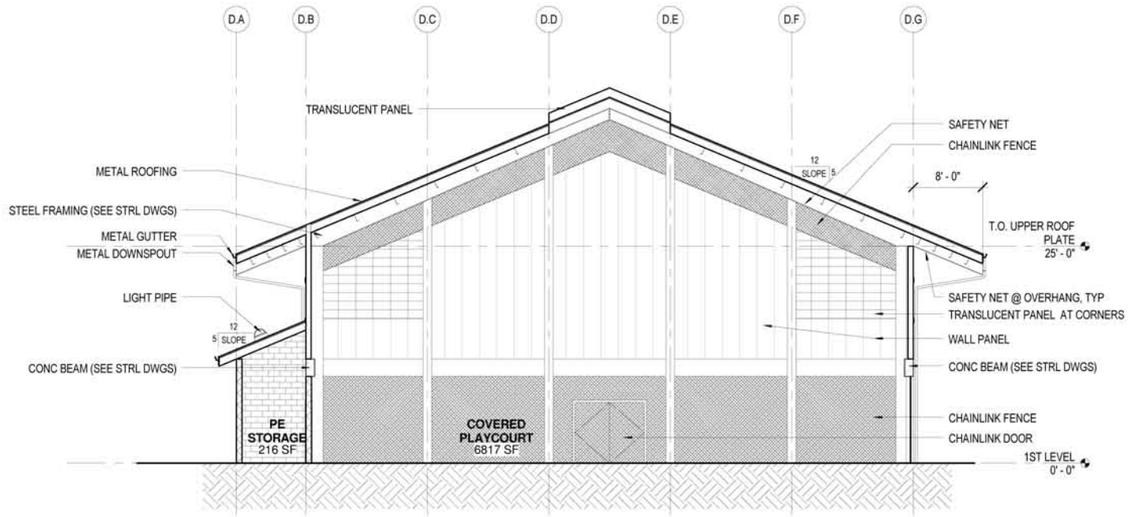
Figure 9-16 Building C Section



BLDG 'D' - COVERED PLAYCOURT - LONGITUDINAL SECTION

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



BLDG 'D' - COVERED PLAYCOURT - CROSS SECTION

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

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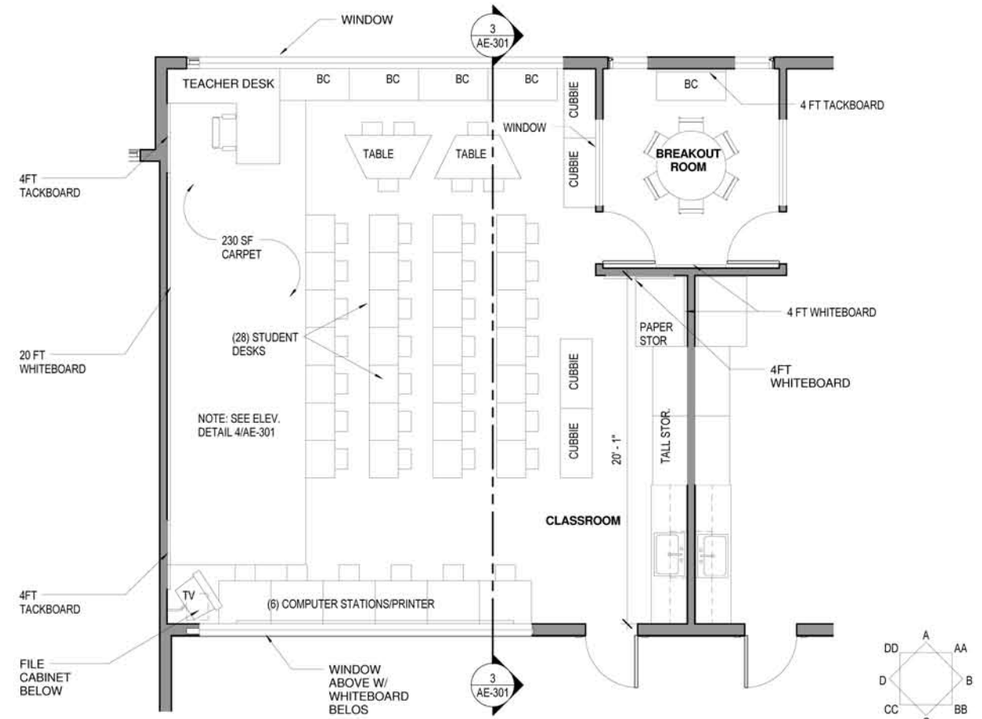
