HoKua Place
Section 343-5e HRS Second Draft
Environmental Impact Statement (2nd DEIS)
Volume I

Prepared for:
Accepting Authority
State of Hawai'i Land Use Commission
&
Petitioner
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October 2018

This Second Draft Environmental Statement (2nd DEIS) and all ancillary documents were prepared under my direction and supervision, and to the best of my Knowledge, fully address the document content requirements set forth in Secton 11-200-17, Hawai'i Administrateive rules.

_____
Ron Agor

HoKua Place - Section 343-5e HRS – Second Draft Environmental Impact Statement (2nd DEIS)

HoKua Place is the name of this project (the "Project"). It was previously identified as Kapa'a Highlands. The reader will note that several of the studies and references in this document carry the project's former name.

Under the provisions of Section 343-5e HRS, the applicant, HG Kauai Joint Venture LLC, and the accepting authority, State Land Use Commission, have determined at the outset that an environmental impact statement ("EIS") is required for the HoKua Place Project situated at (4) 4-3-003: 001 (portion) in Kapa'a of the Kawaihau District on the island of Kauai.

Pursuant to the requirements of Section 11-200-3, Hawaii Administrative Rules, and Section 11-200-15, Hawaii Administrative Rules, a Draft Environmental Assessment was published in May 2015. Due to the passage of time and intervening events, as well as the preparation of additional reports, it was recommended that a Second Draft Environmental Impact Statement (2nd DEIS) be prepared and published. This document is the Second Draft Environmental Impact Statement (2ND DEIS).

The following is a summary of the major changes in the Second Draft Environmental Impact Statement (2nd DEIS) from the original Draft EIS: Petitioner has conducted an updated Traffic Impact Assessment Report (TIAR), An Invertebrate Report, and an Agricultural Suitability Report on the property. Petitioner has also incorporated findings and and recommendations contained in the updated Kaua'I Kakua, Kauai General Plan. In addition, this 2nd DEIS incorporates responses to comments on the first Draft EIS.

Following publication of this Second Draft Environmental Impact Statement (2ndDEIS), reviewers will have an opportunity to comment on its contents toward the preparation of the Final EIS. The purpose of the EIS process is to disclose to government agencies, the general public, stakeholders and decision-makers the anticipated impacts of a project and to identify feasible actions that might be taken to mitigate potential impacts.

The following studies included have been conducted to determine the potential impacts which may result from the proposed project and identify appropriate mitigation measures. (Note that there was a project name change after the preparation of the studies - the project did not change - these reports address the proposed HoKua Place project.)

- Kapa'a Housing Market Study
- Kapa'a Highlands II Sustainability Plan
- Kapa'a Highlands Agricultural Master Plan
- Kapa'a Highlands Agricultural Suitability Report (New)
- Preliminary Engineering Report Drainage Improvements
- Preliminary Engineering Report Wastewater Improvements
- Updated Traffic Impact Assessment Report (New)
- Botanical Survey
- Biological Surveys
- Archaeological Assessment with Subsurface Testing
- Cultural Impact Assessment
- Invertebrate Report (New)

Project Name:	HoKua Place (The project was formerly referred to as Kapa‘a Highlands.)
Applicant & Property Owner:	HG Kaua‘i Joint Venture LLC 9911 S. 78th Avenue Hickory Hills, IL 60457
Approving Agency:	State of Hawai‘i Land Use Commission
Project Location:	Kawaihau District, Wailua, Kaua‘i, Hawai‘i
TMK:	(4) 4-3-003: 001 (portion)
Land Use Classification:	County Zoning: Agriculture General Plan: Urban Center State Land Use Designation: Agricultural
Land Area:	Approximately 97-acres Portions of the remainder of parcel (4) 4-3-003:001 will be used for well and water system uses
EIS Trigger:	Use of County Lands
Approvals Required:	LUC Boundary Amendment; County Class IV Zoning & Use Permits; County Council Approval for Zoning Change; Subdivision Approval; Building Permits

Summary:
HoKua Place is mix of lots, single-family and multi-family residential (with market and affordable prices) with complementary uses. This 97-acre development seeks to fill the housing needs of Kapa‘a within the Neighborhood General designation, consistent with the Updated Kaua‘i General Plan approved in 2018. HoKua Place is proposed to be a sustainable community that preserves the rural-like character of Kapa‘a while meeting its growing housing needs.

Approximately 97-acres will be subdivided into single family and multifamily lots providing for an approximate total of 683-multi-family units and 86-single family lots and homes; affordable housing will be built on-site and will conform to Kaua‘i County Ordinance. In addition, HoKua Farm Lots shares some of the project infrastructure and is included in this analysis.

The project includes open space encompassing 14.3-acres; a 3.1-acre park adjacent to the existing Kapa‘a Middle School with an area for the county’s proposed relocation of the Kapa‘a county swimming pool; and 1.4-acres for commercial use. In accordance with County and State Transportation requirement, improvements will include an intersection on Kapa‘a Bypass Road, bus stops, sidewalks and bike and walking paths to the existing Kapa‘a Middle School.

The direct, indirect, secondary and cumulative impacts associated with the project would be localized or short-term, occurring during the construction phase.

Agencies and Organizations who were sent the Section 343-5e HRS Draft Environmental Impact Statement for comments:

State of Hawai‘i
Department of Agriculture
Department of Accounting & General Services
Department of Business, Economic Development & Tourism
Department of Business, Economic Development & Tourism – Technology Division
Department of Business, Economic Development & Tourism - Office of Planning
Department of Business, Economic Development & Tourism - Land Use Commission
Department of Education - Planning Branch
Department of Education - Hawai‘i State Library, Kapa‘a Library
Department of Hawaiian Home Lands
Department of Health
Department of Health - Office of Environmental Quality Control
Department of Land & Natural Resources
Department of Land & Natural Resources - State Historic Preservation Division
Department of Transportation
University of Hawai‘i - Environmental Center
University of Hawai‘i - Water Resources Research Center
University of Hawai‘i - Kaua‘i Community College Library
Office of Hawaiian Affairs

County of Kaua‘i
Office of the Mayor
Department of Parks & Recreation
Department of Planning
Department of Public Works
Department of Transportation
Department of Water
Fire Department
Police Department

Federal
Department of the Interior Fish and Wildlife Service

Other
The Garden Island Newspaper

Likookalani Maltin

Sierra Club- Kaua’i Group

Wailua-Kapa’a Neighborhood Association

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Chapter 1 - Introduction

This Second Draft Environmental Impact Statement (FEIS) represents HoKua Place's analysis in compliance with State environmental review statutes including Chapter 343, Hawai'i Revised Statues (HRS). (The Project was formerly referred to as Kapa'a Highlands. Some of the Exhibits and other references carry the former name.)

This Second Draft Environmental Impact Statement (DEIS) discloses and evaluates the activities proposed in the Project of the HoKua Place Project. The purpose of the DEIS is to inform the relevant county, state and federal agencies and the public of the likely environmental consequences of the activities in developing the HoKua Place Project.

1.1 Overview & Background

HoKua Place is a proposed Project of a mix of single-family and multi-family residential, market and affordable priced homes, commercial and other uses (including roads, water and wastewater systems.) This 97-acre ocean view planned community, located mauka of Kapa'a town, is positioned to be the pride of Kapa'a. The Project seeks to fill the housing needs of Kapa'a. Situated in close proximity to schools and commercial areas, HoKua Place is proposed to be developed as a sustainable community that preserves the rural-like character of Kapa'a while meeting its growing housing needs.

HoKua Place will comprise approximately 97-acres of TMK: (4) 4-3-03:01 (portion) (the "Property"), a larger, approximately 163-acre parcel. HoKua Farm Lots, an adjoining agricultural community, will share some of the infrastructure and is included in this analysis. A Solar farm located on HoKua Farm Lots (formerly known as Kapa'a Highlands I) produces 1.18 megawatts of energy that feeds into the Kaua'i Electric distribution grid. A copy of the tentative subdivision approval for the HoKua Farm Lots is attached as Exhibit O.

The Kapa'a By-Pass Road separates the Property from Kapa'a Town. The Property is on the north-west corner of the Kapa'a By-Pass Road and Olohena Road. Olohena Road runs along and adjacent to the east and north boundaries of the Property. The Kapa'a Middle School is located on the northern end of the Property, fronted by Olohena Road.

HoKua Place, formerly known as Kapa'a Highlands II) , has received letters of support from the County Mayor, County Planning Department, County Housing Department, County Department of Public Works regarding wastewater, State Department of Transportation, County Water Department and others.

1.2 Purpose & Need

HoKua Place (formerly known as Kapa‘a Highlands II) has submitted a petition to the Land Use Commission for a boundary amendment. The petition is to change the State's Land Use District from Agricultural Land Use District to Urban Land Use District. The Project will respond to the General Plan's designation of the property as Neighborhood General and the policies of the General Plan to guide growth on Kaua'i and the need for housing in the area.

In February 2018, the Kaua'i County Council and the Mayor approved the updated County of Kaua'i Kakou, General Plan, hereafter referred to as the "General Plan". The approved General Plan designates HoKua Place as Neighborhood General. This new land use designation applies to areas within a half mile or 10-minute walk from a Neighborhood Center. It is intended for medium intensity, mixed-use environments that support a town core with housing, services, parks, civic/institutional home occupation and commercial use. The Neighborhood General designation is intended to replace the county's Urban Center designation in Kapa'a. The Neighborhood General designation is consistent with the state's Urban District designation.

One of the key policies articulated in the Updated Kaua`i General Plan is to concentrate growth within or adjacent to existing towns in order to preserve Kaua‘i's rural character. Another key policy is to satisfy the projected housing deficit by facilitating the construction of approximately 9,000 new housing units on Kaua‘i by 2035. Another policy is to design health and complete neighborhoods. The updated Kauai General Plan replaces the former Urban designated areas in Kapa'a with the Neighborhood General designation.

The Housing Sector of the Updated Kauai General Plan contains the following goals:

- Provided housing to accommodate growth within and near town centers.
- Prevent housing sprawl into Open and Agriculture lands.
- Provide housing for multigenerational families and aging in place.
- Ensure affordable housing is provided in proximity to job centers.

The General Plan is based on the community's vision for Kaua'i's future by establishing the following "Goals" and "Policies".

The vision sets the desired long-range outcome through a series of statements organized by the following Goals:

Goal #1 - A Sustainable Island
Goal #2 - A Unique and Beautiful Place
Goal #3 - A Healthy and Resilient People
Goal #4 - An Equitable Place, With Opportunity for All

The General Plan has 19 Policies to guide growth on Kauai. Policy #1 is a policy to manage growth to preserve rural character. This policy emphasizes to "Preserve Kaua'i's rural character by limiting the supply of developable land to an amount adequate for future needs. Prohibit development not adjacent to towns. Ensure new development occurs inside growth boundaries and is compact and walkable.

The General Plan's "Guide to Growth also include the following policies:

Policy #1	Manage Growth to Preserve Rural Character
Policy #2	Provide Local Housing
Policy #3	Recognize Kaua'i's Individual Towns and Districts
Policy #4	Design Healthy and Complete Neighborhoods
Policy #5	Make Strategic Infrastructure Investments
Policy #6	Reduce Cost of Living
Policy #7	Build Balanced Multimodal Transportation Systems
Policy #8	Protect Kaua'i's Scenic Beauty
Policy #9	Uphold Kaua'i as a Unique Visitor Destination
Policy #10	Help Business Thrive
Policy # 11	Help Agricultural Lands be Productive
Policy # 12	Protect our Watersheds
Policy #13	Complete Kaua'i's Shift to Clean Energy
Policy #14	Prepare for Climate Change
Policy #15	Respect Native Rights and Wahi Pana
Policy #16	Protect Access to Kaua'i's Treasured Places
Policy #17	Nurture Our Keiki
Policy #18	Honor Our Kupuna
Policy #19	Communicate with Aloha

The HoKua Place Project conforms to and implements the housing policies of the Updated Kaua‘i General Plan by developing land contiguous to Kapa‘a Town and its neighboring residential community, thereby preserving the rural-like character of the surrounding area. As noted in Figure 5-6, the "East Kauai Planning District Land Use Map" included in the Updated Kaua‘i General Plan, the Property has a "Neighborhood General" land use designation.

The lands surrounding the Property to the north and east are designated as "Residential Community" and "Neighborhood General" by the Updated Kauai General Plan. The Property is contiguous to existing urban lands, to the south and across the Kapaa Bypass Road. These existing lands are classified Urban by the State Land Use Commission and zoned Residential by the County of Kaua‘i.

Furthermore, HoKua Place meets the "Goals" and "Policies" of the General Plan as shown Chapter 5, Section 5.1.1, herein.

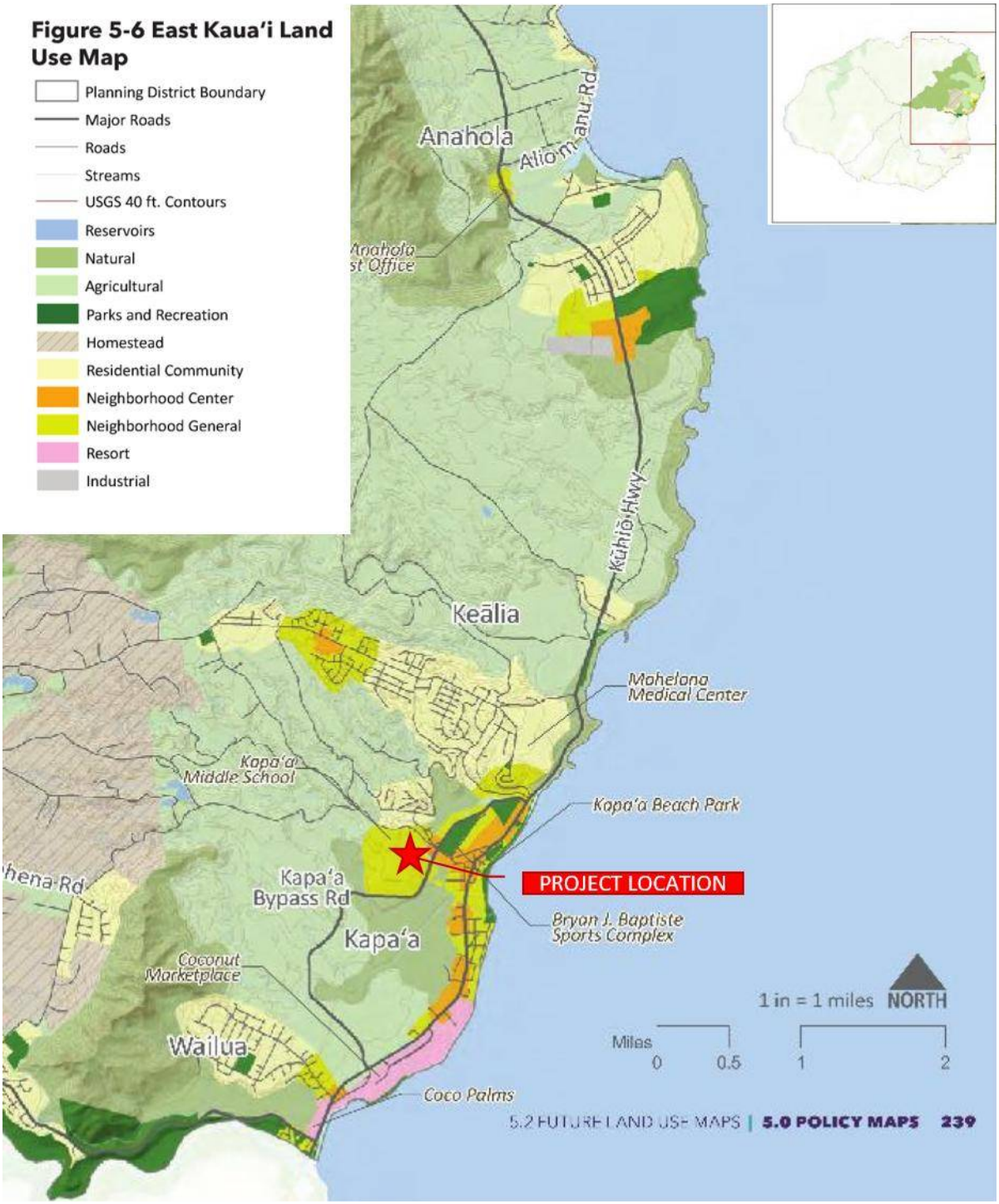


Figure 5-6 East Kaua'i Land Use Map
Planning District Boundary
Major Roads
Roads
Streams
USGS 40 ft. Contours
Reservoirs
Natural
Agricultural
Parks and Recreation
Homestead
Residential Community
Neighborhood Center
Neighborhood General
Resort
Industrial
Anahola
Aliomanu Rd
Anahola st Office
Kūhiō Hwy
Keālia
Mahelona Medical Center
Kapa'a Middle School
Kapa'a Beach Park
PROJECT LOCATION
Kapa'a Bypass Rd
Kapa'a
Bryan J. Baptiste Sports Complex
Coconut Marketplace
Wailua
Coco Palms
1 in = 1 miles
NORTH
Miles
0
0.5
1
2
5.2 FUTURE LAND USE MAPS | 5.0 POLICY MAPS 239

As discussed in the Housing Market Study prepared for HoKua Place (formerly known as Kapa'a Highlands II), the cycle for both the economy and real estate is coming off of its 2007-2009 dramatic fall-off in overall activity and in values and Kauai's residential markets are now in the up-cycle.

Looking ahead, these markets are anticipated to right themselves and the county will resume a pattern of multi-year periods of both economic growth and job and personal income expansion. In turn, this will stimulate housing demand.

The Housing Market Study concluded that HoKua Place/Kapa'a Highlands II will help to satisfy current and future housing demand, demand that has been deep and persistent, from both offshore and on-island households. It concluded that the development will sell well, particularly timed to the up cycle in the housing market.

Finally, the historically low level of permitting activity indicates there will be little or no competitive interference in the short run to this Project's offerings coming from other housing development on the island. The following table describes the potential pricing at retail for each product type in the development.

KAPAA HIGHLANDS PRODUCT SALES PRICE PROJECTION

Housing Produced	Total Units	Retail Price Per Unit	Home Site Only Prices
A House Lot Package, Large Lots (10,000 sf)	36	$800,000-$950,000	$266,000-$316,000
A House Lot Package, Medium Lots (7,500 sf)	50	$650,000-$700,000	$216,000-$233,000
Multi-Family Dwellings (4 Plex, 8 DU/Ac)	500	$250,000-$350,000	
Affordable Housing Dwellings (12 DU/Ac)	183	$125,000-$175,000	

The Market Analysis notes that these expected prices, particularly the affordable ones, are below the historical trend for Kaua'i housing. Thus, sales are expected to start up strongly. Also, as the development is weighted heavily on multifamily housing production, the projected price of $300,000 (mid-point) is well under the ten-year average for a resale condo sale (which is just under $400,000). The other components of the development plan are also well priced.

