

# OLOWALU WATER COMPANY, INC.

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305 E Wakea Ave., Ste 100  
Kahului, Maui, Hawaii 96732

Phone: (808) 877-4202  
Fax: (808) 877-9409

August 3, 2023

M. Kaleo Manuel  
Deputy Director  
Commission on Water Resource Management  
1151 Punchbowl Street, Suite 227  
Honolulu, HI 96813

Re: Olowalu Water Use Applications  
Olowalu Aquifer System

Dear Deputy Director Manuel:

This letter is submitted with the following water use permits for:

<b>GWUPA-E</b>	<b>Olowalu Elua</b>	<b>6-4936-001</b>
<b>GWUPA-N</b>	<b>Olowalu Elua</b>	<b>6-4936-001</b>
<b>GWUPA-N</b>	<b>OWC 2</b>	<b>requested</b>

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<b>SWUPA-E</b>	<b>Olowalu Stream Lower Intake</b>	<b>961</b>
<b>SWUPA-N</b>	<b>Olowalu Stream Lower Intake</b>	<b>961</b>
<b>GWUPA-E</b>	<b>Olowalu Pump N</b>	<b>6-4937-001</b>
<b>GWUPA-N</b>	<b>Olowalu Pump N</b>	<b>6-4937-001</b>
<b>GWUPA-N</b>	<b>Olowalu Pump O</b>	<b>6-4837-001</b>

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## Olowalu Water Company, Inc. ("OWC") Company Description

Olowalu Water Company Inc. (OWC) is a public water system (PWS 209) regulated by the Hawaii Public Utilities Commission ("PUC")<sup>1</sup> that provides potable and non-potable water service to customers in Olowalu,

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<sup>1</sup> OWC obtained its Certificate of Public Convenience and Necessary (CPCN) to operate as a public utility pursuant to Decision and Order No. 17953 entered on August 7, 2000 in Docket No. 99-0157.

island of Maui. Applicant's customers include private owners who were historically served by Pioneer Mill Ltd. and owners of agricultural and agricultural zoned residential lots. There are currently 65 customers served by OWC's potable water system and 65 customers served with non-potable water including 11 common area HOA meters. OWC's service area of approximately 750 acres is defined by plat TMK 4-8-03.

There are an additional 68 undeveloped lots identified as Authorized Planned TMK's as shown on OWC Schedule A that will require potable water service in the future. This future use will be described in New Use applications to be submitted concurrently with the existing use applications.

#### Potable System

OWC's potable water system consists of ground water taken from the Olowalu Elua well, State Well No. 6-4936-001 ('OWC Well '1) at elevation 204 feet above mean sea level (msl) where it is pumped to an existing 50,000-gallon Tank No. 1 located at an elevation 205 feet msl near the Olowalu Cultural Reserve ('OCR'). There it is chlorinated and then pumped approximately 2,000 feet through 6" HDPE pipe to a 500,000-gallon potable reservoir tank located at 374 feet msl above the Olowalu Mauka subdivision. Distribution of potable and fire protection water to the agricultural lots and a series of fire hydrants is through a system of 12" and 8" PVC waterlines. Below the new subdivisions, the system connects to older sections of the Pioneer Mill system to transport water approximately one mile to the Olowalu Makai areas using 8" schedule 40 PVC and 6" HDPE lines.

#### Non-Potable System

OWC's non-potable water system is a blend of surface and groundwater which consists of a limited amount of surface water sourced from the Olowalu Stream and groundwater pumped from Olowalu Pump N, State Well No. 6-4937-001 ('N Pump'). The Olowalu Stream diversion located at 210 feet msl feeds a stone and concrete lined transmission ditch leading to a non-potable booster pump located near the existing well site at 200 feet msl where, together with groundwater from the Shaft N Pump, the blended non-potable water is pumped via 6" PVC pipe to the upper reservoir at 360 feet msl. From there, the water is filtered and distributed throughout the Olowalu Mauka subdivision in a system of underground PVC pipes and filters. Individual service laterals for the non-potable (irrigation) water are extended from the water source to

each lot. Part of the distribution system includes the existing system formerly used by Pioneer Mill Co. Ltd. for sugar cane irrigation.

#### Interim Instream Flow Standards

OWC's three sources (OWC Well 1, N Pump, and Olowalu Stream) are located in the Olowalu Aquifer System.

In 2018, CWRM established an Interim Instream Flow Standard (IIFS) for the Olowalu Stream, then modified the IIFS in November 2022 as follows:

1. That the interim IFS be amended such that the interim IFS is located immediately below the Lower Olowalu Flume at an elevation of approximately 180 ft, reflecting a change in location from the abandoned USGS station 1664200 at an elevation of 130 ft.
2. That the interim IFS be amended to be 2.5 cubic feet per second (1.62 million gallons per day) reflecting a change in the hydrology of Olowalu Stream.

#### Potable Sources and Requested Amount

OWC Well 1 is OWC's sole source of potable water. OWC has applied for a second well permit for Olowalu Well 2 as a backup well in close proximity to OWC Well 1.

OWC is requesting an existing amount of 78,217 gpd. This amount is based on the 12-month average calculated for OWC's existing use for the 12 months prior to WMA designation as shown on Exhibit 1 to the Olowalu Elua GWUPA. Concurrently, OWC is submitting a proposed new additional use of 28,000 gpd, for a total new and existing use of 106,217 gpd.

The Olowalu Aquifer System has a sustainable yield of 2 mgd. See Staff Submittal dated June 14, 2022. The sum total of OWC's potable water requested amount (0.106 mgd) is approximately 5% of the sustainable yield of the Olowalu Aquifer System.

#### Non-Potable Sources

OWC's distributed non-potable water is a blend of surface and groundwater from two different sources. Groundwater is used as an alternative source when surface water is insufficient to meet demand. Accordingly, the amount of groundwater used to meet existing uses fluctuates, depending on rainfall and the availability of stream flow.

OWC's supply of non-potable water has, until recently, relied solely on surface water from Olowalu Stream.

OWC restored the N Pump skimming well and installed a 500 gpm replacement pump in 2022 to help mitigate fluctuations in availability of surface water. The N Pump was operational for only the last 3 of the 12 months prior to designation of the WMA. Since then, the N Pump has operated continuously, with an average daily pumping of 270,382 gpd for a full 12 months as described in Exhibit 1 of the N Pump GWUPA which is the basis of the existing requested amount for the N-pump. In 2023, work was done to repair leaks at the Olowalu Stream intake, requiring 100% of stream water to remain in the stream. The use of the N-pump as an alternative source allowed customers to continue to receive irrigation water during this period.

#### Olowalu Cultural Reserve

The Olowalu Cultural Reserve (OCR) receives Olowalu stream water directly from the lower stream diversion at no cost outside of OWC's system. OCR's uses include lo'i kalu, diversified Ag crops and native plant nurseries, each with expected future growth dependent on water availability. OWC's SWUPA-E includes a requested amount of 150,000 gpd for OCR which is based on the amount described in Table 8 of the WMA FOF. This amount is excluded from OWC's requested amount but included in the SWUPA for OCR's benefit to preserve their water use and support their mission: To preserve the Native Hawaiian cultural site, the Olowalu valley, located on the island of Maui.

#### Non-Potable Requested Amount

OWC requests the following amounts for its existing non-potable uses: 261,575 gpd from Olowalu Stream and 270,382 gpd from Olowalu Shaft N Pump.

For the existing amount requested from Olowalu Stream, we have used total monthly metered consumption as a proxy for OWC's use of stream water. This is shown as Total Billed Usage on OWC Non-Potable Exhibit 1 of the SWUPA, and as individual use on Exhibit 3: Non-Potable Consumption History By TMK.

The amount requested in the SWUPA-E from Olowalu N Pump is based on a full 12-months' of pumping as described above under *Non Potable Sources* and on Exhibit 1.

### Supply & Demand

A summary of total supply and demand of both potable and non-potable water is shown on Exhibit A: *Olowalu Combined Potable and Non-Potable Supply and Demand* attached hereto.

### Efficiency of the Potable System

The OWC system has four miles of water mains and 550,000 gallons of daily storage, with a daily demand of only 78,000. A single small leak of 30 gallons a minute will lose 43,200 gallons a day; more than half the daily consumption. Small underground leaks are difficult to locate in our 4 mile long system of pipes and can last for months before being found. If a leak takes several days to fix, the losses skew heavily for the month and year.

OWC incurred two substantial line breaks during the 12-month WMA period. The first was a 4" line that serviced a fire hydrant. This supply line was buried under a large amount of vegetation so the leak never surfaced. We identified the problem in February by the observation of excessive daily pumping amounts and ran our leak isolation protocol on March 1, 2022. We were able to isolate the area, and by using the leak detection equipment, we were able to find it. The leak was substantial enough that daily losses from this event weight the averages for the whole year. The second major leak was found in June 2022. A 2" HDPE lateral in the Mauka subdivision was cracked and also contributed significantly to the loss averages.

To assure minimization of water loss, OWC recently conducted a potable water audit with CWRM and DOH. The results of the audit are attached as Exhibit 7 to the GWUPA.

### System Efficiency Protocol

OWC has established several protocols to improve operations and minimize water losses. Daily readings and site inspections with system readings are the initial steps to help management identify potential problems or leaks. Management reviews both the online SCADA information along with the daily field staff reports so that any issues can be addressed swiftly. Office staff is available to receive customer calls on leaks or service-related issues during business hours and after-hours emergency service is available on call, for which common spare parts are inventoried for such repairs. Annually our staff performs a Water loss

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audit with CWRM and DOH that also helps management assess our performance as a system.

Another annual program to help staff with billing efficiency is the meter replacements to the new cellular readable units. Also, upcoming capital improvement projects include a major upgrade to the SCADA system to enable more remote monitoring and less manual operation.

Non-Potable System Efficiency

Recently in the second quarter of 2023, OWC repaired leaks at the diversion underneath the headwall and behind the diversion channel with non-toxic expandable polyurethane foam, and modified the outfall to allow constant instream flow below the diversion even in low flow conditions. OWC also installed a new liner in its upper reservoir with new PVC piping from the diversion to minimize losses.

Please contact me at 808-877-4202 or at [REDACTED] if you have any questions on the use applications.

Regards,  
OLOWALU WATER COMPANY INC.



Glenn Tremble  
Secretary/Treasurer

Attachments

## EXHIBIT A

OLOWALU WATER COMPANY INC  
COMBINED POTABLE AND NON POTABLE  
SUPPLY AND DEMAND

OLOWALU POTABLE AND NON POTABLE WATER USE COMBINED						
SUMMARY OF EXISTING AND REQUESTED USE (Average Gallons Per Day) [1]						
GWUPA	SWUPA-E	Potable or Non Potable	Max GPD based on Pump Capacity or Stream Flow	REQUESTED USE (avg.GPD over 12 months)	EXISTING AVERAGE SOURCE USE for WMA 12 Months (GPD)	COMMENTS
OWC Well 1		Potable	360,000	78,217	78,217	Existing Well 1 is OWC only potable well, pumping about 25% of it's capacity. OWC has applied for a second potable OWC Well 2 as a backup source.
Olowalu Shaft N Pump		Non Potable	720,000	270,382	56,830	N-Pump was only operational for 3 of the 12 month WMA period, but operated continuously thereafter. Requested use covers the event of zero stream water and is based on full 12 month period as shown on OWC Exhibit 1
	Olowalu Stream-OWC	Non Potable	Max that can be stored after IIFS is met	261,575	261,575	Requested Use for OWC is maximum allowed after IIFS is met.
	Olowalu Stream-OCR	Non Potable	N.A.	150,000	27,752	Olowalu Cultural Reserve requested amount is based on CWRM Table 8 of WMA FOF.
	Total Stream Water	Non Potable		411,575	289,327	
TOTAL SOURCE				760,174	424,374	Olowalu Aquifer has a 2.0 MGD Sustainable Yield per CWRM. Other than private wells unknown to applicant, OWC accounts for most all of the Olowalu region's consumption from the Olowalu Aquifer.
[1] Based on data provided in GWUPA and SWUPA-E applications.						
SUMMARY OF EXISTING CONSUMPTION						
Olowalu Water Company		Potable			78,217	See OWC Exhibit 1 for detail
Olowlu Water Company		Non Potable			261,575	See OWC Exhibit 1 for detail
TOTAL CONSUMPTION					339,792	



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
APPLICATION FOR GROUND WATER USE PERMIT

For Official Use Only:

FORM GWUPA

- ☐ New Use  
☐ Modification of WUP No. \_\_\_\_\_  
☒ Existing Use

For detailed instructions on filling out this application form completely, refer to the attached instructions. Incomplete applications will not be accepted for processing.

APPLICANT INFORMATION

1. APPLICANT INFORMATION

Name/Company Olowalu Water Co.  
Contact Person Glenn Tremble

Mailing Address 305 E. Wakea Ave., Ste. 100  
Kahului, HI 96732

Phone (808) 877-4202

Fax

E-mail

2. SOURCE LANDOWNER INFORMATION

Name/Company Olowalu Elua Associates LLC  
Contact Person Peter Martin

Mailing Address 305 E. Wakea Ave., Ste. 100  
Kahului, HI 96732

Phone (808) 877-4202

Fax

E-mail

SOURCE INFORMATION

3. ISLAND Maui

4. AQUIFER SYSTEM AREA Olowalu

4A. SUSTAINABLE YIELD FOR ITEM 4  
2 MGD

5. SOURCE INFORMATION

Attach additional sheets, if necessary.

Well Number (if known)	Well Name	Existing or Proposed?	TMK	Flowmeter installed?
6-4937-001	Olowalu Pump N	Existing	4 - 8 - 003 : 108 zone sector plat parcel	<input checked="" type="checkbox"/> Yes, date installed 6 / 1 / 22 <input type="checkbox"/> No
			zone sector plat parcel	<input type="checkbox"/> Yes, date installed / / <input type="checkbox"/> No
			zone sector plat parcel	<input type="checkbox"/> Yes, date installed / / <input type="checkbox"/> No
			zone sector plat parcel	<input type="checkbox"/> Yes, date installed / / <input type="checkbox"/> No
			zone sector plat parcel	<input type="checkbox"/> Yes, date installed / / <input type="checkbox"/> No
			zone sector plat parcel	<input type="checkbox"/> Yes, date installed / / <input type="checkbox"/> No

USE INFORMATION

6. TOTAL QUANTITY OF WATER REQUESTED: In the space below, enter total from Box M in Item 11 (Table 1) of this application.  
gallons per day, averaged over 1 year 270,382

USE: ☒ Agriculture ☐ Domestic ☐ Industrial  
Check all that apply. ☒ Irrigation ☐ Military ☒ Municipal

8. LOCATION OF WATER USE: Show the location of the use on a map, attached as a .pdf to this application.  
See Item 11 (Table 1, column B) of this application.

**Note 2:** 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. Further, 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 is subject to any existing legal uses, changes in sustainable yields and instream flow standards, reserved uses as defined by the Commission, and Hawaiian Home Lands' future uses; and (3) the applicant is responsible for paying the public notice fees associated with this application. Additionally, as stated in Note 1, above, HRS § 174C-51(1) the landowner shall be the joint applicant in the event the applicant is a lessee, licensee, developer or any person with a terminable interest or estate in the land that is the water source of the permitted water.

9. APPLICANT

Signature  
Glenn Tremble  
Print Name  
8/4/23  
Date

10. SOURCE LANDOWNER/JOINT APPLICANT (if applicable)

Signature  
Peter Martin  
Print Name  
8/4/23  
Date

# USE INFORMATION

11. TABLE 1: LAND USE CONSISTENCY (Attach additional copies, if necessary.)

LAND USE CONSISTENCY						EFFICIENCY OF USE			
A	B	C	D	E	F	G	H	I	J
PURPOSE / WATER USE CATEGORY (See the Instructions for water use category descriptions.)	TMK FOR LOCATION OF USE ATTACH THE FOLLOWING: <ul style="list-style-type: none"> <li>Property tax map, showing location of use referenced to established property boundaries.</li> <li>Photograph of the area of use.</li> </ul>	STATE LAND USE DISTRICT	CDUP REQUIRED? Check the appropriate box and write in the date approved, if applicable.	COUNTY ZONING CODE	SMAP REQUIRED? Check the appropriate box and write in the date approved, if applicable.	UNITS OR NET ACREAGE	GPD/UNIT or GPD/ACRE	QUANTITY OF USE (GPD)	JUSTIFICATION FOR QUANTITY OF WATER REQUESTED (If applicable attach additional sheets showing how the quantity was calculated.) For irrigation uses, fill in Table 2.
USES THAT REQUIRE POTABLE (DRINKING) WATER									
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
TOTAL POTABLE USE								K	GPD
USES THAT DO NOT REQUIRE POTABLE WATER									
MUNPR	<div> <div>4</div> <div>8</div> <div>03</div> <div>Schedule A</div> </div>	AG	<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input checked="" type="checkbox"/> No	AG	<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input checked="" type="checkbox"/> No	150 ac	1,802	270,382	See Exhibit 1 OWC Daily Non Potable Use , Exhibit 2 Consumption History by TMK
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
	<div> <div>zone</div> <div>sector</div> <div>plat</div> <div>parcel</div> </div>		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No		<input type="checkbox"/> Yes, date approved: / / <input type="checkbox"/> Yes, not acquired <input type="checkbox"/> No				
TOTAL NON-POTABLE USE								L 270,382	GPD
TOTAL QUANTITY OF WATER REQUESTED (sum of total potable use and total non-potable use) =								M 270.382	GPD

Please explain if there are any limitations (e.g., legal, contractual) on the proposed water use(s) described in Table 1. Ref. HRS § 174C-51(5).

- [1] OWC's distribution of municipal non-potable water to its customers is legally authorized and regulated by the PUC under the terms of its CPCN granted 9/20/2002 by Order No.20611.
- [2] Pump N had only two months' of full operation during the test period but has operated continuously thereafter. A full 12 month record is provided in Exhibit 1 which is the basis of this Existing Use request for Olowalu Pump N.

USE INFORMATION (continued)

12. TABLE 2: AGRICULTURE/IRRIGATION INFORMATION  
List all crops that will be grown, including landscape and golf course irrigation uses. Copy Table 2 and attach additional sheets to complete your list, if necessary.

A	B	C	D	E	F	G	H	I
TMK FOR LOCATION OF USE ATTACH THE FOLLOWING: <ul style="list-style-type: none"><li>Property tax map with an outline around the area of each irrigation use listed in this table.</li><li>Photograph of the area of each use.</li></ul>	CROP	TOTAL ACREAGE	NET IRRIGATED ACREAGE	BEGIN GROWTH PERIOD (month)	END GROWTH PERIOD (month)	IRRIGATION SYSTEM (refer to instructions)	IRRIGATION PRACTICE (refer to instructions)	COMMENTS (Continue comments below, if more space is needed.)
4 - 8 - 03 : Schedule A zone sector plat parcel	Diversified AG	215	150	N.A.	N.A.	trickle, spray	Deficit Irrigation	Ag uses include nursery, pig farm, Olowalu Cultural Reserve farm and loi, flower farms, banana and other fruits.
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								
zone sector plat parcel								

Comments (continued from Column I). Please clearly indicate the crop (i.e., the row in table) these comments relate to.

Agricultural uses include tree and plant nurseries, orchards, animal husbandry (cow and pig), livestock, lo'i and native plant nursery (Olowalu Cultural Reserve). Irrigation uses include common area landscaping ( grass, ornamentals, street shade trees), lawn and garden landscaping, fire buffer zones, and ground water recharge.

OTHER PERTINENT INFORMATION		
13. TABLE 3: ALTERNATIVES ANALYSIS		
	A. Analysis of <i>potable</i> alternatives Attach additional sheets if necessary.	B. Analysis of <i>non-potable</i> alternatives Attach additional sheets if necessary.
Municipal sources		OWC (PWS #209) is a PUC regulated utility with an approved service area totaling approximately 750 acres. There are no other municipal sources within the Olowalu area and Maui County's Dept. of Water Supply is unable to provide potable or non-potable water service due to its lack of resources on the west side of Maui. Hence, new municipal sources are not an option.
Wastewater reuse		All of OWC's existing customers have installed IWS systems with varying septic tank sizes, such that treatment of effluent for irrigation use is limited to individual leach field design. If the Olowalu service area could be served by the County's wastewater system and R-1 water, reuse of wastewater for irrigation may be possible in the future, but not at the present time.
Ditch system		The ditch system developed by the Pioneer Mill sugar plantation over 100 years ago is still used by OWC for distribution of non-potable water.
Desalinization		Not a reasonable alternative for agricultural use due to high cost to users and requirement for environmentally proper waste disposal of concentrate. Additionally, approximately 35% additional pumping is required to offset R.O. concentrate disposal.
Surface water		Surface water from Olowalu stream is used by OWC for non-potable irrigation use. Due to CRWM's I FS regulation, draught and seasonality of rainfall in this area, stream water alone is insufficient and inconsistent as a year round source of irrigation water. Such shortfalls are made up with pumped ground water from the N-shaft which was restored with a new pump in 2022.
Other		Catchment as an alternative is not practica
14. PUBLIC INTEREST		
<p>§174C-2(C), HRS states: <i>The state water code shall be liberally interpreted to</i>[a] <i>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, [b] 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.</i></p> <p>Explain how the use in your application is consistent with items [a] and [b] above.</p> <p>a) OWC's non-potable surface water is distributed to approximately 65 users for agricultural and irrigation use which is a "beneficial use" as defined by HRS 174C-2(C).</p> <p>b) OWC meets the State's need for "municipal uses", providing potable and non-potable water service to the Olowalu region of Maui that the County of Maui is unable to service. OWC's existing non-potable well, the N-shaft skimming well, is self-contained within a locked concrete tunnel that does not encroach on or disturb other natural resources, fish, wildlife or threatened</p>		
15. KA PA'AKAI ANALYSIS:		
<p>a. Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary Native Hawaiian rights are exercised in this area.</p> <p>See Exhibit 7 KaPa'akai Analysis for Olowalu N Pump</p>		
<p>b. Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.</p> <p>See Exhibit 7 KaPa'akai Analysis for Olowalu N Pump</p>		
<p>c. What feasible action, if any, could be taken to reasonably protect Native Hawaiian rights?</p> <p>See Exhibit 7 KaPa'akai Analysis for Olowalu N Pump</p>		

OTHER PERTINENT INFORMATION

16. INTERFERENCE WITH THE RIGHTS OF THE DEPARTMENT OF HAWAIIAN HOME LANDS  
Explain how the use of water will not interfere with the rights of the Department of Hawaiian Home Lands, as provided in section 221 of the Hawaiian Homes Commission Act.

DHHL does not have a reservation in the Olowalu Aquifer. There are no DHHL lands within OWC's service area which draw from the Olowalu aquifer. Hence. OWC's existing use would not

17. INTERFERENCE WITH ANY EXISTING LEGAL USES  
Explain how the use of water will not interfere with any other existing legal use(s) of water.

OWC's distribution of municipal non-potable water to its customers is legally authorized and regulated by the PUC under the terms of its CPCN granted 9/20/2002 by Order No.20611. Any

18. EFFICIENCY  
☒ If a water conservation plan was prepared, please attach to this application.

☒ If no water conservation plan was prepared, please explain how your use of water will be as efficient as possible.  
Inspection and maintenance of ditches and the diversion to prevent leakage and water loss is done on a regular schedule. OWC is in the process of lining its upper reservoir and upgrading

19. PUBLIC WATER SYSTEM INFORMATION  
Check the appropriate box or boxes.  
☒ PUC-Regulated Private System / ☐ Non-PUC-Regulated Private System / ☐ Not a Public Water System  
☐ Intended dedication to Honolulu Board of Water Supply or to County of Maui, Department of Water Supply.  
☐ If a Level-1 validated AWWA water loss audit was completed, please attach.

20. CHAPTER 343  
This project proposes:  
☐ Use of state or county lands, or use of state or county funds  
☐ Use within a state conservation district  
☐ Use within a shoreline setback area  
☐ Use within a national or Hawaii registered historic site  
☐ Use within the Waikiki Special District  
☐ The construction, expansion or modification of helicopter facility  
☐ A wastewater treatment unit  
☐ Waste-to-energy facility  
☐ Landfill  
☐ Oil refinery  
☐ Power-generating facility  
☒ None of the above 11 items  
☒ If none of the above 11 items are applicable, no 343 compliance is necessary  
☐ An Environmental Assessment was completed, and  
☐ An Environmental Impact Statement was required and has been accepted (attach letter of acceptance). Publication date in The Environmental Notice:  
☐ A Finding of No Significant Impact has been determined (attach letter). Publication date in The Environmental Notice:

21. TABLE 4: 12-MONTH AVERAGE CALCULATION AS OF THE DATE OF DESIGNATION. FOR EXISTING USES ONLY.

MM/YY	AVERAGE DAILY PUMPAGE FOR THE MONTH (GALLONS PER DAY)	Check one per row			
		Metered	Estimated	Active but unknown	Inactive
08/21 - 07/22	See Exhibit 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**INSTRUCTIONS FOR FILLING OUT APPLICATION FOR GROUND WATER USE PERMIT**

This application form is to be used for **both** existing uses in newly designated ground water management areas and proposed new uses, including modifications of existing ground water use permits.

Most questions can be addressed by visiting our website at <http://www.hawaii.gov/dlnr/cwrn> or by contacting the Ground Water Regulation Branch at 587-0225 or by e-mail at [dlnr.cwrn@hawaii.gov](mailto:dlnr.cwrn@hawaii.gov).

The current application form link is here: <https://files.hawaii.gov/dlnr/cwrn/forms/GWUPA.pdf>

**REQUIREMENTS FOR A COMPLETE APPLICATION**

- a. Fill in the most recent application form. An updated fillable PDF can be found at <https://files.hawaii.gov/dlnr/cwrn/forms/GWUPA.pdf>
- b. We require a digital copy to be circulated for review. If you are unable to submit a digital copy, print in ink or type the information on the application form but be aware that there will be delays in processing your application.
- c. E-mail a PDF of the application to [dlnr.cwrn@hawaii.gov](mailto:dlnr.cwrn@hawaii.gov) A check for the non-refundable filing fee of \$25 payable to Department of Land and Natural Resources can be dropped off at 1151 Punchbowl Street, Room 227, Honolulu 96813, or mailed to P.O. Box 621, Honolulu, HI 96809. Please attach a printed copy to this filing fee check. Note that government agencies as applicants are not required to pay this filing fee.
- d. The applicant is responsible for paying the cost of publishing any required public notices associated with this application, and unlike the application fee, government agencies are *not* exempt from this. The cost for public notices is approximately \$1000.00. Commission staff will pay this fee up front and will provide instructions later regarding your reimbursement of this cost. Failure to reimburse the Commission will result in non-action on your water use permit application.
- e. Attach photos showing the well source(s), meter(s) (if applicable), and end use area(s).
- f. The water user and the landowner of the source location (“source landowner”) must sign the application form.

