August 3, 2006

Ref: ewa caprock wup conversion.act

Dear Water Use Permittee:

Hawaii Prince Golf Club/Hawaii Prince Hotel Waikiki Corp.,
Well Nos. 1900-02, 1900-17 to 20, 1901-03, WUP No. 469, 0.301 mgd, TMK 9-1-10:6
Haseko (Ewa), Inc., Well Nos. 1901-06, 1902-01, 1902-09 to 11, WUP No. 650, 3.300 mgd, TMK 9-1-12:5
Department of Parks and Recreation, Well No. 2001-03, WUP No. 167, 0.030 mgd, TMK 9-1-61:35
Palm Court Association, Well No. 2002-12, WUP No. 169, 0.040 mgd, TMK 9-1-61:22
Palm Villa II Association, Well No. 2001-08, WUP No. 168, 0.048 mgd, TMK 9-1-61:27
Arbors Association, Well No. 2001-07, WUP No. 171, 0.063 mgd, TMK 9-1-61:32
U.S. Fish & Wildlife, Well No. 2101-14, WUP No. 247, 0.216 mgd, TMK 9-1-17:12
Gentry Development Co., Well No. 2001-04, WUP No. 302, 0.040 mgd, TMK 9-1-61:7
Gentry Development Co., Well No. 2001-09, WUP NO. 344, 0.023 mgd, TMK 9-1-61:2
Ewa by Gentry Community Association, Well No. 2001-05, WUP No. 450, 0.066 mgd, TMK 9-1-70:132
Gentry Homes, Ltd., Well No. 2001-12, WUP No. 504, 0.249 mgd, TMK 9-1-102:31
Gentry Homes, Ltd., Well No. 1901-05, WUP No. 505, 0.056 mgd, TMK 9-1-69:8
U.S. DOC/NOAA/NWS, Well No. 1900-23, WUP No. 501, 0.023 mgd, TMK 9-1-1:1
Coral Creek Golf, Inc., Well No. 2002-17, WUP No. 577, 0.498 mgd, TMK 9-1-69:10
Coral Creek Golf, Inc., Well No. 2001-13, WUP No. 578, 0.800 mgd, TMK 9-1-69:10
Coral Creek Golf, Inc., Well Nos. 2001-14, 2002-15,17,19, WUP No. 579, 0.892 mgd, TMK 9-1-69:10&11, 9-1-61:54
AOAO Suncrest/The Shores/Lombard Way/Avalon, Well No. 2001-10, WUP No. 629, 0.022 mgd, TMK 9-1-10:17
State Housing Community Development Corporation of Hawaii, Well Nos. 2003-04,07, WUP No. 432, 0.494 mgd, TMK 9-1-16:25
State Housing Community Development Corporation of Hawaii, Well Nos. 2003-08, WUP No. 520, 0.237 mgd, TMK 9-1-16:108
Kapolei People's Inc., Well Nos. 2003-01,02,05, WUP No. 438, 1.000 mgd, TMK 9-1-16:25
Honolulu Board of Water Supply, Well Nos. 1905-08,10, WUP No. 740, 0.302 mgd, TMK 9-1-16:1

Conversion of Interim Water Use Permits for New Irrigation Uses to Permanent Water Use Permits Puuloa and Kapolei Ground Water Management Areas, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission) on the subject water use permits.
By a unanimous vote at their meeting on July 12, 2006, the Commission corrected the error of approving and issuing interim permits for new irrigation uses in the Puuloa and Kapolei Ground Water Management Areas of the Ewa Caprock Aquifer Sector Area by converting the subject interim water use permits to permanent water use permits. All terms and conditions of the permits shall remain unchanged, except for Special Condition d., which is deleted.

The Commission ruled that permittees shall be notified by letter of the Commission’s action to convert these water use permits from interim to permanent and the deletion of Special Condition d. The Commission further ruled that re-issuance of these water use permits is not necessary.

Please be advised that a compliance review will be initiated shortly as required under §174C-56 Hawaii Revised Statutes. We recommend that you carefully review the conditions of your permit and ensure that you are in compliance with all Standard and Special Conditions.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

DEAN A. NAKANO
Acting Deputy Director

LYN:ss
4. The permittee shall submit a detailed agriculture plan to support any future water use permit application for increased agricultural use at this parcel.

MOTION: (Ching/Frazier)
To approve submittal as amended by staff
UNANIMOUSLY APPROVED

C. GROUND WATER REGULATION


CONVERSION OF INTERIM WATER USE PERMITS, FOR NEW IRRIGATION USES TO PERMANENT WATER USE PERMITS, Puuloa and Kapolei Ground Water Management Areas, Oahu

Presentation of submittal: Lenore Nakama
RECOMMENDATION:

Staff recommends that the Commission correct the error of approving and issuing interim permits for new irrigation uses in the Puuloa and Kapolei Ground Water Management Areas of the Ewa Caprock Aquifer Sector Area by converting the subject interim water use permits to permanent water use permits. All terms and conditions of the permits shall remain unchanged, except for Special Condition d., which is deleted. The permittees shall be notified by letter of the Commission's action to convert these water use permits from interim to permanent and the deletion of Special Condition d. Re-issuance of these water use permits is not necessary.

DISCUSSION:

Ms. Nakama stated that these interim permits expired on July 1, 2006 and staff is recommending that the Commission correct the error that was made in issuing the permits as interim, rather than permanent, water use permits. Action is also requested to inform these users that they may continue to pump their wells in accordance with their allocations and the chloride limit placed on irrigation wells in the Ewa Caprock Aquifer Sector Area.

Commissioner Ching inquired whether the subject permits covered all the users in the Ewa Caprock Aquifer Sector Area. She was concerned that giving certain permits a permanent status may give them a higher priority or status over other interim permits.

Ms. Nakama stated that the submittal covered all the new irrigation users which had a duration of July 1, 2006 attached to their interim permits. There are other interim permits that have been issued for industrial and other non-irrigation uses in the Ewa Caprock Aquifer Sector Area, there are also other interim permits that have been issued for other new and existing uses elsewhere in the State. Staff will address the rest of the interim permits as part of the 20-year compliance review that is mandated by the Water Code. Staff does not feel that the type of permit (i.e., interim or permanent) under which the water is being used will have a bearing on water use priorities should a future competition situation arise.

MOTION: (Ching/Frazier)
Approval of staff recommendation
UNANIMOUSLY APPROVED

G. NON-ACTION ITEMS

1. Rainfall Index Update Presentation by Dr. Pao Shin Chu, State Climatologist, University of Hawaii, Department of Meteorology

Presentor of non-action item: Neal Fujii
Minutes

July 12, 2006

Graduate student, Ms. Cindy Ditner presented an update of rainfall throughout the state through a PowerPoint presentation. She stated that it has been 33 years since the last update was done. In preparing this index they gathered rainfall data throughout the State through temperature, elevation and rain gages. If a station did not submit information for 4 months within a calendar year then it was deleted.

H. NEXT COMMISSION MEETING (TENTATIVE)

1. August 16, 2006
2. September 20, 2006

The meeting was adjourned at 12:00 p.m.

Respectfully submitted,

PAULYNE K. ANAKALEA
Secretary

Approved as submitted:

DEAN A. NAKANO
Acting Deputy Director
Ref: ewa caprock interim wup conversion sub

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

July 12, 2006
Honolulu, Oahu

Hawaii Prince Golf Club/Hawaii Prince Hotel Waikiki Corp.,
Well Nos. 1900-02, 1900-17 to 20, 1901-03, WUP No. 469, 0.301 mgd, TMK 9-1-10:6
Haseko (Ewa), Inc., Well Nos. 1901-06, 1902-01, 1902-09 to 11, WUP No. 650, 3.300 mgd, TMK 9-1-12:5
Department of Parks and Recreation, Well No. 2001-03, WUP No. 167, 0.030 mgd, TMK 9-1-61:35
Palm Court Association, Well No. 2002-12, WUP No. 169, 0.040 mgd, TMK 9-1-61:22
Palm Villa II Association, Well No. 2001-08, WUP No. 168, 0.048 mgd, TMK 9-1-61:27
Arbors Association, Well No. 2001-07, WUP No. 171, 0.063 mgd, TMK 9-1-61:32
U.S. Fish & Wildlife, Well No. 2101-14, WUP No. 247, 0.216 mgd, TMK 9-1-17:12
Gentry Development Co., Well No. 2001-04, WUP No. 302, 0.040 mgd, TMK 9-1-61:7
Gentry Development Co., Well No. 2001-09, WUP NO. 344, 0.023 mgd, TMK 9-1-61:2
Ewa by Gentry Community Association, Well No. 2001-05, WUP No. 450, 0.066 mgd, TMK 9-1-70:132
Gentry Homes, Ltd., Well No. 2001-12, WUP No. 504, 0.249 mgd, TMK 9-1-102:31
Gentry Homes, Ltd., Well No. 1901-05, WUP No. 505, 0.056 mgd, TMK 9-1-69:8
U.S. DOC/NOAA/NWS, Well No. 1900-23, WUP No. 501, 0.023 mgd, TMK 9-1-1:1
Coral Creek Golf, Inc., Well No. 2002-17, WUP No. 577, 0.498 mgd, TMK 9-1-69:10
Coral Creek Golf, Inc., Well No. 2001-13, WUP No. 578, 0.800 mgd, TMK 9-1-69:10
Coral Creek Golf, Inc., Well Nos. 2001-14, 2002-15,17,19,
WUP No. 579, 0.892 mgd, TMK 9-1-69:10&11, 9-1-61:54
AOAO Suncrest/The Shores/Lombard Way/Avalon, Well No. 2001-10,
WUP No. 629, 0.022 mgd, TMK 9-1-10:17
State Housing Community Development Corporation of Hawaii,
Well Nos. 2003-04,07, WUP No. 432, 0.494 mgd, TMK 9-1-16:25
State Housing Community Development Corporation of Hawaii,
Well Nos. 2003-08, WUP No. 520, 0.237 mgd, TMK 9-1-16:108
Kapolei People’s Inc., Well Nos. 2003-01,02,05, WUP No. 438, 1.000 mgd, TMK 9-1-16:25
Honolulu Board of Water Supply, Well Nos. 1905-08,10, WUP No. 740, 0.302 mgd, TMK 9-1-16:1

CONVERSION OF INTERIM WATER USE PERMITS
FOR NEW IRRIGATION USES TO PERMANENT WATER USE PERMITS
Puuloa and Kapolei Ground Water Management Areas, Oahu

ITEM C-2
PERMITTEES: See Exhibit 1

LANDOWNERS: See Exhibit 1

SUMMARY OF REQUEST:

Staff recommends that the Commission correct past water use permit approval errors in the Puualoa and Kapolei Aquifer Systems Areas of the Ewa Caprock Ground Water Management Area and convert the interim water use permits for new irrigation uses to permanent water use permits.

LOCATION MAP: See Exhibit 2

BACKGROUND:

On March 3, 1993, the Commission officially adopted the boundary of the entire brackish Ewa Caprock Aquifer as a separate aquifer overlying the existing designated ground water management areas of the Waipahu-Waiau, Ewa-Kunia, and Makaiwa Aquifer System Areas. Due to uncertainties regarding the caprock's sustainable yield and nonpotable utility, the Commission did not adopt a sustainable yield estimate for the caprock. All permitted Ewa Caprock irrigation uses prior to 1993 were operating under permanent water use permits.

Designation of the Ewa Caprock and its Aquifer System Areas as water management areas was precipitated by the City and County of Honolulu's (City) urbanization plans for the Ewa area and a City ordinance requiring dual water systems for all new developments. Potable water was to be provided through the municipal system. Possible sources of non-potable water were brackish ground water from the Ewa Caprock Aquifer Sector Area and reclaimed sewage effluent from the Honolulu Wastewater Reclamation Facility. The estimated non-potable demand of 25 mgd after full buildout (Kumagai, 1996) far exceeded the estimated natural recharge to the caprock aquifer of less than 16 mgd (Bauer, 1996).

Because there were concerns regarding the future viability of the caprock as a dependable source of brackish water due to the significant loss of return irrigation recharge from sugarcane agriculture, in 1993, the Commission began awarding temporary one-year permits for new uses of caprock ground water. In analyzing water availability, the Commission used guidelines for estimating sustainable yields for the Puualoa, Kapolei, and Malakole Aquifer System Areas (Yuen & Associates, Inc., 1989; Exhibit 2).

On July 13, 1994, the Commission extended temporary one-year permits. The duration of the extended permits was to July 12, 1995.

On July 5, 1995, the Commission extended the permits, which were now called interim (instead of temporary) permits.

On March 13, 1996, the Commission deferred action on existing interim permits and new applications pending a decision on the establishment of a formal sustainable yield for the caprock.

Also on March 13, 1996, the Commission adopted the following policy statement, clearing the way for application of reclaimed water on lands overlying the Ewa Caprock Aquifer Sector Area:
It is the policy of the Commission on Water Resource Management (Commission) to promote the viable and appropriate reuse of reclaimed water in so far as it does not compromise beneficial uses of existing water resources.

I. Ewa Caprock

Recognizing that reclaimed water is a valuable resource in the Ewa Plain, direct or indirect reuse will be championed by the Commission. It is the policy of the Commission that the water resources of the Ewa Caprock Aquifer will be allocated only for nonpotable uses.

On May 14, 1997, the Commission adopted a sustainable yield based on a sustainable capacity for each individual irrigation well at 1,000 milligrams per liter (mg/l) of chloride as an interim management plan, subject to review within two (2) years. The rationale behind the chloride cap was to limit pumpage in those wells approaching the limit, to prevent a build-up of sodium in the clay soils, and to protect other users adjacent to those pumping higher chloride water. The Commission also adopted the Puuola, Kapolei, and Malakole Aquifer System Areas in the Ewa Caprock Aquifer Sector Area and approved pending applications for new and continued irrigation uses. The interim water use permits were to expire on October, 1998 or until such time that a significant change in permitted, actual, or projected uses or water supply occurs. The October, 1998 date coincided with the possible revocation of unused (former Oahu Sugar Company) agricultural permits and also provided a milestone date to check on the progress of wastewater reuse for private caprock well owners, the availability of which was then scheduled for July, 1999. (Note: Wastewater reuse was anticipated due to the 309 Consent Decree settlement between the City and DOH/EPÅ in 1994, which required the City to implement a reuse program with agreed-upon time schedule and associated volumes: 2.0 mgd by 7/1/98, 5 mgd by 6/30/99 and 10 mgd by 7/1/01. The City requested and received extensions to the implementation schedule.)

On October 22, 1998, the Commission extended the interim water use permits, subject to the Standard Conditions of a water use permit and new special conditions. The interim permits specified a duration to July, 2001, or 1) until treated wastewater is available and acceptable for use, or 2) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

On July 20, 2000, an agreement was reached between the Honolulu Board of Water Supply (BWS), the City, and U.S. Filter for BWS’ purchase of the Honouliuli Wastewater Reclamation Facility. The agreement includes BWS becoming the purveyor of reuse water, with the task of securing customers for 10 mgd by July 1, 2001. U.S. Filter will operate the facility for BWS under a 20-year service agreement. The City will provide secondary effluent to the facility and will take back 4 mgd of the R-1 water for City reuse applications. Some of the reclaimed water will supply industrial uses at Campbell Industrial Park.

On July 18, 2001, the Commission extended the interim water use permits, subject to the Standard Conditions of a water use permit and new special conditions (Exhibits 3 and 4). Special Condition 3 specifies that the duration of the interim permits is to July 1, 2006, or 1) until treated wastewater is available and acceptable for use, or 2) until such time that a significant change in permitted, actual, or projected uses of water supply occurs.
ANALYSIS/ISSUES:

All of the subject permits are for new irrigation uses that have a July 1, 2006 expiration date. Under the Water Code and Administrative Rules, interim permits are only mentioned in the sections dealing with existing uses. Section §174C-50 HRS contains the provisions for existing uses. Subsection (e) provides for the issuance of interim permits for existing uses:

"§174C-50 Existing uses. ...(e) The commission shall issue an interim permit; provided that the existing use meets the conditions of subsection (b). The commission shall also issue an interim permit for an estimated, initial allocation of water if the quantity of water consumed under the existing use is not immediately verifiable, but the existing use otherwise meets the conditions of subsection (b) for a permit of an interim permit. An interim permit is valid for such time period specified therein. The commission may issue successive interim permits of limited duration. Interim permits are subject to revocation under section 174C-58. Whenever interim permits are to be issued, the time periods specified in subsection (d) apply to the issuance or nonissuance of interim permits." §174C-50(e) HRS

Staff believes the intent of the provision is to bring existing users in newly-designated areas under regulation in a timely manner by issuing interim permits pending verification of the quantity of the existing use. Subsection (f) provides for the installation of metering or gauging devices, and if so prescribed, "...such metering or gauging devices shall be in place and operational for at least one year before a determination is made as to the quantity of water being consumed in an existing use and a final permit is issued." §174C-50(f) HRS

Because the Water Code gives preference to existing uses over new uses and water reservations, it is important that permitted existing use quantities be verified. In the event of future competition, existing uses may have a higher priority than new uses.

In issuing permits for new uses, the applicable statute, §174C-53 HRS, does not mention interim permits.

The recommended action is to correct the error that was made in issuing interim permits for new uses and to let users know that they can continue their use beyond July 1, 2006, subject to the Standard and Special Conditions that have been attached to these permits (Exhibits 3 and 4), with the exception of Special Condition d., which limits the duration of these new use permits. Special Condition d. is not necessary because the Water Code provides for review of water use permits (§174C-56 HRS), modification of water use permits (§174C-57 HRS), and revocation of water use permits (§174C-58 HRS); therefore, permanent permits are still subject to review, modification, and revocation.

The Deputies Attorney General have concurred that the awarding of interim permit for new uses is an error. The erroneous practice of approving and issuing interim permits for new uses was corrected beginning in about 2003. The current practice of the Commission is to approve permanent permits for new uses, which are always subject to standard and special conditions that define limitations of these permits.

There are other instances in which the Commission has issued interim permits for new uses in the Ewa Caprock and other water management areas. However, the Commission did not attach specific expiration dates to other interim permits for new uses. Therefore, the staff is planning to address the status of other interim permits, as well as all permanent water use permits, including the subject permits, as part of the 20-year compliance review that is required under §174C-56 HRS. This compliance review will be initiated in 2007 and completed in 2008.
RECOMMENDATION:

Staff recommends that the Commission correct the error of approving and issuing interim permits for new irrigation uses in the Puuloa and Kapolei Ground Water Management Areas of the Ewa Caprock Aquifer Sector Area by converting the subject interim water use permits to permanent water use permits. All terms and conditions of the permits shall remain unchanged, except for Special Condition d., which is deleted. The permittees shall be notified by letter of the Commission’s action to convert these water use permits from interim to permanent and the deletion of Special Condition d. Re-issuance of these water use permits is not necessary.

Respectfully submitted,

DEAN A. NAKANO
Acting Deputy Director

Exhibit(s):
1 (Interim Water Use Permittees)
2 (Location Map)
3 (Standard Water Use Permit Conditions)
4 (Special Water Use Permit Conditions)

APPROVED FOR SUBMITTAL:

PETER T. YOUNG
Chairperson
<table>
<thead>
<tr>
<th>WUP No</th>
<th>Well No</th>
<th>Name</th>
<th>Address</th>
<th>City</th>
<th>Zip Code</th>
<th>Name</th>
<th>Address</th>
<th>City</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>2001-03</td>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>650 S. KING ST.</td>
<td>HONOLULU</td>
<td>96813</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>168</td>
<td>2001-08</td>
<td>PALM VILLA II ASSOCIATION</td>
<td>91-1119 MIKOHU ST., #28D</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>2002-12</td>
<td>PALM COURT ASSOCIATION</td>
<td>91-990 PUAHALA ST.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>171</td>
<td>2001-07</td>
<td>ARBORS ASSOCIATION</td>
<td>91-1100 F LAAULU ST.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>2101-14</td>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>66-590 KAM HWY. RM 2C</td>
<td>HALEIWA</td>
<td>96712</td>
<td>U.S. NAVY</td>
<td>PAC DIV, NAVFAC ENG. CMD.</td>
<td>PEARL HARBOR</td>
<td>96860</td>
</tr>
<tr>
<td>302</td>
<td>2001-04</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>344</td>
<td>2001-09</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>2001-05</td>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>91-1076 POLEA ST., #19A</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>469</td>
<td>1990-02, 1990-17 TO 20, 1901-03</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>91-1200 FORT WEAVER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>HI PR HOTEL WAIKIKI CORP.</td>
<td>100 HOLOMOANA ST.</td>
<td>HONOLULU</td>
<td>96815</td>
</tr>
<tr>
<td>501</td>
<td>1900-23</td>
<td>U.S. DOC/NOAA/NWS</td>
<td>91-270 FORT WEAVER ROAD</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>504</td>
<td>2001-12</td>
<td>GENTRY HOMES, LTD.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>505</td>
<td>1901-05</td>
<td>GENTRY HOMES, LTD.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>577</td>
<td>2002-17</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>91-1111 GEIGER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>578</td>
<td>2001-13</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>91-1111 GEIGER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>579</td>
<td>2001-14, 2002-15, 17, 19</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>91-1111 GEIGER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>629</td>
<td>2001-10</td>
<td>A0A0 SUNCREST/SHORES/ LOMBARD/AVALON</td>
<td>3179 KOAPAKA ST.</td>
<td>HONOLULU</td>
<td>96819</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>650</td>
<td>1901-06, 1902-01, 1902-09 TO 11</td>
<td>HASEKO</td>
<td>91-1001 KAIMALIE ST., STE. 205</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Exhibit 1**
<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Name</th>
<th>Address</th>
<th>City</th>
<th>Zip</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>432</td>
<td>2003-04-07</td>
<td>STATE HCDCH</td>
<td>677 QUEEN ST., STE. 300</td>
<td>HONOLULU</td>
<td>96813</td>
<td>SAME</td>
</tr>
<tr>
<td>438</td>
<td>2003-01,02,05</td>
<td>KAPOLEI PEOPLE'S INC.</td>
<td>91-701 FARRINGTON HWY</td>
<td>KAPOLEI</td>
<td>96707</td>
<td>SAME</td>
</tr>
<tr>
<td>520</td>
<td>2003-08</td>
<td>STATE HCDCH</td>
<td>677 QUEEN ST., STE. 300</td>
<td>HONOLULU</td>
<td>96813</td>
<td>SAME</td>
</tr>
<tr>
<td>740</td>
<td>1905-08,10</td>
<td>HONOLULU BWS</td>
<td>630 S. BERETANIA</td>
<td>HONOLULU</td>
<td>96843</td>
<td>SAME</td>
</tr>
</tbody>
</table>
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.

