Status Update and Preliminary Findings

Water Use & Development Plan Update
Keauhou Aquifer System

for

Commission on Water Resources Management

November 15, 2016

County of Hawaii
Department of Water Supply

Fukunaga & Associates, Inc.

Presentation Outline

- Plan Update – Goals & Guiding Principles
- Background – 2010 Hawaii County WUDP
- Current Update

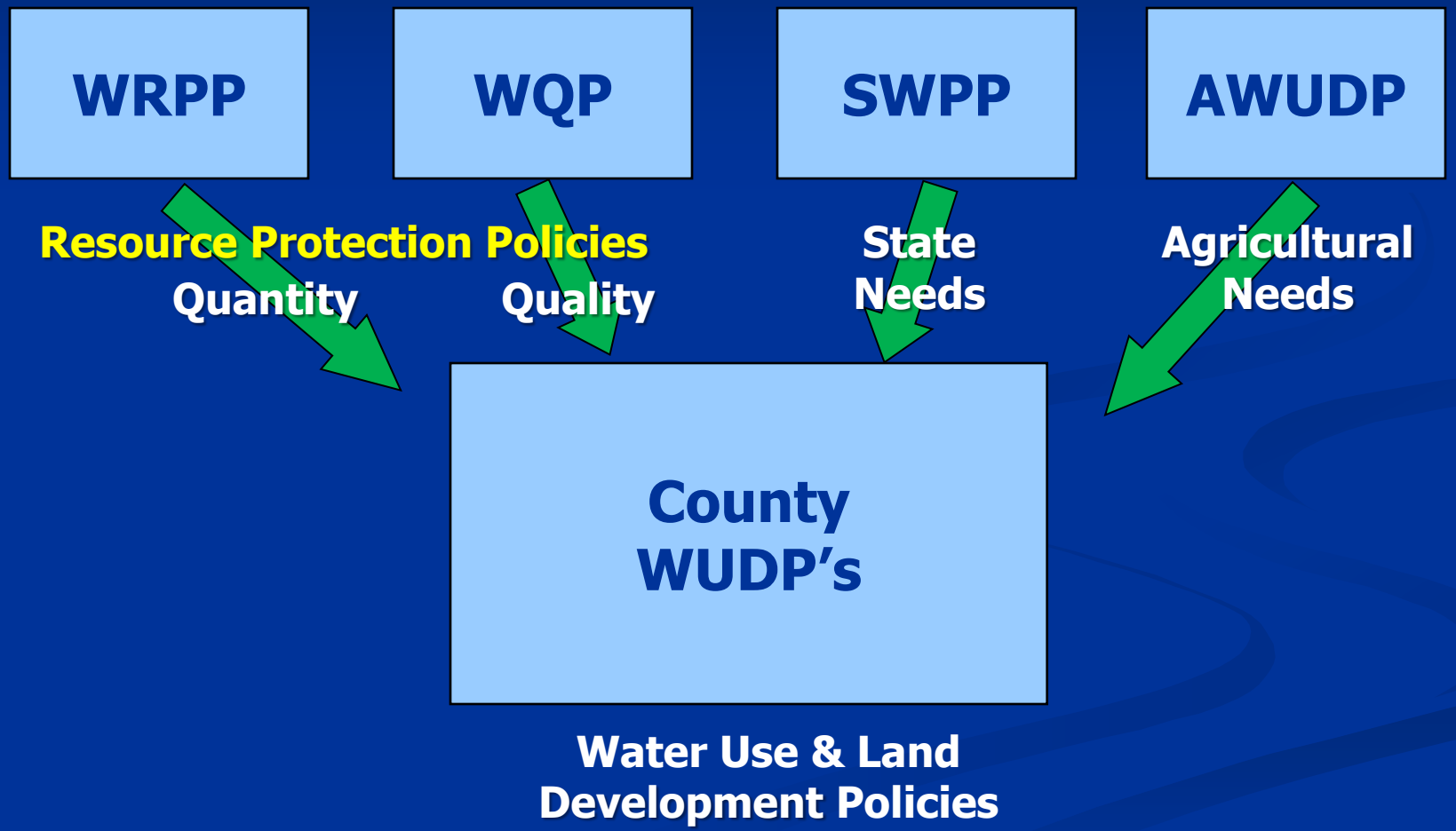
Key Goals

- Provide guidance to ensure that future water needs of the County are met, while preserving the integrity of the island's water resources.
- Ensure that sustainable water resources are integrated into the formulation and development of land use policies by the County.

Guiding Principles

- Public Trust Doctrine – *…waters of the State are held for the benefit of the citizens of the State.*
- Water is a most precious resource & shall be used wisely – to be conserved; not wasted
- 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 feasible