**INSTRUCTIONS FOR COMPLETING THE APPLICATION FORM**

**PAGE 1**

**APPLICANT INFORMATION**

In accordance with the Hawaii Water Code, both the applicant and the person who owns the property where the water source is located are required to apply for a water use permit. §174C-51(1)(B), HRS, states, *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 INFORMATION** Fill in the applicant’s contact information. This should be the person who will be responsible for all conditions of the water use permit. If this is for multiple sources and it doesn’t fit on the table, please attach a separate sheet listing these sources.
- 2. **SOURCE LANDOWNER INFORMATION** Fill in the information for the landowner of the property where the proposed ground water source (e.g., well, modified spring, tunnel, shaft, etc.) is located. If this is for multiple sources and different landowners, please attach a separate sheet listing these landowners and their acknowledgement regarding this application.

**SOURCE INFORMATION**

- 3. **ISLAND** Indicate the island on which the source is located.
- 4. **AQUIFER SYSTEM AREA** The name of the aquifer system area where the source is located. <https://dlnr.hawaii.gov/cwrn/info/maps/>
- 4A. **SUSTAINABLE YIELD** The sustainable yield for the aquifer system area.
- 5. **SOURCE INFORMATION**
  - **WELL NUMBER** If the source already has a state-assigned well number, enter the state well number here.
  - **WELL NAME** If the source has a name, enter the name here. Otherwise, assign a short name that will differentiate it from other wells. This should be the same as the name listed on the accompanying well construction / pump installation permit application, where applicable.
  - **SOURCE TMK** Fill in the current Tax Map Key number of the parcel on which the source resides.
  - **FLOWMETER INFORMATION** You must have a flowmeter to accurately indicate that your water usage is in compliance with your proposed approved allocation. Check either “Yes” or “No.” If you answer “Yes,” write in the date the flowmeter was installed month/day/year in the space provided. The definition of a working flowmeter is a water meter with a totalizer that gives the total quantity of water used from a source.

**WATER USE INFORMATION**

- 6. **TOTAL QUANTITY OF WATER REQUESTED** Enter the amount of water requested as gallons per day (GPD) averaged over one year from Box M of Table 1.
- 7. **USE(S)** Check all the boxes that apply for the use. Refer to the instructions for Table 1: Land Use Consistency/Efficiency of Use, Item 1: Purpose/Water Use Category below to determine which water use categories to use.
- 8. **LOCATION OF WATER USE(S)** Show the location of the use on a map. This is essential for agricultural uses and will be attached to your water use permit, if approved.

**APPLICANT SIGNATURES REQUIRED**

- 9. **APPLICANT** The applicant must sign and date the application.
- 10. **SOURCE LANDOWNER** The source landowner must also sign and date the application.

**PAGE 2**

**USE INFORMATION**

**Note that you will need to fill out each section for potable and non-potable needs separately. This means that even though your source is defined as potable, you may have end use needs that don’t require potable water, such as landscape irrigation. This will help the Commission determine whether or not non-potable alternatives are available for your non-potable needs.**

- 11. **Table 1: USE INFORMATION** Provide information on all of the uses you are applying for or seeking to modify to. In the space provided below the table or on a separate sheet, explain whether there are any limitations [e.g., a contract or other legal agreement(s)] on your water use(s), as required by §174C-51(5), HRS.

**A. PURPOSE / WATER USE CATEGORY** For each purpose of use, choose one of the categories listed in the table below and enter the appropriate code in the space provided (e.g., AGRAQ, IRRGC, etc.)

<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>IRRIGATION</b> IRRGC      Golf Course IRRHM      Habitat Maintenance IRRHOT      Hotel IRRLA      Landscape/Water Features IRROTH      Other IRRPCA      Parks IRRSC      Schools	<b>INDUSTRIAL</b> INDEL      Geothermal, Thermoelectric Cooling, Power Development INDFP      Fire Protection INDMI      Mining, Dust Control INDOTH     Industrial – Other
<b>MILITARY</b> MIL        Military	<b>MUNICIPAL</b> MUNCO     County MUNPR     Privately-owned but defined as public water system by MUNST     DOH State

- B. USE TMK** Enter the tax map key (TMK) number for the parcel of land over which the use is applied. There should only be one parcel for each line. Also, attach:
- C. STATE LAND USE DISTRICT** Write in the name of the current land use district. To find the Land Use District, contact the Land Use Commission at (808) 587-3822.
- D. CDUP REQUIRED?** Check the appropriate box. If a Conservation District Use Permit (CDUP) is required and you have a CDUP applicable to this project, check “Yes” and write in the date approved in the space provided (month/day/year). If your parcel is in a conservation district, as indicated in Column C of this table, contact the Office of Conservation and Coastal Lands at (808) 587-0328 to find out if a CDUP is required.
- E. COUNTY ZONING CODE** To find out the County Zoning Code for Oahu, contact the City and County of Honolulu at 768-8041. For Maui County, contact at 270-7253.
- F. SMAP REQUIRED?** Check the appropriate box. If a Special Management Area Permit (SMAP) is required, and you have an SMAP applicable to this project, check “Yes” and write in the date approved in the space provided (month/day/year). To find out if your parcel is in a Special Management Area and requires an SMAP, for Oahu contact the City and County of Honolulu Department of Planning and Permitting or for Maui County contact the Planning Department.
- G. UNITS or NET ACREAGE** This is the total number of units or the net number of acres as a basis for calculating your requested allocation. “Unit” can mean a dwelling unit, number of people, acres, number of animals, etc. Some examples of units or acreages to enter in this column would be 400 dwelling units, 500 people, or 3.74 acres.
- H. GPD/UNIT or GPD/ACRE** (GPD = gallons per day) Enter the gallons per day per unit (GPD/unit) or gallons per day per acre (GPD/acre) for each water use category listed in Column A.
- I. QUANTITY OF USE** Enter the quantity of water use in gallons per day (GPD). Justification (see Column J) for the quantity requested may depend on the information provided in columns G and H of this table.
- J. JUSTIFICATION FOR QUANTITY OF WATER REQUESTED** Explain how you are justifying the quantity of water requested for each use, in Column I of this table. Attach additional sheets, if necessary, showing how the proposed quantity was calculated. For all proposed irrigation uses, you are required to also complete Item 12 (Table 2) of the application.
- K. TOTAL POTABLE USE NEEDS** Add the quantities listed in the Column I for proposed potable water use. Enter the total quantity in gallons per day (GPD) in Box K.
- L. TOTAL NON-POTABLE USE NEEDS** Add the quantities listed in Column I for proposed uses that do not require potable water. Enter the total quantity of proposed non-potable water use in gallons per day (GPD) in Box L.
- M. TOTAL QUANTITY OF WATER REQUESTED** Add the totals in Box K and Box L, and enter the sum in Box M. The quantity in Box M should be the same as the amount entered under Item 6 on the page 1 of the application.

**PAGE 3**

**12. TABLE 2: AGRICULTURE/IRRIGATION INFORMATION**

On Table 2, provide the information requested for all of the plant types or other needs such as aquaculture, etc. Enter only one plant and one parcel number (TMK) per line. For multiple crops, list each one as a separate line item. All uses you are applying for must be listed. Attach additional copies of Table 2, if necessary.

- A. TMK FOR LOCATION OF USE** Enter the parcel number where the crop is/will be grown. Also, attach a map with an outline around the area(s) of use(s) and a photograph of each area of proposed use.
- B. CROP** Enter the crop type
- C. TOTAL ACREAGE** Enter the total acreage of the parcel listed.
- D. NET IRRIGATED ACREAGE** Enter the acreage that the specific crop will be grown.
- E. BEGIN GROWTH PERIOD (MONTH)** This is the month of the start of the growth cycle.
- F. END GROWTH PERIOD (MONTH)** This is the month of the end of the growth cycle.
- G. 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 in the space provided for comments (Column I and/or below the table).

- H. IRRIGATION PRACTICE** Enter one of the following:  
IRRIGATE TO FIELD CAPACITY  
APPLY A FIXED DEPTH PER IRRIGATION  
DEFICIT IRRIGATION  
OTHER – Please describe in the space provided for comments (Column I and/or below the table).

**PAGE 4**

**13. TABLE 3: ALTERNATIVES ANALYSIS**

You should address every alternative and explain why each alternative is or is not available for your potable and non-potable water needs. Note that simple “not available” answers are not acceptable. If the alternative is not feasible, please explain.

**Municipal sources** Please contact your County’s Department of Water Supply to identify if a municipal source is available to supply water to your area of need.

**Wastewater reuse** Please contact your County’s Wastewater Division to identify if reuse water is available to supply water to your area of need.

**Ditch system** Please identify whether a ditch system is available to supply water to your area of need. You can contact the Department of Agriculture, but you should also identify private ditch systems and the availability of that source as well.

**Desalinization** Please explain why drilling a well deeper or finding an alternative source of saline water and desalinizing is not a feasible alternative.

**Surface water** is defined in §174C-3, HRS 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.*

**Other** Other alternatives may include stormwater reclamation, rainwater catchment, or other alternatives not already listed above.

**14. PUBLIC INTEREST**

Explain in the space provided or on a separate sheet why the use(s) on your application are consistent with the public interest.

**15. KA PA’AKAI ANALYSIS**

In the case of Ka Pa’akai O Ka’Aina vs. the Land Use Commission, State of Hawaii, it was determined that an analysis must be conducted for the following items:

- a. The identification and scope of cultural, historical, and natural resources in which traditional and customary Native Hawaiian rights are exercised in the area.
- b. The identification of the extent to which those resources listed in item a., including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.
- c. The determination of the feasible action, if any, that could be taken to reasonably protect Native Hawaiian rights.

**PAGE 5**

**16. INTERFERENCE WITH THE RIGHTS OF THE DEPARTMENT OF HAWAIIAN HOME LANDS**

Explain in the space provided or on a separate sheet how the use(s) of water will not interfere with the rights of the Department of Hawaiian Home Lands, as provided in section 221 of the Hawaiian Homes Commission Act. To inquire about potential interference, you may contact the Department of Hawaiian Home Lands main line at 620-9500, or the DHHL Planning Office at 620-9480. You may also visit their website at [dhhl.hawaii.gov](http://dhhl.hawaii.gov), where you can review DHHL’s Island Plans, Regional Plans, and their Water Policy Plan.

The State Water Code in §174C-101(a), HRS [Native Hawaiian water rights], states: *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.*

**17. INTERFERENCE WITH ANY EXISTING LEGAL USES**

Explain in the space provided or on a separate sheet how the use(s) of water will not interfere with any other existing legal use(s) of water.

**18. EFFICIENCY**

A **conservation plan** should describe any conservation measures that will be used to ensure that your water use is or will be efficient, and is different from a water shortage plan. Conservation measures may include, but are not limited to, water reuse or recycling systems, monitoring the water distribution system for pressure drops that are indicative of leaks or line breaks, or use of drought-tolerant and xeriscape landscape plants.

**19. PUBLIC WATER SYSTEM INFORMATION**

Check the appropriate box or boxes relating to your water system.

20. **CHAPTER 343** If an Environmental Assessment was completed, fill in the dates of publication and acceptance. For additional information about the proposed uses checkboxes, refer to [http://luc.state.hi.us/docs/hrs\\_343.pdf](http://luc.state.hi.us/docs/hrs_343.pdf)
21. **TABLE 4: 12-MONTH MOVING AVERAGE CALCULATION AS OF THE DATE OF DESIGNATION. FOR EXISTING USES ONLY.**
- For existing use permit applications, list the pumpage for the 12 months prior to designation. Also identify how that measurement was taken.

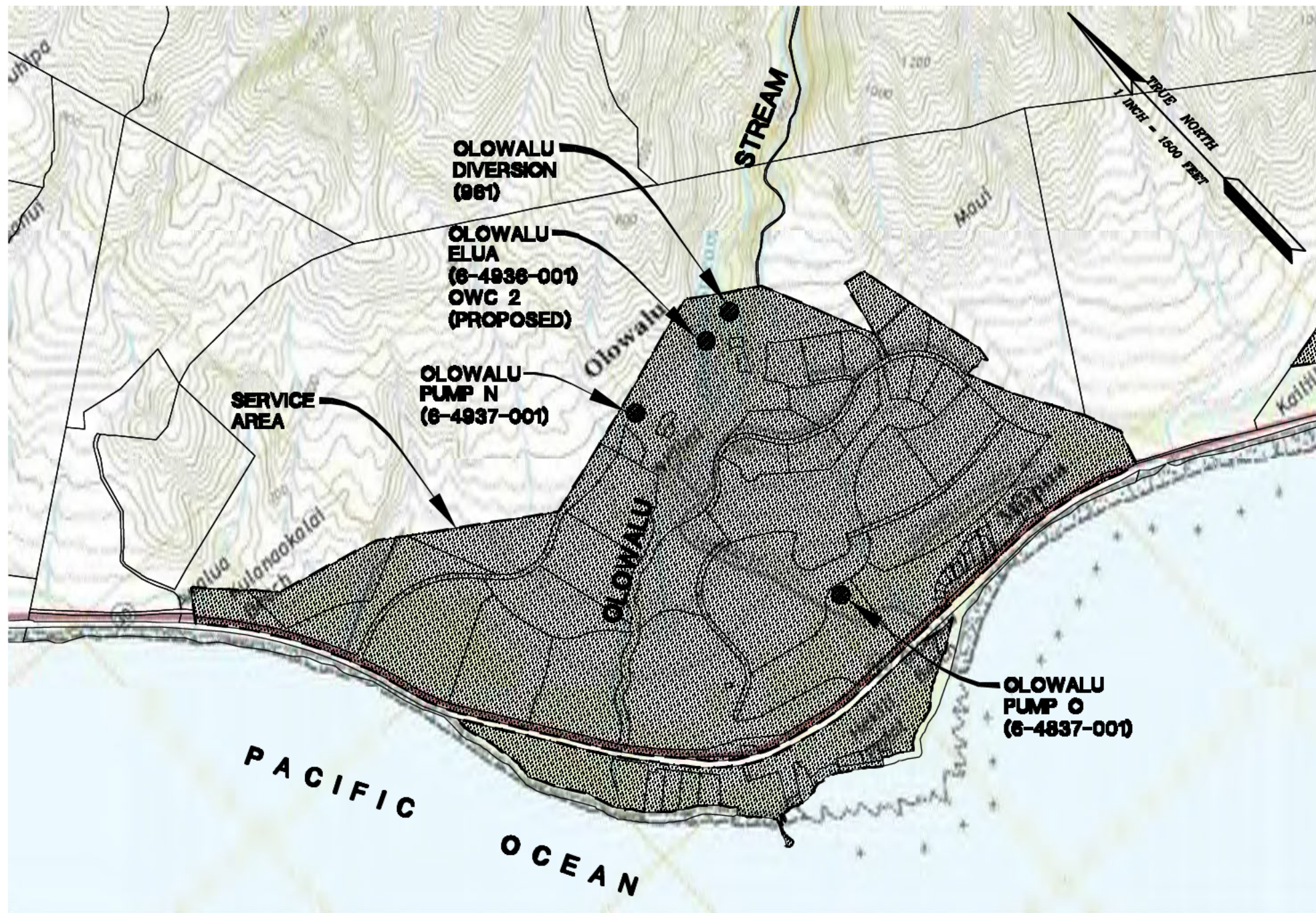
## EXHIBIT 1

## OWC DAILY NON POTABLE USE

OLOWALU WATER COMPANY LLC						
AVERAGE DAILY NON POTABLE USE (12 Mo Prior To WMA)						
MM/YY	Total Billed Usage (gal)	Losses and Unmetered Use (12%)	Total Surface Water Usage (gal)	N-Shaft Pumped Ground Water [1] (gal)	Total Monthly Surface Water Non Potable (gal)	Metered
08/21	7,265,658	871,879	8,137,537		8,137,537	Yes
09/21	7,090,550	850,866	7,941,416		7,941,416	Yes
10/21	7,545,067	905,408	8,450,475		8,450,475	Yes
11/21	7,694,077	923,289	8,617,366		8,617,366	Yes
12/21	6,660,009	799,201	7,459,210		7,459,210	Yes
01/22	6,695,160	803,419	7,498,579		7,498,579	Yes
02/22	6,779,010	813,481	7,592,491		7,592,491	Yes
03/22	7,375,963	885,116	8,261,079		8,261,079	Yes
04/22	7,176,860	861,223	8,038,083		8,038,083	Yes
05/22	8,216,004	985,920	9,201,924	(35,234)	9,166,690	Yes
06/22	7,806,749	936,810	8,743,559	(3,216,566)	5,526,993	Yes
07/22	8,495,920	1,019,510	9,515,430	(730,500)	8,784,930	Yes
Total	88,801,027	11,505,715	100,306,742	(3,982,300)	95,474,850	
Average	7,400,086	958,810	8,358,895	(402,657)	7,956,238	
OWC AVERAGE DAILY NON POTABLE STREAM USE (GPD)					261,575	
OLOWALU CULTURAL RESERVE (Requested) GPD [2]					150,000	
TOTAL AVERAGE DAILY STREAM USE REQUESTED					411,575	
TOTAL NON POTABLE WATER REQUESTED			Month	N Pump Pumping [1]		
SURFACE	411,575		Jun-22	3,216,566		
GROUND	270,382		Jul-22	730,500		
TOTAL	681,956		Aug-22	3,688,700		
			Sep-22	3,972,000		
			Oct-22	17,227,200		
			Nov-22	11,301,800		
			Dec-22	9,003,400		
			Jan-23	12,205,000		
			Feb-23	5,970,800		
			Mar-23	7,128,100		
			Apr-23	11,992,700		
			May-23	12,252,500		
		Total Annual Pumping		98,689,266		
Total Avg. Daily Ground Use Requested (GPD)				270,382		
Notes:						
[1] Pump N only had 70 days of Operation during the test period, but has operated continuously thereafter due to decreased surface water diversion. A full 12 month record is provided above and is the basis of our existing use request for Pump N.						
[2] Allowance for Olowalu Cultural Reserve estimated based on 0.15 mgd per Table 8 of the WMA FOF. Their actual use during the WMA period is shown on Exhibit 2 .						

OWC ATTACHMENT GWUPA E : #8  
EXHIBIT 6





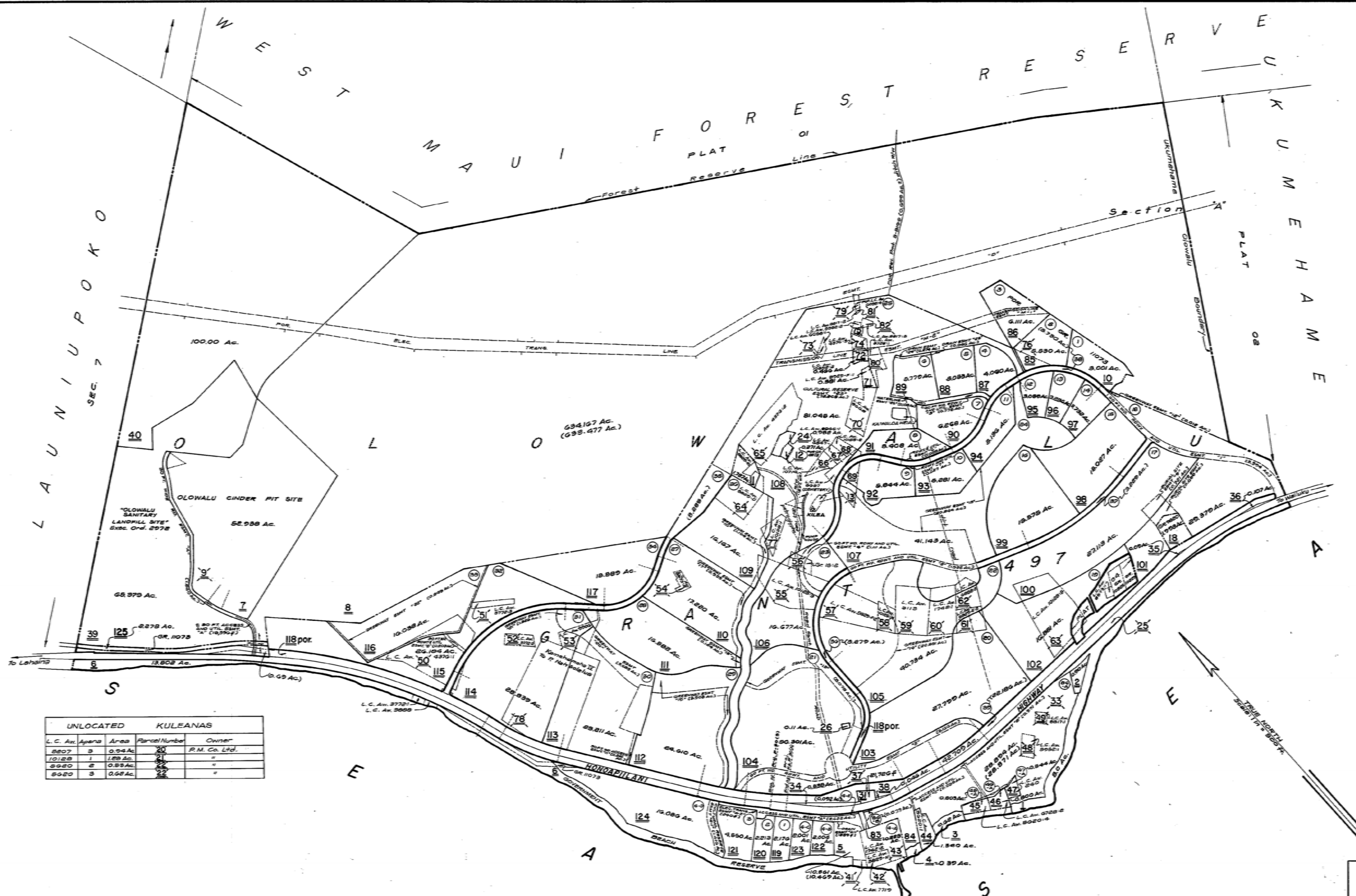
0 1500 3000 4500 6000  
SCALE: 1 INCH = 1500 FEET

ATTACHMENT SWUPA-E 9, SWUPA-N 11, GWUPA 8  
USGS - OLOWALU QUAD/TMK MAP  
LOWALU STREAM

SOURCE: TAX MAPS BUREAU &amp; SURVEY DEPARTMENT

BY GTS/ECB  
8/1/14RETRACED APRIL 23, 2005  
DATE: MAY 1934

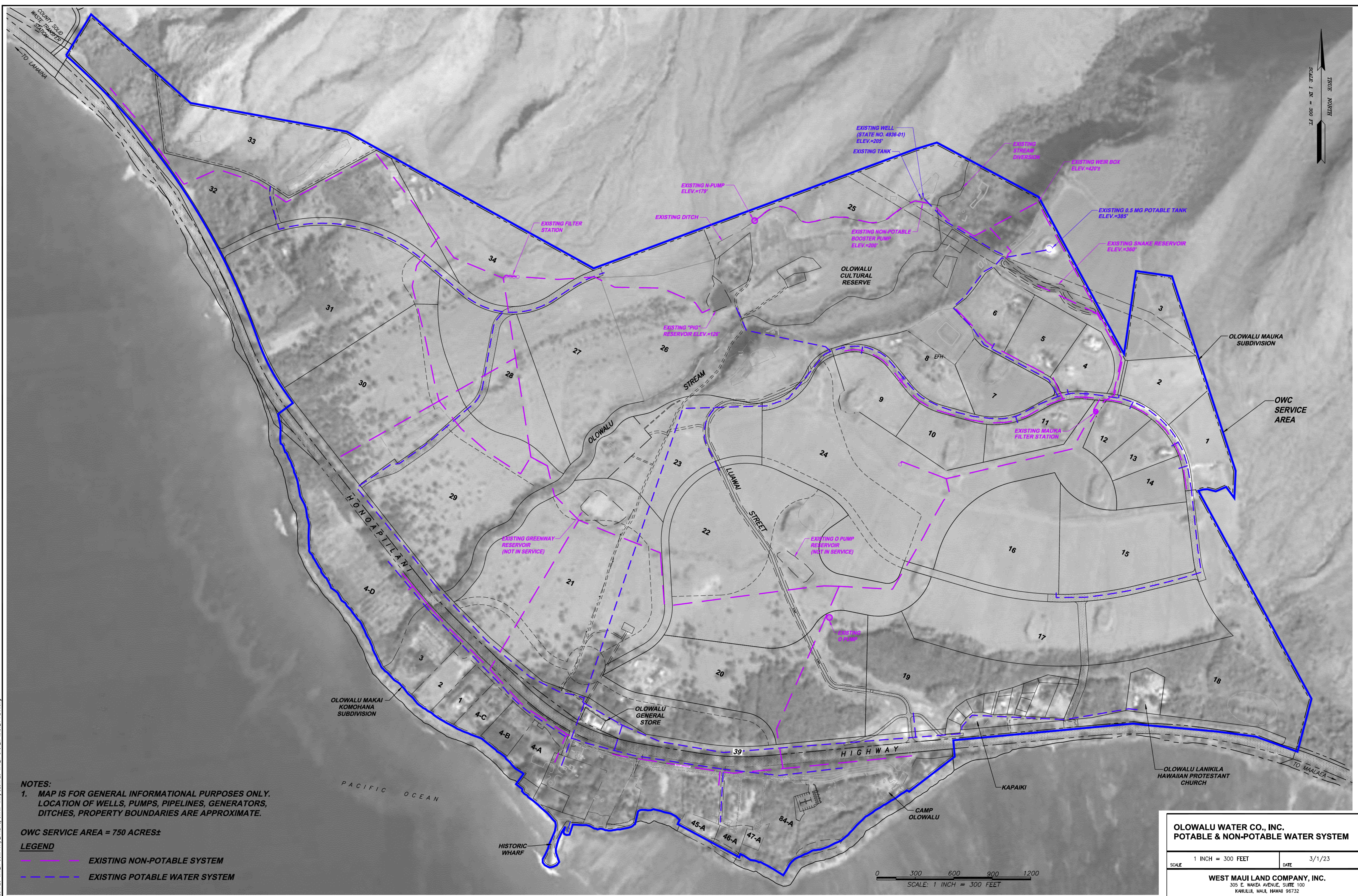
DWG NO. 2021



PIONEER MILL PLANTATION, OLOWALU, MAUI.

