



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL

NOTE:

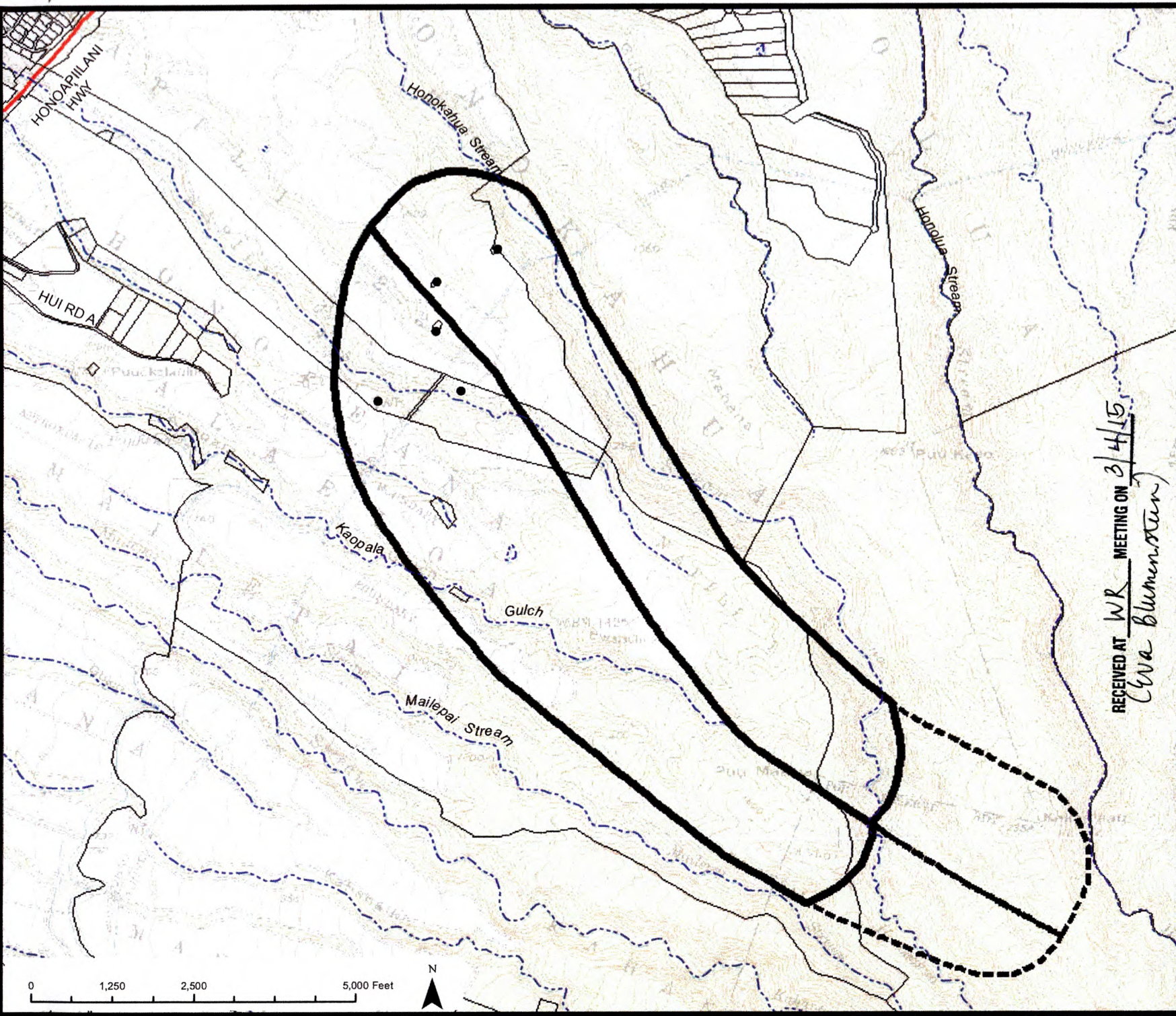
WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

ZONE A - Direct chemical contamination zone.
A 50-foot radius around each well to provide protection from vandalism, tampering, or other threats to each well site.

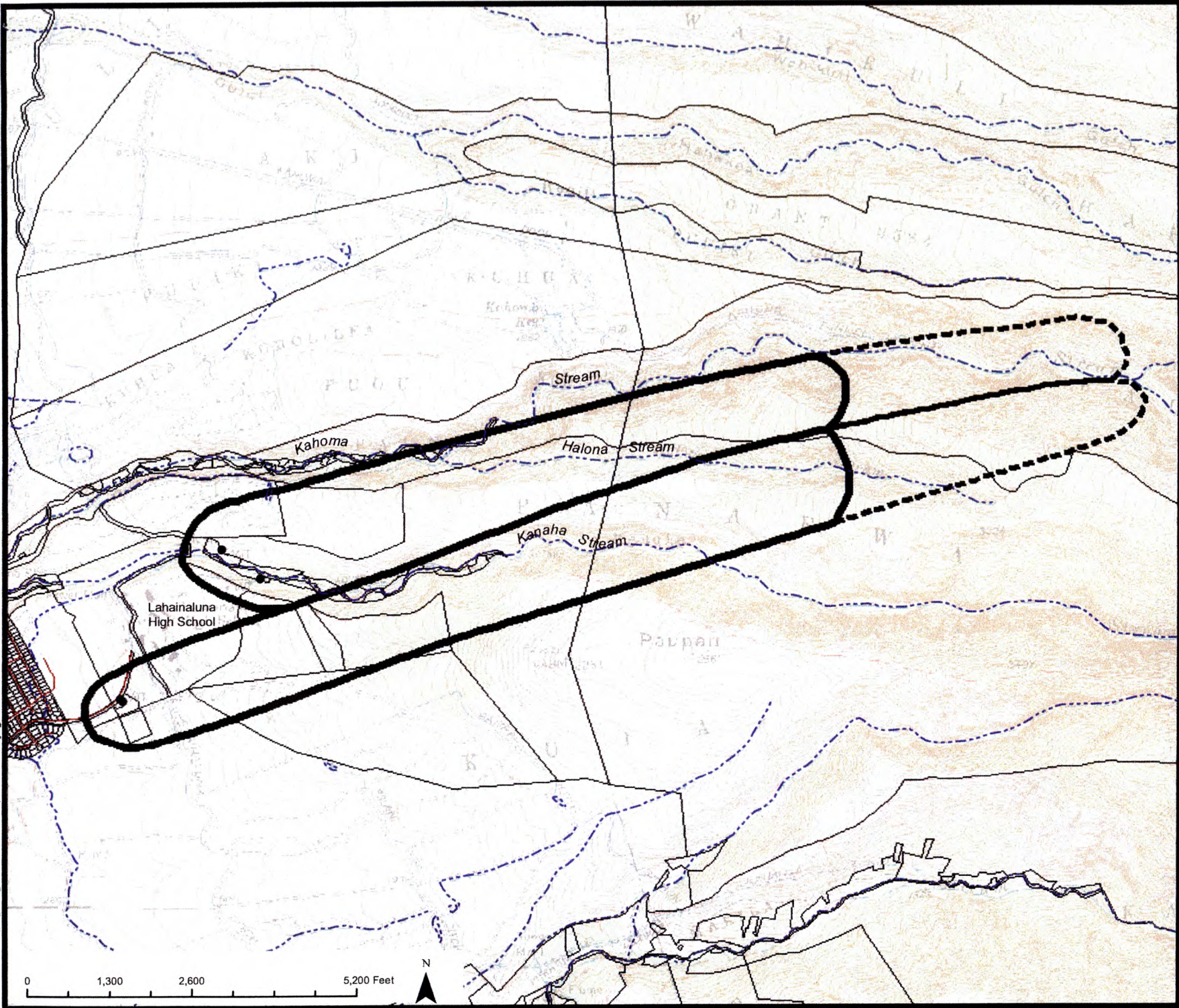
ZONE B - Indirect microbial contamination zone.
Consists of the surface area overlying the portion of the aquifer that contributes water to the well within a 2-year time-of-travel distance.