Hawai‘i Water Plan



Background

State Water Plan

- http://dlnr.hawaii.gov/cwrm/planning/hiwaterplan/

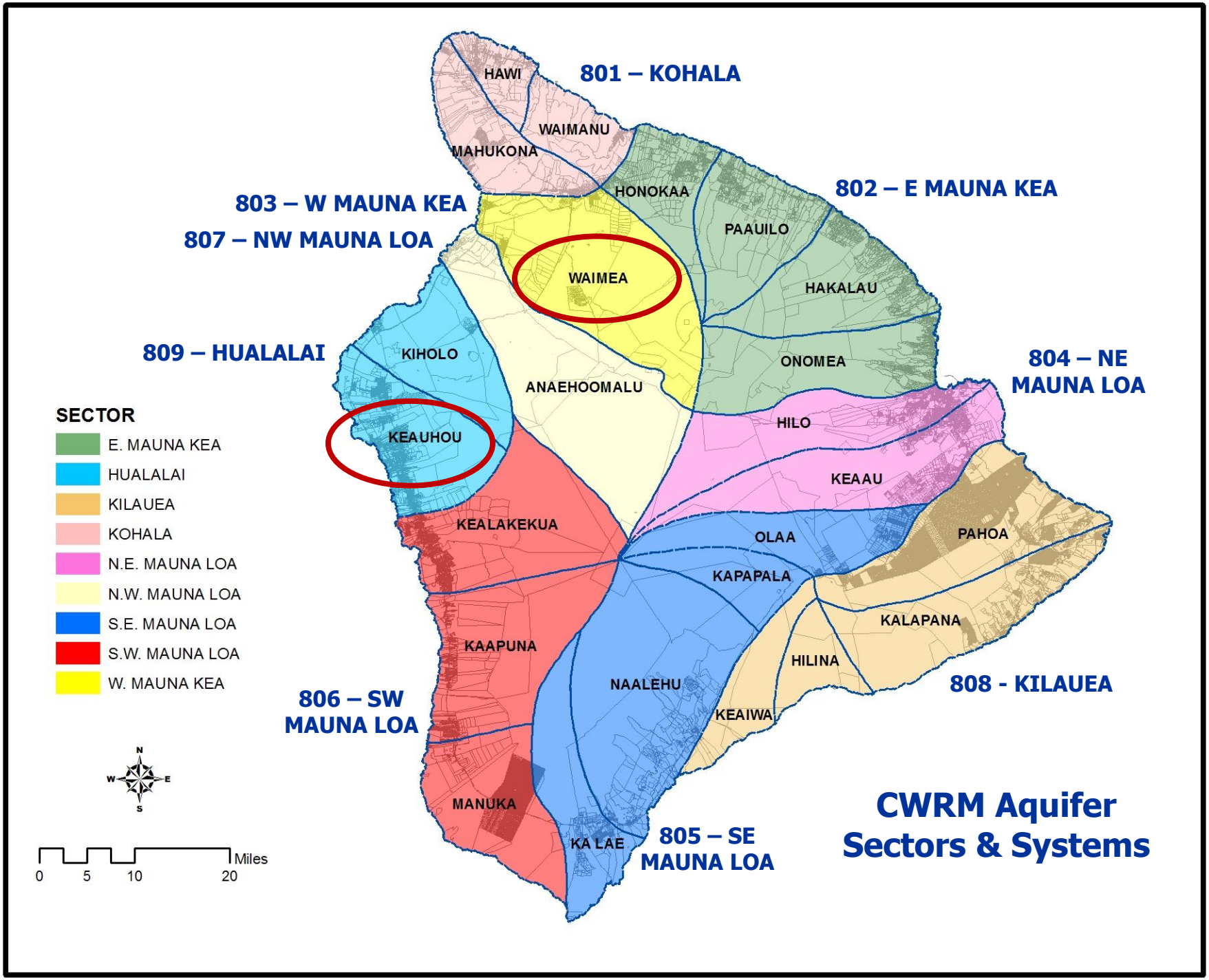
Water Use & Development Plan

- http://dlnr.hawaii.gov/cwrm/planning/hiwaterplan/countyplans/

Background

Hawaii County Water Use & Development Plan

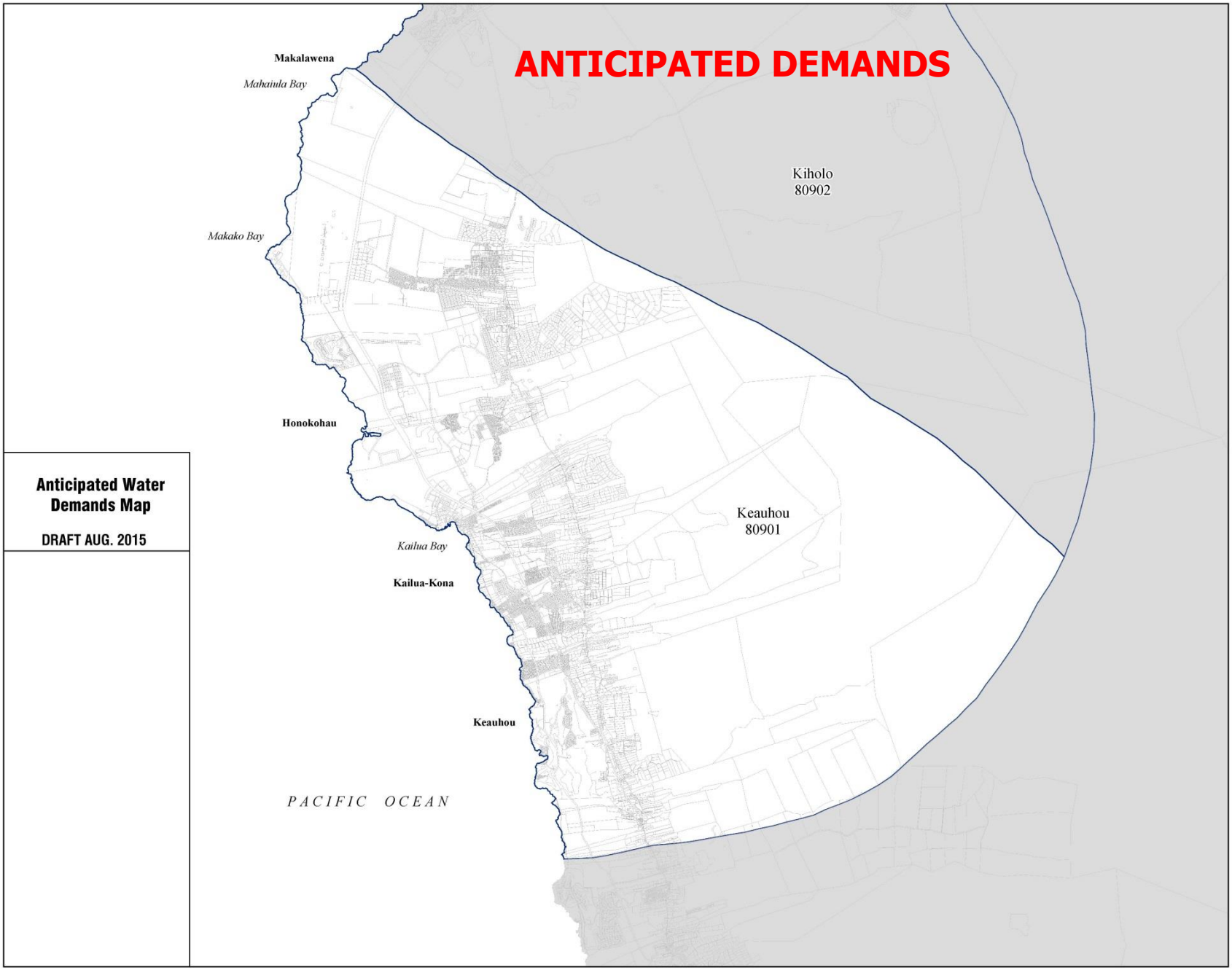
- Updated original WUDP prepared in 1990
- Initiated in 2004
- Final Draft Plan 2010
- Adopted by County Ordinance – February 2011
- Accepted by CWRM – November 2011