FOR PROPERTY ASSESSMENT PURPOSES - SUBJECT TO CHANGE

DEPARTMENT OF FINANCE PROPERTY ASSESSMENT DIVISION MAPPING BRANCH STATE OF HAWAII TAX MAP		
COUNTY OF MAUI		
ZONE	SECTION	PLAT
4	8	03
SCALE: 1 IN = 500 FT.		



**NOTES:**  
1. MAP IS FOR GENERAL INFORMATIONAL PURPOSES ONLY. LOCATION OF WELLS, PUMPS, PIPELINES, GENERATORS, DITCHES, PROPERTY BOUNDARIES ARE APPROXIMATE.

OWC SERVICE AREA = 750 ACRES±

**LEGEND**

- EXISTING NON-POTABLE SYSTEM
- EXISTING POTABLE WATER SYSTEM

**LOWALU WATER CO., INC.  
POTABLE & NON-POTABLE WATER SYSTEM**

SCALE 1 INCH = 300 FEET	DATE 3/1/23
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**WEST MAUI LAND COMPANY, INC.**  
305 E. WAKEA AVENUE, SUITE 100  
KAHULUI, MAUI, HAWAII 96732

Attachment to GWUPA: #11 Table 1 (I)  
SWUPA-E: #16 Table 1 (B)  
#17 Table 2 (B.G.I)

Limited to : Active Company  
Code Filters:

8/1/2023 12:31 PM

EXHIBIT 3

Attachment to GWUPA: #11 Table 1 (I)  
SWUPA-E: #16 Table 1 (B)  
#17 Table 2 (B.G.I)

480030890001												
IRRIGATION USAGE	9/1/2021	NPW	gal	15386976	1" METER	3,457,578.00	8/2/2021	3,780,603 00	9/1/2021	323,025.00	0.00	323,025 00
IRRIGATION USAGE	10/1/2021	NPW	gal	15386976	1" METER	3,780,603.00	9/1/2021	4,056,296 00	10/1/2021	275,693.00	0.00	275,693 00
IRRIGATION USAGE	11/1/2021	NPW	gal	15386976	1" METER	4,056,296.00	10/1/2021	4,509,397 00	11/1/2021	453,101.00	0.00	453,101 00
IRRIGATION USAGE	12/1/2021	NPW	gal	15386976	1" METER	4,509,397.00	11/1/2021	5,159,919 00	12/1/2021	650,522.00	0.00	650,522 00
IRRIGATION USAGE	12/31/2021	NPW	gal	15386976	1" METER	5,159,919.00	12/1/2021	5,264,641 00	12/31/2021	104,722.00	0.00	104,722 00
IRRIGATION USAGE	2/1/2022	NPW	gal	15386976	1" METER	5,264,641.00	12/31/2021	5,901,805 00	2/1/2022	637,164.00	0.00	637,164 00
IRRIGATION USAGE	3/1/2022	NPW	gal	15386976	1" METER	5,901,805.00	2/1/2022	6,108,620 00	3/1/2022	206,815.00	0.00	206,815 00
IRRIGATION USAGE	4/1/2022	NPW	gal	15386976	1" METER	6,108,620.00	3/1/2022	6,302,072 00	4/1/2022	193,452.00	0.00	193,452 00
IRRIGATION USAGE	5/2/2022	NPW	gal	15386976	1" METER	6,302,072.00	4/1/2022	6,448,685 00	5/2/2022	146,613.00	0.00	146,613 00
IRRIGATION USAGE	6/1/2022	NPW	gal	15386976	1" METER	6,448,685.00	5/2/2022	6,639,397 00	6/1/2022	190,712.00	0.00	190,712 00
IRRIGATION USAGE	7/1/2022	NPW	gal	15386976	1" METER	6,639,397.00	6/1/2022	6,814,259 00	7/1/2022	174,862.00	0.00	174,862 00
IRRIGATION USAGE	8/1/2022	NPW	gal	15386976	1" METER	6,814,259.00	7/1/2022	7,000,741 00	8/1/2022	186,482.00	0.00	186,482 00

3,543,163.00

480030890002												
IRRIGATION USAGE	9/1/2021	NPW	gal	18885036	1 1/2" METER	2,006,650.00	8/2/2021	2,225,182 00	9/1/2021	218,532.00	0.00	218,532 00
IRRIGATION USAGE	10/1/2021	NPW	gal	18885036	1 1/2" METER	2,225,182.00	9/1/2021	2,422,575 00	10/1/2021	197,393.00	0.00	197,393 00
IRRIGATION USAGE	11/1/2021	NPW	gal	18885036	1 1/2" METER	2,422,575.00	10/1/2021	2,631,772 00	11/2/2021	209,197.00	0.00	209,197 00
IRRIGATION USAGE	12/1/2021	NPW	gal	18885036	1 1/2" METER	2,631,772.00	11/2/2021	2,750,859 00	12/1/2021	119,087.00	0.00	119,087 00
IRRIGATION USAGE	12/31/2021	NPW	gal	18885036	1 1/2" METER	2,750,859.00	12/1/2021	2,784,143 00	12/31/2021	33,284.00	0.00	33,284 00
IRRIGATION USAGE	2/1/2022	NPW	gal	18885036	1 1/2" METER	2,784,143.00	12/31/2021	2,882,529 00	2/1/2022	98,386.00	0.00	98,386 00
IRRIGATION USAGE	3/1/2022	NPW	gal	18885036	1 1/2" METER	2,882,529.00	2/1/2022	3,022,017 00	3/1/2022	139,488.00	0.00	139,488 00
IRRIGATION USAGE	4/1/2022	NPW	gal	18885036	1 1/2" METER	3,022,017.00	3/1/2022	3,192,030 00	4/2/2022	170,013.00	0.00	170,013 00
IRRIGATION USAGE	5/2/2022	NPW	gal	18885036	1 1/2" METER	3,192,030.00	4/2/2022	3,338,970 00	5/2/2022	146,940.00	0.00	146,940 00
IRRIGATION USAGE	6/1/2022	NPW	gal	18885036	1 1/2" METER	3,338,970.00	5/2/2022	3,479,533 00	6/1/2022	140,563.00	0.00	140,563 00
IRRIGATION USAGE	7/1/2022	NPW	gal	18885036	1 1/2" METER	3,479,533.00	6/1/2022	3,617,024 00	7/1/2022	137,491.00	0.00	137,491 00
IRRIGATION USAGE	8/1/2022	NPW	gal	18885036	1 1/2" METER	3,617,024.00	7/1/2022	3,771,511 00	8/1/2022	154,487.00	0.00	154,487 00

1,764,861.00

480030900000												
IRRIGATION USAGE	9/1/2021	NPW	gal	85925390M	1" METER	7,562,714.00	8/2/2021	7,756,636 00	9/1/2021	193,922.00	0.00	193,922 00
IRRIGATION USAGE	10/1/2021	NPW	gal	85925390M	1" METER	7,756,636.00	9/1/2021	7,938,341 00	10/1/2021	181,705.00	0.00	181,705 00
IRRIGATION USAGE	11/1/2021	NPW	gal	85925390M	1" METER	7,938,341.00	10/1/2021	8,144,186 00	11/1/2021	205,845.00	0.00	205,845 00
IRRIGATION USAGE	12/1/2021	NPW	gal	85925390M	1" METER	8,144,186.00	11/1/2021	8,350,121 00	12/1/2021	205,935.00	0.00	205,935 00
IRRIGATION USAGE	12/31/2021	NPW	gal	85925390M	1" METER	8,350,121.00	12/1/2021	8,452,968 00	12/31/2021	102,847.00	0.00	102,847 00
IRRIGATION USAGE	2/1/2022	NPW	gal	85925390M	1" METER	8,452,968.00	12/31/2021	8,643,126 00	2/1/2022	190,158.00	0.00	190,158 00
IRRIGATION USAGE	3/1/2022	NPW	gal	85925390M	1" METER	8,643,126.00	2/1/2022	8,830,390 00	3/1/2022	187,264.00	0.00	187,264 00
IRRIGATION USAGE	4/1/2022	NPW	gal	85925390M	1" METER	8,830,390.00	3/1/2022	9,003,061 00	4/1/2022	172,671.00	0.00	172,671 00
IRRIGATION USAGE	5/2/2022	NPW	gal	85925390M	1" METER	9,003,061.00	4/1/2022	9,198,518 00	5/2/2022	195,457.00	0.00	195,457 00
IRRIGATION USAGE	5/18/2022	NPW	gal	85925390M	1" METER	9,198,518.00	5/2/2022	9,265,820 00	5/13/2022	67,302.00	0.00	67,302 00

1,703,106.00

480030900000												
IRRIGATION USAGE	6/1/2022	NPW	gal	85925390M	1" METER	9,265,820.00	5/13/2022	9,384,718 00	6/1/2022	118,898.00	0.00	118,898 00
IRRIGATION USAGE	7/1/2022	NPW	gal	85925390M	1" METER	9,384,718.00	6/1/2022	9,603,030 00	7/1/2022	218,312.00	0.00	218,312 00
IRRIGATION USAGE	8/1/2022	NPW	gal	85925390M	1" METER	9,603,030.00	7/1/2022	9,805,795 00	8/1/2022	202,765.00	0.00	202,765 00

539,975.00

480031140000												
IRRIGATION USAGE	9/1/2021	NPW	gal	4367727	1" METER	8,454,927.00	8/2/2021	8,674,996 00	9/1/2021	220,069.00	0.00	220,069 00
IRRIGATION USAGE	10/1/2021	NPW	gal	4367727	1" METER	8,674,996.00	9/1/2021	9,019,056 00	10/1/2021	344,060.00	0.00	344,060 00
IRRIGATION USAGE	11/1/2021	NPW	gal	4367727	1" METER	9,019,056.00	10/1/2021	9,339,761 00	11/1/2021	320,705.00	0.00	320,705 00
IRRIGATION USAGE	12/1/2021	NPW	gal	4367727	1" METER	9,339,761.00	11/1/2021	9,477,425 00	12/1/2021	137,664.00	0.00	137,664 00
IRRIGATION USAGE	12/31/2021	NPW	gal	4367727	1" METER	9,477,425.00	12/1/2021	9,702,591 00	12/31/2021	225,166.00	0.00	225,166 00
IRRIGATION USAGE	2/1/2022	NPW	gal	4367727	1" METER	9,702,591.00	12/31/2021	9,864,174 00	2/1/2022	161,583.00	0.00	161,583 00
IRRIGATION USAGE	3/1/2022	NPW	gal	4367727	1" METER	9,864,174.00	2/1/2022	69,038.00	3/1/2022	204,864.00	0.00	204,864 00
IRRIGATION USAGE	4/1/2022	NPW	gal	4367727	1" METER	69,038.00	3/1/2022	436,336 00	4/1/2022	367,298.00	0.00	367,298 00
IRRIGATION USAGE	5/2/2022	NPW	gal	4367727	1" METER	436,336.00	4/1/2022	709,827 00	5/2/2022	273,491.00	0.00	273,491 00
IRRIGATION USAGE	6/1/2022	NPW	gal	4367727	1" METER	709,827.00	5/2/2022	1,037,690 00	6/1/2022	327,863.00	0.00	327,863 00
IRRIGATION USAGE	7/1/2022	NPW	gal	4367727	1" METER	1,037,690.00	6/1/2022	1,478,429 00	7/1/2022	440,739.00	0.00	440,739 00
IRRIGATION USAGE	8/1/2022	NPW	gal	4367727	1" METER	1,478,429.00	7/1/2022	1,707,451 00	8/1/2022	229,022.00	0.00	229,022 00

3,252,524.00

480030910001												
IRRIGATION USAGE	9/1/2021	NPW	gal	14289467	1" METER	800,416.00	8/2/2021	1,013,632 00	9/1/2021	213,216.00	0.00	213,216 00
IRRIGATION USAGE	10/1/2021	NPW	gal	14289467	1" METER	1,013,632.00	9/1/2021	1,239,609 00	10/1/2021	225,977.00	0.00	225,977 00
IRRIGATION USAGE	11/1/2021	NPW	gal	14289467	1" METER	1,239,609.00	10/1/2021	1,434,685 00	11/1/2021	195,076.00	0.00	195,076 00
IRRIGATION USAGE	12/1/2021	NPW	gal	14289467	1" METER	1,434,685.00	11/1/2021	1,592,302 00	12/1/2021	157,617.00	0.00	157,617 00
IRRIGATION USAGE	12/31/2021	NPW	gal	14289467	1" METER	1,592,302.00	12/1/2021	1,659,957 00	12/31/2021	67,655.00	0.00	67,655 00
IRRIGATION USAGE	2/1/2022	NPW	gal	14289467	1" METER	1,659,957.00	12/31/2021	1,814,980 00	2/1/2022	155,023.00	0.00	155,023 00
IRRIGATION USAGE	3/1/2022	NPW	gal	14289467	1" METER	1,814,980.00	2/1/2022	1,997,360 00	3/1/2022	182,380.00	0.00	182,380 00
IRRIGATION USAGE	4/1/2022	NPW	gal	14289467	1" METER	1,997,360.00	3/1/2022	2,222,654 00	4/1/2022	225,294.00	0.00	225,294 00
IRRIGATION USAGE	5/2/2022	NPW	gal	14289467	1" METER	2,222,654.00	4/1/2022	2,406,557 00	5/2/2022	183,903.00	0.00	183,903 00
IRRIGATION USAGE	6/1/2022	NPW	gal	14289467	1" METER	2,406,557.00	5/2/2022	2,754,859 00	6/1/2022	348,302.00	0.00	348,302 00
IRRIGATION USAGE	7/1/2022	NPW	gal	14289467	1" METER	2,754,859.00	6/1/2022	3,107,794 00	7/1/2022	352,935.00	0.00	352,935 00
IRRIGATION USAGE	8/1/2022	NPW	gal	14289467	1" METER	3,107,794.00	7/1/2022	3,392,878 00	8/1/2022	285,084.00	0.00	285,084 00

2,592,462.00

480030910002													
IRRIGATION USAGE	9/1/2021	NPW	gal	32203248	1 1/2" METER	48,268,496.00	8/2/2021	48,599,600.00	9/1/2021	331,104.00	0.00	331,104 00	360.90
IRRIGATION USAGE	10/1/2021	NPW	gal	32203248	1 1/2" METER	48,599,600.00	9/1/2021	48,938,080.00	10/1/2021	338,480.00	0.00	338,480 00	368.94
IRRIGATION USAGE	11/1/2021	NPW	gal	32203248	1 1/2" METER	48,938,080.00	10/1/2021	49,216,470.00	11/1/2021	278,390.00	0.00	278,390 00	303.95
IRRIGATION USAGE	12/1/2021	NPW	gal	32203248	1 1/2" METER	49,216,470.00	11/1/2021	49,507,680.00	12/1/2021	291,210.00	0.00	291,210 00	317.42
IRRIGATION USAGE	12/31/2021	NPW	gal	32203248	1 1/2" METER	49,507,680.00	12/1/2021	49,582,920.00	12/31/2021	75,240.00	0.00	75,240 00	82.01
IRRIGATION USAGE	2/1/2022	NPW	gal	32203248	1 1/2" METER	49,582,920.00	12/31/2021	49,771,600.00	2/1/2022	188,680.00	0.00	188,680 00	205.66
IRRIGATION USAGE	3/1/2022	NPW	gal	32203248	1 1/2" METER	49,771,600.00	2/1/2022	50,067,400.00	3/1/2022	295,800.00	0.00	295,800 00	322.42
IRRIGATION USAGE	4/1/2022	NPW	gal	32203248	1 1/2" METER	50,067,400.00	3/1/2022	50,369,110.00	4/1/2022	301,710.00	0.00	301,710 00	328.86
IRRIGATION USAGE	5/2/2022	NPW	gal	32203248	1 1/2" METER	50,369,110.00	4/1/2022	50,633,810.00	5/2/2022	264,700.00	0.00	264,700 00	288.52
IRRIGATION USAGE	6/1/2022	NPW	gal	32203248	1 1/2" METER	50,633,810.00	5/2/2022	50,901,610.00	6/1/2022	267,800.00	0.00	267,800 00	291.90
IRRIGATION USAGE	7/1/2022	NPW	gal	32203248	1 1/2" METER	50,901,610.00	6/1/2022	51,238,330.00	7/1/2022	336,720.00	0.00	336,720 00	367.02
IRRIGATION USAGE	8/1/2022	NPW	gal	32203248	1 1/2" METER	51,238,330.00	7/1/2022	51,542,100.00	8/1/2022	303,770.00	0.00	303,770 00	331.11

EXHIBIT 3

Attachment to GWUPA: #11 Table 1 (I)  
SWUPA-E: #16 Table 1 (B)  
#17 Table 2 (B.G.I)

IRRIGATION USAGE	9/1/2021	NPW	gal	16465144	1" METER	771,168.00	8/2/2021	771,168 00	9/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	10/1/2021	NPW	gal	16465144	1" METER	771,168.00	9/1/2021	771,168 00	10/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	16465144	1" METER	771,168.00	10/1/2021	771,168 00	11/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	16465144	1" METER	771,168.00	11/1/2021	771,168 00	12/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	16465144	1" METER	771,168.00	12/1/2021	771,168 00	12/31/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	16465144	1" METER	771,168.00	12/31/2021	771,168 00	2/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	3/1/2022	NPW	gal	16465144	1" METER	771,168.00	2/1/2022	771,168 00	3/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	4/1/2022	NPW	gal	16465144	1" METER	771,168.00	3/1/2022	771,168 00	4/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	5/2/2022	NPW	gal	16465144	1" METER	771,168.00	4/1/2022	771,168 00	5/2/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	6/1/2022	NPW	gal	16465144	1" METER	771,168.00	5/2/2022	771,168 00	6/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	7/1/2022	NPW	gal	16465144	1" METER	771,168.00	6/1/2022	771,168 00	7/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	8/1/2022	NPW	gal	16465144	1" METER	771,168.00	7/1/2022	771,168 00	8/1/2022	0.00	0.00	0 00	0.00

0.00

IRRIGATION USAGE	9/1/2021	NPW	gal	44962170	1" METER	6,252,468.00	8/2/2021	6,362,316 00	9/1/2021	109,848.00	0.00	109,848 00	119.73
IRRIGATION USAGE	10/1/2021	NPW	gal	44962170	1" METER	6,362,316.00	9/1/2021	6,477,204 00	10/1/2021	114,888.00	0.00	114,888 00	125.23
IRRIGATION USAGE	11/1/2021	NPW	gal	44962170	1" METER	6,477,204.00	10/1/2021	6,573,014 00	11/1/2021	95,810.00	0.00	95,810 00	104.43
IRRIGATION USAGE	12/1/2021	NPW	gal	44962170	1" METER	6,573,014.00	11/1/2021	6,666,463 00	12/1/2021	93,449.00	0.00	93,449 00	101.86
IRRIGATION USAGE	12/31/2021	NPW	gal	44962170	1" METER	6,666,463.00	12/1/2021	6,742,325 00	12/31/2021	75,862.00	0.00	75,862 00	82.69
IRRIGATION USAGE	2/1/2022	NPW	gal	44962170	1" METER	6,742,325.00	12/31/2021	6,840,852 00	2/1/2022	98,527.00	0.00	98,527 00	107.39
IRRIGATION USAGE	3/1/2022	NPW	gal	44962170	1" METER	6,840,852.00	2/1/2022	6,952,170 00	3/1/2022	111,318.00	0.00	111,318 00	121.34
IRRIGATION USAGE	4/1/2022	NPW	gal	44962170	1" METER	6,952,170.00	3/1/2022	7,055,432 00	4/1/2022	103,262.00	0.00	103,262 00	112.56
IRRIGATION USAGE	5/2/2022	NPW	gal	44962170	1" METER	7,055,432.00	4/1/2022	7,168,166 00	5/2/2022	112,734.00	0.00	112,734 00	122.88
IRRIGATION USAGE	6/1/2022	NPW	gal	44962170	1" METER	7,168,166.00	5/2/2022	7,258,557 00	6/1/2022	90,391.00	0.00	90,391 00	98.53
IRRIGATION USAGE	7/1/2022	NPW	gal	44962170	1" METER	7,258,557.00	6/1/2022	7,359,613 00	7/1/2022	101,056.00	0.00	101,056 00	110.15
IRRIGATION USAGE	8/1/2022	NPW	gal	44962170	1" METER	7,359,613.00	7/1/2022	7,482,535 00	8/1/2022	122,922.00	0.00	122,922 00	133.98

1,230,067.00

IRRIGATION USAGE	9/1/2021	NPW	gal	18885035	1 1/2" METER	2,130,272.00	8/2/2021	2,227,581 00	9/1/2021	97,309.00	0.00	97,309 00	106.07
IRRIGATION USAGE	10/1/2021	NPW	gal	18885035	1 1/2" METER	2,227,581.00	9/1/2021	2,330,799 00	10/1/2021	103,218.00	0.00	103,218 00	112.51
IRRIGATION USAGE	11/1/2021	NPW	gal	18885035	1 1/2" METER	2,330,799.00	10/1/2021	2,436,266 00	11/2/2021	105,467.00	0.00	105,467 00	114.96
IRRIGATION USAGE	12/1/2021	NPW	gal	18885035	1 1/2" METER	2,436,266.00	11/2/2021	2,523,931 00	12/2/2021	87,665.00	0.00	87,665 00	95.55
IRRIGATION USAGE	12/31/2021	NPW	gal	18885035	1 1/2" METER	2,523,931.00	12/2/2021	2,597,994 00	12/31/2021	74,063.00	0.00	74,063 00	80.73
IRRIGATION USAGE	2/1/2022	NPW	gal	18885035	1 1/2" METER	2,597,994.00	12/31/2021	2,681,927 00	2/1/2022	83,933.00	0.00	83,933 00	91.49
IRRIGATION USAGE	3/1/2022	NPW	gal	18885035	1 1/2" METER	2,681,927.00	2/1/2022	2,768,584 00	3/2/2022	86,657.00	0.00	86,657 00	94.46
IRRIGATION USAGE	4/1/2022	NPW	gal	18885035	1 1/2" METER	2,768,584.00	3/2/2022	2,869,061 00	4/2/2022	100,477.00	0.00	100,477 00	109.52
IRRIGATION USAGE	5/2/2022	NPW	gal	18885035	1 1/2" METER	2,869,061.00	4/2/2022	2,970,541 00	5/2/2022	101,480.00	0.00	101,480 00	110.61
IRRIGATION USAGE	6/1/2022	NPW	gal	18885035	1 1/2" METER	2,970,541.00	5/2/2022	3,065,222 00	6/1/2022	94,681.00	0.00	94,681 00	103.20
IRRIGATION USAGE	7/1/2022	NPW	gal	18885035	1 1/2" METER	3,065,222.00	6/1/2022	3,169,961 00	7/1/2022	104,739.00	0.00	104,739 00	114.17
IRRIGATION USAGE	8/1/2022	NPW	gal	18885035	1 1/2" METER	3,169,961.00	7/1/2022	3,289,735 00	8/1/2022	119,774.00	0.00	119,774 00	130.55

1,159,463.00

IRRIGATION USAGE	9/1/2021	NPW	gal	17501493	1" METER	836,433.00	8/2/2021	939,164 00	9/1/2021	102,731.00	0.00	102,731 00	111.98
IRRIGATION USAGE	10/1/2021	NPW	gal	17501493	1" METER	939,164.00	9/1/2021	1,032,242 00	10/1/2021	93,078.00	0.00	93,078 00	101.46
IRRIGATION USAGE	11/1/2021	NPW	gal	17501493	1" METER	1,032,242.00	10/1/2021	1,128,796 00	11/1/2021	96,554.00	0.00	96,554 00	105.24
IRRIGATION USAGE	12/1/2021	NPW	gal	17501493	1" METER	1,128,796.00	11/1/2021	1,205,578 00	12/1/2021	76,782.00	0.00	76,782 00	83.69
IRRIGATION USAGE	12/31/2021	NPW	gal	17501493	1" METER	1,205,578.00	12/1/2021	1,246,670 00	12/31/2021	41,092.00	0.00	41,092 00	44.79
IRRIGATION USAGE	2/1/2022	NPW	gal	17501493	1" METER	1,246,670.00	12/31/2021	1,290,229 00	2/1/2022	43,559.00	0.00	43,559 00	47.48
IRRIGATION USAGE	3/1/2022	NPW	gal	17501493	1" METER	1,290,229.00	2/1/2022	1,339,686 00	3/1/2022	49,457.00	0.00	49,457 00	53.91
IRRIGATION USAGE	4/1/2022	NPW	gal	17501493	1" METER	1,339,686.00	3/1/2022	1,401,568 00	4/1/2022	61,882.00	0.00	61,882 00	67.45
IRRIGATION USAGE	5/2/2022	NPW	gal	17501493	1" METER	1,401,568.00	4/1/2022	1,495,608 00	5/2/2022	94,040.00	0.00	94,040 00	102.50
IRRIGATION USAGE	6/1/2022	NPW	gal	17501493	1" METER	1,495,608.00	5/2/2022	1,578,683 00	6/1/2022	83,075.00	0.00	83,075 00	90.55
IRRIGATION USAGE	7/1/2022	NPW	gal	17501493	1" METER	1,578,683.00	6/1/2022	1,690,967 00	7/1/2022	112,284.00	0.00	112,284 00	122.39
IRRIGATION USAGE	8/1/2022	NPW	gal	17501493	1" METER	1,690,967.00	7/1/2022	1,795,082 00	8/1/2022	104,115.00	0.00	104,115 00	113.49

958,649.00

IRRIGATION USAGE	3/1/2022	NPW	gal	211039110	5/8" METER	0.00	2/22/2022	0 00	3/1/2022	0.00	0.00	0 00	0.00
				17001021	1" METER	0.00	2/22/2022	0 00	3/1/2022				
IRRIGATION USAGE	4/1/2022	NPW	gal	211039110	5/8" METER	0.00	3/1/2022	0 00	4/1/2022	0.00	0.00	0 00	0.00
				17001021	1" METER	0.00	3/1/2022	0 00	4/1/2022				
IRRIGATION USAGE	5/2/2022	NPW	gal	211039110	5/8" METER	0.00	4/1/2022	0 00	5/2/2022	0.00	0.00	0 00	0.00
				17001021	1" METER	0.00	4/1/2022	0 00	5/2/2022				
IRRIGATION USAGE	6/1/2022	NPW	gal	211039110	5/8" METER	0.00	5/2/2022	166.00	6/1/2022	167.00	0.00	1 00	0.18
				17001021	1" METER	0.00	5/2/2022	1 00	6/1/2022				
IRRIGATION USAGE	7/1/2022	NPW	gal	211039110	5/8" METER	166 00	6/1/2022	1,104.00	7/1/2022	3,302.00	0.00	<b>2,364.00</b>	3.60
				17001021	1" METER	1.00	6/1/2022	2,365.00	7/1/2022				
IRRIGATION USAGE	8/1/2022	NPW	gal	211039110	5/8" METER	1,104 00	7/1/2022	1,148.00	8/1/2022	209.00	0.00	<b>165.00</b>	0.23
				17001021	1" METER	2,365 00	7/1/2022	2,530.00	8/1/2022				

