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RESOURCE MANAGEMENT

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To:  
Commission of  
Water Resource  
Management  
P.O. Box 621  
Honolulu HI 96809



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

APPLICATION FOR SURFACE WATER USE PERMIT  
FOR EXISTING USE IN THE NA WAI EHA, MAUI, SURFACE  
WATER MANAGEMENT AREAS

FORM SWUPA-E (NA WAI EHA, MAUI)

For Official Use Only:  
  
Event ID:

For detailed instructions on filling out this application, refer to the attached instructions.

**APPLICANT INFORMATION:** Note: In accordance with §174C-51(1)(B), HRS, in the event a lessee, licensee, developer, or any other person with a terminable interest or estate in the land, which is the water source of the permitted water, applies for a water permit, the landowner shall also be stated as a joint applicant for the water permit.

1. APPLICANT'S NAME Lorrin Pang	Applicant's Contact Lorrin Pang	2. SOURCE LANDOWNER'S NAME Lorrin Pang	Source Landowner's Contact Same
Applicant's Mailing Address, or Principal Place of Business 166 River Rd Wailuku HI 96793		Source Landowner's Mailing Address, or Principal Place of Business 166 River Rd. Wailuku HI 96793	

Applicant's Phone	Applicant's Fax	Applicant's Email	Source Landowner's Phone	Source Landowner's Fax	Source Landowner's Email
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**EXISTING SOURCE INFORMATION**

The following must be attached before this application is accepted as complete:

- Portion of 7.5-Minute Series USGS topographic map (scale 1:24,000) labeled with stream and diversion locations and quad map name.
- Property Tax Map Key (TMK), showing stream or diversion location, and location of water use referenced to established property boundaries.
- Photograph(s) of the surface water diversion works and end use.

3. SURFACE WATER HYDROLOGIC UNIT AND CODE:  Waihee/6022  Waiehu/6023  Iao/6024  Waikapu/6001

4a. TMK OF STREAM DIVERSION LOCATION: Zone Sector Plat Parcel

4b. TMK OF DITCH DIVERSION LOCATION: Zone Sector Plat Parcel

5. STREAM DIVERSION: How is water diverted from the stream to your property? Check all that apply.  
 Pipe  Pump  Ditch/auwal  Other Describe:  
 Is the diverted water returned to the stream or ditch?  Yes.  No. If yes, how much water is returned? 50%

6. FLOW MEASUREMENT INFORMATION:  
 Does the stream diversion have a flowmeter with totalizer or other device to measure diverted amounts?  
 Yes. Enter the installation date:  
 Describe the device and enter measured amounts in Table 1.  
 No. Explain how you are measuring flow to justify amounts shown in Table 1 in the space below  
 Visual observation

**EXISTING USER INFORMATION**

7. APPURTENANT RIGHT: Do you claim an appurtenant right for your water use?  Yes  No  
 If yes, has the appurtenant right been established by the courts or the Commission?  Yes  No

8. END USER INFORMATION: Are you an end user on an existing water system?  Yes  No  
 If yes, who is the operator of the water system? unknown

9. REGISTRATION AND DECLARATION OF WATER USE: Do you have a Registration and Declaration of Water Use with the Commission?  
 Yes. List the file reference name(s):  
 No

10. STREAM DIVERSION WORKS PERMIT (SDWP):  
 Have you ever been issued a SDWP by the Commission?  
 Yes. List the permit number(s):  
 No

NOTE: Signing below indicates that the signatories understand and affirm that the information provided on this application is accurate and true to the best of their knowledge. Furthermore, the signatories understand that: 1) if necessary, further information may be required before the application is considered complete; 2) if a water use permit is granted by the Commission, this permit will be subject, but not limited, to any existing legal uses, changes in sustainable yields and instream flow standards, Hawaiian Home Lands uses, and any other conditions imposed by the Commission; and 3) the applicant is responsible for paying the required public notice fees associated with this application.