ZONE C - Indirect chemical contamination zone.
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

RECEIVED AT WR MEETING ON 3/4/15
(Cwa Blumenstein)



OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 1 AREA SOUTH-EAST OF NAPILI, MAUI	
APPROVED: _____ COUNTY CLERK DATE	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
APPROVED: _____ PLANNING DIRECTOR DATE	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
DRAFT 03 WPOD Map 1	



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

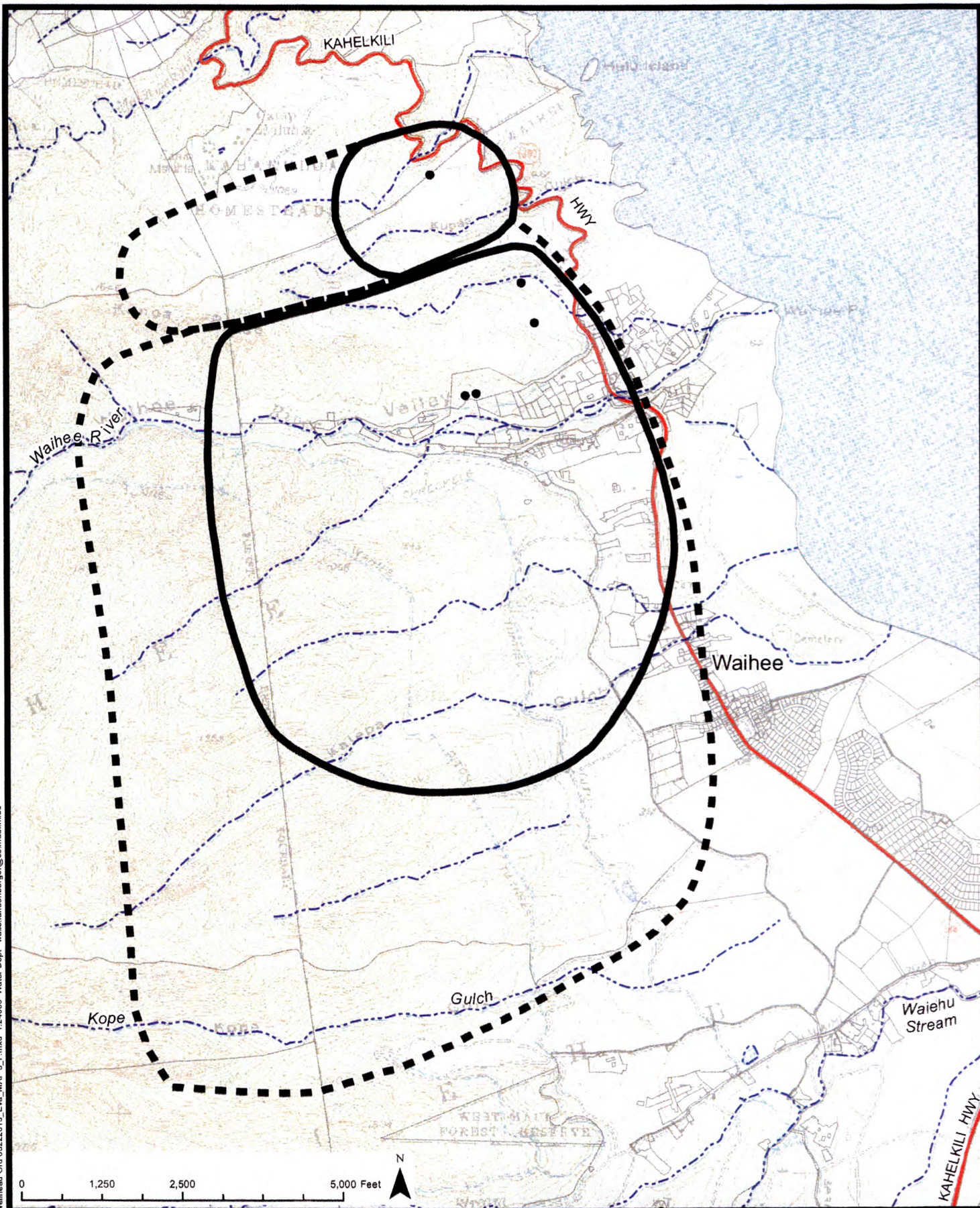
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OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 2 AREA NORTH-EAST OF LAHAINA TOWN, MAUI	
APPROVED: _____ COUNTY CLERK DATE	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
APPROVED: _____ PLANNING DIRECTOR DATE	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
DRAFT 04 WPOD Map 2	