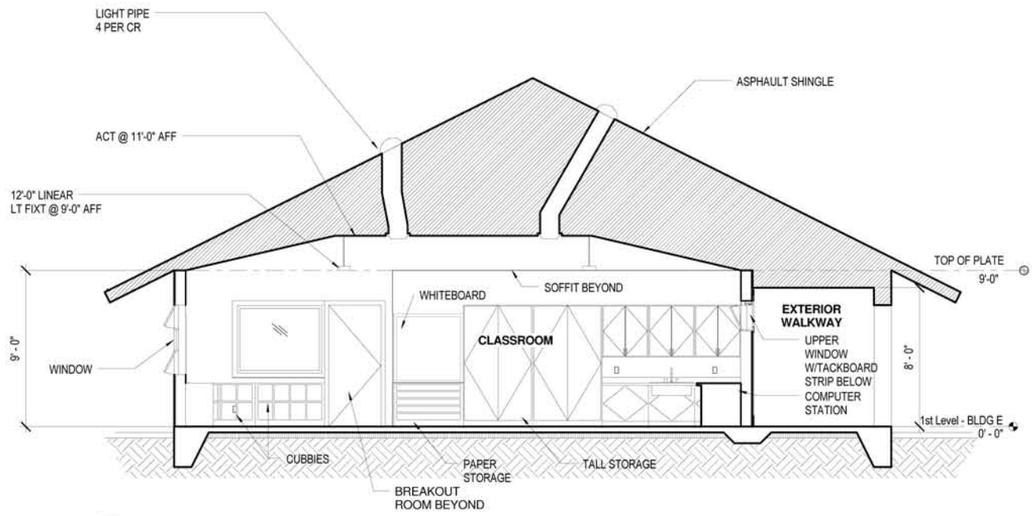
Figure 9-17 Building D Section



ENLARGED TYPICAL CLASSROOM FLOOR PLAN

SCALE: 1/4" = 1'-0"



3 AE-301 SECTION @ TYPICAL CLASSROOM

SCALE: 1/4" = 1'-0"

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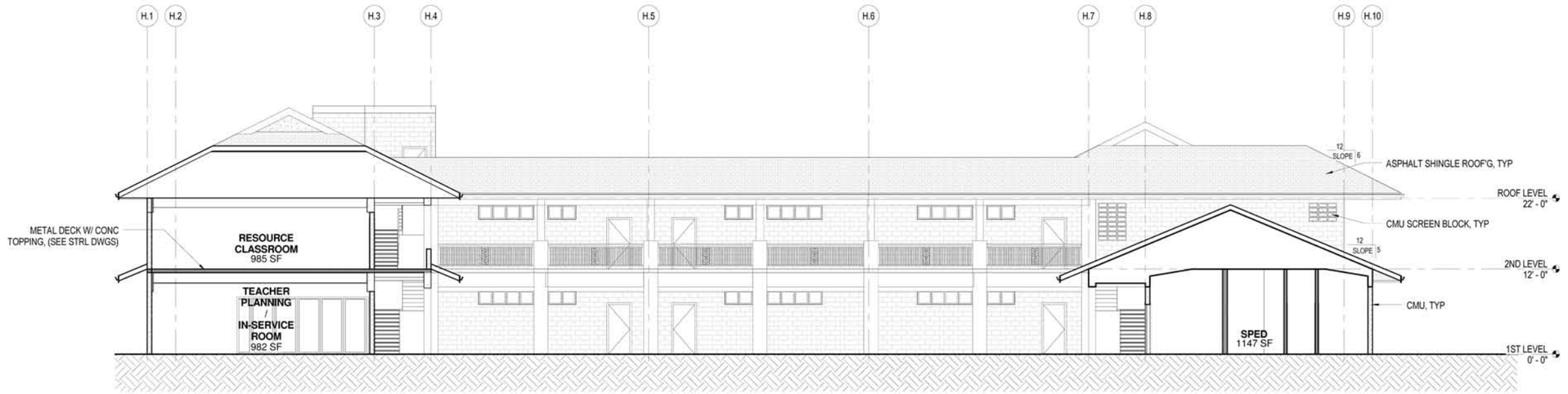
Figure 9-18 Typical Classroom Section