Finally, the study estimates absorption. With the up cycle noted to be underway, strong initial sales are expected in year one. This will be maintained over the following 2-4 years. With the cycle's top, sales will begin to drift downwards in somewhat a gradual fall-off. There then will be 2-3 years (two years shown) of slow sales, coinciding with the bottom of the market.

KAPAA HIGHLANDS PRODUCT CLOSING PROJECTION

Product	2019	2020	2021	2022	2023	2024	2025	2026	3
Large Lots	11	9	9	7					
Medium Lots	15	15	14	6					
Multi-Family	90	100	90	70	50	30	30	40	
Affordable Housing	40	40	40	35	28				

The Housing Market Analysis for HoKua Place (formerly known as Kapa‘a Highlands II) is included as Exhibit A at the end of the DEIS.

1.3 Proposed Actions

The Project proposes to develop HoKua Place into an approximately 97-acre single-family and multi-family residential subdivision with other complementary uses.

Approximately 97-acres will be subdivided into single family lots ranging from 7,500 to 10,000 square feet as well as multifamily lots of varying size. A total of 683-multi-family units and 86-single family lots and homes are planned. Open space encompassing 14.3-acres will be developed.

The affordable housing element of the Project will conform to Kaua‘i County Ordinance No. 860, Kaua‘i’s new housing policy. This ordinance requires developers to sell or rent up to thirty percent (30%) of the total residential units for affordable housing. However, the Kaua‘i housing policy provides incentives to developers who provide the required affordable units on-site. HoKua Place will be providing all of its affordable units on site. The proposed Project will provide much needed affordable housing in the East Kaua‘i region.

The multi-family units will be designed in a range of bedroom configurations that will best meet the demand for housing by providing designs that apply to different family types, including starter families, empty nesters, families with children, and households that qualify for affordably priced housing.

The design of the single family units will appeal to some of those in the aforementioned multi-family demographic groupings, but will go further by addressing the needs of large families, families wanting to be close to the Middle School, trans-generational families needing adequate (larger and more defined) living space, and professional families or those with multiple wage-earners.

Sales prices (with projected prices as noted in 2015 dollars:) for the market single-family lots are anticipated to be sold in the range of $216,000 to $316,000 (home site only), depending upon the size and location of the lots. Market single-family houses would be in the $650,000 to $950,000 range (home and lot). The market multi-family units are proposed to be sold in the range $250,000 to $350,000 (average unit prices), depending on size and location. Prices are subject to market conditions. Affordable multi-family units would be sold in compliance with the Kauai County Housing Code.

A 3.1-acre park is proposed adjacent to the existing Kapa‘a Middle School. The park will have an area for the county’s proposed relocation of the Kapa‘a County swimming pool.

A 1.4-acre parcel is proposed for commercial use. A country type store and small personal service types of use are anticipated.

A remnant parcel of 1-acre on the Makai side of the Kapa‘a By-Pass road is also proposed as commercial use or for sub-stations for the police and fire departments. The proposed roadway through the Project will include two bus stops and sidewalks on one side. A bike and walking path are also proposed from the By-Pass road up to the existing Kapa‘a Middle School.

Approximately 14.3-acres are proposed for open greenway areas. Subdivision improvements are anticipated to commence upon securing of all necessary land entitlements and building permits. The estimated cost for the subdivision improvements is $22-million.

Project Components include:

Mix of single-family and multi-family residential (with projected prices noted in 2015 dollars - final pricing is subject to market conditions:)

- 86-single family (lots ranging from 7,500 to 10,000 Sq Ft.)
  - $216,000.00 to $316,000.00 (Home Site Only)
  - $650,000.00 to $950,000.00 (House and Lot)
- 500-multi-family
  - $250,000.00 to $350,000.00 (average Unit Prices)
- Affordable units on site in conformance with Kaua‘i County Ordinance
  - Affordable multi-family units on site (The number & pricing will be in compliance with Kaua‘i Housing Code)

Open space encompassing 14.3-acres including:

- 3.1-acre park adjacent to Kapa‘a Middle School
  - Relocation of County Swimming Pool to park
- Greenways surrounding development

Commercial Areas totaling 1.4-acres:

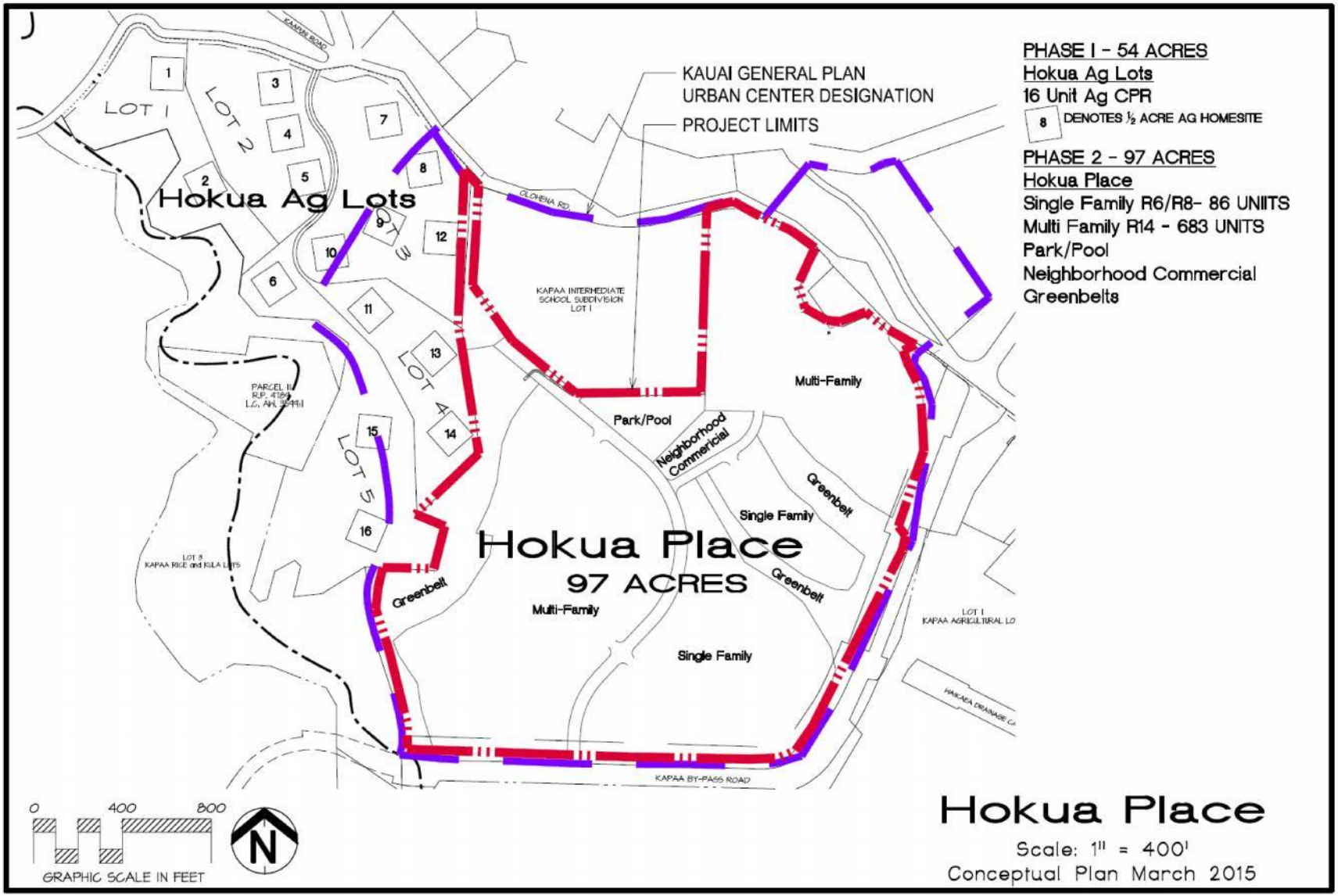
- Stores, personal services
- Land for police/fire sub-stations

Infrastructure Improvements:

- Water/Wastewater
  - Water Master Plan approved by County Water Department
  - Well on site to be dedicated to County Water Department or Private
  - Contributions to repairs of Kapa‘a Sewer Treatment Plant

Transportation:

- Dedication of Kapa‘a By-Pass Road to the State
- Intersection improvements on Kapa‘a Bypass Road
- Complete street multi-modal roadway running through the property
- Bus stops located along roadway
- Bike/Walking path


KAUAI GENERAL PLAN
URBAN CENTER DESIGNATION
PROJECT LIMITS
PHASE I - 54 ACRES
Hokua Ag Lots
16 Unit Ag CPR
8 DENOTES ½ ACRE AG HOMESITE
PHASE 2 - 97 ACRES
Hokua Place
Single Family R6/R8- 86 UNITS
Multi Family R14 - 683 UNITS
Park/Pool
Neighborhood Commercial
Greenbelts
Hokua Ag Lots
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
KAMAMA ROAD
KAPAA INTERMEDIATE SCHOOL SUBDIVISION LOT 1
PARCEL II R.P. 4184 L.C. AW. 3249:II
LOT 3 KAPAA RICE and KULA LOTS
Hokua Place
97 ACRES
Multi-Family
Park/Pool
Neighborhood Commercial
Greenbelt
Single Family
KAPAA BY-PASS ROAD
LOT 1 KAPAA AGRICULTURAL LO
0 400 800
GRAPHIC SCALE IN FEET
N
Hokua Place
Scale: 1" = 400'
Conceptual Plan March 2015

1.4 Responsible Agencies & Funding

HoKua Place is owned by HG Kauaʻi Joint Venture LLC (the "Petitioner")

Accepting Agency: State of Hawaiʻi Land Use Commission (LUC)

1.5 Project Development Status & Implementation Schedule

The Project has been conceptualized since the summer of 2009, with cooperation and encouragement of the County Planning Department. Once LUC approval is received, County permitting will be sought. The completion time frame for the entire project to be built out is ten years.

1.6 Required Permits & Approvals

A number of permits or other approvals may be necessary prior to development of HoKua Place. The following list (Table 1.6.1) represents those permits or approvals identified to date. Additional permits might be identified subsequently if warranted by modifications, mitigation measures or refinements in final design.

Table 1.6.1 - Permits and Approvals

Permit/Approval	Applicable Activities	Applicable Areas	Regulatory Agency
Boundary Amendment - Land Use District change from Agriculture to Urban	Development/Activities on Project site	Statewide	State of Hawaiʻi Land Use Commission (LUC)
Zoning	Development/Activities	Countywide	County of Kauaʻi
National Pollutant Discharge Elimination System (NPDES)	Discharge of any pollutant, altering the quality of any discharge, increasing the quantity of any discharge.	Surface streams and coastal waters of the State	State of Hawaiʻi Department of Health (DOH)
Grading Permit	Grading	Countywide	County of Kauaʻi
Subdivision Approval	Dividing or consolidating parcels of land for right-of-way.	Countywide	County of Kauaʻi
Construction/Building Permits	Construction Activities	Countywide	County of Kauaʻi

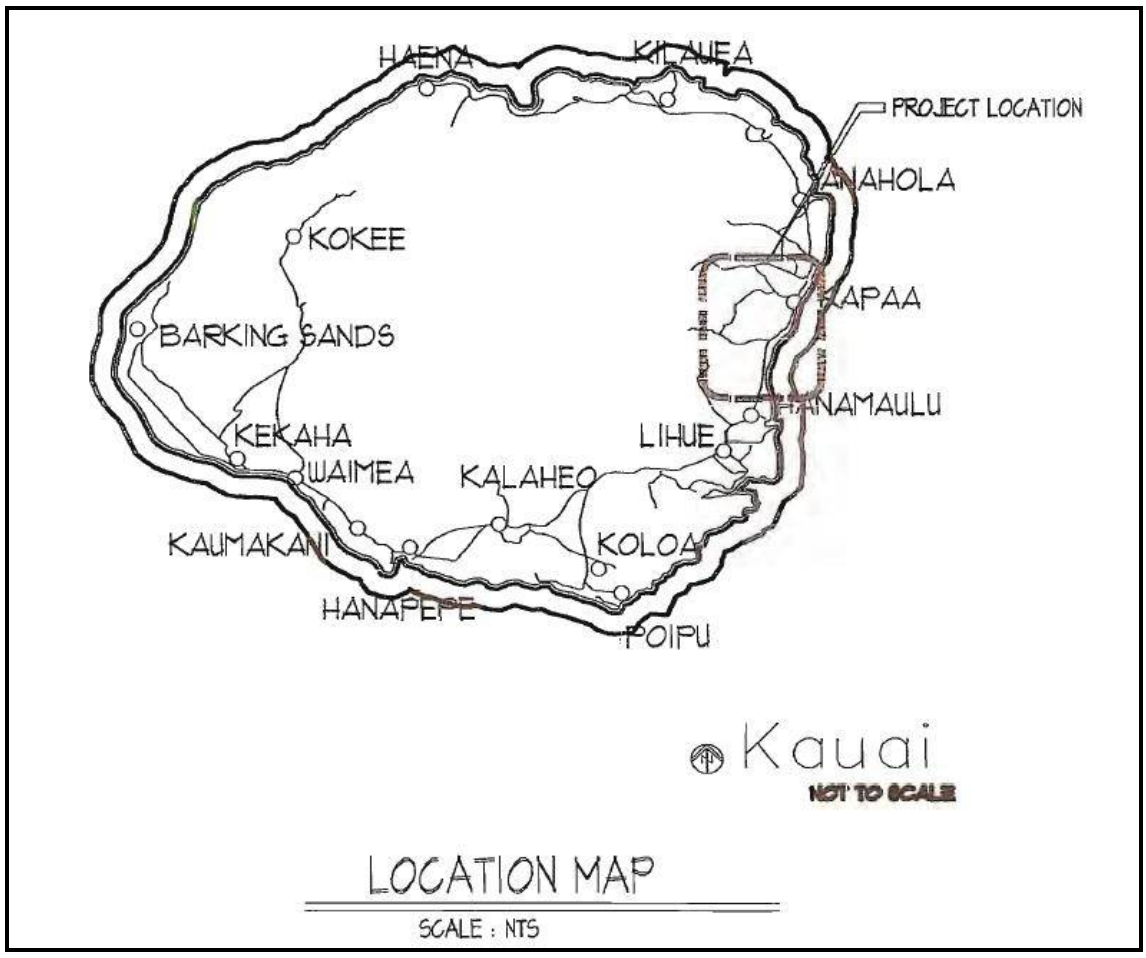
Chapter 2 - Project Description

This chapter gives a general description of the Project, its location and proposed actions.

2.1 Project Location

The Kapa‘a-Wailua area is located on the eastern plain of the island of Kaua‘i, State of Hawai‘i. Kaua‘i is the northernmost and geologically the oldest of the main Hawaiian Islands. It comprises 549-square miles of land area and 90 miles of coastline, and is the fourth largest in size and population.

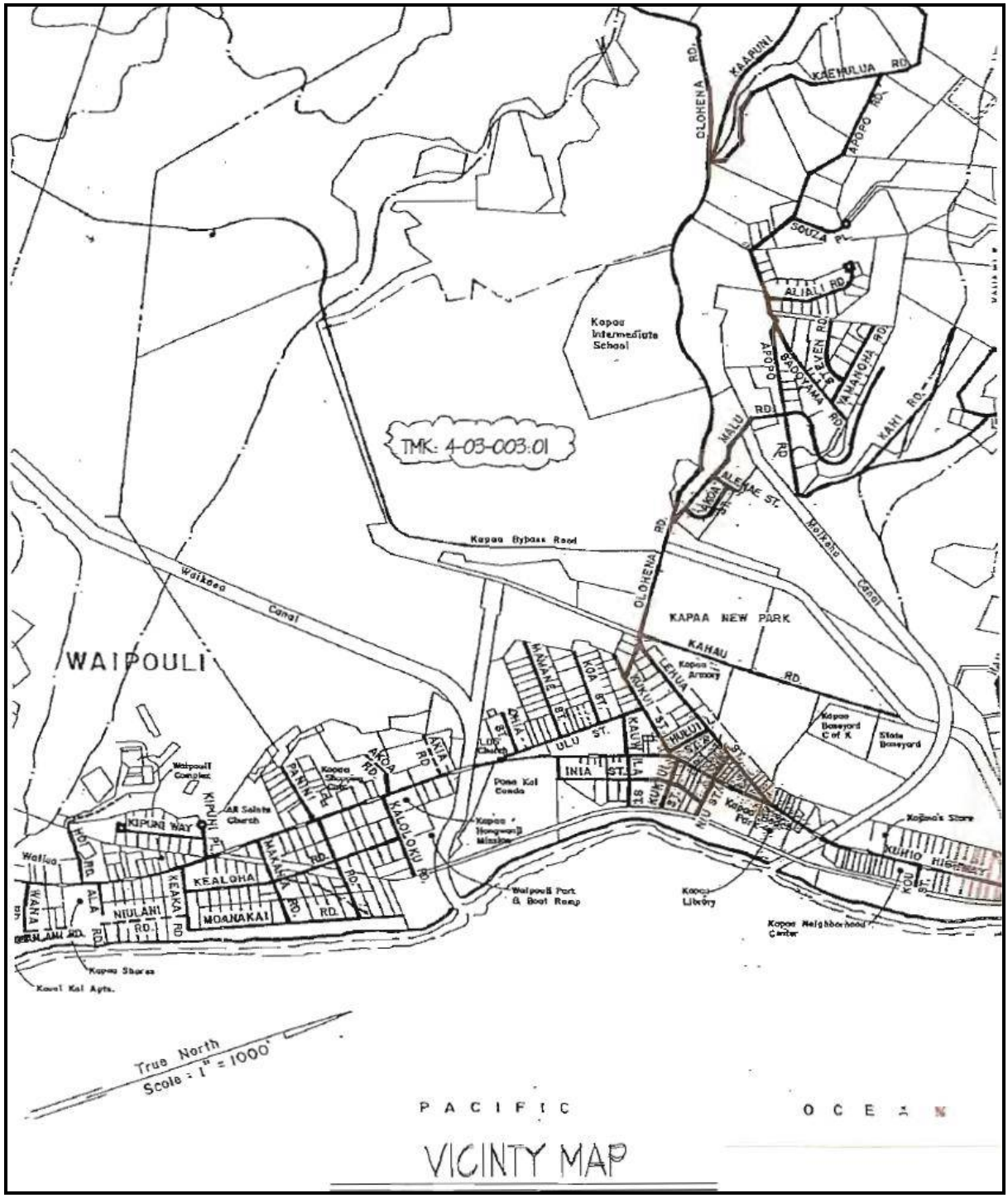
Kaua‘i is generally circular in shape with an average diametric width of 30-miles. The higher central mountainous sector is dominated by Mount Wai‘ale‘ale, with a peak elevation slightly more than 5,000 feet. Except for about 10 miles of sea cliffs along the northwesterly Nāpali Coast, the overall terrain rises gently inland from the relatively flat coastal plains to the farmlands and agricultural belt, then toward the grassy uplands, rolling foothills and forest reserves before ascending the hinterlands and the rugged slopes of Mount Wai‘ale‘ale.