11. APPLICANT Signature: Lorrin Pang, MD. 24/4/09 Print: Lorrin Pang Date: 24/4/09	12. SOURCE LANDOWNER Signature: Lorrin Pang, MD. 23/04/09 Print: Lorrin Pang Date: 23/04/09
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FILE ID: SWUP.2283.6  
DOC ID: 3295 ✓

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**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**TABLE 1: 12-MONTH AVERAGE DAILY USE**  
Measured or Calculated Use of Water at the Source or End Use  
As of the Effective Date of Designation, April 30, 2008

MONTH / YEAR	AVERAGE DAILY USE FOR THE MONTH IN GALLONS PER DAY (GPD)	Check one item per box				OTHER Please describe
		METERED	ESTIMATED	ACTIVE BUT UNKNOWN	INACTIVE	
May 2007	10,800	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
June 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
July 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
August 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
September 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
October 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
November 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
December 2007	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
January 2008	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
February 2008	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
March 2008	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
April 2008	"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SUM OF AVERAGE DAILY USE FOR THE MONTH	129,600					
AVERAGE DAILY USE (Average of the above)	10,800 *					

GPD \* I withdraw 10,800 GPD but return to the A'wai about half - so my use is about 5,400 GPD.

**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**TABLE 2: LAND USE CONSISTENCY/EFFICIENCY**  
(Attach additional copies of Table 2 if necessary)

LAND USE CONSISTENCY				EFFICIENCY OF USE					
1. PURPOSE / WATER USE CATEGORY	2. USE T/MK ATTACH THE FOLLOWING: • Property tax map, showing use location in reference to established property boundaries • Photograph of the area of use	3. STATE LAND USE DISTRICT	4. CDUP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	5. COUNTY ZONING CODE	6. SMAP REQ'D Enter either: Yes and Date approved, or Yes and not acquired, or No	7. REQUESTED QUANTITY OF USE Gallons per Day (GPD)	8. SUB-METERED? (Yes or No)	9. UNITS OR NET ACREAGE	10. APPLICANT'S JUSTIFICATION FOR REQUESTED QUANTITY OF USE FOR ITEM 7. If applicable, attach sheets to show how this number was calculated. For irrigation uses, fill in Table 3.
Uses that require potable (drinking) water									
Zone	Sector	Plat	Parcel						
						NA			
<b>TOTAL POTABLE USE</b>									
Uses that do not require potable water									
AGRAQ	3 - 2 - 003	016	Rural	No	Ag	No	5400	No	.1 Ac - constant gravity flow to 12 pounds (avg. 50 gal)
AGRCP	3 - 2 - 003	016	"	"	"	"	4000	No	1.0 Ac - 2hr/day water pump
AGR0N	3 - 2 - 003	016	"	"	"	"	1400	No	.5 Ac - 2hr/day water pump
<b>TOTAL NON-POTABLE USE</b>						<b>10,800</b>			
<b>TOTAL USE REQUESTED (Sum of Total Potable Use and Total Non-Potable Use above) =</b>						<b>10,800</b>			
If total use requested is not equal to the total monthly average in Table 1, please explain.									
In accordance with §174C-5(5), please explain if there are any limitations (legal, contractual, etc.) on the use(s) of water described above.									
* Half of the 10,800 withdrawn is returned to A'wai with 100 yards of diversiaqft.									

**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**TABLE 3: IRRIGATION INFORMATION**

List all crops as separate line items and include landscape and golf course irrigation, grown in the 12 months prior to April 30, 2008. Attach additional copies of Table 3 if necessary.