2,530.00

IRRIGATION USAGE	3/1/2022	NPW	gal	211039105	5/8" METER	0.00	2/22/2022	0 00	3/1/2022	0.00	0.00	0 00	0.00
				190949833	1" METER	0.00	2/22/2022	0 00	3/1/2022				
IRRIGATION USAGE	4/1/2022	NPW	gal	211039105	5/8" METER	0.00	3/1/2022	0 00	4/1/2022	0.00	0.00	0 00	0.00
				190949833	1" METER	0.00	3/1/2022	0 00	4/1/2022				
IRRIGATION USAGE	5/2/2022	NPW	gal	211039105	5/8" METER	0.00	4/1/2022	0 00	5/2/2022	0.00	0.00	0 00	0.00
				190949833	1" METER	0.00	4/1/2022	0 00	5/2/2022				
IRRIGATION USAGE	6/1/2022	NPW	gal	211039105	5/8" METER	0.00	5/2/2022	10.00	6/1/2022	10.00	0.00	0 00	0.01
				190949833	1" METER	0.00	5/2/2022	0 00	6/1/2022				
IRRIGATION USAGE	7/1/2022	NPW	gal	211039105	5/8" METER	10.00	6/1/2022	10.00	7/1/2022	5.00	0.00	5 00	0.01
				190949833	1" METER	0.00	6/1/2022	5 00	7/1/2022				
IRRIGATION USAGE	8/1/2022	NPW	gal	211039105	5/8" METER	10.00	7/1/2022	10.00	8/1/2022	0.00	0.00	0 00	0.00
				190949833	1" METER	5.00	7/1/2022	5 00	8/1/2022				

5.00

480030960001													
IRRIGATION USAGE	9/1/2021	NPW	gal	15762380	1" METER	363,638.00	8/2/2021	575,649 00	9/1/2021	212,011.00	0.00	212,011 00	231.09
IRRIGATION USAGE	10/1/2021	NPW	gal	15762380	1" METER	575,649.00	9/1/2021	789,053 00	10/1/2021	213,404.00	0.00	213,404 00	232.61
IRRIGATION USAGE	11/1/2021	NPW	gal	15762380	1" METER	789,053.00	10/1/2021	986,051 00	11/1/2021	196,998.00	0.00	196,998 00	214.73
IRRIGATION USAGE	12/1/2021	NPW	gal	15762380	1" METER	986,051.00	11/1/2021	1,175,091 00	12/1/2021	189,040.00	0.00	189,040 00	206.05
IRRIGATION USAGE	12/31/2021	NPW	gal	15762380	1" METER	1,175,091.00	12/1/2021	1,372,023 00	12/31/2021	196,932.00	0.00	196,932 00	214.66
IRRIGATION USAGE	2/1/2022	NPW	gal	15762380	1" METER	1,372,023.00	12/31/2021	1,548,701 00	2/1/2022	176,678.00	0.00	176,678 00	192.58
IRRIGATION USAGE	3/1/2022	NPW	gal	15762380	1" METER	1,548,701.00	2/1/2022	1,682,974 00	3/1/2022	134,273.00	0.00	134,273 00	146.36
IRRIGATION USAGE	4/1/2022	NPW	gal	15762380	1" METER	1,682,974.00	3/1/2022	1,991,281 00	4/1/2022	308,307.00	0.00	308,307 00	336.05
IRRIGATION USAGE	5/2/2022	NPW	gal	15762380	1" METER	1,991,281.00	4/1/2022	2,227,449 00	5/2/2022	236,168.00	0.00	236,168 00	257.42
IRRIGATION USAGE	6/1/2022	NPW	gal	15762380	1" METER	2,227,449.00	5/2/2022	2,413,002 00	6/1/2022	185,553.00	0.00	185,553 00	202.25
IRRIGATION USAGE	7/1/2022	NPW	gal	15762380	1" METER	2,413,002.00	6/1/2022	2,682,236 00	7/1/2022	269,234.00	0.00	269,234 00	293.47
IRRIGATION USAGE	8/1/2022	NPW	gal	15762380	1" METER	2,682,236.00	7/1/2022	2,936,995 00	8/1/2022	254,759.00	0.00	254,759 00	277.69

EXHIBIT 3

				210232558	1 1/2" METER	0.00	8/3/2021	147,461 00	9/1/2021				
IRRIGATION USAGE	10/1/2021	NPW	gal	210232558	1 1/2" METER	147,461.00	9/1/2021	314,264 00	10/1/2021	166,803.00	0.00	166,803 00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	210232558	1 1/2" METER	314,264.00	10/1/2021	495,189 00	11/2/2021	180,925.00	0.00	180,925 00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	210232558	1 1/2" METER	495,189.00	11/2/2021	541,099 00	12/2/2021	45,910.00	0.00	45,910 00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	210232558	1 1/2" METER	541,099.00	12/2/2021	582,712 00	12/31/2021	41,613.00	0.00	41,613 00	45.36
IRRIGATION USAGE	2/1/2022	NPW	gal	210232558	1 1/2" METER	582,712.00	12/31/2021	603,812 00	2/1/2022	21,100.00	0.00	21,100 00	23.00
IRRIGATION USAGE	3/1/2022	NPW	gal	210232558	1 1/2" METER	603,812.00	2/1/2022	769,621 00	3/2/2022	165,809.00	0.00	165,809 00	180.73
IRRIGATION USAGE	4/1/2022	NPW	gal	210232558	1 1/2" METER	769,621.00	3/2/2022	943,284 00	4/2/2022	173,663.00	0.00	173,663 00	189.29
IRRIGATION USAGE	5/2/2022	NPW	gal	210232558	1 1/2" METER	943,284.00	4/2/2022	1,125,366 00	5/2/2022	182,082.00	0.00	182,082 00	198.47
IRRIGATION USAGE	6/1/2022	NPW	gal	210232558	1 1/2" METER	1,125,366.00	5/2/2022	1,370,860 00	6/1/2022	245,494.00	0.00	245,494 00	267.59
IRRIGATION USAGE	7/1/2022	NPW	gal	210232558	1 1/2" METER	1,370,860.00	6/1/2022	1,433,818 00	7/1/2022	62,958.00	0.00	62,958 00	68.62
IRRIGATION USAGE	8/1/2022	NPW	gal	210232558	1 1/2" METER	1,433,818.00	7/1/2022	1,587,597 00	8/1/2022	153,779.00	0.00	153,779 00	167.62

1,587,597.00

				480030970002									
IRRIGATION USAGE	9/1/2021	NPW	gal	44504050	1" METER	2,875,732.00	8/2/2021	2,875,732 00	8/3/2021	193,402.00	0.00	193,402 00	210.81
				210232565	1" METER	0.00	8/3/2021	193,402 00	9/1/2021				
IRRIGATION USAGE	10/1/2021	NPW	gal	210232565	1" METER	193,402.00	9/1/2021	324,351 00	10/1/2021	130,949.00	0.00	130,949 00	142.73
IRRIGATION USAGE	11/1/2021	NPW	gal	210232565	1" METER	324,351.00	10/1/2021	511,753 00	11/2/2021	187,402.00	0.00	187,402 00	204.27
IRRIGATION USAGE	12/1/2021	NPW	gal	210232565	1" METER	511,753.00	11/2/2021	660,327 00	12/2/2021	148,574.00	0.00	148,574 00	161.95
IRRIGATION USAGE	12/31/2021	NPW	gal	210232565	1" METER	660,327.00	12/2/2021	731,998 00	12/31/2021	71,671.00	0.00	71,671 00	78.12
IRRIGATION USAGE	2/1/2022	NPW	gal	210232565	1" METER	731,998.00	12/31/2021	884,867 00	2/1/2022	152,869.00	0.00	152,869 00	166.63
IRRIGATION USAGE	3/1/2022	NPW	gal	210232565	1" METER	884,867.00	2/1/2022	1,043,669 00	3/2/2022	158,802.00	0.00	158,802 00	173.09
IRRIGATION USAGE	4/1/2022	NPW	gal	210232565	1" METER	1,043,669.00	3/2/2022	1,186,058 00	4/2/2022	142,389.00	0.00	142,389 00	155.20
IRRIGATION USAGE	5/2/2022	NPW	gal	210232565	1" METER	1,186,058.00	4/2/2022	1,342,481 00	5/2/2022	156,423.00	0.00	156,423 00	170.50
IRRIGATION USAGE	6/1/2022	NPW	gal	210232565	1" METER	1,342,481.00	5/2/2022	1,466,997 00	6/1/2022	124,516.00	0.00	124,516 00	135.72
IRRIGATION USAGE	7/1/2022	NPW	gal	210232565	1" METER	1,466,997.00	6/1/2022	1,588,553 00	7/1/2022	121,556.00	0.00	121,556 00	132.50
IRRIGATION USAGE	8/1/2022	NPW	gal	210232565	1" METER	1,588,553.00	7/1/2022	1,739,088 00	8/1/2022	150,535.00	0.00	150,535 00	164.08

1,739,088.00

				480030970001									
IRRIGATION USAGE	9/1/2021	NPW	gal	44504052	1" METER	3,815,992.00	8/2/2021	4,024,727 00	9/1/2021	208,735.00	0.00	208,735 00	227.52
IRRIGATION USAGE	10/1/2021	NPW	gal	44504052	1" METER	4,024,727.00	9/1/2021	4,212,928 00	10/1/2021	188,201.00	0.00	188,201 00	205.14
IRRIGATION USAGE	11/1/2021	NPW	gal	44504052	1" METER	4,212,928.00	10/1/2021	4,400,573 00	11/2/2021	187,645.00	0.00	187,645 00	204.53
IRRIGATION USAGE	12/1/2021	NPW	gal	44504052	1" METER	4,400,573.00	11/2/2021	4,592,661 00	12/1/2021	192,088.00	0.00	192,088 00	209.38
IRRIGATION USAGE	12/31/2021	NPW	gal	44504052	1" METER	4,592,661.00	12/1/2021	4,759,565 00	12/31/2021	166,904.00	0.00	166,904 00	181.93
IRRIGATION USAGE	2/1/2022	NPW	gal	44504052	1" METER	4,759,565.00	12/31/2021	4,946,974 00	2/1/2022	187,409.00	0.00	187,409 00	204.28
IRRIGATION USAGE	3/1/2022	NPW	gal	44504052	1" METER	4,946,974.00	2/1/2022	5,095,415 00	3/1/2022	148,441.00	0.00	148,441 00	161.80
IRRIGATION USAGE	4/1/2022	NPW	gal	44504052	1" METER	5,095,415.00	3/1/2022	5,297,394 00	4/1/2022	201,979.00	0.00	201,979 00	220.16
IRRIGATION USAGE	5/2/2022	NPW	gal	44504052	1" METER	5,297,394.00	4/1/2022	5,494,602 00	5/2/2022	197,208.00	0.00	197,208 00	214.96
IRRIGATION USAGE	6/1/2022	NPW	gal	44504052	1" METER	5,494,602.00	5/2/2022	5,698,687 00	6/1/2022	204,085.00	0.00	204,085 00	222.45
IRRIGATION USAGE	7/1/2022	NPW	gal	44504052	1" METER	5,698,687.00	6/1/2022	5,889,937 00	7/1/2022	191,250.00	0.00	191,250 00	208.46
IRRIGATION USAGE	8/1/2022	NPW	gal	44504052	1" METER	5,889,937.00	7/1/2022	6,071,439 00	8/1/2022	181,502.00	0.00	181,502 00	197.84

2,255,447.00

				480031040000									
IRRIGATION USAGE	9/1/2021	NPW	gal	201070811	1" METER	278,385.00	8/1/2021	392,803 00	9/1/2021	114,418.00	0.00	114,418 00	124.72
IRRIGATION USAGE	10/1/2021	NPW	gal	201070811	1" METER	392,803.00	9/1/2021	530,561 00	10/1/2021	137,758.00	0.00	137,758 00	150.16
IRRIGATION USAGE	11/1/2021	NPW	gal	175631445	5/8" METER	0.00	10/27/2021	0 00	11/1/2021	152,355.00	7,433.00	159,788 00	174.17
				201070811	1" METER	530,561.00	10/1/2021	682,916 00	11/2/2021				
IRRIGATION USAGE	12/1/2021	NPW	gal	175631445	5/8" METER	0.00	11/1/2021	0 00	12/1/2021	309,240.00	-302,656.00	6,584 00	7.18
				201070811	1" METER	682,916.00	11/2/2021	992,156 00	12/1/2021				
IRRIGATION USAGE	12/31/2021	NPW	gal	201070811	1" METER	992,156.00	12/1/2021	1,119,834 00	12/31/2021	127,678.00	0.00	127,678 00	139.17
IRRIGATION USAGE	2/1/2022	NPW	gal	201070811	1" METER	1,119,834.00	12/31/2021	1,214,979 00	2/1/2022	95,145.00	0.00	95,145 00	103.71
IRRIGATION USAGE	3/1/2022	NPW	gal	201070811	1" METER	1,214,979.00	2/1/2022	1,309,309 00	3/2/2022	94,330.00	0.00	94,330 00	102.82
IRRIGATION USAGE	4/1/2022	NPW	gal	201070811	1" METER	1,309,309.00	3/2/2022	1,500,895 00	4/1/2022	191,586.00	0.00	191,586 00	208.83
IRRIGATION USAGE	5/2/2022	NPW	gal	201070811	1" METER	1,500,895.00	4/1/2022	1,663,348 00	5/2/2022	162,453.00	0.00	162,453 00	177.07
IRRIGATION USAGE	6/1/2022	NPW	gal	201070811	1" METER	1,663,348.00	5/2/2022	1,850,625 00	6/1/2022	187,277.00	0.00	187,277 00	204.13
IRRIGATION USAGE	7/1/2022	NPW	gal	201070811	1" METER	1,850,625.00	6/1/2022	2,031,107 00	7/1/2022	180,482.00	0.00	180,482 00	196.73
IRRIGATION USAGE	8/1/2022	NPW	gal	201070811	1" METER	2,031,107.00	7/1/2022	2,418,757 00	8/1/2022	387,650.00	0.00	387,650 00	422.54

1,845,149.00

				480031040000									
IRRIGATION USAGE	6/1/2022	NPW	gal	210232383	1" METER	0.00	4/27/2022	2 00	6/1/2022	2.00	0.00	2 00	0.00
IRRIGATION USAGE	7/1/2022	NPW	gal	210232383	1" METER	2.00	6/1/2022	2 00	7/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	8/1/2022	NPW	gal	210232383	1" METER	2.00	7/1/2022	9 00	8/1/2022	7.00	0.00	7 00	0.01

9.00

480031070000													
IRRIGATION USAGE	11/1/2021	NPW	gal	201070804	1" METER	0.00	10/1/2021	0 00	11/1/2021	57.00	0.00	57 00	0.06
				201098130-np	1" METER	0.00	9/1/2021	57.00	11/2/2021				
IRRIGATION USAGE	12/1/2021	NPW	gal	201070804	1" METER	0.00	11/1/2021	0 00	12/1/2021	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	11/2/2021	57.00	12/2/2021				
IRRIGATION USAGE	12/31/2021	NPW	gal	201070804	1" METER	0.00	12/1/2021	1 00	12/31/2021	1.00	0.00	1 00	0.00
				201098130	1" METER	57.00	12/2/2021	57.00	12/31/2021				
IRRIGATION USAGE	2/1/2022	NPW	gal	201070804	1" METER	1.00	12/31/2021	1 00	2/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	12/31/2021	57.00	2/1/2022				
IRRIGATION USAGE	3/1/2022	NPW	gal	201070804	1" METER	1.00	2/1/2022	1 00	3/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	2/1/2022	57.00	3/2/2022				
IRRIGATION USAGE	4/1/2022	NPW	gal	201070804	1" METER	1.00	3/1/2022	1 00	4/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	3/2/2022	57.00	4/2/2022				
IRRIGATION USAGE	5/2/2022	NPW	gal	201070804	1" METER	1.00	4/1/2022	1 00	5/2/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	4/2/2022	57.00	5/2/2022				
IRRIGATION USAGE	6/1/2022	NPW	gal	201070804	1" METER	1.00	5/2/2022	1 00	6/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	5/2/2022	57.00	6/1/2022				
IRRIGATION USAGE	7/1/2022	NPW	gal	201070804	1" METER	1.00	6/1/2022	1 00	7/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	6/1/2022	57.00	7/1/2022				
IRRIGATION USAGE	8/1/2022	NPW	gal	201070804	1" METER	1.00	7/1/2022	1 00	8/1/2022	0.00	0.00	0 00	0.00
				201098130	1" METER	57.00	7/1/2022	57.00	8/1/2022				
												58.00	

EXHIBIT 3

IRRIGATION USAGE	10/1/2021	NPW	gal	201098116	5/8" METER	314,111.00	9/1/2021	397,725.00	10/1/2021	83,614.00	0.00	83,614.00	91.14
IRRIGATION USAGE	11/1/2021	NPW	gal	201098116	5/8" METER	397,725.00	10/1/2021	516,276.00	11/2/2021	118,551.00	0.00	118,551.00	128.17
IRRIGATION USAGE	12/1/2021	NPW	gal	201098116	5/8" METER	516,276.00	11/2/2021	665,727.00	12/2/2021	149,451.00	0.00	149,451.00	166.90
IRRIGATION USAGE	12/31/2021	NPW	gal	201098116	5/8" METER	665,727.00	12/2/2021	752,241.00	12/31/2021	86,514.00	0.00	86,514.00	94.30
IRRIGATION USAGE	2/1/2022	NPW	gal	201098116	5/8" METER	752,241.00	12/31/2021	807,346.00	2/1/2022	55,105.00	0.00	55,105.00	60.06
IRRIGATION USAGE	3/1/2022	NPW	gal	201098116	5/8" METER	807,346.00	2/1/2022	924,934.00	3/2/2022	117,588.00	0.00	117,588.00	128.17
IRRIGATION USAGE	4/1/2022	NPW	gal	201098116	5/8" METER	924,934.00	3/2/2022	1,023,854.00	4/2/2022	98,920.00	0.00	98,920.00	107.82
IRRIGATION USAGE	5/2/2022	NPW	gal	201098116	5/8" METER	1,023,854.00	4/2/2022	1,142,142.00	5/2/2022	118,288.00	0.00	118,288.00	128.93
IRRIGATION USAGE	6/1/2022	NPW	gal	201098116	5/8" METER	1,142,142.00	5/2/2022	1,237,090.00	6/1/2022	94,948.00	0.00	94,948.00	103.49
IRRIGATION USAGE	7/1/2022	NPW	gal	201098116	5/8" METER	1,237,090.00	6/1/2022	1,328,035.00	7/1/2022	90,945.00	0.00	90,945.00	99.13
IRRIGATION USAGE	8/1/2022	NPW	gal	201098116	5/8" METER	1,328,035.00	7/1/2022	1,412,719.00	8/1/2022	84,684.00	0.00	84,684.00	92.31

1,212,425.00

480031150000													
IRRIGATION USAGE	9/1/2021	NPW	gal	201070798	5/8" METER	199,673.00	8/2/2021	323,395.00	9/1/2021	123,722.00	0.00	123,722.00	134.86
IRRIGATION USAGE	10/1/2021	NPW	gal	201070798	5/8" METER	323,395.00	9/1/2021	414,449.00	10/1/2021	91,054.00	0.00	91,054.00	99.25
IRRIGATION USAGE	11/1/2021	NPW	gal	201070798	5/8" METER	414,449.00	10/1/2021	549,741.00	11/2/2021	135,292.00	0.00	135,292.00	147.47
IRRIGATION USAGE	12/1/2021	NPW	gal	201070798	5/8" METER	549,741.00	11/2/2021	634,428.00	12/2/2021	84,687.00	0.00	84,687.00	92.31
IRRIGATION USAGE	12/31/2021	NPW	gal	201070798	5/8" METER	634,428.00	12/2/2021	666,474.00	12/31/2021	32,046.00	0.00	32,046.00	34.93
IRRIGATION USAGE	2/1/2022	NPW	gal	201070798	5/8" METER	666,474.00	12/31/2021	682,076.00	2/1/2022	15,602.00	0.00	15,602.00	17.01
IRRIGATION USAGE	3/1/2022	NPW	gal	201070798	5/8" METER	682,076.00	2/1/2022	709,723.00	3/2/2022	27,647.00	0.00	27,647.00	30.14
IRRIGATION USAGE	4/1/2022	NPW	gal	201070798	5/8" METER	709,723.00	3/2/2022	739,519.00	4/2/2022	29,796.00	0.00	29,796.00	32.48
IRRIGATION USAGE	5/2/2022	NPW	gal	201070798	5/8" METER	739,519.00	4/2/2022	800,948.00	5/2/2022	61,429.00	0.00	61,429.00	66.96
IRRIGATION USAGE	6/1/2022	NPW	gal	201070798	5/8" METER	800,948.00	5/2/2022	870,208.00	6/1/2022	69,260.00	0.00	69,260.00	75.49
IRRIGATION USAGE	7/1/2022	NPW	gal	201070798	5/8" METER	870,208.00	6/1/2022	946,675.00	7/1/2022	76,467.00	0.00	76,467.00	83.35
IRRIGATION USAGE	8/1/2022	NPW	gal	201070798	5/8" METER	946,675.00	7/1/2022	993,403.00	8/1/2022	46,728.00	0.00	46,728.00	50.93

793,730.00

480031150000													
IRRIGATION USAGE	9/1/2021	NPW	gal	201240306	5/8" METER	277,009.00	8/2/2021	347,578.00	9/1/2021	70,569.00	0.00	70,569.00	76.92
IRRIGATION USAGE	10/1/2021	NPW	gal	201240306	5/8" METER	347,578.00	9/1/2021	435,515.00	10/1/2021	87,937.00	0.00	87,937.00	95.85
IRRIGATION USAGE	11/1/2021	NPW	gal	201240306	5/8" METER	435,515.00	10/1/2021	536,558.00	11/2/2021	101,043.00	0.00	101,043.00	110.14
IRRIGATION USAGE	12/1/2021	NPW	gal	201240306	5/8" METER	536,558.00	11/2/2021	609,981.00	12/2/2021	73,423.00	0.00	73,423.00	80.03
IRRIGATION USAGE	12/31/2021	NPW	gal	201240306	5/8" METER	609,981.00	12/2/2021	646,032.00	12/31/2021	36,051.00	0.00	36,051.00	39.30
IRRIGATION USAGE	2/1/2022	NPW	gal	201240306	5/8" METER	646,032.00	12/31/2021	696,138.00	2/1/2022	50,106.00	0.00	50,106.00	54.62
IRRIGATION USAGE	3/1/2022	NPW	gal	201240306	5/8" METER	696,138.00	2/1/2022	773,687.00	3/2/2022	77,549.00	0.00	77,549.00	84.53
IRRIGATION USAGE	4/1/2022	NPW	gal	201240306	5/8" METER	773,687.00	3/2/2022	878,649.00	4/2/2022	104,962.00	0.00	104,962.00	114.41
IRRIGATION USAGE	5/2/2022	NPW	gal	201240306	5/8" METER	878,649.00	4/2/2022	993,101.00	5/2/2022	114,452.00	0.00	114,452.00	124.75
IRRIGATION USAGE	6/1/2022	NPW	gal	201240306	5/8" METER	993,101.00	5/2/2022	1,134,900.00	6/1/2022	141,799.00	0.00	141,799.00	154.56
IRRIGATION USAGE	7/1/2022	NPW	gal	201240306	5/8" METER	1,134,900.00	6/1/2022	1,292,150.00	7/1/2022	157,250.00	0.00	157,250.00	171.40
IRRIGATION USAGE	8/1/2022	NPW	gal	201240306	5/8" METER	1,292,150.00	7/1/2022	1,405,098.00	8/1/2022	112,948.00	0.00	112,948.00	123.11

1,128,089.00

480031150000													
IRRIGATION USAGE	12/1/2021	NPW	gal	210232425	1 1/2" METER	0.00	11/9/2021	17,585.00	12/2/2021	17,585.00	0.00	17,585.00	19.17
IRRIGATION USAGE	12/31/2021	NPW	gal	210232425	1 1/2" METER	17,585.00	12/2/2021	17,585.00	12/31/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	210232425	1 1/2" METER	17,585.00	12/31/2021	22,140.00	2/1/2022	4,555.00	0.00	4,555.00	4.96
IRRIGATION USAGE	3/1/2022	NPW	gal	210232425	1 1/2" METER	22,140.00	2/1/2022	22,140.00	3/2/2022	0.00	0.00	0.00	0.00
IRRIGATION USAGE	4/1/2022	NPW	gal	210232425	1 1/2" METER	22,140.00	3/2/2022	59,931.00	4/1/2022	37,791.00	0.00	37,791.00	41.19
IRRIGATION USAGE	5/2/2022	NPW	gal	210232425	1 1/2" METER	59,931.00	4/1/2022	75,567.00	5/2/2022	15,636.00	0.00	15,636.00	17.04
IRRIGATION USAGE	6/1/2022	NPW	gal	210232425	1 1/2" METER	75,567.00	5/2/2022	76,369.00	6/1/2022	802.00	0.00	802.00	0.87
IRRIGATION USAGE	7/1/2022	NPW	gal	210232425	1 1/2" METER	76,369.00	6/1/2022	140,736.00	7/1/2022	64,367.00	0.00	64,367.00	70.16
IRRIGATION USAGE	8/1/2022	NPW	gal	210232425	1 1/2" METER	140,736.00	7/1/2022	203,954.00	8/1/2022	63,218.00	0.00	63,218.00	68.91