5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its July 18, 2001 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;

EXHIBIT 3
c. insure adequate conservation measures;
d. require efficiency of water uses;
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

11. This permit shall be subject to the Commission's periodic review of the [Puuloa or Kapolei] Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the [Puuloa or Kapolei] Aquifer System, or relevant modified aquifer(s), is reduced.

12. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The use(s) authorized by law and by this permit do not constitute ownership rights.

14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

EXHIBIT 3
16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the [Puuloa or Kapolei] Ground-Water Management Area.

17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

18. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

19. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.
SPECIAL CONDITIONS

a. Should an alternate permanent source of water be found, the Commission reserves the right to revoke the permit, after a hearing.

b. 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.

c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted. The authority to approve future variance requests is delegated to the Chairperson.

d. The duration of the interim permit shall be
   a) to July 1, 2006, or
   b) until treated wastewater is available and acceptable for use, or
   c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

e. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).

f. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

g. Require adherence to the chloride sampling protocol shown in Attachment B and the submittal of weekly chloride data. The authority to approve variances from the weekly reporting requirement is delegated to the Chairperson.

h. Require adherence to the Conservation Conditions shown in Attachment C.

i. In the event a water shortage is declared by the Commission, permittees in the Puuloa Aquifer System shall comply with the Puuloa Water Shortage Plan adopted by the Commission.
GUIDELINES FOR CHLORIDE CONCENTRATION SAMPLING FOR EWACAPROCK

1. Sample Collection

- Sampling Schedule

The sampling schedule depends upon your pump capacity:

<table>
<thead>
<tr>
<th>Pump Capacity (gpm)</th>
<th>Sampling Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 50</td>
<td>Once a month</td>
</tr>
<tr>
<td>Greater than 50</td>
<td>Once a week</td>
</tr>
</tbody>
</table>

- When to Sample

Before taking a sample, allow a minimum length of time to elapse after turning on the pump. This minimum time can be read off the attached table for your well casing diameter and your pump capacity. If you sample 20 minutes after the minimum time, you should consistently sample 20 minutes after the minimum time each time you take samples.

- Sample Bottle

Use a plastic container and cap that holds a volume of about a pint. Rinse the container three times with the water to be sampled before taking the sample. Also rinse the cap with sample water.

- Labeling

On the sample bottle, affix a label that contains the following information:

Well No.
Date
Time Sampled
Elapsed Time after pump on
Sampler's Name
Water Temperature (if available)
Pumping Rate (prior to sampling)
2. **Determination of Chloride Concentration**

- **Private Laboratories**

  If the sample is sent to a private laboratory, then prepare the water sample and label the bottle in the manner described above.

  Private laboratories will use methods that are more accurate than field methods described below.

- **Hach Kit (Drop Count Titrator)**

  Be aware of the approximate chloride concentration range in your well. Use the appropriate sample bottle for titration. **Be consistent with the end-point color change.**

  For low chloride concentrations (5-100 mg/l) each drop will equal 5 mg/l. For higher concentrations (20-400 mg/l) each drop equals 20 mg/l. Other kits for concentrations greater than 400 mg/l (500-10,000 mg/l) each drop is equal to 500 mg/l. Obviously, for water greater than 400 mg/l, a "drop-count" Hach Kit is not appropriate, and a digital titrator, described below, should be used.

- **Hach Kit (Digital Titrator)**

  A digital titrator is the appropriate method for water with greater than 400 mg/l chloride. A digital titrator using silver nitrate is accurate to within 10 mg/l for a chloride range from 10-10,000 mg/l, and for a titrator using mercuric nitrate accuracy varies from 0.1-20 mg/l for a chloride range of 10-8,000 mg/l.

  **Note:** Be consistent with the end-point color. Silver nitrate ages and needs to be replenished within the recommended guidelines of the Hach Company.

- **Other Methods**

  An ion-selective probe for chloride is available, and can measure concentration from 1.8-35,500 mg/l.
3. Reporting Results

- How to Report

The following information should be entered on the "Monthly Ground Water Use Report" form provided by the Commission on Water Resource Management:

1. Chloride concentration (mg/l) and temperature (°F) in the columns provided.

   Under "Notes" Section of the Monthly Water Use Report:

2. Method used for chloride analysis:_______________

3. Total elapsed time before sampling:_______________

If there are any questions, please call the Commission on Water Resource Management staff at 587-0265 on Oahu or toll free from the neighbor islands 1-800-468-4644 ext. 70265.
<table>
<thead>
<tr>
<th>CASING DIAMETER (in.)</th>
<th>PUMP CAPACITY (gpm)</th>
<th>MINIMUM TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10-20</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>110</td>
</tr>
<tr>
<td>8</td>
<td>10-20</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>&gt;250</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>10-20</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>68</td>
</tr>
<tr>
<td>16</td>
<td>10-20</td>
<td>560</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>65</td>
</tr>
<tr>
<td>20</td>
<td>50-100</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>72</td>
</tr>
</tbody>
</table>

1 Assumes saturated well depth of 100 feet.

2 Five well volumes is a standard guideline recommended by EPA.
CONSERVATION CONDITIONS
EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:

   a. Reduce the demand for non-potable water by:
      - Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      - Mulching planting areas with organic materials, etc., to minimize evaporation;
      - Efficiently maintaining the plants;
      - Improving land management practices to conserve water.

   b. Improve efficiency in use and reduce losses and waste of non-potable water by:
      - Using efficiently designed landscaping and irrigation systems;
      - Monitoring irrigation requirements and controlling usage accordingly;
      - Managing irrigation scheduling to minimize water demand;
      - Eliminating opportunities for water wastage;
      - Maintaining and improving irrigation systems as necessary.

   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

Attachment C
Ms. Kay Fukuhara
Kapolei Golf Course
91-701 Farrington Highway
Kapolei, HI 96707

Dear Ms. Fukuhara:

This is in response to your December 11, 2002 letter, informing us of the commencement of R-1 effluent use at the golf course, effective October 1, 2002, and your monthly well maintenance schedule for the initial three-year period. You have requested our review and recommendation on future well monitoring in light of the changed circumstances.

The Commission's July 18, 2001 action to extend your interim water use permit for Well Nos. 2003-01, 02, & 05 delegated to the Chairperson the authority to approve variances from the weekly chloride data reporting requirement. Given the present situation, you are hereby granted a variance from the weekly reporting requirement. After you have run the wells for 15 minutes, please measure and report chlorides on a regular monthly basis from a sample obtained just before the pumps are shut off.

Thank you for your attention to the conditions of your water use permit. If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

Peter T. Young
Chairperson

LN:ss
Ms. Linnel T. Nishioka, Deputy Director  
Commission on Water Resource Management  
Dept. of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, HI 96809

Dear Ms. Nishioka:

This is to inform you that we began using R-I effluent from the Honouliuli WWTP effective October 1, 2002. We will continue to exercise our wells on a monthly basis by running the wells for a span of 15 minutes.

The October well reading you received from Tom Nance Water Resource Engineering is approximately what will be used to exercise our wells on a monthly basis. At the end of initial three-year period of our agreement with the Board of Water, we will be allowed to mix our well water with the R-I water to stabilize our water costs.

Due to Department of Health regulations, we were required to disconnect our wells from our lakes. This causes a problem for sample testing and restricts our well water usage. We are currently working with the Board of Water to help us rectify this problem.

We kindly ask that you review our monitoring requirements in light of the above changes and give us your recommendation on how we should handle future monitoring of our well water usage.

Please feel free to contact Kay Fukuhara or myself at 674-2173 if you have any questions regarding this request. Thank you for your time and consideration.

Sincerely,

N. Nakamura  
President
Ms. Kay Fukuhara  
Kapolei People's, Inc.  
91-701 Farrington Highway  
Kapolei, HI 96707

Dear Ms. Fukuhara:

Notice of Action  
Extension of Interim Water Use Permit  
Kapolei Ground Water Management Area, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission). By a unanimous vote at the meeting on July 18, 2001, the Commission:

1. Extended your interim water use permit (WUP No. 438; Well Nos. 2003-01, 2003-02, & 2003-05), subject to the Standard Conditions of a Water Use Permit (Attachment A) and the following Special Conditions (which replace former special conditions):
   a. Should an alternate permanent source of water be found, the Commission reserves the right to revoke the permit, after a hearing.
   b. 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.
   c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted. The authority to approve future variance requests is delegated to the Chairperson.
   d. The duration of the interim permit shall be
      a) to July 1, 2006, or
      b) until treated wastewater is available and acceptable for use, or
      c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.
<table>
<thead>
<tr>
<th>Service</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$2.10</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$0.57</td>
</tr>
<tr>
<td>Special Delivery Fee</td>
<td></td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td></td>
</tr>
<tr>
<td>Return Receipt showing to whom and Date Delivered</td>
<td>$1.50</td>
</tr>
<tr>
<td>Return Receipt showing to whom, Date, and Address of Delivery</td>
<td>$4.17</td>
</tr>
<tr>
<td>TOTAL Postage and Fees</td>
<td>$4.17</td>
</tr>
</tbody>
</table>

Date: June 30, 1985

Postmark of Date: 354 448 620

 utilizando

Kay Fukuhara
Kapolei People's Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707
STICK POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE.

CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES. (see front)

1. If you want this receipt postmarked, stick the gummed stub to the right of the return address leaving the receipt attached and present the article at a post office service window or hand it to your rural carrier, (no extra charge)

2. If you do not want this receipt postmarked, stick the gummed stub to the right of the return address of the article, date, detach and retain the receipt, and mail the article.

3. If you want return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article RETURN RECEIPT REQUESTED adjacent to the number.

4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse RESTRICTED DELIVERY on the front of the article.

5. Enter fees for the services requested in the appropriate spaces on the front of this receipt is requested, check the applicable blocks in Item 1 of Form 3811.

6. Save this receipt and present it if you make inquiry.
| SENDER: | I also wish to receive the following services (for an extra fee):
| | 1. ☐ Addresssee's Address
| | 2. ☐ Restricted Delivery
| | Consult postmaster for fee.
| Complete items 1 and/or 2 for additional services.
| Complete items 3, 4a, and 4b.
| Print your name and address on the reverse of this form so that we can return this card to you.
| Attach this form to the front of the mailpiece, or on the back if space does not permit.
| Write "Return Receipt Requested" on the mailpiece below the article number.
| The Return Receipt will show to whom the article was delivered and the date delivered.
| 3. Article Addressed to: | 4a. Article Number | 4b. Service Type |
| Ms. Kay Fukuhara | P 354 448 620 | ☐ Registered | ☑ Certified |
| 'Kapolei People's Inc. | | ☐ Express Mail | ☐ Insured |
| 91-701 Farrington Highway | | ☑ Return Receipt for Merchandise | ☐ COD |
| Kapolei, HI 96707 | | | |
| ewa_13m.act | 7. Date of Delivery | 8. Addresssee's Address (Only if requested and fee is paid) |
| | | |
| Is Your RETURN ADDRESS completed on the reverse side? | | |
| | | |
| Thank you for using Return Receipt Service. | | |
COMMISSION ON WATER RESOURCE MANAGEMENT
P. O. Box 621
Honolulu, Hawaii 96809
e. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).

f. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

g. Require adherence to the chloride sampling protocol shown in Attachment B and the submittal of weekly chloride data. The authority to approve variances from the weekly reporting requirement is delegated to the Chairperson.

h. Require adherence to the Conservation Conditions shown in Attachment C.

i. In the event a water shortage is declared by the Commission, permittees in the Puuloa Aquifer System shall comply with the Puuloa Water Shortage Plan adopted by the Commission.

2. Suspended the four-year period of nonuse for Well Nos. 2003-01, 2003-02, & 2003-05, beginning from the first date of reclaimed water service delivery under the agreement with the Board of Water Supply. The suspension will be for the duration of these interim permits or until the agreement with Board of Water Supply for reclaimed water service delivery ends, whichever comes first. This condition shall apply to any other interim permittee that converts to reclaimed water service.

The Commission decided that interim permittees shall be notified by letter of the Commission action and extended permit duration and that re-issuance of new interim water use permits for these extended permits is unnecessary.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

\[Signature\]

LINNEL T. NISHIOKA
Deputy Director

LN:ky
Attachments
TESTIMONY BY APPLICANT:

Mrs. Harms stated that according to the Hawaii County Department of Water Supply (DWS), she would need 2 hookups per unit and a total of 16 units that require water. She stated that the units are located approximately 100 feet from where the County system terminates at the entrance to Vacationland. Mrs. Harms stated that DWS informed her that only 50 hookups were allowable to the Association meter, and that the association meter was filled to the maximum. At the present, Mrs. Harms stated that she has a temporary hookup of 10 lines with DWS.

MOTION: (RICHARDS/NOBRIGA)
To approve the submittal as amended in Alternate Recommendation #1.
UNANIMOUSLY APPROVED AS AMENDED.

4. Extension Of Interim Water Use Permits, Puuloa and Kapolei Ground Water Management Areas, Oahu

PRESENTATION OF SUBMITTAL: Ms. Lenore Nakama

AMENDED RECOMMENDATIONS:

That the Commission:

1. Extend the interim permits shown in Exhibit 4, subject to the Standard Conditions of a Water Use Permit (Attachment A) and the following Special Conditions (which replace the former special conditions):
   a. Should an alternate permanent source of water be found, the Commission reserves the right to revoke the permit, after a hearing.
   b. 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.
   c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted.
   d. The duration of the interim permit shall be
      a) to July 1, 2006, or
      b) until treated wastewater is available and acceptable for use, or
      c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.
e. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).

f. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

g. Require adherence to the chloride sampling protocol shown in Exhibit 8 and the submittal of weekly chloride data. The authority to approve variances from the weekly reporting requirements is delegated to the Chairperson.

h. Require adherence to the Conservation Conditions shown in Exhibit 9.

i. In the event a water shortage is declared by the Commission, permittees in the Puuloa Aquifer System shall comply with the Puuloa Water Shortage Plan adopted by the Commission.

2. Grant variances from the 1,000 mg/l chloride limit to Hawaii Prince Golf Club (Well Nos. 1900-02, 1900-17 to 20, 1901-03), Pacific Tsunami Warning Center (Well No. 1900-23), and The Estate of James Campbell (Well Nos. 1905-08,10). The variances shall expire six (6) months after the first date of reclaimed water service delivery.

3. Delegate the authority to the Chairperson to approve future variance requests.

4. The permittees shall be notified by letter of the Commission action and extended permit duration. Re-issuance of new interim water use permits for these extended permits is unnecessary.

5. Suspend the four-year period of nonuse for the Hawaii Prince Golf Club, Coral Creek Golf Course and Barbers Point Kapolei Golf Course, beginning from the first date of reclaimed water service delivery under their agreement with the Board of Water Supply. The suspension will be for the duration of these interim permits or until the agreement with Honolulu Board of Water Supply for reclaimed water service delivery ends whichever comes first. This condition shall apply to any other interim permittee that converts to reclaimed water service.

TESTIMONY BY APPLICANT:

Ms. Terry Kondo of Watanabe Ing & Kawashima representing Hawaii Prince Golf Course expressed concerns on staff recommendations #2, and 1g.

Mr. Tom Nance stated that when the golf course switches over to the effluent, the wells will not be run weekly. They will be run on occasion to keep them viable for use when effluent is not available. They will not be used on a weekly basis so providing a weekly data will become difficult. In the case of Hawaii Prince, samples that were obtained at one-half to
one-hour intervals were misleading. An internal sample protocol was developed so that all wells have to be run continuously for 24 hours before samples can be obtained. For that reason, Mr. Nance asked if condition 1 g could be modified that reporting be done on a monthly basis. He stated that trends are better noticed on a monthly data report.

Ms. Nakama stated that an administrative waiver was granted for Kapolei Golf Course because the long-term data was so stable. No significant movements were indicated in the water levels. Hawaii Prince and Coral Creek could request an administrative waiver from the weekly chloride-sampling requirement from the Chairperson.

Mr. Glenn Bauer stated that records showed that there were no major differences for Hawaii Prince’s chlorides in the weekly and monthly data. He felt that monthly data reporting would be sufficient.

MOTION: (NOBRIGA/GIRALD)
To approve the submittal as amended.
UNANIMOUSLY APPROVED AS AMENDED.

5. County of Hawaii, Department of Public Works, Application for a Stream Channel Alteration Permit (SCAP-HA-325), Install Three Concrete Culverts and Replace Bridge Structures, Waiakea Stream, Hilo, Hawaii (TMK 2-4-01:007, 010, 122)

PRESENTATION OF SUBMITTAL: Mr. Edwin Sakoda

RECOMMENDATION:

That the Commission:

Approve a stream channel alteration permit for the construction of culverts at Puainako Street and bridge modifications at Komohana Street, Waiakea Stream, Hilo, Hawaii (TMK: 2-4-01:007, 010, 122). The permit shall be valid for two years subject to the standard stream channel alteration permit conditions in Exhibit 5.

MOTION: (NOBRIGA/RICHARDS)
To approve the submittal.
UNANIMOUSLY APPROVED.


PRESENTATION OF SUBMITTAL: Mr. Ryan Imata
PERMITTEE(S): See Exhibit 1  LANDOWNER(S): See Exhibit 1

LOCATION MAP: See Exhibit 2

BACKGROUND:

On March 3, 1993, the Commission officially adopted the boundary of the entire brackish Ewa Caprock Aquifer as a separate aquifer overlying the existing designated ground water management areas of the Waipahu-Waiawa, Ewa-Kunia, and Makaiawa Aquifer Systems. Due to uncertainties regarding the caprock's sustainable yield and nonpotable utility, the Commission did not adopt a sustainable yield estimate for the caprock. Then-current uses were operating under permanent water use permits.

Designation of the Ewa Caprock as a water management area was precipitated by the City and County of Honolulu's (City) urbanization plans for the Ewa area and a City ordinance requiring dual water systems for all new developments. Potable water was to be provided through the municipal system. Possible sources of non-potable water were brackish ground water from the Ewa Caprock aquifer and reclaimed sewage effluent. The estimated non-potable demand of 25 mgd after full buildout (Kumagai, 1996) far exceeded the estimated natural recharge to the caprock aquifer of less than 16 mgd (Bauer, 1996).

Because there were concerns regarding the future viability of the caprock as a dependable source of brackish water due to the significant loss of return irrigation recharge from sugarcane agriculture, in 1993, the Commission began awarding temporary one-year permits for new uses of caprock ground water. In analyzing water availability, the Commission used guidelines for estimating sustainable yields for the Puuloa, Kapolei, and Malakole areas (Yuen & Associates, Inc., 1989).
On July 13, 1994, the Commission extended temporary one-year permits. The duration of the extended permits was to July 12, 1995.

At the July 5, 1995 Commission meeting in Honokaa, Hawaii, the Commission extended the permits, which were now called interim permits, until such time that a formal decision could be made on Oahu.

On March 13, 1996, the Commission deferred action on existing interim permits and new applications pending a decision on the establishment of a sustainable yield for the caprock.

Also on March 13, 1996, the Commission adopted the following policy statement, clearing the way for application of reclaimed water on lands overlying the Ewa Caprock Aquifer:

"It is the policy of the Commission on Water Resource Management (Commission) to promote the viable and appropriate reuse of reclaimed water in so far as it does not compromise beneficial uses of existing water resources.

I. Ewa Caprock

Recognizing that reclaimed water is a valuable resource in the Ewa Plain, direct or indirect reuse will be championed by the Commission. It is the policy of the Commission that the water resources of the Ewa Caprock Aquifer will be allocated only for nonpotable uses."

On May 14, 1997, the Commission adopted a sustainable yield based on a sustainable capacity for individual irrigation wells at 1,000 milligrams per liter (mg/l) of chloride as an interim management plan, subject to review within two (2) years. The rationale behind the chloride cap was to limit pumpage in those wells approaching the limit, to prevent a build-up of sodium in the clay soils, and to protect other users adjacent to those pumping higher chloride water. The Commission also adopted the Puuloa, Kapolei, and Malakole Aquifer Systems in the Ewa Caprock Sector and approved pending applications for new and continued irrigation uses. The specified duration of the interim water use permits was to October, 1998 or until such time that a significant change in permitted, actual, or projected uses or water supply occurs. The October, 1998 date coincided with the possible revocation of unused (former Oahu Sugar Company) agricultural permits and also provided a milestone date to check on the progress of wastewater reuse for private caprock well owners, the availability of which was then scheduled for July, 1999.

On October 22, 1998, the Commission extended the interim water use permits, subject to the Standard Conditions of a water use permit and new special conditions (Exhibit 3). The interim permits specified a duration to: 1) July, 2001, or 2) until treated wastewater is available and acceptable for use, or 3) until such time that a significant change in permitted, actual, or projected uses or water supply occurs. The list of interim permits due to expire in July, 2001 is shown in Exhibit 4. The graphs of reported pumpage and chlorides are shown in Exhibit 5.

On July 20, 2000, an agreement was reached between the Honolulu Board of Water Supply (BWS), the City, and U.S. Filter for BWS' purchase of the Honouliuli Wastewater Reclamation Facility. The agreement includes BWS becoming the purveyor of reuse water, with the task of securing customers for 10 mgd by July 1, 2001. U.S. Filter will operate the facility for BWS under a 20-year service agreement. The City will provide secondary effluent to the facility and will take back 4 mgd of the R-1 water for City reuse applications. Some of the reclaimed water will supply industrial uses at Campbell.
Industrial Park. (A briefing by the BWS on their reclamation program is scheduled as a separate item on this agenda.)

ANALYSIS/ISSUES:

A significant change in the water supply picture has been the acquisition of the Honouliuli Wastewater Reclamation Facility by the BWS and BWS' new role as purveyor of reclaimed water. Since their recent acquisition of the plant, BWS has been actively promoting the use of reclaimed water for non-potable needs over the Ewa Caprock Aquifer. Negotiations have been finalized for some City projects (West Loch and Ewa Villages developments) and for some of the golf courses that have interim caprock permits. Currently, we understand that a memorandum of understanding for golf course irrigation has been negotiated with Coral Creek, Hawaii Prince, and Barbers Point. The agreement provides for a set rate to July 1, 2006. The staff feels that this would be a good time to revisit these permits and the progress of the reclaimed water effort.

Even with reclaimed water as the primary irrigation source, ground water would still be used for the golf course water features, to maintain the pumps, and to mitigate potential reclaimed water quality or odor issues that may arise. The long-term goal of the golf courses is to blend reclaimed water with caprock ground water. Until reclaimed water is actually delivered and has been shown to be a reliable and acceptable source, the golf courses have requested that their interim permits be renewed for the same quantities. They have also requested that the Commission suspend the four-year nonuse clause for permit revocation. Section 174C-58 Haw. Rev. Stat. provides for the Commission and permittee to enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year revocation period. The staff feels that the promotion of alternative non-potable sources to meet non-potable needs is a satisfactory reason to suspend the four-year revocation period, given the uncertainties associated with this new source conversion, provided that other users and the resource are adequately protected.