801 – KOHALA
HAWI
WAIMANU
MAHUKONA
802 – E MAUNA KEA
HONOKAA
PAAUILO
803 – W MAUNA KEA
807 – NW MAUNA LOA
WAIMEA
HAKALAU
809 – HUALALAI
KIHOLO
ONOMEA
804 – NE MAUNA LOA
ANAEHOOMALU
HILO
KEAUHOU
KEAAU
KEALAKEKUA
OLAA
PAHOA
KAPAPALA
KALAPANA
KAAPUNA
HILINA
NAALEHU
808 - KILAUEA
806 – SW MAUNA LOA
KEAIWA
MANUKA
KA LAE
805 – SE MAUNA LOA
SECTOR
E. MAUNA KEA
HUALALAI
KILAUEA
KOHALA
N.E. MAUNA LOA
N.W. MAUNA LOA
S.E. MAUNA LOA
S.W. MAUNA LOA
W. MAUNA KEA
N
W
E
S
0
5
10
20
Miles
CWRM Aquifer Sectors & Systems

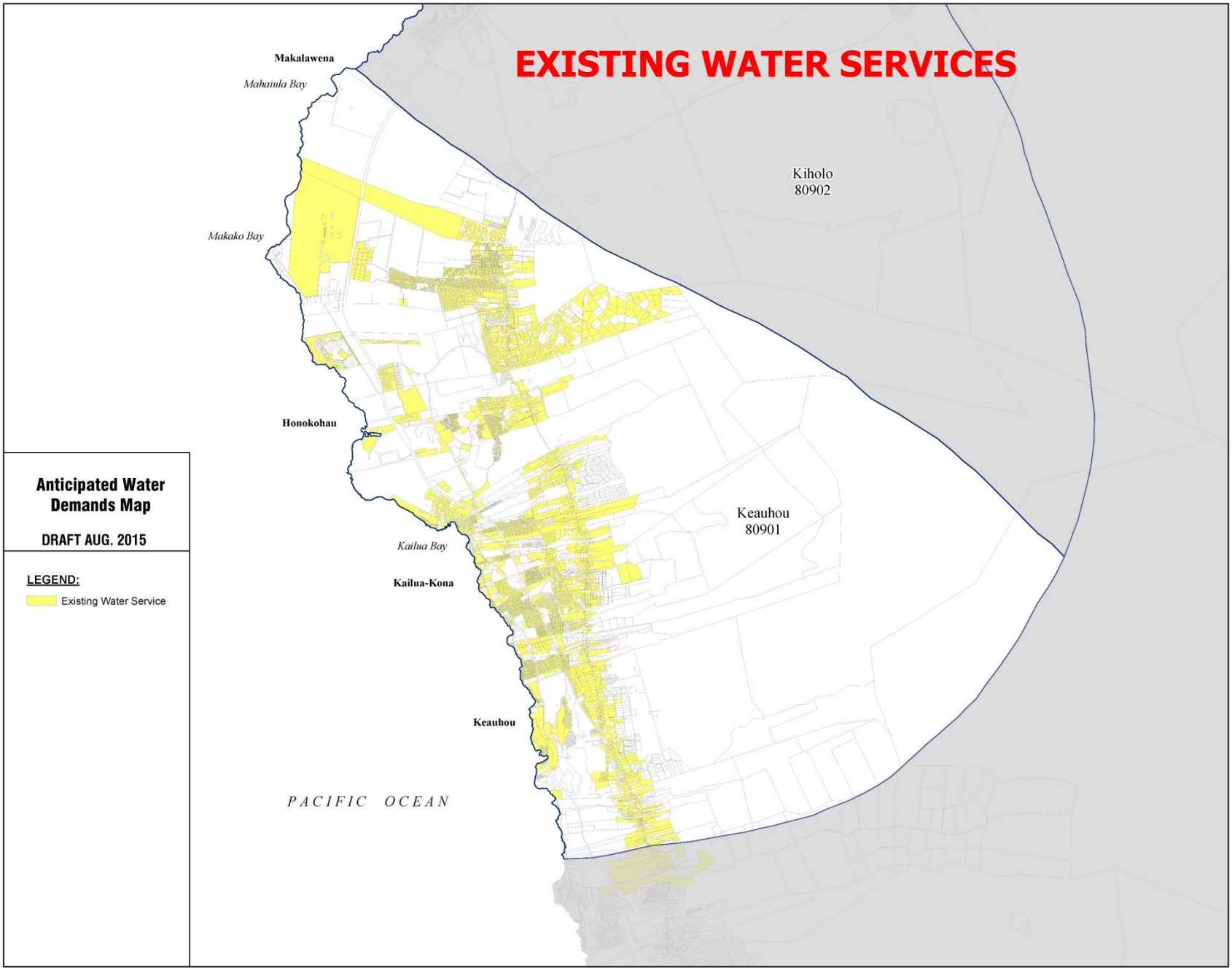
Water Use & Development Plan – Current Update