1. USE TAX MAP KEY (TMK) Attach map outlining area and photo.	2. CROP	3. TOTAL ACREAGE	4. NET IRRIGATED ACREAGE	5. BEGIN ROWTH PERIOD (Month)	6. END GROWTH PERIOD (Month)	7. IRRIGATION SYSTEM (Refer to instructions.)	8. IRRIGATION PRACTICE (Refer to instructions.)
3 - 2 - 003 : 016 <small>Zone Sector Plat Parcel</small>	mango	2	.25 Ac	April	March	Trickle	2hr/day
1 - 4 - " : " " <small>Zone Sector Plat Parcel</small>	avocado	"	.10	"	"	"	"
1 - " - " : " " <small>Zone Sector Plat Parcel</small>	coconut	"	.30	"	"	"	"
" - " - " : " " <small>Zone Sector Plat Parcel</small>	banana.	"	.10	"	"	"	"
" - " - " : " " <small>Zone Sector Plat Parcel</small>	watercress	"	.01	"	"	"	constant
" - " - " : " " <small>Zone Sector Plat Parcel</small>	fish ponds	"	.02	"	"	"	constant.
<small>Zone Sector Plat Parcel</small>							
<small>Zone Sector Plat Parcel</small>							
<small>Zone Sector Plat Parcel</small>							
<small>Zone Sector Plat Parcel</small>							

**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**TABLE 4: ALTERNATIVES ANALYSIS**

	Potable Alternatives Attach additional sheets if necessary.	Non-Potable Alternatives Attach additional sheets if necessary.
Municipal sources		None available
Wastewater reuse		Not allowed by Condo Covenants
Ditch system		A'wai diversion currently used
Desalinization		Not available.
Ground water		Private well for condominium
Other (specify)		but chlorination will kill fish

in ponds & aquatic life in A'wai (discharge).

**PUBLIC INTEREST**

§174C-2(c) states that: *The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*

Explain below how the uses in your application are consistent with the public interest as described above. Attach additional sheets if necessary.

- \*. I grow minimal traditional Hawai'i crops for home consumption with minimal use of water from A'wai. Ponds require constant flow for aeration. Ponds contain native opae found in A'wai & do not introduce invasive fish to Waikoo River system. I keep guppies & swordtails. Use of potable water in ponds will introduce chlorine into ponds & A'wai via discharge. Photos of crops & ponds attached.

**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**INSTRUCTIONS FOR FILLING OUT FORM SWUPA-E**

This application form is to be used for actual existing uses as of the effective date of designation, April 30, 2008, for the Na Wai Eha Surface Water Management Areas. Based on the State Water Code, Section 174C, Part IV Regulation of Water Use, a completed application must be filed with the Commission on Water Resource Management (CWRM) no later than April 30, 2009, to qualify as an existing use. Failure to meet the filing deadline may cause your application to be considered a new use and require you to file an Application for Surface Water Use Permit for New Use.

If you are applying for a new surface water use, which are proposed uses after the date of designation, please use the Application for Surface Water Use Permit for New Use, Form SWUPA-N.

Information about surface water management areas and the current application forms are available at our website: <http://www.hawaii.gov/dlnr/cwrm/>; by contacting the Stream Protection and Management Branch at 587-0234; or sending an email to: [dlnr.cwrm@hawaii.gov](mailto:dlnr.cwrm@hawaii.gov).

**REQUIREMENTS FOR A COMPLETE APPLICATION** Information must be legible. Therefore, please type or clearly print all information in ink.

- a. Fill in the most recent application form.
- b. Fill in every line on the application.
- c. Enclose a check for the non-refundable filing fee of \$25 payable to: Department of Land and Natural Resources.
- d. Pay for the cost of publishing any required public notices related to your application.
- e. Mark the source and end use locations on the appropriate USGS quad map and TMK map and attach to your application.
- f. Attach photos showing your existing diversion, measuring device (if applicable) and end use areas.
- g. Sign the application form. Both the applicant and the landowner of the source must sign the application form.
- h. Submit one original and 15 copies of the application form; one original and 15 copies of the attachments (instructions, maps, photos and any additional attachments) and filing fee to: Commission on Water Resource Management, P.O. Box 621, Honolulu, HI 96809.