PROTECTION OF THE RESOURCE

The current sustainable yield for the caprock aquifers is defined by a sustainable capacity at all irrigation wells in the Puuloa and Kapolei Aquifer Systems which prohibits individual pumpages that cause the specific well to exceed a 1,000 mg/l chloride cap. Enforcement of the chloride cap provides adequate protection for the aquifer. Management of the resource via a chloride cap was adopted on May 14, 1997 as an interim management plan. The staff feels that this management approach has been effective and is not recommending that the strategy be changed at this time.

MAXIMIZING THE UTILITY OF THE RESOURCE

Maximizing the utility of the caprock is intimately tied to wastewater reuse. As wastewater reuse comes on line, the sustainable yield of the caprock will increase, meaning more pumpage may be sustained under the 1,000 mg/l chloride limit. However, the distribution of reclaimed wastewater is uncertain, which will affect chloride distributions and total nonpotable supply. Of the projected total 13 mgd of R-1 water from the Honouliuli Wastewater Reclamation Plant, 1 mgd is needed for in-plant process water, and 2 mgd is planned for industrial uses at James Campbell Industrial Park. This leaves about 10 mgd available for irrigation needs in the region.
Given the City's current plans, the staff estimates that the potential future supply of nonpotable water for irrigation uses on lands overlying the Puuloa Aquifer System, where the competition for nonpotable irrigation water is most severe, could be up to about 15 mgd: 10 mgd reclaimed water plus approximately 5 mgd natural sustainable yield (Bauer, 1996). This assumes that 100% of the treated effluent will be available for reuse in Puuloa, which is improbable. But the availability of reclaimed water will present permittees with a possible alternative should their wells exceed the 1,000 mg/l chloride limit. Likewise, should the 1,000 mg/l limit not be exceeded, the permittees may continue to pump and may even work out a management plan which would allow for alternating between caprock and wastewater reuse to maximize the economical use of both resources. But ultimately, based on current reclaimed water plans, total allocations for the Puuloa Aquifer System should not exceed 15 mgd. Current allocations in the Puuloa Aquifer System total 14.817.

WELL INTERFERENCE

Since there are no ground-water models (solute-transport) that can predict chloride response to pumpage at individual well sites, close monitoring of the resource and enforcement of the chloride cap is critical to protect the resource in this interim period while the City finalizes plans to fully implement its reclamation program. Exhibit 6 shows that the caprock aquifer was significantly influenced by sugarcane irrigation practices and is still in a state of flux. Currently, all interim permittees are required to submit weekly reports of pumpage, water levels, chlorides, and water temperature (unless a variance from this requirement has been approved). All permittees have been put on notice that the reporting requirement will be strictly enforced.

Although enforcement of the 1,000 mg/l chloride cap at each well site will provide adequate protection for the resource, it may not be sufficient to preclude well interference. However, not only will wastewater reuse further protect the resource, it will also help to reduce the effects of well interference that may cause individual wells to exceed the 1,000 mg/l chloride cap. Special Condition f. has been added to the existing interim permits recommended for extension and will be added to all future caprock permits to put the permittees on notice of the risk of reliance on caprock ground water and its uncertain sustainable yield.

The staff has been sending all interim permittees in Puuloa the monthly bulletin which shows all pending permit applications, which should provide the permittees sufficient notice of new proposed uses of Puuloa Caprock ground water. Permittees should review new applications and water data from other nearby wells to proactively protect their sources. Permittees are encouraged to submit comments or objections in accordance with Administrative Rule 13-171-18 (Objection to Proposed Water Use Permit). Further, the staff has been analyzing the weekly water data reports, and we are continuing to work on triggers to implement a water shortage plan. These triggers may be related to some modification of Exhibit 6. Should valid claims of well interference be raised, either by permittees or as a result of the staff's analysis, the Commission may consider implementing a water shortage plan to address the well interference issue.

At this time, only an informal and incomplete water shortage plan exists. On May 14, 1997, the Commission approved a permit classification system for a water shortage plan for the Puuloa Aquifer System as provided under Administrative Rule 13-171-42:

" (a) The commission shall formulate a plan for implementation during periods of water shortage. As a part of the plan, the commission shall adopt a reasonable system of permit
classification according to source of water supply, method of extraction or diversion, use of water, or a combination thereof.

(b) In accordance with this chapter, the commission may impose such restrictions on one or more classes of permits as may be necessary to protect the water resources of the area from serious harm and to restore them to their previous condition.

(c) All permittees, unless exempted by the commission, shall submit a water shortage plan outlining how it will reduce its own water use in case of a shortage. Every water shortage plan shall be subject to approval or modification by the commission."

For the Puuloa Aquifer System, the Commission established the highest priority of nonpotable use as agriculture because the State's policy is to promote agriculture, and also because agricultural correlative uses are assured through the 1978 Constitutional Amendment. The second priority in water use is golf course irrigation because of the economic impacts that may result from inadequate water supply. The lowest priority in water use is landscape irrigation and dust control.

Water shortage plans were requested from all of the users in Puuloa, with the exception of United States Fish and Wildlife Service. The requirement to submit individual water shortage plans is highlighted in the cover letter that transmits the permit and is also stated in Standard Condition 17. The staff will continue to work with users to develop their individual plans. As part of the May 14, 1997 action, the Commission has also delegated the authority to the Chairperson to approve individual water shortage plans and the regional water shortage plan for the Puuloa Aquifer System.

CHLORIDE CONCENTRATION TRENDS

The Commission staff established a caprock well monitoring network in 1993. Each month, the staff collects water level and chloride data at selected caprock wells. The staff's analysis of the chloride trends at the individual wells and regionally is attached (Exhibit 7). The data show that the chloride concentration in the caprock water varies significantly from place-to-place and from well to well. Some of the reasons for these disparities include the subsurface geology, distance from the coast, well construction, pump capacity, and pumping schedule. Many of the sources have not exceeded the 1,000 mg/l chloride limit. The baseline data suggest that those wells that have exceeded the limit will continue to pump water exceeding 1,000 mg/l of chloride unless there is an influx of less saline water or a complete cessation of pumpage. The staff recommends that those operators with wells and/or batteries having > 1,000 mg/l of chloride should apply for a variance from the established limit. Once reclaimed water is available, these wells should only be used for back-up purposes or for blending with reclaimed water to a quality of 1,000 mg/l of chloride or less.

Currently, variances from the chloride cap have been granted to Hawaii Prince Golf Club (Well Nos. 1900-02, 1901-17 to 20, 1901-03) and Pacific Tsunami Warning Center (Well No. 1900-23). In a letter dated August 7, 2000, The Estate of James Campbell (Campbell) requested that the Commission waive the salinity limit for its two nonpotable wells (Well Nos. 1905-08, 10). The Commission denied the request on November 16, 2000 because Campbell was in the process of transferring the nonpotable system to the BWS and an alternative source (reclaimed water) would soon be in place. Negotiations are still ongoing for the transfer of the nonpotable water system. Chloride levels at the Campbell wells are now about 1,200 ppm. The staff is recommending that the Commission approve temporary variances from the chloride limit pending the implementation of the reclaimed water system for those users that have requested variances. Other users whose wells are close to the chloride cap may also request variances. Unless a variance is requested and approved, wells exceeding the chloride limit
must shut down. The staff's recommendation on a variance request would be made with consideration to the well's proximity to the ocean and to other wells, its history of chloride and pumpage, the availability of alternative sources of water and possibility for conversion. The staff is recommending that future variance requests be delegated to the Chairperson for disposition.

RECOMMENDATIONS:

That the Commission:

1. Extend the interim permits shown in Exhibit 4, subject to the Standard Conditions of a Water Use Permit (Attachment A) and the following Special Conditions (which replace the former special conditions):
   a. Should an alternate permanent source of water be found, the Commission reserves the right to revoke the permit, after a hearing.
   b. 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.
   c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted.
   d. The duration of the interim permit shall be
      a) to July 1, 2006, or
      b) until treated wastewater is available and acceptable for use, or
      c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.
   e. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).
   f. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.
   g. Require adherence to the chloride sampling protocol shown in Exhibit 8 and the submittal of weekly chloride data.
   h. Require adherence to the Conservation Conditions shown in Exhibit 9.
   i. In the event a water shortage is declared by the Commission, permittees in the Puuloa Aquifer System shall comply with the Puuloa Water Shortage Plan adopted by the Commission.

2. Grant variances from the 1,000 mg/l chloride limit to Hawaii Prince Golf Club (Well Nos. 1900-02, 1900-17 to 20, 1901-03), Pacific Tsunami Warning Center (Well No. 1900-23), and
The Estate of James Campbell (Well Nos. 1905-08,10). The variances shall expire six (6) months after the first date of reclaimed water service delivery.

3. Delegate the authority to the Chairperson to approve future variance requests.

4. The permittees shall be notified by letter of the Commission action and extended permit duration. Re-issuance of new interim water use permits for these extended permits is unnecessary.

5. Suspend the four-year period of nonuse for the Hawaii Prince Golf Club, Coral Creek Golf Course and Barberes Point Golf Course, beginning from the first date of reclaimed water service delivery under their agreement with the Board of Water Supply. The suspension will be for the duration of these interim permits or until the agreement with Honolulu Board of Water Supply for reclaimed water service delivery ends whichever comes first. This condition shall apply to any other interim permittee that converts to reclaimed water service.

Respectfully submitted,

LINNEL T. NISHIOKA
Deputy Director

Attachment(s): A (Standard Conditions for a Water Use Permit)

Exhibit(s): 1 (Interim Permittees and Landowners at the Source Location)
2 (Well Location Map)
3 (Standard and Special Conditions, approved October 28, 1998)
4 (Interim Permitted Uses, Puuloa and Kapolei Aquifer Systems)
5 (Graphs of Reported Pumpage and Chlorides)
6 (Chloride and Pumpage of Ewa Plantation Shallow Wells)
7 (Chloride Concentration Trends)
8 (Chloride Sampling Protocol)
9 (Conservation Conditions)
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.

5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its July 20, 2001 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:

ATTACHMENT A
Staff Submittal

July 18, 2001

a. protect the water sources (quantity or quality);
b. meet other legal obligations including other correlative rights;
c. insure adequate conservation measures;
d. require efficiency of water uses;
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

11. This permit shall be subject to the Commission's periodic review of the applicable aquifer system's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the applicable aquifer system, or relevant modified aquifer(s), is reduced.

12. A permit may be transferred, in whole or in part, from the permittee to another, if:

a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The use(s) authorized by law and by this permit do not constitute ownership rights.

14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage

ATTACHMENT A
pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the applicable Ground-Water Management Area.

17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

18. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

19. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.
<table>
<thead>
<tr>
<th>PERMITTEE</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>ZIP</th>
<th>LANDOWNER</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>ZIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARBORS ASSOCIATION</td>
<td>91-920 LAULU ST. #1G</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td>650 S. KING ST.</td>
<td>HONOLULU</td>
<td>96813</td>
</tr>
<tr>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>650 S. KING ST.</td>
<td>HONOLULU</td>
<td>96813</td>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>1001 KAMOKILA BLVD.</td>
<td>KAPOLEI</td>
<td>96707</td>
</tr>
<tr>
<td>CAMPBELL ESTATE</td>
<td>1001 KAMOKILA BLVD.</td>
<td>KAPOLEI</td>
<td>96707</td>
<td>CAMPBELL ESTATE</td>
<td>1001 KAMOKILA BLVD.</td>
<td>KAPOLEI</td>
<td>96707</td>
</tr>
<tr>
<td>CORAL CREEK GOLF, INC.</td>
<td>91-1111 GEIGER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>91-1111 GEIGER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>91-1076 POLEA ST., #19A</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>91-1076 POLEA ST., #19A</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>GENTRY DEVELOPMENT CO.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>P.O. BOX 295</td>
<td>HONOLULU</td>
<td>96809</td>
</tr>
<tr>
<td>HASEKO (EWA), INC.</td>
<td>820 MILILANI ST., STE.810</td>
<td>HONOLULU</td>
<td>96813</td>
<td>SAME</td>
<td>100 HOLOMOANA ST.</td>
<td>HONOLULU</td>
<td>96815</td>
</tr>
<tr>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>91-1200 FORT WEAVER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>HI PR HOTEL WAIKIKI CORP.</td>
<td>91-1200 FORT WEAVER RD.</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>91-701 FARRINGTON HWY.</td>
<td>KAPOLEI</td>
<td>96707</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>91-701 FARRINGTON HWY.</td>
<td>KAPOLEI</td>
<td>96707</td>
</tr>
<tr>
<td>PALM COURT ASSOCIATION</td>
<td>91-1019 PUANIU APT. R</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td>91-1019 PUANIU APT. R</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>PALM VILLA II ASSOCIATION</td>
<td>91-1119 MIKOHU ST. #D</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>SAME</td>
<td>91-1119 MIKOHU ST. #D</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>STATE HCDCH</td>
<td>677 QUEEN ST., STE. 300</td>
<td>HONOLULU</td>
<td>96813</td>
<td>STATE HCDCH</td>
<td>677 QUEEN ST., STE. 300</td>
<td>HONOLULU</td>
<td>96813</td>
</tr>
<tr>
<td>U.S. DOC/NOAA/NWS</td>
<td>91-270 FORT WEAVER ROAD</td>
<td>EWA BEACH</td>
<td>96706</td>
<td>U.S. DOC/NOAA/NWS</td>
<td>91-270 FORT WEAVER ROAD</td>
<td>EWA BEACH</td>
<td>96706</td>
</tr>
<tr>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>P.O. BOX 50167</td>
<td>HONOLULU</td>
<td>96850</td>
<td>U.S. NAVY</td>
<td>PAC DIV, NAVFAC ENG. CMD.</td>
<td>PEARL HA</td>
<td>96860</td>
</tr>
</tbody>
</table>

EXHIBIT 2
EWA CAPROCK INTERIM PERMITS
Special Conditions
(approved on October 22, 1998)

a. 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.

b. 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.

c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride.

d. The duration of the interim permit shall be to
   a) to July, 2001, or
   b) until treated wastewater is available and acceptable for use, or
   c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

e. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

f. Require adherence to the chloride sampling protocol (Attachment C) and the submittal of weekly chloride data.

g. Require adherence to the Conservation Conditions (Attachment D).
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its October 22, 1998 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
   d. require efficiency of water uses;

EXHIBIT 3
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

12. This permit shall be subject to the Commission's periodic review of the Puuloa or Kapolei Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Puuloa or Kapolei Aquifer System, or relevant modified aquifer(s), is reduced.

13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance.
of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Puuloa or Kapolei Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-167-3(6). The final determination of the water use quantity shall be made within five years.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.
### Aquifer System Water Use Permit Index

**ISLAND OF OAHU**

<table>
<thead>
<tr>
<th>WMA Aquifer System:</th>
<th>Applicant</th>
<th>Well No.</th>
<th>Well Name</th>
<th>WUP No.</th>
<th>12-MAV (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WMA Aquifer System: KAPOLEI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>5/14/97</td>
<td>CAMPBELL ESTATE</td>
<td>1905-08</td>
<td>KAPOLEI IRR 1</td>
<td>0.302</td>
</tr>
<tr>
<td>182</td>
<td>5/14/97</td>
<td>CAMPBELL ESTATE</td>
<td>1905-10</td>
<td>KAPOLEI IRR 2</td>
<td>0.260</td>
</tr>
<tr>
<td>438</td>
<td>5/14/97</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-01</td>
<td>KAPOLEI G.COURS</td>
<td>0.391</td>
</tr>
<tr>
<td>438</td>
<td>5/14/97</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-02</td>
<td>KAPOLEI G.COURS</td>
<td>0.316</td>
</tr>
<tr>
<td>432</td>
<td>5/14/97</td>
<td>STATE HFD</td>
<td>2003-04</td>
<td>KAPOLEI IRR D</td>
<td>0.494</td>
</tr>
<tr>
<td>438</td>
<td>5/14/97</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-06</td>
<td>KAPOLEI G.COURS</td>
<td>0.089</td>
</tr>
<tr>
<td>432</td>
<td>5/14/97</td>
<td>STATE HFD</td>
<td>2003-07</td>
<td>KAPOLEI IRR C-1</td>
<td>0.216</td>
</tr>
<tr>
<td>520</td>
<td>3/19/99</td>
<td>STATE HCDCH</td>
<td>2003-08</td>
<td>EAST KAPOLEI</td>
<td>0.237</td>
</tr>
</tbody>
</table>

Summary for 'SYSTEM' = KAPOLEI (8 detail records)

**Totalling** | 2.033 |

<table>
<thead>
<tr>
<th>WMA Aquifer System:</th>
<th>Applicant</th>
<th>Well No.</th>
<th>Well Name</th>
<th>WUP No.</th>
<th>12-MAV (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WMA Aquifer System: PUULOA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
<td>0.301</td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-17</td>
<td>WELL 2</td>
<td>0.352</td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-18</td>
<td>WELL 3</td>
<td>0.120</td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-19</td>
<td>WELL 4</td>
<td>0.053</td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
<td>0.055</td>
</tr>
<tr>
<td>501</td>
<td>8/26/98</td>
<td>U.S. DOC/NOAA/NWS</td>
<td>1900-23</td>
<td>PACIFIC TSUNAMI</td>
<td>0.023</td>
</tr>
<tr>
<td>469</td>
<td>1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1901-03</td>
<td>WELL 1</td>
<td>0.349</td>
</tr>
<tr>
<td>505</td>
<td>10/22/98</td>
<td>GENTRY HOMES, LTD.</td>
<td>1901-05</td>
<td>GENTRY AREA 13</td>
<td>0.056</td>
</tr>
<tr>
<td>347</td>
<td>5/14/97</td>
<td>HASEKO (EWA), INC.</td>
<td>1902-01</td>
<td>HASEKO WELL NO.</td>
<td>1.5</td>
</tr>
<tr>
<td>167</td>
<td>5/14/97</td>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>2001-03</td>
<td>GEIGER PARK</td>
<td>0.03</td>
</tr>
<tr>
<td>302</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-04</td>
<td>SUNRISE APT.</td>
<td>0.04</td>
</tr>
<tr>
<td>450</td>
<td>5/14/97</td>
<td>EWA BY GENTRY COMM ASSQ</td>
<td>2001-05</td>
<td>SODA CREEK III</td>
<td>0.066</td>
</tr>
<tr>
<td>171</td>
<td>5/14/97</td>
<td>ARBORS ASSOCIATION</td>
<td>2001-07</td>
<td>ARBORS</td>
<td>0.063</td>
</tr>
<tr>
<td>168</td>
<td>3/13/96</td>
<td>PALM VILLA II ASSOCIATION</td>
<td>2001-08</td>
<td>PALM VILLA 2</td>
<td>0.048</td>
</tr>
<tr>
<td>344</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-09</td>
<td>FORT WEAVER AP</td>
<td>0.023</td>
</tr>
<tr>
<td>355</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT COR</td>
<td>2001-10</td>
<td>GENTRY AREA 24</td>
<td>0.022</td>
</tr>
<tr>
<td>504</td>
<td>11/19/98</td>
<td>GENTRY HOMES, LTD.</td>
<td>2001-12</td>
<td>KEAUNUI (AREA 30</td>
<td>0.249</td>
</tr>
<tr>
<td>578</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2001-13</td>
<td>CORAL CREEK NO</td>
<td>0.8</td>
</tr>
<tr>
<td>578</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2001-14</td>
<td>CORAL CREEK NO</td>
<td>0.992</td>
</tr>
<tr>
<td>169</td>
<td>5/14/97</td>
<td>PALM COURT ASSOCIATION</td>
<td>2002-12</td>
<td>PALM COURT 3</td>
<td>0.04</td>
</tr>
<tr>
<td>579</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-15</td>
<td>CORAL CREEK NO</td>
<td>0.183</td>
</tr>
<tr>
<td>579</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-17</td>
<td>CORAL CREEK NO</td>
<td>0.498</td>
</tr>
<tr>
<td>579</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-17</td>
<td>CORAL CREEK NO</td>
<td>0.150</td>
</tr>
</tbody>
</table>

Summary for 'SYSTEM' = PUULOA (12 detail records)

**Totalling** | 1.552

*Monday, May 21, 2001*
<table>
<thead>
<tr>
<th>WUP No</th>
<th>Approved</th>
<th>Applicant</th>
<th>Well No.</th>
<th>Well Name</th>
<th>WUP (mgd)</th>
<th>12-MAV (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>579</td>
<td></td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-19</td>
<td>CORAL CREEK LAK</td>
<td>0.324</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>10/27/93</td>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>2101-14</td>
<td>HONOLIULI UNIT</td>
<td>0.216</td>
<td>0.159</td>
</tr>
</tbody>
</table>

Summary for 'SYSTEM' = PUULOA (25 detail records)

Totalling 4.867 3.468
Hawaii Prince G.C. Combined Pumpage
(Well Nos. 1900-02, 17 to 20; 1901-03)

12-MAV

WUP

combined monthly withdrawal

EXHIBIT 5
Campbell Estate Caprock Pumpage
Kapolei Irr. Wells 1&2 (1905-08,10)

EXHIBIT 5

Combined Monthly Pumpage
12-MAV
WUP
1905-08 Chloride
Ewa By Gentry Community Association
Soda Creek III (Well No. 2001-05)

Date (latest data 4/01)

Pumpage (mgd)

Chloride (mg/l)

Monthly values
WUP
12-MAV
Cl- (mg/l)
Coral Creek Golf Course Withdrawals
Well 4 (2001-13)

Graph showing pumpage (mgd) and chloride level (mg/l) over time.

- Pumpage (mgd)
- 12-MAV
- Max chloride level

Date (latest data 4/01)
Coral Creek Golf Course Withdrawals
Well 2 (2002-17)

pumpage (mgd)  12-MAV  max chloride level

Date (latest data 4/01)
Coral Creek Golf Course Withdrawals
Lake A (2002-19)

EXHIBIT 5

pumpage (mgd)

chloride (mg/l)

date (latest data 4/01)

pumpage (mgd)  12-MAV  max chloride level
Kapolei Golf Course
Well Nos. 2003-01,02,05 Combined

EXHIBIT 5
State HCDCH Kapolei Wells
Well Nos. 2003-04,07 Combined

pumpage (mgd)

chloride (mg/l)

date (latest data 4/01)

--- monthly pumpage
--- 12-MAV
--- 2003-04 CI
--- 2003-07 CI
--- WUP
MEMORANDUM FOR THE RECORD

FROM: Glenn Bauer

SUBJECT: Chloride Concentration Trends in the Ewa Caprock Aquifer

Background

Commission staff has been collecting water samples from various wells and well batteries within the caprock aquifer from Puuloa to Malakole since 1993. Our baseline sampling effort began before the demise of Oahu Sugar Company in 1994, and was augmented by the required reporting of weekly chlorides by caprock water users.

