County of Hawaii
Water Use & Development Plan Update
Keauhou Aquifer System

County of Hawaii
Department of Water Supply
for the
State of Hawaii
Commission on Water Resource Management

November 19, 2014

Background

Hawaii County Water Use & Development Plan

- Updated original WUDP prepared in 1990
- Initiated in 2004
- Final Draft Plan 2010
- Adopted by County Ordinance – February 2011
- Accepted by CWRM – November 2011

Background

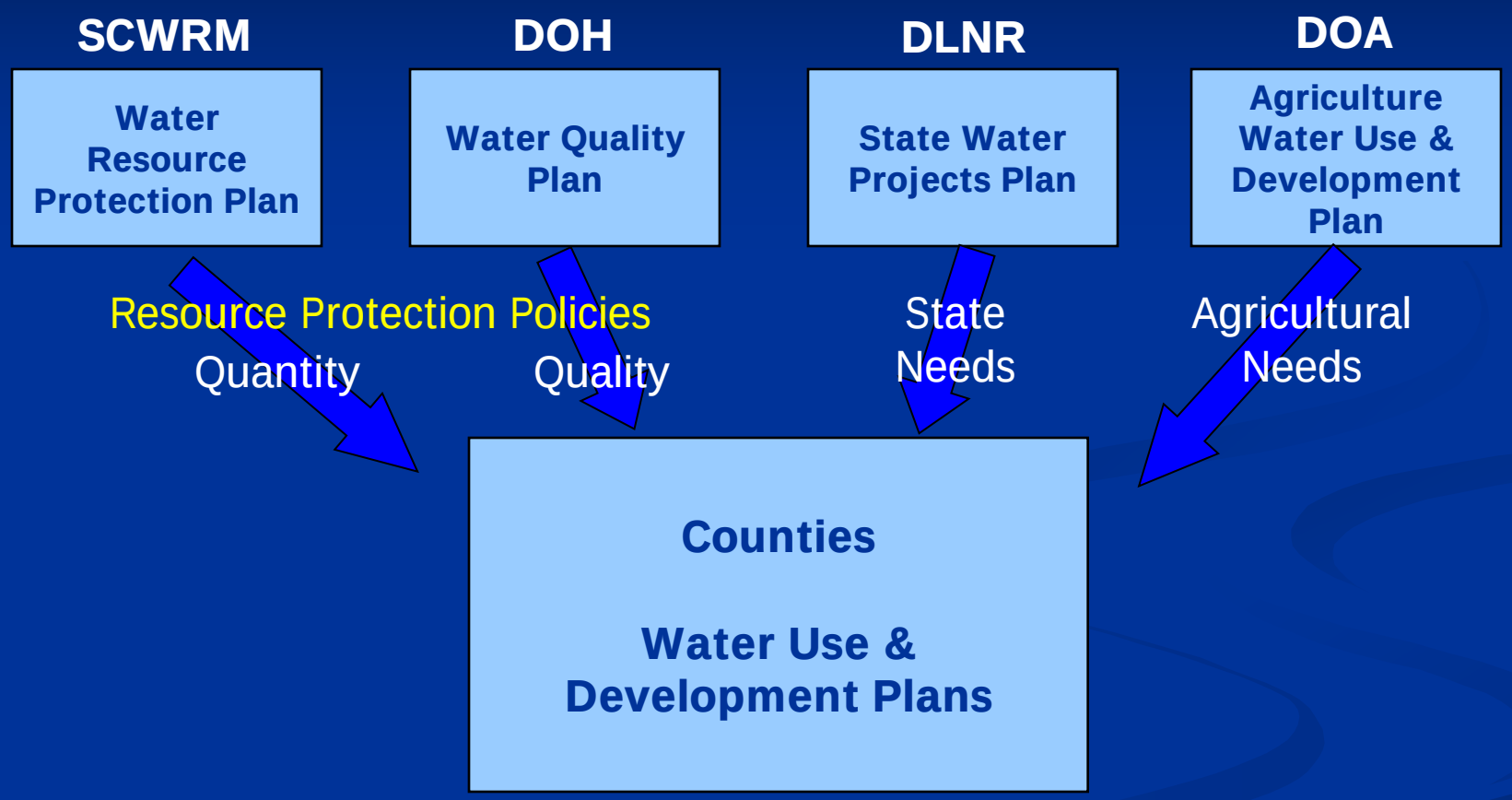
Findings and Recommendations

- Conducted island-wide assessment
- Identification of “sensitive” and “less-sensitive” areas
- Priority focus on most “sensitive” areas
  - Hualalai Aquifer Sector – Keauhou Aquifer System
  - West Mauna Kea Aquifer Sector – Waimea Aquifer System

Guiding Principles

- Water is a most precious resource and shall be used wisely – conserve; don't waste it.
- Highest quality water shall be used for the community's highest beneficial uses.
- Lower quality water (reuse water, surface water, brackish water) should be used whenever possible.

Hawaii Water Plan



Integrate Water Use & Land Development Policies

County Water Use & Development Plans

Objective –

"to set forth the allocation of water to land use through the development of policies & strategies to guide the County in its planning, management and development of water resources to meet projected demands"

The Commission recognizes that there is a need for flexibility to accommodate each county's individual needs, priorities, and specific water issues. Plan versatility is also necessary to encourage innovation as well as to accommodate unique and county-specific concerns that may be addressed within the WUDP.

Assessment of Land Use Plans & Policies

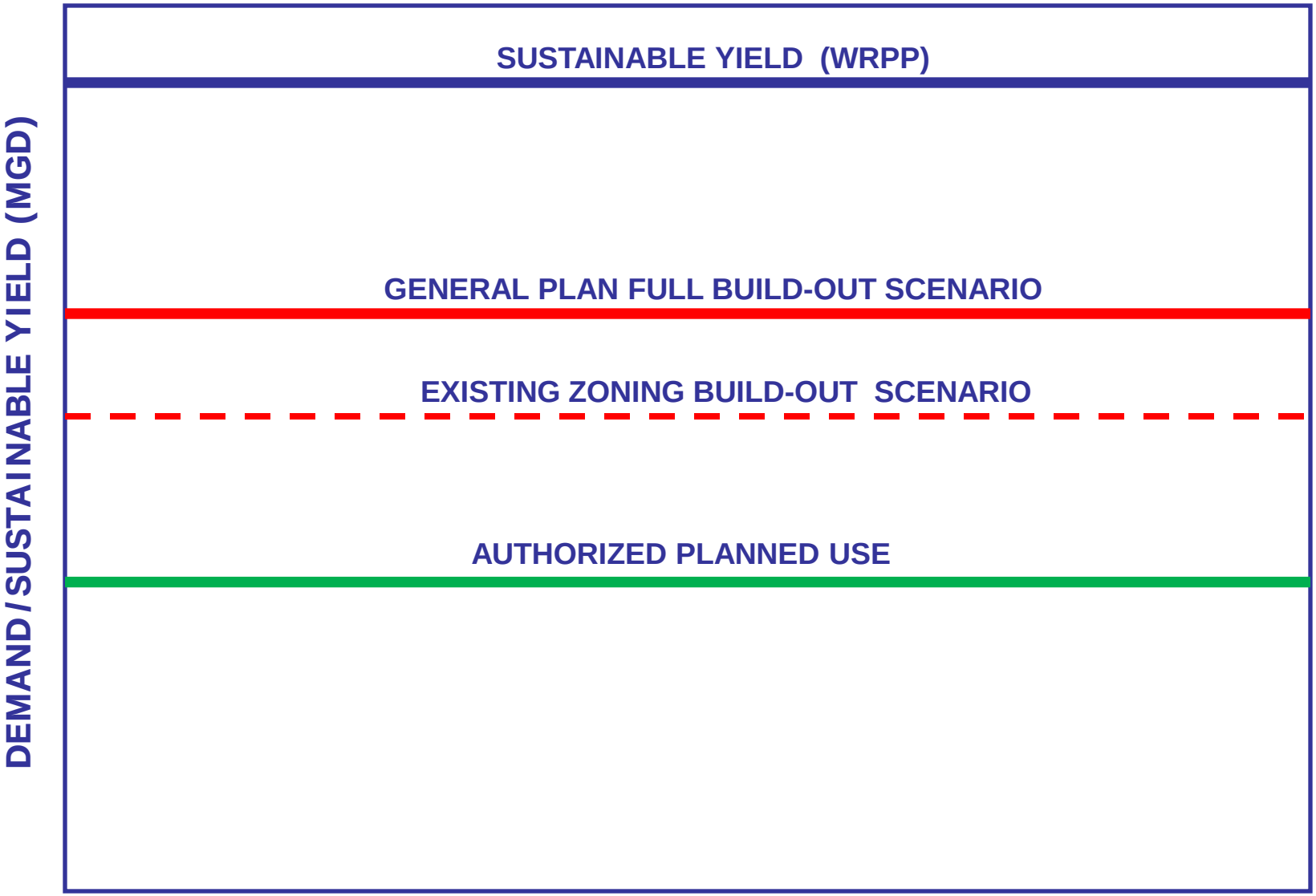
- Initial Assessment (Island-wide comparison)
  - Preliminary evaluation of sustainability of land use policies
  - Identification of “sensitive” and “less-sensitive” areas
  - Concept of “Full Build-out” scenarios
  - Application of standard water planning methods to existing land use plans and policies
  - Focus on domestic demands and groundwater sources

Full Build-out Scenario – ALL land area to be developed to its theoretical maximum extent

Land Use Plans & Policies

- State Land Use Classifications
  - Generalized Land Use Policies
- County General Plan – LUPAG
  - Land Use Pattern Allocation Guide
  - Ultimate Development "County Vision"
  - Community Development Plans – "Local Area Vision"
- County Zoning
  - Allowable Development "authorized" by Ordinance
  - Development still needs agency permits and regulatory approvals