The applicant must establish that the existing use of water is a reasonable and beneficial use. According to §174C-3 of the State Water Code: *"Reasonable-beneficial use" means the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest.*

Furthermore, public interest is described in §174C-2(c) of the State Water Code which states that: *(t)he state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*

**LINE BY LINE INSTRUCTIONS FOR COMPLETING THE APPLICATION FORM**

**APPLICANT INFORMATION**

1. **APPLICANT'S NAME:** Fill in the information for the applicant. This should be the entity that will be responsible for all conditions of the water use permit.
2. **SOURCE LANDOWNER'S NAME:** Fill in the information for the landowner of the property where the existing surface water diversion works is located. *Note:* in accordance with §174C-51(1)(B), in the event a lessee, licensee, developer, or any other person with a terminable interest or estate in the land, which is the water source of the permitted water, applies for a water permit, the landowner shall also be stated as a joint applicant for the water permit.

**EXISTING SOURCE INFORMATION**

3. **SURFACE WATER HYDROLOGIC UNIT AND CODE:** Check the appropriate box for the hydrologic unit name and hydrologic code where the source is located. The "source" is the stream, ditch, or conduit from which water is diverted to the user. For information on hydrologic unit names and unit codes please refer to the *Surface-Water Hydrologic Unit: A Management Tool for Instream Flow Standards* report available on the CWRM website at: <http://www.hawaii.gov/dlnr/cwrm/>, or contact CWRM staff at (808) 587-0234. You may also contact CWRM toll-free from Maui at: 984-2400, ext. 70234.
- 4a. **TMK OF STREAM DIVERSION LOCATION:** Fill in the current Tax Map Key (TMK) number of the parcel where the stream diversion is located if applicable. To find out your TMK number, call Maui County Real Property Tax Division at: (808) 270-7297, or check online at: [www.mauipropertytax.com/](http://www.mauipropertytax.com/)
- 4b. **TMK OF DITCH DIVERSION LOCATION:** Fill in the current Tax Map Key (TMK) number of the parcel where the ditch diversion is located, if applicable.
5. **STREAM DIVERSION:** How is water diverted from the stream to your property? Check the appropriate box(es). Is the diverted water returned to the stream or ditch? Check "Yes" or "No." If yes, enter the amount of water returned.
6. **FLOW MEASUREMENT INFORMATION:** Check "Yes" or "No." If you have a working flowmeter with a totalizer, answer "Yes" to this question, and fill in the date that the flowmeter was installed and any other information you may have (manufacturer, serial number, etc.). A totalizer directly measures the total use for the source (similar to a car's odometer). Otherwise, answer "No" and explain how stream diversion is measured or estimated to justify amounts requested in Table 1

**EXISTING USER INFORMATION**

7. **APPURTENANT RIGHT:** An appurtenant water right is a legally recognized right to a specific amount of surface freshwater – usually from a stream – on the specific property that has that right. This right traces back to the first time the land was converted to fee simple title; i.e., the Great Mahele and the issuance of either a Land Commission Award or Royal Patent. The quantity of water under the appurtenant right is the amount that was being used on the land shortly before or at the time of the Mahele.  
Do you claim an appurtenant right for your water use? Check "Yes" or "No."  
If yes, has your appurtenant right been established by the courts or the Commission? Check "Yes" or "No."
8. **END USER INFORMATION:** Are you an end user on an existing water system? Check "Yes" or "No". If yes, please list the name of the water system operator.
9. **REGISTRATION AND DECLARATION OF WATER USE:** Do you have a Registration and Declaration of Water Use from the Commission? Check "Yes" or "No". If yes, please list the name of the registrant(s).
10. **STREAM DIVERSION WORKS PERMIT (SDWP):** Have you ever been issued a SDWP by the Commission? If yes, please list the permit number(s). Otherwise, check "No."
11. **APPLICANT:** Please sign and print your name, and date your application.
12. **LANDOWNER:** Please sign and print your name, and date your application. The landowner shall be the joint applicant in the event the applicant is a lessee, licensee, developer, or any other person with a terminable interest or estate in the land which is the water source of the permitted water. §174C-51(1)(B)