The subject Property is within the Kawaihau district which extends from the Wailua River north to Moloaʻa, including the Kapaʻa-Wailua basin, Keālia and Anahola.

The Kapaʻa-Wailua region is home to a large portion of Kauaʻi's population. An urban corridor extends along Kūhiō Highway from Haleilio Road in Wailua to Kawaihau Road at the northern edge of Kapaʻa Town. The Kapaʻa-Wailua urban corridor is vibrant and active, a "working town."

Defined and bordered by the Waikaʻea and Moikeha Canals, historic Kapaʻa Town is noted for its "western plantation" style architecture and its walkable, small town character. The canals give strong definition to the edges of the historic town. Served by sidewalks and parking on both sides of the highway, the town's small shops and restaurants appeal to both residents and visitors.



VICINTY MAP

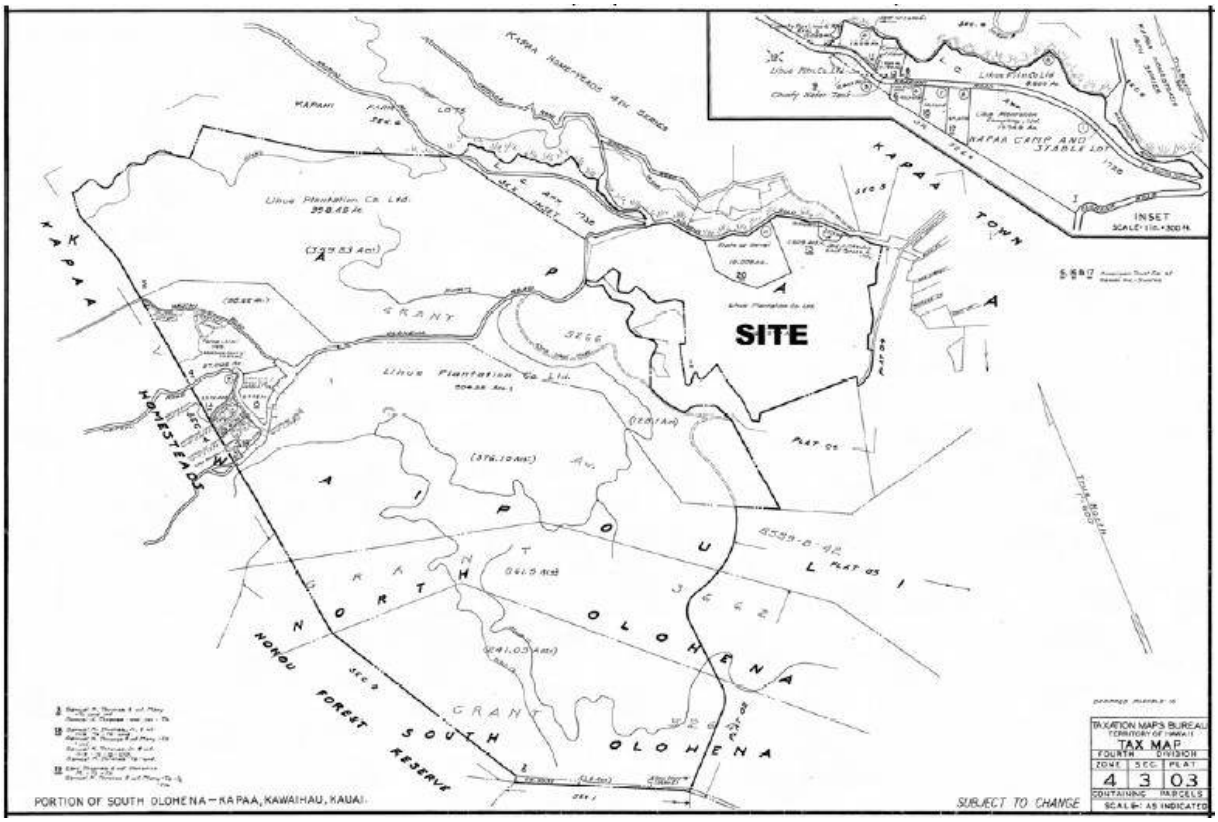
The Kapa‘a By-Pass Road furnishes an alternate route for those traveling between the North Shore and Līhu‘e. Connector roads link the By-Pass to Kūhiō Highway, providing alternatives to reach commercial areas along the coast and improving circulation within the valley. Traffic is minimized and dispersed through the road network. The by-pass road is a paved two-lane roadway with a round-a-bout at Olohena Road to Kapa’a Town. The by-pass road south and along the HoKua Place is owned by the Developer. Negotiations for the improvement of the Kapa’a By-Pass Road has begun between the Developer and DOT.

The subject 97-acres of HoKua Place, is a portion of a larger parcel. The property is located in Kapa‘a, Kaua‘i, Hawai‘i and is identified by Tax Map Key No. (4) 4-3-003:001 (portion). In addition, a portion of the larger parcel will house a well and waterline improvements as necessary.

The Subject Property is located on the north side of Kapa‘a town on former cane lands situated on a bluff adjacent to the coastal plain of Kapa‘a Town. It is bordered by Olohena Road to the north and the Kapa‘a Bypass Road on the south and east sides of the Project. Kapa‘a Middle School is near the middle of the north portion of the property.

The Kapa‘a By-Pass Road separates the town and the Property. The subject property is surrounded by remnant sugar lands and residential uses. A Solar farm is located on HoKua Farm Lots (formerly known as Kapa‘a Highlands I) and is producing 1.18 megawatts of energy which is feeding into the Kaua‘i electric distribution grid. Across Olohena Road are single family residential neighborhoods as well as commercial areas.

Kapa‘a Beach Park is now an open-space “town park,” opening up physical and visual access between the town and the beach. The park features restrooms, showers, picnic tables, grassy park areas and county swimming pool. The Kauai “Bike Path” runs throughout the park. While retaining and enhancing its unique historical and architectural heritage, Kapa‘a is a town with a vibrant community of businesses and neighbors. Visitors enjoy the “sense of place” and are attracted to return.



2.2 Project Description

The proposed HoKua Place Project, will utilize 97-acres of land for single-family and multi-family residential, commercial uses and assorted infrastructure. Development of the Property will address a portion of the significant demand for affordable housing in the County of Kaua'i, without significantly affecting reserve zoned areas for foreseeable urban growth.

The approximate 97-acres proposed for development will be subdivided into single family lots ranging from 7,500 to 10,000 square feet as well as multi-family lots of varying size.

A total of 683-multi-family units and 86-single family lots and homes are planned. Open space encompassing 14.3 acres will be developed.

A 3.1 acre park is proposed adjacent to the existing Kapa'a Middle School. The park will have an area for the county's proposed relocation of the Kapa'a county swimming pool. A 1.4-acre parcel is proposed for commercial use. A country type store and small personal service types of use are anticipated.

One acre on the Makai side of the Kapa'a Bypass road (southwest corner of Olohena and the bypass road) is proposed for future commercial use or for sub-stations for the police and fire departments.

The proposed main, multi-modal roadway through the development will include bus stops, sidewalks and a bike and walking path connecting from Kapa'a Middle School down through the development to the round-a-bout and facilitating green travel to and from Kapa'a's town core.

Subdivision improvements, including roads, water system, wastewater, utilities and others improvements, are anticipated to commence upon the securing of all necessary land entitlements and building permits. The estimated cost for the subdivision improvements is $22 million.

It is the intent of the proposed Project to develop a sustainable community. To date, the site has already been developed with an operational 1.18 MW, four-acre solar facility on the Phase I of the proposed overall parcel. Additional sustainable connectivity concepts including bikeways and walkways to and from the pool, neighborhood commercial areas, the middle school and Kapa'a's town core are planned.

HoKua Place will be a sustainable community and will incorporate the following elements found within the HoKua Place Sustainability Plan (Exhibit B).

Sustainability Programs and Plans: HoKua Place will incorporate the core principles of the various sustainability programs and plans.

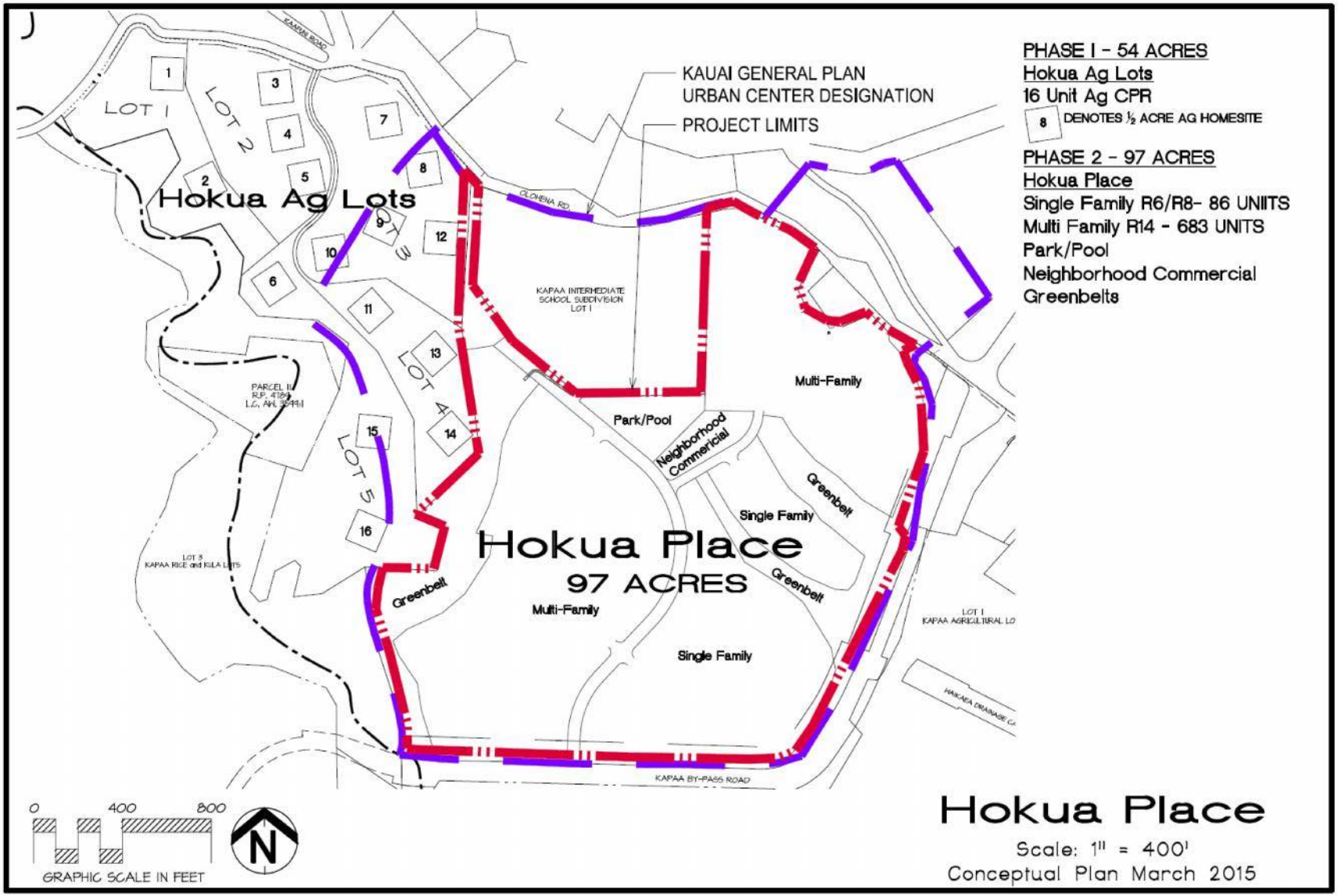
Natural and Cultural Resources: No archaeological sites are known to exist on the property. Should any archaeologically significant artifacts, bones, or other indicators be uncovered during construction, HoKua Place is committed to strict compliance with State laws and rules.

Land Use: HoKua Place is consistent with the Updated General Plan of the County of Kaua'i. The Developer recognizes that the County Planning Department is in the process of updating the Kapa'a-Wailua Development Plan.

The site plan (Page 23) provided is conceptual in nature so the proposed 769 units can be planned in concert with planning department during the county entitlement process. It is the Developers intent to design the Project to meet the County recommendations of the "Complete Streets" and the "Multi-Model Land Transportation" Ordinances, as well as the proposed Smart Code (Form Based Code). To achieve this goal, it will take a collaborative effort amongst the Developer, their consultants and the Planning Department.

Planning for the subdivision will include consideration of the following design principles:

1. The preservation of natural features and topography.
2. Minimizing land coverage.
3. Provide separation between motor vehicles and pedestrian traffic where feasible.
4. Pedestrian walkways at reasonable intervals within a block.
5. Short residential blocks.
6. Walking and bicycle paths integrated with Kapa'a Town future paths.
7. Good landscaping and drainage.
8. Accommodate multi-model circulation networks of travel by bicyclists, public transportation vehicles and passengers of all ages and abilities.
9. Street patterns to integrate potential development of adjacent lands.
10. Orientation and scenic enhancement.


KAUAI GENERAL PLAN
URBAN CENTER DESIGNATION
PROJECT LIMITS
PHASE I - 54 ACRES
Hokua Ag Lots
16 Unit Ag CPR
8 DENOTES ½ ACRE AG HOMESITE
PHASE 2 - 97 ACRES
Hokua Place
Single Family R6/R8- 86 UNITS
Multi Family R14 - 683 UNITS
Park/Pool
Neighborhood Commercial
Greenbelts
Hokua Ag Lots
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
KAMAPUA ROAD
OLOHENA RD.
KAPAA INTERMEDIATE SCHOOL SUBDIVISION LOT 1
PARCEL II R.P. 4184 L.C. AW. 3249:II
LOT 3 KAPAA RICE and KULA LOTS
Hokua Place
97 ACRES
Multi-Family
Park/Pool
Neighborhood Commercial
Greenbelt
Single Family
Greenbelt
Multi-Family
Greenbelt
Single Family
LOT 1 KAPAA AGRICULTURAL LO
HANAEA DRAINAGE C
KAPAA BY-PASS ROAD
0 400 800
GRAPHIC SCALE IN FEET
N
Hokua Place
Scale: 1" = 400'
Conceptual Plan March 2015

Design Features: HoKua Place will include sustainable design features including strategies to reduce solar heat gain through roofs, walls and windows; using site planning and landscaping to improve natural ventilation; daylighting design; and energy efficient light fixtures.

Transportation: HoKua Place will incorporate bus stops into its road system; multi-modal interconnected roads; and complete streets design.

Economic Opportunities: HoKua Place proposes two areas for commercial uses which will provide a variety of job opportunities; construction and construction-related employment will have direct beneficial impact on the local economy during construction.

Open Space and Parks: HoKua Place proposes open space and open greenway areas encompassing 14.3-acres including a 3.1-acre park for the proposed relocation of the Kapa‘a county swimming pool.

Water Management: HoKua Place will install water efficient fixtures, appliances and high efficiency toilets to reduce indoor water use.

Energy Management: HoKua Place will incorporate energy conservation and efficiency measures; solar energy for water heating; encourage photovoltaic systems and other renewable energy sources.

Health: HoKua Place’s layout and design will create an opportunity for both residents and the community to have a positive effect on their health through walkable and bikeable transportation options.

Education: HoKua Place will coordinate with the DOE to ensure that the facility assessment policy is addressed. In addition, a 3.1-acre park will be included in the plan and the Kapa‘a county swimming pool will be relocated within the park.

Housing: HoKua Place conforms to the Kaua‘i County Affordable Housing Ordinance No. 860 and offers a variety of housing types that will address a portion of the housing needs of the island.

Social: HoKua Place promotes social sustainability through socially focused-actions like providing mixed building types to meet diverse housing needs, a walkable community where residents can interact with each other more readily, and fostering socially diverse groups that will support quality of life, sense of place and community livability for all residents and the community.

Chapter 3 - Environmental Impact Statement Alternatives

This chapter lists and describes the various alternatives, including the preferred alternative, for the development of the HoKua Place Project.

3.1 Alternative 1 - No Action

Under the "no action" alternative, no action would be taken and the Project area would be left in its current state. HoKua Place would not be built.

There would be no diverse, environmentally-conscious, residential community with single- and multi-family residential, affordable housing, commercial, a walkable street network and a range of housing options.

The land would remain in the State Lands Use Agricultural District.

Without the Project, housing inventory in Kapa'a would remain low. Affordable housing options in Kapa'a would be limited.

The County would not have a location for its County pool and residents in Kapa'a would not have the opportunity for pool use.

Additionally, the "no action" alternative will be contrary to the updated Kaua'i General Plan in that the General Plan specifically designates the property as Neighborhood General and discusses the need for housing in the area.

Because the No Action alternative does not meet several HoKua Place objectives and does not implement the Kaua'i General Plan, this alternative has been rejected.

3.2 Alternative 2 - Agricultural Subdivision - Existing Zoning

Under alternative 2, the Existing Zoning Designation alternative, HoKua Place would not be built. There would be no diverse, environmentally-conscious, residential community with single- and multi-family residential, affordable housing, commercial, a walkable street network and a range of housing options.

However, the Property could still be developed as permitted under the existing State Land Use and County zoning designations. An agricultural subdivision would be built to conform to the subject properties' current zoning.

The agriculture subdivision would be similar to HoKua Farm Lots (formerly known as Kapa'a Highlands I) which adjoins the subject property. The subject property is located in the State Land Use Agricultural District and within the Agriculture District of the Comprehensive Zoning Ordinance of the County of Kaua'i (CZO).

As such, owners of subdivision lots would be required to comply with the requirements of HRS Chapter 205 and the CZO. Individual lot owners, through an Association would be required either to provide of portion of their lot for grazing of livestock as outlined in the Kapa'a Highlands Agricultural Master Plan (Exhibit C), or obtain an amendment to conduct alternative agricultural activities.