The end of sugar cultivation on the Ewa Plain brought with it an end to the importation of low to moderate salinity basal ground water for irrigation. Prior to 1994, when drip irrigation practices were employed, the estimated return irrigation component from basal ground water was 16 mgd (Mink, 1989) with 8 mgd going to the Puuloa area and 8 mgd going to the Kapolei-Malakole area. At the same time, the plantation pumped an average of 14 mgd (Bauer, 1996) from their shallow wells. After 1994, ground-water input to the caprock included natural inflow from the basal aquifer into the caprock and direct recharge from rainfall and storm runoff. Various authors report a range of natural inflow into the caprock from the basalt. Most of these numbers were derived by numerical models or by salinity mixing model equations and are small when considered on a flux/mile basis. Estimates range from <1 mgd to 3± mgd/mile (Bauer, 1996). Long-term annual average rainfall input over the Ewa Plain has been estimated to be about 5± mgd (summary of results in Bauer, 1996). In addition, long-term annual average for storm runoff recharge over the caprock from Kaloi and Makakilo Gulches was estimated to be between 1 and 2 mgd (Mink, 1989).

In 1997 the Commission adopted a 1,000 mg/l chloride cap for individual wells developing caprock water. The reasoning behind this cap was to limit pumpage in those wells approaching the limit and to prevent a sodium build-up in the clay soils which would adversely affect the growth of certain grasses for golf courses, and to protect other users adjacent to those using higher chloride water.

Chloride Trends Since 1994 East of Fort Weaver Road

The chloride concentration in the caprock water varies significantly from place-to-place, and from well to well. Some of the reasons for these disparities include the subsurface geology, distance from the coast, well construction, pump capacity, and pumping schedule.

Generally, those pumping batteries that have long-term records, are east and south of Fort Weaver Road and Iroquois Point Road respectively, show a rising trend in
chlorides over time. This trend is partly due to irrigation practices and partly due to the lack of recharge of fresher water into the aquifer and proximity to the shoreline.

**Ewa Beach International Golf Club**

For Ewa Beach International, chlorides have risen from a low of 1,000 mg/l in late 1996 (due to recharge from a large storm on Election night) to 1,800± mg/l at the present time. CWRM staff samples Well No. 1900-21 at a 1-acre pond (Pond E). Evaporation from the pond undoubtedly affects chloride concentration. Pumpage from this source is less than 1 mgd.

**Hawaii Prince Golf Club**

Hawaii Prince Golf Club pumps water from 6 wells. Total average pumpage is slightly greater than 1 mgd. CWRM staff typically samples the wells after they have been running for several hours. Hawaii Prince Irrigation Wells 1-5 (1901-03, 1900-17-20) and EP-22 (1900-02). Chloride concentration in Hawaii Prince Wells 1 and 2 have remained relatively stable over the period of record. Well 1 remains about 1,000 mg/l, while Well 2 changed from about 1,000 mg/l in 1994 to 1,200± mg/l at the present time. Wells east of Well 2 are much more saline. The magnitude of the increase in salinity has ranged from 300 mg/l (Well 3) to 500 mg/l (Well 5 and EP-22) over the period of record.

**U. S. Fish and Wildlife Well 2101-14**

This well is north of Iroquois Point Road. Average pumpage is less than 0.5 mgd. The chloride concentration has shown an improvement since 1996 and remains stable at 1,000± mg/l.

**Chloride Trends Since 1994 West of Fort Weaver Road**

**Gentry Wells**

CWRM staff has monitored 5 of the 9 wells developed by Gentry. These wells are low capacity and are used exclusively for irrigation of the common areas within each development. Total Gentry pumpage is less than 0.5 mgd. Since 1997, chloride concentration has remained consistently between 400 and 800 mg/l, well below the 1,000 mg/l cap. The wells monitored are Palm Villa I (2001-06), Palm Villa II (2001-08), Palm Court III (2002-12, monitoring discontinued in 1997), Sunrise (2001-04), and Sun Terra (2001-05). Pump capacities for these wells range from 100-110 gpm.

**Haseko EP-27 Well (1902-01)**

CWRM staff began monitoring this source in 1994 just after the closing of Oahu Sugar. Static (non-pumping) samples were collected from the open pit near the pump house. Chlorides ranged from 800 to 900 mg/l. In 1997, Haseko began to pump this source at rates approaching 2 mgd. The average rate is about 1 mgd. Chloride
concentration remains stable at 900± mg/l. The stable nature could be that the pumping source skims the top water from the pit.

Coral Creek Golf Course

In 1998, several large pits were excavated and noted north and south of Geiger Road just east of the Honouliuli STP. These pits and drilled wells became part of the Coral Creek battery. Water from the pits is used for water features and for a back-up source (Lake Well 1, 2002-19). Coral Creek Golf Club irrigates using water from Coral Creek Well 1 (2002-15), Coral Creek Well 2 (2002-17), and Coral Creek Well 4 (2001-13). Pumpage is slightly greater than 1 mgd; however, the chloride concentration from the sources ranges between 1,000 mg/l to almost 4,000 mg/l at Well 2. According to golf course personnel, Well 4 pumps the least amount and is the most stable in terms of chloride concentration. It was also noted by golf course personnel that the longer Well 1 and 2 pumps, the saltier the water becomes. Pump capacities for these wells are high. Coral Creek 1 and 2 have 800 gpm pumps, while Coral Creek 4 has a 1,000 gpm pump.

High evaporation rate (close to 90 inches/year) in the Ewa Plain could cause the salinization of the lakes, which, in turn, could be the reason for the high chlorides localized at Well 1 and 2. However, the chloride samples taken from the Lake Well 1 show concentrations ranging from 1,000 to 1,200 mg/l. At the present time, Coral Creek’s saline water does not seem to affect the Gentry sources to the east.

Chloride Trends Since 1994 in the Kapolei Region

HFDCH Kapolei Golf Course

The Kapolei Golf Course utilizes Kapolei Irrigation Wells A, B, C, D, E, and C-1 (well nos. 2003-01-05, 07). Well C-1 is a replacement well for Well C. Chlorides have been remarkably stable, hovering between 200± mg/l to 600 mg/l, with little variation or trends. It is thought that basal ground-water inflow from the Waianae aquifer in conjunction with a thin caprock is responsible for the stability of the water chemistry in this area. Variations in pumpage are seasonal, but average about 1 mgd.

Kapolei City Wells

Campbell Estates’ Kapolei City Wells (1905-08, 10) supply irrigation water for Kapolei. Average daily pumpage is less than 0.5 mgd. Since 1995 chloride concentrations in both wells have been rising from 600 mg/l to 1,200-1,400 mg/l at the present time. Well 1905-08 (east well) water quality is slightly better than 1905-10. Duration of pumpage prior to sample collection probably influences the chloride concentration. However, it is evident that the overall trend is upwards.

Conclusions

EXHIBIT Z
Since the cessation of sugar irrigation the common chloride trend is generally a linear increase for wells that exceed the 1,000 mg/l cap. The long-term prognosis for these wells will be a continued increase in salinity. However, there are several well batteries and wells that do not fit this trend (e.g. U.S. Fish and Wildlife, Gentry, Haseko, HFDCH Kapolei), and exhibit remarkable chloride stability. The scatter of chloride data associated with Coral Creek cannot be easily explained. Bottom hole elevations are not as great as some of the Gentry Wells, yet the chlorides are much greater and the sensitivity of chloride concentration to pumpage suggest that localized upconing, in conjunction with the high pump capacities, is taking place. Moreover, the relationship of the large lakes (surface evaporation) to the wells is not clearly understood and could play a role in contributing to the pool of high chloride ground water.

As stated above, many of the sources have not exceeded the 1,000 mg/l cap. Those that have, the baseline data suggest that these wells will never pump ≤1,000 mg/l again unless there is an influx of less saline water (e.g. reuse, an increase of recharge from storms i.e. a more normal weather pattern) or a complete cessation of pumpage. In the meantime, those operators with wells and/or batteries >1,000 mg/l chloride should apply for a variance from the 1,000 mg/l cap. It should be implicitly stipulated that once reuse is available, then these wells will only be used as back-up sources or blended with reuse water to a quality of 1,000 mg/l or less.

References:


U. S. Fish and Wildlife Well 2101-14
Pumpage and Chlorides

Average Monthly Pumpage (mgd)

Month/Year

Monthly Chloride (mg/l)

1,000 Cl Cap
Gentry Wells
Pumpage and Chlorides

Average Monthly Pumpage (mgd)

Month/Year

1,000 Cl Cap • Palm Villa I ■ Palm Villa II
▼ Palm Court × Sun Terra ▲ Sunrise

EXHIBIT 7
Haseko EP 27
Pumpage and Chlorides

Average Monthly Pumpage (mgd)

Month/Year

1,000 Cl Cap   • EP27 Pit   ■ EP 27 Pipe

Monthly Chloride (mg/l)
Coral Creek Golf Course
Pumpage and Chlorides

Average Monthly Pumpage (mgd)

10

9

8

7

6

5

4

3

2

1

0

0

500

1,000

1,500

2,000

2,500

3,000

3,500

4,000

Month/Year

1,000 Cl Cap

Lake Well 1

Well 2

Well 1

Well 4
HFDCH Kapolei Golf Course
Pumpage and Chlorides

Average Monthly Pumpage (mgd)

Month/Year

1,000 Cl Cap  •  Irr. Well A  □  Irr. Well B  ▼  Irr. Well C

▲  Irr. Well C-1  ▲  Irr. Well D  +  Irr. Well E

Monthly Chloride (mg/l)
GUIDELINES FOR CHLORIDE CONCENTRATION SAMPLING FOR EWA CAPROCK

1. Sample Collection

- Sampling Schedule

The sampling schedule depends upon your pump capacity:

<table>
<thead>
<tr>
<th>Pump Capacity (gpm)</th>
<th>Sampling Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 50</td>
<td>Once a month</td>
</tr>
<tr>
<td>Greater than 50</td>
<td>Once a week</td>
</tr>
</tbody>
</table>

- When to Sample

Before taking a sample, allow a minimum length of time to elapse after turning on the pump. This minimum time can be read off the attached table for your well casing diameter and your pump capacity. If you sample 20 minutes after the minimum time, you should consistently sample 20 minutes after the minimum time each time you take samples.

- Sample Bottle

Use a plastic container and cap that holds a volume of about a pint. Rinse the container three times with the water to be sampled before taking the sample. Also rinse the cap with sample water.

- Labeling

On the sample bottle, affix a label that contains the following information:

Well No.
Date
Time Sampled
Elapsed Time after pump on
Sampler's Name
Water Temperature (if available)
Pumping Rate (prior to sampling)
2. **Determination of Chloride Concentration**

- **Private Laboratories**

  If the sample is sent to a private laboratory, then prepare the water sample and label the bottle in the manner described above.

  Private laboratories will use methods that are more accurate than field methods described below.

- **Hach Kit (Drop Count Titrator)**

  Be aware of the approximate chloride concentration range in your well. Use the appropriate sample bottle for titration. **Be consistent with the end-point color change.**

  For low chloride concentrations (5-100 mg/l) each drop will equal 5 mg/l. For higher concentrations (20-400 mg/l) each drop equals 20 mg/l. Other kits for concentrations greater than 400 mg/l (500-10,000 mg/l) each drop is equal to 500 mg/l. Obviously, for water greater than 400 mg/l, a "drop-count" Hach Kit is not appropriate, and a digital titrator, described below, should be used.

- **Hach Kit (Digital Titrator)**

  A digital titrator is the appropriate method for water with greater than 400 mg/l chloride. A digital titrator using silver nitrate is accurate to within 10 mg/l for a chloride range from 10-10,000 mg/l, and for a titrator using mercuric nitrate accuracy varies from 0.1-20 mg/l for a chloride range of 10-8,000 mg/l.

  **Note:** **Be consistent with the end-point color.** Silver nitrate ages and needs to be replenished within the recommended guidelines of the Hach Company.

- **Other Methods**

  An ion-selective probe for chloride is available, and can measure concentration from 1.8-35,500 mg/l.
3. Reporting Results

• How to Report

The following information should be entered on the "Monthly Ground Water Use Report" form provided by the Commission on Water Resource Management:

1. Chloride concentration (mg/l) and temperature (°F) in the columns provided.

Under "Notes" Section of the Monthly Water Use Report:

2. Method used for chloride analysis: __________________

3. Total elapsed time before sampling: ________________

If there are any questions, please call the Commission on Water Resource Management staff at 587-0265 on Oahu or toll free from the neighbor islands 1-800-468-4644 ext. 70265.
<table>
<thead>
<tr>
<th>CASING DIAMETER (in.)</th>
<th>PUMP CAPACITY (gpm)</th>
<th>MINIMUM TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10-20</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>110</td>
</tr>
<tr>
<td>8</td>
<td>10-20</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>&gt;250</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>10-20</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>68</td>
</tr>
<tr>
<td>16</td>
<td>10-20</td>
<td>560</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>65</td>
</tr>
<tr>
<td>20</td>
<td>50-100</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>72</td>
</tr>
</tbody>
</table>

1 Assumes saturated well depth of 100 feet.

2 Five well volumes is a standard guideline recommended by EPA.
CONSERVATION CONDITIONS
EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:

   a. Reduce the demand for non-potable water by:

      • Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      • Mulching planting areas with organic materials, etc., to minimize evaporation;
      • Efficiently maintaining the plants;
      • Improving land management practices to conserve water.

   b. Improve efficiency in use and reduce losses and waste of non-potable water by:

      • Using efficiently designed landscaping and irrigation systems;
      • Monitoring irrigation requirements and controlling usage accordingly;
      • Managing irrigation scheduling to minimize water demand;
      • Eliminating opportunities for water wastage;
      • Maintaining and improving irrigation systems as necessary.

   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

   EXHIBIT 9
**Receipt for Certified Mail**

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

<table>
<thead>
<tr>
<th>Sent to</th>
<th>Bernard H. Matano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street and No.</td>
<td>91-70 Farrington Hwy.</td>
</tr>
<tr>
<td>P.O., State and ZIP Code</td>
<td>Kapolei HI 96707</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$0.55</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>1.35</td>
</tr>
<tr>
<td>Special Delivery Fee</td>
<td></td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td></td>
</tr>
<tr>
<td>Return Receipt Showing to Whom &amp; Date Delivered</td>
<td>1.10</td>
</tr>
<tr>
<td>Return Receipt Showing to Whom, Date, and Addressee's Address</td>
<td></td>
</tr>
<tr>
<td>TOTAL Postage &amp; Fees</td>
<td>$3.00</td>
</tr>
</tbody>
</table>

PS Form 3800, March 1993

NOV 10 1998
RETURN RECEIPT

1. If you want the return receipt to be endorsed for any selected optional services (see front), detach the receipt stub from the article and present the article at a post office service window or hand it to your rural carrier for extra charge.

2. If you do not want this receipt postmarked, stick the gummed stub to the right of the return address at the article, date, detach and retain the receipt, and mail the article.

3. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article "RETURN RECEIPT REQUESTED" adjacent to the number.

4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse "RESTRICTED DELIVERY" on the front of the article.

5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in item 1 of Form 3811.

6. Save this receipt and present it if you have inquiry.
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Bernard H. Matano
Kapolei People’s Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707

Dear Mr. Matano:

Notice Of Action
Extension of Interim Water Use Permits
Puuloa and Kapolei Ground Water Management Areas, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission) on October 22, 1998, to extend your interim water use permit, subject to the Standard Conditions of a Water Use Permit (Attachment A) and the following Special Conditions (which replace the former special conditions):

a. 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.

b. 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.

c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride.

d. The duration of the interim permit shall be to
   a) to July, 2001, or
   b) until treated wastewater is available and acceptable for use, or
   c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

e. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.
Mr. Bernard H. Matano
Page 2
NOV 10 1996

f. Require adherence to the chloride sampling protocol (Attachment C) and the submittal of weekly chloride data.

g. Require adherence to the Conservation Conditions (Attachment D).

Although specific action was not taken, the Commission did note that variances approved through the May 14, 1997 action are also extended.

The Commission decided that interim permittees shall be notified by letter of the Commission action and extended permit duration and that re-issuance of new interim water use permits for these extended permits is unnecessary. Attachment B shows the list of extended interim permits.

Please be advised that the Commission directed staff to strictly enforce the weekly water data reporting requirement and the requirement to submit a water shortage plan. (If you have not done so already, please submit your water shortage plan, as required under Standard Condition 17.) In addition, all interim permittees will be sent the monthly bulletin which shows all pending permit applications. Permittees are encouraged to review new applications and water data from nearby wells to proactively protect their sources.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

TIMOTHY E. JOHNS
Deputy Director

LN:ss

Attachment(s): A (Standard Conditions for a Water Use Permit)  
B (Extended Interim Water Use Permits)  
C (Chloride Sampling Protocol)  
D (Conservation Conditions)
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its October 22, 1998 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
   d. require efficiency of water uses;
   e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

ATTACHMENT A
10. If the ground water source does not presently exist, the new well shall be completed, i.e. able
to withdraw water for the proposed use on a regular basis, within twenty-four (24) months
from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly
record of withdrawals, salinity, temperature, and pumping times must be kept and reported to
the Commission on Water Resource Management on forms provided by the Commission on a
monthly basis (attached).

12. This permit shall be subject to the Commission’s periodic review of the Puuloa or Kapolei
Aquifer System’s sustainable yield. The amount of water authorized by this permit may be
reduced by the Commission if the sustainable yield of the Puuloa or Kapolei Aquifer System,
or relevant modified aquifer(s), is reduced.

13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and
      purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

   Failure to inform the department of the transfer invalidates the transfer and constitutes a
   ground for revocation of the permit. A transfer which involves a change in any condition of
   the permit, including a change in use covered in HRS § 174C-57, is also invalid and
   constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all
   applicable laws, rules, and ordinances which will affect the permittee’s water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for
   reasons other than conservation, of the water allowed by this permit for a period of four (4)
   continuous years or more may result in a permanent revocation as to the amount of water not
   in use. The Commission and the permittee may enter into a written agreement that, for
   reasons satisfactory to the Commission, any period of nonuse may not apply towards the four­
   year period. Any period of nonuse which is caused by a declaration of water shortage
   pursuant to section HRS § 174C-62 shall not apply towards the four-year period of
   forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance
   of this permit as required by HAR § 13-171-42(c). The permittee’s water shortage plan shall
   identify what the permittee is willing to do should the Commission declare a water shortage in
   the Puuloa or Kapolei Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-
   167-3(6). The final determination of the water use quantity shall be made within five years.

19. The water use permit shall be subject to the Commission’s establishment of instream standards
   and policies relating to the Stream Protection and Management (SPAM) program, as well as
   legislative mandates to protect stream resources.

20. The permittee understands that any willful violation of any of the above conditions or any
    provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of
    this permit.

ATTACHMENT A
## Extended Interim Water Use Permits

<table>
<thead>
<tr>
<th>Permittee</th>
<th>Well No(s.)</th>
<th>WUP No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Estate of James Campbell</td>
<td>1905-08, 10</td>
<td>182</td>
</tr>
<tr>
<td>State of Hawaii, Housing Finance &amp; Development Corp.</td>
<td>2003-04, 07</td>
<td>432</td>
</tr>
<tr>
<td>Kapolei People's Inc.</td>
<td>2003-01, 02, 05</td>
<td>438</td>
</tr>
<tr>
<td>Hawaii Prince Golf Club</td>
<td>1900-02, 17 to 20 &amp; 1901-03</td>
<td>469</td>
</tr>
<tr>
<td>City and County of Honolulu Department of Parks and Recreation</td>
<td>2001-03</td>
<td>167</td>
</tr>
<tr>
<td>Gentry Development Co.</td>
<td>2001-04</td>
<td>302</td>
</tr>
<tr>
<td></td>
<td>2001-09</td>
<td>344</td>
</tr>
<tr>
<td></td>
<td>2001-10</td>
<td>355</td>
</tr>
<tr>
<td>Ewa by Gentry Community Association</td>
<td>2001-05</td>
<td>450</td>
</tr>
<tr>
<td>The Arbors Association</td>
<td>2001-07</td>
<td>171</td>
</tr>
<tr>
<td>Palm Villas II Association</td>
<td>2001-08</td>
<td>168</td>
</tr>
<tr>
<td>Palm Court Association</td>
<td>2002-12</td>
<td>169</td>
</tr>
<tr>
<td>Coral Creek Golf, Inc.</td>
<td>1902-05</td>
<td>498</td>
</tr>
<tr>
<td></td>
<td>2001-13</td>
<td>497</td>
</tr>
<tr>
<td></td>
<td>2002-15</td>
<td>437</td>
</tr>
<tr>
<td></td>
<td>2002-17 &amp; 18</td>
<td>496</td>
</tr>
<tr>
<td>U.S. DOC/NOAA/National Weather Service</td>
<td>1900-23</td>
<td>501</td>
</tr>
</tbody>
</table>

ATTACHMENT B
GUIDELINES FOR CHLORIDE CONCENTRATION SAMPLING FOR EWA CAPROCK

1. Sample Collection

- Sampling Schedule

The sampling schedule depends upon your pump capacity:

<table>
<thead>
<tr>
<th>Pump Capacity (gpm)</th>
<th>Sampling Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 50</td>
<td>Once a month</td>
</tr>
<tr>
<td>Greater than 50</td>
<td>Once a week</td>
</tr>
</tbody>
</table>

- When to Sample

Before taking a sample, allow a minimum length of time to elapse after turning on the pump. This minimum time can be read off the attached table for your well casing diameter and your pump capacity. If you sample 20 minutes after the minimum time, you should consistently sample 20 minutes after the minimum time each time you take samples.

- Sample Bottle

Use a plastic container and cap that holds a volume of about a pint. Rinse the container three times with the water to be sampled before taking the sample. Also rinse the cap with sample water.

- Labeling

On the sample bottle, affix a label that contains the following information:

Well No.
Date
Time Sampled
Elapsed Time after pump on
Sampler's Name
Water Temperature (if available)
Pumping Rate (prior to sampling)

Attachment C
2. **Determination of Chloride Concentration**

- **Private Laboratories**

  If the sample is sent to a private laboratory, then prepare the water sample and label the bottle in the manner described above.