## SURFACE WATER USE PERMIT APPLICATION EXISTING USE (NA WAI EHA, MAUI)

**TABLE 1: 12-MONTH AVERAGE DAILY USE - Measured or calculated use of water at the source or end use as of the effective date of designation, April 30, 2008.**

Please fill out Table 1 to calculate your existing use as of the effective date of the designation, April 30, 2008, of the Na Wai Eha Surface Water Management Areas. The effective date of designation is the date of the publication of the public notice of the Commission designation action. The qualifying dates have been filled in for this application. Fill in as completely as possible.

The 12-month average is the average daily use<sup>a</sup> of 12 months of consecutive use<sup>b</sup> from the last month<sup>c</sup> of the period.

- a. Average daily use. This is the average daily use for one month in gallons per day (GPD). To calculate this average, take the total use (in gallons) for the month, and divide this amount by the number of days in the month.
- b. 12 months of consecutive use. To calculate the average monthly withdrawal for 12 consecutive months of use, add the average daily use for all 12 months and divide that amount by 12.
- c. Last month. The last month of the period is the effective date of designation, April 30, 2008.

Check only one of the following boxes per row in Table 1:

- Metered – data is based on an operational meter with a totalizer.
- Estimated – data is based on some indirect measurement technique (e.g. measured flow rate multiplied by time of operation).
- Active but unknown – source is active, but there is no means to measure or estimate flow coming from source.
- Inactive – source was not pumped or diverted for the month.
- Other – describe how water use was measured or calculated in this box.

**TABLE 2: LAND USE CONSISTENCY/EFFICIENCY**

1. **PURPOSE / WATER USE CATEGORY:** Choose one of the following purpose or category codes listed below for each row in Table 2. There may be several purpose/categories on a single TMK, and each purpose or category must be listed in a separate row. Attach additional copies if necessary.

<b>AGRICULTURE</b>	
AGRAQ	Aquatic Plants & Animals
AGRCP	Crops & Processing
AGRLI	Livestock & Processing, and Pasture
AGRON	Ornamental & Nursery Plants
AGROTH	Other
<b>DOMESTIC</b>	
DOM	Single & Multi Low-Rise & High-Rise Household
DOMN	Domestic (Non-residential)
DOMNCB	Commercial Businesses
DOMNRI	Religious Institutions
DOMNHOS	Hospitals
DOMNHOT	Hotels
DOMNOB	Office buildings
DOMNOTH	Domestic Non-Residential – Other
DOMNSC	Schools
<b>INDUSTRIAL</b>	
INDEL	Geothermal, Thermoelectric Cooling, Power Development
INDFP	Fire Protection
INDMI	Mining, Dust Control
INDOTH	Industrial – Other
<b>IRRIGATION</b>	
IRRG	Golf Course
IRRHM	Habitat Maintenance
IRRHOT	Hotel
IRRLA	Landscape/Water Features
IRROTH	Other
IRRPC	Parks
IRRSC	Schools
<b>MILITARY</b>	
MIL	Military
<b>MUNICIPAL</b>	
MUNCO	County
MUNPR	Privately owned and operated but defined as a public system by the Department of Health
MUNST	State