As outlined in the Kapa‘a Highlands Agricultural Master Plan, crop suitability for the Project site is low. The climate and soils at HoKua Place are not ideal for the growing of most commercially viable crops due to the poor soil, strong trade winds and the salt spray from the ocean. Additionally, due to the generally poor soils and harsh climate, the commercial crops most suited to the area are sugar and pineapple.

Both of these industries have declined in Hawai‘i. Neither pineapple or sugar is grown commercially on Kaua‘i. With appropriate irrigation and management, both tropical orchard crops (including trees) and some vegetable crops could be grown on the Property, although with some difficulty and risk given the physical conditions at the properly. However, the Kapa’a Highlands Phase II Agricultural Suitabililty Report (Exhibit “C.1), notes that the adjacent Kapa’a Middle School and residential subdivisions on the north and eastern sides of the Property would require extensive buffers around the Property and taking extreme care in implementing farming practices to prevent dust, spray or noise impacts on the school or residentual use.

The applicant’s first development plans were to include the 97-acres as part of the agriculture subdivision of HoKua Farm Lots (formerly known as Kapa‘a Highlands I). The Planning Department of the County of Kaua‘i expressed the desire to see a housing Project on the portion of the property that is designated Urban Center in the General Plan.

Thus, HoKua Place was created to adhere to the County of Kaua‘i Planning Department’s desire for housing on the subject property, as well as, the poor condition of the property for agricultural production.

Because the Existing Zoning alternative does not meet several HoKua Place objectives and does not implement the Kaua‘i General Plan, this alternative has been rejected. However, if the land use district boundary is not changed from Agriculture to Urban, this option may be considered.

3.3 Alternative 3 - Residential Lot Subdivision Alternative

Under alternative 3, the residential lot subdivision alternative, only single family residential development would occur, as opposed to more dense housing options such as multi-family development.

This alternative would be to develop the Property as a residential subdivision for conventional single family residential uses without any commercial uses. The potential benefit of this alternative is that it addresses the need for housing in Kapa‘a. However, the approximate number of houses amounts to 300 single family units, far short of the proposal. This alternative would require reclassification of the property from the current State Agricultural District to the State Urban District as well as County residential zoning.

Typical small-lot subdivisions consisting of single family residential uses give only one option for housing choice. HoKua Place offers a variety of housing choices rather than a conventional residential single family subdivision.

Several aspects of the design of HoKua Place contribute to a high quality of life. The proposed HoKua Place development will utilize 97-acres of land for single-family and multi-family residential, commercial uses and parks and other community facilities. Development of the Property will address a portion of the significant demand for affordable housing in the County of Kaua‘i, without significantly affecting reserve areas for foreseeable urban growth.

Alternative 3 was rejected because the Residential Lot Subdivision alternative is contrary to the Updated Kaua‘i General Plan that specifically designates the Property as Neighborhood General based on the need for housing in the area.

In addition, implementation of this alternative would not avoid: (1) infrastructure demands (water, wastewater flows, solid waste disposal); (2) traffic impacts; and (3) short-term construction-related disruption, and fugitive dust).

3.4 Alternative 4 - Proceed with Project as Described - Preferred Alternative

The preferred alternative, alternative 4, is to proceed with the Project as described in Chapter 2, Project Description. The Project will respond to the updated Kaua‘i General Plan’s designation of the property as Neighborhood General and its discussion of the need for housing in the area.

HoKua Place is a well thought out residential community consistent with the updated Kaua‘i General Plan and is supported by the Kaua‘i County administration. It will:

1) protect natural resources and culture;
2) provide diverse housing options, transportation choices and recreation opportunities; and
3) encourage a diverse and vibrant economy

3.5 Unresolved Issues

The Petitioner filed and had published a Draft Environmental Impact Statement in May of 2015. In addressing comments from the public and agencies, additional information was added to the document. Due to the new information and the time lag, a Second Draft Environmental Impact Statement (2nd DEIS) is being submitted for publishing. The Petitioner has determined that there are no “Unresolved Issues” in the preparation of the 2nd DEIS.

Chapter 4 - Environmental Setting, Impact & Mitigation

This chapter presents the current description of the environmental setting in the region and within the HoKua Place project area. Mitigation measures identified in this EIS have been developed to avoid, minimize, rectify or reduce the project's potential adverse environmental impacts. Mitigation measures have been considered throughout the project's planning process and incorporated into the project's design and construction plans.

The information about existing conditions, potential project impacts and potential mitigation measures presented in this Chapter has been developed through the review and use of existing information related to the project area.

4.1 Introduction

Each section in this Chapter discusses:

(a) Environmental Setting - current conditions and/or management practices in the project area related to the specific environmental subject,
(b) Potential Environmental Impacts and Mitigation Measures - the project's potential long-term operation phase impacts related to the specific environmental subject, and the potential mitigation measures that could be implemented by the project to avoid, minimize, rectify, or reduce potential substantial adverse environmental impacts, and
(c) Level of Impact after Mitigation - the project's relative potential impact that will remain after the potential mitigation measures are implemented.

4.1.1 Environmental Setting

Environmental Setting describes the existing environmental conditions in the project area and the region as it currently exists, before the commencement of the project. This provides a baseline for comparing "before the project" and "after the project" environmental conditions.

4.1.2 Potential Environmental Impacts & Mitigation Measures

Potential environmental impacts are assessed through thresholds used to determine level of impact. "Thresholds Used to Determine Level of Impact" defines and lists specific criteria used to determine whether an impact is considered to be potentially significant.

Hawai'i Administrative Rules (HAR) Section 11-200-12 provides 13 "significance criteria" against which an action is to evaluate its potential impact. These criteria are:

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.
2. Curtails the range of beneficial uses of the environment.
3. Conflicts 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.
4. Substantially affects the economic welfare, social welfare and cultural practices of the community or State.
5. Substantially affects public health.
6. Involves substantial secondary impacts, such as population changes or effects on public facilities.
7. Involves a substantial degradation of environmental quality.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.
9. Substantially affects a rare, threatened or endangered species, or its habitat.
10. Detrimentally affects air or water quality or ambient noise levels.
11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters.
12. Substantially affects scenic vistas and view planes identified in County or State plans or studies.
13. Requires substantial energy consumption.

Effects were assessed for scope, scale and intensity of impacts to resources. Effects may be identified further as beneficial or negative, as well as short-term and long-term. Scope, scale and intensity can be defined on a range from negligible to major.

(Graphic: Pacific Southwest Research Station-Institute of Pacific Islands Forestry, 2009)

- **Negligible:** Resources will not be affected, or the effects will be at or near the lowest level of detection. Resource conditions will not change or will be so slight there will not be any measurable or perceptible consequence to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource;

- **Minor:** Effects will be detectable but localized, small, and of little consequence to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Mitigation, if needed to offset negative effects, will be easily implemented and likely to be successful;

- **Intermediate:** Effects will be readily detectable and localized with consequences to a population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Mitigation measures will be needed to offset negative effects and will be extensive, moderately complicated to implement, and probably successful;

- **Major:** Effects will be obvious and will result in substantial consequences to a local area or regional population, wildlife or plant community, public use and access opportunity, visitor experience, or cultural resource. Extensive mitigating measures may be needed to offset negative effects and will be large-scale, very complicated to implement and may not have any guarantee of success. In some instances, major effects will include the irretrievable loss of the resource.

Time scales are defined as either short-term or long-term:

- **Short-term or Temporary:** An effect that generally will last less than a year or season;
- **Long-term:** A change in a resource or its condition that will last longer than a single year or season.

The thresholds established correspond to the above criteria and other environmental laws. Each section of the EIS presents a significance threshold for its specific environmental subject; should the project potentially cause an impact greater than the identified threshold then the potential impact will be considered to be significant.

"Mitigation Measures" identifies project-specific measures that may be needed that go beyond compliance with applicable existing rules, regulations and requirements, to reduce a potentially significant impact, as applicable. The compliance with existing applicable rules, regulations and requirements is considered a part of the existing regulatory environment and is described above.

The mitigation measures identified in this EIS have been developed to avoid, minimize, rectify or reduce the project's potential adverse environmental impacts. Mitigation measures have been considered throughout the project's planning process and will be incorporated into the project design and construction plans. Project mitigation measures are identified and detailed in subsection 4 of sections 4.2 through 4.18.

4.1.3 Level of Impact after Mitigation

"Level of Impact after Mitigation" indicates what effect remains after application of mitigation measures, and whether the remaining effect will be considered to be significant, or not.

4.1.4 Potential Project Impacts in Context with Applicable Requirements & Mitigation Measures

The potential impacts are evaluated within the framework of the project's compliance with all applicable rules, regulations and requirements for its action type and location. The existing rules, regulations, requirements and procedures applicable to the project are considered a part of the existing regulatory environment.

Rules, regulations and requirements which may be applicable include:

- Hawai'i Administrative Rules (HAR), including (but not limited to):
  - Title 11, Chapter 23, Underground Injection Control
  - Title 11, Chapter 45, Community Noise Control
  - Title 11, Chapter 54, Water Quality Standards
  - Title 11, Chapter 55, Water Pollution Control
  - Title 11, Chapter 60, Air Pollution Control
  - Title 11, Chapter 62, Wastewater Systems
  - Title 11, Chapter 68, Litter Control
  - Title 11, Chapter 200, Environmental Impact Statement Rules
  - Title 11, Chapter 260, Hazardous Waste Management General Provisions
  - Title 11, Chapter 262, Standards Applicable to Generators of Hazardous Waste
  - Title 13, Subtitle 5, Chapter 107, Threatened and Endangered Plants
  - Title 13, Subtitle 5, Chapter 124, Indigenous Wildlife, Endangered and Threatened Wildlife and Introduced Wild Birds
  - Title 13, Subtitle 13, Chapter 275-284, Historic Preservation Review Process
  - Title 13, Subtitle 13, Chapter 300, Burial Sites and Human Remains

- Hawai'i Revised Statutes (HRS), including (but not limited to):
  - Chapter 6E, Historic Preservation
  - Chapter 195D, Conservation of Aquatic Life, Wildlife and Land Plants
  - Chapter 205, State Land Use Law

- Chapter 226, Hawai‘i State Planning Act
- Chapter 342D, Water Pollution Law
- Chapter 342J, Hawai‘i Hazardous Waste Law
- Chapter 343, Environmental Impact Statements
- Chapter 344, Hawai‘i State Environmental Policy

- County of Kaua‘i ordinances, rules and requirements, including (but not limited to):
  - County of Kaua‘i General Plan
  - County of Kaua‘i Building and Planning Codes

4.2 Archaeological, Historic and Cultural Resources

This section discusses the cultural, archaeological and historic resources in the region and specific Project area, the potential impact of the project on those resources and mitigation measures the Project will employ to minimize those potential impacts.

4.2.1 Environmental Setting

Archaeological & Historic Resources

Exploration Associates Ltd. (EAL) conducted an archaeological assessment of the property (Exhibit L) "An Archaeological Assessment with Subsurface Testing for the Proposed Kapaʻa Highlands Phase II Project, Kapaʻa Ahupuaʻa, Kawaihau District, Kauaʻi TMK (4) 4-3-3: 1)". The purpose of the archaeological assessment is to address any archaeological and/or historic preservation concerns that might be raised by the proposed Project.

The assessment included a surface survey and a report detailing methods and any finds. The archaeological assessment is not an inventory-level survey per the rules and regulations of the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR). However, the level of work is sufficient to address site types, locations, and allow for future work recommendations.

On January 3, 2012 and April 25, 2012, a field inspection of the HoKua Place/Kapaʻa Highlands II project area was conducted by Exploration Associates Ltd. archaeologist Nancy McMahon, M.A. Survey transects oriented north-south were spaced apart 10 m. where it was passable as guinea grass was very thick. Field observations were recorded and photographs were taken of the project area. The work was conducted under the overall supervision of principal archaeologist Nancy McMahon, M.A.

Historical research included a review of previous archaeological studies on file at the State Historic Preservation Division of the Department of Land and Natural Resources; studies of documents at Hamilton Library of the University of Hawaiʻi, Kapaʻa and Līhuʻe Public Libraries, Kauaʻi Museum, Kauaʻi Historical Society and study of maps at the Survey Office of the Department of Land and Natural Resources. Nineteenth-century Land Commission Award claim records were accessed via the Internet from the Mahele Database prepared by Waihona ʻĀina Corp.

<u>Kawaihau District</u>

The Pproject

roject area lies in the traditional ahupuaʻa of Kapaʻa, which was part of the ancient district of Puna (now the district is more commonly called "Kawaihau"), one of five ancient districts on Kauaʻi (King 1935: 228). Puna was the second largest district on Kauaʻi, behind Kona, and extended from the tip south of Līhuʻe to Kamalomaloʻo, just north of Keālia.

For taxation, educational and judicial reasons, new districts were created in the 1840s. The Puna District, with the same boundaries became the Līhuʻe District, named for an important town in that district.

<u>Early Historic Accounts of Kapaʻa (1830s-1900s)</u>

Although most of the historic record documents for Kauaʻi in this period revolve around missionary activities and the missions themselves, there was indication that the Kapaʻa area was being considered for new sugar cane experiments, similar to those occurring in Kōloa.

In a historic move, Ladd and Company received a 50 year lease on land in Kōloa from Kamehameha III and Kauaʻi Governor Kaikioʻewa of Kauaʻi. The terms of the lease allowed the new sugar company "the right of

someone other than a chief to control land" and had profound effects on "traditional notions of land tenure dominated by the chiefly hierarchy" (Donohugh, 2001: 88). In 1837, a very similar lease with similar terms was granted to Wilama Ferani, a merchant and U.S. citizen based in Honolulu (Hawai'i State Archives, Interior Dept., Letters, Aug. 1837).

The lease was granted by Kauikeaouli for the lands of Kapa'a, Keālia and Waipouli for twenty years for the following purpose:

> ...for the cultivation of sugar cane and anything else that may grow on said land, with all of the right for some place to graze animals, and the forest land above to the top of the mountains and the people who are living on said lands, it is to them whether they stay or not, and if they stay, it shall be as follows: They may cultivate the land according to the instructions of Wilama Ferani and his heirs and those he may designate under him... (Hawai'i State Archives, Interior Dept., Letters, Aug. 1837).

Unlike Ladd & Company which eventually became the Kōloa Sugar Company, there is no further reference to Wilama Ferani and his lease for lands in Kapa'a, Keālia and Waipouli. In a brief search for information on Honolulu merchant, Wilama Ferani, nothing was found. It is thought that perhaps Wilama Ferani may be another name for William French, a well-known Honolulu merchant who is documented as having experimented with grinding sugar cane in Waimea, Kaua'i at about the same time the 1837 lease for lands in Kapa'a, Keālia and Waipouli was signed (Joesting, 1984: 152).

In 1849, son of Wai'oli missionary, William P. Alexander, recorded a trip he took around Kaua'i. Although, he focuses on the larger mission settlements like Kōloa and Hanalei, he does mention Kapa'a:

> A few miles from Wailua, near Kapa'a we passed the wreck of a schooner on the beach, which once belonged to Capt. Bernard. It was driven in a gale over the reef, and up on the beach, where it now lies.
>
> A few miles further we arrived at Keālia. We had some difficulty crossing the river at this place, owing to the restiveness of our horses. The country here near the shore was rather uninviting, except the valley which always contained streams of water (Alexander, 1991: 123).

In later years, the notorious Kapa'a reef was to become the location of many shipwrecks once a landing was built there in the 1880s.

The first large scale agricultural enterprise in Kapa'a began in 1877 by the Makee Sugar Plantation and the Hui Kawaihau (Dole, 1916: 8). The Hui Kawaihau was originally a choral society begun in Honolulu whose membership consisted of many prominent names, both Hawaiian and haole. It was Kalākaua's thought that the Hui members could join forces with Makee, who had previous sugar plantation experience on Maui, to establish a successful sugar corporation on the east side of Kaua'i.

Captain Makee was given land in Kapa'a to build a mill and he agreed to grind cane grown by Hui members. Kalākaua declared the land between Wailua and Moloa'a, the Kawaihau District, a fifth district and for four years the Hui attempted to grow sugar cane at Kapahi, on the plateau lands above Kapa'a. After a fire destroyed almost one half of the Hui's second crop of cane and the untimely death of one of their principal advocates, Captain James Makee, the Hui began to disperse and property and leasehold rights passed on to Makee's son-in-law and new Makee Plantation owner, Colonel Z. S. Spalding (Dole, 1916: 14).

As part of the infrastructure of the new plantation, a sugar mill was erected and the Makee Landing was built in Kapa'a during the early years of the Makee Sugar Plantation. Following Captain Makee's death, Colonel Spalding took control of the Plantation and in 1885 moved the mill to Keālia (Cook, 1999: 51). The deteriorating

stone smokestack and landing were still there well into the 1900s (Damon, 1931:359). Conde and Best (1973:180) suggest that railroad construction for the Makee Plantation started just prior to the mid-1890s. There is one reference to a railroad line leading from the Kapaʻa landing to Keālia in 1891. During Queen Liliʻuokalani's visit to Kauaʻi in the summer of 1891, the royal party was treated to music by a band, probably shipped in from Oʻahu. "The band came by ship to Kapaʻa and then by train to Keālia" (Joesting, 1984:252). This line is depicted on a 1910 USGS map which shows the line heading south from Keālia Mill and splitting near the present Coral Reef Hotel, one finger going to the old Kapaʻa Landing (Makee Landing) and another line heading mauka, crossing the present Moʻikeha Canal, traveling southwest up Lehua Street and through what is now goat pasture, along a plateau and into the mauka area behind Kapaʻa swamplands. This railroad line was part of a twenty mile network of plantation railroad with some portable track and included a portion of Keālia Valley and in the mauka regions of the plateau lands north of Keālia (Conde and Best, 1973:180).

By the late 1800s, Makee Plantation was a thriving business with more than one thousand workers employed (Cook, 1999:51). Hundreds of Portuguese and Japanese immigrants found work on Makee Plantation and the new influx of immigrants required more infrastructure. In 1883, a lease for a school lot was signed between Makee Sugar Company and the Board of Education (Kapaʻa School, 1983: 9). Stipulations found in the Portuguese immigrant contracts with Makee Sugar Company stated that "children shall be properly instructed in the public schools" (Garden Island, April 1, 1983). The original Kapaʻa School was constructed in 1883 on a rocky point adjacent to the Makee Sugar Company railroad. Traditionally, this point was known as Kaahiahi (Kapaʻa School, 1983: 10). In 1908, Kapaʻa School was moved to its present site directly mauka and up the hill at Mailehune.