  Private laboratories will use methods that are more accurate than field methods described below.

- **Hach Kit (Drop Count Titrator)**

  Be aware of the approximate chloride concentration range in your well. Use the appropriate sample bottle for titration. **Be consistent with the end-point color change.**

  For low chloride concentrations (5-100 mg/l) each drop will equal 5 mg/l. For higher concentrations (20-400 mg/l) each drop equals 20 mg/l. Other kits for concentrations greater than 400 mg/l (500-10,000 mg/l) each drop is equal to 500 mg/l. Obviously, for water greater than 400 mg/l, a "drop-count" Hach Kit is not appropriate, and a digital titrator, described below, should be used.

- **Hach Kit (Digital Titrator)**

  A digital titrator is the appropriate method for water with greater than 400 mg/l chloride. A digital titrator using silver nitrate is accurate to within 10 mg/l for a chloride range from 10-10,000 mg/l, and for a titrator using mercuric nitrate accuracy varies from 0.1-20 mg/l for a chloride range of 10-8,000 mg/l.

  **Note:** **Be consistent with the end-point color.** Silver nitrate ages and needs to be replenished within the recommended guidelines of the Hach Company.

- **Other Methods**

  An ion-selective probe for chloride is available, and can measure concentration from 1.8-35,500 mg/l.
3. Reporting Results

- How to Report

The following information should be entered on the "Monthly Ground Water Use Report" form provided by the Commission on Water Resource Management:

1. Chloride concentration (mg/l) and temperature (°F) in the columns provided.

Under "Notes" Section of the Monthly Water Use Report:

2. Method used for chloride analysis:________________

3. Total elapsed time before sampling:________________

If there are any questions, please call the Commission on Water Resource Management staff at 587-0265 on Oahu or toll free from the neighbor islands 1-800-468-4644 ext. 70265.
<table>
<thead>
<tr>
<th>CASING DIAMETER (in.)</th>
<th>PUMP CAPACITY (gpm)</th>
<th>MINIMUM TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10-20</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>110</td>
</tr>
<tr>
<td>8</td>
<td>10-20</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>&gt;250</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>10-20</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>68</td>
</tr>
<tr>
<td>16</td>
<td>10-20</td>
<td>560</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>65</td>
</tr>
<tr>
<td>20</td>
<td>50-100</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>72</td>
</tr>
</tbody>
</table>

1 Assumes saturated well depth of 100 feet.

2 Five well volumes is a standard guideline recommended by EPA.
CONSERVATION CONDITIONS
EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:

   a. Reduce the demand for non-potable water by:

      • Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      • Mulching planting areas with organic materials, etc., to minimize evaporation;
      • Efficiently maintaining the plants;
      • Improving land management practices to conserve water.

   b. Improve efficiency in use and reduce losses and waste of non-potable water by:

      • Using efficiently designed landscaping and irrigation systems;
      • Monitoring irrigation requirements and controlling usage accordingly;
      • Managing irrigation scheduling to minimize water demand;
      • Eliminating opportunities for water wastage;
      • Maintaining and improving irrigation systems as necessary.

   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

Attachment D
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
HONOLULU, HAWAII 96809

STAFF SUBMITTAL
for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT
October 22, 1998
Honolulu, Oahu

EXTENSION OF INTERIM WATER USE PERMITS
Puuloa and Kapolei Ground Water Management Areas, Oahu

<table>
<thead>
<tr>
<th>PERMITEE(S):</th>
<th>LANDOWNER(S):</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Well Nos. 1905-08, 10) The Estate of James Campbell 1001 Kamokila Blvd. Kapolei, HI 96707</td>
<td>Same</td>
</tr>
<tr>
<td>(Well Nos. 2003-04, 07) State of Hawaii, Housing Finance &amp; Development Corp. 7 Waterfront Plaza, Suite 300 500 Ala Moana Blvd. Honolulu, HI 96813</td>
<td>Same</td>
</tr>
<tr>
<td>(Well Nos. 2003-01, 02, 05) Kapolei People’s Inc. 91-701 Farrington Hwy. Kapolei, HI 96707</td>
<td>Same</td>
</tr>
<tr>
<td>(Well Nos. 1900-02, 17 to 20 &amp; 1901-03) Hawaii Prince Golf Club 91-1200 Fort Weaver Rd. Ewa Beach, HI 96706</td>
<td>Same</td>
</tr>
<tr>
<td>(Well No. 2001-03) City and County of Honolulu Department of Parks and Recreation 650 South King Street Honolulu, HI 96813</td>
<td>Same</td>
</tr>
<tr>
<td>(Well Nos. 2001-04, 09, 10) Gentry Development Co. P.O. Box 295 Honolulu, HI 96809</td>
<td>Same</td>
</tr>
</tbody>
</table>
On March 3, 1993, the Commission officially adopted the boundary of the entire brackish Ewa Caprock Aquifer as a separate aquifer overlying the existing designated ground water management areas of the Waipahu-Waiau, Ewa-Kunia, and Makaiwa Aquifer Systems. Due to uncertainties regarding the caprock's sustainable yield and nonpotable utility, the Commission did not adopt a sustainable yield estimate for the caprock.

On April 28, 1993, the Commission awarded temporary one-year permits for new irrigation uses of ground water in the Ewa Caprock because there were concerns regarding the future viability of the caprock as a dependable source of brackish water due to the significant loss of return irrigation recharge from sugarcane agriculture. In analyzing water availability, the Commission used guidelines for sustainable yields for the Puuloa, Kapolei, and Malakole areas (Yuen & Associates, Inc., 1989).

On July 13, 1994, the Commission extended temporary one-year permits. The duration of the extended permits was to July 12, 1995.
At the July 5, 1995 Commission meeting in Honokaa, Hawaii, the Commission extended the permits, which were now called interim permits, until such time that a formal decision could be made on Oahu.

On March 13, 1996, the Commission deferred action on existing interim permits and new applications pending a decision on the establishment of a sustainable yield for the caprock.

On May 14, 1997, the Commission adopted a sustainable yield based on a sustainable capacity for individual irrigation wells at 1,000 milligrams per liter (mg/l) of chloride as an interim management plan, subject to review within two (2) years. The Commission also adopted the Puuloa, Kapolei, and Malakole Aquifer Systems in the Ewa Caprock Sector and approved pending applications for new and continued irrigation uses. The specified duration of the interim water use permits is to October, 1998 or until such time that a significant change in permitted, actual, or projected uses or water supply occurs. The October, 1998 date coincides with the possible revocation of unused (former Oahu Sugar Company) agricultural permits and also provides a milestone date to check on the progress of wastewater reuse for private caprock well owners, the availability of which was then scheduled for July, 1999.

ANALYSIS/ISSUES:

There has been no significant change in permitted, actual, or projected uses or water supply. Current interim water use permits and 12-month moving average withdrawals are shown in Exhibit 2. (Standard and Special Conditions of the interim permits are shown in Attachments A and B.) Exhibit 3 contains a complete listing of all permitted uses in the Puuloa and Kapolei Aquifer Systems. (Please note that the October 22, 1998 agenda includes three items that, if approved, will reduce the total permitted uses in Puuloa.)

PROTECTION OF THE RESOURCE

The current sustainable yield for the caprock aquifers is defined by a sustainable capacity at all irrigation wells in the Puuloa and Kapolei Aquifer Systems which prohibits individual pumpages that cause the specific well to exceed a 1,000 mg/l chloride cap. Enforcement of the chloride cap provides adequate protection for the aquifer.

The chloride cap is tied to anticipated wastewater reuse, which was planned to occur via a percolation trench to recharge the caprock aquifer with up to 13 million gallons per day (mgd) of treated effluent (Kumagai, 1996, Final Report. Recommendation for Water Reclamation, Nonpotable Water Plan for Oahu, Prepared for: Commission on Water Resource Management, State of Hawaii, and Department of Wastewater Management, City and County of Honolulu). However, the City now plans to deliver R-1 water directly to individual users. In either reuse application, the current sustainable yield method is and has been an effective means to protect the aquifer.

MAXIMIZING THE UTILITY OF THE RESOURCE(S)

Maximizing the utility of the caprock is intimately tied to wastewater reuse. As wastewater reuse comes on line, the sustainable yield of the caprock will increase, meaning more pumpage may be sustained under the 1,000 mg/l chloride limit. However, the distribution of reclaimed wastewater is uncertain, which will affect chloride distributions and total nonpotable supply. Although the City has not yet made reclaimed water available for nonpotable uses that will support their plans for urbanization of the Ewa area and the City-required dual water systems for new urban
developments, the City has indicated that private irrigation uses over the caprock may be served by reclaimed water by July, 2001. Of the projected total 13 mgd R-1 water from the Honolulu Wastewater Treatment Plant, 1 mgd is needed for in-plant process water, and 2 mgd is planned for industrial uses at James Campbell Industrial Park. This leaves about 10 mgd available for irrigation needs in the region.

The City is in the process of finalizing a contract with U.S. Filters for the construction, operation, and marketing for a reclamation system. Until the contract is finalized, the City will not enter into any agreements with individual users for the purchase of the R-1 water. As such, Special Condition D (Attachment B) could not be met by the users, and these users should not be penalized for this noncompliance.

Given the City’s current plans, the staff estimates that the potential future supply of nonpotable water for irrigation uses on lands overlying the Puuloa Aquifer System, where the competition for nonpotable irrigation water is most severe, could be up to about 15 mgd: 10 mgd reclaimed water plus approximately 5 mgd natural sustainable yield (Bauer, 1996). This assumes that 100% of the treated effluent will be available for reuse in Puuloa, which is improbable. But the availability of reclaimed water will present permittees with a possible alternative should their wells exceed the 1,000 mg/l chloride limit. Likewise, should the 1,000 mg/l limit not be exceeded, the permittees may continue to pump and may even work out a management plan which would allow for alternating between caprock and wastewater reuse to maximize the economical use of both resources. But ultimately, based on current reclaimed water plans, total allocations should not exceed 15 mgd.

Management of the resource via a chloride cap was adopted on May 14, 1997 as an interim management plan, subject to review in two (2) years. By May, 1999 or as total allocations begin to approach the total nonpotable supply in Puuloa, the Commission may consider establishing a regional sustainable yield, which would be something less than 15 mgd for the Puuloa area, unless additional water supply (e.g., expansion of the wastewater reclamation plant) becomes available. It is uncertain whether the chloride cap would be supplanted by a regional sustainable yield number.

WELL INTERFERENCE

Since there are no ground-water models (solute-transport) which can predict chloride response to pumpage at individual well sites, close monitoring of the resource and enforcement of the chloride cap is critical to protect the resource in this interim period while the City finalizes plans to implement a reclamation program. Exhibit 6 shows that the caprock aquifer was significantly influenced by sugarcane irrigation practices and is still in a state of flux. Currently, all interim permittees are required to submit weekly reports of pumpage, water levels, chlorides, and water temperature (unless a variance from this requirement has been approved). All permittees are put on notice that the reporting requirement will be strictly enforced.

Although enforcement of the 1,000 mg/l chloride cap at each well site will provide adequate protection for the resource, it may not be sufficient to preclude well interference. However, not only will wastewater reuse further protect the resource, it will also help to reduce the effects of well interference that may cause individual wells to exceed the 1,000 mg/l chloride cap. Special Condition e. has been added to the existing interim permits recommended for extension and will be added to all future caprock permits to put the permittees on notice of the risk of reliance on caprock ground water and its uncertain sustainable yield.

The staff proposes to send all interim permittees in Puuloa the monthly bulletin which shows all pending permit applications, which should provide the permittees sufficient notice of new proposed uses of Puuloa Caprock ground water. Permittees should review new applications and water data from other nearby wells to proactively protect their sources. Permittees are encouraged to submit comments or objections in accordance with Administrative Rule 13-171-18 (Objection to Proposed
Water Use Permit. Further, the staff has been analyzing the weekly water data reports, and we are currently working on triggers to implement a water shortage plan. These triggers may be related to some modification of Exhibit 6. Should valid claims of well interference be raised, either by permittees or as a result of the staff’s analysis, the Commission may consider implementing a water shortage plan to address the well interference issue.

However, at this time, only an informal and incomplete water shortage plan exists. On May 14, 1997, the Commission approved a permit classification system for a water shortage plan for the Puuloa Aquifer System as provided under Administrative Rule 13-171-42:

"(a) The commission shall formulate a plan for implementation during periods of water shortage. As a part of the plan, the commission shall adopt a reasonable system of permit classification according to source of water supply, method of extraction or diversion, use of water, or a combination thereof.

(b) In accordance with this chapter, the commission may impose such restrictions on one or more classes of permits as may be necessary to protect the water resources of the area from serious harm and to restore them to their previous condition.

(c) All permittees, unless exempted by the commission, shall submit a water shortage plan outlining how it will reduce its own water use in case of a shortage. Every water shortage plan shall be subject to approval or modification by the commission."

The highest priority of nonpotable use is agriculture because the State’s policy is to promote agriculture, and also because agricultural correlative uses are assured through the 1978 Constitutional Amendment. The second priority in water use is golf course irrigation because of the economic impacts that may result from inadequate water supply. The lowest priority in water use is landscape irrigation and dust control.

The priorities assigned to each permitted use and the maximum reductions indicated in the individual users’ water shortage plans are shown in the last two columns of Exhibit 7. Individual water shortage plans outline smaller initial cutbacks (i.e., 10% to 30%), however under the most severe shortage situations, Exhibit 7 shows the maximum reduction in Puuloa Aquifer System pumpage would have been at least 3.718 mgd. However, this 3.718 mgd amount is subject to change following proposed revocation actions for unused agricultural allocations and formulation and adoption of a regional shortage plan.

Water shortage plans were requested from all of the users in Puuloa, with the exception of United States Fish and Wildlife Service. The requirement to submit individual water shortage plans is highlighted in the cover letter which transmits the permit and is also stated in Standard Condition 17. Not all users have submitted water shortage plans nor returned signed permits (see Exhibit 8). The staff will continue to work with these users to develop their individual plans. As part of the May 14, 1997 action, the Commission has also delegated the authority to the Chairperson to approve individual water shortage plans and the regional water shortage plan for the Puuloa Aquifer System.

RECOMMENDATIONS:

That the Commission:

1. Extend the interim permits shown in Exhibit 2, subject to the Standard Conditions of a Water Use Permit (Attachment A) and the following Special Conditions (which replace the former special conditions):

   a. 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.
b. 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.

c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride.

d. The duration of the interim permit shall be to
   a) to July, 2001, or
   b) until treated wastewater is available, acceptable, and affordable for use, or
   c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

e. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

f. Require adherence to the chloride sampling protocol shown in Exhibit 4 and the submittal of weekly chloride data.

g. Require adherence to the Conservation Conditions shown in Exhibit 5.

h. In the event a water shortage is declared by the Commission, permittees shall comply with the Puuloa Water Shortage Plan adopted by the Commission.

2. The permittees shall be notified by letter of the Commission action and extended permit duration. Re-issuance of new interim water use permits for these extended permits is unnecessary.

Respectfully submitted,

TIMOTHY E. JOHNS
Deputy Director

Attachment(s):  
A (Standard Conditions for a Water Use Permit)  
B (Special Interim Water Use Permit Conditions)

Exhibit(s):  
1 (Location Map)  
2 (Current Interim Permitted Uses, Puuloa and Kapolei Aquifer Systems)  
3 (Current Permitted Uses, Puuloa and Kapolei Aquifer Systems)  
4 (Chloride Sampling Protocol)  
5 (Conservation Conditions)  
6 (Chloride and Pumpage of Ewa Plantation Shallow Wells)  
7 (Partial Water Shortage Plan)  
8 (Summary of Unsigned Permits and No Water Shortage Plan)
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its October 22, 1998 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
   d. require efficiency of water uses;
   e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

ATTACHMENT A
Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

12. This permit shall be subject to the Commission's periodic review of the Puuloa or Kapolei Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Puuloa or Kapolei Aquifer System, or relevant modified aquifer(s), is reduced.

13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Puuloa or Kapolei Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-167-3(6). The final determination of the water use quantity shall be made within five years.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

ATTACHMENT A
SPECIAL INTERIM WATER USE PERMIT CONDITIONS

a. The duration of the interim permits shall be to October, 1998 or until such time that a significant change in permitted, actual, or projected use or water supply occurs.

b. Require adherence to the chloride sampling protocol shown in Exhibit 8 and the submittal of weekly chloride data.

c. Require adherence to the Conservation Conditions shown in Exhibit 12.

d. Require the following PCUG members to sign a contract within twelve (12) months with the City Department of Wastewater Management to buy reclaimed water by July 1, 1999 for the cumulative amounts specified in Exhibit 7 (Pro-Rata Share):

1) Gentry Investment Co. - Commitment to use a total of 0.430 mgd of R-1 by July, 1999 for a corresponding reduction in allocation for Well No. 2002-15 and Well No. 2001-10.

2) Haseko (Ewa), Inc. - Commitment to use a total of 0.40 mgd of R-1 by July, 1999 for a corresponding reduction in allocation for Well No. 1902-01.

3) Hawaii Prince Golf Club - Commitment to use a total of 0.40 mgd of R-1 by July, 1999 for a corresponding reduction in allocation for Well Nos. 1900-02, 17 to 20 & 1901-03.

4) Ewa Beach International Golf Club - Commitment to use a total of 0.27 mgd of R-1 by July, 1999 for a corresponding reduction in allocation for Well Nos. 1900-21, 22 & 1959-08.

ATTACHMENT B
## Current Active Water Use Permits

*Excluding salt water use permits*

<table>
<thead>
<tr>
<th>No. Approved</th>
<th>Applicant</th>
<th>Well No</th>
<th>Well Name</th>
<th>WUP (mgd)</th>
<th>12-MAV (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1905-08</td>
<td>KAPOLEI IRR 1</td>
<td>0.302</td>
<td>0.128</td>
</tr>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1905-10</td>
<td>KAPOLEI IRR 2</td>
<td>0.011</td>
<td>0.011</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-01</td>
<td>KAPOLEI G.COURSE A</td>
<td>1.000</td>
<td>0.149</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-02</td>
<td>KAPOLEI G.COURSE A</td>
<td>0.921</td>
<td>0.249</td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-04</td>
<td>KAPOLEI IRR D</td>
<td>0.494</td>
<td>0.039</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-05</td>
<td>KAPOLEI G.COURSE A</td>
<td>0.112</td>
<td>0.024</td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-07</td>
<td>KAPOLEI IRR C-1</td>
<td>0.056</td>
<td>0.056</td>
</tr>
</tbody>
</table>

7 Permits Totalling 1.796 Available SY

**EXHIBIT 2**

*(f:/work/database/reports/wup-wma.rpt)*
### Current Active Water Use Permits

**Excluding salt water use permits**

**ISLAND OF OAHU**

**WMA Aquifer System:** PUULOA

**Sustainable Yield:** mgd

<table>
<thead>
<tr>
<th>No. Approved</th>
<th>Applicant</th>
<th>Well No</th>
<th>Well Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
</tr>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-17</td>
<td>WELL 2</td>
</tr>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-18</td>
<td>WELL 3</td>
</tr>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-19</td>
<td>WELL 4</td>
</tr>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
</tr>
<tr>
<td>501 8/26/98</td>
<td>U.S. DOC/NOAA/NOES</td>
<td>1900-23</td>
<td>PACIFIC TSUNAMI</td>
</tr>
<tr>
<td>469 1/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1901-03</td>
<td>WELL 1</td>
</tr>
<tr>
<td>347 5/14/97</td>
<td>HASEKO (EWA), INC.</td>
<td>1902-01</td>
<td>HASEKO WELL NO.1</td>
</tr>
<tr>
<td>498 7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>1902-05</td>
<td>CORAL CREEK NO 5</td>
</tr>
<tr>
<td>167 5/14/97</td>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>2001-03</td>
<td>GEIGER PARK</td>
</tr>
<tr>
<td>302 5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-04</td>
<td>SUNRISE APT.</td>
</tr>
<tr>
<td>450 5/14/97</td>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>2001-05</td>
<td>SODA CREEK III</td>
</tr>
<tr>
<td>171 5/14/97</td>
<td>ARBORS ASSOCIATION</td>
<td>2001-07</td>
<td>ARBORS</td>
</tr>
<tr>
<td>168 3/13/96</td>
<td>PALM VILLA II ASSOCIATION</td>
<td>2001-08</td>
<td>PALM VILLA 2</td>
</tr>
<tr>
<td>344 5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-09</td>
<td>FORT WEAVER APT.</td>
</tr>
<tr>
<td>355 5/14/97</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-10</td>
<td>GENTRY AREA 24</td>
</tr>
<tr>
<td>497 7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2001-13</td>
<td>CORAL CREEK NO 4</td>
</tr>
<tr>
<td>169 5/14/97</td>
<td>PALM COURT ASSOCIATION</td>
<td>2002-12</td>
<td>PALM COURT 3</td>
</tr>
<tr>
<td>437 5/14/97</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-15</td>
<td>GENTRY G.C. IRR</td>
</tr>
<tr>
<td>496 7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-17</td>
<td>CORAL CREEK NO 2</td>
</tr>
<tr>
<td>496 7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-18</td>
<td>CORAL CREEK NO 3</td>
</tr>
</tbody>
</table>

21 Permits Totalling Available SY

<table>
<thead>
<tr>
<th>WUP (mgd)</th>
<th>12-MAV Diff (mgd)</th>
<th>SY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.301</td>
<td>1.127</td>
<td></td>
</tr>
<tr>
<td>1.500</td>
<td>0.626</td>
<td></td>
</tr>
<tr>
<td>0.480</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>0.030</td>
<td>0.059</td>
<td></td>
</tr>
<tr>
<td>0.040</td>
<td>0.043</td>
<td></td>
</tr>
<tr>
<td>0.066</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>0.063</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>0.048</td>
<td>0.029</td>
<td></td>
</tr>
<tr>
<td>0.023</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>0.022</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0.600</td>
<td>0.011</td>
<td></td>
</tr>
<tr>
<td>0.040</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0.690</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>0.900</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Available SY:**

| 4.826 | 1.907 |

---

**EXHIBIT 2**

(t:work\database\reports\wup-wma.rpt)
## Current Active Water Use Permits

(Excluding salt water use permits)