2. **USE TMK:** The Tax Map Key number of the parcel over which the water is applied. There should only be one parcel for each line. Also, attach a TMK map(s) for the lots showing the boundaries of irrigated acreage, etc., as well as a photograph of the area of use.
3. **STATE LAND USE DISTRICT:** To find out the current Land Use District, contact the Land Use Commission at 587-3822.
4. **CDUP REQUIRED:** If a Conservation District Use Permit (CDUP) is required, enter either: "Yes" and the date the CDUP was approved if you have a CDUP applicable to this project; or "Yes" and "not acquired" in this box. If a CDUP is not required, enter "N" for no in this box. To check if your parcel is in the Conservation District, contact the Land Use Commission at 587-3822. If your parcel is in a Conservation District, contact the Department of Land and Natural Resources Office of Conservation and Coastal Lands at 587-0328 to find out if a CDUP is required.
5. **COUNTY ZONING CODE:** To find out the Zoning Code for your property, call Maui County Planning Department at 270-6279, or 270-7253.
6. **SMAP REQUIRED:** If a Special Management Area Permit (SMAP) is required for this project, enter either: "Y" and the date SMAP was approved; or "Y" and "not acquired" in this box. If a SMAP is not required, enter "N" for no in this box. To find out if your property is in a Special Management Area and requires an SMAP, call Maui County Planning Department at 270-8205.
7. **QUANTITY OF USE:** Enter the quantity of use in gallons per day (GPD). Justification for the quantities requested may depend on your answers to items 8 and 9, and you should describe the justification in item 10.
8. **SUBMETERED? (Y/N):** If the specific use is submetered, enter "Y" for yes here. If it is not submetered, enter "N" for no. Submetering is specific to each line item.
9. **UNITS OR ACREAGE:** This is the value and category as the basis for calculating the duty. "Duty" is the amount of water used or requested for a "unit" over a specific time period, e.g. gallons per acre per day, or gallons/acre/day. "Unit" can mean dwelling units, or number of people, or animals. Examples to fill in for this category are: 400 dwelling units, 500 people, 3.74 acres.
10. **APPLICANT'S JUSTIFICATION FOR REQUESTED QUANTITY OF USE FOR ITEM 7:** Explain how you are justifying the amount you are requesting. Attach additional sheets if necessary.

**SURFACE WATER USE PERMIT APPLICATION  
EXISTING USE (NA WAI EHA, MAUI)**

**TABLE 3: IRRIGATION INFORMATION**

If you have grown crops in the year prior to the date of designation, please list all the crops (including landscape and golf course irrigation) that you have grown. Enter a single crop and single TMK per line. If you have multiple crops, list them all as separate line items. Attach additional copies of Table 3 if necessary.

1. USE TAX MAP KEY (TMK): Enter the parcel number where the crop is being grown. Attach a map outlining irrigated area(s) and photos.
2. CROP: Enter the crop type.
3. TOTAL ACREAGE: Enter the total acreage of the parcel listed.
4. NET IRRIGATED ACREAGE: Enter the acreage for the specific crop grown.
5. BEGIN GROWTH PERIOD (MONTH): This is the month of the start of the growth cycle. For perennial crops, list the 12<sup>th</sup> month prior to the date of designation.
6. END GROWTH PERIOD (MONTH): This is the month of the end of the growth cycle. For perennial crops, list the month of the date of designation.
7. IRRIGATION SYSTEM: Enter one of the following:
  - TRICKLE, DRIP
  - TRICKLE, SPRAY
  - MULTIPLE SPRINKLERS
  - SPRINKLER, CONTAINER NURSERY
  - SPRINKLER, LARGE GUNS
  - SEEPAGE, SUBIRRIGATION
  - CROWN FLOOD
  - FLOOD (TARO)
  - OTHER – Please describe.
8. IRRIGATION PRACTICE: Enter one of the following:
  - IRRIGATE TO FIELD CAPACITY
  - APPLY A FIXED DEPTH PER IRRIGATION
  - DEFICIT IRRIGATION
  - OTHER – Please describe.