- Assessment of actual water use and anticipated demands

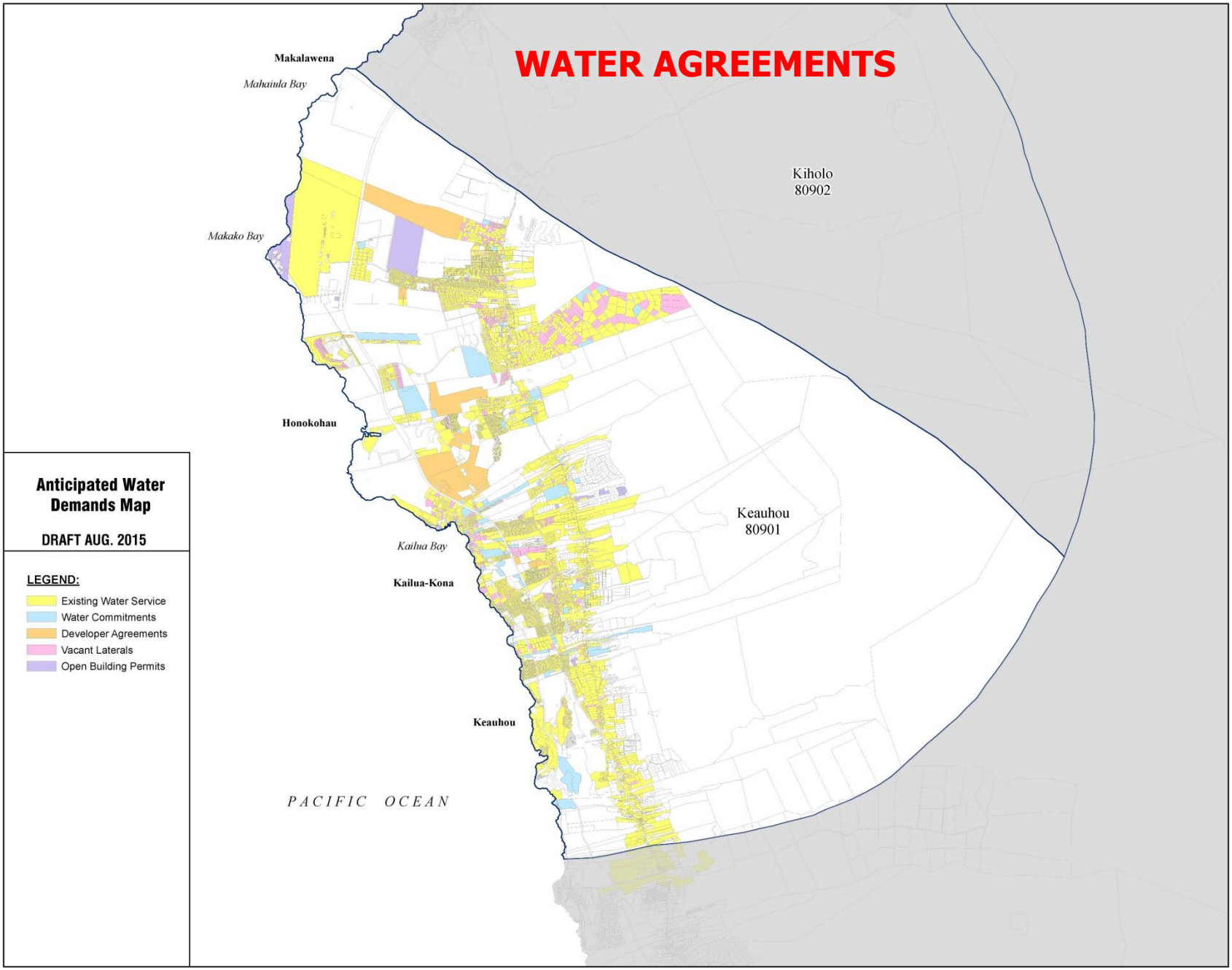
ANTICIPATED DEMANDS

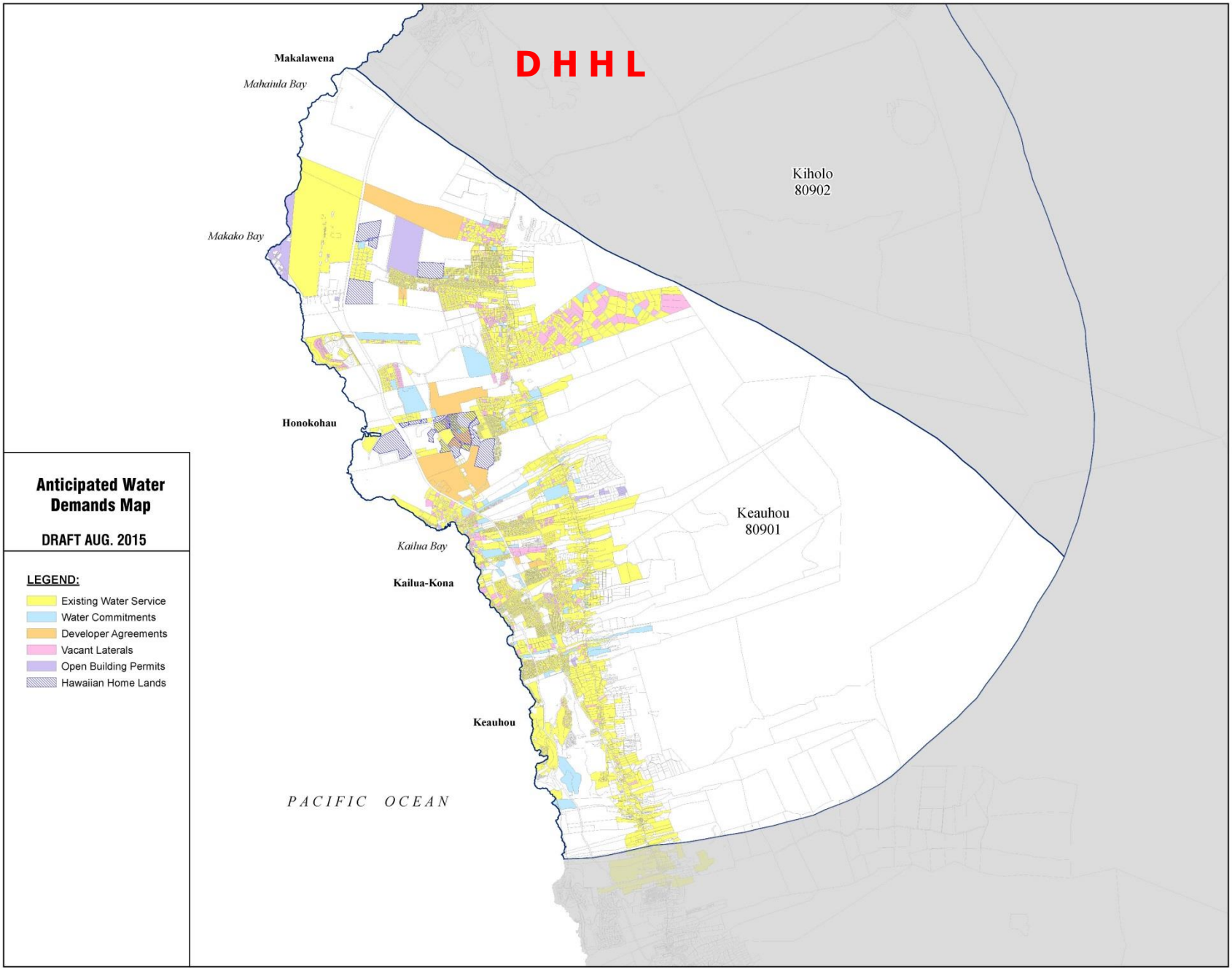


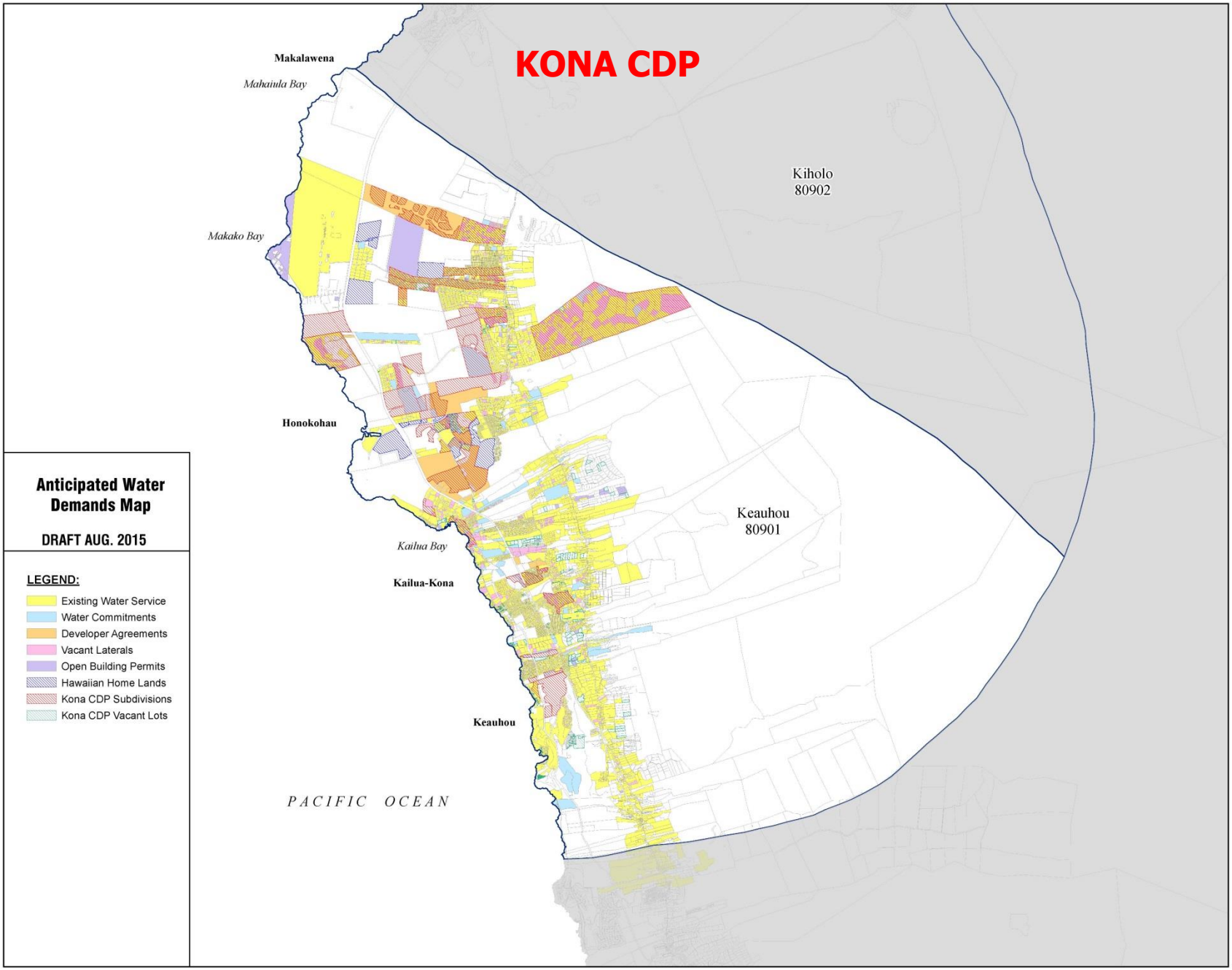
EXISTING WATER SERVICES



WATER AGREEMENTS




DHHL
Makalawena
Mahaiula Bay
Makako Bay