BLDG 'H' - 4TH & 5TH GRADE - LONGITUDINAL SECTION

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

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Figure 9-19 Building H Section

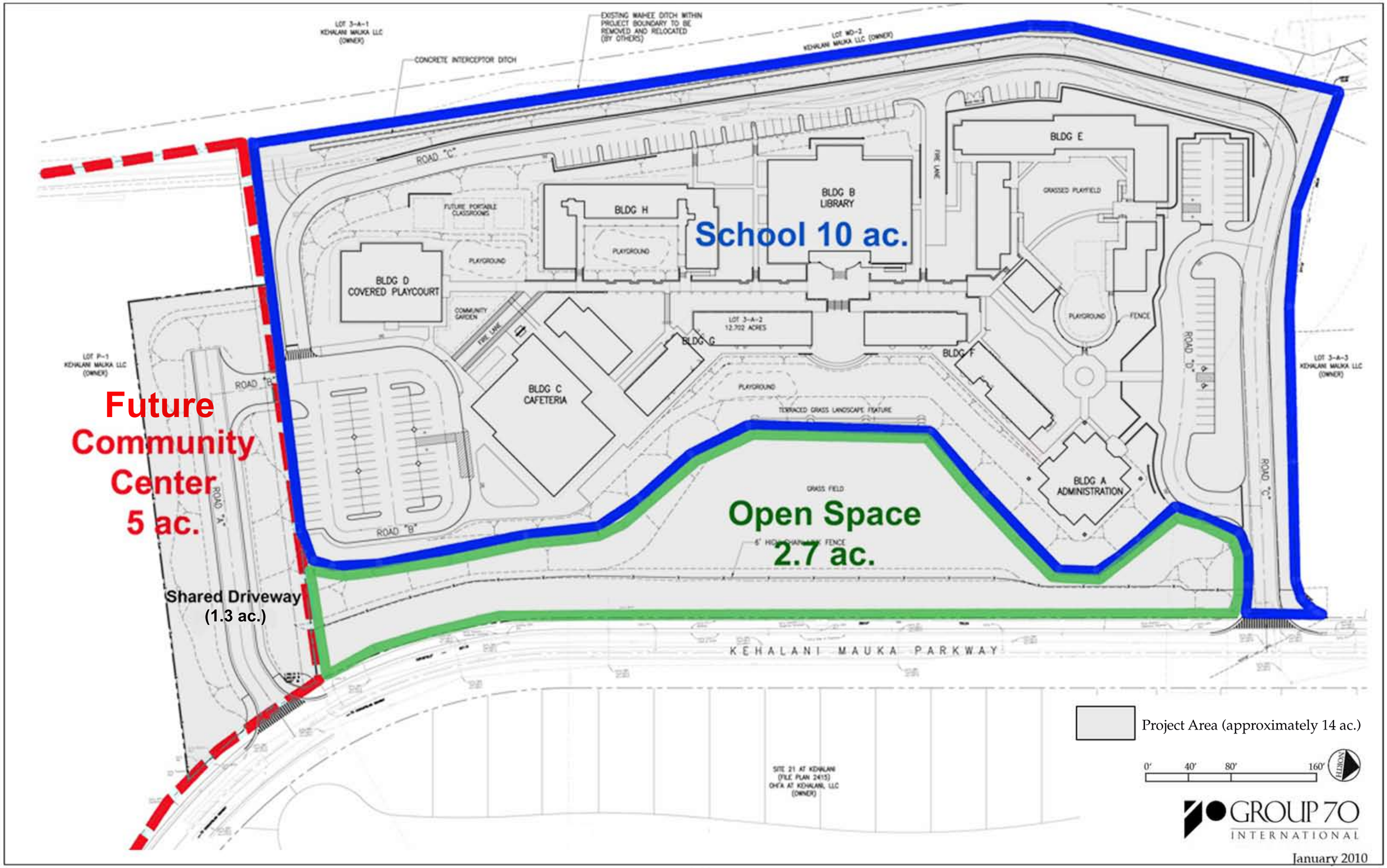

Figure 9-20 Proposed Land Uses

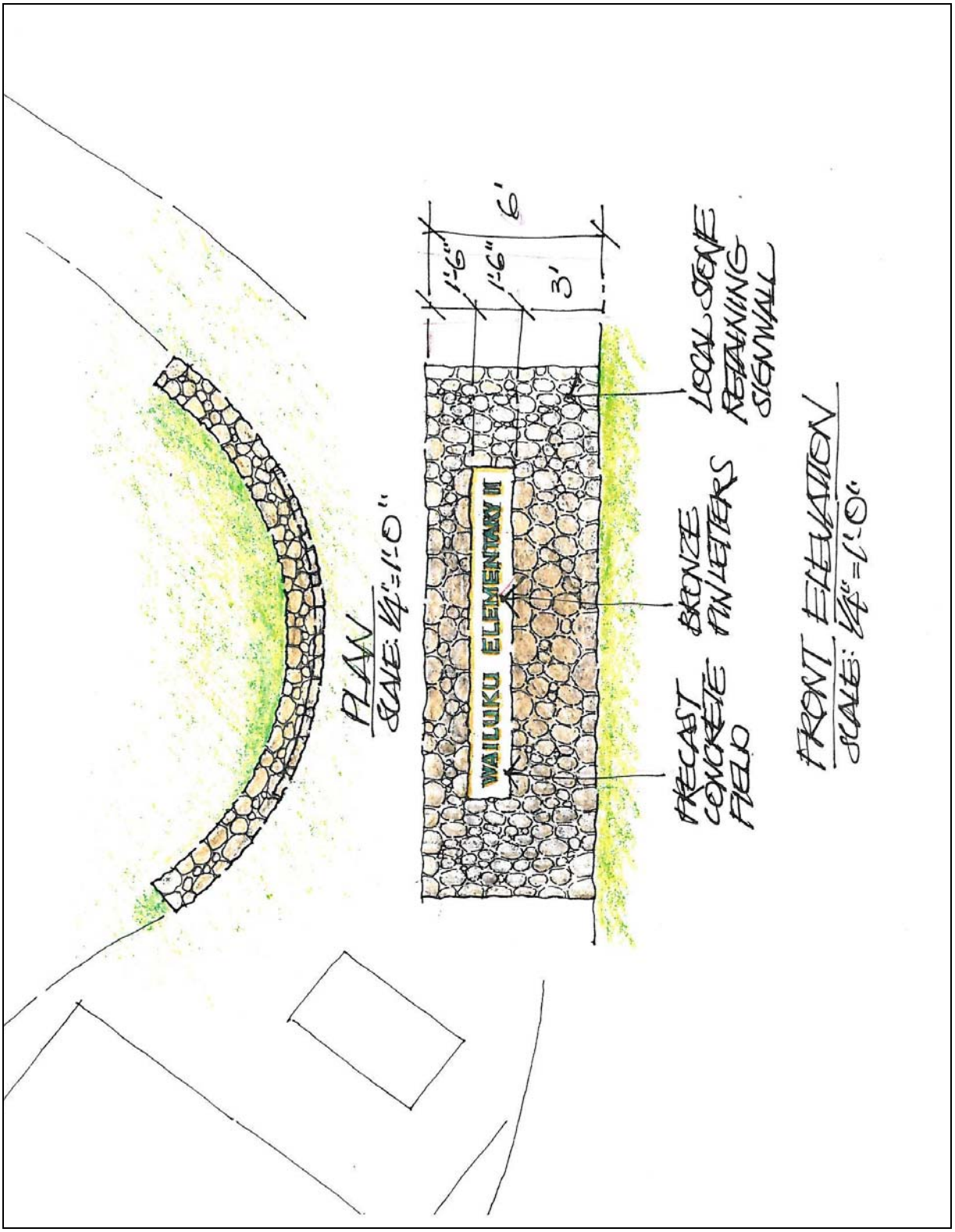

Figure 9-21: Signage
(Source: Walters, Kimura, Motoda, Inc. 2009)