**TABLE 4: ALTERNATIVES ANALYSIS**

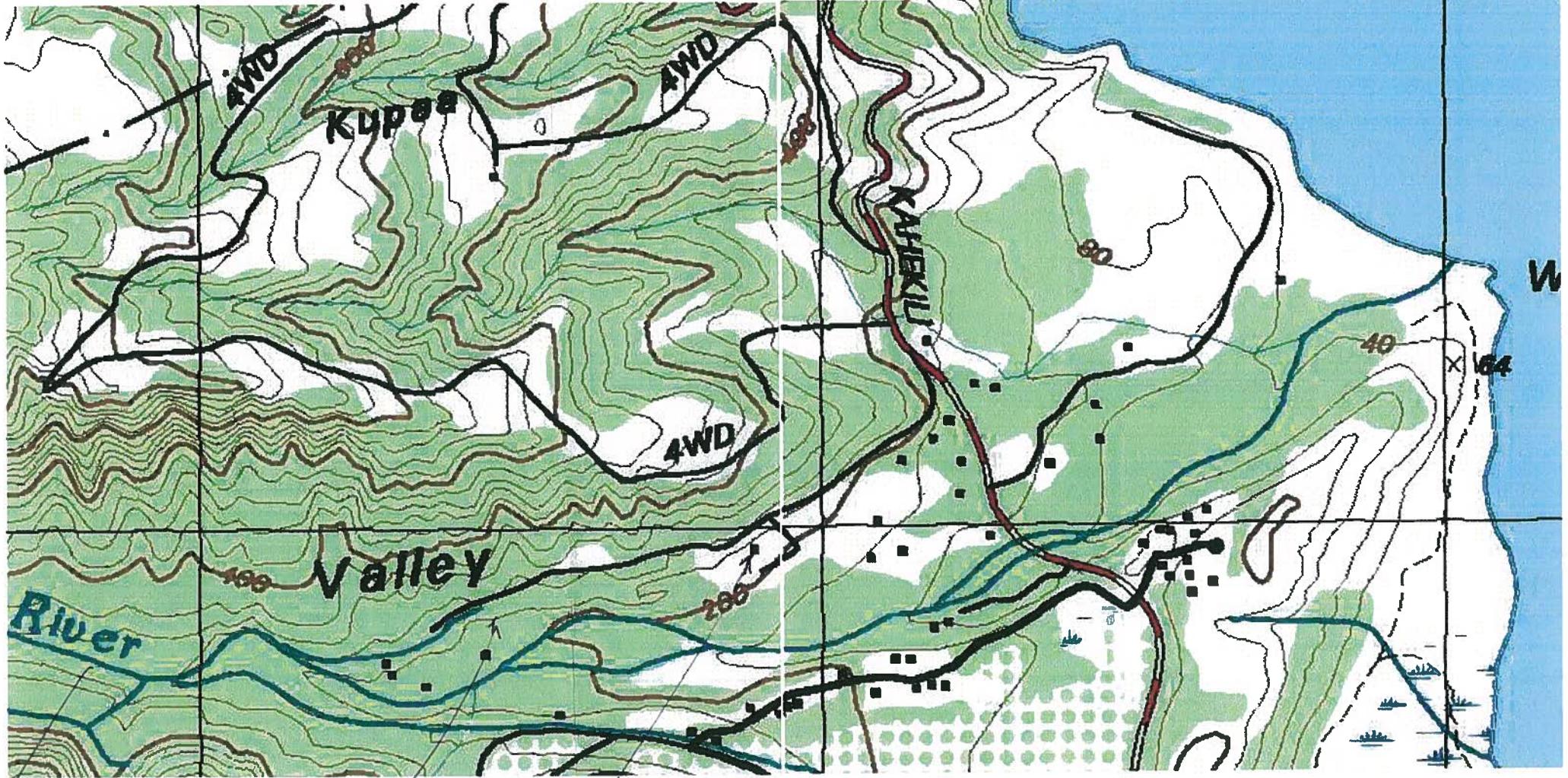
Please address every alternative listed in Table 4 and whether or not they are available, for both potable and non-potable needs. Other alternatives on the last line may include stormwater reclamation, rainwater catchment, etc.