**October 7, 1998**

**ISLAND OF OAHU**

**WMA Aquifer System:** PUULOA

**Sustainable Yield:** \( \text{mgd} \)

<table>
<thead>
<tr>
<th>No. Approved</th>
<th>Applicant</th>
<th>Well No</th>
<th>Well Name</th>
<th>WUP (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
<td>0.900</td>
</tr>
<tr>
<td>469</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
<td>0.301</td>
</tr>
<tr>
<td>469</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-17</td>
<td>WELL 2</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-18</td>
<td>WELL 3</td>
<td></td>
</tr>
<tr>
<td>469</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-19</td>
<td>WELL 4</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
<td></td>
</tr>
<tr>
<td>469</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>HONOLULU KOSAIDO, INC.</td>
<td>1900-21</td>
<td>PUULOA GC IRR</td>
<td>0.100</td>
</tr>
<tr>
<td>367</td>
<td>HONOLULU KOSAIDO, INC.</td>
<td>1900-22</td>
<td>PUULOA DUG WELLBB</td>
<td>0.600</td>
</tr>
<tr>
<td>501</td>
<td>U.S. DOCNOAAMWS</td>
<td>1900-23</td>
<td>PACIFIC TSUNAMI</td>
<td>0.023</td>
</tr>
<tr>
<td>469</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1901-03</td>
<td>WELL 1</td>
<td></td>
</tr>
<tr>
<td>492</td>
<td>R.H.S. LEE, INC.</td>
<td>1901-04</td>
<td>CORAL CREEK TEMP</td>
<td>0.074</td>
</tr>
<tr>
<td>192</td>
<td>HASEKO (EWA), INC.</td>
<td>1902-01</td>
<td>EP 27A, 27B, 28, 29</td>
<td>1.800</td>
</tr>
<tr>
<td>347</td>
<td>HASEKO (EWA), INC.</td>
<td>1902-01</td>
<td>HASEKO WELL NO.1</td>
<td>1.500</td>
</tr>
<tr>
<td>160</td>
<td>C&amp;C DWMM</td>
<td>1902-03</td>
<td>HONOLULIUI STP 1</td>
<td>0.500</td>
</tr>
<tr>
<td>160</td>
<td>C&amp;C DWMM</td>
<td>1902-04</td>
<td>HONOLULIUI STP 2</td>
<td></td>
</tr>
<tr>
<td>498</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>1902-05</td>
<td>CORAL CREEK NO 5</td>
<td>0.480</td>
</tr>
<tr>
<td>367</td>
<td>HONOLULU KOSAIDO, INC.</td>
<td>1959-08</td>
<td>PUULOA DUG WELAA</td>
<td></td>
</tr>
<tr>
<td>188</td>
<td>CAMPBELL ESTATE</td>
<td>2000-01</td>
<td>EP 21</td>
<td>2.080</td>
</tr>
<tr>
<td>189</td>
<td>U.S. NAVY</td>
<td>2001-01</td>
<td>EP 23</td>
<td>5.890</td>
</tr>
<tr>
<td>60</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-02</td>
<td>EWA GENTRY</td>
<td>0.080</td>
</tr>
<tr>
<td>167</td>
<td>C&amp;C DEPT. OF PARKS &amp; REC</td>
<td>2001-04</td>
<td>SUNRISE APT.</td>
<td>0.040</td>
</tr>
<tr>
<td>302</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-05</td>
<td>SODA CREEK III</td>
<td>0.066</td>
</tr>
<tr>
<td>450</td>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>2001-06</td>
<td>PALM VILLA 1</td>
<td>0.080</td>
</tr>
<tr>
<td>157</td>
<td>PALM VILLA I ASSOCIATION</td>
<td>2001-07</td>
<td>ARBORS</td>
<td>0.063</td>
</tr>
<tr>
<td>171</td>
<td>ARBORS ASSOCIATION</td>
<td>2001-08</td>
<td>PALM VILLA 2</td>
<td>0.048</td>
</tr>
<tr>
<td>168</td>
<td>PALM VILLA II ASSOCIATION</td>
<td>2001-09</td>
<td>FORT WEAVER APT.</td>
<td>0.023</td>
</tr>
<tr>
<td>344</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-10</td>
<td>GENTRY AREA 24</td>
<td>0.022</td>
</tr>
<tr>
<td>355</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-13</td>
<td>CORAL CREEK NO 4</td>
<td>0.600</td>
</tr>
<tr>
<td>497</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-12</td>
<td>PALM COURT 3</td>
<td>0.040</td>
</tr>
<tr>
<td>249</td>
<td>GENTRY PACIFIC, LTD.</td>
<td>2002-15</td>
<td>GENTRY G.C. IRR</td>
<td>0.690</td>
</tr>
<tr>
<td>169</td>
<td>PALM COURT ASSOCIATION</td>
<td>2002-16</td>
<td>GOODFELLOWS CONSTR</td>
<td>0.050</td>
</tr>
<tr>
<td>437</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-17</td>
<td>CORAL CREEK NO 2</td>
<td>0.900</td>
</tr>
<tr>
<td>496</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-18</td>
<td>CORAL CREEK NO 3</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>2101-14</td>
<td>HONOLULIUI UNIT</td>
<td>0.216</td>
</tr>
</tbody>
</table>

38 Permits Totalling 17.196
Available SY

**EXHIBIT 3**
<table>
<thead>
<tr>
<th>No. Approved</th>
<th>Applicant</th>
<th>Well No</th>
<th>Well Name</th>
<th>WUP (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>162</td>
<td>PUU MAKAKILO INC.</td>
<td>1904-02</td>
<td>MAKAKILO GC</td>
<td>1.150</td>
</tr>
<tr>
<td>247</td>
<td>PUU MAKAKILO INC.</td>
<td>1904-03</td>
<td>MAKAKILO GC STBYDB</td>
<td>0.302</td>
</tr>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1905-08</td>
<td>KAPOLEI IRR 1</td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1906-10</td>
<td>KAPOLEI IRR 2</td>
<td></td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-01</td>
<td>KAPOLEI G.COURSE A</td>
<td>1.000</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-02</td>
<td>KAPOLEI G.COURSE A</td>
<td></td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-04</td>
<td>KAPOLEI IRR D</td>
<td>0.494</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-05</td>
<td>KAPOLEI G.COURSE A</td>
<td></td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-07</td>
<td>KAPOLEI IRR C-1</td>
<td></td>
</tr>
</tbody>
</table>

9 Permits Totalling 2.946 Available SY

EXHIBIT 3

(t:\work\database\reports\wup-wma.rpt)
1. **Sample Collection**

   - **Sampling Schedule**

   The sampling schedule depends upon your pump capacity:

<table>
<thead>
<tr>
<th>Pump Capacity (gpm)</th>
<th>Sampling Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than or equal to 50</td>
<td>Once a month</td>
</tr>
<tr>
<td>Greater than 50</td>
<td>Once a week</td>
</tr>
</tbody>
</table>

   - **When to Sample**

   Before taking a sample, allow a minimum length of time to elapse after turning on the pump. This minimum time can be read off the attached table for your well casing diameter and your pump capacity. If you sample 20 minutes after the minimum time, you should consistently sample 20 minutes after the minimum time each time you take samples.

   - **Sample Bottle**

   Use a plastic container and cap that holds a volume of about a pint. Rinse the container three times with the water to be sampled before taking the sample. Also rinse the cap with sample water.

   - **Labeling**

   On the sample bottle, affix a label that contains the following information:

   - Well No.
   - Date
   - Time Sampled
   - Elapsed Time after pump on
   - Sampler's Name
   - Water Temperature (if available)
   - Pumping Rate (prior to sampling)

**EXHIBIT 4**
2. **Determination of Chloride Concentration**

- **Private Laboratories**

  If the sample is sent to a private laboratory, then prepare the water sample and label the bottle in the manner described above.

  Private laboratories will use methods that are more accurate than field methods described below.

- **Hach Kit (Drop Count Titrator)**

  Be aware of the approximate chloride concentration range in your well. Use the appropriate sample bottle for titration. Be consistent with the end-point color change.

  For low chloride concentrations (5-100 mg/l) each drop will equal 5 mg/l. For higher concentrations (20-400 mg/l) each drop equals 20 mg/l. Other kits for concentrations greater than 400 mg/l (500-10,000 mg/l) each drop is equal to 500 mg/l. Obviously, for water greater than 400 mg/l, a "drop-count" Hach Kit is not appropriate, and a digital titrator, described below, should be used.

- **Hach Kit (Digital Titrator)**

  A digital titrator is the appropriate method for water with greater than 400 mg/l chloride. A digital titrator using silver nitrate is accurate to within 10 mg/l for a chloride range from 10-10,000 mg/l, and for a titrator using mercuric nitrate accuracy varies from 0.1-20 mg/l for a chloride range of 10-8,000 mg/l.

  **Note:** Be consistent with the end-point color. Silver nitrate ages and needs to be replenished within the recommended guidelines of the Hach Company.

- **Other Methods**

  An ion-selective probe for chloride is available, and can measure concentration from 1.8-35,500 mg/l.
3. Reporting Results

- How to Report

The following information should be entered on the "Monthly Ground Water Use Report" form provided by the Commission on Water Resource Management:

1. Chloride concentration (mg/l) and temperature (°F) in the columns provided.

   Under "Notes" Section of the Monthly Water Use Report:

2. Method used for chloride analysis: ________________

3. Total elapsed time before sampling: ________________

If there are any questions, please call the Commission on Water Resource Management staff at 587-0265 on Oahu or toll free from the neighbor islands 1-800-468-4644 ext. 70265.
<table>
<thead>
<tr>
<th>CASING DIAMETER (in.)</th>
<th>PUMP CAPACITY (gpm)</th>
<th>MINIMUM TIME (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10-20</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>110</td>
</tr>
<tr>
<td>8</td>
<td>10-20</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>&gt;250</td>
<td>75</td>
</tr>
<tr>
<td>12</td>
<td>10-20</td>
<td>360</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>68</td>
</tr>
<tr>
<td>16</td>
<td>10-20</td>
<td>560</td>
</tr>
<tr>
<td></td>
<td>20-50</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>50-100</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>65</td>
</tr>
<tr>
<td>20</td>
<td>50-100</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>100-250</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>250-500</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>500-700</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>700-1000</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>&gt;1000</td>
<td>72</td>
</tr>
</tbody>
</table>

1 Assumes saturated well depth of 100 feet.

2 Five well volumes is a standard guideline recommended by EPA.
CONSERVATION CONDITIONS
EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:
   
a. Reduce the demand for non-potable water by:
      - Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      - Mulching planting areas with organic materials, etc., to minimize evaporation;
      - Efficiently maintaining the plants;
      - Improving land management practices to conserve water.

   b. Improve efficiency in use and reduce losses and waste of non-potable water by:
      - Using efficiently designed landscaping and irrigation systems;
      - Monitoring irrigation requirements and controlling usage accordingly;
      - Managing irrigation scheduling to minimize water demand;
      - Eliminating opportunities for water wastage;
      - Maintaining and improving irrigation systems as necessary.

   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

EXHIBIT 5
Chloride and Pumpage of Ewa Plantation
Shallow Wells, Ewa Caprock, Oahu

FIGURE 7


Ref: CWRM, BWS Res., R-78, & Sheets (1939, 1940)
<table>
<thead>
<tr>
<th>User</th>
<th>Well Name/No.</th>
<th>Use</th>
<th>Current Allocation</th>
<th>Recommended Allocation</th>
<th>Basis</th>
<th>Water Shortage Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre-1978 Permanent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Permits</td>
</tr>
<tr>
<td>Campbell</td>
<td>EP 21/2000-01</td>
<td>Ag</td>
<td>2.080</td>
<td>2.080</td>
<td>Existing Use</td>
<td>1</td>
</tr>
<tr>
<td>Haseko</td>
<td>EP 27/1902-01</td>
<td>Ag</td>
<td>2.660</td>
<td>1.800</td>
<td>Ag acreage</td>
<td>1</td>
</tr>
<tr>
<td>Navy</td>
<td>EP 23/2001-01</td>
<td>Ag</td>
<td>5.890</td>
<td>5.890</td>
<td>Existing Use</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Post-1978 Permanent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Permits</td>
</tr>
<tr>
<td>Hawaii Prince</td>
<td>EP 22, Wells 1 to 5/</td>
<td>G.Course</td>
<td>0.900</td>
<td>0.900</td>
<td>Actual Use</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1900-02,17 to 20,1901-03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sogo Hawaii (EBIGC)</td>
<td>Puu'oloe GC In/1900-21</td>
<td>G.Course</td>
<td>0.100</td>
<td>0.700</td>
<td>Actual Use</td>
<td>2</td>
</tr>
<tr>
<td>Puu'oloe Homes (EBIGC)</td>
<td>Dug Wells A&amp;B/1900-22,1959-08</td>
<td>G.Course</td>
<td>0.600</td>
<td>0.700</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;C DWMM</td>
<td>STP 182/1902-03,04</td>
<td>Industrial</td>
<td>0.500</td>
<td>0.500</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Ewa Gentry/2001-02</td>
<td>Landscape</td>
<td>0.080</td>
<td>0.040</td>
<td>Projected</td>
<td>3</td>
</tr>
<tr>
<td>Palm Villa I Assoc.</td>
<td>Palm Villa I/2001-06</td>
<td>Landscape</td>
<td>0.080</td>
<td>0.080</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Interim Permits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(5-yr)</td>
</tr>
<tr>
<td>USFWS</td>
<td>Honolulu/2101-14</td>
<td>Wildlife Sanctuary</td>
<td>0.216</td>
<td>0.216</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Expired Interim</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Permits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1-yr)</td>
</tr>
<tr>
<td>Hawaii Prince</td>
<td>EP 22, Wells 1 to 5/</td>
<td>G.Course</td>
<td>0.129</td>
<td>0.151</td>
<td>Projected</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>1900-02,17 to 20,1901-03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haseko</td>
<td>EP 27/1902-01</td>
<td>G.Course</td>
<td>1.080</td>
<td>1.080</td>
<td>Projected</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;C Parks &amp; Rec</td>
<td>Geiger Park/2001-03</td>
<td>Landscape</td>
<td>0.030</td>
<td>0.030</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Sunrise Apt/2001-04</td>
<td>Landscape</td>
<td>0.040</td>
<td>0.040</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Soda Creek III/2001-05</td>
<td>Landscape</td>
<td>0.020</td>
<td>0.066</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Arbor Assoc.</td>
<td>Arbores/2001-07</td>
<td>Landscape</td>
<td>0.063</td>
<td>0.063</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Palm Villa II Assoc.</td>
<td>Palm Villa II/2001-06</td>
<td>Landscape</td>
<td>0.048</td>
<td>0.048</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Fort Weaver Apt/2001-09</td>
<td>Landscape</td>
<td>0.023</td>
<td>0.023</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Area 24/2001-10</td>
<td>Landscape</td>
<td>0.022</td>
<td>0.022</td>
<td>Projected</td>
<td>3</td>
</tr>
<tr>
<td>Palm Court Assoc.</td>
<td>Palm Court 3/2002-12</td>
<td>Landscape</td>
<td>0.068</td>
<td>0.066</td>
<td>Actual Use</td>
<td>3</td>
</tr>
<tr>
<td>Gentry</td>
<td>Gentry G.C./2002-15</td>
<td>G.Course</td>
<td>0.130</td>
<td>0.690</td>
<td>Projected</td>
<td>3</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td></td>
<td>15.177</td>
<td>14.879</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 = Highest priority (Ag)  
2 = Intermediate priority (G. Course)  
3 = Lowest priority (Landscape Ir, dust control)  

Maximum reduction indicated in water shortage plan
## Current Active Water Use Permits

*Excluding salt water use permits.*

### ISLAND OF OAHU

**WMA Aquifer System:** PUULOA

**Sustainable Yield:** mgd

### WUP

<table>
<thead>
<tr>
<th>No.</th>
<th>Approved</th>
<th>Applicant</th>
<th>Well No</th>
<th>Well Name</th>
<th>Signed (mgd)</th>
<th>WUP</th>
<th>Shortage Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>10/19/88</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
<td>0.900</td>
<td></td>
<td>3/10/97</td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-02</td>
<td>EP 22</td>
<td>0.301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-17</td>
<td>WELL 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>10/19/88</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-18</td>
<td>WELL 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-18</td>
<td>WELL 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>10/19/88</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-19</td>
<td>WELL 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>10/19/88</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1900-20</td>
<td>WELL 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>11/13/91</td>
<td>HONOLULU KOSAI, INC.</td>
<td>1900-21</td>
<td>PUULOA GC IRR</td>
<td>0.100</td>
<td></td>
<td>8/4/97</td>
</tr>
<tr>
<td>167</td>
<td>11/14/91</td>
<td>HONOLULU KOSAI, INC.</td>
<td>1900-22</td>
<td>PUULOA DUG WELBB</td>
<td>0.600</td>
<td></td>
<td>8/4/97</td>
</tr>
<tr>
<td>501</td>
<td>11/16/91</td>
<td>U.S. DOC/NOAA/NWS</td>
<td>1900-23</td>
<td>PACIFIC TSUNAMI</td>
<td>0.023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>1901-03</td>
<td>WELL 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>11/14/98</td>
<td>C&amp;C DWWM</td>
<td>1902-02</td>
<td>HASEKO WELL NO.1</td>
<td>7/7/97</td>
<td></td>
<td>1.500</td>
</tr>
<tr>
<td>502</td>
<td>11/14/98</td>
<td>C&amp;C DWWM</td>
<td>1902-03</td>
<td>HONOLULIU STP 1</td>
<td>8/14/98</td>
<td></td>
<td>0.500</td>
</tr>
<tr>
<td>502</td>
<td>11/14/98</td>
<td>C&amp;C DWWM</td>
<td>1902-04</td>
<td>HONOLULIU STP 2</td>
<td>8/14/98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>498</td>
<td>11/14/98</td>
<td>C&amp;C DWWM</td>
<td>1902-05</td>
<td>CORAL CREEK NO 5</td>
<td></td>
<td></td>
<td>0.480</td>
</tr>
<tr>
<td>367</td>
<td>11/14/98</td>
<td>HONOLULU KOSAI, INC.</td>
<td>1902-06</td>
<td>PUULOA DUG WELLA</td>
<td>8/1/97</td>
<td></td>
<td>8/4/97</td>
</tr>
<tr>
<td>188</td>
<td>11/16/98</td>
<td>CAMPBELL ESTATE</td>
<td>2000-01</td>
<td>EP 21</td>
<td>2.080</td>
<td></td>
<td>2/7/96</td>
</tr>
<tr>
<td>60</td>
<td>9/27/85</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-02</td>
<td>EWA GENTRY</td>
<td>0.080</td>
<td></td>
<td></td>
</tr>
<tr>
<td>167</td>
<td>9/14/97</td>
<td>C&amp;G DEPT. OF PARKS &amp; REC</td>
<td>2001-03</td>
<td>GEIGER PARK</td>
<td>6/6/97</td>
<td></td>
<td>0.030</td>
</tr>
<tr>
<td>302</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-04</td>
<td>SUNRISE APT.</td>
<td>7/28/97</td>
<td></td>
<td>0.040</td>
</tr>
<tr>
<td>450</td>
<td>5/14/97</td>
<td>EWA BY GENTRY COMM ASSOC</td>
<td>2001-05</td>
<td>SODA CREEK III</td>
<td>7/28/97</td>
<td></td>
<td>0.066</td>
</tr>
<tr>
<td>157</td>
<td>9/13/89</td>
<td>PALM VILLA I ASSOCIATION</td>
<td>2001-06</td>
<td>PALM VILLA 1</td>
<td>0.080</td>
<td></td>
<td>5/4/90</td>
</tr>
<tr>
<td>171</td>
<td>5/14/97</td>
<td>ARBORS ASSOCIATION</td>
<td>2001-07</td>
<td>ARBORS</td>
<td>6/12/97</td>
<td></td>
<td>0.063</td>
</tr>
<tr>
<td>168</td>
<td>3/13/96</td>
<td>PALM VILLA II ASSOCIATION</td>
<td>2001-08</td>
<td>PALM VILLA 2</td>
<td>0.048</td>
<td></td>
<td>6/14/94</td>
</tr>
<tr>
<td>344</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT CO.</td>
<td>2001-09</td>
<td>FORT WEAVER APT.</td>
<td>7/28/97</td>
<td></td>
<td>0.023</td>
</tr>
<tr>
<td>355</td>
<td>5/14/97</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>2001-10</td>
<td>GENTRY AREA 24</td>
<td>7/28/97</td>
<td></td>
<td>0.022</td>
</tr>
<tr>
<td>497</td>
<td>7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2001-13</td>
<td>CORAL CREEK NO 4</td>
<td>0.600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>11/29/91</td>
<td>GENTRY PACIFIC, LTD.</td>
<td>2002-12</td>
<td>PALM COURT 3</td>
<td>0.040</td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>5/14/97</td>
<td>PALM COURT ASSOCIATION</td>
<td>2002-12</td>
<td>PALM COURT 3</td>
<td>0.040</td>
<td></td>
<td></td>
</tr>
<tr>
<td>437</td>
<td>5/14/97</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-15</td>
<td>GENTRY G.C. IRR</td>
<td>9/2/97</td>
<td></td>
<td>0.690</td>
</tr>
<tr>
<td>494</td>
<td>8/26/98</td>
<td>GOODEFELLOWS BROS., INC.</td>
<td>2002-16</td>
<td>GOODEFELLOWS CONSTR</td>
<td>0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>496</td>
<td>7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-17</td>
<td>CORAL CREEK NO 2</td>
<td>0.900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>496</td>
<td>7/15/98</td>
<td>CORAL CREEK GOLF, INC.</td>
<td>2002-18</td>
<td>CORAL CREEK NO 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>10/27/93</td>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>2101-14</td>
<td>HONOLULI UNIT</td>
<td>0.216</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

38 Permits Totalling 17.196

Available SY

---

**EXHIBIT 8**

(f:\work\database\exhibits\wup-wma.rpt) · EXHIBIT 8
ISLAND OF OAHU
WMA Aquifer System: KAPOLEI
Sustainable Yield = mgd

<table>
<thead>
<tr>
<th>Well No</th>
<th>Well Name</th>
<th>Signed</th>
<th>WUP (mgd)</th>
<th>Shortage Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>162</td>
<td>PUU MAKAKILO INC.</td>
<td>1904-02</td>
<td>1.150</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>PUU MAKAKILO INC.</td>
<td>1904-03</td>
<td>0.302</td>
<td>6/15/93</td>
</tr>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1905-08</td>
<td>0.267</td>
<td>6/15/93</td>
</tr>
<tr>
<td>182</td>
<td>CAMPBELL ESTATE</td>
<td>1905-10</td>
<td>0.967</td>
<td>6/15/93</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-01</td>
<td>0.494</td>
<td>6/23/97</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-02</td>
<td>0.267</td>
<td>6/23/97</td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-04</td>
<td>0.494</td>
<td>6/13/94</td>
</tr>
<tr>
<td>438</td>
<td>KAPOLEI PEOPLE'S, INC.</td>
<td>2003-05</td>
<td>0.267</td>
<td>6/13/94</td>
</tr>
<tr>
<td>432</td>
<td>STATE HFDC</td>
<td>2003-07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9 Permits Totalling 2.946
Available SY

EXHIBIT 8
KAPOLEI PEOPLES, INC. CAPROCK PUMPAGE
WELLS A,B,E (WELL NOS. 2003-01,02,05)

DATE (Latest Data 5/98)

PUMPAGE (mgd)

-- monthly pumpage  12-MAV  WUP allocation
July 28, 1998

Mr. Timothy Johns
Deputy Director
Commission on Water Resource Management
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Johns:

Extension of Water Use Permit No. 438
Kapolei Wells 2003-01, 02, 05

We respectfully request an extension of our Water Use Permit No. 438 which expires in October 1998.