SUSTAINABILITY OF LAND USE POLICIES



Proposed Refinements
Hawaii County WUDP Update 2014

Refinements

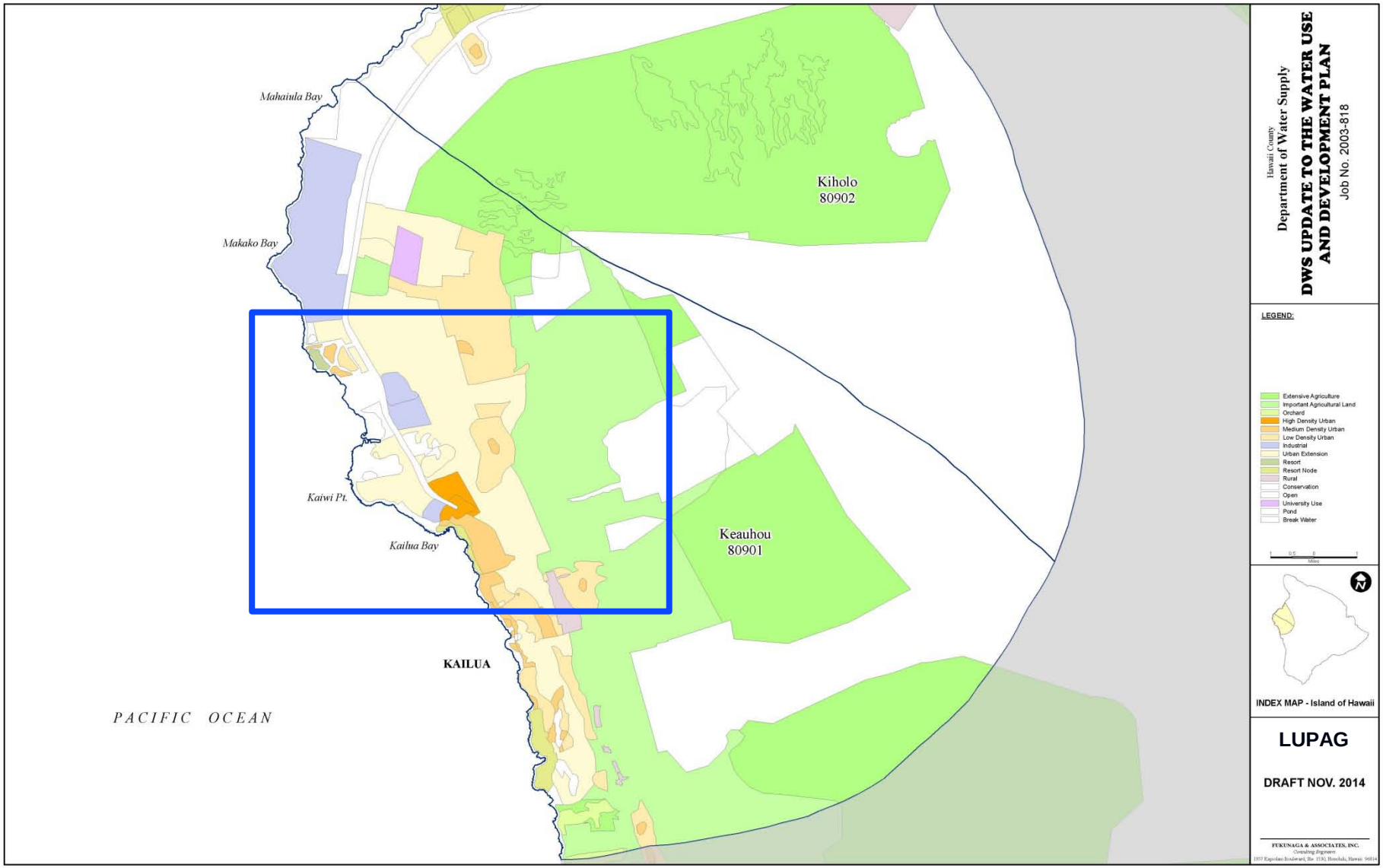
Incorporation of New Planning Information

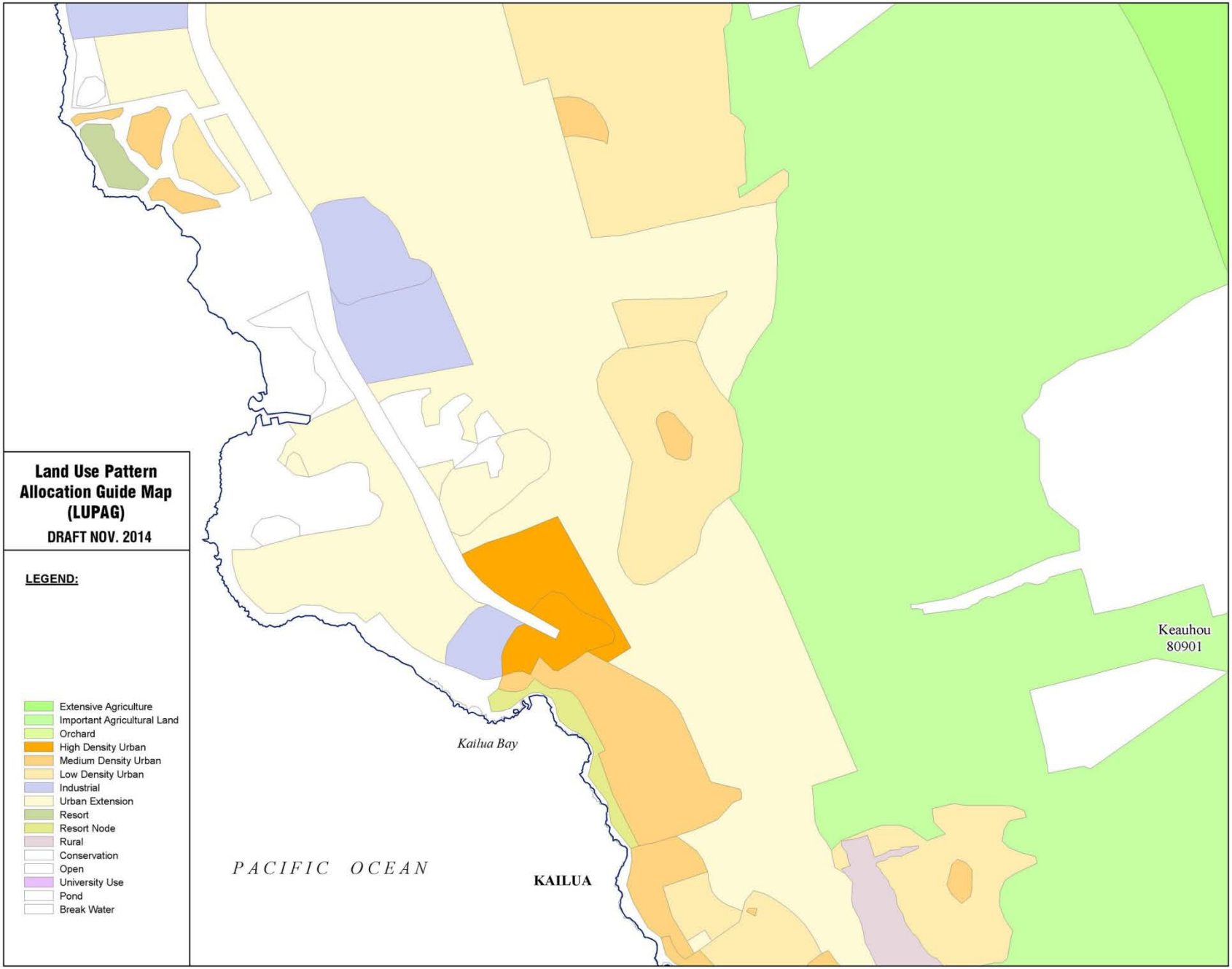
- Kona Community Development Plan
- LUPAG Updates – County Planning Department
- Proposed and Recent Masterplan Developments

Refinements

Assessment of Recent Developments

- Identification of existing users / developed parcels
- Focus on “infill development” of undeveloped lands
- Identify lands with “Authorized Planned Use”
  - DWS Water commitments/credits
  - Developer agreements
  - Vacant parcels with water laterals
  - Planning Department agreements
- Evaluation of water use trends – “unit rates”
- Reality check of original water use projections


Mahaiula Bay
Makako Bay
Kaiwi Pt.
Kailua Bay
KAILUA
PACIFIC OCEAN
Kiholo
80902
Keauhou
80901
Hawaii County
Department of Water Supply
DWS UPDATE TO THE WATER USE
AND DEVELOPMENT PLAN
Job No. 2003-818
LEGEND:
Extensive Agriculture
Important Agricultural Land
Orchard
High Density Urban
Medium Density Urban
Low Density Urban
Industrial
Urban Extension
Resort
Resort Node
Rural
Conservation
Open
University Use
Pond
Break Water
Miles
INDEX MAP - Island of Hawaii
LUPAG
DRAFT NOV. 2014
FUKUNAGA & ASSOCIATES, INC.
Consulting Engineers