As in much of the rest of Hawaiʻi, the Chinese rice farmers began cultivating the lowlands of Kapaʻa with increasing success in the latter half of the 1800s. Several Hawaiian kuleana owners leased or sold their parcels mauka of the swamp land to Chinese rice cultivators. Other Chinese rice cultivators appeased to the government for swamplands first leasing and later buying. As a result of the growing rice and sugar industries, the economic activity displaced the house lot kuleana on the makai side of the marsh for increasing commercial and residential development (Lai, 1985:148-161).

Narrow wagon roads gave way to macadamized roads in the early part of the 20th century. This new road was called the Kauaʻi Belt Road and parts of it are thought to have followed the "Old Government Road" (Cook, 1999). In Kapaʻa, the present day Kūhiō Highway probably follows the same route as the original Government Road and subsequent Kauaʻi Belt Road. The location of the kuleana awards in Kapaʻa indicates that the majority of the house lots were situated along the Government Road. LCA 3243 names a "road" as one of its boundaries.

<u>20th Century History of Kapaʻa (1900 - Present)</u>

In the early 1900s, government lands were auctioned off as town lots in Kapaʻa to help with the burgeoning plantation population. One kamaʻaina mentioned that in the 1930s and 1940s, the area north of Moʻikeha Canal in Kapaʻa was mostly settled by Portuguese families (Bushnell et al. 2002). The Japanese were also very prominent in the 1920s and 1930s largely replacing the Chinese merchants of the turn of the century in the Kapaʻa business sector (Bushnell et al. 2002). The Board of Health, Territory of Hawaiʻi ran a dispensary in Kapaʻa at the makai edge of Niu Street near the Kapaʻa Beach Park parking lot, adjacent to the bike path starting 1926. The lot is presently vacant. A Fire Station was once located in the area now occupied by the Coral Reef Hotel and a Courthouse and jail cell once stood at the location of the present Kapaʻa Neighborhood Center. It is not known when these structures were removed or abandoned. In 1913, Hawaiian Canneries opened in Kapaʻa at the site now occupied by Pono Kai Resort (Cook, 1999: 56). Through the Hawaiian Organic Act, Hawaiian Canneries Company, Limited purchased the land they were leasing, approximately 8.75-acres, in 1923 (Bureau of Land Conveyances, Grant 8248). A 1923 sketch of the cannery shows only four structures, one very large

structure assumed to be the actual cannery and three small structures makai of the cannery. A 1933 historic photograph of Kapaʻa Town shows an ironwood windbreak on the makai side of the cannery adjacent to the railroad. By 1956, 1.5-million cases of pineapple were being packed. By 1960, 3,400- acres were in pineapple and there were 250 full time employees and 1,000 seasonal employees for the Kapaʻa Cannery (Honolulu Advertiser, March 20, 1960). In 1962, Hawaiian Canneries went out of business due to competition from third world countries.

The Ahukini Terminal & Railway Company was formed in 1920 to establish a railroad to connect Anahola, Keālia, Kapaʻa to Ahukini Landing and "provide relatively cheap freight rates for the carriage of plantation sugar to a terminal outlet" (Conde and Best, 1973: 185). This company was responsible for extending the railroad line from the Makee Landing, which was no longer in use, to Ahukini Landing, and for constructing the original Waikaʻea Railroad Bridge and the Moʻikeha Makai Railroad Bridge.

In 1934, the Līhuʻe Plantation Company absorbed the Ahukini Terminal & Railway Company and Makee Sugar Company (Conde and Best, 1973: 167). The railway and rolling stock formerly owned by Makee Sugar Company became the Makee Division of the Līhuʻe Plantation. At this time, besides hauling sugar cane, the railroad was also used to haul plantation freight including "fertilizer, etc... canned pineapple from Hawaiian Canneries to Ahukini and Nāwiliwili, pineapple refuse from Hawaiian Canneries to a dump near Anahola and fuel oil from Ahukini to Hawaiian Canneries Co., Ltd." (Hawaiian Territorial Planning Board, 1940: 11). Former plantation workers and kamaʻaina growing up in Kapaʻa remember when the cannery would send their waste to the pineapple dump, a concrete pier just north of Kumukumu Stream (State Site No. 50- 30-08-789) by railroad. The structure is built over the water where the rail cars would dump the pineapple waste. The current would carry the waste to Kapaʻa which would attract fish and sharks (Bushnell et al. 2002).

Līhuʻe Plantation was the last plantation in Hawaiʻi to convert from railroad transport to trucking (Conde and Best, 1973: 167). "By 1957 the company was salvaging a part of their plantation railroad, which was being supplanted by roads laid out for the most part on or close to the old rail bed" (Ibid: 167). By 1959, the plantation had completely converted over to trucking. The Cane Haul Road which begins near the intersection of Hauaʻala Road and Kūhiō Highway is thought to date to the late 1950s and follows the alignment of the old railroad.

Severe floods in Kapaʻa in 1940 led to the dredging and construction of the Waikaʻea and Moʻikeha Canals sometime in the 1940s (Hawaii Territorial Planning Board, 1940: 7). Although the Waikaʻea Canal, bordering the Kapaʻa Pineapple Cannery, had been proposed as early as 1923, nothing was constructed until after the floods (Bureau of Land Conveyances, Grant 8248). A Master Plan for Kapaʻa, published in 1940, asks the Territorial Legislature for funds to be set aside for the completion of a drainage canal and for filling makai and mauka of the canal (Hawaii Territorial Planning Board, 1940:7). In 1955, reports came out on the dredging for coral proposed for the reef fronting Kapaʻa Beach Park (Garden Island Newspaper, September 21, 1955). The coral was to be used for building plantation roads. This dredging was later blamed for accelerated erosion along Kapaʻa Beach (Garden Island Newspaper, October 30, 1963).

Today, there are several sea walls along the Kapaʻa Beach Park to check erosion. Old time residents claim the sandy beach in Kapaʻa was once much more extensive than it is now (Bushnell et al. 2002). Keālia Town slowly dispersed after the incorporation of Makee Sugar Company into Līhuʻe Plantation in the 1930s. Many of the plantation workers bought property of their own and moved out of plantation camps. The plantation camps which bordered Kūhiō Highway were disbanded in the 1980s. The Līhuʻe Plantation began to phase out in the last part of the 20th century. Kapaʻa Town suffered after the closing of the Kapaʻa Cannery however the growing tourist industry helped to ease the economic effects of the Cannery's closing.

HoKua Place Site

Heiau of Kapaʻa

During their expeditions around Hawaiʻi in the 1880s, collecting stories from ka poʻe kahiko, Lahainaluna students stopped in Kapaʻa and Keālia and gathered information regarding heiau of the region. Altogether, fourteen heiau were named in Kapaʻa and Keālia, suggesting the two ahupuaʻa were probably more politically significant in ancient times. The following Table lists the names of the ten heiau identified in the ahupuaʻa of Kapaʻa, their location if known, their type, and associated chief and priest.

The exact locations of these heiau are unknown. The locations of two of the heiau correlate with the locations of wahi pana which are known to be in close to Kuahiahi and Kaluluomoʻikeha. Kuahiahi (also spelled Kaahiahi and Keahiahi) is the rocky headland at the north end of Kapaʻa where the first Kapaʻa School was once located. Kaluluomoʻikeha is thought to be the general area near the Moʻikeha Canal and the present day Coral Reef Hotel.

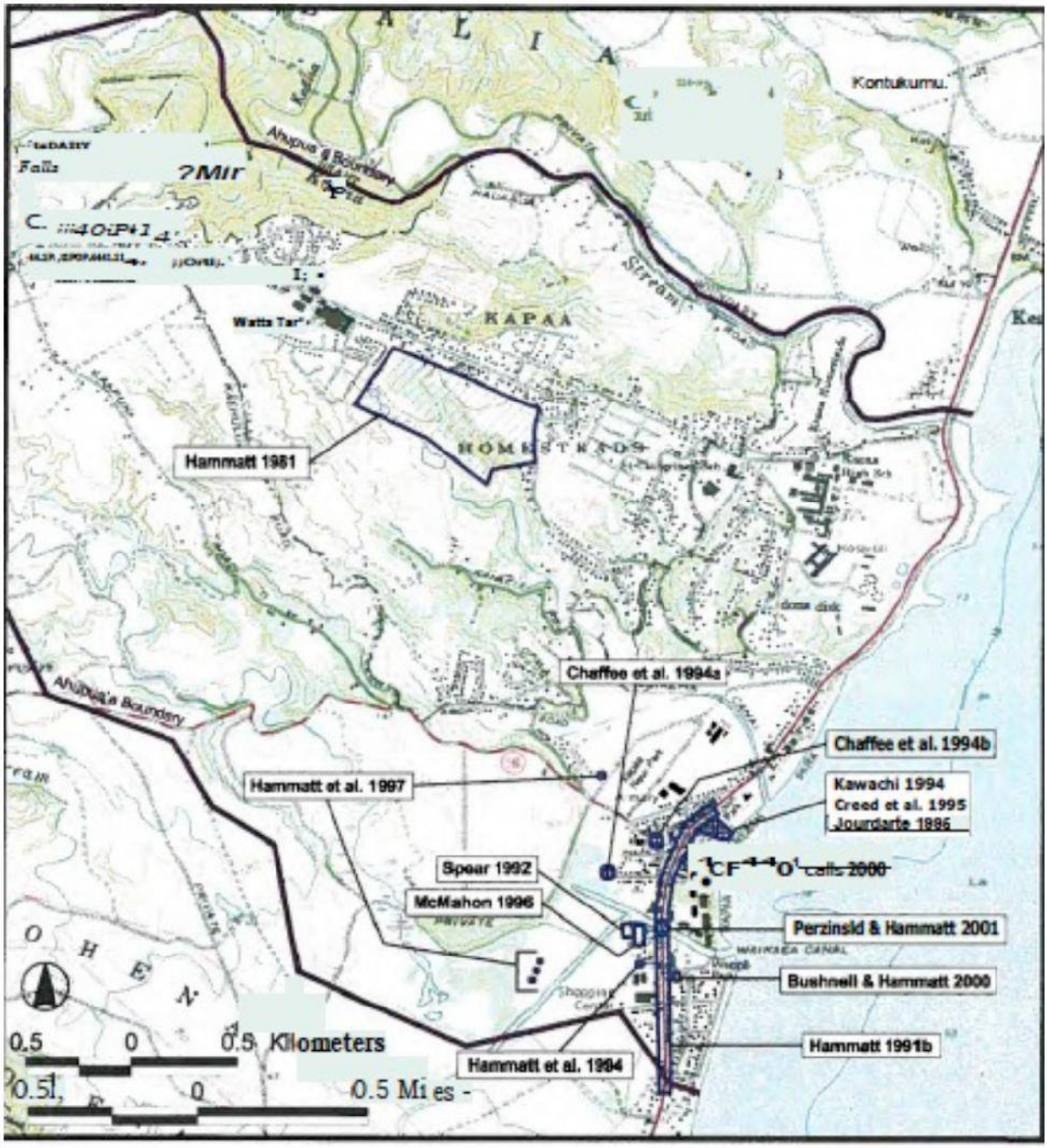
Name	Location	Type	Associated
Mailchuna	Kapa'a (Mailchuna is the area of the present day Kapa'a School)	unknown	Kiha, Kaumuali'i/ Lukahakona
Pueo	Kapa'a	unknown	Kiha, Kaumuali'i/ Lukahakona
Pahua	Kapa'a/Kealia	unknown	Kiha/ Lukahakona
Kumalae	Kapa'a/Kealia	unknown	Kiha/ Lukahakona
Waiehumalama	Kapa'a/Kellia	unknown	Kiha/ Lukahakona
Napu'upa'akai	Kapa'a/Kealia	unknown	Kiha/ Lukahakona
Nocamakali'i	Kapa'a/Kedlia	"heiau for birth of Kaua'i Chiefs, like Holoholoku"	Unknown
Pu'ukoa	Kapa'a/Kealia	"unu type heiau"	Unknown
Piouka	Kapa'a/Kealia	"unu type heiau"	Unknown
Una	Kapa'a/Kealia	Unknown	Kiha/ Lukahakona
Mano	Kapa'a/Kealia	Unknown	Kiha/ Lukahakona
Kuahlahi	Kapa'a (govn't school stands on site now)	Unknown	Kaumuali'i/ Lukahakona
Makanalimu	Upland of Kawaihau	Unknown	Kaumuali'i
Kaluluomoikeha	Kapa'a	Unknown	Mo'ikeha

Archaeological Studies and Sites in Kapa'a Ahupua'a

The following table outlines the archaeological research and historic properties identified in Kapa'a Ahupua'a. The Table provides a list of archaeological research conducted within Kapa'a Ahupua'a, including columns for source, location, nature of study, and findings.

Source	Location	Nature of Study	Findings
Bennett 1931	Island wide Identifies 2 sites: Site 110 Taro terraces and bowl and Site 111 A large simple dirt Hawaiian ditch	Archaeological Reconnaissance	Identifies 2 sites: Site 110 Taro terraces and bowl and Site 111 A large simple dirt Hawaiian ditch
Handy and Handy 1972	Archipelago-wide	Native Planter study	Discusses "highly developed irrigation system"
Ching 1976	Just south of the Waikaea Drainage Canal	Archaeological Reconnaissance	No significant findings
Hammatt 1981	Upland Kapa'a	Archaeological Reconnaissance	No significant findings
Hammatt 1986	Upper reaches of the Makaleha stream valley.	Archaeological Reconnaissance	No significant findings
Hammatt 1991	Along Kuhio Highway	Subsurface Testing	Identifies two sub surface cultural layer sites
Kikuchi and Remoaldo 1992	Around Kapa'a Town	Cemeteries of Kauai	Identifies six cemeteries
Spear 1992	South side Waikaea Canal, mauka of Kuhio Highway. (TMK: 4-5-05:04, 09)	Monitoring Report	Designated subsurface site 50 30 08 547

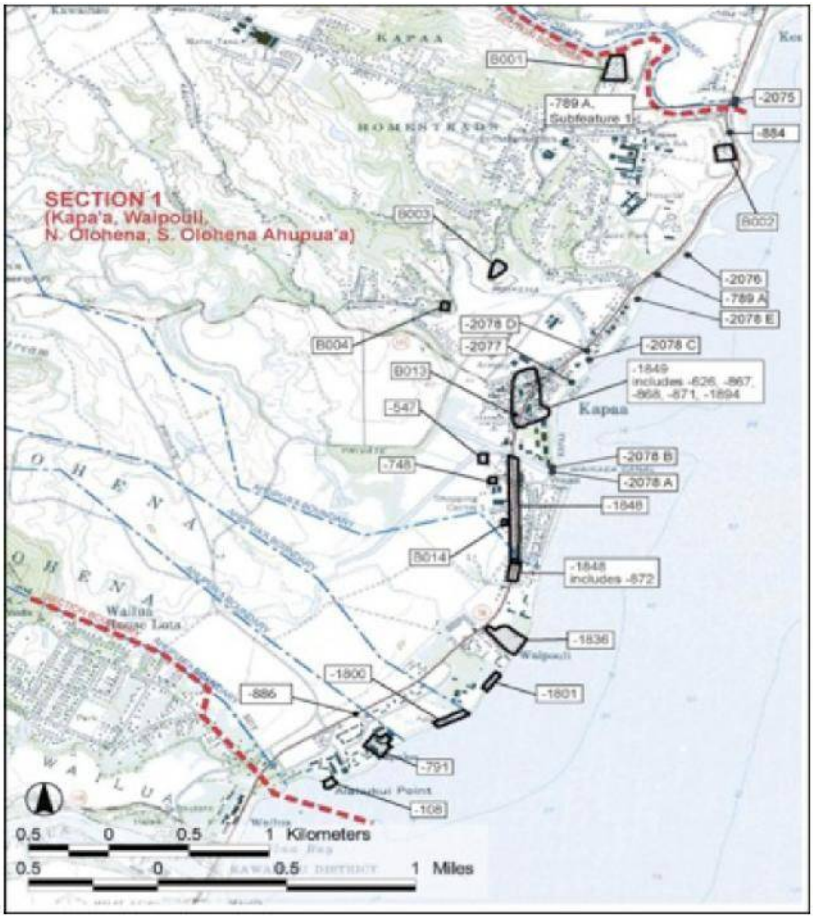
Source	Location	Nature of Study	Findings
Chaffee, Burgett & Spear 1994a	A house lot near the corner of Kukui and Ulu Streets in mauka Kapa'a Town. (TMK: 4-5-09:10)	Archaeological Inventory Survey	No significant findings
Chaffee, Burgett & Spear 1994b	Mamane Street Kapa'a Town. (TMK: 4-5-09:51	Archaeological Inventory Survey	No significant findings
Hammatt, Ida & Chiogicji 1994	Proposed bypass routes mauka of Kapa'a Town	Archaeological Assessment	No new field work, reviews literature
Hammatt, Ida & Folk 1994	South side Waikaea Canal, mauka of Kuhio Highway (TMK: 4-5-05:06)	Archaeological Inventory Survey	Weak cultural layer designated site 50-30-08-/48
Kawachi 1994	Inia Street (Jasper) TMK 4-5-08:33	Burial Report .	Designates Site 50-30-08-871
McMahon 1994	"behind the armory in Kapa'a near the god stones" The location is uncertain & "Buzz's near the Coconut Marketplace"	Documents second hand report of burials in two locations	Bones in 3 places reported from behind the armory, 16 bodies reported from the Buzz' s restaurant. No site numbers assigned
Creed, Hammatt, Ida, Masterson & Winieski 1995	Kapa'a Sewer line project, Kuhio Highway, south and central Kapa'a Town	Archaeological Monitoring Report	Documents cultural layer of site -1848 and (an enlarged) site -1849 & recovery of thirty burials at sites —867, -868, -871, & -1894
Jourdane 1995	1382-A `Inia Street, *makai* of Kuhio Highway, central Kapa'a Town	Burial Report	Site 626
McMahon 1996	South side Waikaea Canal, mauka of Kuhio Highway (TMK: 4 5 05:08)	Archaeological Inventory Survey	No significant cultural material
Hammatt, Chiogioji, Ida & Creed 1997	Test excavations focused inland of Kapa'a Town	Archaeological Inventory Survey	Four test trenches were excavated inland of Kapa'a Town
Borthwick and Hammatt 1999	Kapa'a Seventh Day Adventist Church at 1132 Kuhio Highway	Archaeological Monitoring and Burial Treatment Plan	Monitoring was indicated as this parcel lay within the designated Site 50-30-08-1848.



