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STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
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Ref: wup826.sub

STAFF SUBMITTAL

for the meeting of the  
COMMISSION ON WATER RESOURCE MANAGEMENT

February 21, 2007  
Honolulu, Oahu

Kelena Farms LLC  
APPLICATION FOR A WATER USE PERMIT  
WScO Pump 25 (Well No. 3203-01), TMK 6-4-003:001, WUP No. 826  
Future (Agricultural) Use for 1.441 mgd  
Wahiawa Ground Water Management Area, Oahu

APPLICANT:

Kelena Farms LLC  
P.O. Box 27  
Kunia, HI 96759

LANDOWNER:

Dole Food Company Hawaii  
1116 Whitmore Avenue  
Wahiawa, HI 96786

SUMMARY OF REQUEST:

The applicant requests that the Commission approve a water use permit for an allocation of 1.441 million gallons per day (mgd) of potable ground water from WScO Pump 25 Well (Well No. 3203-01) to supply 620 acres of agricultural demand for various diversified agricultural crops.

LOCATION MAP: See Exhibit 1

BACKGROUND:

On October 18, 2007, the Commission on Water Resource Management (Commission) received a completed water use permit application from Kelena Farms LLC. Additional information regarding the source, use, notification, objections, and field investigation(s) is provided in Attachment A.

The 90-day deadline for this application would have been January 16, 2008. Because of scheduling conflicts, the Commission cancelled the January meeting. The applicant had been contacted prior to the cancellation and approved waiving the 90-day deadline requirement.

ANALYSIS/ISSUES:

Section 174C-49(a) of the State Water Code establishes seven (7) criteria that must be met to obtain a water use permit. An analysis of the proposed permit in relation to these criteria follows:

(1) Water availability

Through the Hawaii Water Plan, the Commission has adopted 23 mgd as the sustainable yield for the Wahiawa Aquifer System. Individual existing water use permits in this aquifer system are shown in Exhibit 2. A summary of the current ground water conditions in the aquifer is provided in Table 1:

**Table 1. Wahiawa Aquifer System**

<u>ITEM</u>	Wahiawa Aquifer System (mgd)
<b>Sustainable Yield</b>	23
Less: Other Existing Water Use Permits (shown in Exhibit 2)	20.486
Reservation to DHHL	0
<b>Subtotal (Current Available Allocation)</b>	<b>2.514</b>
Less: Other Completed Applications	0
Less: This Application	1.441
<b>Subtotal (Potential Available Allocation/Allocation Deficit)</b>	<b>1.073</b>

Therefore, the resource can accommodate the requested allocation.

(2) Reasonable-beneficial

Section 174C-3 HRS defines "reasonable-beneficial use" is

*"...the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest".*

**I. Purpose of Use**

The applicant is requesting the use of fresh ground water to irrigate 620 acres of crops. The Declaration of Policy section, §174C-2(c) HRS, states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes including irrigation uses.

**II. Quantity Justification**

The applicant is requesting a total of 1.441 mgd for irrigation of tomatoes, bell peppers, cucumbers, cabbage and sweet potatoes, on a yearly basis. Staff has calculated irrigation demands using the Irrigation Water Requirement Estimation Demand Support System (IWREDSS), a computer program developed for the Commission in conjunction with the University of Hawaii’s College of Tropical Agriculture and Human Resources (CTAHR) to estimate crop demands in specific locations using specific irrigation application techniques. Based on this program, sweet potatoes require the most irrigation needs. Therefore, the recommended allocation will be based on sweet potatoes. The results are shown in the attached table. Note that the demand calculated by the program is greater than the demand requested by the applicant, but still less than County Water System Standards (2002) for Oahu agriculture at 4,000 gpd/acre, which the Commission had formerly used when testing the reasonableness of requested allocations. Staff recommends that the Commission issue an allocation based on the calculated demand, which is 1.861 mgd.

TMK	Acres	Demand Requested (gpd/acre)	Quantity Requested (mgd)	Demand Calculated (gpd/acre)	Quantity Calculated (mgd)
6-5-002: 005	270	2325	0.628	2884	0.779
6-5-002: 011	350	2325	0.814	3093	1.082
Total			1.441		1.861

Using this revised allocation, under section (1) Water Availability above, there would still be a potential available allocation of 0.653 mgd from the Wahiawa Aquifer System.

**III. Efficiency of Use**

The applicant states that its operations will be as water efficient as possible because they will be installing soil moisture potentiometers, monitoring rainfall, soil moisture and potential ET daily to guide irrigation rates, and using drip irrigation to eliminate evaporative loss. Only cabbage will be irrigated by sprinkler, but these would be of low angles and application would be done at night to minimize evaporative losses.