Land Use Pattern
Allocation Guide Map
(LUPAG)
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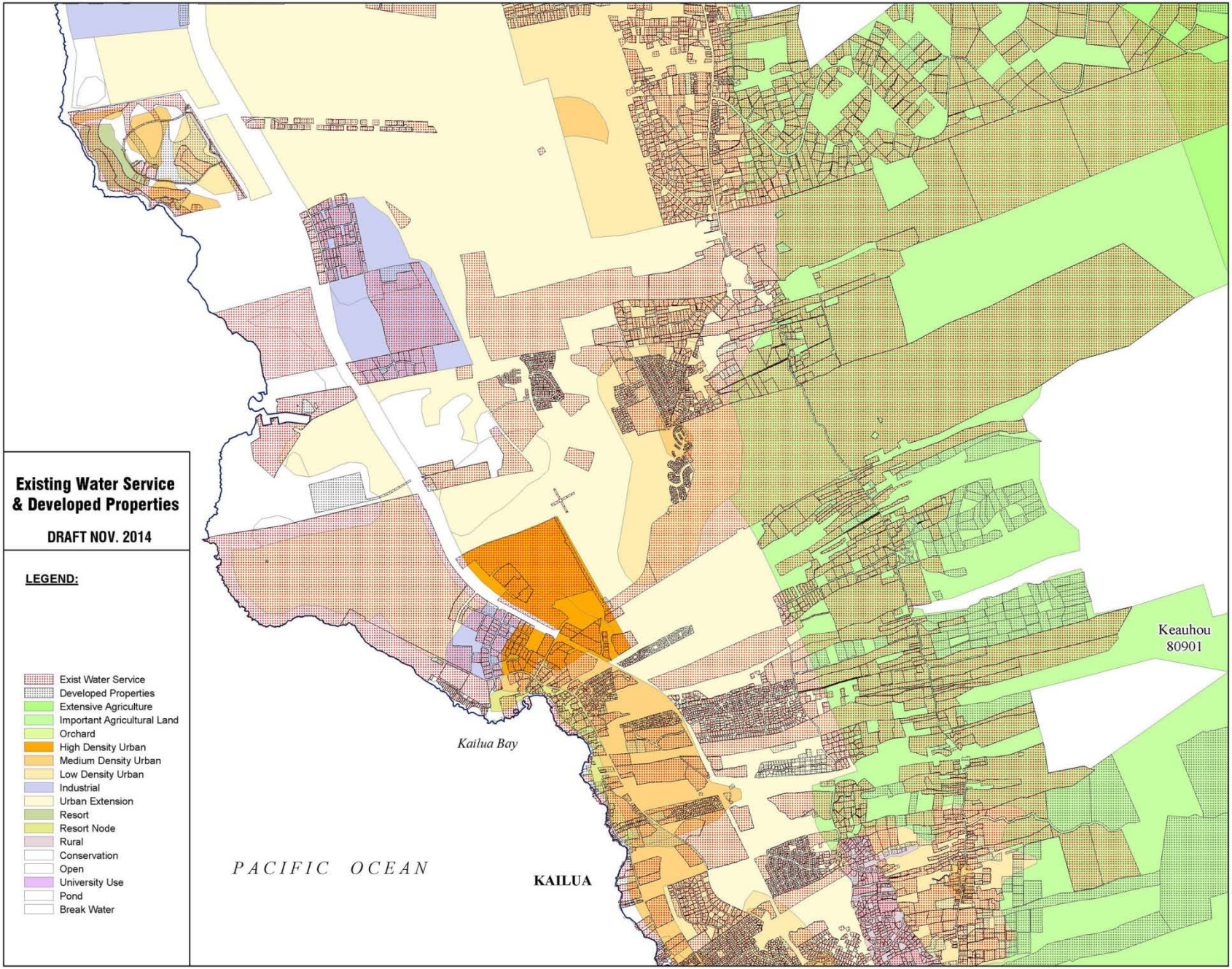
Existing Water Service
& Developed Properties
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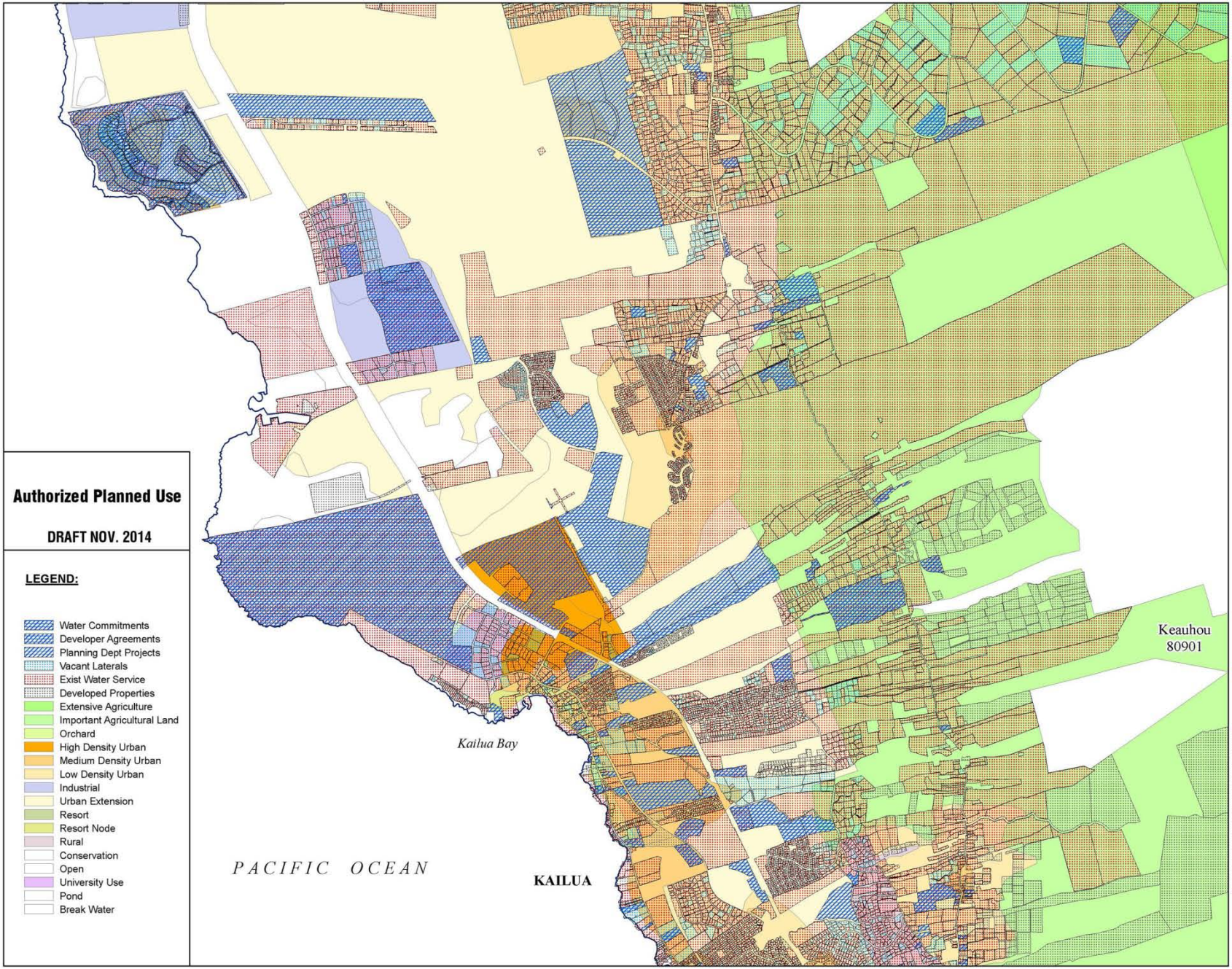
Authorized Planned Use
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Planning Dept Projects
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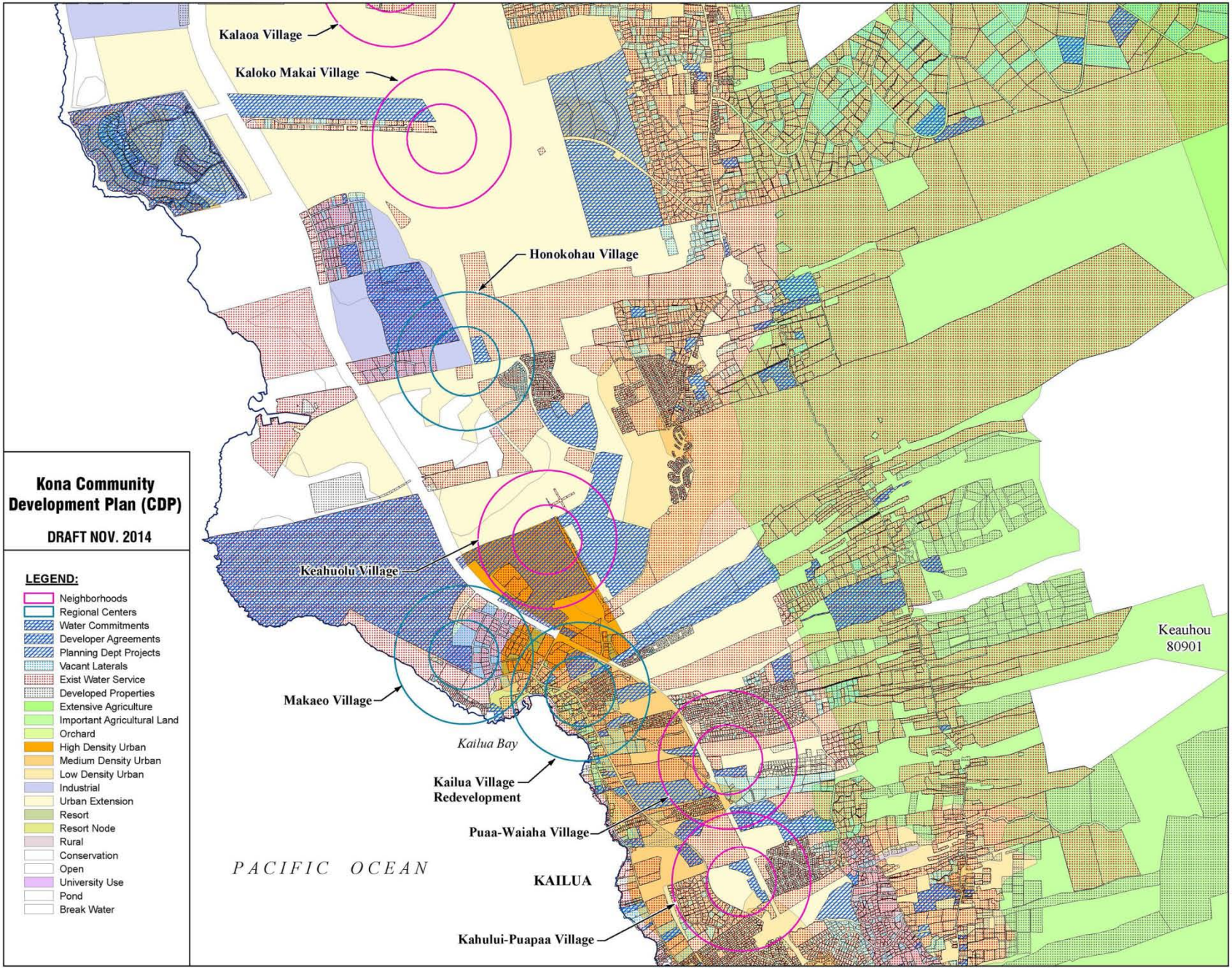
Kona Community Development Plan (CDP)
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LEGEND:
Neighborhoods
Regional Centers
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Planning Dept Projects
Vacant Laterals
Exist Water Service
Developed Properties
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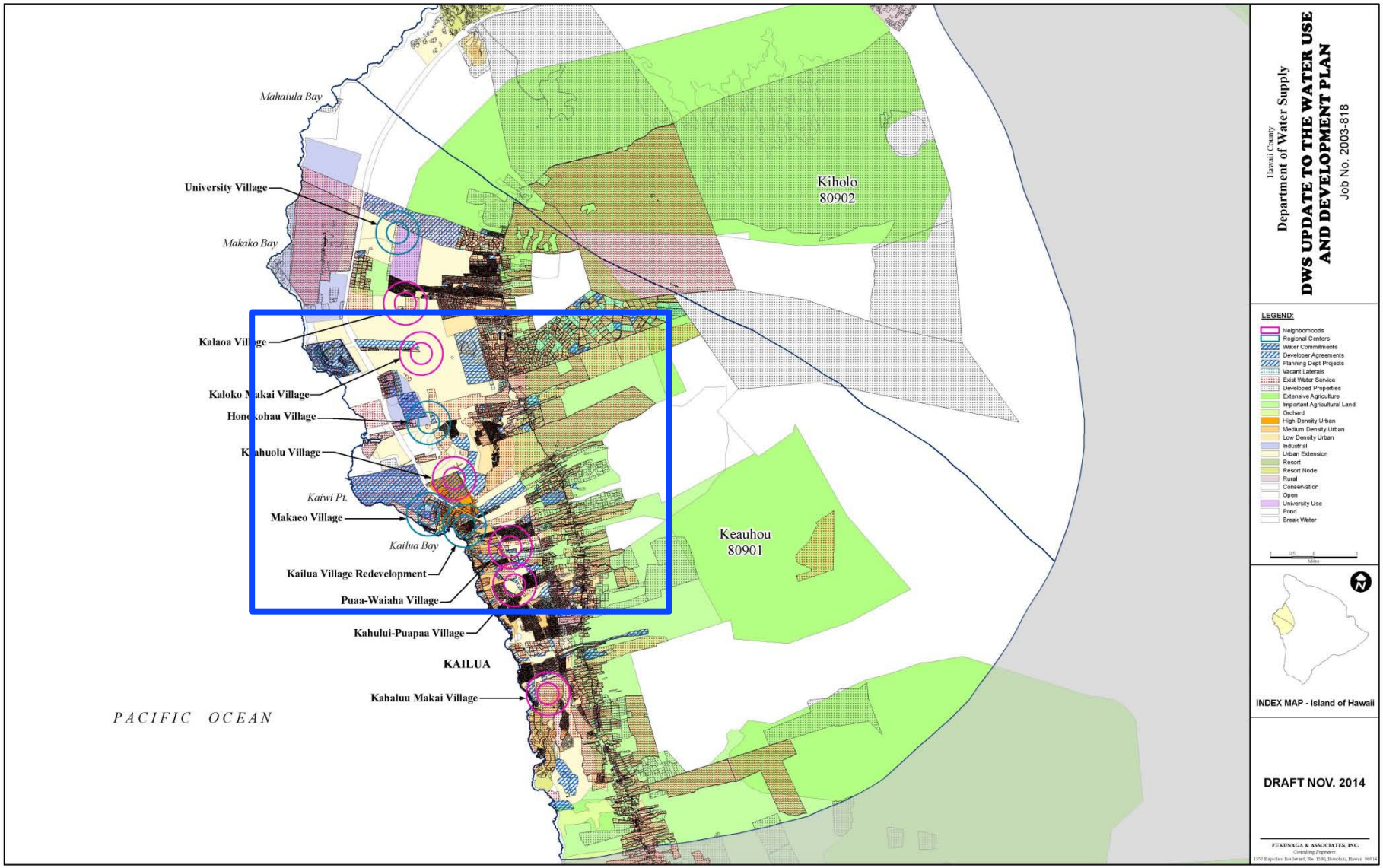
Kalaoa Village
Kaloko Makai Village
Honokohau Village
Keahuolu Village
Makaeo Village
Kailua Bay
Kailua Village Redevelopment
Puaa-Waiaha Village
PACIFIC OCEAN
KAILUA
Kahului-Puapaa Village
Keauhou
80901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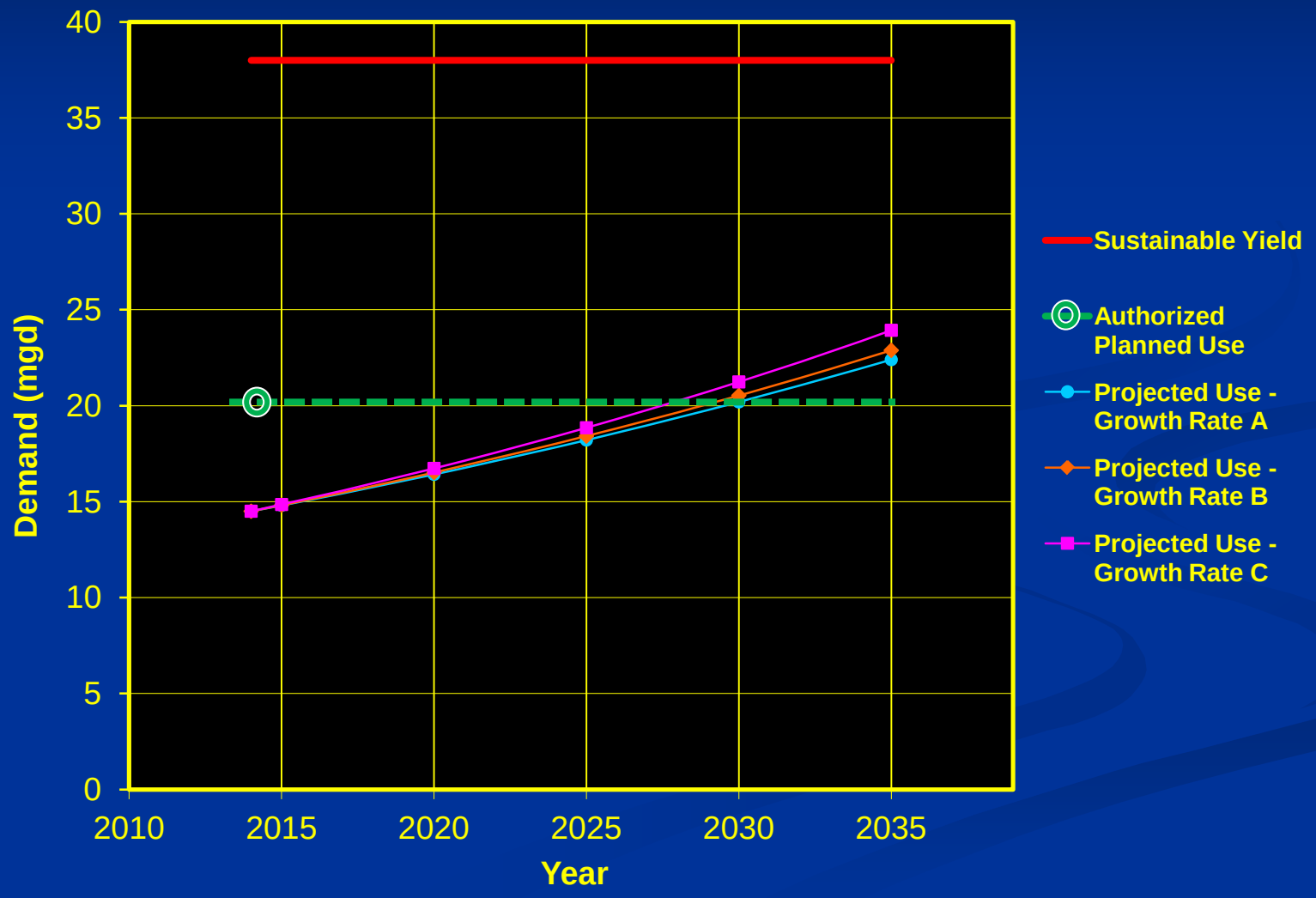
Consulting Engineers