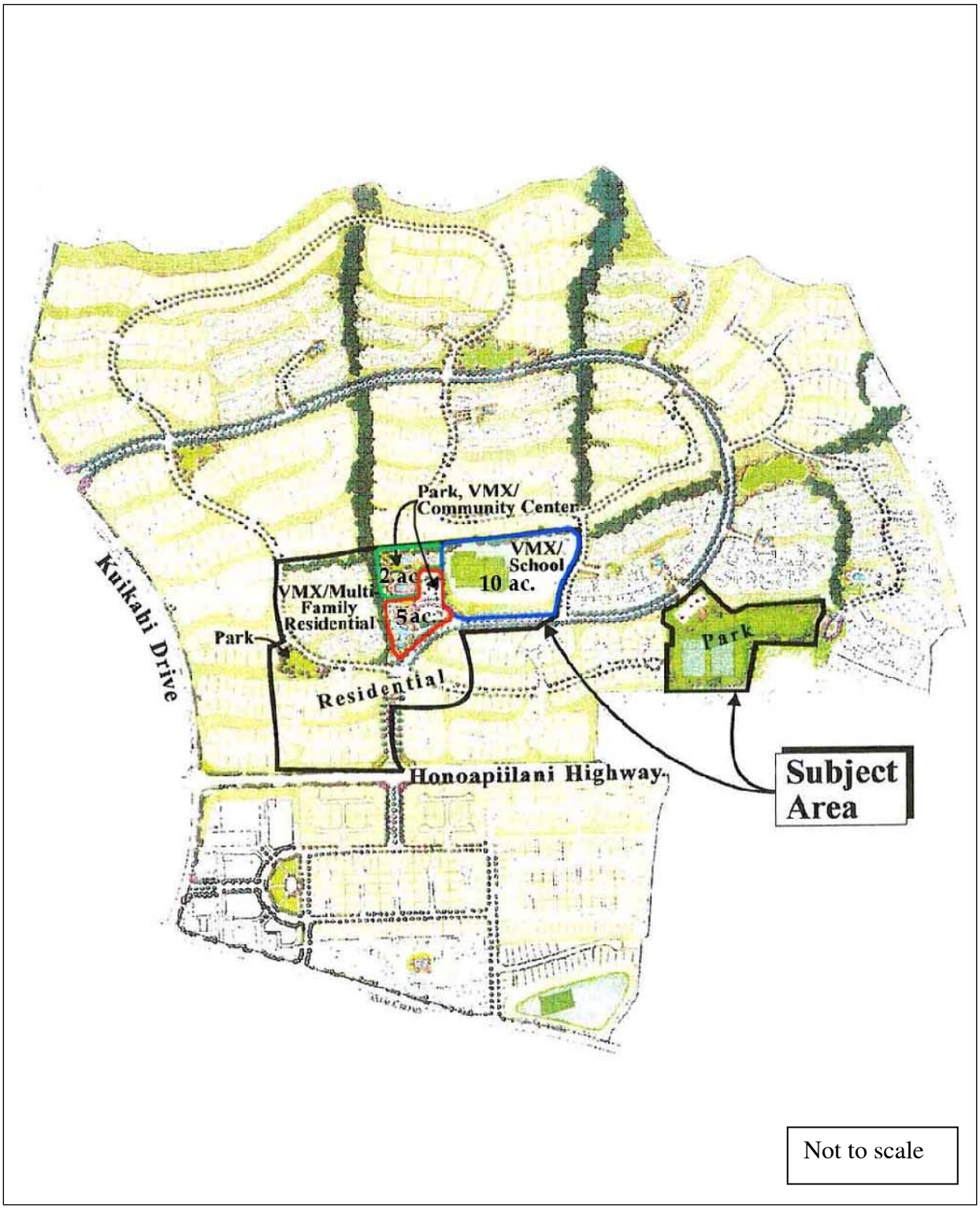

Figure 9-22: Kehalani Mauka Project District Phase II Site Plan Amendment 2002
(Base map Source: Munekiyo & Hiraga, Inc. 2002)