*Surface water is defined in §174C-3 as both contained surface water - that is, water upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other watercourses, lakes, reservoirs, and coastal waters subject to state jurisdiction - and diffused surface water - that is, water occurring upon the surface of the ground other than in contained waterbodies. Water from natural springs is surface water when it exits from the spring onto the earth's surface.*

**PUBLIC INTEREST**

*Explain how the uses in your application are consistent with the public interest as described in §174C-2(c): (t)he state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and industrial uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.*





Waihee River.

A'wai

Home of  
Dr. Pang

Wailuku Quadrangle  
Hawaii-Maui County  
7.5 Minute Series (topographic)  
NIMA 5619 I NE-Series W833  
NIMA 5619 I SE-Series W833

For WUPA application of Dr Lorrin Pang

from USGS website.



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home of Dr.  
Pang

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Optional free GeoPDF Toolbar provides more ways to interact with USGS topo maps.

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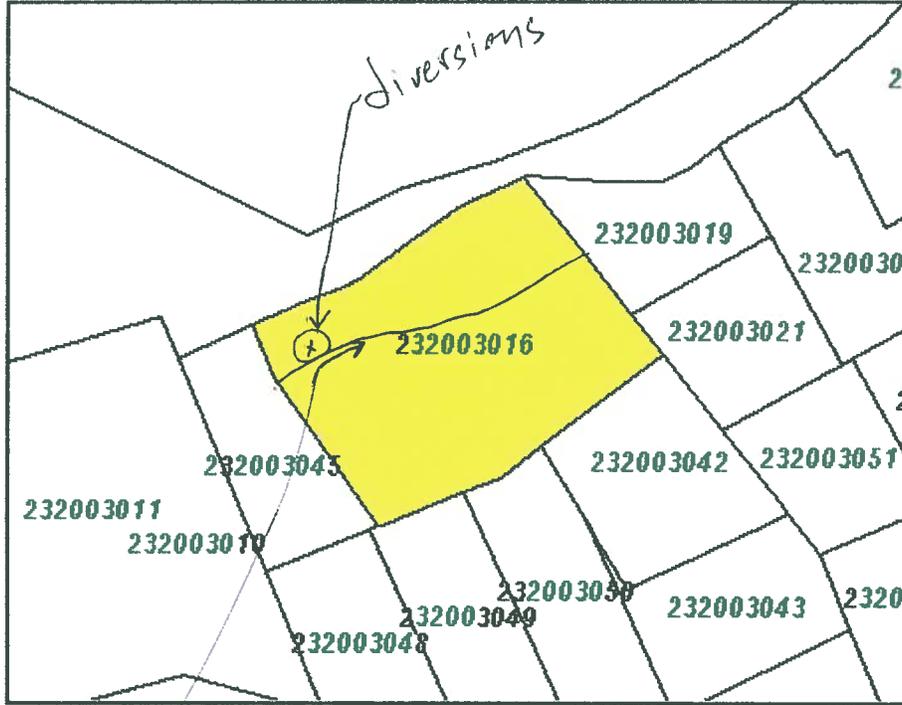
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320030160000

166 RIVER RD



Maui County

TMK for Dr. Pang  
from: Mauipropertytax website

A'wai



fish ponds with water returned to A'wai  
AGRAQ use



diverted water  
returned to A'wai  
AGRAQ use



fish ponds water not returned to A'wai  
AGRAQ use.



Watercross with water returned to A'wai  
AGRAQ use.



AGRCP use - mango + avocado



AGRCP use - squash.



AGRCP use - ti leaf



AGRCP use - coconut



AGRPC use - bananas



AGRPC use. - Avocado + mango



AGRPC use - banana.



AGRPC use breadfruit

← upstream



gravity fed pipe intakes

② pump to 25'  
for 2 hrs/day  
1800 gph.

Diversion  
Intakes on  
mauka border of  
property.