Keauhou Aquifer System Area Projected Demands



Summary – 2014 Preliminary Inspection

- 2010 WUDP has served its initial purpose of identifying sensitive & less sensitive areas of the Island
- Much of the area is already served by DWS System
- Existing use and authorized planned use added together is currently about 20 MGD
- Initial data suggests that unit rates (residential & agricultural) are typically within normal planning ranges

Questions?

DHHL Lands in Keauhou Aquifer System Area
North Kona, Hawai'i

The DHHL owns approximately 1,500 acres of lands in the Keauhou Aquifer System Area (ASA). The table below details those lands, their land use designations, acreage, projected units, and water demand.

Area	Land Use Designation/ Water Demand	Acres	Projected Units or Acreage	Non-Potable Water (MGD	Potable Water (MGD)
Kalaoa	Commercial *(3,000gpd/acre)*	384	384 acres		1.152
Kalaoa	Industrial *(4,000gpd/acre)*	100	100 acres		0.400
Kalaoa	General Ag *(3,400gpd/acre)*	100	100 acres	0.340	
Kalaoa	Residential *(400gpd/unit)*	130	283 units		0.113
Honokohau	Commercial *(3,000gpd/acre)*	200	200 acres		0.600
Kealakehe 1	Residential *(400gpd/unit)*	50	260 units		0.104
Kealakehe 2	Residential *(400gpd/unit)*	50	256 units		0.102
Kealakehe 3*	Residential *(400gpd/unit)*	50	225 units		0.090
Kealakehe 4*	Residential *(400gpd/unit)*	55	220 units		0.088
Kealakehe 5*	Residential *(400gpd/unit)*	23	116 units		0.046
Kealakehe 6*	Community Use *(4,000gpd/acre)*	26	26 acres		0.104
Kealakehe 6	Commercial *(3,000gpd/acre)*	26	26 acres		0.078
Kealakehe 7	Residential *(400gpd/unit)*	11	60 units		0.024
Kealakehe 8	Commercial *(3,000gpd/acre)*	34	34 acres		0.102
Kealakehe 11	Residential *(400gpd/unit)*	24	126 units		0.050
Kealakehe*	Preserves	97	97 acres		0.002
Keahuolu	Residential *(400gpd/unit)*	140	732 units		0.293
Keahuolu	Community Use *(4,000gpd/acre)*	10	10 acres		0.040
TOTAL		1,510	2,278 units	**0.340**	**3.388**

0.330

Sources: Update of State Water Projects Plan (underway), La'i 'Opua Land Use and Master Plan, West Hawai'i Plan Update, DHHL Special Report #2 Water Resources Hawaii Island
**These areas have water allocations or are already constructed.*

Sandy - short on getting water - how to get $ to water. Lanihau discussions

Existing Water Allocations

Although DHHL does not have any water reservations within the Keauhou (ASA), DHHL received 392 water credit allocations (5/8" residential meters calculated average of 400 gpd) as part a transfer agreement with HHFDC and a tri-party agreement between HELCO and DWS for its lands in Kealakehe. These water credits and their use is detailed below:

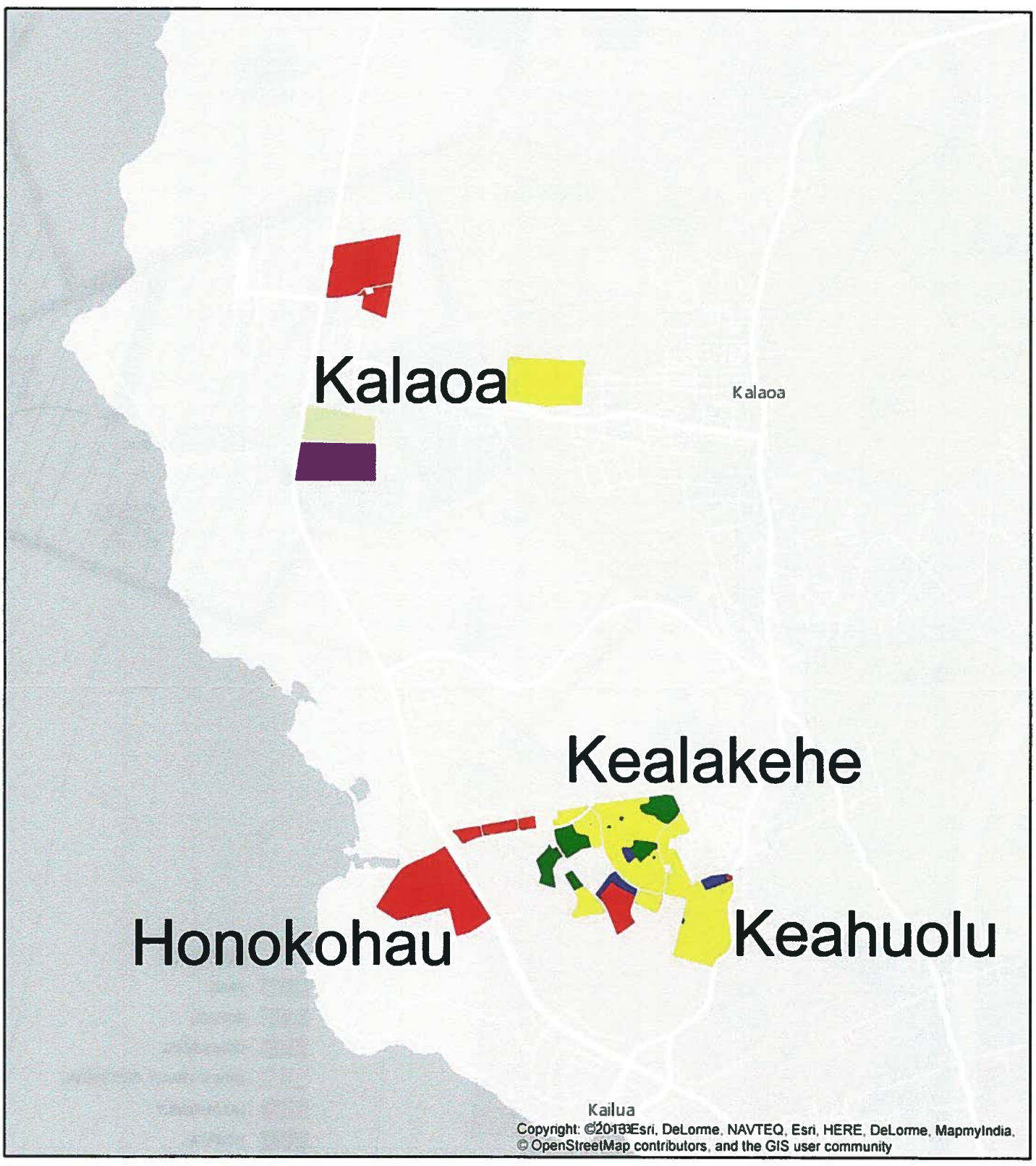
Villages of Laiopua			
DHHL Available Water Allocation as of 8/31/10			
	Water Credits	Reference	Notes
Water Credits per HHFDC Transfer Agreement	241	Transfer Agreement between HHFDC & DHHL dated 12/30/04	
Water Commitments Tri-Party Agreement	151	Tri-Party Agmnt between HELCO, Water Board, & DHHL dated 9/28/04	
Assign one (1) credit to TMK: 7-4-21: 005 (Aupaka Preserve)	(1)	Meter No. 0082640326, Acct No. 007-87500004-10	In service
Assign one (1) credit to TMK: 7-4-20: 006 (Lesser Aupaka Preserve)	(1)	Meter No. 0085830010, Acct No. 007-87500006-10	In service
Reserve 117 credits for Laiopua Village 5	(117)	Subdivision Application No. SUB-05-000171	Under construction; first service expected 12/10
One (1) credit to Uhiuhi Preserve; TMK: 7-4-21: 011	(1)	SUB -08-000806, DHHL letter dated 8/30/10	To be constructed; service expected 9/10
One (1) credit to Village 4 parcel; TMK: 7-4-21: 012	(1)	SUB -08-000806, DHHL letter dated 8/30/10	DHHL requests that service be deferred
One (1) credit to Village 2 parcel; TMK: 7-4-21: 015	(1)	SUB -08-000806, DHHL letter dated 8/30/10	DHHL requests that service be deferred
One (1) credit to Archaeological Preserve; TMK: 7-4-21: 016	(1)	DHHL letter dated 8/31/10	To be constructed; service expected 9/10
16 credits to TMK: 7-4-20: 003 (Laiopua 2020 Community Center, Ph 1)	(16)	Memo to DWS dated 12/11/09, DWS Letter dated 2/11/10	To be constructed; service expected 2011
One (1) credit for TMK: 7-4-21: 023; future Commercial Center	(1)	SUB -09-000866 (subdivision of former Village 6)	DHHL requests that service be deferred
31 credits to TMK: 7-4-21: 002 (Kamehameha Schools Pre-school)	(31)	Memo to DWS dated 4/8/10	To be constructed; service expected 2011
BALANCE =	**221**		