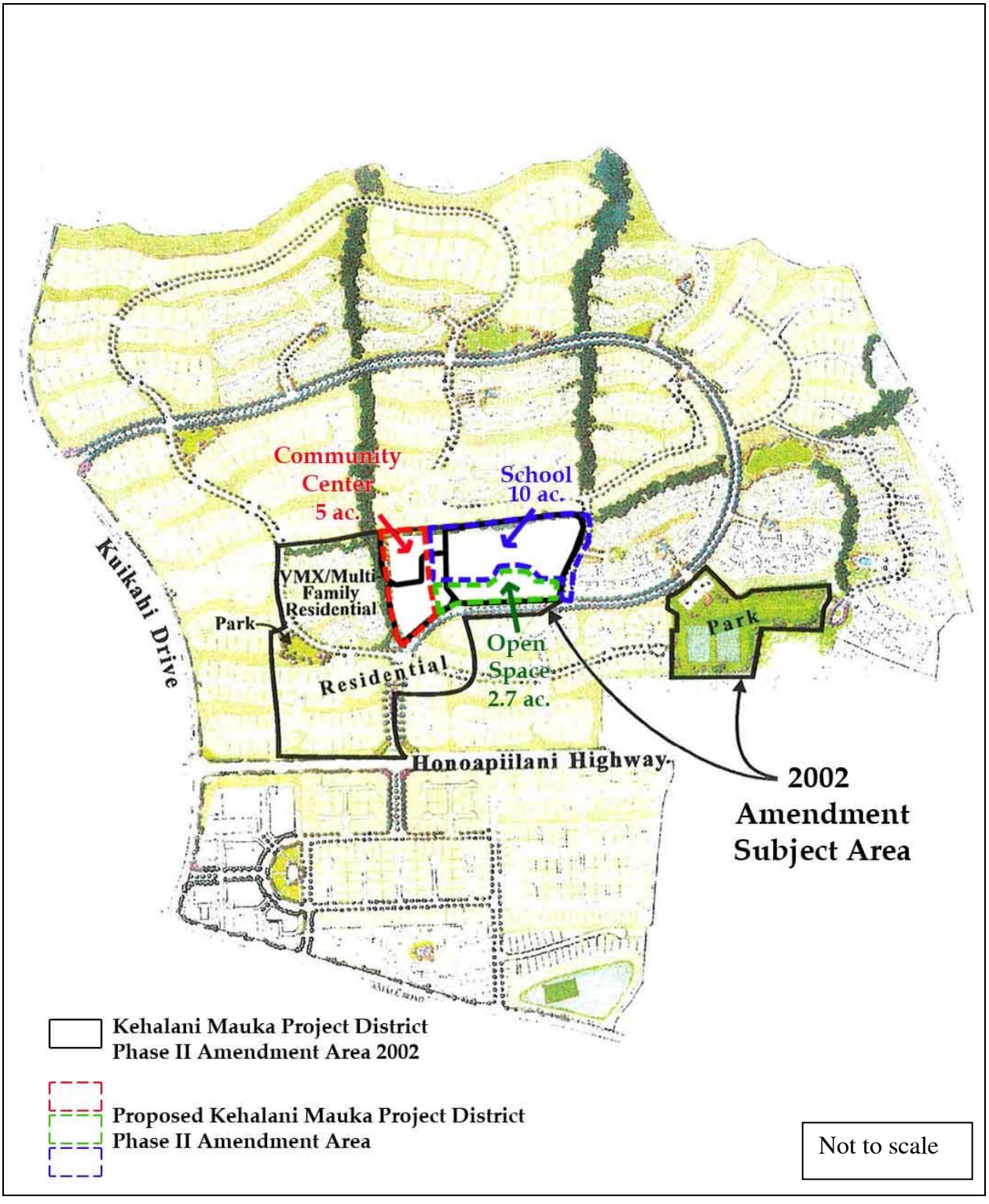

Figure 9-23: Proposed Kehalani Mauka Project District Phase II Amendment
(Base Map Source: Munekiyo & Hiraga, Inc. 2002)

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