Honokohau
Kailua Bay
Kailua-Kona
Keauhou
PACIFIC OCEAN
Kiholo
80902
Keauhou
80901
Anticipated Water Demands Map
DRAFT AUG. 2015
LEGEND:
Existing Water Service
Water Commitments
Developer Agreements
Vacant Laterals
Open Building Permits
Hawaiian Home Lands


KONA CDP
Makalawena
Mahaiula Bay
Makako Bay
Honokohau
Kailua Bay
Kailua-Kona
Keauhou
PACIFIC OCEAN
Kiholo
80902
Keauhou
80901
Anticipated Water Demands Map
DRAFT AUG. 2015
LEGEND:
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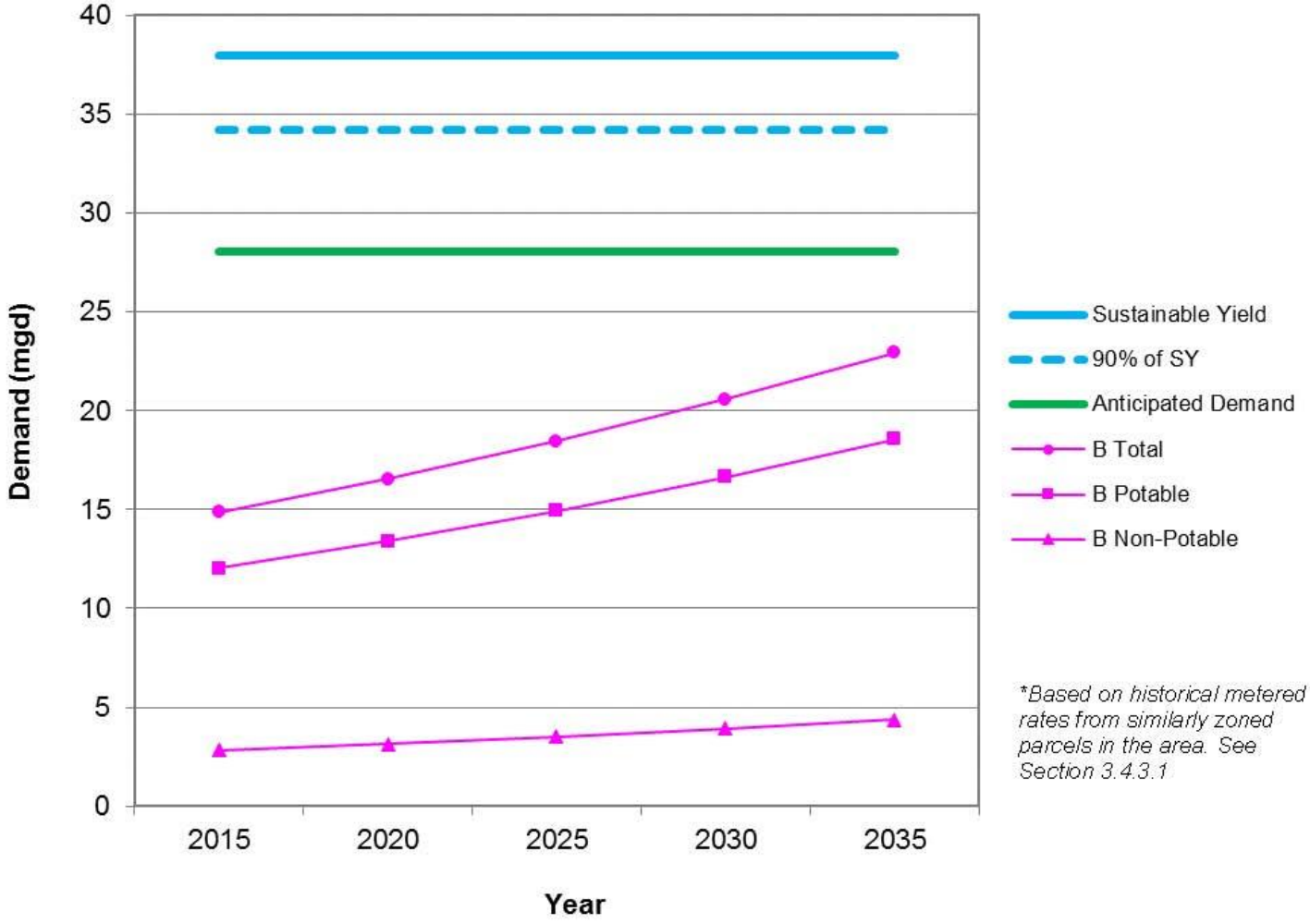
Kona CDP Subdivisions
Kona CDP Vacant Lots