As shown in the CWRM Submittal of May 14, 1997, our request for water remains the same as follows:

<table>
<thead>
<tr>
<th>Applicant</th>
<th>Well Name/No.</th>
<th>Recommended Allocation (mgd)</th>
<th>Proposed use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kapolei</td>
<td>Kapolei Irr A, B, E</td>
<td>1.000</td>
<td>Golf Course Irrigation</td>
</tr>
<tr>
<td>Peoples’ Inc.</td>
<td>(2003-01, 02, 05)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you in advance for your consideration.

Sincerely,

[Signature]

Bernard Matano
Director of Administration

cc: Water Resource Associates
<table>
<thead>
<tr>
<th>FROM:</th>
<th>DATE: 4/23</th>
<th>SUSPENSE DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO:</td>
<td>INIT.</td>
<td>TO: INIT.</td>
</tr>
<tr>
<td>2</td>
<td>BAUER, G.</td>
<td>LOUI, R.</td>
</tr>
<tr>
<td>3</td>
<td>CHING, F.</td>
<td>NAKAMA, L.</td>
</tr>
<tr>
<td>4</td>
<td>FUJII, N.</td>
<td>NAKANO, D.</td>
</tr>
<tr>
<td>5</td>
<td>HARDY, R.</td>
<td>OHYE, M.</td>
</tr>
<tr>
<td>6</td>
<td>HIGA, D.</td>
<td>SAKODA, E.</td>
</tr>
<tr>
<td>7</td>
<td>HIRANO, E.</td>
<td>SUBIA, S.</td>
</tr>
<tr>
<td>8</td>
<td>ICE, C.</td>
<td>SWANSON, S.</td>
</tr>
<tr>
<td>9</td>
<td>IMATA, R.</td>
<td>UWAINAE, J.</td>
</tr>
<tr>
<td>10</td>
<td>JINNAI, R.</td>
<td>YODA, K.</td>
</tr>
<tr>
<td>11</td>
<td>KUNIMURA, I.</td>
<td></td>
</tr>
</tbody>
</table>

**PLEASE:**
- See Me
- Review & Comment
- Take Action
- Type Draft
- Type Final
- File
- Xerox ___ copies

**Comments:**

- Run - OK to waive weekly measurements? Yes
- Run 13 monthly other wells?
Mr. Bernard Matano  
Kapolei Golf Course  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

Thank you for submitting a water shortage plan for WUP No. 438.

Section 13-171-42(c) HAR provides that "[a]ll permittees, unless exempted by the commission, shall submit a water shortage plan outlining how it will reduce its own water use in case of a shortage. Every water shortage plan shall be subject to approval or modification by the commission."

We will accept your water shortage plans as fulfillment of Condition 17 of the water use permit and the above Administrative Rule. However Commission approval or modification of your water shortage plan will be deferred pending the formulation of and subsequent Commission action to adopt a regional water shortage plan.

Your request for an exemption from the weekly chloride monitoring requirement is hereby approved; chlorides in Wells A, B, and E may be measured on a monthly basis. Also, you may continue to monitor water levels on a monthly basis in Well B only, however, quarterly measurements of water levels in Wells A and E must be made and reported.

If you have any questions, please contact Glenn Bauer at 587-0263.

Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

LN:ss
June 20, 1997

Ms. Rae Loui  
Deputy Director  
Commission of Water Resource Management  
Department of Land & Natural Resources  
P O Box 621  
Honolulu, HI  96809

Dear Ms. Loui:

Kapolei Wells A, B, & E, (2003-01, 02, and 05)  
WUP No. 438

Enclosed is Kapolei Golf Course’s Water Shortage Plan.

Kapolei People’s Inc. concurs with the conditions of the Ground Water Use Permit. However, under item (b) of the Special Conditions (weekly chloride data), we request an exemption based on the attached graph of our monthly chloride data.

As shown on the graph, chloride data for the past 24 months have been consistently stable and have shown only modest monthly variations, not enough to warrant weekly monitoring in our opinion. Therefore, we request permission to continue monitoring the wells for chlorides on a monthly basis.

We have been monitoring water levels only in Well B (2003-02) because the airline systems on Wells A and E are not functioning. However, since Wells A and E are close by, we additionally request permission to continue monitoring water levels in only Well B.

We would appreciate your consideration of the above,

Sincerely,

Bernard Matano  
Director of Administration

Enc.
## Kapolei Wells A, B, & E

**Ewa, Oahu**

**Pumpage and Chlorides**

<table>
<thead>
<tr>
<th>Well</th>
<th>Pumpage</th>
<th>Chlorides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well A</td>
<td>mgd</td>
<td>mg/l</td>
</tr>
<tr>
<td>Well B</td>
<td>mgd</td>
<td>mg/l</td>
</tr>
<tr>
<td>Well E</td>
<td>mgd</td>
<td>mg/l</td>
</tr>
</tbody>
</table>

Water Resource Associates

083PAC
In the event that the Commission on Water Resource Management declares a water shortage situation, Kapolei Golf Course will voluntarily reduce the water used for irrigation by 25% of its daily allocation.

The 25% reduction in water usage will be achieved through watering only selected areas of the golf course on a priority basis, as follows:

<table>
<thead>
<tr>
<th>Priority #1</th>
<th>Greens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority #2</td>
<td>Fairway landing areas</td>
</tr>
<tr>
<td>Priority #3</td>
<td>Other areas on the fairway</td>
</tr>
<tr>
<td>Priority #4</td>
<td>Roughs and non-playing areas</td>
</tr>
</tbody>
</table>

If there are any questions, please contact our course superintendent, Steve Swanhart at 674-0884.

Bernard H. Matano  
Administration Director
GROUND WATER USE PERMIT
WUP NO. 438

PERMITTEE
Applicant/Water User
KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI, HI 96707

Landowner of Source
KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI, HI 96707

PERMITTED SOURCE INFORMATION
Island
OAHU
Water Management Area
KAPOLEI
Aquifer Sector
EWA CAPROCK
Aquifer System
KAPOLEI
System Sustainable Yield
NA
Well Name
KAPOLEI IRR A,B,E
State Well No.
2003-01.02.05

PERMITTED USE INFORMATION
Reasonable beneficial use
GOLF COURSE IRRIGATION
Withdrawal (12 month moving ave.)
1,000 mgd
Chloride Cap
1,000 mg/l
Location of water use

Pursuant to Hawaii's State Constitution, Article XI, Section 7, Hawaii Revised Statutes, Chapter 174C; Hawaii Administrative Rules, Chapters 13-167 through 13-171; and Hawaii decisional law and custom, the applicant is hereby authorized to use ground water from the sources and in the amount and from and upon the locations described above; subject however, to the requirements of law including but not limited to the following conditions:

TMK #
9-1-16:35,110
Address
VILLAGES OF KAPOLEI
State land use classification
URBAN
County zoning classification
AG-I
1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its May 14, 1997 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. Protect the water sources (quantity or quality);
   b. Meet other legal obligations including other correlative rights;
   c. Insure adequate conservation measures;
   d. Require efficiency of water uses;
   e. Reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. Meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. Carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

12. This permit shall be subject to the Commission's periodic review of the KAPOLEI Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the KAPOLEI Aquifer System, or relevant modified aquifer(s), is reduced.
13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-56(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the KAPOLEI Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-167-3(6). The final determination of the water use quantity shall be made within five years of the filing of the application.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

21. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: [Signature]

Printed Name: N. NAKAMURA

Firm or Title: PRES, KAPOLEI PEOPLE'S INC.

Please sign both copies of this permit, return one to the Commission, and retain the other for your records.

Attachment
Mr. Bernard H. Matano
Kapolei People's Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707

Dear Mr. Matano:

Approval of Water Use Permit for Well Nos. 2003-01,02,05
Kapolei Ground Water Management Area, Oahu

This letter transmits your water use permit for KAPOLEI IRR A,B,E Wells (Well Nos. 2003-01,02,05) for use of 1,000 million gallons per day (mgd) of water on a 12-month moving average basis that was approved by the Commission on Water Resource Management (Commission) on May 14, 1997. This water use permit supersedes WUP No. 431 that was transmitted to you on March 13, 1996.

As part of the Commission's approval, the following special conditions were added and are part of your permit under Standard Permit Condition 20:

Special Conditions

a. The duration of the interim permit shall be to October, 1998 or until such time that a significant change in permitted, actual, or projected use of water supply or water quality occurs.

b. Require adherence to the chloride sampling protocol (attached) and the submittal of weekly chloride data, as may be amended by the Commission staff.

c. Require adherence to the Conservation Conditions (attached).

Enclosed with this letter of approval are the following:

1. Your water use permit
2. Your official monthly water use report form

Please be sure to read the conditions of your approved permit. If you accept these terms, please sign and return one copy of this permit to the Commission and retain a copy for your record.

You are required to keep a record of your monthly total pumpage, water level, and water temperature. This information must be submitted to the Commission on a regular monthly basis using the enclosed water use report form. You should make copies of the enclosed report form as needed.

You are also required to submit a water shortage plan to the Commission within thirty (30) days of the issuance date of this permit. Your water shortage plan simply identifies what you are willing to do should the Commission declare a water shortage situation in the Kapolei Ground Water Management Area and can be as short as a one page letter. In a water shortage situation, the Commission may require temporary reductions in pumpage from all sources. The Commission is required, by law, to formulate a plan to implement such area-wide reductions, which should accommodate, include, and be consistent with your plans. Therefore, your help, by submitting your water shortage plan, is greatly needed in formulating the Commission's overall Water Shortage Plan.

If you have any questions, please call the Commission staff at 587-0218.

Attachments
GROUND WATER USE PERMIT
WUP NO. 438

PERMITTEE

Applicant/Water User
KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI, HI 96707

Landowner of Source
KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI, HI 96707

PERMITTED SOURCE INFORMATION

Island
OAHU

Water Management Area
KAPOLEI

Aquifer Sector
EWA CAPROCK

Aquifer System
KAPOLEI

System Sustainable Yield
NA

Well Name
KAPOLEI IRR A,B,E

State Well No.
2003-01,02,05

PERMITTED USE INFORMATION

Reasonable beneficial use
GOLF COURSE IRRIGATION

Withdrawal (12 month moving ave.)
1,000 mgd

Chloride Cap
1,000 mg/l

Location of water use

TMK #
9-1-16;35,110

Address
VILLAGES OF KAPOLEI

State land use classification
URBAN

County zoning classification
AG-1

Pursuant to Hawaii's State Constitution, Article XI, Section 7, Hawaii Revised Statutes, Chapter 174C; Hawaii Administrative Rules, Chapters 13-167 through 13-171; and Hawaii decisional law and custom, the applicant is hereby authorized to use ground water from the sources and in the amount and from and upon the locations described above; subject however, to the requirements of law including but not limited to the following conditions:
1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its May 14, 1997 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. Protect the water sources (quantity or quality);
   b. Meet other legal obligations including other correlative rights;
   c. Insure adequate conservation measures;
   d. Require efficiency of water uses;
   e. Reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. Meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. Carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

12. This permit shall be subject to the Commission's periodic review of the KAPOLEI Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the KAPOLEI Aquifer System, or relevant modified aquifer(s), is reduced.
13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the KAPOLEI Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-167-3(6). The final determination of the water use quantity shall be made within five years of the filing of the application.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

21. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

MICHAEL D. WILSON, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: ___________________________ Date: ______________________

Printed Name: ___________________________ Firm or Title: ___________________________

Please sign both copies of this permit, return one to the Commission, and retain the other for your records.

Attachment
SEE EWA CAPROCK WMA
FOLDER #2 - #4
STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT
September 11, 1996
Honolulu, Oahu

APPLICATIONS FOR WATER USE PERMITS
Requests for New and Continued Nonpotable Urban Uses

ALLOCATION PLAN FOR WATER USE PERMITS
In Response to Lower Sustainable Yield Estimate for the Puuloa Area
Ewa Caprock Ground Water Management Area, Oahu

APPLICANT(S):  LANDOWNER(S):

(Well Nos. 1905-08,10)  Same
The Estate of James Campbell
1001 Kamokila Blvd.
Kapolei, HI 96707

(Well Nos. 2003-04,07)  Same
State of Hawaii,
Housing Finance & Development Corp.
7 Waterfront Plaza, Suite 300
500 Ala Moana Blvd.
Honolulu, HI 96813

(Well Nos. 2003-01,02,05)  Same
Kapolei People's Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707

(Well Nos. 1900-02,17 to 20 & 1901-03)  Same
Hawaii Prince Golf Club
91-1200 Fort Weaver Rd.
Ewa Beach, HI 96706

(Well Nos. 2001-03,04,05,09,10,11 & 2002-15)  Same
Gentry Development Co.
P.O. Box 295
Honolulu, HI 96809

AGENDA 2
Item 2
BACKGROUND:

On September 28, 1979, the Board of Land and Natural Resources (BLNR) designated the Pearl Harbor Ground Water Control Area (Pearl Harbor GWCA; Judicial Boundaries of Ewa and Wahiawa Districts) pursuant to Chapter 177, HRS, Ground Water Use Act.

On March 22, 1985, the BLNR established subareas for the Pearl Harbor GWCA, including the Coastal Caprock Subarea.

In 1990, the Commission on Water Resource Management (Commission) adopted the Water Resources and Protection Plan (Plan). The Plan included, as required by HRS 174C-31(c), "hydrologic units and their characteristics, including the quantity and quality of available resource...". The Plan did not include the brackish Ewa Caprock Aquifer as a hydrologic unit.

In the 1988-1992 timeframe, water use permits totalling 19.524 million gallons per day (mgd) were awarded in the Ewa Caprock Aquifer mainly to existing irrigation uses (eg. Oahu Sugar Co.). Other existing water use permits totaled 39.608 mgd for various salt water and brackish to saline water uses (chlorides > 1,000 MG/L).

On March 3, 1993, the Commission officially adopted the boundary of the entire brackish Ewa Caprock Aquifer as a separate aquifer within the existing designated ground water management area. Due to uncertainties regarding the aquifer's sustainable yield, the Commission did not adopt a sustainable yield estimate for the aquifer.

Since March 1993, the Commission has been awarding one-year interim permits for new uses for the Ewa Caprock Aquifer.

In May 1996, the staff completed a re-evaluation of the Ewa Caprock Aquifer sustainable yield. Based on the staff's analysis of historic data, the staff proposed the establishment of three (3) aquifer systems within the Ewa Caprock Aquifer: Puuloa, Kapolei, and Malakole (see Exhibit...
Staff Submittal

September 11, 1996

1), with sustainable yields of 5 mgd, 3 mgd, and 1 mgd, respectively, for chloride concentrations less than 1,000 MG/L.

On August 14, 1996, a public hearing was held on the proposed establishment of aquifer systems and sustainable yields for the caprock aquifer. Before the close of the public hearing, Hawaii Prince Golf Club (HPGC) submitted a written request for a contested case hearing on the proposed establishment of a 5 mgd sustainable yield for the Puuloa area. The written petition was received on August 23, 1996.

ANALYSIS/ISSUES:

Normally, the staff lists and analyzes the criteria set forth in §13-171-13 HAR which must be established by the applicant. However, there are larger issues which must be addressed before this analysis can occur. These are discussed as follows:

A. Nonpotable Water Demand Expected to Increase

The Planning Department, City and County of Honolulu, is in the process of revising the Development Plans for Ewa and Central Oahu. The draft plan shows a projected population increase from 130,526 in 1990 to 185,091 in 2020. This corresponds to a 42% increase in population for the area. A 60% increase in housing units over the same time period is projected: from 36,262 units in 1990 to 58,118 units in 2020 (for Ewa Employment and Dispersed Residential; Exhibit 2). This growth will result in an increase in water needs, both potable and nonpotable.

Although the water demand for Ewa was not available, City and County planners have testified that the 2020 demand for water for the projected growth of the Ewa, Central, Wai'anae, and Honolulu districts will be about another 90 mgd. This increased demand consists of 56.5 mgd for potable water needs and 33.5 mgd for nonpotable water needs. This is exclusive of agricultural water demand, which is specified in the City's plans to provide an open space buffer for the proposed urban growth in Central Oahu. Thus, the 90 mgd water demand exceeds the remaining water resources on the island (75 mgd). It is critical that alternative nonpotable sources of water be a part of Oahu's water planning in order to reduce the competition for potable water as an irrigation source. Further, these figures underscore the important role of the brackish Ewa Caprock Aquifer and of the reclaimed sewage effluent in future growth plans.

To address the expected increase in nonpotable water demand for urban uses, the Commission and the City Department of Wastewater Management retained a consultant to develop a nonpotable water master plan for Central Oahu, including the Ewa plain. The February, 1996 plan recommends construction of a demonstration recharge trench in the Ewa Caprock using reclaimed water. The staff has participated in a group consisting of representatives from the Department of Health, City Department of Wastewater Management, City Planning Department, and the Board of Water Supply to champion the use of reclaimed water and a water reclamation project for the Ewa Plain. The major issues include identification of a purveyor for the reclaimed water resource and rates/cost of the resource.

In further support of the plan for reuse on the Ewa Plain, the Commission adopted the following reclaimed water policy on March 13, 1996:

It is the policy of the Commission on Water Resource Management (Commission)
Staff Submittal September 11, 1996

to promote the viable and appropriate reuse of reclaimed water in so far as it does not compromise beneficial uses of existing water resources.

I. Ewa Caprock

Recognizing that reclaimed water is a valuable resource in the Ewa Plain, direct or indirect reuse will be championed by the Commission. It is the policy of the Commission that the water resources of the Ewa Caprock Aquifer will be allocated only for nonpotable uses.

B. Current Allocations Exceed Sustainable Yield in Puuloa

The staff's recommendation of a sustainable yield for the Ewa Caprock Aquifer is based on historical data reflecting the aquifer's response to natural sugarcane irrigation and current urban conditions. The lack of imported basal water by Oahu Sugar Company (OSCo) augmenting the natural sustainable yield of the caprock will affect water availability.

If the Commission were to approve the staff's recommendation to establish three aquifer systems within the Ewa Caprock Aquifer with sustainable yields of 5 mgd for Puuloa, 3 mgd for Kapolei, and 1 mgd for Malakole, only the Puuloa area would be over-allocated. Exhibit 3 (column 5) shows the current allocations in the Puuloa area of the caprock, totalling 15.177 mgd.

However, the over-allocation problem may be only temporary because the City Department of Wastewater Management is moving forward with their plans for a demonstration recharge trench that will recharge the Puuloa area of the Ewa Caprock Aquifer with 5 mgd of R-2 effluent from the Honouliuli Wastewater Treatment Plant. This would replace some of the lost imported basal irrigation recharge from OSCo. It is expected that the demonstration recharge trench will be online by 1999. If the pilot project is successful, additional trenches will be installed to recharge the Kapolei as well as Puuloa area.

The current schedule for the demonstration recharge trench (5 mgd) and full application (13 mgd) is:

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honouliuli Secondary Treatment Operational</td>
<td>12/1997</td>
<td>1999.6</td>
</tr>
<tr>
<td>Demonstration Recharge Trench Operational (5 mgd)</td>
<td>12/1998</td>
<td></td>
</tr>
<tr>
<td>Testing Complete</td>
<td>12/1999</td>
<td></td>
</tr>
<tr>
<td>Complete Trench Operational (13 mgd)</td>
<td>12/2000</td>
<td>2001</td>
</tr>
</tbody>
</table>

The current design also allows for direct use of the R-2 effluent in addition to recharging the aquifer. The City is evaluating the feasibility of constructing an R-1 treatment facility to enable less restricted uses.

C. New Water Use Permit Applications

Pending applications for the Puuloa area, shown in Exhibit 4, total 3.174 mgd. For the Kapolei area, requests total 1.796 mgd (Exhibit 5). All pending requests are for various nonpotable non-agricultural uses. On March 13, 1996, the Commission deferred action on all pending requests in the Ewa Caprock until a decision is made on the proposed establishment of a sustainable yield estimate in the Water Resources Protection Plan.
Also shown as a pending request shown in Exhibit 4 is an application for Haseko (Ewa), Inc.'s (Haseko) proposed Ewa Marina project in the Puuloa area, which is the subject of a contested case hearing. The "quantity of the use" for the marina excavation has not been established. The State Department of Transportation also has a pending water use permit application for the Barbers Point Harbor expansion in the Malakole area; action on this application has been deferred pending written notification of the reclassification of the lands from the Agricultural to Urban designation. There are no other pending requests in Malakole.

One condition that new water use permit applications must meet is that the use: "can be accommodated with the available water source..." §174C-49(a) HRS. There has been a request for a contested case hearing on the proposed sustainable yield for Puuloa. The staff does not believe that there is a right to a contested case hearing on this matter and is planning to submit the proposed Hawaii Water Plan update to the Commission for action at the Commission meeting of December 18, 1996.

D. Step-Down of Allocations to Match Sustainable Yield

The staff will submit for Commission action a proposal to step-down current allocations to match sustainable yield as well as a recommendation regarding pending new water use permit requests. We have discussed several alternatives with a self-elected Steering Committee of the users and with the Reclaimed Water Champions (Department of Health, City Department of Wastewater Management, City Planning Department, Honolulu Board of Water Supply, Commission on Water Resource Management). In response, on August 29, 1996, a written proposal (Exhibit 6) was received from the Puuloa Caprock Users Group (Group), which includes HPGC, Sogo Hawaii, Inc., Haseko, Gentry Homes, Ltd., and the Navy. The Group does not include Honolulu Board of Water Supply, City Department of Wastewater Management (DWWM), Campbell Estate, and the U.S. Fish and Wildlife Service, the latter three of which are permitted water users in the Puuloa area and are necessary partners in any usable plan.