Map showing previous archaeological studies in Kapa‘a

Source	Location	Nature of Study	Findings
Bushnell and Hammatt 2000	Seventh Day Adventist Church, *makai* of Kuhio Highway, south of the Waikaea Canal	Archaeological Monitoring Report	Minimal findings (one piece of worked bone)
Callis 2000	Kapa'a Beach Park	Burial Removal and Archaeological Monitoring Report	Human Burial
Perzinski and Hammatt 2001	Kuhio Highway on the margins of the Waikaea Canal	Archaeological Monitoring Report	No significant cultural material
Fimore and Kennedy 2003	Kuhio Highway	Archaeological Monitoring Report	No significant cultural material
Dega, Michael F. and James Powell 2003	Kuhio Highway	Archaeological Monitoring Report	Human Burials •
Van Ryzin, Karl and Hallett Hammatt, 2004	Water Reservoir	Archaeological Assessment	No significant findings

The following Map and Table is a list of known historic properties within the ahupua‘a and includes columns for state site numbers, site type, location and reference.



Site # 50-30-08-	Ahupua'a	Site Type/ Name (if any)	Location	Site Constraints	Reference
B001	Kapa'a	Historic Cemetery	South of bend of Kapa'a Stream, a kilometer mauka from Kuhiö Hwy	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B002	Kapa'a	Historic Cemetery	Just mauka from Kuhiö Highway, south of Kapa'a Stream	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B003	Kapa'a	Kapa'a Public Cemetery	South of Kanaele Road, one kilometer inland of Kuhiö Highway	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B004	Kapa'a	Historic Cemetery	North of Apopo Road, one kilometer inland of Kuhiö Highway	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B013	Kapa'a	Historic Cemetery	Just *mauka* from Kuhiö Highway, north of the Waikaea Canal	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992
B014	Kapa'a	All Saints Episcopal Church Cemetery	Just *mauka* from Kuhiö Highway, south of the Waikaea Canal	Appears to be a discrete historic cemetery	Kikuchi and Remoaldo 1992:62-65
547	Kapa'a	sub-surface features including a firepit and a possible house foundation	South of bend of Waikaea Canal, mauka of Kuhiö Highway	Archaeological monitoring in the vicinity is recommended	Spear 1992:3
626	Kapa'a	Burial	Inia Street, *makai* of Kuhiö Highway, central Kapa'a	Consultation and monitoring in vicinity indicated	Jourdane 1995
748	Kapa'a	Minimal findings, a weak cultural layer (buried A-horizon)	South of the bend of the Waikaea Canal, *mauka* of Kuhiö Highway	Considered no longer significant within project area	Hammatt et al. 1994
789	Kapa'a/ Kealia	Historic Road	Coastal Cane Haul Road near Kawaihau Road turn off		Perzinski et al. 2000

Site # 50-30-08-	Ahupua'a	Site Type/ Name (if any)	Location	Site Constraints	Reference
867	Kapa'a	1 set of human remains	Kukui Street, just *mauka* of Kuhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50
868	Kapa'a	1 set of human remains	Lehua Street *mauka* of Kuhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50
871	Kapa'a	13 sets of human remains (Creed et al. 1995:50)	Inia Street, *makai* of Kuhiō Highway	Consultation and monitoring in vicinity indicated	Kawachi 1994; Creed et al. 1995:50
1848	Kapa'a	Cultural layer and sub-surface features	Along Kuhiō Highway between Wana Road and the Waikaea Drainage Canal	Archaeological monitoring in the vicinity is recommended	Hammatt 1991; Creed et al. 1995
1849	Kapa'a	Cultural layer and sub-surface features; Creed et al. 1995:53 expands boundaries to incl. burial sites, -626, -867, -868 -871, and -1894	Along Kuhiō Highway between Inia Street and Kauwila Street extending to the coast	Consultation and monitoring in vicinity indicated	Hammatt 1991; Creed et al. 1995
1894	Kapa'a	11 sets of human remains	Ulu Street, just north of Kuhiō Highway, Kapa'a Town	Consultation and monitoring in vicinity indicated	Creed et al. 1995:50
2075	Kapa'a/Ke āla	Highway Bridge Foundation (old Kaua'i Belt Road)	Kuhiō Highway at Kapa'a/ Keâlia River		Bushnell et al. 2002:55
2076	Kapa'a	Petroglyph	Rocky coast below former cane haul road (Site -789)	Preservation	Bushnell et al. 2002:55
2077	Kapa'a	Concrete steps (related to historic beach pavilion)	Near present Kapa'a Beach Park Pavilion		Bushnell et al. 2002:55

Site # 50-30-08-	Ahupua'a	Site Type/ Name (if any)	Location	Site Constraints	Reference
2078	Kapa'a	Historic Railway Alignment (2 Railroad Bridges, & RR Culvert Foundation)	Both railroad bridges span the Moikeha Canal; the RR culvert foundation is located north of the Kapa'a Swimming Pool.		Bushnell et al. 2002:55

Pattern of Archaeological Sites in Kapa'a

The pattern of archaeological studies in Kapa'a Ahupua'a is somewhat skewed with a dozen Projects in urban Kapa'a Town and very little work along the coast. Major archaeological sites have been found in the Kapa'a Town area including extensive cultural layers with burials and other cultural features underlying Kūhiō Highway near All Saints Gym and near the older part of Kapa'a Town between Waika'ea Canal and Kapa'a Beach Park, makai of Kūhiō Highway (Hammatt 1991; Kawachi 1994; Creed et al. 1995; Jourdane 1995; Callis 2000). The mauka-makai extent of these cultural layers has not been clearly defined. These extensive cultural deposits associated with pre-historic and early historic habitation are known to exist in a relatively narrow sand berm that makes up the physio geography of Kapa'a. The areas mauka of Kapa'a Town are marshy although much of it has been filled in recent decades. The five kuleana awarded during the Mahele are located adjacent to the present highway. The more mauka studies (Spear 1992, Chaffee et al. 1994a & 1994b, Hammatt et al. 1994, 1997, McMahon 1996) are thought to be located towards the mauka fringe of the sand berm, approaching more marshy conditions and have generally reported no significant or minimal findings. Less than 1.5- km to the south of Waika'ea Canal is another extensive subsurface, cultural deposit which is associated with a pre-contact fishing encampment located at the southern boundary of Waipouli adjacent to Uhalekawa'a Stream (Waipouli Stream) and the ocean (Hammatt et al. 2000).

Anticipated sites based on historic and archaeological studies in mauka Kapa'a would be evidence of cane cultivation like ditches and possible terracing for lo'i cultivation with nearby habitation sites.

Field Inspections

On January 3 and April 25, 2012 Exploration Associates Ltd. archaeologist Nancy McMahon, M.A. made field inspections on proposed HoKua Place/Kapa'a Highlands II Project area. Access was made via Olohena Road (two gates).

Because of known historic cane cultivation in this area of Kapa`a, predicted sites might be historic plantation related infrastructure such as ditches, flumes, roads, temporary cane-haul railroad berms and reservoirs. None were observed during the survey. The shallow ravine in the Project area was surveyed and tested, however no pre-Contact or historic era terraces or habitation sites were revealed.

The parcel contains no surface archaeological sites. The access road is related to access for construction of the buildings already present on the Phase I parcel.

Entrance off Olohena Road looking makai in the distance the Solar Farm

Remnant Road with Cattle Grazing in the Distance

View across the Project Area, Facing Makai and Northeast

Looking at the Roof of Kapa‘a Middle School

Subsurface Testing

On November 11, 2012, three trenches were excavated with a backhoe with a 24 in. width bucket. (Figure below). Trench 1 was excavated to a depth of 183 cm with a length of 10 meters. Trench 2 was excavated to a depth of 160 cm and a length of 3 m. Trench 3 was excavated to a depth of 260 cm and a length of 2.5 m. Each evinced the same soil composition. A description of the soils representing all three trenches is presented here.

Trench location, facing northeast

A representative profile description evinced the same stratigraphy consisting in all three trenches, consisting of three soil layers with only a single clear boundary delineating the topsoil from the underlying soils. Soil differences could only be determined utilizing the Munsell Color Chart. The topsoil in each trench 5 YR 4/3 reddish brown organic. The other two layers are classified as 5 YR 5/6 yellowish red [20 cmbs] and 5 YR 4/6 yellowish red [20 cmbs to base of excavation]. Characteristics are dry to very dry, crumbly, medium firm, clayey silt. It is pretty much cultivated soils. A local informant, Mr. Vasquez, who worked for the Lihue plantation most of his life ~~Informant~~ stated the plantation chain and ball dragged this land several times over.

Profile Test trench 2 on the left and Trench 3 on the right.

A geologic survey was undertaken on the adjacent Phase I parcel prior to the construction of a solar farm. Soils extracted and examined in test trenches revealed only agricultural soils. No buried cultural layers or plantation infrastructure was present.

Cultural Resources

A Cultural Impact Assessment (CIA) was conducted for the Project; it is attached as Exhibit M. Consistent with the Office of Environmental Quality Control guidelines, the CIA methodology incorporated:

- Historic Research (conducted at the State Historic Preservation Division Library, the Hawai'i State Archives and the Bishop Museum where information on historic land use and past cultural traditions was sought.)
- Archaeological Review (using the library at the Department of Land and Natural Resources, State Historic Preservation Division to obtain information regarding previous archaeological and cultural studies in the Kapa'a area.)
- Identification of Knowledgeable Informants (Hawaiian organizations, community members and cultural and lineal descendants with lineal ties to the greater Kapa'a area, as well as others with ties to the region were contacted, including the State Historic Preservation Division (SHPD), The Office of Hawaiian Affairs (OHA), the Kaua'i/Ni'ihau Islands Burial Council, the Royal Order of Kamehameha, Kaumuali'i Chapter, Kaua'i County Council, Kaua'i County Mayor, Kaua'i Health Heritage Coastal Corridor Committee, Kaua'i Historical Society, Kaua'i Historic Preservation Commission.
- Interviews (Once the participant was identified, she/he was contacted and interviewed. Excerpts from the interview are used throughout the CIA report, wherever applicable.)
- Report (A CIA report was prepared that documents relevant information on traditions and practices from the historic record as well as from contemporary oral sources. The report includes cultural and historic documentation of Kapa'a, a summary of archaeological studies, the results of community consultation and an assessment of traditional resources/traditional practices.

The Project area lies in the traditional ahupua'a of Kapa'a which belongs to the ancient district of Puna (now the district is more commonly called "Kawaihau"), one of five ancient districts on Kaua'i (King 1935: 228). Puna was the second largest district on Kaua'i, behind Kona, and extended from Kipu south of Līhu'e to Kamalomalo'o, just north of Keālia.

For taxation, educational and judicial reasons, new districts were created in the 1840s. The Puna District, with the same boundaries became the Līhu'e District, named for an important town in that district. In 1878, by the act of King Kalākaua in securing a future name for the new Hui Kawaihau, created the new district of Kawaihau.

This new district encompassed the ahupua'a ranging from Olohena on the south to Kilauea on the north. Subsequent alterations to district boundaries in the 1920s left Kawaihau with Olohena as its southernmost boundary and Moloa'a as its northernmost boundary (King 1935:222).

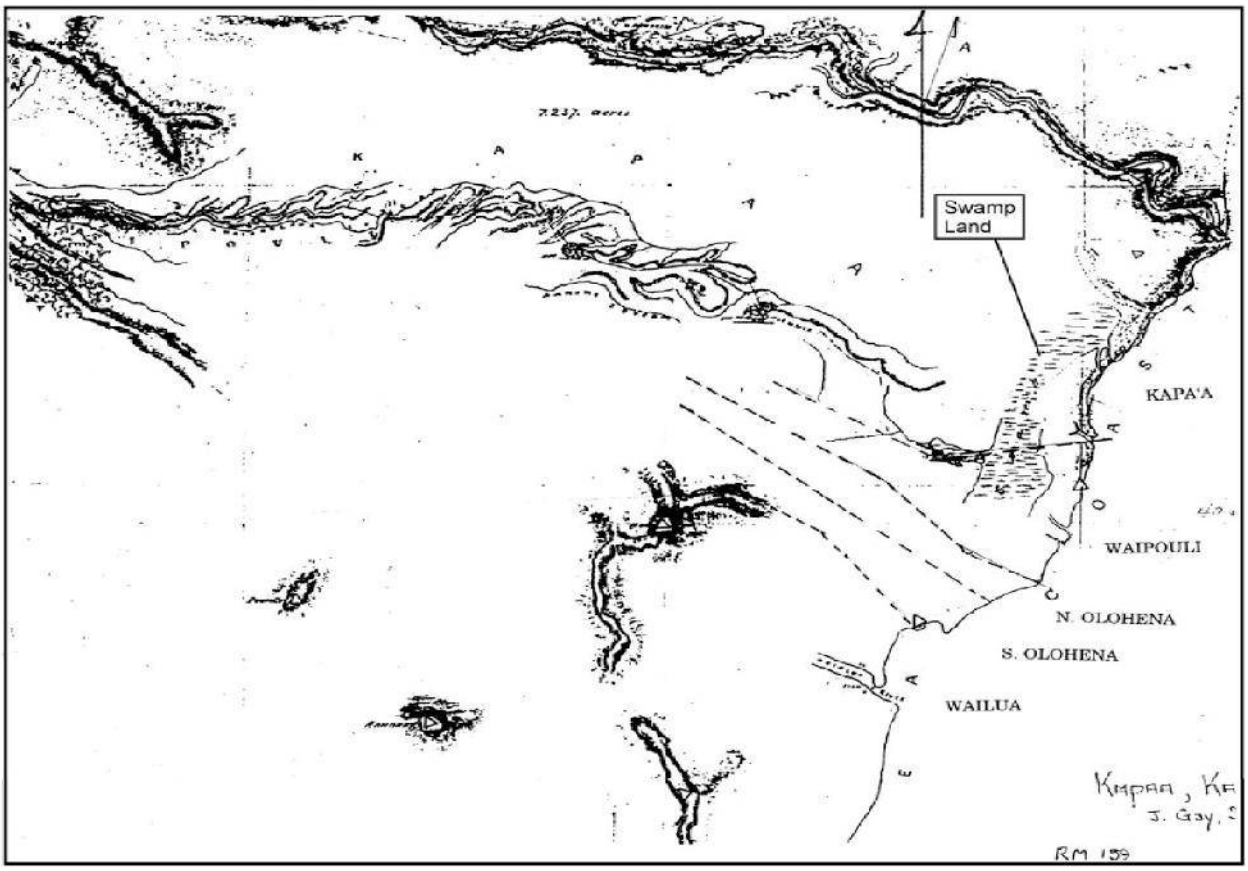
Historically, these ahupua'a contained two prominent landscape features, a coastal plain with sand dunes and a large marsh. An 1872 map by James Gay delineating the boundaries of Kapa'a and adjacent lands shows that much of the makai region was a "swamp" that extended from Waipouli into Kapa'a.

This "swamp" appears to be the most prominent natural feature of the seaward end of Waipouli and Kapa'a. The makai areas of the ahupua'a can be characterized as fairly flat. Kapa'a has an irregularly-shaped gulches and small valleys in the uplands, through which small tributary streams run, including the Kapahi, Makaleha, Moalepe and Konohiki Streams. While some of these streams combine with other tributaries in neighboring Keālia to form Kapa'a Stream, which empties into the ocean at the northern border of the ahupua'a, others flow directly into the marsh areas of Kapa'a and Waipouli (Handy and Handy 1972:394,423; Territorial Planning Board 1940:9).

Kapa‘a Town area is built on a sand berm with ocean on the makai side and marsh on the mauka side. The sand berm was probably slightly wider here than in other localities, but dry land was probably always at a premium.

Hawaiian traditions that centered on Kapa‘a in pre-contact times suggest the significance of, and association with, the *ali‘i.* A survey of traditional mythological literature shows that Kapa‘a was prominently associated with some of the most famous legendary and historical figures including Maui, Kawelo, Mō‘ikeha, Māweke, Palila, Pāka‘a and Kanaka Nunui Moe.

What few specific references there are suggest that high status habitation was focused near the coast with less intensive utilization of the uplands which were regarded as wild places. The most notable feature of the traditional accounts are the references to grasses and sedges (Kalukalu grass and Ahuawa rushes) which undoubtedly reflects in part the natural marsh lands near the coast but may also reflect transformation of the landscape through a denudation of trees by the activities of a relatively dense population harvesting slow growing trees for firewood and construction materials over many centuries.



Portion of 1872 Survey Map by James Gay, Showing Swamp Land in Puna.

The Organic Acts of 1845 and 1846 initiated the process of the Mahele, which introduced private property into Hawaiian society. In 1848 the crown and the ali‘i received their lands. The common people received their kuleana in 1850. It is through information garnered from records for Land Commission Awards (LCAs) generated during the Mahele that specific documentation of traditional life in Kapa‘a come to light.

Documents relating to Land Commission Awards (kuleana) during this period show, surprisingly, that only six individuals were awarded kuleana parcels in the relatively large ahupua‘a of Kapa‘a. Five of the six received multiple parcels and show characteristic similarities. They are Keo (LCA #3554, 3599), Kiau (#8843), Kamapaa (#8837), Ioane Honolii (#3971) and Huluili (#3638). All five had lo‘i on the mauka side of the lowland swamp area, sometimes extending a short distance up into small, shallow gulches and valleys. Each also had a separate house lot located on the makai side of the swamp, adjacent to the beach.

Interestingly, the residential “village” of Kapa‘a did not exist as a single entity, but was a series of small settlements or compounds that stretched along the shoreline of the ahupua‘a and included (south to north) Kupanihi (Makahaikupanihi), Kalolo (Kaulolo), Puhi, and Ulukiu. The sixth individual, Ehu (#8247), was the only person to be awarded a single parcel in the upland area of Kapa‘a at Moalepe valley, approximately five miles from the shore.

A check of the Foreign Testimony (F.T.) for Kuleana Claims to Quiet Land Titles in the Hawaiian Islands (1848-50) reveals the names of three ‘auwai in Kapa‘a. Cross referencing this information with various maps gives a general indication of their location: Makahaikupanihi, along the southern border near the shore and the settlement in Waipouli; Makea, near the current Kapa‘a Public Library on the mauka side of Kūhiō Highway; and Kapa‘a, probably along the current Kanaele Road.

There were no kuleana claims found within the Project area.

Burials

The coastline in Kapa‘a once contained extensive sand dunes that were documented in travels throughout the nineteenth century (Knudsen 1991; Alexander 1991). Most of the sand dunes were modified or destroyed at the onset of the twentieth century. This was due to the extensive use of the coastal areas for ranching, settlement, and new transportation routes like trains and roads.