Summary of Water Demand Scenarios – Keauhou ASYA

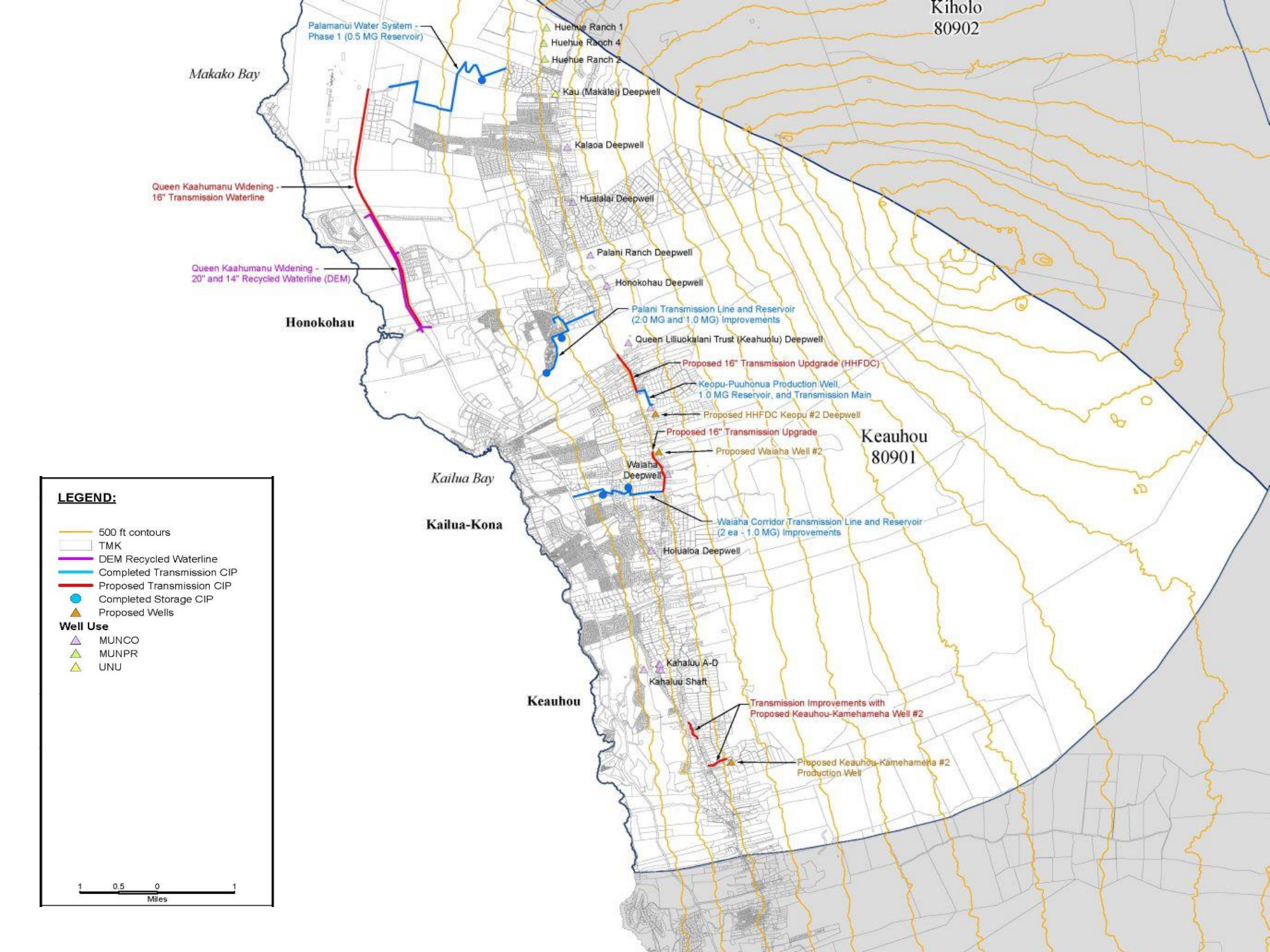


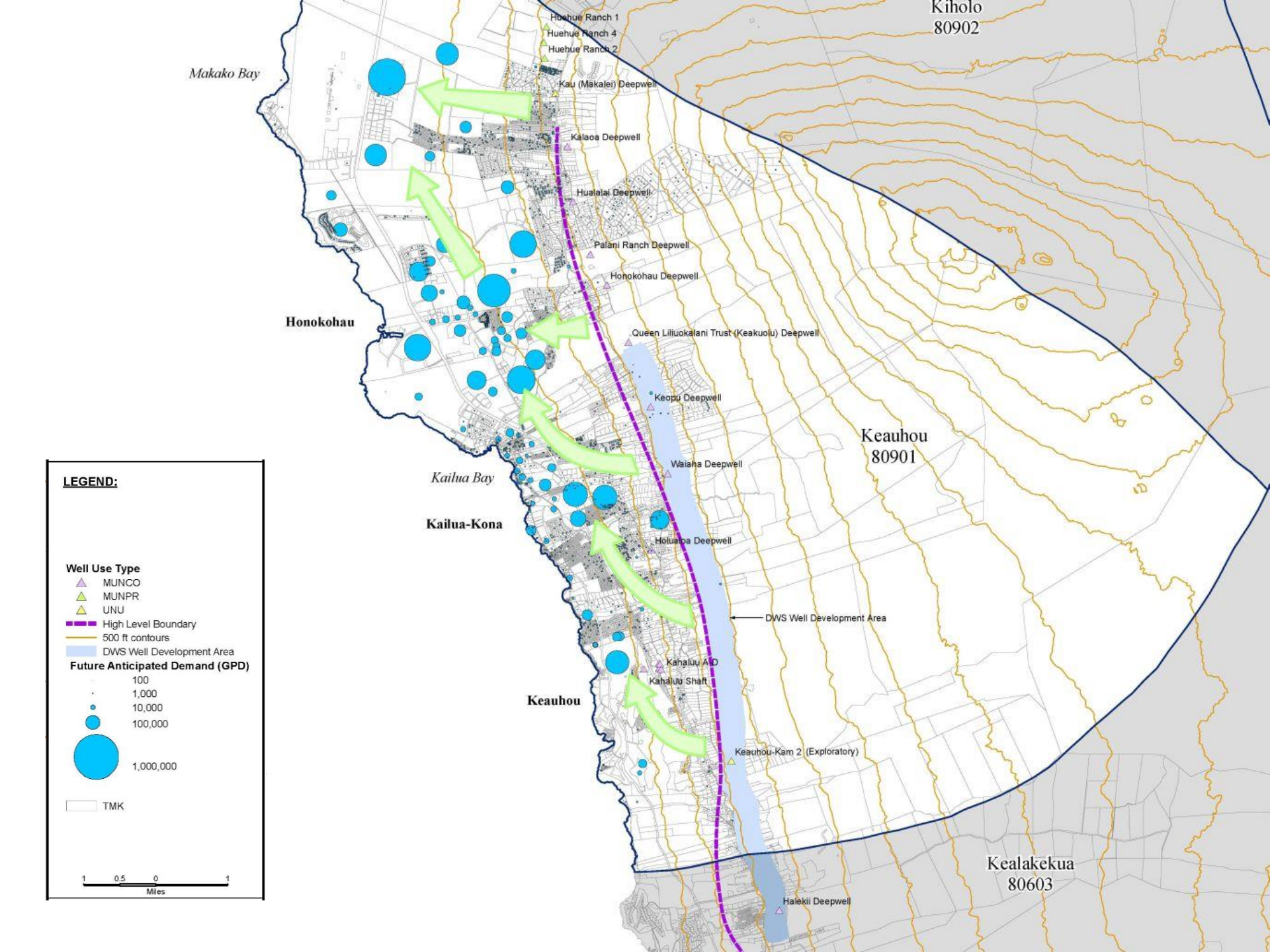
Water Use & Development Plan – Current Update

- Assessment of actual water use and anticipated demands
- Incorporation of environmental and cultural issues

Water Use & Development Plan – Current Update

- Assessment of actual water use and anticipated demands
- Incorporation of environmental and cultural issues
- **Source/infrastructure development program & meeting anticipated demands**


Kiholo
80902
Palamanui Water System - Phase 1 (0.5 MG Reservoir)
Makako Bay
Huehue Ranch 1
Huehue Ranch 4
Huehue Ranch 2
Kau (Makalei) Deepwell
Kalaoa Deepwell
Queen Kaahumanu Widening - 16" Transmission Waterline
Hualalai Deepwell
Palani Ranch Deepwell
Queen Kaahumanu Widening - 20" and 14" Recycled Waterline (DEM)
Honokohau Deepwell
Honokohau
Palani Transmission Line and Reservoir (2.0 MG and 1.0 MG) Improvements
Queen Liliuokalani Trust (Keahuolu) Deepwell
Proposed 16" Transmission Updgrade (HHFDC)
Keopu-Puuhonua Production Well, 1.0 MG Reservoir, and Transmission Main
Proposed HHFDC Keopu #2 Deepwell
Proposed 16" Transmission Upgrade
Keauhou
80901
Proposed Waiaha Well #2
Waiaha Deepwell
Kailua Bay
Waiaha Corridor Transmission Line and Reservoir (2 ea - 1.0 MG) Improvements
Kailua-Kona
Holualoa Deepwell
Kahaluu A-D