203,954.00

480031190000													
IRRIGATION USAGE	9/1/2021	NPW	gal	190028055a	1" METER	5,460,837.00	8/2/2021	5,717,531.00	9/1/2021	256,694.00	0.00	256,694.00	279.80
IRRIGATION USAGE	10/1/2021	NPW	gal	190028055a	1" METER	5,717,531.00	9/1/2021	5,883,978.00	10/1/2021	166,447.00	0.00	166,447.00	181.43
IRRIGATION USAGE	11/1/2021	NPW	gal	190028055a	1" METER	5,883,978.00	10/1/2021	6,102,974.00	11/2/2021	218,996.00	0.00	218,996.00	238.71
IRRIGATION USAGE	12/1/2021	NPW	gal	190028055a	1" METER	6,102,974.00	11/2/2021	6,364,513.00	12/2/2021	261,539.00	0.00	261,539.00	285.08
IRRIGATION USAGE	12/31/2021	NPW	gal	190028055a	1" METER	6,364,513.00	12/2/2021	6,575,594.00	12/31/2021	211,081.00	0.00	211,081.00	230.08
IRRIGATION USAGE	2/1/2022	NPW	gal	190028055a	1" METER	6,575,594.00	12/31/2021	6,747,166.00	2/1/2022	171,572.00	0.00	171,572.00	187.01
IRRIGATION USAGE	3/1/2022	NPW	gal	190028055a	1" METER	6,747,166.00	2/1/2022	6,898,287.00	3/1/2022	151,121.00	0.00	151,121.00	164.72
IRRIGATION USAGE	4/1/2022	NPW	gal	190028055a	1" METER	6,898,287.00	3/1/2022	7,196,621.00	4/2/2022	298,334.00	0.00	298,334.00	325.18
IRRIGATION USAGE	5/2/2022	NPW	gal	190028055a	1" METER	7,196,621.00	4/2/2022	7,723,796.00	5/2/2022	527,175.00	0.00	527,175.00	574.62
IRRIGATION USAGE	6/1/2022	NPW	gal	190028055a	1" METER	7,723,796.00	5/2/2022	8,062,599.00	6/1/2022	338,803.00	0.00	338,803.00	369.30
IRRIGATION USAGE	7/1/2022	NPW	gal	190028055a	1" METER	8,062,599.00	6/1/2022	8,477,375.00	7/1/2022	414,776.00	0.00	414,776.00	452.11
IRRIGATION USAGE	8/1/2022	NPW	gal	190028055a	1" METER	8,477,375.00	7/1/2022	8,849,571.00	8/1/2022	372,196.00	0.00	372,196.00	405.69

3,388,734.00

480031210000													
IRRIGATION USAGE	9/1/2021	NPW	gal	190028011	1" METER	5,738,323.00	8/2/2021	5,738,323.00	9/1/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	10/1/2021	NPW	gal	190028011	1" METER	5,738,323.00	9/1/2021	5,738,323.00	10/1/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	190028011	1" METER	5,738,323.00	10/1/2021	5,738,323.00	11/1/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	190028011	1" METER	5,738,323.00	11/1/2021	5,738,323.00	12/1/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	190028011	1" METER	5,738,323.00	12/1/2021	5,738,323.00	12/31/2021	0.00	0.00	0.00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	190028011	1" METER	5,738,323.00	12/31/2021	5,807,866.00	2/1/2022	69,543.00	0.00	69,543.00	75.80
IRRIGATION USAGE	3/1/2022	NPW	gal	190028011	1" METER	5,807,866.00	2/1/2022	5,953,512.00	3/1/2022	145,646.00	0.00	145,646.00	158.75
IRRIGATION USAGE	4/1/2022	NPW	gal	190028011	1" METER	5,953,512.00	3/1/2022	6,088,996.00	4/1/2022	135,484.00	0.00	135,484.00	147.68
IRRIGATION USAGE	5/2/2022	NPW	gal	190028011	1" METER	6,088,996.00	4/1/2022	6,268,366.00	5/2/2022	179,370.00	0.00	179,370.00	195.51
IRRIGATION USAGE	6/1/2022	NPW	gal	190028011	1" METER	6,268,366.00	5/2/2022	6,498,372.00	6/1/2022	230,006.00	0.00	230,006.00	250.71
IRRIGATION USAGE	7/1/2022	NPW	gal	190028011	1" METER	6,498,372.00	6/1/2022	6,648,900.00	7/1/2022	150,528.00	0.00	150,528.00	164.08
IRRIGATION USAGE	8/1/2022	NPW	gal	190028011	1" METER	6,648,900.00	7/1/2022	6,767,826.00	8/1/2022	118,926.00	0.00	118,926.00	129.63



EXHIBIT 3

IRRIGATION USAGE	3/1/2022	NPW	gal	15229327	1 1/2" METER	5,200,100.00	2/1/2022	5,271,600 00	3/1/2022	71,500.00	0.00	71,500 00	77.94
IRRIGATION USAGE	4/1/2022	NPW	gal	15229327	1 1/2" METER	5,271,600.00	3/1/2022	5,344,800 00	4/1/2022	73,200.00	0.00	73,200 00	78.20
IRRIGATION USAGE	5/2/2022	NPW	gal	15229327	1 1/2" METER	5,344,800.00	4/1/2022	5,409,200 00	5/2/2022	64,400.00	0.00	64,400 00	76.20
IRRIGATION USAGE	6/1/2022	NPW	gal	15229327	1 1/2" METER	5,409,200.00	5/2/2022	5,487,400 00	6/1/2022	78,200.00	0.00	78,200 00	85.24
IRRIGATION USAGE	7/1/2022	NPW	gal	15229327	1 1/2" METER	5,487,400.00	6/1/2022	5,562,300 00	7/1/2022	74,900.00	0.00	74,900 00	81.64
IRRIGATION USAGE	8/1/2022	NPW	gal	15229327	1 1/2" METER	5,562,300.00	7/1/2022	5,641,005 00	8/1/2022	78,705.00	0.00	78,705 00	85.79
											911,171.00		
											480030020000		
IRRIGATION USAGE	9/1/2021	NPW	gal	19714417	1" METER	7,946,481.00	8/2/2021	8,202,876 00	9/1/2021	256,395.00	0.00	256,395 00	279.47
IRRIGATION USAGE	10/1/2021	NPW	gal	19714417	1" METER	8,202,876.00	9/1/2021	8,418,771 00	10/1/2021	215,895.00	0.00	215,895 00	235.33
IRRIGATION USAGE	11/1/2021	NPW	gal	19714417	1" METER	8,418,771.00	10/1/2021	8,650,984 00	11/1/2021	232,213.00	0.00	232,213 00	253.11
IRRIGATION USAGE	12/1/2021	NPW	gal	19714417	1" METER	8,650,984.00	11/1/2021	8,885,399 00	12/1/2021	234,415.00	0.00	234,415 00	255.51
IRRIGATION USAGE	12/31/2021	NPW	gal	19714417	1" METER	8,885,399.00	12/1/2021	9,153,662 00	12/31/2021	268,263.00	0.00	268,263 00	292.41
IRRIGATION USAGE	2/1/2022	NPW	gal	19714417	1" METER	9,153,662.00	12/31/2021	9,364,132 00	2/1/2022	210,470.00	0.00	210,470 00	229.41
IRRIGATION USAGE	3/1/2022	NPW	gal	19714417	1" METER	9,364,132.00	2/1/2022	9,549,270 00	3/1/2022	185,138.00	0.00	185,138 00	201.80
IRRIGATION USAGE	4/1/2022	NPW	gal	19714417	1" METER	9,549,270.00	3/1/2022	9,798,065 00	4/1/2022	248,795.00	0.00	248,795 00	271.19
IRRIGATION USAGE	5/2/2022	NPW	gal	19714417	1" METER	9,798,065.00	4/1/2022	35,273.00	5/2/2022	237,208.00	0.00	237,208 00	258.56
IRRIGATION USAGE	6/1/2022	NPW	gal	19714417	1" METER	35,273.00	5/2/2022	188,313 00	6/1/2022	153,040.00	0.00	153,040 00	166.81
IRRIGATION USAGE	7/1/2022	NPW	gal	19714417	1" METER	188,313.00	6/1/2022	201,552 00	7/1/2022	13,239.00	0.00	13,239 00	14.43
IRRIGATION USAGE	8/1/2022	NPW	gal	19714417	1" METER	201,552.00	7/1/2022	411,116 00	8/1/2022	209,564.00	0.00	209,564 00	228.42
											2,464,635.00		
											480030450000		
IRRIGATION USAGE	9/1/2021	NPW	gal	44059633	1" METER	1,617,524.00	8/2/2021	1,782,808 00	9/1/2021	165,284.00	0.00	165,284 00	180.16
IRRIGATION USAGE	10/1/2021	NPW	gal	44059633	1" METER	1,782,808.00	9/1/2021	1,959,954 00	10/1/2021	177,146.00	0.00	177,146 00	193.09
IRRIGATION USAGE	11/1/2021	NPW	gal	44059633	1" METER	1,959,954.00	10/1/2021	2,083,282 00	11/1/2021	123,328.00	0.00	123,328 00	134.43
IRRIGATION USAGE	12/1/2021	NPW	gal	44059633	1" METER	2,083,282.00	11/1/2021	2,085,996 00	12/1/2021	2,714.00	0.00	2,714 00	2.96
IRRIGATION USAGE	12/31/2021	NPW	gal	44059633	1" METER	2,085,996.00	12/1/2021	2,090,143 00	12/31/2021	4,147.00	0.00	4,147 00	4.52
IRRIGATION USAGE	2/1/2022	NPW	gal	44059633	1" METER	2,090,143.00	12/31/2021	2,091,774 00	2/1/2022	1,631.00	0.00	1,631 00	1.78
IRRIGATION USAGE	2/19/2022	NPW	gal	44059633	1" METER	2,091,774.00	2/1/2022	2,091,774 00	2/2/2022	0.00	0.00	0 00	0.00
											474,250.00		
											480030450000		
IRRIGATION USAGE	3/1/2022	NPW	gal	44059633	1" METER	2,091,774.00	2/2/2022	2,092,760 00	3/1/2022	986.00	0.00	986 00	1.07
IRRIGATION USAGE	4/1/2022	NPW	gal	44059633	1" METER	2,091,774.00	3/1/2022	2,094,997 00	4/1/2022	3,223.00	0.00	3,223 00	3.51
IRRIGATION USAGE	5/2/2022	NPW	gal	44059633	1" METER	2,096,822.00	5/2/2022	2,096,823 00	5/2/2022	1.00	0.00	1 00	0.00
IRRIGATION USAGE	5/16/2022	NPW	gal	44059633	1" METER	2,096,822.00	5/2/2022	2,097,180 00	5/5/2022	358.00	0.00	358 00	0.39
											4,568.00		
											480030450000		
IRRIGATION USAGE	6/1/2022	NPW	gal	44059633	1" METER	2,096,822.00	5/2/2022	2,098,505 00	6/1/2022	1,683.00	0.00	1,683 00	1.83
IRRIGATION USAGE	7/1/2022	NPW	gal	44059633	1" METER	2,098,505.00	6/1/2022	2,099,157 00	7/1/2022	652.00	0.00	652 00	0.71
IRRIGATION USAGE	8/1/2022	NPW	gal	44059633	1" METER	2,099,157.00	7/1/2022	2,101,807 00	8/1/2022	2,650.00	0.00	2,650 00	2.89
											4,985.00		
											480030460000		
IRRIGATION USAGE	9/1/2021	NPW	gal	14415314	1" METER	9,672,732.00	8/2/2021	9,857,615 00	9/1/2021	184,883.00	0.00	184,883 00	201.52
IRRIGATION USAGE	10/1/2021	NPW	gal	14415314	1" METER	9,857,615.00	9/1/2021	41,285.00	10/1/2021	183,670.00	0.00	183,670 00	200.20
IRRIGATION USAGE	11/1/2021	NPW	gal	14415314	1" METER	41,285.00	10/1/2021	229,300 00	11/1/2021	188,015.00	0.00	188,015 00	204.94
IRRIGATION USAGE	12/1/2021	NPW	gal	14415314	1" METER	229,300.00	11/1/2021	341,719 00	12/1/2021	112,419.00	0.00	112,419 00	122.54
IRRIGATION USAGE	12/31/2021	NPW	gal	14415314	1" METER	341,719.00	12/1/2021	415,605 00	12/31/2021	73,886.00	0.00	73,886 00	80.54
IRRIGATION USAGE	2/1/2022	NPW	gal	14415314	1" METER	415,605.00	12/31/2021	418,961 00	2/1/2022	3,356.00	0.00	3,356 00	3.66
IRRIGATION USAGE	3/1/2022	NPW	gal	14415314	1" METER	418,961.00	2/1/2022	569,038 00	3/1/2022	150,077.00	0.00	150,077 00	163.58
IRRIGATION USAGE	4/1/2022	NPW	gal	14415314	1" METER	569,038.00	3/1/2022	764,868 00	4/1/2022	195,830.00	0.00	195,830 00	213.45
IRRIGATION USAGE	5/2/2022	NPW	gal	14415314	1" METER	764,868.00	4/1/2022	947,053 00	5/2/2022	182,185.00	0.00	182,185 00	198.58
IRRIGATION USAGE	6/1/2022	NPW	gal	14415314	1" METER	947,053.00	5/2/2022	1,143,077 00	6/1/2022	196,024.00	0.00	196,024 00	213.67
IRRIGATION USAGE	7/1/2022	NPW	gal	14415314	1" METER	1,143,077.00	6/1/2022	1,346,041 00	7/1/2022	202,964.00	0.00	202,964 00	221.23
IRRIGATION USAGE	8/1/2022	NPW	gal	14415314	1" METER	1,346,041.00	7/1/2022	1,552,113 00	8/1/2022	206,072.00	0.00	206,072 00	224.62
											1,879,381.00		
											480030470000		
IRRIGATION USAGE	9/1/2021	NPW	gal	17501509	1" METER	2,600,073.00	8/2/2021	2,690,467 00	9/1/2021	90,394.00	0.00	90,394 00	98.53
											90,394.00		
											480030470000		
IRRIGATION USAGE	10/27/2021	NPW	gal	17501509	1" METER	2,690,467.00	9/1/2021	2,741,558 00	10/1/2021	51,091.00	0.00	51,091 00	55.69
IRRIGATION USAGE	11/1/2021	NPW	gal	17501509	1" METER	2,690,467.00	10/1/2021	2,793,845 00	11/1/2021	103,378.00	0.00	103,378 00	112.68
IRRIGATION USAGE	12/1/2021	NPW	gal	17501509	1" METER	2,793,845.00	11/1/2021	2,855,626 00	12/1/2021	61,781.00	0.00	61,781 00	67.34
IRRIGATION USAGE	12/31/2021	NPW	gal	17501509	1" METER	2,855,626.00	12/1/2021	2,937,625 00	12/31/2021	81,999.00	0.00	81,999 00	89.38
IRRIGATION USAGE	2/1/2022	NPW	gal	17501509	1" METER	2,937,625.00	12/31/2021	3,002,952 00	2/1/2022	65,327.00	0.00	65,327 00	71.21
IRRIGATION USAGE	3/1/2022	NPW	gal	17501509	1" METER	3,002,952.00	2/1/2022	3,058,722 00	3/1/2022	55,770.00	0.00	55,770 00	60.79
IRRIGATION USAGE	4/1/2022	NPW	gal	17									

EXHIBIT 3

IRRIGATION USAGE	5/2/2022	NPW	gal	19714414	1" METER	3,315,856.00	4/2/2022	3,460,751 00	5/2/2022	144,895.00	0.00	144,895 00	157.94
IRRIGATION USAGE	6/1/2022	NPW	gal	19714414	1" METER	3,460,751.00	5/2/2022	3,538,372 00	6/1/2022	77,621.00	0.00	77,621 00	86.16
IRRIGATION USAGE	7/1/2022	NPW	gal	19714414	1" METER	3,538,372.00	6/1/2022	3,724,283 00	7/1/2022	185,911.00	0.00	185,911 00	208.64
IRRIGATION USAGE	8/1/2022	NPW	gal	19714414	1" METER	3,724,283.00	7/1/2022	4,066,408 00	8/1/2022	342,125.00	0.00	342,125 00	372.92

1,628,031.00

480031060002

IRRIGATION USAGE	9/1/2021	NPW	gal	OV001900	1" METER	2,744,525.00	8/2/2021	2,744,525 00	9/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	10/1/2021	NPW	gal	OV001900	1" METER	2,744,525.00	9/1/2021	2,744,525 00	10/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	OV001900	1" METER	2,744,525.00	10/1/2021	2,744,525 00	11/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	OV001900	1" METER	2,744,525.00	11/1/2021	2,744,525 00	12/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	OV001900	1" METER	2,744,525.00	12/1/2021	2,744,525 00	12/31/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	12/31/2021	2,744,525 00	2/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	3/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	2/1/2022	2,744,525 00	3/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	4/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	3/1/2022	2,744,525 00	4/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	5/2/2022	NPW	gal	OV001900	1" METER	2,744,525.00	4/1/2022	2,744,525 00	5/2/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	6/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	5/2/2022	2,744,525 00	6/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	7/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	6/1/2022	2,744,525 00	7/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	8/1/2022	NPW	gal	OV001900	1" METER	2,744,525.00	7/1/2022	2,744,525 00	8/1/2022	0.00	0.00	0 00	0.00

0.00

480030050000

IRRIGATION USAGE	9/1/2021	NPW	gal	33152369	1 1/2" METER	20,706,900.00	8/2/2021	20,824,400.00	9/1/2021	117,500.00	0.00	117,500 00	128.08
IRRIGATION USAGE	10/1/2021	NPW	gal	33152369	1 1/2" METER	20,824,400.00	9/1/2021	20,921,300.00	10/1/2021	96,900.00	0.00	96,900 00	105.62
IRRIGATION USAGE	11/1/2021	NPW	gal	33152369	1 1/2" METER	20,921,300.00	10/1/2021	21,028,800.00	11/1/2021	107,500.00	0.00	107,500 00	117.18
IRRIGATION USAGE	12/1/2021	NPW	gal	33152369	1 1/2" METER	21,028,800.00	11/1/2021	21,132,200.00	12/1/2021	103,400.00	0.00	103,400 00	112.71
IRRIGATION USAGE	12/31/2021	NPW	gal	33152369	1 1/2" METER	21,132,200.00	12/1/2021	21,222,600.00	12/31/2021	90,400.00	0.00	90,400 00	98.54
IRRIGATION USAGE	2/1/2022	NPW	gal	33152369	1 1/2" METER	21,222,600.00	12/31/2021	21,310,700.00	2/1/2022	88,100.00	0.00	88,100 00	96.03
IRRIGATION USAGE	3/1/2022	NPW	gal	33152369	1 1/2" METER	21,310,700.00	2/1/2022	21,368,100.00	2/24/2022	77,572.00	0.00	77,572 00	84.55
				211039107	1 1/2" METER	0.00	2/24/2022	20,172.00	3/2/2022				
IRRIGATION USAGE	4/1/2022	NPW	gal	211039107	1 1/2" METER	20,172.00	3/2/2022	129,322 00	4/2/2022	109,150.00	0.00	109,150 00	118.97
IRRIGATION USAGE	5/2/2022	NPW	gal	211039107	1 1/2" METER	129,322.00	4/2/2022	229,996 00	5/2/2022	100,674.00	0.00	100,674 00	109.73
IRRIGATION USAGE	6/1/2022	NPW	gal	211039107	1 1/2" METER	229,996.00	5/2/2022	339,583 00	6/1/2022	109,587.00	0.00	109,587 00	119.45
IRRIGATION USAGE	7/1/2022	NPW	gal	211039107	1 1/2" METER	339,583.00	6/1/2022	487,850 00	7/1/2022	148,267.00	0.00	148,267 00	161.61
IRRIGATION USAGE	8/1/2022	NPW	gal	211039107	1 1/2" METER	487,850.00	7/1/2022	639,253 00	8/1/2022	151,403.00	0.00	151,403 00	165.03

1,300,453.00

480030050000

IRRIGATION USAGE	9/1/2021	NPW	gal	20814607	1 1/2" METER	838,754.00	8/2/2021	889,005 00	9/1/2021	50,251.00	0.00	50,251 00	54.77
IRRIGATION USAGE	10/1/2021	NPW	gal	20814607	1 1/2" METER	889,005.00	9/1/2021	933,951 00	10/1/2021	44,946.00	0.00	44,946 00	48.99
IRRIGATION USAGE	11/1/2021	NPW	gal	20814607	1 1/2" METER	933,951.00	10/1/2021	983,717 00	11/2/2021	49,766.00	0.00	49,766 00	54.24
IRRIGATION USAGE	12/1/2021	NPW	gal	20814607	1 1/2" METER	983,717.00	11/2/2021	1,031,747 00	12/2/2021	48,030.00	0.00	48,030 00	52.35
IRRIGATION USAGE	12/31/2021	NPW	gal	20814607	1 1/2" METER	1,031,747.00	12/2/2021	1,076,405 00	12/31/2021	44,658.00	0.00	44,658 00	48.68
IRRIGATION USAGE	2/1/2022	NPW	gal	20814607	1 1/2" METER	1,076,405.00	12/31/2021	1,106,608 00	2/1/2022	30,203.00	0.00	30,203 00	32.92
IRRIGATION USAGE	3/1/2022	NPW	gal	20814607	1 1/2" METER	1,106,608.00	2/1/2022	1,148,805 00	3/2/2022	42,197.00	0.00	42,197 00	45.99
IRRIGATION USAGE	4/1/2022	NPW	gal	20814607	1 1/2" METER	1,148,805.00	3/2/2022	1,198,966 00	4/2/2022	50,161.00	0.00	50,161 00	54.68
IRRIGATION USAGE	5/2/2022	NPW	gal	20814607	1 1/2" METER	1,198,966.00	4/2/2022	1,245,829 00	5/2/2022	46,863.00	0.00	46,863 00	51.08
IRRIGATION USAGE	6/1/2022	NPW	gal	20814607	1 1/2" METER	1,245,829.00	5/2/2022	1,289,221 00	6/1/2022	43,392.00	0.00	43,392 00	47.30
IRRIGATION USAGE	7/1/2022	NPW	gal	20814607	1 1/2" METER	1,289,221.00	6/1/2022	1,334,122 00	7/1/2022	44,901.00	0.00	44,901 00	48.94
IRRIGATION USAGE	8/1/2022	NPW	gal	20814607	1 1/2" METER	1,334,122.00	7/1/2022	1,373,909 00	8/1/2022	39,787.00	0.00	39,787 00	43.37

535,155.00

480030050000

IRRIGATION USAGE	9/1/2021	NPW	gal	3315237	1 1/2" METER	6,565,171.00	8/2/2021	6,565,171 00	9/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	10/1/2021	NPW	gal	3315237	1 1/2" METER	6,565,171.00	9/1/2021	6,565,171 00	10/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	3315237	1 1/2" METER	6,565,171.00	10/1/2021	6,565,171 00	11/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	3315237	1 1/2" METER	6,565,171.00	11/1/2021	6,565,171 00	12/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	3315237	1 1/2" METER	6,565,171.00	12/1/2021	6,565,171 00	12/31/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	3315237	1 1/2" METER	6,565,171.00	12/31/2021	6,565,171 00	2/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	3/1/2022	NPW	gal	3315237	1 1/2" METER	7,275,278.00	2/1/2022	7,317,110 00	3/1/2022	41,832.00	0.00	41,832 00	45.60
IRRIGATION USAGE	4/1/2022	NPW	gal	3315237	1 1/2" METER	7,317,110.00	3/1/2022	7,320,930 00	4/1/2022	3,820.00	0.00	3,820 00	4.16
IRRIGATION USAGE	5/2/2022	NPW	gal	3315237	1 1/2" METER	7,320,930.00	4/1/2022	7,327,200 00	5/2/2022	6,270.00	0.00	6,270 00	6.83
IRRIGATION USAGE	6/1/2022	NPW	gal	3315237	1 1/2" METER	7,327,200.00	5/2/2022	7,330,490 00	6/1/2022	3,290.00	0.00	3,290 00	3.59
IRRIGATION USAGE	7/1/2022	NPW	gal	3315237	1 1/2" METER	7,330,490.00	6/1/2022	7,373,945 00	7/1/2022	43,455.00	0.00	43,455 00	47.37
IRRIGATION USAGE	8/1/2022	NPW	gal	3315237	1 1/2" METER	7,373,945.00	7/1/2022	7,378,950 00	8/1/2022	5,005.00	0.00	5,005 00	5.46

103,672.00

480030050000

IRRIGATION USAGE	9/1/2021	NPW	gal	33539459	1" METER	1,151,727.00	8/2/2021	1,151,727 00	9/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	10/1/2021	NPW	gal	33539459	1" METER	1,151,727.00	9/1/2021	1,151,727 00	10/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	11/1/2021	NPW	gal	33539459	1" METER	1,151,727.00	10/1/2021	1,151,727 00	11/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/1/2021	NPW	gal	33539459	1" METER	1,151,727.00	11/1/2021	1,151,727 00	12/1/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	12/31/2021	NPW	gal	33539459	1" METER	1,151,727.00	12/1/2021	1,151,727 00	12/31/2021	0.00	0.00	0 00	0.00
IRRIGATION USAGE	2/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	12/31/2021	1,151,727 00	2/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	3/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	2/1/2022	1,151,727 00	3/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	4/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	3/1/2022	1,151,727 00	4/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	5/2/2022	NPW	gal	33539459	1" METER	1,151,727.00	4/1/2022	1,151,727 00	5/2/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	6/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	5/2/2022	1,151,727 00	6/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	7/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	6/1/2022	1,151,727 00	7/1/2022	0.00	0.00	0 00	0.00
IRRIGATION USAGE	8/1/2022	NPW	gal	33539459	1" METER	1,151,727.00	7/1/2022	1,151,727 00	8/1/2022	0.00	0.00	0 00	0.00