Archaeological studies in the Kapa‘a area demonstrate the widespread prehistoric use of sand as a medium for burials. Burials have been identified along the coast and extending well mauka of the coastline into present day Kapa‘a Town. Cultural deposits found associated with burials in the Kapa‘a area shed light on the Hawaiian tradition of burying members of the ‘ohana in the kulaiwi, or birth land.

For Hawaiians, “man’s immortality was manifest in his bones...Even the bones of the living became symbols of the link between man’s progenitors and his own eventual immortality” (Pukui et al. 1972:106). Thus, the discovery of iwi (bones) is a very sensitive issue for the Hawaiian community requiring much mediation and protocol.

No burials are believed to be present within the Project area and none are known in the vicinity.

East Kauai's Heritage Resources Map

There are no sites within the property as noted on the East Kauai Heritage Resources map above.

Interviews

A substantial effort was made to locate knowledgeable informants for the area of Kapa'a. An attempt was made to contact as many individuals as possible. These led to the five knowledgeable parties that were interviewed for this Project. Through the consultation process, five individuals were identified as potential informants. Three had written letters of their knowledge of the area. Two others informants, former Lihue Plantation employees Albert Fukushima and Stanley Vasques, gave verbal interviews.

One of these spoke about the use of the lands for pasture when the Plantation ceased using the land for cane. The other informant was from the East Kaua'i Soil and Water District and had no knowledge any plantation ditches that were still intact within the Project area. The old maps he had showed the ditch system around Twin Reservoir which is located directly across Olohena Road from this Property but the maps stop before this Project area. This map indicates that there were no permanent plantation ditch lines on this parcel.

No Native Hawaiian informants came forward to discuss any traditional gathering associated with this Project area. The Office of Hawaiian Affairs gave a list of possible individuals with extensive knowledge of traditional cultural practices and resources but none knew of any for this Project area.

Gathering for Plant Resources

Hawaiians utilized upland resources for a multitude of purposes. Forest resources were gathered, for not only the basic needs of food and clothing, but for tools, weapons, canoe building, house construction, dyes, adornments, hula, medicinal and religious purposes

The present Project area is dominated by alien vegetation (albezia, ginger, California grass) although some traditional cultigens (banana, bamboo, kid and historically introduced food plants (papaya)) are present as well. Within the Project area itself no specific documentation was found regarding gathering of plants during traditional Hawaiian times.

During the assessment there were no ongoing practices related to traditional gathering of plant resources identified in the present Project area. None of the individuals contacted for this assessment identified any native plant gathering practices within the Project area.

Historic Properties

No historic properties were identified within the Project area or in the vicinity. The density of identified historic properties is far greater near the coast of Kapa'a Ahupua'a.

Trails

Based on nineteenth and twentieth century maps the primary transportation routes mauka/makai correlated closely to the existing major roadways. During the assessment there were no trail systems identified in the proposed Project area.

Plantation Ditch System or ʻAuwai

Based on the archaeological assessment (McMahon, 2012 & 2013), field checks, documentation from land records, plantations records and maps, and informant's information, no remnants of these historic properties exist. Several pieces presumed to be remnant of the metal flumes (transportable irrigation) were found. It is also thought that the existing roads on the property might be filled.

Past Analysis

In researching archeological/cultural issues related to the HoKua Place/Kapaʻa Highlands II site, past environmental review documents were studied.

The Final Environmental Impact Statement and Site Selection Study for the New Kapaʻa Intermediate School by The Keith Companies in 1993 analyzed an area bordering the HoKua Place property. The study noted,

> "None of the potential school sites fall within an area identified as culturally sensitive on the County Cultural Sensitivity Maps and the sites have been historically disturbed through sugar cane cultivation and grazing activities. No archaeological, historical or cultural resources are known or expected to be present at any of the sites, however an archaeological inventory survey of the selected site will be conducted to insure that no archeological, historical or cultural resources of significance are impacted by the proposed Project. Should such resources be found at the selected site, mitigation and/or preservation plans will be prepared in consultation with the State Department of Land and Natural Resources, State Historic Preservation Division, the County Planning Department, and the Kauaʻi Historic Preservation Review Commission."

It is not known if an archeological inventory study was done for the site. The FEIS also notes a letter from the State Historic Preservation Division which states,

> "A review of our records shows that there are no known historic sites at these four proposed Project locations."

The Final Environmental Assessment for Kūhiō Highway Improvements, Extension of Temporary By-Pass Road, Kūhiō Highway to Olohena Road by the State Department of Transportation in August 2004, analyzed the property surrounding the HoKua Place Project site. It states,

> "The Project has been in agricultural use for over 100 years. During the course of this use, the site has been extensively disturbed and the likelihood of any archaeological or cultural artifacts remaining on site are extremely unlikely."
>
> "The Project site has a long established history in sugar cane agricultural use. This use has removed the site from any cultural practices for over 100 years. The site has been fallowed in recent years and the road has been closed to the public with a gate off of Kūhiō Highway and concrete barrier walls in the vicinity of the ball field. During a site inspection several individuals were observed fishing for Samoan crab along the bridge. This practice can be conducted at any point along the canal however the bridge provided a convenient improved surface for this fishing activity. The proposed By-Pass road improvement will not preclude this fishing activity however the bridge location will not be suitable for fishing as the bridge will not include pedestrian easements."
>
> "Water resources are often identified as potential habitation sites however the Moʻikeha Canal is a man made and improved drainage feature therefore no habitation sites are likely to be found in the vicinity of the bridge."

"The State Historic Preservation Division has not issued a determination regarding the impact of the proposed Project and no statement of 'no effect' has been presented in the Draft EA. The Draft EA does state that the likelihood of finding any archaeological material is minimal as the Project will not require any significant subsurface grading."

The Final Environmental Assessment Wailua Facility Plan prepared for County of Kaua'i, Department of Public Works, Division of Wastewater Management by Fukunaga & Associates Inc. in April 2008 analyzes the Wailua area as a whole. It states,

"Wailua is known for a culturally significant area in Kaua'i, especially in the vicinity of the Wailua River. According to the Malae Heiau: Vegetation Removal and Landscaping Plan, "The lands along the Wailua River comprised a political, religious and social center for Kaua'i's paramount chiefs who resided at Wailua most of the year."

"The Wailua Complex of Heiau is identified and registered on the National and State Register of Historic Places (NRHP). Landscape elements, such as historic plantation town architecture in Kapa'a, are also known and preserved as a significant historic cultural value of Kaua'i. The State Department of Land and Natural Resources (DLNR), Historic Preservation Division recognizes historically significant structures in Kapa'a.

- Puuopae Bridge (Site #: 30089398, TMK: 4-4-02)
- Opaekaa Road Bridge (Site #: 30089377, TMK: 4-2-02:22)
- Seto Building (Site #: 30089379, TMK: 4-5-11:31)
- Kapa'a School (Site #: 30089391, TMK: 4-6-14:31)
- Kawamura Residence and Utility Shed (Site #: 30089393, TMK: 4-5-08:16)
- Wailua Complex of Heiaus (Site #: 3008502, TMK: 3-9-06:01, 4-1-02:03, 4-2-13:17)
- Kukui Heiau (Site #: 3008108, TMK: 4-3-02:01)"

"According to the DLNR, Historic Preservation Division, the Wailua WWTP service areas are within historically sensitive areas requiring careful planning and monitoring to ensure proper preservation. The proposed Project is in a culturally and historically significant area. However, since the Project will be in areas that have been previously disturbed, no adverse effect on significant historic sites or human burials is anticipated. Construction and the required mitigation plans will be coordinated with the State Historic Preservation Division, the Kaua'i Burial Council and the Office of Hawaiian Affairs in accordance with the Hawai'i Revised Statutes (HRS) and the Hawai'i Administrative Rules to minimize any long term negative impacts on historic sites."

4.2.2 Potential Environmental Impacts & Mitigation Measures

Archaeological, Historic and Cultural Resources

Exploration Associates, Ltd. conducted an Archaeological Assessment and a Cultural Impact Assessment for the proposed HoKua Place Project. Historic research of the Project area was carried out to identify any cultural resources or traditional cultural practices associated with the area encompassing the proposed HoKua Place. In addition, community consultation was conducted. An attempt was made to contact parties regarding cultural knowledge, land use history, cultural sites and traditional Hawaiian or other cultural practices in the vicinity of the Project area. Five individuals came forward as knowledgeable informants. In addition to the informants, other community members shared valuable information regarding traditional land use, attitudes and practices associated with the Project area.

The marshlands of Kapa‘a were once a significant resource prior to Western contact. The fringes of the marsh were utilized for lo‘i kalo, and other resources including the gathering of kalukalu, a type of grass utilized for kapa. Places in the marshes also served as fishponds. Vestiges of the cultural significance of the marshlands are retained in the mo‘olelo and ‘olelo no‘eau particular to this area. With the establishment of the sugar plantations in the late nineteenth century, the marshlands were significantly altered. Marsh areas were drained and filled to create more dryland for commercial agriculture and pasture land.
Several individuals consulted and interviewed grew up fishing for ‘ōpae and ‘o‘opu in the irrigation ditches which once drained the swamps. They expressed sadness at the changing of the landscape and the passing of their childhood traditions with the final draining and filling of the swamps. No further concerns regarding the marshlands were expressed other than the presumed low potential of possibly encountering habitation deposits and burials related to former LCA parcels.

The CIA report documents the use of the ‘auwai or plantation ditches for irrigation and water use by the residents up until the 1960s. The ‘auwai were also utilized for a variety of activities beyond their primary irrigation purpose. The bulk of the ‘auwai have been lost through modern pasturage, disuse and adjacent road improvements.

In general the community emphasized the importance of communicating with the ‘ohana of Kapa‘a regarding changes to the land. This includes asking permission of the ‘ohana, including ‘uhane (immortal spirits) for opening up the land to proposed new uses. It was stressed that this and other protocols are necessary to “open the path” for change, thus avoiding accidents and potential obstacles of a cultural nature.

4.2.3 Level of Impact after Mitigation

As noted in Exploration Associates Limited’s field checks, archaeological assessment (Exhibit L) and cultural impact assessment (Exhibit M) of the property, as well as prior archeological and cultural evaluations for neighboring properties, no archaeological sites or historic preservation concerns are evident on or in the vicinity of the property.

There are no known traditional resources or cultural practices associated with the HoKua Place Project Area.

If in the unlikely event that any human remains or other significant subsurface deposits are encountered during the course of development activities, all work in the immediate area will stop and the State Historic Preservation Division will be promptly notified.

4.3 Biological Resources

This section discusses the biological resources (flora and fauna) in the region and in Project area, the potential impacts of the Project on those resources and mitigation measures the Project will take to mitigate those potential impacts.

4.3.1 Environmental Setting

The Project site has been extensively used for sugar cane cultivation for many years. The Project site is currently fallow and was last cultivated over 15-years ago.

Botanical Survey

During April and May of 2012 a botanical survey was conducted on a 97 acre parcel in Kapa`a, Kaua`i, referred to as HoKua Place (TMK (4)3-8-003:001). This research documented 44 vascular plant species within the survey area. Forty taxa were non-native plant species, three taxa were very common indigenous native species, and one taxon was a Polynesian introduction. (The Report is found in Exhibit J.)

That investigation concluded, "No federally listed as threatened or endangered plant species were observed within or near the survey area." (Text case was changed to sentence case - the report had this sentence in All Caps.)

Botanical Survey Methods

On April 19, 2012 and May 7, 2012, K. R. Wood (Endangered Species Specialist) and assistant Megan D. Kirkpatrick (M.S. Environmental Science) conducted a biological inventory on an undeveloped parcel of property in Kapa`a, Kaua`i (TMK [4]3-8-003:001). The survey area is approximately 97-acres of undeveloped land. The primary objectives of this field survey were to:

a. search for threatened and endangered plant species as well as species of concern;
b. provide a complete vascular plant checklist of both native and non-native plant taxa observed on property; and
c. provide a summary concerning the conservation status of all native taxa observed;

A walk-through survey method was used. Transects included walking/driving around boundaries of property (TMK (4)3-8-003:001) and several transects through the interior portions of property. Plant identifications were made in the field and were recorded. Plant names and authors of dicots and monocots follow Wagner et al. (1990) and pteridophytes follow Palmer (2003). Plants of particular interest were collected by the second author (MK) as herbarium specimen vouchers and deposited at the National Tropical Botanical Garden (NTBG) herbarium. Specimens were placed in newspaper sheets and pressed in-between cardboard herbarium presses and dried at the NTBG.

Botanical Survey Results

The study area represents a lowland non-native mesic plant community dominated by secondary vegetation of trees, shrubs, and grasses, many of which are considered invasive. The land is vacant and currently undeveloped and has a past history of grazing and sugarcane cultivation.
The non-native grass Panicum maximum (Poaceae – Guinea grass) and non-native shrub or small tree Leucaena leucocephala (Fabaceae – koa haole) are by far the dominant species found at the site.

Additional common non-native trees and shrubs include: Lantana camara (Verbenaceae – lākana), Indigofera suffruticosa (Fabaceae – indigo), Syzygium cumini (Myrtaceae – Java plum), Psidium guajava (Myrtaceae – guava), Spathodea campanulata (Bignoniaceae – African tulip), and Senna surattensis (Fabaceae – kolomona).

Several less common non-native trees and shrubs include: Clidemia hirta (Melastomataceae – Koster's curse), Cinnamomum camphora (Lauraceae – camphor tree), Falcataria moluccana (Fabaceae – albezia), Ficus microcarpa (Moraceae – Chinese banyan), and Schefflera actinophylla (Araliaceae – octopus tree).

No Hawaiian endemic species (i.e., restricted to only Hawai`i) were observed. One Polynesian introduction was observed, namely Aleurites moluccana (Euphorbiaceae – kukui tree) which is common throughout the Hawaiian Islands. The three indigenous species found at the site are quite common and include: Hibiscus tiliaceus (Malvaceae – hau) which is also often an invasive tree species, the fern species Psilotum nudum (Psilotaceae – moa), and Waltheria indica (Sterculiaceae - `uhaloa). For complete checklist of species see Table 1 which also includes the common names and status (i.e., indigenous/naturalized) category of each taxon.

In addition to the survey, a review of other reports was conducted as part of the assessment. According to the Hawai‘i Natural Diversity Database, there have been no recordings of rare species or eco-systems on the subject property. Considering that the 97-acres have no natural water resources, the near proximity of residential and commercial neighborhoods and the adjacent public school, threatened or endangered birds are not expected to frequent the site.

Botanical Resources

The dominate vegetation zone along the eastern coast of Kauaʻi is made up of open guava forest with shrubs. Characteristic vegetation within this zone includes guava, Koa Haole, Lantana, Spanish clover and Bermuda grass.

Surrounding residential and commercial areas are planted with Coconut trees, common landscaping trees, bushes and ornamental plants. The areas along the Moikeha Canal banks are heavily vegetated with invasive mangrove.

Avian and Mammalian Survey

An avian and mammalian survey was conducted on an approximately 97-acre parcel of land identified as Tax Map Key (4) 3-8-003:001 located in Kapaʻa, Island of Kauaʻi.

The associated report is identified as Exhibit K in this assessment. The report describes the methods used and the results of the avian and terrestrial mammalian surveys conducted on the Project site. Both surveys were conducted as part of the environmental disclosure process associated with the proposed Project.

Hau bushes along southwestern bounday

The primary purpose of the surveys was to determine if there are any avian and terrestrial mammalian species currently listed, or proposed for listing under either federal or State of Hawaiʻi endangered species statutes

within or adjacent to the study area. The federal and State of Hawai‘i listed species status follows species identified in the following referenced documents, (Department of Land and Natural Resources (DLNR) 1998; U. S. Fish & Wildlife Service (USFWS) 2005, 2012). The avian and mammalian surveys were conducted May 21, 2012.

Avian Survey Methods

A total of six avian point count stations were sited roughly equidistant from each other within the Project site. Six-minute point counts were made at each of the count stations. Each station was counted once.

Field observations were made with the aid of Leica 8 X 42 binoculars and by listening for vocalizations. Point counts were concentrated during the early morning hours, the peak of daily bird activity. Time not spent counting was used to search the remainder of the Project site for species and habitats that were not detected during count sessions.

Mammalian Survey Methods

With the exception of the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*), or *‘ōpe‘ape‘a* as it is known locally, all terrestrial mammals currently found on the Island of Kaua‘i are alien species, and most are ubiquitous. The survey for terrestrial mammalian species was limited to visual and auditory detection, coupled with visual observation of scat, tracks, and other animal sign.

No trapping program or heterodyne bat detection survey methods were used during the course of this survey. A running tally was kept of all terrestrial vertebrate mammalian species detected within the Project area during time spent within the Project site.

Avian Survey Results

A total of 193 individual birds of 17 species, representing 13 separate families, were recorded during station counts. All 17 species recorded are alien to the Hawaiian Islands. Avian diversity and densities were in keeping with the location of the Property and the habitat presently on the site.

Four species, House Finch (*Carpodacus mexicanus*), Nutmeg Mannikin (*Lonchura punctulata*), Japanese White-eye (*Zosterops japonicus*) and Zebra Dove (*Geopelia striata*) accounted for slightly more than 45 percent of all birds recorded during station counts.

The most commonly recorded species was House Finch, which accounted for 14 percent of the total number of individual birds recorded. An average of 32 individual birds was recorded per station count; a number that is about average for point counts in this area on the Island of Kaua‘i.

No avian species currently proposed or listed under either the State of Hawai‘i or federal endangered species statutes was detected during the course of the survey, nor would they be expected given the habitat currently present on the site.

Mammalian Survey Results

Four terrestrial mammalian species were detected while on the site. Numerous dogs (*Canis f. familiaris*) were heard barking from areas adjacent to the site. Tracks and scat of pig (*Sus s. scrofa*) were encountered within the site. Tracks, and scat of both horse (*Equss c. caballus*) and cow (*Bos taurus*), were also encountered within the site.

Avian Resources

The findings of the avian survey are consistent with the location of the Property, and the habitat present on the site. As previously stated all of the avian species detected during the course of this survey are alien to the Hawaiian Islands.

Although not detected during this survey, the endangered Hawaiian Petrel (Pterodroma sandwichensis), and the threatened endemic sub-species of the Newell's Shearwater (Puffinus auricularis newelli) have been recorded over-flying the Project site between April and the end of November each year (David, 1995; Morgan et al., 2003, 2004; David and Planning Solutions 2008).