**Note: DHHL is currently reimbursing HHFDC $1.7Million/year for infrastructure investments they developed in La'i 'Opua, Leali'i, and Waiahole, including water infrastructure, so the water credits DHHL received, is being paid for by DHHL..*

The balance of the 221 water credits is being applied to Village 4 of La'i 'Opua. The lot plan for Village 4 was reconfigured (decreased) to stay within the 221 remaining water credits.

To summarize, approximately 3.1 MGD of potable and 340,000 GPD of non-potable water is still needed for full build out of DHHL lands in the Keauhou ASA.

Build out dates - within next 20 years.



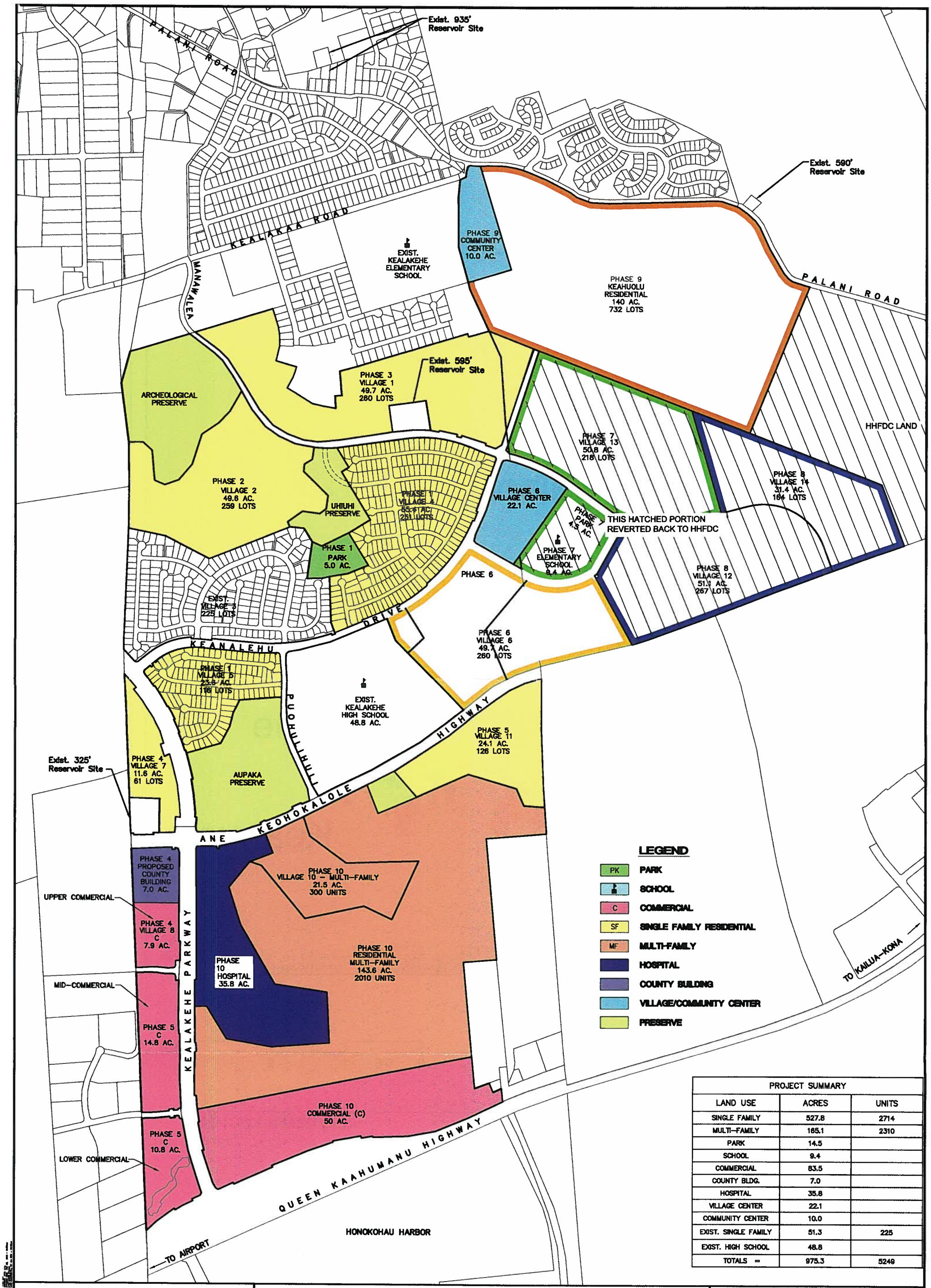
Legend

Proposed Critical Habitat Preserves

DHHL Land Use Designation

- Commercial
- Community Use
- General Agriculture
- Industrial
- Residential

0 0.5 1 2 3 Miles



PROJECT SUMMARY

LAND USE	ACRES	UNITS
SINGLE FAMILY	527.8	2714
MULTI-FAMILY	165.1	2310
PARK	14.5	
SCHOOL	9.4	
COMMERCIAL	83.5	
COUNTY BLDG.	7.0	
HOSPITAL	35.8	
VILLAGE CENTER	22.1	
COMMUNITY CENTER	10.0	
EXIST. SINGLE FAMILY	51.3	225
EXIST. HIGH SCHOOL	48.8	
TOTALS =	975.3	5249

VILLAGES OF LA'I'OPUA & KEAHUOLU LAND USE MASTER PLAN

EXHIBIT 2-A

SOURCE:
LAND USE BASE MAP FILE
FROM COMMUNITY PLANNING, INC.
DATED MAY 1994
R JANUARY 27, 2011
SEPTEMBER 14, 2005

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

November 24, 2014

MEMORANDUM

TO: The Honorable William J. Aila, Jr., Chairperson
Commission on Water Resource Management

FROM: Jobie M. K. Masagatani, Chairman
Hawaiian Homes Commission

SUBJECT: Request for Water Reservation
of 3.398 Million Gallons Per Day of Water in the
Keauhou Aquifer System Area, Kona, Hawaii

At its November 17 and 18, 2014, meeting, the Hawaiian Homes Commission (HHC) unanimously approved item G-1 (attached), which authorized the Chairman to formally request a Water Reservation of 3.398 million gallons per day (MGD) in the Keauhou Aquifer System Area (ASA) from the Commission on Water Resource Management (CWRM). The purpose of this request is to adequately reserve water for current and foreseeable development and use of Hawaiian home lands in the Keauhou ASA, Kona, Hawaii, per the State Water Code §174C-101(a).

This memorandum serves as the formal request of the Department of Hawaiian Home Lands for a water reservation of 3.398 MGD in the Keauhou ASA.

We humbly ask CWRM to reserve, incorporate, and protect this adequate reserve of water for current and foreseeable development and use of Hawaiian home lands.

Enc.

c: David Kaapu, Commissioner - West Hawaii
Jim Du Pont, District Office Manager - West Hawaii

STATE OF HAWAII

DEPARTMENT OF HAWAIIAN HOME LANDS

NOVEMBER 17-18, 2014

To: Chairman and Members, Hawaiian Homes Commission

From: Kaleo Manuel, Acting Planning Program Manager

Subject: Authorize the Chairman to Request and Pursue a Water Reservation in Keauhou, Kona, Hawaii

RECOMMENDED MOTION/ACTION

That the Hawaiian Homes Commission (HHC) authorizes the Chairman to:

1. Formally request a Water Reservation of 3.398 MGD in the Keauhou Aquifer System Area (ASA) from the Commission on Water Resource Management (CWRM) to adequately reserve water for current and foreseeable development and use of Hawaiian home lands in the Keauhou ASA, Kona, Hawaii (State Water Code §174C-101(a));

2. Testify and participate in the water management area designation process on behalf of the Hawaiian Homes Commission specific to item 1 above; and

3. Take other actions as necessary to effectuate these requests.

DISCUSSION

WEST HAWAII ISLAND PLAN UPDATE - PLANNED LAND USES

The Department of Hawaiian Home Lands (DHHL) currently holds in trust approximately 1,500 acres of lands in the Keauhou ASA which comprise of approximately one percent of its lands holdings on the island of Hawaii. These lands were not part of the original trust inventory and were acquired from the Department of Land and Natural Resources (DLNR), Hawaii Housing and Finance Development Corporation (HHFDC) and Queen Liliuokalani Trust (QLT). Per the Hawaii Island Plan (HIP) approved by the HHC in 2002 and the West Hawaii Island Plan Update (WHIP) approved by the HHC in 2009, these lands have the following land use designations

based on a thorough land use analysis as well as intensive community engagement with beneficiaries.