0.00

480030050000

IRRIGATION USAGE	9/1/2021	NPW	gal	17890564	1 1/2" METER	7,483,054.00	8/2/2021	7,684,955 00	9/1/2021	201,901.00	0.00	201,901 00	220.07
IRRIGATION USAGE	10/1/2021	NPW	gal	17890564	1 1/2" METER	7,684,955.00	9/1/2021	7,837,470 00	10/1/2021	152,515.00	0.00	152,515 00	166.24
IRRIGATION USAGE	11/1/2021	NPW	gal	17890564	1 1/2" METER	7,837,470.00	10/1/2021	8,053,710 00	11/1/2021	216,240.00	0.00	216,240 00	235.70
IRRIGATION USAGE	12/1/2021	NPW	gal	17890564	1 1/2" METER	8,053,710.00	11/1/2021	8,218,480 00	12/1/2021	164,770.00	0.00	164,770 00	179.60
IRRIGATION USAGE	12/31/2021	NPW	gal	17890564	1 1/2" METER	8,218,480.00	12/1/2021	8,363,070 00	12/31/2021	144,590.00	0.00	144,590 00	157.60
IRRIGATION USAGE	2/1/2022	NPW	gal	17890564	1 1/2" METER	8,363,070.00	12/31/2021	8,505,350 00	2/1/2022	142,280.00	0.00	142,280 00	155.09
IRRIGATION USAGE	3/1/2022	NPW	gal	17890564	1 1/2" METER	8,505,350.00	2/1/2022	8,662,850 00	3/1/2022	157,500.00	0.00	157,500 00	171.68
IRRIGATION USAGE	4/1/2022	NPW	gal	17890564	1 1/2" METER	8,662,850.00	3/1/2022	8,845,340 00	4/1/2022	182,490.00	0.00	182,490 00	198.91
IRRIGATION USAGE	5/2/2022	NPW	gal	17890564	1 1/2" METER	8,845,340.00	4/1/2022	9,014,910 00	5/2/2022	169,570.00	0.00	169,570 00	184.83
IRRIGATION USAGE	6/1/2022	NPW	gal	17890564	1 1/2" METER	9,014,910.00	5/2/2022	9,368,780 00	6/1/2022	353,870.00	0.00	353,870 00	385.72
IRRIGATION USAGE	7/1/2022	NPW	gal	17890564	1 1/2" METER	9,368,780.00	6/1/2022	9,530,490 00	7/1/2022	161,710.00	0.00	161,710 00	176.26
IRRIGATION USAGE	8/1/2022	NPW	gal	17890564	1 1/2" METER	9,530,490.00	7/1/2022	9,761,750 00	8/1/2022	231,260.00	0.00	231,260 00	252.07

EXHIBIT 3

Attachment to GWUPA: #11 Table 1 (I)  
SWUPA-E: #16 Table 1 (B)  
#17 Table 2 (B.G.I)

				19714417	1" METER	8,202,876.00	9/1/2021	8,418,771 00	10/1/2021	Attachment to SWUPA-A: #11 Table SWUPA-E: #16 Table #17 Table 2 (							
				44059633	1" METER	1,782,808.00	9/1/2021	1,959,954 00	10/1/2021								
				500	1" METER	9,345,380.00	9/1/2021	9,641,766 00	10/1/2021								
				180271377	1 1/2" METER	10,577,766.00	9/1/2021	11,092,453.00	10/1/2021								
				19285965	2" METER	1,414,296.00	9/1/2021	1,414,296 00	10/1/2021								
				86247412M	4" METER	45,972,200.00	9/1/2021	48,567,900.00	10/1/2021								
				14415314	1" METER	41,285.00	10/1/2021	229,300 00	11/1/2021								
				17501509	1" METER	2,690,467.00	10/1/2021	2,793,845 00	11/1/2021								
				19714417	1" METER	8,418,771.00	10/1/2021	8,650,984 00	11/1/2021								
				44059633	1" METER	1,959,954.00	10/1/2021	2,083,282 00	11/1/2021								
IRRIGATION USAGE	11/1/2021	NPW	gal	500	1" METER	9,641,766.00	10/1/2021	9,963,020 00	11/1/2021	1,091,317.00	0.00	1,091,317 00	1,189.54				
				180271377	1 1/2" METER	11,092,453.00	10/1/2021	11,621,648.00	11/2/2021								
				19285965	2" METER	1,414,296.00	10/1/2021	1,414,296 00	11/2/2021								
				86247412M	4" METER	48,567,900.00	10/1/2021	51,156,600.00	11/1/2021								
				14415314	1" METER	229,300.00	11/1/2021	341,719 00	12/1/2021								
				17501509	1" METER	2,793,845.00	11/1/2021	2,855,626 00	12/1/2021								
				19714417	1" METER	8,650,984.00	11/1/2021	8,885,399 00	12/1/2021								
				44059633	1" METER	2,083,282.00	11/1/2021	2,085,996 00	12/1/2021								
				500	1" METER	9,963,020.00	11/1/2021	199,730 00	12/1/2021								
				180271377	1 1/2" METER	11,621,648.00	11/2/2021	12,093,395.00	12/2/2021								
IRRIGATION USAGE	12/1/2021	NPW	gal	19285965	2" METER	1,414,296.00	11/2/2021	1,414,296 00	12/2/2021	1,280,414.00	0.00	1,280,414 00	1,395.65				
				86247412M	4" METER	51,156,600.00	11/1/2021	53,556,800.00	12/1/2021								
				14415314	1" METER	341,719.00	12/1/2021	415,605 00	12/31/2021								
				17501509	1" METER	2,855,626.00	12/1/2021	2,937,625 00	12/31/2021								
				19714417	1" METER	8,885,399.00	12/1/2021	9,153,662 00	12/31/2021								
				44059633	1" METER	2,085,996.00	12/1/2021	2,090,143 00	12/31/2021								
				500	1" METER	199,730.00	12/1/2021	344,640 00	12/31/2021								
				180271377	1 1/2" METER	12,093,395.00	12/2/2021	12,418,622.00	12/31/2021								
				19285965	2" METER	1,414,296.00	12/2/2021	1,414,296 00	12/31/2021								
				86247412M	4" METER	51,156,600.00	11/1/2021	53,556,800.00	12/1/2021								
IRRIGATION USAGE	12/31/2021	NPW	gal	14415314	1" METER	341,719.00	12/1/2021	415,605 00	12/31/2021	1,399,668.00	0.00	1,399,668 00	1,525.64				
				17501509	1" METER	2,855,626.00	12/1/2021	2,937,625 00	12/31/2021								
				19714417	1" METER	8,885,399.00	12/1/2021	9,153,662 00	12/31/2021								
				44059633	1" METER	2,085,996.00	12/1/2021	2,090,143 00	12/31/2021								
				500	1" METER	199,730.00	12/1/2021	344,640 00	12/31/2021								
				180271377	1 1/2" METER	12,093,395.00	12/2/2021	12,418,622.00	12/31/2021								
				19285965	2" METER	1,414,296.00	12/2/2021	1,414,296 00	12/31/2021								
				86247412M	4" METER	53,556,800.00	12/1/2021	55,854,900.00	12/31/2021								
				14415314	1" METER	415,605.00	12/31/2021	418,961 00	2/1/2022								
				17501509	1" METER	2,937,625.00	12/31/2021	3,002,952 00	2/1/2022								
IRRIGATION USAGE	2/1/2022	NPW	gal	19714417	1" METER	9,153,662.00	12/31/2021	9,364,132 00	2/1/2022	1,057,307.00	0.00	1,057,307 00	1,152.46				
				44059633	1" METER	2,090,143.00	12/31/2021	2,091,774 00	2/1/2022								
				500	1" METER	344,640.00	12/31/2021	517,780 00	2/1/2022								
				180271377	1 1/2" METER	12,418,622.00	12/31/2021	12,763,491.00	2/1/2022								
				19285965	2" METER	1,414,296.00	12/31/2021	1,414,296 00	2/1/2022								
				86247412M	4" METER	55,854,900.00	12/31/2021	57,711,000.00	2/1/2022								
				14415314	1" METER	418,961.00	2/1/2022	569,038 00	3/1/2022								
				17501509	1" METER	3,002,952.00	2/1/2022	3,058,722 00	3/1/2022								
				19714417	1" METER	9,364,132.00	2/1/2022	9,549,270 00	3/1/2022								
				44059633	1" METER	2,091,774.00	2/1/2022	2,092,760 00	3/1/2022								
IRRIGATION USAGE	3/1/2022	NPW	gal	500	1" METER	517,780.00	2/1/2022	647,100 00	2/23/2022	391,884.00	0.00	391,884 00	427.15				
				211039104	1" METER	0.00	2/23/2022	55,637.00	3/1/2022								
				180271377	1 1/2" METER	12,763,491.00	2/1/2022	13,121,379.00	3/2/2022								
				19285965	2" METER	1,414,296.00	2/1/2022	1,414,296 00	3/2/2022								
				86247412M	4" METER	57,711,000.00	2/1/2022	59,037,700.00	3/1/2022								
				14415314	1" METER	569,038.00	3/1/2022	764,868 00	4/1/2022								
				17501509	1" METER	3,058,722.00	3/1/2022	3,116,036 00	4/1/2022								
				19714417	1" METER	9,549,270.00	3/1/2022	9,798,065 00	4/1/2022								
				44059633	1" METER	2,091,774.00	2/2/2022	2,094,997 00	4/1/2022								
				211039104	1" METER	55,637.00	3/1/2022	298,001 00	4/1/2022								
IRRIGATION USAGE	4/1/2022	NPW	gal	180271377	1 1/2" METER	13,121,379.00	3/2/2022	13,572,151.00	4/2/2022	851,802.00	0.00	851,802 00	928.46				
				19285965	2" METER	1,414,296.00	3/2/2022	1,414,296 00	4/2/2022								
				86247412M	4" METER	59,037,700.00	3/1/2022	61,087,800.00	4/1/2022								
				14415314	1" METER	764,868.00	4/1/2022	947,053 00	5/2/2022								
				17501509	1" METER	3,116,036.00	4/1/2022	3,116,907 00	5/2/2022								
				19714417	1" METER	9,798,065.00	4/1/2022	35,273.00	5/2/2022								
				44059633	1" METER	2,091,774.00	3/1/2022	2,096,822 00	5/2/2022								
				211039104	1" METER	298,001.00	4/1/2022	520,728 00	5/2/2022								
				180271377	1 1/2" METER	13,572,151.00	4/2/2022	14,026,223.00	5/2/2022								
				19285965	2" METER	1,414,296.00	4/2/2022	1,414,296 00	5/2/2022								
IRRIGATION USAGE	5/2/2022	NPW	gal	86247412M	4" METER	61,087,800.00	4/1/2022	63,101,500.00	5/2/2022	911,589.00	0.00	911,589 00	993.63				
				14415314	1" METER	947,053.00	5/2/2022	1,143,077 00	6/1/2022								
				17501509	1" METER	3,116,907.00	5/2/2022	3,173,221 00	6/1/2022								
				19714417	1" METER	35,273.00	5/2/2022	188,313 00	6/1/2022								
				44059633	1" METER	2,096,822.00	5/2/2022	2,098,505 00	6/1/2022								
				211039104	1" METER	520,728.00	5/2/2022	855,015 00	6/1/2022								
				180271377	1 1/2" METER	14,026,223.00	5/2/2022	14,490,753.00	6/1/2022								
				19285965	2" METER	1,414,296.00	5/2/2022	1,414,296 00	6/1/2022								
				86247412M	4" METER	63,101,500.00	5/2/2022	65,070,300.00	6/1/2022								
				14415314	1" METER	1,143,077.00	6/1/2022	1,346,041 00	7/1/2022								
IRRIGATION USAGE	6/1/2022	NPW	gal	17501509	1" METER	3,173,221.00	6/1/2022	3,301,445 00	7/1/2022	762,922.00	0.00	762,922 00	831.58				
				19714417	1" METER	188,313.00	6/1/2022	201,552 00	7/1/2022								
				44059633	1" METER	2,098,505.00	6/1/2022	2,099,157 00	7/1/2022								
				211039104	1" METER	855,015.00	6/1/2022	1,018,181 00	7/1/2022								
				180271377	1 1/2" METER	14,490,753.00	6/1/2022	15,011,226.00	7/1/2022								
				210232392	1 1/2" METER	176,420.00	6/1/2022	459,487 00	7/1/2022								
				19285965	2" METER	1,414,296.00	6/1/2022	1,414,296 00	7/1/2022								
				86247412M	4" METER	65,070,300.00	6/1/2022	66,842,800.00	7/1/2022								
				14415314	1" METER	1,346,041.00	7/1/2022	1,552,113 00	8/1/2022								
				17501509	1" METER	3,301,445.00	7/1/2022	3,481,308 00	8/1/2022								
IRRIGATION USAGE	7/1/2022	NPW	gal	19714417	1" METER	201,552.00	7/1/2022	411,116 00	8/1/2022	460,715.00	0.00	460,715 00	502.18				
				44059633	1" METER	2,099,157.00	7/1/2022	2,101,807 00	8/1/2022								
				211039104	1" METER	1,018,181.00	7/1/2022	1,251,044 00	8/1/2022								
				180271377	1 1/2" METER	15,011,226.00	7/1/2022	15,495,202.00	8/1/2022								
				210232392	1 1/2" METER	459,487.00	7/1/2022	607,785 00	8/1/2022								
				19285965	2" METER	1,414,296.00	7/1/2022	1,414,296 00	8/1/2022								
				86247412M	4" METER	66,842,800.00	7/1/2022	69,014,300.00	8/1/2022								
				10,950,982.00													
				480031180000													
				IRRIGATION USAGE	9/1/2021	NPW	gal	19285965	2" METER					1,414,296.00	8/2/2021	1,414,296 00	9/1/2021
IRRIGATION USAGE	10/1/2021	NPW	gal	19285965	2" METER	1,414,296.00	9/1/2021	1,414,296 00	10/1/2021	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	11/1/2021	NPW	gal	19285965	2" METER	1,414,296.00	10/1/2021	1,414,296 00	11/2/2021	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	12/1/2021	NPW	gal	19285965	2" METER	1,414,296.00	11/2/2021	1,414,296 00	12/2/2021	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	12/31/2021	NPW	gal	19285965	2" METER	1,414,296.00	12/2/2021	1,414,296 00	12/31/2021	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	2/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	12/31/2021	1,414,296 00	2/1/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	3/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	2/1/2022	1,414,296 00	3/2/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	4/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	3/2/2022	1,414,296 00	4/2/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	5/2/2022	NPW	gal	19285965	2" METER	1,414,296.00	4/2/2022	1,414,296 00	5/2/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	6/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	5/2/2022	1,414,296 00	6/1/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	7/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	6/1/2022	1,414,296 00	7/1/2022	0.00	0.00	0 00	0.00				
IRRIGATION USAGE	8/1/2022	NPW	gal	19285965	2" METER	1,414,296.00	7/1/2022	1,414,296 00	8/1/2022	0.00	0.00	0 00	0.00				

EXHIBIT 3

Attachment to GWUPA: #11 Table 1 (I)  
SWUPA-E: #16 Table 1 (B)  
#17 Table 2 (B.G.I)

480031180000												#17 Table 2 (
IRRIGATION USAGE	9/1/2021	NPW	gal	OA000100A	3" METER	144,459,400 00	8/2/2021	##### 9/1/2021	181,200.00	0.00	181,200 00	197.51
IRRIGATION USAGE	10/1/2021	NPW	gal	OA000100A	3" METER	144,640,600 00	9/1/2021	##### 10/1/2021	58,000.00	0.00	58,000 00	63.22
IRRIGATION USAGE	11/1/2021	NPW	gal	OA000100A	3" METER	144,698,600 00	10/1/2021	##### 11/1/2021	175,900.00	0.00	175,900 00	191.73
IRRIGATION USAGE	12/1/2021	NPW	gal	OA000100A	3" METER	144,874,500 00	11/1/2021	##### 12/1/2021	515,500.00	0.00	515,500 00	561.90
IRRIGATION USAGE	12/31/2021	NPW	gal	OA000100A	3" METER	145,390,000 00	12/1/2021	##### 12/31/2021	526,200.00	0.00	526,200 00	573.56
IRRIGATION USAGE	2/1/2022	NPW	gal	OA000100A	3" METER	145,916,200 00	12/31/2021	##### 2/1/2022	440,700.00	0.00	440,700 00	480.36
IRRIGATION USAGE	3/1/2022	NPW	gal	OA000100A	3" METER	146,356,900 00	2/1/2022	##### 3/1/2022	392,100.00	0.00	392,100 00	427.39
IRRIGATION USAGE	4/1/2022	NPW	gal	OA000100A	3" METER	146,749,000 00	3/1/2022	##### 4/1/2022	173,400.00	0.00	173,400 00	189.01
IRRIGATION USAGE	5/2/2022	NPW	gal	OA000100A	3" METER	146,922,400 00	4/1/2022	##### 5/2/2022	219,400.00	0.00	219,400 00	239.15
IRRIGATION USAGE	6/1/2022	NPW	gal	OA000100A	3" METER	147,141,800 00	5/2/2022	##### 6/1/2022	374,100.00	0.00	374,100 00	407.77
IRRIGATION USAGE	7/1/2022	NPW	gal	OA000100A	3" METER	147,515,900 00	6/1/2022	##### 7/1/2022	397,200.00	0.00	397,200 00	432.95
IRRIGATION USAGE	8/1/2022	NPW	gal	OA000100A	3" METER	147,913,100 00	7/1/2022	##### 8/1/2022	437,700.00	0.00	437,700 00	477.09

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IRRIGATION USAGE	9/1/2021	NPW	gal	16048920	2" METER	257,037.00	8/2/2021	310,856 00	9/1/2021	53,819.00	0.00	53,819 00	58.66
IRRIGATION USAGE	10/1/2021	NPW	gal	16048920	2" METER	310,856.00	9/1/2021	360,953 00	10/1/2021	50,097.00	0.00	50,097 00	54.61
IRRIGATION USAGE	11/1/2021	NPW	gal	16048920	2" METER	360,953.00	10/1/2021	413,006 00	11/2/2021	52,053.00	0.00	52,053 00	56.74
IRRIGATION USAGE	12/1/2021	NPW	gal	16048920	2" METER	413,006.00	11/2/2021	438,708 00	12/2/2021	25,702.00	0.00	25,702 00	28.02
IRRIGATION USAGE	12/31/2021	NPW	gal	16048920	2" METER	438,708.00	12/2/2021	489,194 00	12/31/2021	50,486.00	0.00	50,486 00	55.03
IRRIGATION USAGE	2/1/2022	NPW	gal	16048920	2" METER	489,194.00	12/31/2021	534,828 00	2/1/2022	45,634.00	0.00	45,634 00	49.74
IRRIGATION USAGE	3/1/2022	NPW	gal	16048920	2" METER	534,828.00	2/1/2022	652,840 00	3/2/2022	118,012.00	0.00	118,012 00	128.63
IRRIGATION USAGE	4/1/2022	NPW	gal	16048920	2" METER	652,840.00	3/2/2022	751,461 00	4/2/2022	98,621.00	0.00	98,621 00	107.50
IRRIGATION USAGE	5/2/2022	NPW	gal	16048920	2" METER	751,461.00	4/2/2022	821,132 00	5/2/2022	69,671.00	0.00	69,671 00	75.94
IRRIGATION USAGE	6/1/2022	NPW	gal	16048920	2" METER	821,132.00	5/2/2022	931,830 00	6/1/2022	110,698.00	0.00	110,698 00	120.66
IRRIGATION USAGE	7/1/2022	NPW	gal	16048920	2" METER	931,830.00	6/1/2022	1,086,558 00	7/1/2022	154,728.00	0.00	154,728 00	168.65
IRRIGATION USAGE	8/1/2022	NPW	gal	16048920	2" METER	1,086,558.00	7/1/2022	1,239,297 00	8/1/2022	152,739.00	0.00	152,739 00	166.49
982,260.00													

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IRRIGATION USAGE	9/1/2021	NPW	gal	16487885	1 1/2" METER	707,988.00	8/2/2021	758,950 00	9/1/2021	50,962.00	0.00	50,962 00	55.55
IRRIGATION USAGE	10/1/2021	NPW	gal	16487885	1 1/2" METER	758,950.00	9/1/2021	801,012 00	10/1/2021	42,062.00	0.00	42,062 00	45.85
IRRIGATION USAGE	11/1/2021	NPW	gal	16487885	1 1/2" METER	801,012.00	10/1/2021	829,104 00	11/2/2021	28,092.00	0.00	28,092 00	30.62
IRRIGATION USAGE	12/1/2021	NPW	gal	16487885	1 1/2" METER	829,104.00	11/2/2021	897,205 00	12/2/2021	68,101.00	0.00	68,101 00	74.23
IRRIGATION USAGE	12/31/2021	NPW	gal	16487885	1 1/2" METER	897,205.00	12/2/2021	962,569 00	12/31/2021	65,364.00	0.00	65,364 00	71.25
IRRIGATION USAGE	2/1/2022	NPW	gal	16487885	1 1/2" METER	962,569.00	12/31/2021	997,752 00	2/1/2022	35,183.00	0.00	35,183 00	38.35
IRRIGATION USAGE	3/1/2022	NPW	gal	16487885	1 1/2" METER	997,752.00	2/1/2022	1,014,330 00	3/2/2022	16,578.00	0.00	16,578 00	18.07
IRRIGATION USAGE	4/1/2022	NPW	gal	16487885	1 1/2" METER	1,014,330.00	3/2/2022	1,043,632 00	4/2/2022	29,302.00	0.00	29,302 00	31.94
IRRIGATION USAGE	5/2/2022	NPW	gal	16487885	1 1/2" METER	1,043,632.00	4/2/2022	1,077,172 00	5/2/2022	33,540.00	0.00	33,540 00	36.56
IRRIGATION USAGE	6/1/2022	NPW	gal	16487885	1 1/2" METER	1,077,172.00	5/2/2022	1,129,051 00	6/1/2022	51,879.00	0.00	51,879 00	56.55
IRRIGATION USAGE	7/1/2022	NPW	gal	16487885	1 1/2" METER	1,129,051.00	6/1/2022	1,174,285 00	7/1/2022	45,234.00	0.00	45,234 00	49.31
IRRIGATION USAGE	8/1/2022	NPW	gal	16487885	1 1/2" METER	1,174,285.00	7/1/2022	1,225,038 00	8/1/2022	50,753.00	0.00	50,753 00	55.32
517,050.00													

480031180000													
IRRIGATION USAGE	9/1/2021	NPW	gal	201240345	1 1/2" METER	390,190.00	8/2/2021	433,522 00	9/1/2021	43,332.00	0.00	43,332 00	47.23
IRRIGATION USAGE	10/1/2021	NPW	gal	201240345	1 1/2" METER	433,522.00	9/1/2021	479,176 00	10/1/2021	45,654.00	0.00	45,654 00	49.76
IRRIGATION USAGE	11/1/2021	NPW	gal	201240345	1 1/2" METER	479,176.00	10/1/2021	515,269 00	11/2/2021	36,093.00	0.00	36,093 00	39.34
IRRIGATION USAGE	12/1/2021	NPW	gal	201240345	1 1/2" METER	515,269.00	11/2/2021	576,878 00	12/2/2021	61,609.00	0.00	61,609 00	67.15
IRRIGATION USAGE	12/31/2021	NPW	gal	201240345	1 1/2" METER	576,878.00	12/2/2021	619,531 00	12/31/2021	42,653.00	0.00	42,653 00	46.49
IRRIGATION USAGE	2/1/2022	NPW	gal	201240345	1 1/2" METER	619,531.00	12/31/2021	682,987 00	2/1/2022	63,456.00	0.00	63,456 00	69.17
IRRIGATION USAGE	3/1/2022	NPW	gal	201240345	1 1/2" METER	682,987.00	2/1/2022	878,001 00	3/2/2022	195,014.00	0.00	195,014 00	212.57
IRRIGATION USAGE	4/1/2022	NPW	gal	201240345	1 1/2" METER	878,001.00	3/2/2022	956,361 00	4/2/2022	78,360.00	0.00	78,360 00	85.41
IRRIGATION USAGE	5/2/2022	NPW	gal	201240345	1 1/2" METER	956,361.00	4/2/2022	1,040,290 00	5/2/2022	83,929.00	0.00	83,929 00	91.48
IRRIGATION USAGE	6/1/2022	NPW	gal	201240345	1 1/2" METER	1,040,290.00	5/2/2022	1,303,181 00	6/1/2022	262,891.00	0.00	262,891 00	286.55
IRRIGATION USAGE	7/1/2022	NPW	gal	201240345	1 1/2" METER	1,303,181.00	6/1/2022	1,386,427 00	7/1/2022	83,246.00	0.00	83,246 00	90.74
IRRIGATION USAGE	8/1/2022	NPW	gal	201240345	1 1/2" METER	1,386,427.00	7/1/2022	1,469,563 00	8/1/2022	83,136.00	0.00	83,136 00	90.62

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IRRIGATION USAGE	9/1/2021	NPW	gal	18524694	2" METER	215,435.00	8/2/2021	222,303 00	9/1/2021	6,868.00	0.00	6,868 00	7.49
IRRIGATION USAGE	10/1/2021	NPW	gal	18524694	2" METER	222,303.00	9/1/2021	229,261 00	10/1/2021	6,958.00	0.00	6,958 00	7.58
IRRIGATION USAGE	11/1/2021	NPW	gal	18524694	2" METER	229,261.00	10/1/2021	235,773 00	11/2/2021	6,512.00	0.00	6,512 00	7.10
IRRIGATION USAGE	12/1/2021	NPW	gal	18524694	2" METER	235,773.00	11/2/2021	241,574 00	12/1/2021	5,801.00	0.00	5,801 00	6.32
IRRIGATION USAGE	12/31/2021	NPW	gal	18524694	2" METER	241,574.00	12/1/2021	247,477 00	12/31/2021	5,903.00	0.00	5,903 00	6.43
IRRIGATION USAGE	2/1/2022	NPW	gal	18524694	2" METER	247,477.00	12/31/2021	257,085 00	2/1/2022	9,608.00	0.00	9,608 00	10.47
IRRIGATION USAGE	3/1/2022	NPW	gal	18524694	2" METER	257,085.00	2/1/2022	264,496 00	3/1/2022	7,411.00	0.00	7,411 00	8.08
IRRIGATION USAGE	4/1/2022	NPW	gal	18524694	2" METER	264,496.00	3/1/2022	271,419 00	4/2/2022	6,923.00	0.00	6,923 00	7.55
IRRIGATION USAGE	5/2/2022	NPW	gal	18524694	2" METER	271,419.00	4/2/2022	279,900 00	5/2/2022	8,481.00	0.00	8,481 00	9.24
IRRIGATION USAGE	6/1/2022	NPW	gal	18524694	2" METER	279,900.00	5/2/2022	289,219 00	6/1/2022	9,319.00	0.00	9,319 00	10.16
IRRIGATION USAGE	7/1/2022	NPW	gal	18524694	2" METER	289,219.00	6/1/2022	292,462 00	7/1/2022	3,243.00	0.00	3,243 00	3.53
IRRIGATION USAGE	8/1/2022	NPW	gal	18524694	2" METER	292,462.00	7/1/2022	300,424 00	8/1/2022	7,962.00	0.00	7,962 00	8.68