Wellhead Ord 05222013_Eva_MAP 3_P.mxd 1:24000 Water Dept walle.landenberger@co.mauai.hi.us

LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊞ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

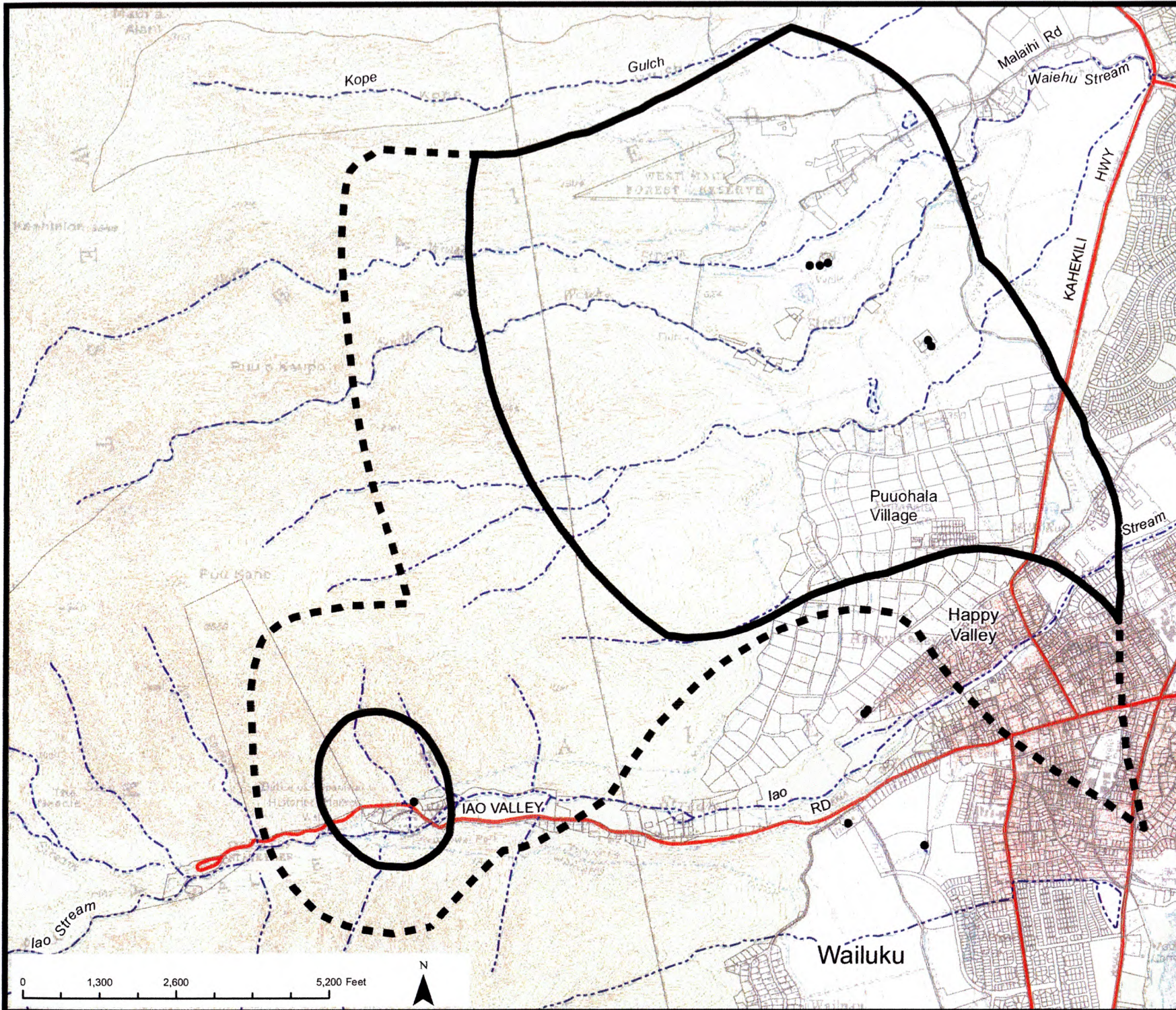
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OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 3 KAHAKALOA TO WAIHEE, MAUI	
APPROVED: _____ COUNTY CLERK DATE	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
APPROVED: _____ PLANNING DIRECTOR DATE	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
DRAFT 04 WPOD Map 3	



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

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OFFICE OF THE COUNTY CLERK
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION
OVERLAY DISTRICT
MAP No. 4
KOPE GULCH TO IAO STREAM, MAUI**

APPROVED:

COUNTY CLERK DATE

APPROVED:

PLANNING DIRECTOR DATE

PUBLIC HEARING: _____

ADOPTED BY COUNCIL: _____

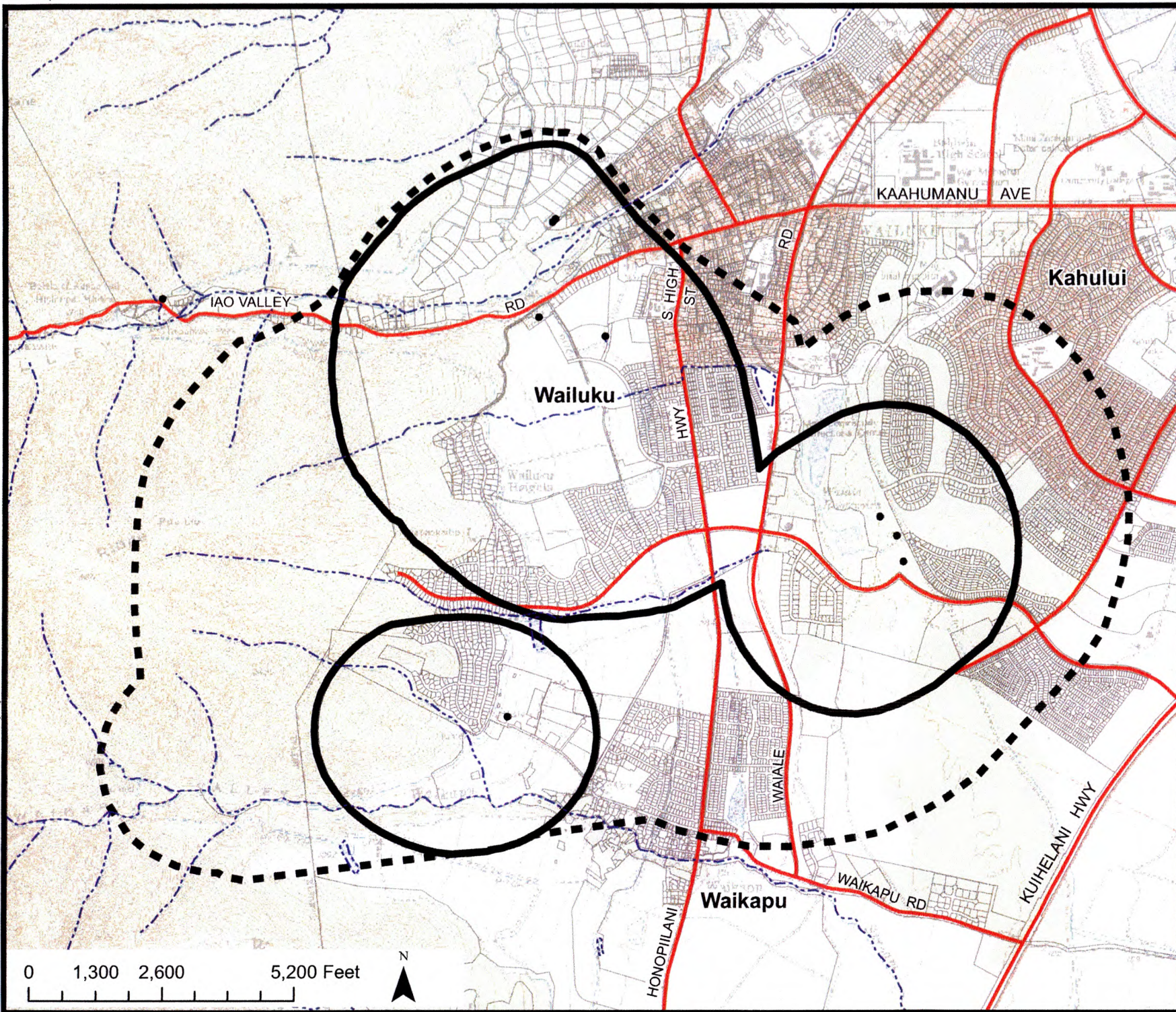
ADOPTED BY MAYOR: _____

BILL No./YEAR _____

ORDINANCE No. _____

DRAFT 04

WPOD Map 4



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



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OFFICE OF THE COUNTY CLERK
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION
OVERLAY DISTRICT
MAP No. 5
IAO STREAM TO WAIKAPU, MAUI**

APPROVED:

COUNTY CLERK DATE

APPROVED:

PLANNING DIRECTOR DATE

PUBLIC HEARING: _____

ADOPTED BY COUNCIL: _____

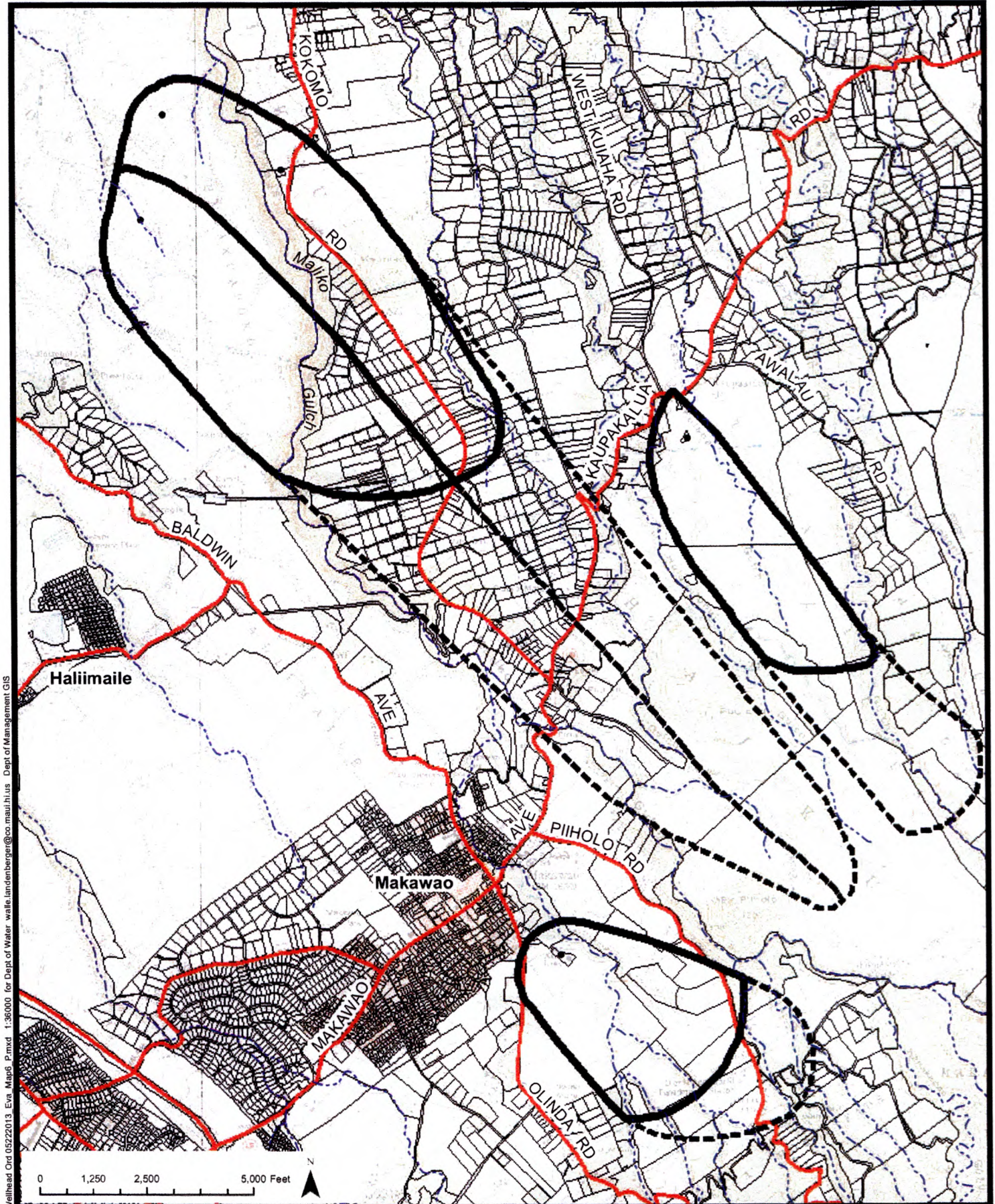
ADOPTED BY MAYOR: _____

BILL No./YEAR _____

ORDINANCE No. _____

DRAFT 04

WPOD Map 5



Wellhead Ord 05222013 Eva_Map6_P.mxd 1:36000 for Dept of Water walter.landenberger@co.maui.hi.us Dept of Management GIS

LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



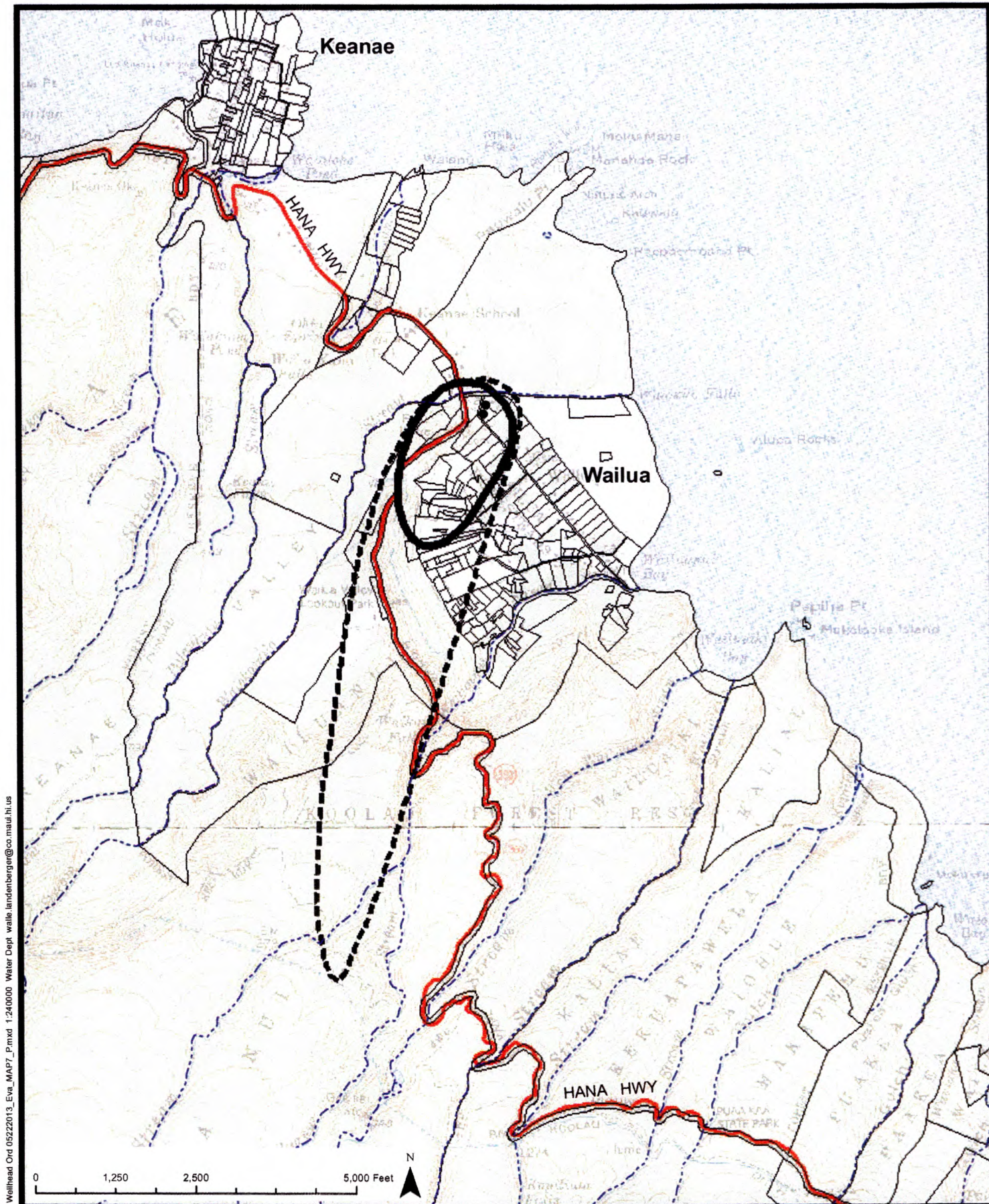
NOTE:

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ZONE B is intended to designate a conservative estimate of the area that may contribute bacteria and viruses to the wellhead.
A 2-year TOT criterion is based on survival times for bacteria and viruses in soil and groundwater.

ZONE C is based on a 10-year TOT to allow sufficient time to implement management and remedial measures to mitigate contamination from accidental contaminant spills and other causes.

OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 6 KOKOMO - PIIHOLO - AWALAU, MAUI	
APPROVED: COUNTY CLERK _____ DATE _____	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
APPROVED: PLANNING DIRECTOR _____ DATE _____	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
DRAFT 03 WPOD Map 6	



Wellhead Ord 05222013_Eva_MAP7_P.mxd 1:240000 Water Dept. walle.landenberge@co.mauhi.hi.us

LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⋯ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

WPOD zones were delineated by the University of Hawaii Department of Geology & Geophysics utilizing fixed distance for the ZONE A nearest the well and Time of Travel (TOT) criteria for Zones B and C using the USGS 3-dimensional numerical groundwater model, MODFLOW, followed by the particle tracking program, MODPATH.