Typical Guinea grass/koa haole shrub vegetation looking nortwest

The US Fish and Wildlife Service has determined that in addition to the Hawai'ian Petrel and the Newell's Shearwater birds flying over the site, the Band-Rumped Storm Petrel (Oceanodroma castro) may fly over the Project while traveling between the sea and their mountainous breeding sites. The developer is committed to contacting USFWS for further assistance when the design of the utility system heights and numer of shielded streetlights are determined in order to minimize potential affect to these seabirds.

Prior to construction or any subsequent delay in work for 3 or more days, a biologist familiar with the nesting behavior of the Hawaiian Goose shall survey the site. Should any nesting be discovered, work at the area if discovery shall be stopped and the USFWS office shall be contacted for further guidance. All on-site personnel shall be informed that Hawaiian Geese may be in the vicinity of the construction site at any time of the year. If a Hawaiian Geese is within 100 feet of ongoing work, all activities should be temporarily stopped until the goose leaves on its own accord.

Additionally, the Save Our Shearwaters Program has recovered both species from the general Project area on an annual basis over the past three decades (Morgan et al., 2003, 2004; David and Planning Solutions, 2008; Save our Shearwater Program, 2012).

The petrel is listed as endangered, and the shearwater as threatened under both Federal and State of Hawai'i endangered species statutes. The primary cause of mortality in both Hawaiian Petrels and Newell's Shearwaters is thought to be predation by alien mammalian species at the nesting colonies (USFWS 1983, Simons and Hodges 1998, Ainley et al., 2001).

Collision with man-made structures is considered to be the second most significant cause of mortality of these seabird species in Hawai'i.

Nocturnally flying seabirds, especially fledglings on their way to sea in the summer and fall, can become disoriented by exterior lighting. When disoriented, seabirds can collide with manmade structures, and if they are not killed outright, the dazed or injured birds are easy targets of opportunity for feral mammals (Hadley 1961; Telfer 1979; Sincock 1981; Reed et al., 1985; Telfer et al., 1987; Cooper and Day, 1998; Podolsky et al. 1998; Ainley et al., 2001; Hue et al., 2001; Day et al 2003).

There are no nesting colonies nor appropriate nesting habitat for either of these listed seabird species within the current study site.

Following build out it is probable that cleared areas, especially those that are landscaped as lawns, and or parking lots will provide loafing habitat for Pacific Golden-Plover (Pluvialis fulva).

The plover is an indigenous migratory shorebird species which nests in the high Arctic during the late spring and summer months, returning to Hawai'i and the Tropical Pacific to spend the fall and winter months each year. They usually leave Hawai'i for their trip back to the Arctic in late April or the very early part of May each year. This species is a common site around the state during the late fall and winter months.

Mammalian Resources

The findings of the mammalian survey are consistent with the location of the property and the habitat currently present on the site.

No Hawaiian hoary bats were seen overflying the site. Hawaiian hoary bats are widely distributed in the lowland areas on the Island of Kaua'i, and have been documented in and around almost all areas that still have some dense vegetation (Tomich, 1986; USFWS 1998, David, 2012).

Although no rodents were detected during the course of this survey, it is virtually certain one or more of the four established alien muridae found on Kaua'i, roof rat (Rattus r. rattus), Norway rat (Rattus norvegicus), European house mouse (Mus musculus domesticus) and possibly Polynesian rats (Rattus exulans hawaiiensis) use various resources found within the general Project area.

All of these introduced rodents are deleterious to native ecosystems and the native faunal species dependant on them.

Past Analysis

In addition the surveys conducted, past environmental review documents were reviewed - statements from reports and analysis on neighboring properties follows.

The Final Environmental Impact Statement and Site Selection Study for the New Kapaa Intermediate School by The Keith Companies in 1993 analyzed an area bordering the HoKua Place property. The study noted,

> "Typical vegetation observed throughout the service area include several types of palms, ironwood, Norfolk pine, papaya, guava, banana, mango, avocado, lantana, koa haole, hau, sugarcane, taro, java plum, and numerous grass species."
>
> "Domestic pets, feral animals, livestock and rodents make up the majority of the nonhuman mammals inhabiting the service area. The Hawaiian hoary bat, the only native land mammal can be found in the service area, while the endangered marine mammal, the monk seal, occasionally visits the area's shoreline."

The present Kapa'a Intermediate School was described as Site #1 in the DEIS. The analysis of that site states,

> "Sites #1, #2, and #4 are or were until recently utilized for sugar cane cultivation and sugar cane is the primary botanical species present at these sites. No endangered plant or animal species are known or expected to be affected by establishment of a school at these locations."
>
> "The native Hawaiian seabird, Newell's Shearwater, listed as "threatened" under the Federal Endangered Species Act, is known to nest in the interior mountains above the Wailua area. Shearwaters leaving their nests at night can become disoriented and confused by urban lights and may become exhausted or fly into unseen objects such as utility wires, trees, buildings and automobiles. School facilities lighting can be designed and located to minimize the attraction and confusion impacts on Newell's Shearwater. Avoidance of situations where light glare Projects upward or laterally, particularly during the critical fallout period of October and November, will minimize adverse impacts on this unique species."

The Final Environmental Assessment for Kūhiō Highway Improvements, Extension of Temporary By-Pass Road, Kūhiō Highway to Olohena Road by the State Department of Transportation in August 2004, analyzed the property surrounding the HoKua Place Project site. It states,

> "The majority of the Project alignment is covered with koa haole, giant sensitive plant, and various noxious weedy species. These plants are typical of fallowed agricultural fields. The area along the Moikeha Canal banks is heavily vegetated with mangrove, which is also considered a pest. No rare, threatened or endangered species of flora were observed along the Project alignment."
>
> "The site does not serve as an endangered wildlife habitat although avifauna, feral cats, dogs and rodents may be found on-site. A few egrets were observed onsite in the grassy areas outside of the Project alignment. No rare or endangered species of avifauna were identified. Fauna within the canal include mosquito fish, tilapia, crayfish and Samoan crabs. It is also likely that some ocean fish, such as barracuda, may enter the lower portions of the canal."

The Final Environmental Assessment Wailua Facility Plan prepared for County of Kauai, Department of Public Works, Division of Wastewater Management by Fukunaga & Associates Inc. in April 2008 analyzes the Wailua area as a whole. It states,

> "According to the data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii Gap Analysis Program, the Project area has multiple classifications of low intensity development, cultivated land, grassland, scrub shrub and wetland habitats. The predominant vegetation zone along the eastern coast of Kauai is made up of open guava forest with shrubs. Characteristic vegetation within this zone includes Guava, Koa Haole, Lantana, Spanish clover and Bermuda grass. Surrounding residential and commercial areas are planted with Coconut trees, vegetable gardens, common landscaping trees, bushes and ornamental plants. The Project areas are highly disturbed, and it is unlikely that any endangered species of flora are in the areas."
>
> "Mammals in the vicinity of the Project include feral cat, roof rat, cattle, dog, pig, and the Hawaiian hoary bat. Birds that are associated with the prevalent vegetation type along the eastern coast of Kauai include cardinal, spotted dove, barred dove, mockingbird, mynah, ricebird, white eye, house sparrow, elepaio, pueo, and golden plover. 'Elepaio and pueo are native Hawaiian birds, and the golden plover is an indigenous Hawaiian bird."
>
> "The U.S. Department of the Interior, Fish and Wildlife Service confirmed that there is no federally designated critical habitat in the proposed Project area. However, the following species are observed in the Project vicinity and listed as federally threatened and endangered species.
>
> Federally threatened species: Newell's shearwater (*Puffinus auricularis newelli*)
> Federally endangered species: Hawaiian petrel (*Pterodroma phaeopygia sandwichensis*); Band-rumped storm petrel (Oceanodroma castro); Hawaiian hoary bat (*Lasirus cinereus semotus*); Hawaiian duck (*Anas wyvilliana*); Hawaiian stilt (*Himantopus mexicanus knudseni*); Hawaiian goose (*Branta sandvicensis*);
> Hawaiian moorhen (*Gallinula chloropus sandvicensis*); Hawaiian coot (*Fulica alai*); Hawaiian monk seal (*Monachus schauinslandi*).
>
> The Project areas are already highly disturbed, and it is unlikely that any of the endangered or critical fauna species listed above inhabit the areas."

"Construction timing should avoid disturbance to possible nesting wetland birds in area adjacent to wetlands. Hawaiian petrel, the Band-Rumped Storm Petrel and the Newell's shearwater are known to transit this area and are prone to collisions with objects in artificially-lighted areas. Artificial lighting and structures higher than the current existing vegetation will attract seabirds circling the light source, and they might collide with structures or fall to the ground. Lights should be designed to prevent the attraction of these nocturnal seabirds (i.e. no emit light upward or no light at night). Prior to Construction, the Developer and Contractors will contact and consult with US Fish and Wildlife Services to establish protocol to least affect these seabirds.

"There are no indications of rare or endangered flora in the Project area. Although the U.S. Department of Interior, Fish and Wildlife Service has confirmed that threatened and endangered species are observed in Wailua-Kapaa area, the project sites are already highly disturbed and developed. Therefore, no negative impacts to existing plants and mammals are anticipated."

4.3.2 Potential Environmental Impacts & Mitigation Measures

Botanical

As all of the plant species recorded are either naturalized species or common indigenous species it is not expected that the development and operation of the proposed subdivision will result in deleterious impacts to any botanical species currently listed or proposed for listing under either federal or State of Hawai'i endangered species statutes.

The Conclusion of the Botanical Survey concluded: No threatened or endangered plant species were observed within or anywhere near the survey area during research and therefore there are no concerns about possible impacts to rare plant species at the HoKua Place Project. The current conditions of this study site indicate that the area has been dominated by non-native weedy species for a very long time. The senior author certified his expertise with more than 25 years conducting biological inventories within the Hawaiian Islands and has specialized in the conservation of Hawai`i's Federally Listed as Endangered plant species, including those considered Candidates for listing, Species of Concern, or Federally Listed as Threatened (USFWS 1999a, 1999b, 2004, 2010).

Seabirds

The principal potential impact that construction and operation of the HoKua Place poses to protected seabirds 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 ways 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, and 2) following build-out, the potential operation of streetlights and exterior safety and security lighting.

Hawaiian hoary bat

The principal potential impact that the development of the HoKua Place Project poses to bats is during the clearing and grubbing phases of construction as vegetation is removed. The removal of vegetation within the Project site may temporarily displace individual bats, which may use the vegetation as a roosting location.

As bats use multiple roosts within their home territories, the potential disturbance resulting from the removal of the vegetation is likely to be minimal. During the pupping season, females carrying their pups may be less able to rapidly vacate a roost site as the vegetation is cleared.

Additionally, adult female bats sometimes leave their pups in the roost tree while they forage. Very small pups may be unable to flee a tree that is being felled. Potential adverse effects from such disturbance can be avoided or minimized by not clearing woody vegetation taller than 4.6 meters (15-feet), between June 1 and September 15, the period in which bats are potentially at risk from vegetation clearing.

Critical Habitat

There is no federally delineated Critical Habitat for any species present on or adjacent to the Project area. Thus, the development and operation of the Proposed project will not result in impacts to federally designated Critical Habitat. There is no equivalent statute under State law.

Invertebrates

No voids or lava tube entrances etc were noted on the site. Likewise, there is no evidence of standing water or streams on the site. These are two conditions that could indicate habitat for listed invertebrates.

Steven Lee Montgomery, Ph. D., performed an invertebrate survey of the Project site in January 2018, that is attached as Exhibit P to Volume II of the FEIS. Dr. Montgomery observed no native invertebrate species classified by the US Fish and Wildlife Service or the State of Hawaii as endangered or threatened or as a candidate for listing as an endangered or threatened species.

Recommended Mitigation Measures

- All exterior lights installed in conjunction with the proposed Project should be shielded to reduce the potential for interactions of nocturnally flying seabirds with external lights and man-made structures (Reed *et al.*, 1985; Telfer *et al.*, 1987). Any lighting fixtures that meet the "Dark Skies" guidelines are appropriate.
- It is recommended that woody vegetation taller than 4.6 meters (15-feet), not be cleared between June 1 and September 15, the period in which bats are potentially at risk from vegetation clearing. As an alternative to this, the areas with vegetation exceeding 15-feet that are scheduled for removal will first be reviewed by a qualified land manager, biologist, forester, etc prior to the vegetation removal. The DLNR and the USFWS will be notified if the ʻōpeʻapeʻa is found to be in trees scheduled for removal.

- It is recommended that the Developer apply for an incidental take permit under Section 10(a)(1)(B) of the ESA. If necessary a habitat conservation plan that identifies the potential effects of the action on listed species and their habitat, and define measures to minimize and mitigate any adverse effects.

- It is recommended that, where appropriate and practicable, native plant species be used in landscaping efforts. Not only is this ecologically prudent, but also if the appropriate plants are used, it will also likely save maintenance and water costs over the long term.

- The developer shall contact USFWS after the utility system has been determined (utility poles, light poles, etc) for further assistance with ESA compliance.

4.3.3 Level of Impact after Mitigation

As noted in the botanical survey by Wood & Kirkpatrick (Exhibit J) and the biological surveys (avian and mammalian) (Exhibit K) by Rana Biological Consulting Inc. of the property, as well as prior botanical and biological surveys for neighboring properties, no species currently proposed or listed as threatened or endangered under either the federal or state of Hawaii endangered species statutes were documented on the subject Property.

There is no federally delineated Critical Habitat for any species present on or adjacent to the Project area. Thus, the development and operation of the proposed Project will not result in impacts to federally designated Critical Habitat. There is no equivalent statute under State law.

The Project will follow all applicable rules and regulation and adhere to the mitigation measure described above. The Project will not have a significant impact on any botanical or biological resources.

4.4 Visual & Aesthetic Resources

This section describes the existing visual, vista and view plane conditions on within the Project area, discusses the visual impacts the Project may have, and identifies how the Project mitigates its potential visual impacts.

4.4.1 Environmental Setting

HoKua Place entails approximately 97-acres north of Kapa'a town. The Kapa'a By-Pass Road separates the town and the Property.

The Property is on the north-west corner of the Kapa'a By-Pass Road and Olohena Road. Olohena Road runs along and adjacent to the east and north boundaries of the Property. The Kapa'a Middle School is located on the northern end of the Property fronted by Olohena Road.

Aerial view of the subject property

The southern border of the Property, along the by-pass road, is elevated approximately 55 feet above msl. The Property rises in elevation to the northern border approximately 130 feet above msl or an average upslope of less than 5%. There are particular areas of the property with 20% slopes.

The Property is located on an elevated plateau and the topography of the Property affords many ocean view lots. Olohena Road bordering the northern property boundary is elevated adequately so ocean views will continue from that road.

The Property is currently fallow and is vegetated with Guinea Grass (Panicum maximum), Koa Haole (Leucaena leucocephala), and Java Plum (Syzygium cumini). Sugar cane cultivation was the last previous use of the property Aerial view of the subject property over fifteen years ago.

The following includes photos from various locations overlooking the property. First the photo guide with image numbers noted at the locations taken (noted on the map,) followed by the images:

3/5/2015 Map for Photo Tour of HoKua Place Google Maps

Photo Tour of HoKua Place
Compare numbers to those on the map.

1. Approaching HoKua Place, driving North on the By-pass Road.

2. Near the south-west corner

3. Across from the church

4. The south-east corner of HoKua Place

5. The south-east corner of HoKua Place

6. On the By-pass road

7. View from the By-pass road

8. Approaching the round-about. HoKua Place on the left.

9. Looking across the round-about at the north-east ridge of HoKua Place

10. Looking across the round-about at the north-east ridge of HoKua Place

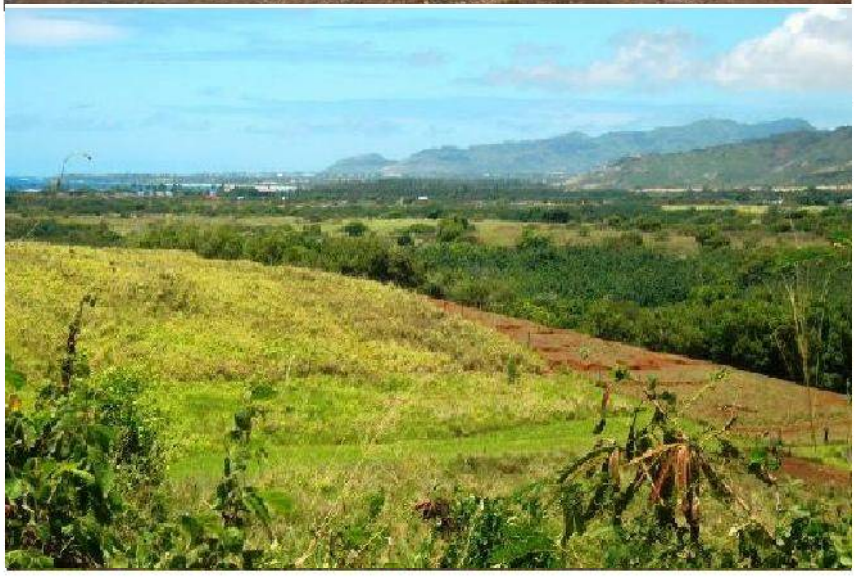
11. Starting up the hill on Olohena road

12. On the eastern end of the middle school.

13. Looking across the west side of the middle school parking lot, HoKua Place is beyond.

14. Past the middle school on Olohena Road

15. Looking across the fork at Kaapuni and Olohena road toward HoKua Place



16. Past the fork, on Olohena road.

17. Near the north-western tip of HoKua Place looking at the solar farm.

4.4.2 Potential Environmental Impact & Mitigation Measures

The Project site is not part of a scenic corridor and the Project will not affect scenic vistas and view planes. The proposed Project will not involve significant alteration of the existing topographic character of the site and will not affect public views to and along the shoreline

Olohena Road, along the northern property of HoKua Place is well above the Project site. The Property slopes down approximately 5% from Olohena Road to the by-pass road to the south.

Re-vegetation with native plants will occur in areas disturbed by construction activities and overtime the vegetation near construction areas will grow and mature.

The architecture of the Project will ensure that the Project is compatible with its visual environment. The Project will create structures which are both visually appealing and blend in with the scenery around them.

Additionally, there currently are high voltage electrical lines around part of the Project's perimeter. The electrical utility (KIUC) and HoKua Place would like to run the lines underground thru the Project, dependent upon funding. This would be a preventative measure to protect shearwater birds, and to beautify the historic Kapa'a town core area.

4.4.3 Level of Impact after Mitigation

The mitigation for the impacts to visual and aesthetic resources is incorporated into the Project's design. Therefore, the level of the visual impact after mitigation will be less than significant.