Service	Units	Rate Code	Actual	Adjusted	Billed	Charges
IRRIGATION USAGE	gal	NPW	89,096,250.00	-295,223.00	88,801,027.00	96,793.05
						0.00

**SCHEDULE A****OLOWALU WATER CO. (NON POTABLE)****Source:**

Olowalu Elua 6-4936-001  
OWC 2

Attachment to GWUPA: #11 Table 1 (B)  
#12 Table 2 (A,C)  
Attachment to SWUPA-E: #17 Table 2 (B)  
#18 Table 3 (A,C)

	<b>User TMK</b>	<b>GROSS ACRES</b>	<b>Authorized Planned TMK</b>	<b>GROSS ACRES</b>
1	480030020000	0.900	480030980000	15.027
2	480030050000	10.561	480030980001	incl above
3	480030050000	incl abv	480030980002	incl above
4	480030050000	incl abv	480030980003	incl above
5	480030050000	incl abv	480030980004	incl above
6	480030050000	incl abv	480030990000	15.575
7	480030050000	incl abv	480031000001	2.629
8	480030050000	incl abv	480031000002	2.181
9	480030050000	incl abv	480031000003	6.045
10	480030050000	incl abv	480031000004	8.907
11	480030100002	1.913	480031000005	7.351
12	480030440000	1.340	480031010001	5.395
13	480030450000	0.803	480031010002	1.503
14	480030460000	0.800	480031010003	12.422
15	480030470000	0.544	480031010004	4.768
16	480030840000	28.894	480031010005	5.291
17	480030840000	incl abv	480031020001	2.439
18	480030840000	incl abv	480031020002	2.242
19	480030840000	incl abv	480031020003	6.307
20	480030840000	incl abv	480031020004	3.602
21	480030850002	3.450	480031020005	2.291
22	480030850002	incl abv	480031030001	2.612
23	480030870000	4.060	480031030002	2.165
24	480030880001	1.235	480031030004	7.044
25	480030890001	4.095	480031030005	8.798
26	480030890002	1.651	480031040001	2.598
27	480030900000	6.268	480031040002	2.050
28	480030910001	4.398	480031040004	11.196
29	480030910002	1.010	480031050001	2.229
30	480030920000	5.844	480031050002	2.654

# SCHEDULE A

Attachment to GWUPA: #11 Table 1 (B)

#12 Table 2 (A,C)

Attachment to SWUPA-E: #17 Table 2 (B)

#18 Table 3 (A,C)

	User TMK	GROSS ACRES	Authorized Planned TMK	GROSS ACRES
31	480030930001	3.413	480031050003	4.366
32	480030930002	1.868	480031050004	4.302
33	480030940001	3.132	480031050005	27.183
34	480030940002	2.010	480031060001	13.703
35	480030950001	2.559	480031070003	10.000
36	480030950002	0.500	480031090001	9.486
37	480030960001	2.440	480031090002	6.681
38	480030960002	0.816	480031100001	4.440
39	480030970001	3.000	480031100002	4.821
40	480030970002	0.732	480031100003	7.959
41	480031030003	7.180	480031110001	4.136
42	480031040003	18.909	480031110002	2.437
43	480031040005	incl abv	480031110003	6.034
44	480031060002	2.974	480031110004	3.975
45	480031070001	31.143	480031120001	2.470
46	480031140003	7.390	480031120002	2.716
47	480031140001	6.531	480031120003	8.487
48	480031140002	5.958	480031120004	7.488
49	480031140004	5.391	480031120005	3.449
50	480031140005	3.569	480031130001	5.400
51	480031150001	3.614	480031130002	4.851
52	480031150002	2.515	480031130003	8.483
53	480031150003	5.995	480031130004	2.173
54	480031150004	6.862	480031130005	4.304
55	480031150005	7.198	480031160000	16.038
56	480031180000	42.709	480031170000	15.589
57	480031180000	incl abv	480031200000	2.213
58	480031180000	incl abv	480031200000	2.213
59	480031180000	incl abv		
60	480031180000	incl abv		
61	480031190000	2.176		
62	480031210000	4.550		
63	480031220000	2.004		
64	480031230000	2.001		
65	480031240000	16.086		

**480030020000-NP**

OWC ATTACHMENT GWUPA -E :#12



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**480030050000-NP**

OWC ATTACHMENT GWUPA -E :#12



**480030100002-NP**

OWC ATTACHMENT GWUPA -E :#12



05/11/2022

**480030440000-NP**

OWC ATTACHMENT GWUPA -E :#12



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**480030450000-NP**

OWC ATTACHMENT GWUPA -E :#12



08/29/2021

**480030460000-NP**

OWC ATTACHMENT GWUPA -E :#12



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**480030470000-NP**

OWC ATTACHMENT GWUPA -E :#12



08/29/2021

**480030840000-NP**

OWC ATTACHMENT GWUPA -E :#12



**480030850002-NP**

OWC ATTACHMENT GWUPA -E :#12



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08/30/2021

**480030870000-NP**

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08/30/2021

**480030880001-NP**

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**480030890002-NP**

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**480030900000-NP**

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08/29/2021

**480031030003-NP**

OWC ATTACHMENT GWUPA -E :#12



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**480031060002-NP**

OWC ATTACHMENT GWUPA -E :#12



**480031070001-NP**

OWC ATTACHMENT GWUPA -E :#12



**480031180000-NP**

OWC ATTACHMENT GWUPA -E :#12



**480031190000-NP**

OWC ATTACHMENT GWUPA -E :#12



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**480031210000-NP**

OWC ATTACHMENT GWUPA -E :#12



08/29/2021

**480031230000-NP**

OWC ATTACHMENT GWUPA -E :#12



08/29/2021

OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 48003108000**  
**Irrigation Type: Drip and Flood Taro**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030100000**  
**Irrigation Type: Drip & Sprinkler**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480030840000**  
**Irrigation Type: Drip & Sprinkler**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480030850000**  
**Irrigation Type: Drip & Sprinkler**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030930000**  
**Irrigation Type: Drip**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030930002**  
**Irrigation Type: Drip & Sprinkler**  
**% of property in Ag: 40%**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480030940000**  
**Irrigation Type: Drip & Sprinkler**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030940001**  
**Irrigation Type: Drip**  
**% of property in Ag: 75%**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030960000**  
**Irrigation Type: Drip**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030960001**  
**Irrigation Type: Drip & Sprinkler**  
**% of property in Ag: 70%**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030970000**  
**Irrigation Type: Drip**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480030980000**  
**Irrigation Type: Water trough**  
**% of property in Ag: 100%**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480031020000**  
**Irrigation Type: Water Troughs**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480031030000**  
**Irrigation Type: Drip & Water Trough**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480031040000**  
**Irrigation Type: Drip & Trough**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480031050000**  
**Irrigation Type: Drip**





OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480031140000**  
**Irrigation Type: Drip & Trough**



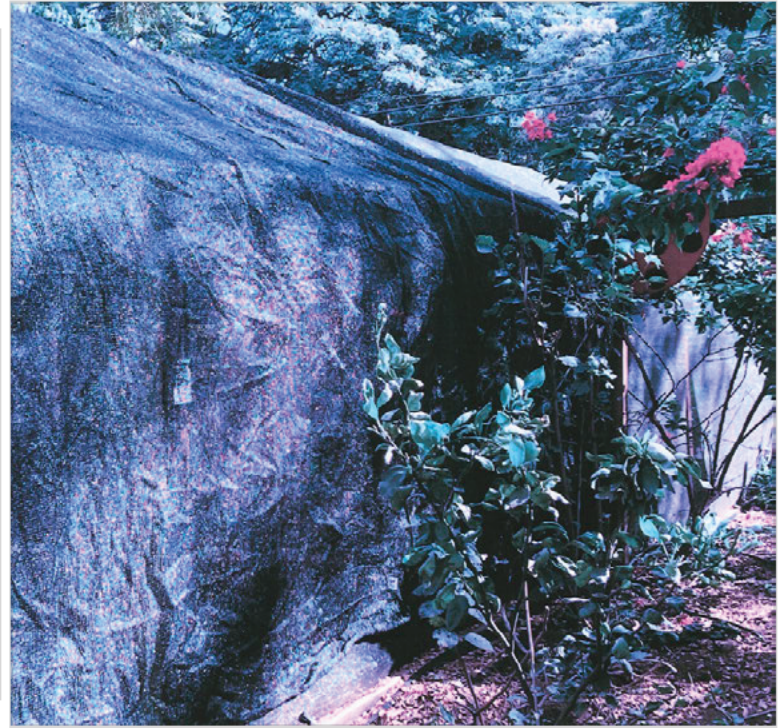
OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480031150000**  
**Irrigation Type: Drip & Sprinkler**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12;  
SWUPA E : #18

**TMK: 480031180000**  
**Irrigation Type: Drip**  
**% of property in Ag: 100%**



OWC SUPPLIMENT TO:  
ATTACHMENTS GWUPA E #12:  
SWUPA E : #18

**TMK: 480031220000**  
**Irrigation Type: Drip & Sprinkler**



## MEMORANDUM

To: M. Kaleo Manuel, Deputy Director  
Commission on Water Resource Management

Fr: Trisha Kehaulani Watson, J.D., Ph.D.  
Honua Consulting, LLC

Re: *Ka Pa'akai* Analysis Memo  
Olowalu Water Co. GWUPA  
Well Number 6-4937-001 (Olowalu Pump N)

Date: July 1, 2023

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### Executive Summary

Olowalu Water Company has applied to the State of Hawaii Department of Land and Natural Resources Commission on Water Resource Management (CMRW) for a Ground Water Use Permit (GWUPA). The application is for the existing use of Well Number 6-4937-001 (Olowalu Pump N). This *Ka Pa'akai* analysis was completed by Honua Consulting, LLC for consideration by CWRM.

A full *Ka Pa'akai* analysis was completed. There are numerous cultural resources (archaeological resources) identified in the areas near the project area. The existing use and ditch do not impact these resources and continued use should not impact these resources. There were also no traditional or customary practices identified within the immediate boundaries project area, although there are cultural practices in the surrounding area, including in the nearby Olowalu Cultural Preserve. The potential that the proposed action would affect or impair these resources is negligible, but standard archaeological best practices are recommended to ensure the nearby cultural resources are not impacted. Environmental monitoring of the nearshore marine system is also recommended to ensure that the action does not impact the coastal environment's nutrient budget. Additionally, best management practices should be implemented to ensure that no unanticipated affects to cultural resources occur and that there is a mechanism in place for practitioners to report any such potential occurrences to the project. It is also recommended that additional resources be allocated to the cultural preserve to increase the cultural practices taking place there.



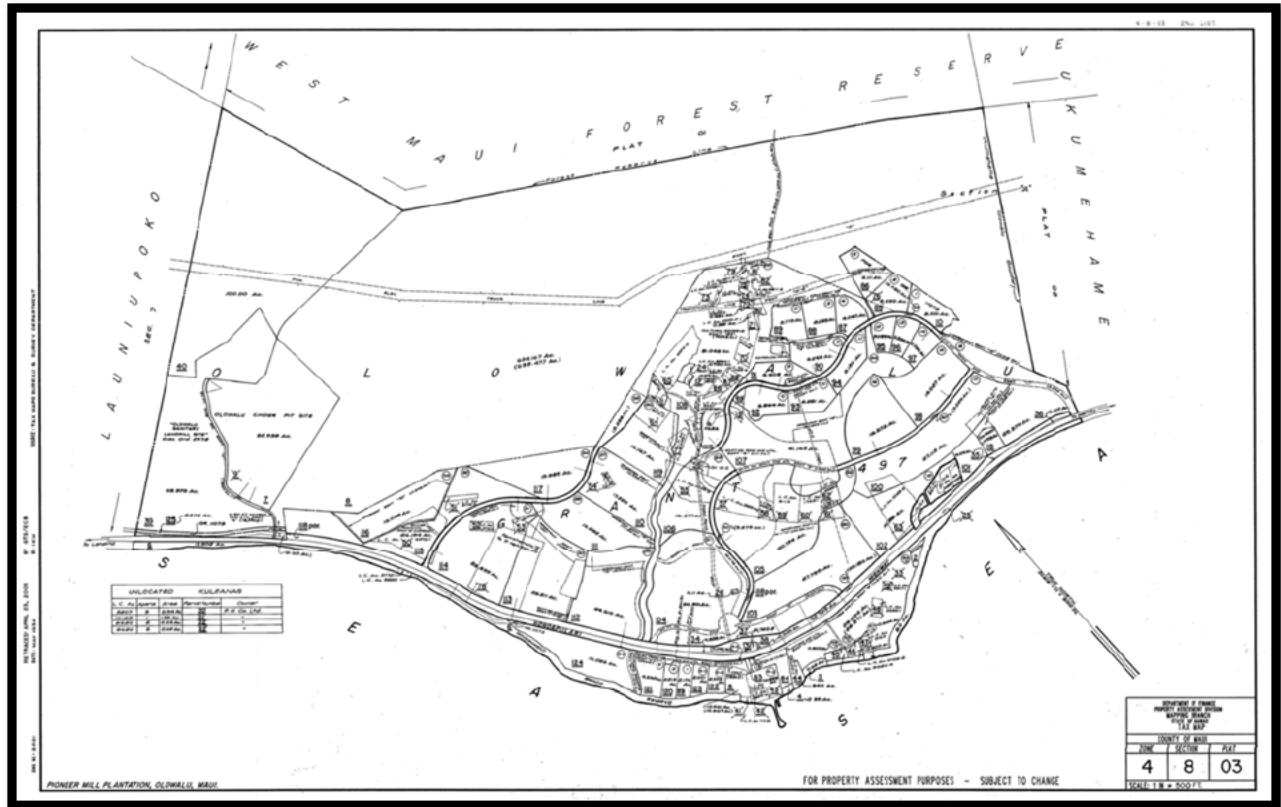


Figure 2. Project Site Location



Figure 3. Olowalu Shaft

## Background and Compliance Standards

The State and its agencies have an obligation to preserve and protect Native Hawaiians' customarily and traditionally exercised rights to the extent feasible.<sup>1</sup> State law further recognizes that the cultural landscapes provide living and valuable cultural resources where Native Hawaiians have and continue to exercise traditional and customary practices, including hunting, fishing, gathering, and religious practices. In *Ka Pa'akai*, the Hawai'i Supreme Court

<sup>1</sup> Article XII, Section 7 of the Hawai'i State Constitution, *Ka Pa'akai O Ka 'Āina v. Land Use Commission*, 94 Haw. 31 [2000] (Ka Pa'akai), Act 50 HSL 2000.

provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- 2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

The appropriate information concerning Olowalu ahupua‘a was collected, focusing on areas near or adjacent to the project area.

## Background Research

Honua Consulting, as part of its standard methodology, identifies wai (fresh water) sources within a project area and in the surrounding geographic extent and treats these resources as “cultural resources” under *Ka Pa‘akai*. Honua also identifies and consults on potential impacts a project will have on cultural practices that utilize or are otherwise associated with wai.

Fresh water (wai) is of tremendous significance to Native Hawaiians. It is closely associated with a variety of Hawaiian gods. According to traditional accounts, Kāne and Kanaloa were the “water finders:” “Ka-ne and Kanaloa were the water-finders, opening springs and pools over all the islands, each pool known now as Ka-Wai-a-ke-Akua (The water provided by a god)” (Westervelt 1915: 38). Kāne is widely known to be closely associated with all forms of water, as outlined in the mele “He Mele No Kane.”

There was no element more important or precious than water. There was no god more powerful than Kāne. Pua Kanahale recounts the oli “‘O Kāne, ‘o wai ia ali‘i o Hawai‘i?” and notes of the oli: “The chant begins with Kāne and focuses on this deity as the connective force of all the po‘e akua, or god family. All the entities mentioned in each paukū, or verse, are a manifestation of Kāne” (2011: 24). The association between water and Kāne is logical considering certain interpretations of Hawaiian mythology identify Kāne as the most powerful of all the Hawaiian gods.

Further investigation into the relationship between Kāne and Pele would be appropriate and helpful. Some interpretations identify Kāne as Pele’s father (Westervelt 1915). A full analysis of the different perspectives on Pele and Kāne would be helpful to refining an approach in

developing community education programs for geothermal energy and culture. A brief analysis is provided below.

He Mele No Kane asks:

E ui aku ana au ia oe,  
Aia i hea ka Wai a Kane?  
Aia i lalo, i ka honua, i ka Wai hu,  
I ka wai kau a Kane me Kanaloa-  
He waipuna, he wai e inu,  
He wai e mana, he wai e ola,  
E ola no, ea!

One question I ask of you:  
Where flows the water of Kane?  
Deep in the ground, in the gushing spring,  
In the ducts of Kane and Kanaloa,  
A well spring of water, to quaff,  
A water of magic power- The water of life!  
Life! O give us this life!

This mele and other mo'olelo are clear: Kāne is water. It is deeply valued among the Hawaiian people. The only exceptions may be mist, known to be associated with Lilinoa, and snow, associated with Poliahu. There is an extensive body of traditional knowledge about the expeditions of Kāne and Kanaloa during which Kāne drove his 'ō'ō (digging stick) into the earth in search of water.

There is heightened sensitivity regarding water on Maui, where the project is located. Contemporaneous protections around water as a “public trust resource” extend back to the Kingdom, where the concept of owning water contradicted Hawaiian cultural values and traditions. Under the monarchy, control of water was reserved for use by the people who lived on and worked the land. The use of surface water was strictly controlled through the kapu system to ensure that all land tenants enjoyed an abundant availability of water. Farming, particularly kalo or taro, occurred regularly, especially in places with notably fertile lands like those found in the watersheds of Maui. As early as 1839, the public use of water was codified by Kamehameha III. His “Respecting Water for Irrigation” law stated: “In all places which are watered by irrigation, those farms which have not formally received a division of water, shall, when this new regulation respecting lands is circulated, be supplied in accordance with this law, the design of which is to correct in full all those abuses which men have introduced. All those farms which were formally denied a division of water, shall receive their equal proportion. Those bounties which God has provided for the several places should be equally distributed, in order that there may be an equal distribution of happiness among all those who labor in those places” (Cited in *Reppun v. Board of Water Supply*, 656 P.2d 57 1982). This public right eventually found its way into existing law, where the Hawaii Water Code continues to recognize and protect traditional farming and mahi 'ai (farmers).

It is critical for this *Ka Pa'akai* analysis to consider impacts to cultural practices, even when the practices may take place outside the project area if project activities within the project area have the potential to impact traditional practices and customs. In this particular case, it

is appropriate to carefully consider the impact water usage may have on farmers and other practitioners within the watershed(s) from which the water for this project will be drawn. Even though this project area is near the shoreline, if the water usage potentially results in an allocation of water that diverts those resources from cultural and/or traditional uses, that potential impact should be considered. Based on the information provided by the client, there is no evidence that water usage of this well will impact traditional or customary practices.

In addition to the analysis of water provided above, a listing of place names as provided in the newly released book *‘Olu‘olu nā Mauna o ‘E‘eka* is provided below in its entirety. The book, published in late September 2022, was commissioned by the North Beach-West Maui Benefit Fund Inc. and developed by a cultural scholar in consultation with kūpuna and area descendants and represents a comprehensive listing of valued places in West Maui. In his foreword, attorney Lance D. Collins writes of the community’s collaborative efforts in the development and publication of this text, stating: “The HK West Maui Community Fund expresses its profound gratitude to the North Beach-West Maui Benefit Fund for agreeing to publish this important work for a general, public audience. Both organizations hope this project will continue to deepen interested in the study and understanding of West Maui and its peoples as well as the collecting of traditional place-names throughout Hawai‘i.” As the assemblage of place names below was collected by the community, it is surely a comprehensive and contemporaneous collection of community and cultural knowledge.

*Table 1. Listing of Place Names from Olu‘olu nā Mauna o ‘E‘eka (2022)*

Name	Meaning and Description
Auau	‘Au‘au  Literally, to bathe.  Channel between Maui and Lāna‘i
Halepohaku	Halepōhaku Hale-pōhaku  Literally, stone house.  Mountain peak (3,786 feet) between the valleys of Olowalu and Ukumehame
Hauī	See Kai o Hauī

Hawaiiikekee	<p>Meaning underdetermined, perhaps: distorted Hawai'i</p> <p>'Ili in the ahupua'a of Olowalu</p>
Hawaii Route 30	<p>Otherwise known as "Honoapiilani Meaning Bay(s) of Pi'ilani; figuratively, the islands joined [hono] by Pi'ilani.</p> <p>"...ua wail Kapalua wale iho no o Lahaina i ka lai, ma kona hoopuni ia ana e na mokupuni, nolaila mai kekahi inoa ona, via hoi na Honoapiilani, a me he mea ia, ekolu inoa o keia kulanakauhale, he oiaio no, ekolu wale inoa, o Lele kona inoa kahiko, o Lahaina, he inoa hou ia, a o na Honoapiilani, he inoa mua no ia. [...Lahaina in the calm is bordered on two sides as it is surrounded by the islands; that's where one of its names comes from, Nāhonoapi'ilani and it's as if this town has three names, Lele is its ancient name, Lahaina is a new name, and Nāhonoapi'ilani is a former name.]" /Ke Au Okoa, Buke 7, Helu 28, 26 'Okakopa 1871/ "Lahaina is said by early native writers to have had two other names in ancient times, it being first known as Honoapiilani. Subsequently this was changed to Lele, and in later times to Lahaina-as known to this day." /SOM 70/ Variants: Nā Hono a ['o] Pi'ilani.</p>
Hekili	<p>Literally, thunder</p> <p>Shoreline port in the ahupua'a of Olowalu. Variants: Hekili Point, L. Hekili, Lae o Hekili</p>

<b>Honoapiilani Highway</b>	<p>Meaning Bay(s) of Pi'ilani. Hawai'i route 30, which extends south from the town of Wailuku [Wailuku] towards Mā'alaea, turns west into the moku of Lahaina, and continues north through to the moku of Kā'anapali, terminating in the ahupua'a of Honokōhau.</p>
<b>Hono o na Moku</b>	<p>Literally, Bay of islands.</p> <p>A poetic name for the seas found between the islands of Maui, Lāna'i and Moloka'i. Variant: Hawaii Route 30</p>
<b>Kailiili</b>	<p>Literally, the pebble</p> <p>Shoreline area along Mōpua, ahupua'a of Olowalu</p>

## Kai o Haui

Kai o Haui meaning sea of Haui

“hau i a word known only in the chant called Haui ka lani...; according to Andrews...an ancient, poetical name for the hā’ule which he translates ‘fallen’ but more probably has, to strike + -i, transitivizer. A more accurate translation of the chant’s title is “the chief is struck down.”...A less plausible interpretation is hau i ka lani, offer to the royal chief.” /HD/; “Hau i (ha’-u’i), n. I. A mythological character conspicuous in Hawaiian tradition. Haui was said to be the first of Hawaii’s aliis, or chiefs, and a Demi-god: O Haui ka lani, he alii kieke, Haui is the lani (highest), a distinguished chief, He kumu alii, he kumu akua. Begetter of chiefs, origin of the gods. 2. The title of a chief, as a noble, a descendant of kings,” /Parker/

“Kai-o-Hau i, sea from Lahaina to Maalaea.” /SOM 5/

<b>Kalolopahu</b>	<p>Literally, the exploding brains.</p> <p>The name of the 1789 massacre that happened off the shore of Olowalu. Enraged at the death of one of his watchmen and the appropriation of one of his small boats in Mākena, Captain Simon Metcalf pursued those who he accused as the perpetrators to Olowalu in his vessel, the Eleanora. Upon return of some of the watchman's remains, as well as the keel of the boat, Captain Metcalf lured the villagers of Olowalu toward the Eleanora and opened fire with his cannons, slaughtering over a hundred villagers.</p> <p>Variant: Olowalu Massacre</p>
<b>Kaluaaha</b>	<p>Literally, In defining another region of the same name, "Ka-lua-‘aha...lit., the gathering pit." /PNOH/</p> <p>‘Ili in the ahupua’a of Olowalu.</p> <p>Variants: Kaluaaho, Kaluaana, Kaluaha</p>
<b>Kaluaaho</b>	<p>Literally, In defining another region of the same name, "Ka-lua-‘aha...lit., the gathering pit." /PNOH/</p> <p>‘Ili in the ahupua’a of Olowalu.</p> <p>Variants: Kaluaaho, Kaluaana, Kaluaha</p>
<b>Lae o Hekili</b>	<p>Literally, thunder</p> <p>Shoreline port in the ahupua’a of Olowalu.</p> <p>Variants: Hekili Point, L. Hekili, Lae o Hekili</p>

## Lahaina

Pronunciation and meaning underdetermined, perhaps: “lahaina n. 1. A variety of sugar cane, usually free tasseling, heavy stooling, and with rather semi erect to recumbent growth; large, long heavy tops...2. A variety of sweet potato...3. Poising; leaping.” /HD/; or, lā hainā—merciless sun.

The name of one of three moku of Maui Komohana. Lahaina is also the name of the kalana found in the moku of Lahaina. From 1820 to 1845, Lahaina was the capital of the Hawaiian Kingdom.