#### IV. Analysis of Practical Alternatives

The applicant has identified two alternatives to the proposed use of fresh water. An analysis of each of the alternatives is as follows:

1. Surface Water. While the applicant has identified three surface water options as the Wahiawa Reservoir, Kaukonahua Stream and Poamoho Stream, only Wahiawa Reservoir has a reliable dry season supply. Because the Reservoir contains R-2 effluent, it is unsuitable for use as irrigation for fresh produce food crops.
2. Groundwater. There are no available service lines from the BWS for miles from the subject area.

Therefore, it would appear that no reasonable practicable alternatives exist at this time.

(3) Interference with other existing legal uses

There is one other well within one mile of this source. However, pumpage has not been reported since 1993 and it does not have an active water use permit associated with it.

The Department of Land and Natural Resources' Division of Aquatic Resources has expressed concern regarding impacts to aquatic resource values in the area. Adverse effects cannot be estimated until the applicant conducts a pump test in accordance with the Hawaii Well Construction and Pump Installation Standards. Poamoho and Helemano Streams flank the well on each side, each over a half mile from the well. However, these two streams are intermittent. Therefore, fulfillment of this criteria is not known at this time. However, the approval of this application can be conditioned on the finding of no adverse impacts as a result of a pump test conducted in accordance with Commission standards.

Therefore, no significant impacts are anticipated but the pump tests will provide further data and evidence on this issue.

(4) Public interest

Public interest is defined under §174C-2 - Declaration of policy, as follows:

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

No comments were received on this application. Agriculture is deemed to be in the public interest. Therefore, this application meets the public interest criteria.

(5) State & county general plans and land use designations

The proposed uses are in the State AG District, and the county zoning is AG-1.

Normal agency review includes:

- 1) the State's Department of Land and Natural Resources (DLNR) and its State Parks, Aquatic Resources, Historic Preservation, and Land Divisions; the Department of Health (DOH) with its Clean Water, Safe Drinking Water, and Wastewater Branches; the Department of Hawaiian Home Lands (DHHL), and Land Use Commission (LUC); and the Office of Hawaiian Affairs (OHA).
- 2) the County's County Council, Department of Planning and Permitting, and the Department of Water Supply;

Agency responses note these proposed uses are consistent with the state and county general plans and land use designations. Therefore, this application meets the state and county general plans and land use designations criteria.

(6) County land use plans and policies

Again, normal County review includes County Council, Department of Planning and Permitting, and the Department of Water Supply and their responses noted the proposed use is consistent with county land use plans and policies.

Therefore, based on county comments this application meets the county land use plans and policies.

(7) Interference with Hawaiian home lands rights

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) and the Office of Hawaiian Affairs have reviewed this application and made no comments or objections. Further, standard water use permit conditions 3.g., 6., and 9.f. notify all water use permittees that their permits are subject to and cannot interfere with Hawaiian home land rights.

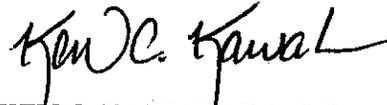
Therefore, this application will not interfere with Hawaiian home lands rights.

RECOMMENDATION:

Staff recommends that the Commission approve the issuance of Water Use Permit No. 826 to Kelena Farms LLC for the reasonable and beneficial use of 1.861 million gallons per day of potable water for agricultural use from the WSCo Pump 25 Well (Well No. 3203-01), subject to the standard water use permit conditions listed in Attachment B and the following special conditions:

1. Should an alternate permanent source of water be found for this use, then the Commission reserves the right to revoke this permit, after a hearing.
2. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.
3. Prior to use, a pump test shall be conducted in accordance with the Hawaii Well Construction and Pump Installation Standards and the results shall be analyzed and approved by Commission staff. If significant and possibly adverse impacts are discovered as a result of the pump test, appropriate steps as directed by Commission staff must be implemented and approved by the Commission prior to any consumptive use.

Respectfully submitted,

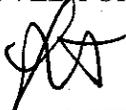


KEN C. KAWAHARA, P.E.  
Deputy Director

Attachment(s): A (Water Use Permit Detailed Information)  
B (Water Use Permit Standard Conditions)

Exhibit(s): 1 (Location Map)  
2 (Existing Water Use Permits and 12-Month Moving Average Withdrawal)

APPROVED FOR SUBMITTAL:



LAURA H. THIELEN  
Chairperson