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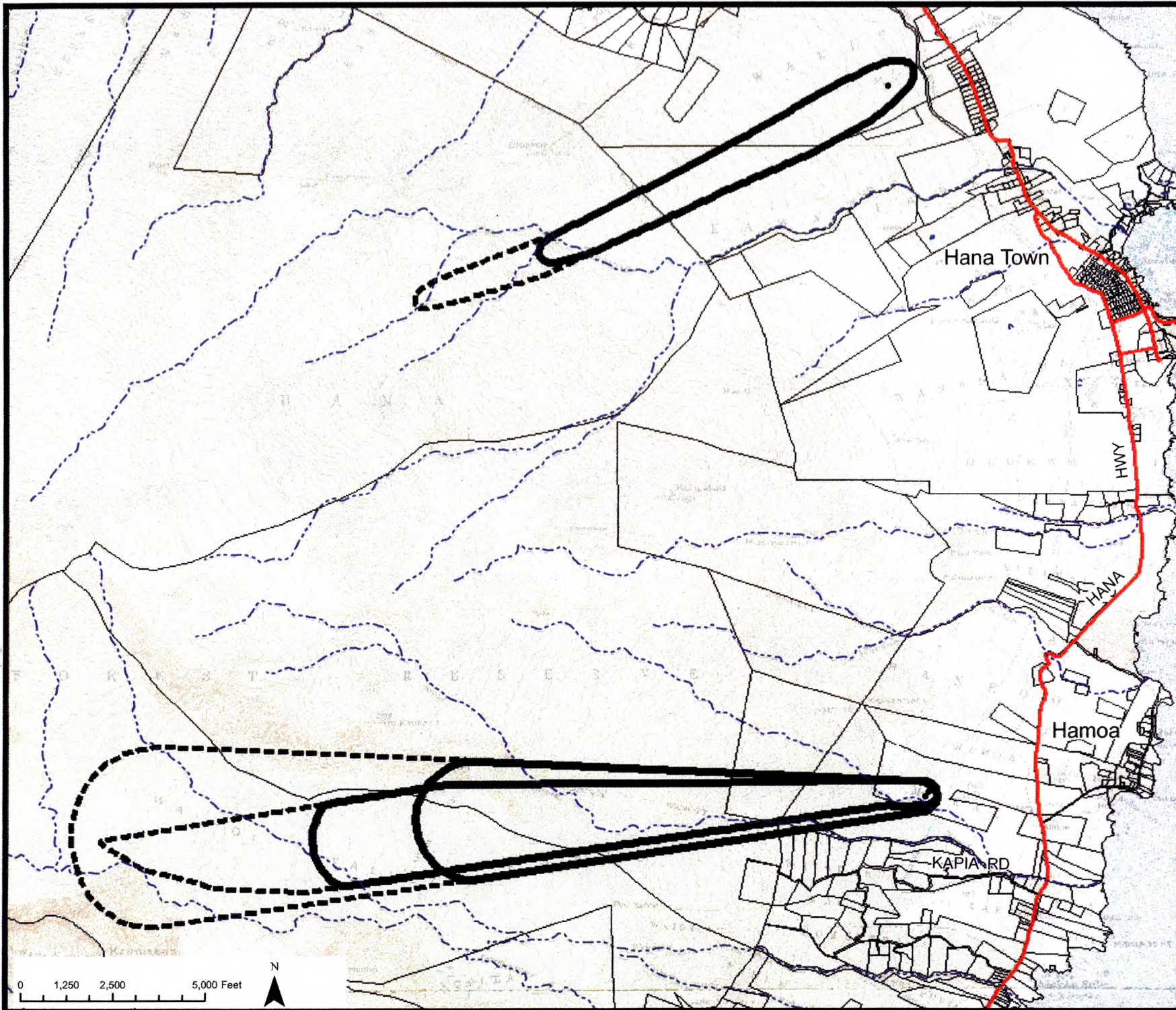
OFFICE OF THE COUNTY CLERK
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION
OVERLAY DISTRICT
MAP No. 7
KEANAE - WAILUA, MAUI**

APPROVED:	PUBLIC HEARING: _____
COUNTY CLERK _____ DATE _____	ADOPTED BY COUNCIL: _____
APPROVED:	ADOPTED BY MAYOR: _____
PLANNING DIRECTOR _____ DATE _____	BILL No./YEAR _____
	ORDINANCE No. _____

DRAFT 03

WPOD Map 7



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

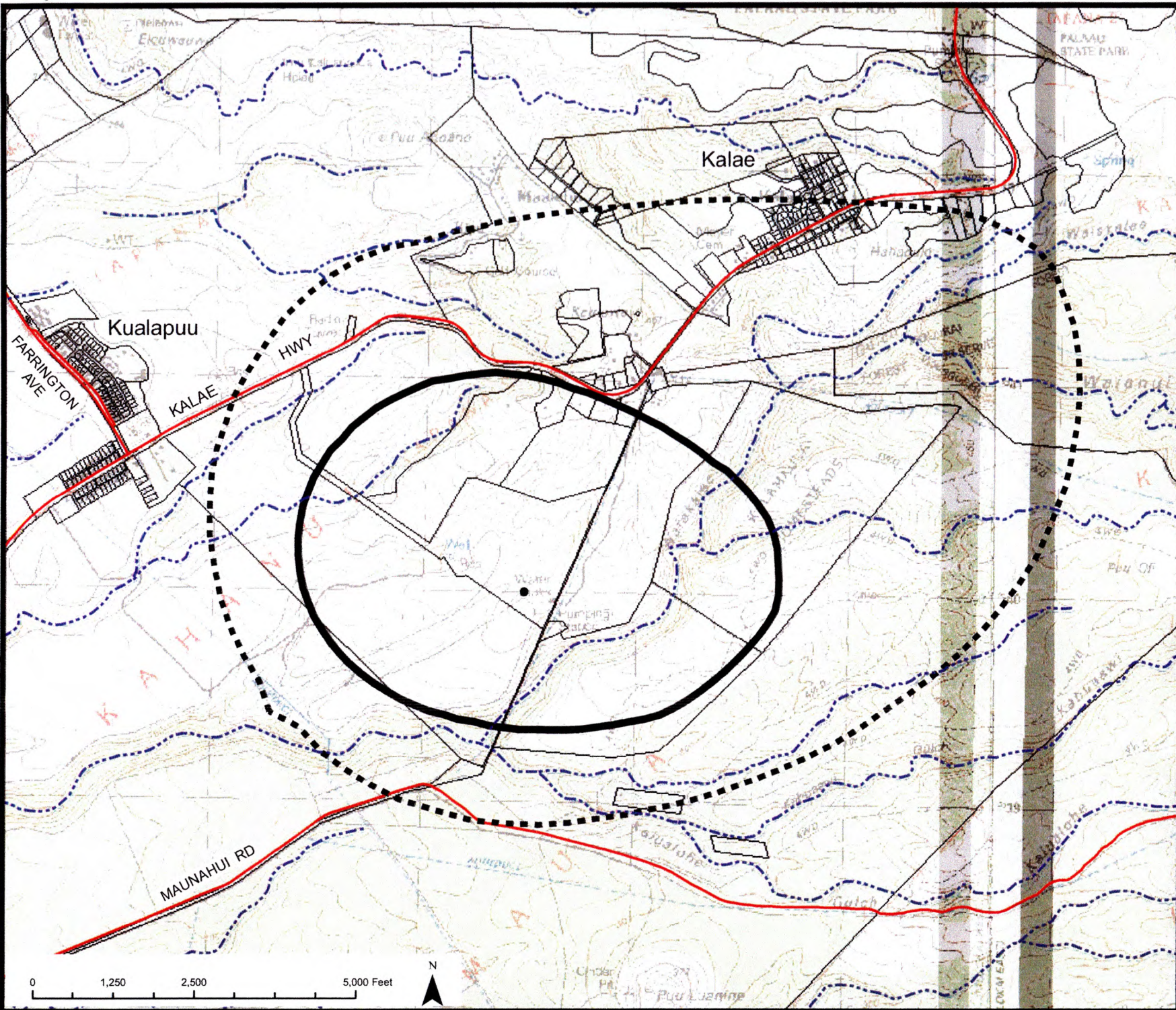
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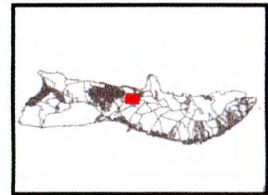
ZONE C - Indirect chemical contamination zone.
Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793	
WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 8 KAWAIPAPA GULCH TO WAIHOI VALLEY, MAUI	
APPROVED: _____ COUNTY CLERK DATE	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
APPROVED: _____ PLANNING DIRECTOR DATE	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
DRAFT 03 WPOD Map <u>8</u>	