Although scholars provide evidence that an older pronunciation for Lahaina was “Lāhainā,” most modern-day scholars choose the spelling that reflects modern-day pronunciation, “Lahaina.” Even in the vast majority of her works, native Hawaiian speaker and renowned scholar Mary Kawena Pukui chose to represent this place name without diacritical markings, as have other contemporary scholars. This is likewise reflected in the pronunciations of residents, kūpuna, and in recordings of mānaleo. “...ua waiho kapalua wale iho no o Lahaina I ka lai, ma Kona hoopuni ia ana e na mokupuni, nolaila man kekahi inoa ona, oia hoi na Honoapiilani, a me he mea ia, ekolu inoa o kea kulanakauhale, he oiaio no, ekolu wale inoa, o Lele Kona inoa kahiko, o Lahaina, he inoa you ia, a o na Honoapiilani, he inoa mum no ia. [...Lahaina in the calm is bordered on two sides as it is surrounded by the islands; that’s where one of its names comes from Nāhonoapi’ilani, and it’s as if this town has three names, it’s true, only three names; Lele is its ancient name, Lahaina is a new name, and Nāhonopi’ilani is a former name.]” /Ke

	<p>Au Okoa, Buke 7, Helu 28, 26 ‘Okakopa 1871/</p> <p>Variants: Lāhainā, Lāhaina, Raheina</p>
<b>Liha</b>	<p>Meaning: underdetermined, perhaps: “liha. 1. N. Nit, louse egg. Also, lia. 2. Same as liliha; dreadful, fearful. “ /HD/</p> <p>Peak below Līhau, found between the valleys of launiupoko and Olowalu.</p>
<b>Lihau</b>	<p>“lī.hau. 1. nvi. Gentle cool rain that was considered lucky for fishermen (Ul. 241); moist and fresh, as plants in the dew or rain; cool, fresh, as dew-laden air ... 2. N. A variety of sweet potato (no data).” /HD/</p> <p>Storied mountain and peak (4,193 feet) between the valleys of Launiupoko and Olowalu.</p> <p>“Ma ia po no ua hala aku la ua kamaeu nei mauka, a ua hele pololei aku oia a hiki i ka hale o na makua pono i o Lihau e noho mai ana me na manao o ka pihoihoi no keia owela o ke ahi ma ke kai a ia Mekanikeoe i hiki aku ai malaila ua loli ae la kona mau helehelena e like me ka nui nohea oia aina Lihau a oia ka kona makuakane Puukilea i pane ae ai i kana wahine Punahoa Auhea oe e kuu wahine? [That night this mischievous one disappeared inland, and he went directly to the house of Lihau’s own parents, who were sitting there wondering about the flow of fire upon the ocean. As Mekanikeoe arrived, his features changed to match that of the youthful beauty of the land, Lihau, and</p>

	<p>that is how her father Pu'ukilea repsonded to his wife Punahoa. Say, my wife?]" /<i>Ka Leo o ka Lahui</i>, Buke 2, Helu 942, 16 Mei 1894/</p> <p>"He wahine ui io maoli no keia. Aohe lua e loaa ai kona ui ma Maui a puni, koe wale o Waialohiikalauakolea, ke aliiwahine i hanaiia iluna o ka piko o ke kuahiwi o Haleakala. O keiki kaikamahine hoi o Lihau, oia ke kaikamahine a Pa'upa'u ame Aalaloloa, he mau alii nui no na kuahiwi o Maui komohana; a he mau kupua nohoi laua me kekahi keiki keia na Kalikoluamea (k) ame Kupulanakehau (w). A mamuli o Lihau ula ke koahanau o Wakea i heaia ai keiki kaikamahine o Lihau. [This was truly an exceedingly beautiful woman. Her beautyf was unmatched around Maui, except for that of Wai'alohiikalau"ākōlea, the princess who was raised upon the peak of the mountain of Haleakalā. As for this girl Pīhau, she was the daughter of Pa'upa'u and 'A'alaloloa, chiefs of the mountains of Maui Komohana; and these two were also demigods of sorts. And they were all family from within the line of Līhau'ula, a sibling of Wāke. They were children of Kahikoluamea (m) and Kupulanakēhau (f). It was after Līhau'ula, the sibling of Wākea, that this girl was called Līhau.]" / <i>Ka Na'i Aupuni</i>, Buke 3, Helu 115, 10 Iune 1907/</p> <p>Variant: Lihauwaiekeekeikalani</p>
<b>Lihauawaiekeekeikalani</b>	<p>Literally, Līhau of the waters that recede into the heavens.</p> <p>A name for Līhau, the moutain and peak (4,193 feet) between the valleys of Launiupoko and Olowalu. See <i>a/so</i>: Līhau.</p>

	<p>Regarding Lahaina: “Kona Maui Hiohiona: Ua paku ia mai oia e ka lalani mauna o Lihaukaiekeekeikalani, ka maina nona na lehua kaulana e lei ia’i e na kamalii o kakou iloko o kona mau la, a i piiuniia mai hoi e na mokupuni eha.... [Its attributes: It is partitioned by the mountain line of Lihauwai’eke’ekeikalani, the mountain to which belongs the famed lehua worn as garlands by our children during its days, and surrounded by the four islands....]” / <i>Ke Au Okoa</i>, Buke 7, Helu 28, 26 ‘Okakopa 1871/</p>
<b>Mopua</b>	<p>Literally, melodious (said to be the name of a legendary character).” /PNOH/</p> <p>‘Ili along the shoreline in the ahupua’a of Olowalu</p>
<b>Nalowale</b>	<p>nalo.wale. vs. Lost, gone, forgotten, vanished, missing, hidden, extinct, disappeared (especially if unaccountably so).” /HD/</p> <p>Name given to a small heiau in the vicinity of the Kawaialoa heiau in the ahupua’a of Olowalu, the name of which has been lost (nalewale).</p>
<b>Olowalu</b>	<p>Meaning: “olo.walu...1. Mvi. Joint action; simultaneous sounds; din of many voices, sounds, as of horns or roosters; to rush or attack in concert; a group, as of hills (olowalu pu’u)... 2. n. Storehouse, as for chiefs’ property. Rare.” /HD/</p> <p>Valley, stream, peninsula, ahupua’a, and sugar plantation in the moku of Lahaina, situated between the ahupua’a of ‘Ukumehame and Launiupoko. The site of the former Olowalu Mill of the Olowalu Company and the Olowalu Landing.</p>

<b>Olowalu Gap</b>	<p>Meaning: No Hawaiian name yet recovered.</p> <p>Low spot on the ridge between the valleys of Olowalu and 'Iao (Wailuku)</p>
<b>Olowalu Kanakila Church</b>	<p>Lanakila Meaning Victorious</p> <p>Historic church and cemetery founded in 1835 by E. Spaulding in the Mōpua vicinity of the ahupua'a of Olowalu. The church burned down around 1930. /Olowalu Lanakila Hawaiian Church/</p>
<b>Olowalu Massacre</b>	See Kalolopahu
<b>Olualu</b>	See Olowalu
<b>Paumaumau</b>	<p>Paumaumau  Pa'umaumau  Pa'ūmaumau  Pau-maumau  Pa'u-maumau  Pa'ūmaumau</p> <p>Pronunciation and meaning undetermined, perhaps the pau-maumau—forever done; pa'u maumau—continued tedium; or, pa'ū maumau—continuously damp.</p> <p>'Ili in Olowalu</p>
<b>Pioneer Mill Company</b>	Historic sugar mill in the town of Lahaina, moku of Lahaina

<p><b>Punahoa</b></p>	<p>Literally, companion spring.</p> <p>Shoreline and spring near the mouth of the Olowalu Stream in the ahupua’a of Olowalu.</p> <p>“Ma ia po no ua hala aku la ua kamaeu nei mauka, a ua hele pololei Aku dia a hiki i ka hale o na makua pono i Lihau e noho mai ana me na manao o ka pihoihoi no keia owela o ke ahi ma ke kai a ia Mekanikeoe i hiki aku ai malaila ua loli ae la kona mau helehelena e like me ka ui nohea oia aina Lihau a oia ka kona makuakane Puukilea i pane ae ai i kana wahine Punahoa Auhea oe e kuu wahine? [That night this mischievous one disappeared inland, and he went directly to the house of Lihau’s own parents, who were sitting there wondering about the glow of fire upon the ocean. As Mekanikeoe arrived, his features changed to match that of the youthful beauty of that land. Lihau, and that is how her father Pu’ukilea responded to his wife Punahoa. Say, my wife?] /Ka Leo o ka Lahui, Buke 2. Helu 942, 16 Mei 1894/</p>
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<p><b>Puu Kilea</b></p>	<p>Literally, small but conspicuous hill. /PNOH/</p> <p>Famed hill in the ahupua'a of Olowalu, just north of the Kawaialoa heiau. The north side of the hill features impressive panels of pre-contact and contemporary petroglyphs. On the northwest side can be found the "Olowalu Bluff Shelter (Bishop Museum Site M-4)." Graves have also been recorded on the summit of this hill.</p> <p>"Ma ia po no ua hala aku la ua kamaeu nei mauka, a ua hele pololei Aku dia a hiki i ka hale o na makua pono i Lihau e noho mai ana me na manao o ka pihoihoi no keia owela o ke ahi ma ke kai a ia Mekanikeoe i hiki aku ai malaila ua loli ae la kona mau helehelena e like me ka ui nohea oia aina Lihau a oia ka kona makuakane Puukilea i pane ae ai i kana wahine Punahoa Auhea oe e kuu wahine? [That night this mischievous one disappeared inland, and he went directly to the house of Lihau's own parents, who were sitting there wondering about the glow of fire upon the ocean. As Mekanikeoe arrived, his features changed to match that of the youthful beauty of that land. Lihau, and that is how her father Pu'ukilea responded to his wife Punahoa. Say, my wife?] /Ka Leo o ka Lahui, Buke 2. Helu 942, 16 Mei 1894/ Variants: Puu Kilea, Puukilea</p>
<p><b>Puukoleaohilo</b></p>	<p>Pu'ukōleaohilo Pu'u-kolea-o-Hilo</p> <p>Meaning: plover of Hilo hill.</p> <p>"ili in the ahupua'a of Olowalu.</p>

	<p>Variants: Puukoliolio, Puukolihilo, Puukoleohilo</p>
Puukoleohilo	See Puukoleaohilo
Puukolihilo	See Puukoleaohilo
Puuokapolei	<p>Pu'uokapolei Pu'u-o-Kapolei</p> <p>Literally, Kapolei's hill.</p> <p>Unidentified region in the ahupua'a of Olowalu.</p> <p>“Maanei e hookomo ana makou i kekahi mahele pili i ka moolelo o Kamehemeha mahope iho o keiki kua ana i ‘Kakanilua’. A ua loa mai keia mahele mai kekahi mea paanaau moolelo Hawaii mai he alii hanau no hoi ia no ka aina. He eha la mahope iho o ke kua o Kakanilua, ua loa i na ‘lii o Hawaii na hookipa oluolu ia ana e ka Moi Kahekili o Maui. Ua olelo mai la o Kahekili i ua poe alii la o Hawaii a e ka’ulua iki lakou e noho ai, oia o Puuokapolei ma Olowalu. O ko lakou kalana ia a hoea i Lahaina. [Here we will put in a section about the history of Kamehameha just after battling at ‘Kakanilua.’ This section was gotten from a Hawaiian oral history keeper, one born as a chief from the land. Four days after the battle of Kakanilua, the chiefs of Hawaii received pleasant invitations by King Kahekili of Maui. Kahekili said to these chiefs of Hawaii to stay for a bit on Maui and to rest. The land that Kahekili gave to them as a place for them to stay, it was Pu’uokapolei at Olowalu. It was to be their district all the way to Lahaina.]” /Ka</p>

	Na'i Aupuni, Buke 1, Helu 21, 20 Kekemapa 1905/
<b>Puu Ulaula</b>	<p>Literally, Red Hill</p> <p>Point (3,058 feet) along Kaluako'i Ridge found along the boundary between the ahupua'a of Launiupoko and the ahupua'a of Kaua'ula in the katana of Lahaina.</p> <p>"Course 4 of the Launiupoko/Kauaula boundary runs 'up Luakoi ridge to the angle of the ridge (Puuulaula)' called 'Luakoi' (q.v.) on USGS; elevation 2800 ft." /Place Names (ULUK) /</p> <p>Variant: Ulaula.</p>
<b>Ulaula</b>	See Puu Ulaula
<b>Unahi</b>	<p>Literally, Fish scale.</p> <p>A fishing ground of the ahupua'a of Olowalu.</p>
<b>Wailoa</b>	<p>Literally, n. Name of a star near the Pleiades, said to be a member of the group called Kaulua. It is also said to be a name of an ancient chief. Lit., long stream. /PNOH/</p> <p>'Ili in the ahupua'a of Olowalu. Perhaps related to Kawaialoa.</p>

Additionally, historic documents show extensive agricultural activities occurred in Olowalu. This was largely due to the extent of the valley. House sites indicate that habitation was a traditional occurrence in the area. Numerous important historic sites are also present in Olowalu. Kawaialoa Heiau was located "on the rising ground south of Kilea Hill [the burial hill]." Olowalu Trail was an important alanui, or trail. There are also significant petroglyphs in Olowalu.

The Olowalu Cultural Reserve is also located in relative proximity to the project area, although distinctly outside its boundaries. Established as a 501(c)(3) organization named

Kipuka Olowalu, the organization was formed: “To perpetuate traditional and customary practices of kanaka maoli [Native Hawaiians] of these Hawaiian Islands and to regain the spiritual connection of hanai ‘āina of our Hawaiian ancestors by ensuring these beliefs and customs are passed down to future generations.” (See History of Kipuka Olowalu, Appendix A). The organization conducts traditional and customary practices in Olowalu for the purpose of restoring the land. Project includes lo‘i restoration, native plantings, invasive species removal, and re-establishing proper cultural protocols for all who enter.

A site visit was conducted on April 6, 2023. The following images are from that site visit:

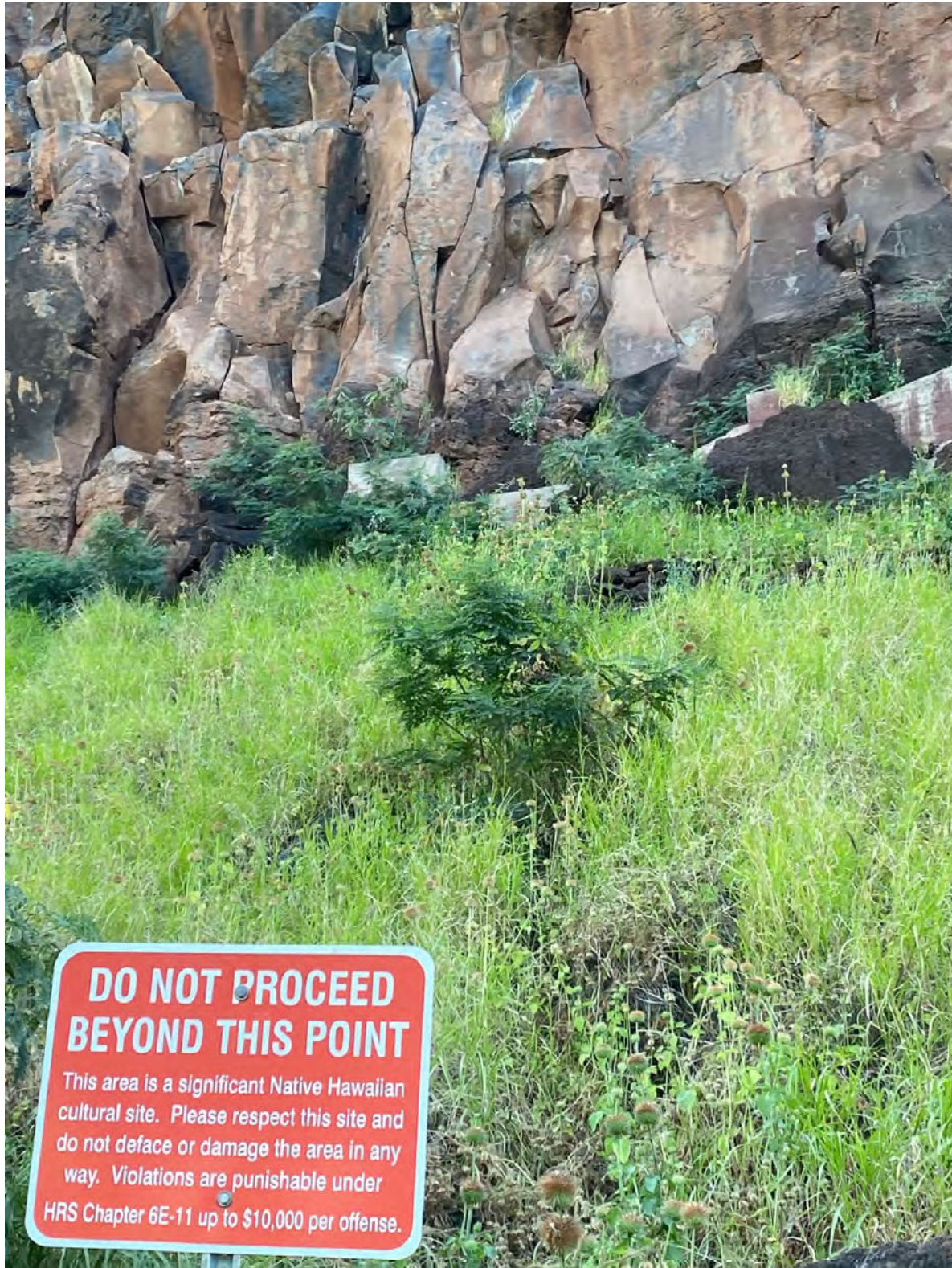


Figure 4. Signage in the foreground marking the location of the Olowalu Petroglyphs



*Figure 5. Photo of stream and diversion location*



*Figure 6. The Olowalu Cultural Preserve, with lo'i kalo*



Figure 7. Olowalu Shaft

## **Ethnographic Data**

Individuals with lineal and cultural ties were invited to be interviewed. One is a lineal descendant of Olowalu with direct lineage to the Pu'u Kīlea cemetery and burial pu'u (hill). The second is a lineal descendant to west Maui.

A summary of each interview was sent first to the individual interviewed for review. Consent to participate in the assessment is obtained from each individual. Consent is obtained verbally or in writing and kept on file with Honua Consulting.

The interviewee provided a rich body of information about the project area and larger geographic extent. All information provided by the interviewees was followed up on with extensive research and incorporated throughout the body of the assessment, with particular emphasis on integrating the information provided in the interviews into this memo.

## **Interview with Elmer Ka'ai**

**Interviewer:** Trisha Kehaulani Watson

**Interviewee:** Elmer Ka'ai

**Date:** 6/01/2023

**Location:** In person

## **Biography**

Mr. Ka'ai is a director of government and community affairs. He was born and raised in Honolulu, where he currently lives. He has strong lineal ties to Olowalu and still regularly visits and cares for the burial pu'u where his family is buried.

## **Overview**

Mr. Ka'ai is a lineal descendent of the area, with ancestors who first settled Olowalu. He mentioned that he still has family who lives there, and Mr. Ka'ai's grandfather was born and raised in the area. His grandfather told him stories about how they were self-sustaining in the valley by using its resources.

## **General Discussion**

As a cultural and lineal descendent of the project area, Mr. Ka'ai brings an understanding of Olowalu and the surrounding area. He does not support water diversions for more housing, especially if the housing is not for local people. He understands that it's an existing use, but he does not support how West Maui is being over-developed.

## **Cultural Resources**

Mr. Ka'ai noted that there are culturally significant sites in the area. The first is a pu'u with the petroglyphs. The other site is the cultural reserve, which primarily consists of cultural agricultural resources. There are also other important historic sites right next to the stream, as families actively lived in that area. Mr. Ka'ai mentioned that there are known burials in the valley, and further noted that there may be unknown burials at lower elevations closer to the project site.

Mr. Ka'ai explained that the nearby Olowalu Valley is sacred, standing as a connection between 'Iao Valley and the south side.

### **Traditions and Customs**

Mr. Ka'ai noted that his family are caretakers of the cultural reserve, which includes maintaining lo'i, and terraces. There are currently efforts to revitalize the area against a backdrop of continued development. It is important to Mr. Ka'ai, lineal descendants, and residents that whatever is in the valley can continue on.

### **Impacts**

Mr. Ka'ai has less concern about ground water use than he does surface water use. He believes that the development already has the use of its own well and that source should be the extent of the water provided for residential development. He would be concerned about new construction if there is any.

### **Mitigation Measures and Recommendations**

Mr. Ka'ai believes that should the project proceed, the Commission should put strong limits on the use of water for landscaping. He notes that other places (like Las Vegas) do not allow for landscaping and limit new housing to hardscaping or xeriscaping. He thinks it's inappropriate to have lush yards with foreign plants when there are ongoing water shortages and Hawaiians struggling to maintain lo'i that they need to feed their families with.

Mr. Ka'ai also provided the following images of and from the burial pu'u.



*Figure 8. View of Olowalu Valley from pu'u. The diversion location can be seen in the distance.*



*Figure 9. View from pu'u*



*Figure 10. Designated marker at burial pu'u*



*Figure 11. Burial mound on pu'u*



*Figure 12. Coastal waters as seen from pu'u*

#### **Interview with Hinalaimoana Wong-Kalu**

**Interviewer:** Trisha Kehaulani Watson

**Interviewee:** Hinalaimoana Wong-Kalu

**Date:** 6/01/2023

**Location:** In person

### **Biography**

Hinaleimoana Kwai Kong Wong-Kalu, known affectionately as “Kumu Hina”, is a Native Hawaiian māhū – a traditional third gender person who occupies "a place in the middle" between male and female, as well as a modern transgender woman. She is known for her work as a kumu hula, a filmmaker, and as a community leader in the field of Kanaka Maoli language and cultural preservation. She teaches Native Hawaiian philosophy and traditions while promoting cross-cultural alliances throughout the Pacific Islands. Described as a "powerful performer with a clear, strong voice", she has been hailed as a cultural icon, and is a prominent leader in our community today.

Kumu Hina was born in the Nu‘uanu district of O‘ahu, but she is a lineal descendant of West Maui. Her maternal side of the family lived in Honokohau. She is a lineal descendant to the Honokahua burial preserve, with ‘ohana buried there. Her family had a home in Napili – Honokōwai where she spent a lot of her time growing up.

She attended Kamehameha Schools and the University of Hawai‘i at Mānoa, where she began her activism journey. She is a founder of the Kulia Na Mamo transgender health project, a former Hawaiian language kumu at Leeward Community College, and candidate for the Office of Hawaiian Affairs, notably being one of the first transgender candidates for statewide political office in the United States. She also served as the Chair of the O‘ahu Island Burial Council and was cultural director of Hālau Lokahi Public Charter School. She is a recipient of the National Education Association Ellison Onizuka Human and Civil Rights Award, Native Hawaiian Community Educator of the year, and a White House Champion of Change. Recently, USA Today named Wong-Kalu one of ten Women of the Century from Hawai‘i. In 2020, Kumu Hina directed, produced and narrated *Kapaemahu*, an animated short film based on the Hawaiian story of four legendary māhū who brought the healing arts from Tahiti to Hawai‘i.

### **Overview**

Ms. Wong-Kalu has lineal ties to West Maui. She recounts how the water diversions in the area directly led to her family’s inability to farm their lo‘i. The result was an inability to use their land to sustain themselves and this forced them to from their subsistence lifestyle, which they had been practicing for generations.

### **General Discussion**

As a cultural and lineal descendent of West Maui and a highly regarded cultural practitioner, Ms. Wong-Kalu brings a critical perspective of how such diversion practices have long adversely affected Hawaiian families in West Maui and how its adversely effected traditional practices and ways of life.

### **Cultural Resources**

Ms. Wong-Kalu emphasized how all of West Maui is interconnected. From an ecological standpoint, it's one region with a series of overlapping resources. The water is a cultural resource, and a very important one. The food that comes from these lo'i feeds families. This food is a cultural resource too. As are the places, which have been used for generations, as sites of cultural practices.

### **Traditions and Customs**

Ms. Wong-Kalu notes that West Maui was an important, thriving community of kānaka. Each bay and valley had a thriving community where the 'ohana lived and flourished. While farming was among the most important practice, every practice associated with Hawaiian living occurred in West Maui.

### **Impacts**

These kānaka were largely forced out by development and the plantations. Then plantations became housing. She doesn't think the water should be diverted at all, because of the impacts it has on Hawaiians.

### **Mitigation Measures and Recommendations**

Ms. Wong-Kalu did not provide any mitigation measures for the action, she just strongly believes water should be left for the families that live on the land.

### **Analysis**

As previously noted in this memo, in *Ka Pa'akai*, the Hawai'i Supreme Court provided government agencies an analytical framework to ensure the protection and preservation of traditional and customary Native Hawaiian rights while reasonably accommodating competing private development interests. This is accomplished through the following three-part test:

- 1) The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area;
- 2) The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action; and
- 3) The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

*The identification of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.*

Through the research and ethnographic data, numerous cultural resources were identified in the surrounding geographic extent, and there are numerous resources near the wells, which already exists. If there is new construction required for this permit, there should be careful consideration of the cultural resources in the area. An archaeological survey should be completed to ensure no sites are impacted by any new construction.

There are numerous cultural sites in the nearby area, including a burial pu'u and cultural preserve. There are numerous identified traditions or customs in the surrounding area, including ceremonial practices, agricultural practices and fishing. There are also petroglyphs and habitation sites in Olowalu, as well as the historic Olowalu Trail.

The potential that the proposed action would lead to any new effect or impairment of these resources is negligible because it is an existing use, but there is no doubt that historically water diversions have been devastating to traditional practices and Hawaiian communities. The Commission is best suited to determine if there are kalo farmers in the area that use this surface water, and if so, the Commission should ensure these farmers and practitioners have sufficient water for their needs.

Environmental monitoring of the nearshore marine system is also recommended to ensure that the action does not impact the coastal environment's nutrient budget. Additionally, best management practices should be implemented to ensure that no unanticipated effects to cultural resources occur and that there is a mechanism in place for practitioners to report any such potential occurrences to the project. It is also recommended that additional resources be allocated to the cultural preserve to increase the cultural practices taking place there. From observations during the site visit, the lo'i kalo is overgrown and seems dry. With additional resources, including perhaps additional water, the preserve has the potential to become a vibrant hub of cultural practice.

*The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action.*

Of the identified cultural resources and traditional and customary practices that occur in the surrounding project area, the potential that the proposed action would newly affect or impair these resources is negligible.

*The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.*

As this application is for an existing use, the potential for any new effect or impairment of cultural resources (including practices) is negligible, no action is required to protect Native Hawaiian rights. Nonetheless, best management practices should be implemented to ensure that no unanticipated affects to cultural resources occur and that there is a mechanism in place for practitioners to report any such potential occurrences to the project. Additionally, should new development result from this action, there should be limits to landscaping that minimize water use and traditional access for practitioners should be guaranteed and protected.

**OLOWALU WATER COMPANY INC.**

**WATER CONSERVATION POLICY**

The following water conservation measures should be utilized:

*Irrigation for agricultural and maintenance of defensible spaces for fire suppression are priority uses.*

(1) Planting for any new homes and any replacement planting should favor drought resistant grasses, plants, shrubs and trees. Native plants are encouraged.

(2) Use drip irrigation whenever possible.

(3) Set irrigation timers to minimize sprinkler use and adjust timers for rain.

(4) Maintain irrigation systems, check for and repair leaks, and replace broken heads.

(5) Monitor water use with a leak detection device.

(6) Add mulch around shrubs, trees and plants to help reduce evaporation

(7) Do not use irrigation water for swimming pools.

(8) Wash your car at an automated car wash that recycles water, or use a bucket instead of a hose.

(9) Use a broom or blower instead of a hose to clean sidewalks, patios and driveways.

To report a water waste concern, please contact OWC at (808) 877-4202 or [utility@westmauiwater.com](mailto:utility@westmauiwater.com)