Kahaluu Shaft
Keauhou
Transmission Improvements with Proposed Keauhou-Kamehameha Well #2
Proposed Keauhou-Kamehameha #2 Production Well
LEGEND:
500 ft contours
TMK
DEM Recycled Waterline
Completed Transmission CIP
Proposed Transmission CIP
Completed Storage CIP
Proposed Wells
Well Use
MUNCO
MUNPR
UNU
1 0.5 0 1
Miles


Huehue Ranch 1
Huehue Ranch 4
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Kau (Makalei) Deepwell
Kalaoa Deepwell
Hualalai Deepwell
Palani Ranch Deepwell
Honokohau Deepwell
Honokohau
Queen Liliuokalani Trust (Keakuolu) Deepwell
Keopu Deepwell
Kiholo
80902
Keauhou
80901
Waiaha Deepwell
Kailua Bay
Kailua-Kona
Holualoa Deepwell
DWS Well Development Area
Kahaluu AMD
Kahaluu Shaft
Keauhou
Keauhou-Kam 2 (Exploratory)
Kealakekua
80603
Halekii Deepwell
LEGEND:
Well Use Type
MUNCO
MUNPR
UNU
High Level Boundary
500 ft contours
DWS Well Development Area
Future Anticipated Demand (GPD)
100
1,000
10,000
100,000
1,000,000
TMK
1 0.5 0 1
Miles

Water Use & Development Plan – Current Update

- Assessment of actual water use and anticipated demands
- Incorporation of environmental and cultural issues
- Source/infrastructure development program & meeting anticipated demands
- Non-potable source strategies

Water Use & Development Plan – Current Update

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- **Next steps**

Questions?