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



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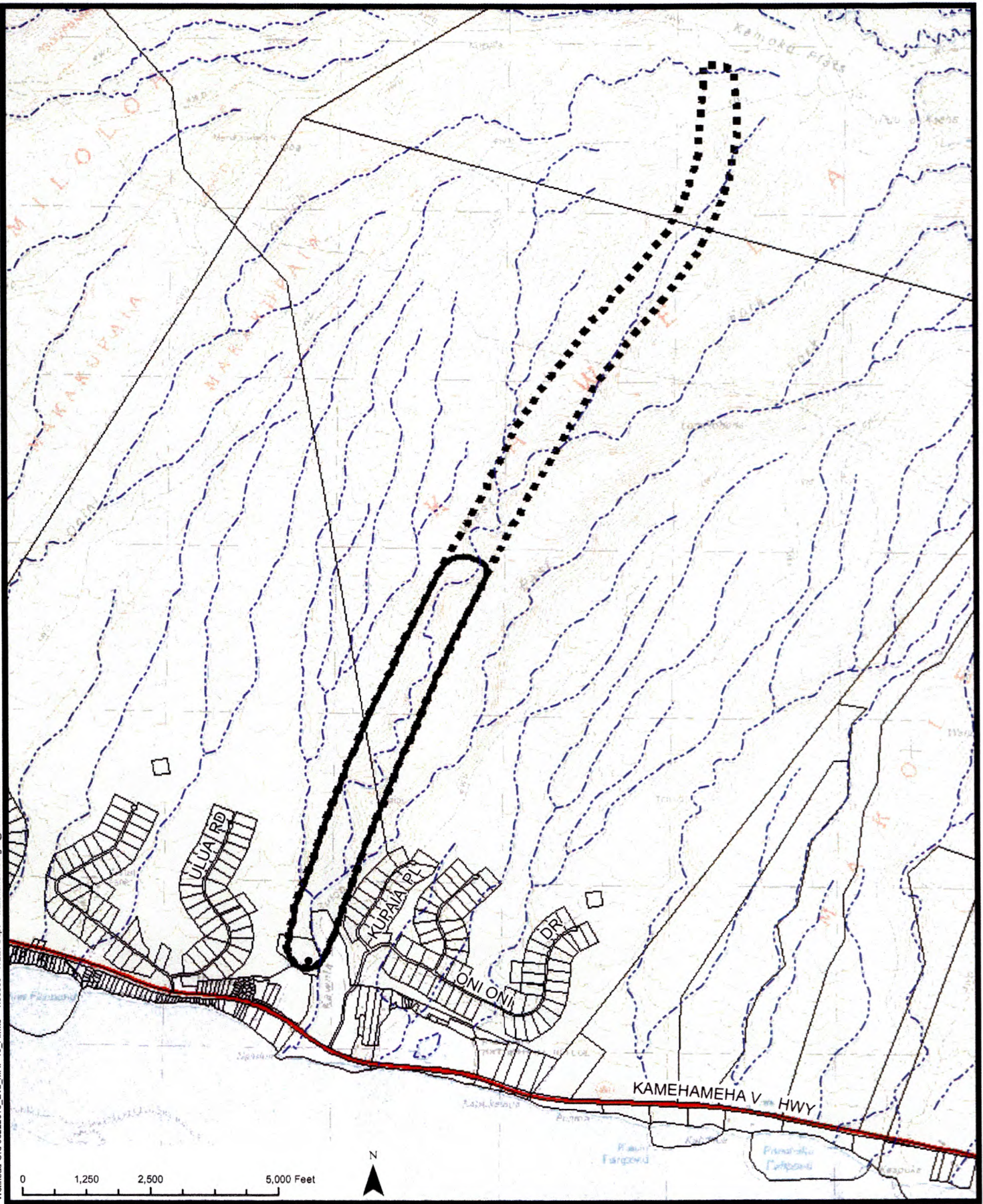
ZONE C - Indirect chemical contamination zone. Consists of the surface area overlying the portion of an aquifer that contributes water to the well within a 10-year time-of-travel distance.