TABLE I: LAND USE DESIGNATIONS

LAND USE DESIGNATION	TOTAL ACRES
Residential	600
Community Use	30
General Agriculture	100
Commercial	667
Industrial	100
Total	1,497

Source: HIP 2002 & WHIP 2009

These land use designations utilized by the HHC are broad categories that can encompass multiple kinds of uses, as is appropriate for a statewide land use classification scheme. The designations allow for the fundamental trust purposes of developing homesteads while taking into account the characteristics of these lands (e.g. high slopes, no infrastructure, cultural and natural resources).

Since 2009, there have been very little changes to the overall planned land uses in the region. At full build out, over 2,000 residential homestead lots will be developed. Table II below and the attached maps (EXHIBIT A) details DHHL's Keauhou ASA lands in 4 distinct areas (Kalaoa, Honokohau, Kealakehe, and Keahuolu), their land use designations, approximate acreage, and existing and planned units.

TABLE II: PLANNED LAND USES

AREA	LAND USE DESIGNATION	ACRES	EXISTING OR PLANNED UNITS
Kalaoa	Commercial	384	
Kalaoa	Industrial	100	
Kalaoa	General Ag	100	
Kalaoa	Residential	130	283 units
Honokohau	Commercial	200	
Kealakehe 1	Residential	50	260 units
Kealakehe 2	Residential	50	256 units
Kealakehe 3	Residential	50	225 units
Kealakehe 4	Residential	55	220 units
Kealakehe 5	Residential	23	116 units
Kealakehe 6	Community Use	26	
Kealakehe 6	Commercial	26	
Kealakehe 7	Residential	11	61 units
Kealakehe 8	Commercial	34	
Kealakehe 11	Residential	24	126 units
Kealakehe	Preserves	97	
Keahuolu	Residential	140	732 units
Keahuolu	Community Use	10	
TOTAL		1,510	2,279 units

Source: Village of Lai Opua Water Master Plan 2006 & WHIP 2009

In October 2010, the Board of Land and Natural Resources (BLNR) approved the conveyance of an additional 359 acres of land in Kalaoa, Kona, Hawaii to DHHL. Once subdivided and officially transferred to DHHL, DHHL will own approximately 1,869 acres in the Keauhou ASA.

WATER POLICY PLAN

In July 2014, the HHC adopted a Water Policy Plan (WPP) to provide strategic, proactive, comprehensive and consistent guidance and direction to the HHC, DHHL staff, and beneficiaries on water related issues, actions, and decisions. This WPP was developed using existing legal authorities, previously approved policies and plans (e.g. General Plan 2002), and extensive beneficiary input and consultation in compliance with DHHL's Beneficiary Consultation Policy (2009).

The recommended motion/action is consistent with the vision, mission, values, and policies of the WPP. More specifically, by requesting and securing a water reservation in the Keauhou ASA, Goal 2 of the WPP is being implemented:

> "Aggressively, proactively, consistently, and comprehensively advocate for the kuleana of the beneficiaries, the DHHL, and the HHC to water before all relevant agencies and entities."

KEALAKEHE REGIONAL PLAN

The Kealakehe Regional Plan was developed through a regional planning process with beneficiaries and approved by the HHC in 2009. Five (5) priority projects were identified as a result of this process for the Kealakehe region, and one of the five is specific to water: "North Kona Water Source Development and Storage."

The priority project focuses on working collaboratively with various stakeholders in the region to develop additional water sources in order to meet the needs of DHHL's Lai Opua lands and adjacent projects. It is estimated that four (4) additional wells each with a capacity of one million gallons/day, as well as appropriate storage and transmission, would need to be developed. Initial planning and design phases of the project were estimated at $14.4 million.

WATER USE - TOTAL WATER DEMAND & EXISTING ALLOCATIONS

Utilizing DHHL's planned land uses and designations, water demands for the 1,510 acres of DHHL's lands in the Keauhou ASA can be calculated using water system standards average gallon per day consumption per unit or acre (gdp/acre or gdp/unit). The total water demands are detailed in Table III below.

Tied to the acquisition of the lands in the Keauhou ASA, DHHL received 392 water credit allocations (5/8" residential meters calculated at an average of 400 gpd) as part of a transfer agreement with HHFDC and a tri-party agreement between Hawaii Electric Light Company and the Department of Water Supply (DWS). These water credits and their use is detailed in TABLE IV below.

The remaining balance of DHHL's 221 water credits is being applied to Village 4 of Lai Opua. The lot plan for Village 4 was reconfigured (decreased) to stay within the 221 remaining water credits, which at one time was planned for 251 lots.

To summarize, approximately 3.398 MGD (Million Gallons/Day) of water is still needed for full build out of DHHL lands in the Keauhou ASA.

TABLE III. DHHL WATER DEMAND FOR LANDS IN KEAHUOU ASA

AREA	LAND USE DESIGNATION	ACRES	WATER SYSTEM STANDARDS DEMANDS	EXISTING OR PLANNED UNITS OR ACRES	TOTAL WATER DEMAND (MGD)
Kalaoa	Commercial	384	3,000 gpd/acre	384 acres	1.152
Kalaoa	Industrial	100	4,000 gpd/acre	100 acres	0.400
Kalaoa**	General Ag	100	3,400 gpd/acre	100 acres	0.340
Kalaoa	Residential	130	400 gpd/unit	283 units	0.113
Honokohau	Commercial	200	3,000 gpd/acre	200 acres	0.600
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Kealakehe 11	Residential	24	400 gpd/unit	126 units	0.050
Kealakehe*	Preserves	97		97 acres	0.002
Keahuolu	Residential	140	400 gpd/unit	732 units	0.293
Keahuolu	Community Use	10	4,000 gpd/acre	10 acres	0.040
TOTAL		1,510		2,279 units	3.728

Sources: Update of State Water Projects Plan (underway), Village of Lai Opua Water Master Plan 2006, WHIP 2009, Special Report #2 Water Resources Hawaii Island 2012
**These areas have water allocations or are already constructed.*
***This is a non-potable water demand*

TABLE IV: EXISTING WATER ALLOCATIONS (WATER CREDITS)

Villages of Laiopua DHHL Available Water Allocation as of 8/31/10	Water Credits	Reference	Notes
Water Credits per HHFDC Transfer Agreement	241	Transfer Agreement between HHFDC & DHHL dated 12/30/04	
Water Commitments Tri-Party Agreement	151	Tri-Party Agmnt between HELCO, Water Board, & DHHL dated 9/28/04	
Assign one (1) credit to TMK: 7-4-21: 005 (Aupaka Preserve)	(1)	Meter No. 0082640326, Acct No. 007-87500004-10	In service
Assign one (1) credit to TMK: 7-4-20: 006 (Lesser Aupaka Preserve)	(1)	Meter No. 0085830010, Acct No. 007-87500006-10	In service
Reserve 117 credits for Laiopua Village 5	(117)	Subdivision Application No. SUB-05-000171	Under construction; first service expected 12/10
One (1) credit to Uhiuhi Preserve; TMK: 7-4-21: 011	(1)	SUB -08-000806, DHHL letter dated 8/30/10	To be constructed; service expected 9/10
One (1) credit to Village 4 parcel; TMK: 7-4-21: 012	(1)	SUB -08-000806, DHHL letter dated 8/30/10	DHHL requests that service be deferred
One (1) credit to Village 2 parcel; TMK: 7-4-21: 015	(1)	SUB -08-000806, DHHL letter dated 8/30/10	DHHL requests that service be deferred
One (1) credit to Archaeological Preserve; TMK: 7-4-21: 016	(1)	DHHL letter dated 8/31/10	To be constructed; service expected 9/10
16 credits to TMK: 7-4-20: 003 (Laiopua 2020 Community Center, Ph 1)	(16)	Memo to DWS dated 12/11/09, DWS Letter dated 2/11/10	To be constructed; service expected 2011
One (1) credit for TMK: 7-4-21: 023; future Commercial Center	(1)	SUB -09-000866 (subdivision of former Village 6)	DHHL requests that service be deferred
31 credits to TMK: 7-4-21: 002 (Kamehameha Schools Pre-school)	(31)	Memo to DWS dated 4/8/10	To be constructed; service expected 2011
BALANCE =	**221**		

**Note: DHHL is currently reimbursing HHFDC $1.7 million/year for infrastructure investments they developed in Lai Opua, Hawaii, Lealii, Maui, and Waiahole, Oahu, including water infrastructure, so the water credits DHHL received, is being paid for by DHHL.*

LEGAL AUTHORITIES

There are a number of established legal authorities that empower the HHC to direct its chairman to secure water in the manner that is recommended.

As a general background, the State of Hawaii has the obligation as a fiduciary to fulfill the enumerated purposes of the Hawaiian Homes Commission Act (HHCA) of 1920, including "Providing adequate amounts of water and supporting infrastructure, so that homestead lands will always be usable and accessible" HHCA §101(b)(4).

The Admission Act of 1959 §4 adopts the HHCA as a provision of the Constitution of the State of Hawaii. The Admission Act §5(b) and §5(f) reaffirms the obligation of the State of Hawaii to manage the lands and fulfill the purposes of the HHCA, as part of a compact with the United States accepted as a condition for admission into the Union.

The Hawaii State Constitution Article XII Sections 1 through 4 further defines the State of Hawaii's responsibilities to carry out and fulfill the purposes of the HHCA. It is important to note that Article XII, Section 2 of the State Constitution specifies:

> "The State and its people do further agree and declare that the spirit of the Hawaiian Homes Commission Act looking to the continuance of the Hawaiian homes projects for the further rehabilitation of the Hawaiian race shall be faithfully carried out."

There are numerous legal provisions in state law that effectuates the broad mandate to provide "adequate amounts of water and supporting infrastructure." In this particular instance being considered by the HHC, two legal provisions are particularly relevant: the rights to reservations of water for DHHL under the state Water Code, and the status that DHHL uses of water and reservations for the future use of water are protected "Public Trust" uses of water under Hawaii law.

DHHL WATER RESERVATIONS

The State Water Code (HRS 174C) is the guiding framework for the management and allocation of water in the islands. The Code fulfills the provisions of the State Constitution that relate to water, in particular Sections 1

and 7 of Article XI, which respectively enumerate that "All public natural resources are held in trust by the State for the benefit of the people," and that there shall be a "water resources agency which, as provided by law, shall set overall water conservation, quality and use policies; define beneficial and reasonable uses; protect ground and surface water resources, watersheds and natural stream environments; establish criteria for water use priorities while assuring appurtenant rights and existing correlative and riparian uses and establish procedures for regulating all uses of Hawaii's water resources."

In the Water Code, the commitment to protect DHHL's future water needs is to be executed in significant part through the creation of "reservations" of water. "Reservations" are water held by CWRM for future uses. Reservations are an identified purpose of the water resources trust and may not be used or interfered with by other parties. "Reservations" of water are discussed in Parts IV and IX of the Code.

Part IV of the Water Code, "REGULATION OF WATER USE," deals with CWRM duties related to the establishment of water management areas and permitting in those areas. HRS §174C-49 addresses permitting in water management areas, and subsection (d) notes that:

> "The commission, by rule, may reserve water in such locations and quantities and for such seasons of the year as in its judgment may be necessary. Such reservations shall be subject to periodic review and revision in the light of changed conditions; provided that all presently existing legal uses of water shall be protected."

Under the authority of this part of the Code, the Commission established administrative rules for reserving water in designated areas, codified as HAR §13-171-60. This rule specifically calls out in part (b):

> "The commission shall adopt within this subchapter specific reservations of water in water management areas in such quantities as are deemed necessary for purposes which are consistent with the public interest, including the provision of water for current and foreseeable development and use of Hawaiian home lands pursuant to section 221 of the Hawaiian Homes Commission Act and HRS §174C-101(a)."

Thus reservations of water can and should be made for DHHL in designated water management areas by rule making as described in HAR §13-171-60. Such reservations have been made by the Commission for water management areas on Oahu and Molokai.

Part IX of the Code, "NATIVE HAWAIIAN WATER RIGHTS", addresses water rights under the HHCA, revenue from water licenses, traditional and customary rights, and appurtenant rights. HRS §174C-101(a) provides that:

> "Provisions of this chapter shall not be construed to amend or modify rights or entitlements to water as provided for by the Hawaiian Homes Commission Act, 1920, as amended, and by chapters 167 and 168, relating to the Molokai irrigation system. Decisions of the commission on water resource management relating to the planning for, regulation, management, and conservation of water resources in the State shall, to the extent applicable and consistent with other legal requirements and authority, incorporate and protect adequate reserves of water for current and foreseeable development and use of Hawaiian home lands as set forth in section 221 of the Hawaiian Homes Commission Act."

To be "consistent with other legal requirements and authority," under the direction of this section, reservations of water can and should continue to be made for DHHL in designated water management areas by rule making as described in HAR §13-171-60.

Outside of designated water management areas, however, it is clear that this section of the Code requires the Commission to provide "adequate reserves of water" for the uses of water in Section 221 of the HHCA as well. The section is also broad in terms of what decisions by the Commission should incorporate reservations. There are many "applicable" decisions made by the Commission that affect DHHL and its needs for water for present and future use.

With that point noted, however, two other issues are clear. First, the Water Commission has <u>never</u> reserved water for DHHL outside of a Water Management Area since their creation in 1987. Second, even if the Commission were to reserve water as a matter of policy in their decision making, there are no clear mechanisms

to enforce DHHL's reservations when they are not passed by the administrative rule making process provided for in designated water management areas.

DHHL WATER USES & RESERVATIONS ARE "PUBLIC TRUST" USES OF WATER

In addition to the provisions for reserving water under the State Water Code for DHHL's future uses, a number of Hawaii Supreme Court Cases have clarified that DHHL's water uses and reservations are a "Public Trust" use of water.

In Hawaii law, all water is considered to be a Public Trust resource, meaning it is not held as private property but is held in trust for the benefit of the public. The origins of the Public Trust in Hawaii water law include Kingdom Law, common law, and relevant state constitutional provisions. In water law in particular, the Hawaii Supreme Court has provided extensive guidance as to what Public Trust uses of water are, and how they should be protected (especially in the Waiahole, Kukui O Molokai, Wai Ola, and Kauai Springs cases).

The Public Trust uses of water enumerated by the Court are the maintenance of waters in their natural state, the protection of domestic water use (meaning the use of water by individuals in their homes), the protection of water in the exercise of Native Hawaiian and traditional and customary rights, and the existing and future uses of water under Section 221 of the HHCA, where those future uses of water are covered by reservations of water under the State Water Code.

The significance of being a Public Trust use of water is that there is supposed to be, any time the CWRM or another agency makes a decision affecting water, a presumption in favor of public trust uses of water. In addition, if there is a private commercial use of water proposed that is competitive with a Public Trust use of water, the decision-making agency is supposed to apply a "high level of scrutiny" to the request. Furthermore, as described by the Hawaii Supreme Court in the 2014 Kauai Springs case,

> "Applicants have the burden to justify the proposed water use in light of the trust purposes.

a. Permit applicants must demonstrate their actual needs and the propriety of draining water from public streams to satisfy those needs.

b. The applicant must demonstrate the absence of a practicable alternative water source.

c. If there is a reasonable allegation of harm to public trust purposes, then the applicant must demonstrate that there is no harm in fact or that the requested use is nevertheless reasonable and beneficial.

d. If the impact is found to be reasonable and beneficial, the applicant must implement reasonable measures to mitigate the cumulative impact of existing and proposed diversions on trust purposes, if the proposed use is to be approved."

Just as it is not clear that the Water Commission has any legal mechanism to enforce reservations of water for the DHHL in an area not designated as a water management area (even if such reservations had been made), it is similarly not clear that the Commission, when issuing permits in undesignated areas, has a mechanism to require the analyses described by the Court in Kauai Springs. Similarly, the County Boards of Water Supply, which make most on-the-ground allocation decisions for water meters, and do so without any Water Commission guidance in undesignated areas, do not seem to have any mechanisms in place for undertaking this analysis.

RECOMMENDATION

Staff respectfully requests that the Hawaiian Homes Commission approve the recommended motion/action based on the following considerations:

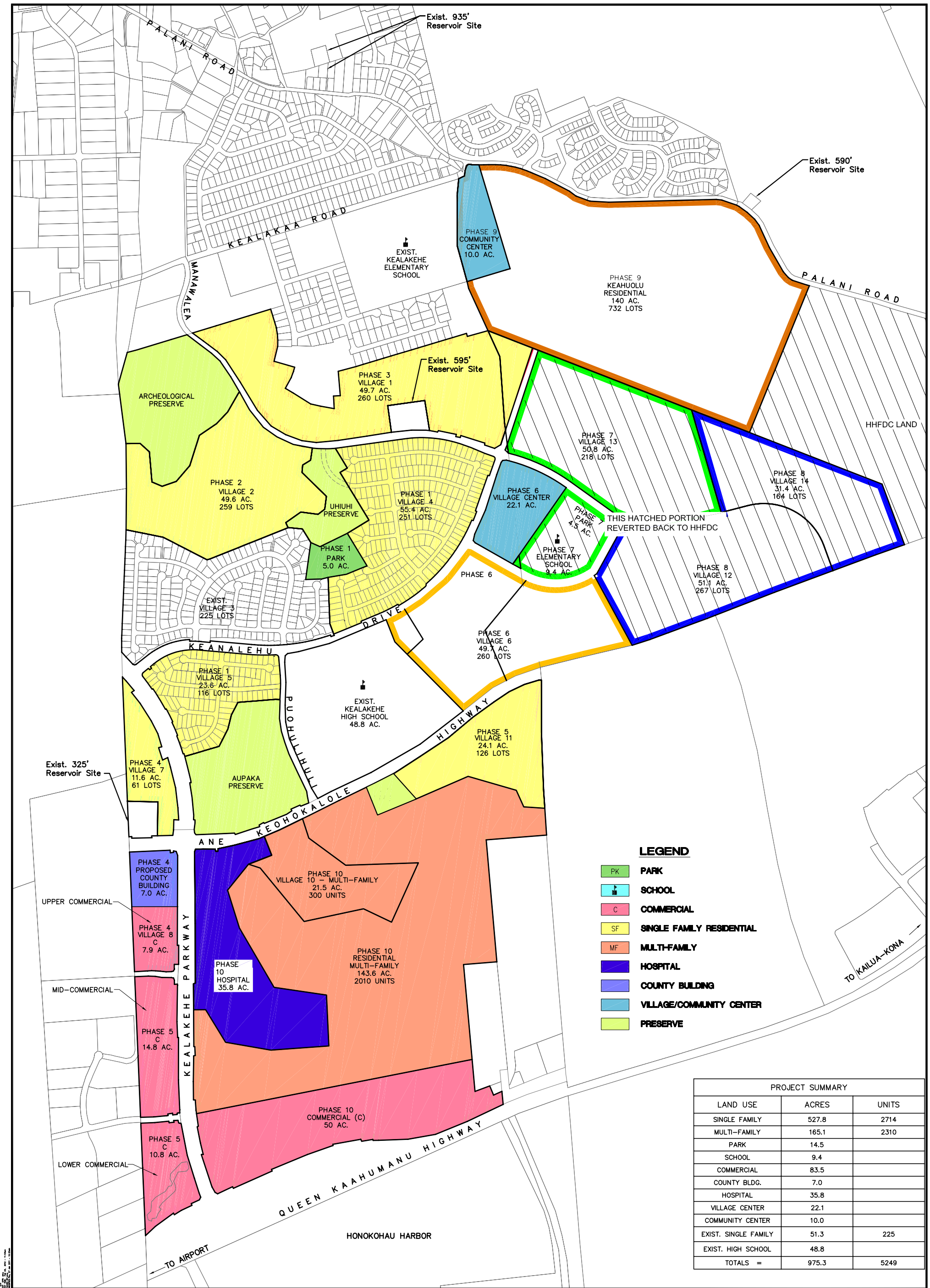
1. To secure adequate reserves of water for current and foreseeable planned development and use of Hawaiian home lands in the Keauhou ASA, Kona, Hawaii as set forth in section 221 of the Hawaiian Homes Commission Act;

2. To ensure that in our testimony, DHHL seeks confirmation or assurance from CWRM that DHHL's reservations will be protected in a non-designated

water management area to the same standard as it would in a designated water management area;

3. To ensure that DHHL and the State of Hawaii will provide adequate amounts of water and supporting infrastructure, in partnership with others, so that homestead lands will be usable and accessible; and

4. To initiate the process to ensure that water is available for planned purposes of the HHCA at Keauhou ASA, Kona, Hawaii, as articulated in the HHC-approved HIP 2002 and WHIP 2009.



PROJECT SUMMARY

LAND USE	ACRES	UNITS
SINGLE FAMILY	527.8	2714
MULTI–FAMILY	165.1	2310
PARK	14.5	
SCHOOL	9.4	
COMMERCIAL	83.5	
COUNTY BLDG.	7.0	
HOSPITAL	35.8	
VILLAGE CENTER	22.1	
COMMUNITY CENTER	10.0	
EXIST. SINGLE FAMILY	51.3	225
EXIST. HIGH SCHOOL	48.8	
TOTALS =	975.3	5249

NORTH

SCALE IN FEET

0 1200' 2400'