OFFICE OF THE COUNTY CLERK
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION
OVERLAY DISTRICT
MAP No. 9
AREA SOUTH OF KALAE, MOLOKAI**

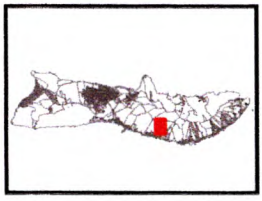
APPROVED:	PUBLIC HEARING: _____
COUNTY CLERK _____ DATE _____	ADOPTED BY COUNCIL: _____
APPROVED:	ADOPTED BY MAYOR: _____
PLANNING DIRECTOR _____ DATE _____	BILL No./YEAR _____ ORDINANCE No. _____

Wellhead_Ord 05222013_Eva_MAP 10_P.mxd 1:30000 Water Dept. walle.landenberger@co.mauhi.hi.us



LEGEND

- WPOD ZONE A
- WPOD ZONE B - 2 year
- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



NOTE:

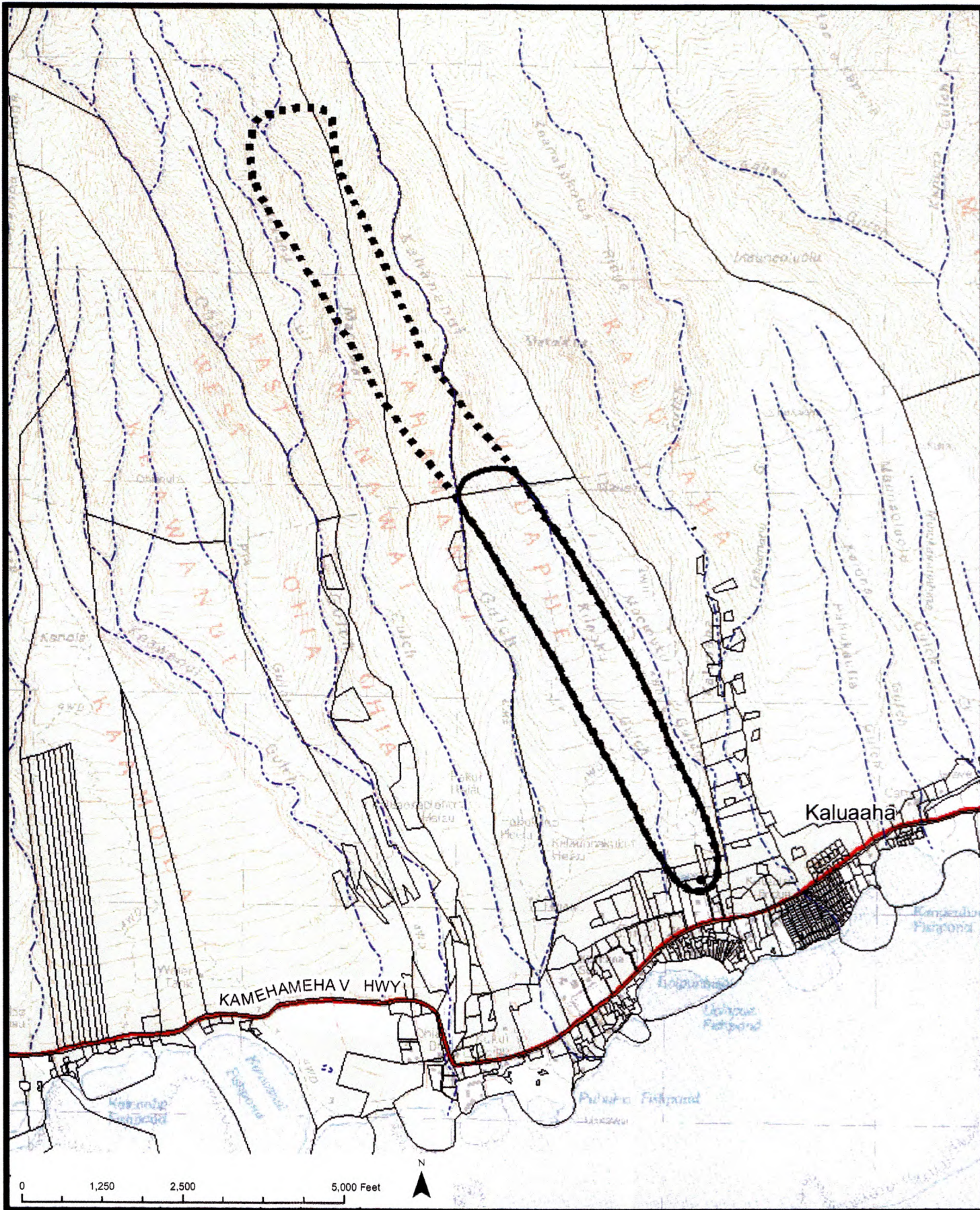
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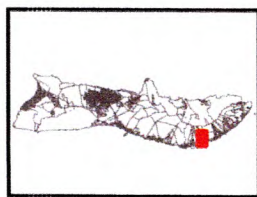
<p>OFFICE OF THE COUNTY CLERK 200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793</p>	
<p>WELLHEAD PROTECTION OVERLAY DISTRICT MAP No. 10 KAWELA, MOLOKAI</p>	
<p>APPROVED:</p> <p>_____ DATE _____</p> <p>COUNTY CLERK</p>	<p>PUBLIC HEARING: _____</p> <p>ADOPTED BY COUNCIL: _____</p>
<p>APPROVED:</p> <p>_____ DATE _____</p> <p>PLANNING DIRECTOR</p>	<p>ADOPTED BY MAYOR: _____</p> <p>BILL No./YEAR _____</p> <p>ORDINANCE No. _____</p>
<p>DRAFT 03 WPOD Map 10</p>	

Wellhead Ord 05222013_Eva_MAP 11_P.mxd 1:24000 Water Dept walle.landenberger@co.maui.hi.us



LEGEND

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- ⊖ WPOD ZONE C - 10 year
- 2013 PARCEL



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OFFICE OF THE COUNTY CLERK
200 SO. HIGH ST., WAILUKU, MAUI, HAWAII 96793

**WELLHEAD PROTECTION
OVERLAY DISTRICT
MAP No. 11
UALAPUE, MOLOKAI**

APPROVED: _____ COUNTY CLERK	PUBLIC HEARING: _____ ADOPTED BY COUNCIL: _____
_____ PLANNING DIRECTOR	ADOPTED BY MAYOR: _____ BILL No./YEAR _____ ORDINANCE No. _____
_____ DATE	_____ DATE

DRAFT 03

WPOD Map 11