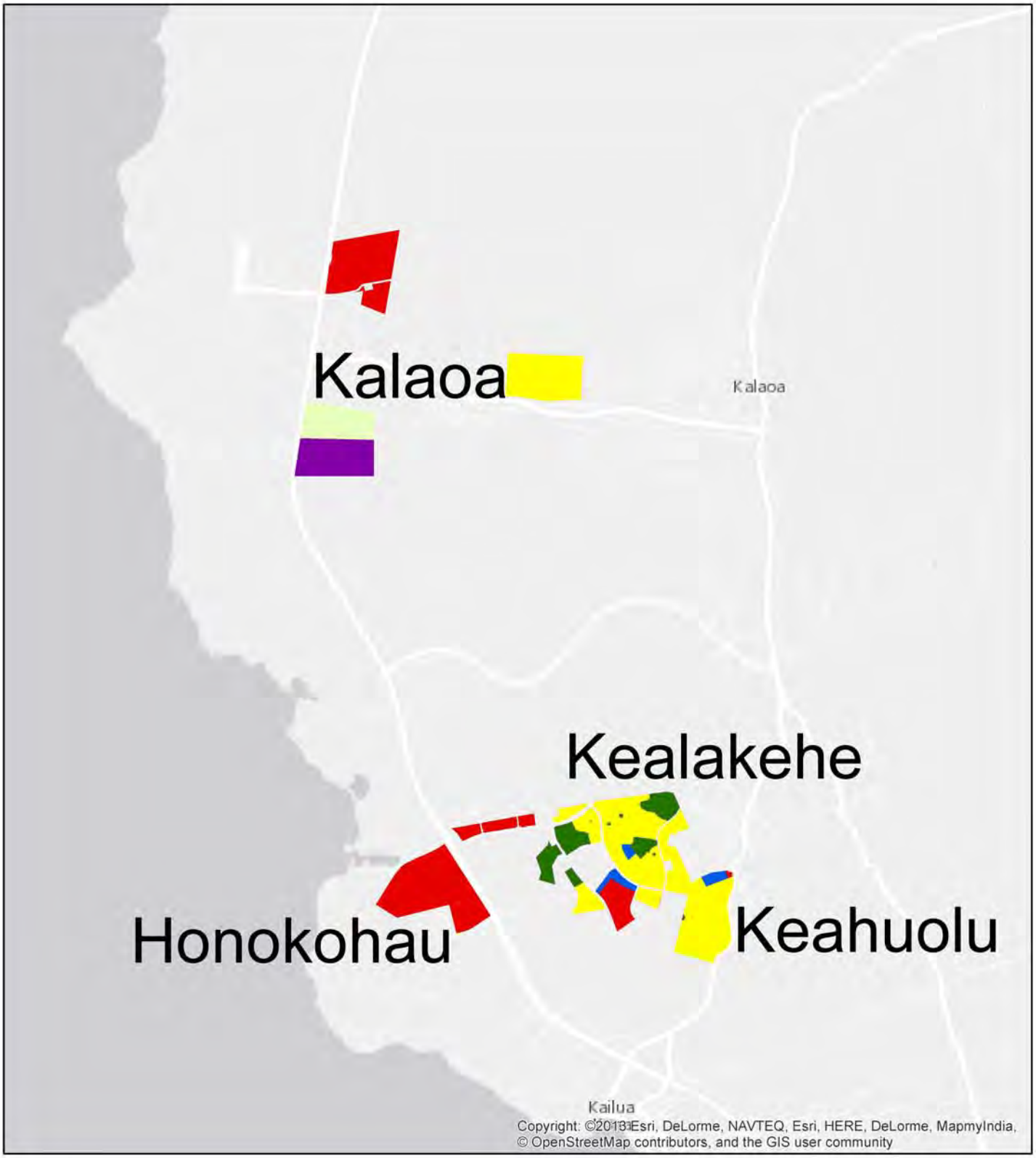
1"=1200'

VILLAGES OF LA'I'OPUA & KEAHUOLU LAND USE MASTER PLAN

EXHIBIT 2-A

SOURCE:
LAND USE BASE MAP FILE
FROM COMMUNITY PLANNING, INC.
DATED MAY 1994

R JANUARY 27, 2011
SEPTEMBER 14, 2005



Legend

- Proposed Critical Habitat Preserves

DHHL Land Use Designation

- Commercial
- Community Use
- General Agriculture
- Industrial
- Residential

0 0.5 1 2 3 Miles

Table 3.4
Summary of SWPP Projected Water Demands, Sustainable Yield, and Permitted Water Use by Aquifer System

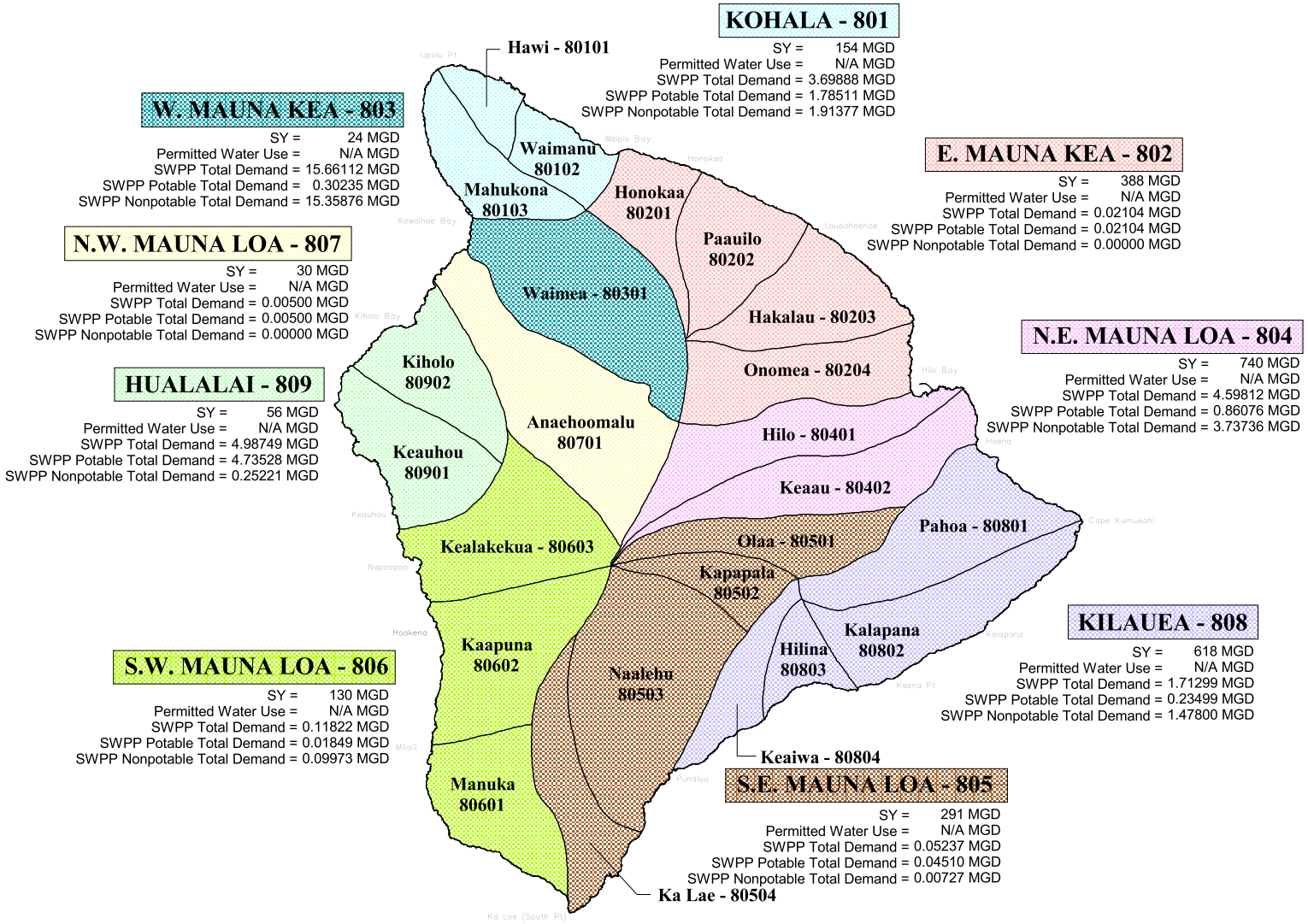
Island	Aquifer Sector	Sector No.	Aquifer System	System No.	Sus. Yield (MGD)	Permitted Water Use (MGD)	SWPP 2018 Nonpotable Demand (MGD)	SWPP 2018 Potable Demand (MGD)	SWPP 2018 Total Demand (MGD)
HAWAII	**KOHALA**	**801**			**154**	**N/A**	**1.91377**	**1.78511**	**3.69888**
			HAWI	80101	27		0.00073	0.00057	0.00130
			WAIMANU	80102	110		1.82500	0.00000	1.82500
			MAHUKONA	80103	17		0.08804	1.78454	1.87258
	EAST MAUNA KEA	**802**			**388**	**N/A**	**0.00000**	**0.02104**	**0.02104**
			HONOKAA	80201	31		0.00000	0.00881	0.00881
			PAAUILO	80202	60		0.00000	0.00500	0.00500
			HAKALAU	80203	150		0.00000	0.00043	0.00043
			ONOMEA	80204	147		0.00000	0.00680	0.00680
	WEST MAUNA KEA	**803**			**24**	**N/A**	**15.35876**	**0.30235**	**15.66112**
			WAIMEA	80301	24		15.35876	0.30235	15.66112
	N.E. MAUNA LOA	**804**			**740**	**N/A**	**3.73736**	**0.86076**	**4.59812**
			HILO	80401	347		2.63736	0.80976	3.44712
			KEAAU	80402	393		1.10000	0.05100	1.15100
	S.E. MAUNA LOA	**805**			**291**	**N/A**	**0.00727**	**0.04510**	**0.05237**
			OLAA	80501	124		0.00000	0.00285	0.00285
			KAPAPALA	80502	19		0.00000	0.00000	0.00000
			NAALEHU	80503	117		0.00727	0.01225	0.01952
			KALAE	80504	31		0.00000	0.03000	0.03000

NOTE: Permitted Water Use as of September 2000.

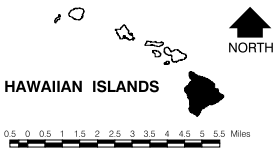
Table 3.4 (cont'd)
Summary of SWPP Projected Water Demands, Sustainable Yield, and Permitted Water Use by Aquifer System

Island	Aquifer Sector	Sector No.	Aquifer System	System No.	Sus. Yield (MGD)	Permitted Water Use (MGD)	SWPP 2018 Nonpotable Demand (MGD)	SWPP 2018 Potable Demand (MGD)	SWPP 2018 Total Demand (MGD)
HAWAII	**S.W. MAUNA LOA**	**806**			**130**	**N/A**	**0.09973**	**0.01849**	**0.11822**
			MANUKA	80601	42		0.00000	0.00000	0.00000
			KAAPUNA	80602	50		0.07973	0.00405	0.08378
			KEALAKEKUA	80603	38		0.02000	0.01444	0.03444
	N.W. MAUNA LOA	**807**			**30**	**N/A**	**0.00000**	**0.00500**	**0.00500**
			ANAEHOOMALU	80701	30		0.00000	0.00500	0.00500
	KILAUEA	**808**			**618**	**N/A**	**1.47800**	**0.23499**	**1.71299**
			PAHOA	80801	435		1.47000	0.21606	1.68606
			KALAPANA	80802	157		0.00000	0.00000	0.00000
			HILINA	80803	9		0.00000	0.00000	0.00000
			KEAIWA	80804	17		0.01893	0.00800	0.02693
	HUALALAI	**809**			**56**	**N/A**	**0.25221**	**4.73528**	**4.98749**
			KEAUHOU	80901	38		0.25221	4.73528	4.98749
			KIHOLO	80902	18		0.00000	0.00000	0.00000

NOTE: Permitted Water Use as of September 2000.



Dept. of Land and Natural Resources
Land Division
Engineering Branch
Commission on Water Resource Management



LEGEND:

KOHALA - 801	Hydrological Sector - No.
Hawi - 80101	Aquifer System - No.

State Water Projects Plan
HYDROLOGIC UNITS - HAWAII
FIGURE 3.1

Date: February 2003

FUKUNAGA & ASSOCIATES, INC.
Consulting Engineers
1388 Kapiolani Boulevard
Honolulu, Hawaii 96814