The Group has requested 90 days to prepare and submit a draft nonpotable master plan (Plan) to the Commission, which will include a recommended plan to manage water use over a proposed two-year interim period. The proposal is very general and does not address issues important to this effort such as the current overpumpage by DWWM (Well Nos. 1902-03 & 04) and Gentry (Well No. 2001-05). Further, the Group implies that it is in possession of data not previously submitted that would be helpful to the Commission in setting the sustainable yield. Although the deadline for testimonies has passed, staff recommends allowing additional time for submittal of the information.

RECOMMENDATIONS:

The staff recommends that the Commission:

1. Defer action on the sustainable yield for the Ewa Caprock Aquifer to the December 18, 1996 Commission meeting in order to consider the Puuloa Caprock UsersGroup's draft nonpotable master plan for the Puuloa area.

2. Require that the draft nonpotable master plan include each of the elements outlined in the Group's proposal, be as specific as possible (e.g. annual projections of all nonpotable supply requirements detailed by project and TMK area), and encompass the entire Puuloa area and all users in Puuloa. The Plan shall also address the current overpumpage at
Staff Submittal

September 11, 1996

Well Nos. 1902-03 & 04 and Well Nos 2001-05.

3. Extend the deadline to September 30, 1996 for the submittal of any additional data or evidence (related to ground water modelling, hydrologic data, or other) which a party wishes to have considered in setting the sustainable yield of the Ewa Caprock Aquifer.

Respectfully submitted,

W. Roy Lee
Deputy Director

Attachments

Exhibit 1 - Location Map
Exhibit 2 - Scenario Comparisons
Exhibit 3 - Ewa Caprock Permittees - Puuloa Area
Exhibit 4 - Puuloa Aquifer System
Exhibit 5 - Kapolei Aquifer System
Exhibit 6 - Puuloa Caprock Users Group Proposal

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson

J. Pinsnore: love raw data that has not previously been submitted.
Request add'l time to present & analyze data, may have affect on SY estimate.
Campbell was cable, said won't be in again.

D. Hig, H Prince: request that amendment to datum 2 be reconsidered (< mgd compliance). Would in effect, be rate 5 SY = 5 mgd. Was hoping to manage aquifer w/out capping. Sales performance standards.

Mike: do scenarios 1 w/ 5 mgd, 1 w/ another sy.

7. Steinberger: do some thing w/氨 purge.

Washdown, polymers, enhancement, nigatab
Long-range projection = 2 mgd. (to come out of ve ve elat)
mgd for Babka Pt. 13 decrease to 10 mgd.
### Scenario Comparisons

#### Central Oahu Development Plan Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Eva</td>
<td>130,526</td>
<td>166,950</td>
<td>36,424</td>
<td>177,756</td>
</tr>
<tr>
<td>Dispersed Development</td>
<td>130,526</td>
<td>184,444</td>
<td>53,918</td>
<td>213,826</td>
</tr>
<tr>
<td>Ewa Employment</td>
<td>130,526</td>
<td>185,091</td>
<td>54,565</td>
<td>213,826</td>
</tr>
<tr>
<td>Ewa &amp; Central Oahu</td>
<td>130,526</td>
<td>213,826</td>
<td>83,276</td>
<td>213,826</td>
</tr>
</tbody>
</table>

**NOTE:** Baseline forecast for 1990-2020 islandwide increase is 25%.

<table>
<thead>
<tr>
<th>Development Scenario</th>
<th>1990 House Units</th>
<th>2020 House Units</th>
<th>1990-2020 Increase</th>
<th>Current Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Eva</td>
<td>36,262</td>
<td>55,725</td>
<td>19,464</td>
<td>55,725</td>
</tr>
<tr>
<td>Dispersed Development</td>
<td>36,262</td>
<td>57,907</td>
<td>21,645</td>
<td>57,907</td>
</tr>
<tr>
<td>Ewa Employment</td>
<td>36,262</td>
<td>58,118</td>
<td>21,856</td>
<td>58,118</td>
</tr>
<tr>
<td>Ewa &amp; Central Oahu</td>
<td>36,262</td>
<td>65,666</td>
<td>29,404</td>
<td>65,666</td>
</tr>
</tbody>
</table>

**NOTE:** Baseline forecast for 1990-2020 islandwide increase is 42%.

### Change in Resident Population

**Central Oahu Development Plan Sub-Areas (1990-2020)**

| Scenario | City and County of Honolulu Planning Department, August 1984 |

### Change in Non-Construction Jobs

**Central Oahu Development Plan Sub-Areas (1990-2020)**

<p>| Scenario | City and County of Honolulu Planning Department, August 1984 |</p>
<table>
<thead>
<tr>
<th>PERMITTEE</th>
<th>WELL NAME (WELL NO.)</th>
<th>DATE OF APPROVAL</th>
<th>TYPE OF USE</th>
<th>ALLOCATION</th>
<th>LATEST 12-MAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haseko</td>
<td>EP 27A,27B,28,29 (1902-01)</td>
<td>12/16/92</td>
<td>Irrigation (Agric.)</td>
<td>2.660</td>
<td>0.000</td>
</tr>
<tr>
<td>Campbell Estate</td>
<td>EP 21 (2000-01)</td>
<td>12/16/92</td>
<td>Irrigation (Agric.)</td>
<td>2.080</td>
<td>0.000</td>
</tr>
<tr>
<td>U.S. Navy</td>
<td>EP 23 (2001-01)</td>
<td>12/16/92</td>
<td>Irrigation (Agric.)</td>
<td>5.890</td>
<td>0.000</td>
</tr>
<tr>
<td>Hawaii Prince</td>
<td>EP 22 (1900-02)</td>
<td>10/19/88</td>
<td>Irrigation (G. Course)</td>
<td>0.800</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>EP 22 &amp; Wells 1 to 3 (1900-02, 1900-17 to 20, 1901-03)</td>
<td>7/13/94</td>
<td>Irrigation (G. Course)</td>
<td>0.129</td>
<td>1.049</td>
</tr>
<tr>
<td>Sogo Hawaii</td>
<td>Puleo G.C. Irr (1900-21)</td>
<td>2/13/91</td>
<td>Irrigation (G. Course)</td>
<td>0.100</td>
<td>0.000</td>
</tr>
<tr>
<td>Puuloa Homes</td>
<td>Puleo Wells A &amp; B (1900-22 &amp; 1959-08)</td>
<td>2/26/88</td>
<td>Irrigation (G. Course)</td>
<td>0.600</td>
<td>0.512</td>
</tr>
<tr>
<td>Haseko</td>
<td>Haseko No. 1 (1902-01)</td>
<td>7/13/94</td>
<td>Irrigation (G. Course, Landscape, Dust Control)</td>
<td>1.500</td>
<td>0.000</td>
</tr>
<tr>
<td>C&amp;C DWWM</td>
<td>Honolulu STP 1 &amp; 2 (1902-03 &amp; 04)</td>
<td>3/15/90</td>
<td>Industrial</td>
<td>0.500</td>
<td>0.992</td>
</tr>
<tr>
<td>Gearty</td>
<td>Ewa Gearty (2001-02)</td>
<td>9/27/83</td>
<td>Irrigation (Park, Landscape)</td>
<td>0.080</td>
<td>0.000</td>
</tr>
<tr>
<td>Gearty</td>
<td>Geiger Park (2001-03)</td>
<td>7/13/94</td>
<td>Irrigation (Park)</td>
<td>0.030</td>
<td>0.014</td>
</tr>
<tr>
<td>Gearty</td>
<td>Sunrise Apt (2001-04)</td>
<td>7/13/94</td>
<td>Irrigation (Park, Landscape)</td>
<td>0.040</td>
<td>0.024</td>
</tr>
<tr>
<td>Gearty</td>
<td>Soda Crock III (2001-05)</td>
<td>7/13/94</td>
<td>Irrigation (Park, Landscape)</td>
<td>0.020</td>
<td>0.064</td>
</tr>
<tr>
<td>Palm Villa I</td>
<td>Palm Villa I (2001-06)</td>
<td>7/13/89</td>
<td>Irrigation (Landscape)</td>
<td>0.080</td>
<td>0.016</td>
</tr>
<tr>
<td>Homeowners</td>
<td>Arbors (2001-07)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.063</td>
<td>0.048</td>
</tr>
<tr>
<td>Palm Villa II</td>
<td>Palm Villa II (2001-08)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.048</td>
<td>0.071</td>
</tr>
<tr>
<td>Homeowners</td>
<td>Pt. Weaver Apt (2001-09)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.023</td>
<td>0.020</td>
</tr>
<tr>
<td>Gearty</td>
<td>Gearty Area 24 (2001-10)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.022</td>
<td>UNUSED</td>
</tr>
<tr>
<td>Palm Court</td>
<td>Palm Court 2 (2002-12)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.066</td>
<td>0.026</td>
</tr>
<tr>
<td>Homeowners</td>
<td>Gearty G.C. (2002-15)</td>
<td>7/13/94</td>
<td>Irrigation (Landscape)</td>
<td>0.130</td>
<td>UNUSED</td>
</tr>
<tr>
<td>U.S. Fish &amp; Wildlife</td>
<td>Honolulu Unit (2101-14)</td>
<td>10/27/93</td>
<td>Habitat Maintenance</td>
<td>0.216</td>
<td>?</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td></td>
<td></td>
<td>15.177</td>
<td>2.836</td>
</tr>
</tbody>
</table>

**EXHIBIT 3**
<table>
<thead>
<tr>
<th>ITEM</th>
<th>PUULOA AQUIFER SYSTEM (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Yield Estimate</td>
<td>15.000</td>
</tr>
<tr>
<td>Less: Other Existing Permits</td>
<td></td>
</tr>
<tr>
<td>(shown in Exhibit 3)</td>
<td></td>
</tr>
<tr>
<td>Current Available Allocation</td>
<td>-2.170</td>
</tr>
<tr>
<td>Less: Requests for New Interim Permits</td>
<td></td>
</tr>
<tr>
<td>Hawaii Prince Golf Club</td>
<td></td>
</tr>
<tr>
<td>(1900-02, 17 to 20, 1901-03)</td>
<td>0.129</td>
</tr>
<tr>
<td>Gentry Co. (2001-03)</td>
<td>0.030</td>
</tr>
<tr>
<td>(2001-04)</td>
<td>0.040</td>
</tr>
<tr>
<td>(2001-05)</td>
<td>0.020</td>
</tr>
<tr>
<td>(2001-09)</td>
<td>0.023</td>
</tr>
<tr>
<td>(2001-10)</td>
<td>0.022</td>
</tr>
<tr>
<td>(2002-15)</td>
<td>0.130</td>
</tr>
<tr>
<td>Haseko (Ewa), Inc. (1902-01)</td>
<td>1.500</td>
</tr>
<tr>
<td>Arbors Assoc. (2001-07)</td>
<td>0.063</td>
</tr>
<tr>
<td>Palm Villa II Assoc. (2001-08)</td>
<td>0.048</td>
</tr>
<tr>
<td>Palm Court Assoc. (2002-12)</td>
<td>0.066</td>
</tr>
<tr>
<td>Available Allocation</td>
<td>-5.344</td>
</tr>
</tbody>
</table>

* Proposed marina project will result in a permanent reduction in caprock storage capacity.
## KAPOLEI AQUIFER SYSTEM

<table>
<thead>
<tr>
<th>Item</th>
<th>KAPOLEI AQUIFER SYSTEM (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Yield Estimate</td>
<td>5.000</td>
</tr>
<tr>
<td>Less: Other Existing Permits</td>
<td></td>
</tr>
<tr>
<td>Pu‘u Makakilo (1904-02)</td>
<td>-1.150</td>
</tr>
<tr>
<td>Current Available Allocation</td>
<td>3.850</td>
</tr>
<tr>
<td>Less: Requests for New Interim Permits</td>
<td></td>
</tr>
<tr>
<td>Campbell Estate (1905-08,10)</td>
<td>0.302</td>
</tr>
<tr>
<td>State HFDC (2003-04,07)</td>
<td>0.494</td>
</tr>
<tr>
<td>Kapolei People’s Inc. (2003-01,02,05)</td>
<td>1.000</td>
</tr>
<tr>
<td>Less: New Applications</td>
<td></td>
</tr>
<tr>
<td>(none)</td>
<td>-0.000</td>
</tr>
<tr>
<td>Available Allocation</td>
<td>2.054</td>
</tr>
</tbody>
</table>
1. The PCUG will prepare a non-potable master plan for the Puuloa Aquifer System which will include: a projection of all non-potable supply requirements; a management plan to optimize use of non-potable resources including treated wastewater effluent and the available supply of brackish groundwater; and a compilation of hydrologic data which will provide the basis for the proposed use of non-potable resources.

2. A draft of the non-potable master plan, as a work in progress, will be submitted in 90 days. In addition to a discussion of each of the master plan topics indicated above, this draft report will also include a recommended plan to manage water use over a proposed two-year interim period. The management plan at a minimum shall include the following:

   (a) An agreement among PCUG members to keep actual water use of the Puuloa Aquifer System below an amount jointly agreed to by the PCUG members and the CWRM. Actual water use shall be evaluated on a 12-month moving average basis.

   (b) An agreement among the PCUG members for the pro-rata participation in wastewater reuse by all PCUG members.

   (c) An agreement to allow new interim water uses by PCUG members as long as they are consistent with conditions (a) and (b) above.

3. The PCUG requests that the CWRM enter into agreements confirming that the interim 2-year period shall not be counted as part of a 4-year "use it or lose it" assessment by the CWRM.

4. The PCUG will form a steering committee to work directly with the City's Department of Wastewater Management on wastewater effluent reuse. Based on a preliminary assessment of the quantity and location of required non-potable supply, an evaluation of pipeline delivery of effluent treated to R-1 quality will be given the highest priority.

5. The PCUG believes that a more complete set of data is necessary in order to make a confident assessment of the Puuloa aquifer system's sustainable yield. PCUG members will collect and provide to the CWRM hydrologic data over and above that which is being submitted to the CWRM on a monthly basis as a requirement of its water use permits.
Hawaii Prince Golf Course

HASEKO (Ewa), Inc.

Sogo Hawaii Inc. dba
Ewa Beach International Golf Club

Gentry Homes, Ltd.

J. M. Kilian
Department of Navy
(The Department of the Navy's Participation is in connection with and in support of its agricultural outlease program.)

J. Michael Kilian
Director, Real Estate Division
P.O. Box 2000, Naval Facilities Engineering Command
Real Estate Contracting Officer
TESTIMONIES:

Mr. Jim Anthony, a party in the Hawaii Reserves, Inc. contested case hearing, testified against the staff's recommendation to delete Well No. 3554-02 and to reinstate Well No. 3654-03.

MOTION: (COX/MIIKE)

To approve staff's recommendation.

UNANIMOUSLY APPROVED.

ITEM 2.

APPLICATIONS FOR WATER USE PERMITS, REQUESTS FOR NEW AND CONTINUED NONPOTABLE URBAN USES. ALLOCATION PLAN FOR WATER USE PERMITS IN RESPONSE TO LOWER SUSTAINABLE YIELD ESTIMATE FOR THE PUULOA AREA, EWA CAPROCK GROUND WATER MANAGEMENT AREA, OAHU

The Estate of James Campbell, (Well Nos. 1905-08,10)
State of Hawaii, Housing Finance & Development Corp. (Well Nos. 2003-04,07)
Kapolei People's Inc., (Well Nos. 2003-01,02,05)
Hawaii Prince Golf Club, (Well Nos. 1900-02,17 to 20 & 1901-03)
Gentry Development Co., (Well Nos. 2001-03,04,05,09,10,11 & 2002-15)
The Arbors Association, (Well No. 2001-07)
Palm Villas II Association, (Well No. 2001-08)
Palm Court Association, (Well No. 2002-12)
Haseko (Ewa), Inc., (Well No. 1902-01)

PRESENTATION OF SUBMITTAL: Deputy Director Rae Loui

Correction on Page 4, Section B:

The current schedule for the demonstration recharge trench (5 mgd) and full application (10 mgd) is:

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honouliuli Secondary Treatment Operational</td>
<td>9/1996</td>
</tr>
<tr>
<td>Demonstration Recharge Trench Operational (5 mgd)</td>
<td>12/1998</td>
</tr>
<tr>
<td>Testing Complete</td>
<td>12/1999</td>
</tr>
<tr>
<td>Complete Trench Operational (10 mgd)</td>
<td>12/2001</td>
</tr>
</tbody>
</table>

STAFF RECOMMENDATION:

The staff requested that the recommendation be amended as follows:

1. Defer action on the sustainable yield for the Ewa Caprock Aquifer to the December 18, 1996 Commission meeting in order to consider the Puuloa Caprock Users Group's draft nonpotable master plan for the Puuloa area.

2. Require that the draft nonpotable master plan include each of the elements outlined in the Group's proposal, be as specific as possible (eg. annual
projections of all nonpotable supply requirements detailed by project and TMK area), encompass the entire Puuloa area and all users in Puuloa, and include a scenario complying with the proposed 5 mgd sustainable yield. The Plan shall also address the current overpumpage at Well Nos. 1902-03 & 04 and Well Nos. 2001-05 & 2001-08.

3. Extend the deadline to September 30, 1996 for the submittal of any additional data or evidence (related to ground water modelling, hydrologic data, or other) which a party wishes to have considered in setting the sustainable yield of the Ewa Caprock Aquifer.

TESTIMONY BY APPLICANT:

Mr. Jeff Dinsmore, Vice President of Gentry Homes, Ltd., submitted a written and oral testimony on behalf of the Puuloa Caprock Users Group. He stated that they were in agreement with the staff submittal, however, requested that the deadline for the submittal of any additional data for consideration of the sustainable yield be extended from September 30, 1996 until December 18, 1996.

Mr. Douglas Ing, attorney for Hawaii Prince Golf Club, stated his objections to the staff's recommendation of a 5mgd ceiling. (Note: Subsequent to Mr. Ing's testimony, the staff's submittal was amended to specify that the draft plan shall include a scenario complying with the 5 mgd sustainable yield estimate.)

TESTIMONIES:

Mr. Tim Steinberger, of the City and County Department of Wastewater Management was available for questions from the Commission.

MOTION: (MIKE/NOBRIGA)

To approve staff's recommendation as amended.

UNANIMOUSLY APPROVED AS AMENDED.

The Chairperson adjourned the meeting at 3:32 p.m.

Respectfully submitted,

JANIS F. UWAIN
Secretary

APPROVED AS SUBMITTED:

RAE M. LOUI
Deputy Director
OAHU DRINKING WATER PICTURE

Groundwater Sources:

Developable Yield 415 mgd
Utilized 340 mgd
Available 75 mgd
OAHU DEMAND VS. SUPPLY

2020 Projected Demand: 90 mgd

(Ewa, Central Oahu, Waianae, Honolulu)

Available Supply: 75 mgd

DEFICIT: -15 mgd
# OAHU 2020 DEMAND

## Forecasted Demand:

<table>
<thead>
<tr>
<th>Type</th>
<th>Demand (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable</td>
<td>56.5</td>
</tr>
<tr>
<td>Nonpotable</td>
<td>33.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

## Alternative Sources:

<table>
<thead>
<tr>
<th>Source</th>
<th>Demand (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groundwater</td>
<td>75</td>
</tr>
<tr>
<td>Wastewater Effluent</td>
<td>110</td>
</tr>
<tr>
<td>Conservation</td>
<td>?</td>
</tr>
</tbody>
</table>
Commission on Water Resource Management
Department of Land and Natural resources
State of Hawaii

September 11, 1996

Re: In the matter of the Allocation Plan For Water Use Permits
In Response to Lower Sustainable Yield Estimate for the Puuloa Area
Ewa Caprock Ground Water Management Area, Oahu

Chairman Wilson and members of the State Water Commission:

My name is Jeff Dinsmore. I am a Vice President of Gentry Homes, Ltd., and I am here to testify on behalf of the Puuloa Caprock Users Group on the Commission On Water Resource Management’s Staff submittal on the above mentioned subject. I previously testified at the August 14 hearing for the PCUG and requested a 90 day extension to prepare and submit a draft nonpotable water master plan for the Puuloa Caprock area.

The Puuloa Caprock Users Group is in agreement with the Staff recommendations and would like to thank them for their effort. We are confident that a mutually beneficial plan can be prepared and implemented.

We do have one change to request of the staff recommendation. We would like to request that the deadline for the submittal of any additional data for consideration of the sustainable yield be extended from September 30, 1996 until December 18, 1996.

Thank you for your time and due consideration of our request. If you have any questions, I will do my best to answer them for you.

Sincerely,
Puuloa Caprock Users Group

[Signature]

Jeffrey C. Dinsmore
MEMORANDUM

TO: CHERYL D. SOON, CHIEF PLANNING OFFICER
   PLANNING DEPARTMENT

FROM: PATRICK T. ONISHI, DIRECTOR
   DEPARTMENT OF LAND UTILIZATION

SUBJECT: WATER USE PERMIT APPLICATION

Applicant: Kapolei People's, Inc.
Tax Map Key(s): 9-1-16: 35
Type of Use(s): Golf course

The proposed use on the above-referenced tax map key(s) has been reviewed. We find that the:

1. Current zoning designation is AG-1 Restricted Agricultural District.

   [ ] Proposed use(s) is/are permitted under current zoning.

   [X] Proposed use(s) may be permitted if the following permit(s) is/are obtained: See additional comments section.

   [ ] Proposed use(s) is/are not permitted under current zoning.

The Department of Land Utilization is currently processing a zone change application for the project, which if approved by the City Council, would result in the use being consistent with the proposed district zoning.

   [ ] Yes
   [ ] No
2.  [ ] Use is within the Special Management Area.
[X] Use is not within the Special Management Area.

3. Additional Comments: Portion of Act 15 project which was exempted from county zoning. Refer to Hawaii Housing Finance Development Corporation.

The proposed project has been reviewed for the purpose of providing the above information and does not imply a recommendation of approval by this Department. Should you have any questions, please contact the Environmental Review Branch at 523-4077.

PATRICK T. ONISHI
Director of Land Utilization

PTO:am

Cc: Commission on Water Resource Management

g:kapolgc.adc
August 19, 1996

Mr. Michael Wilson, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Wilson:


We have no objections for the use of caprock water to irrigate the golf course as long the amount is within the sustainable yield. The cover memo is returned accordingly marked.

Very truly yours,

FOR RAYMOND H. SATO  
Manager and Chief Engineer

Attachment
TO: Honorable Kali Watson, Chairperson
Department of Hawaiian Home Lands
Honorable Lawrence Miike, Director
Department of Health
Attn: Mr. Dennis Tulang
Attn: Mr. William Wong
Honorable Clayton H. W. Hee, Chairperson
Office of Hawaiian Affairs
Ms. Esther Ueda, Executive Officer
Land Use Commission
Mr. Raymond Sato, Manager & Chief Engineer
Honolulu Board of Water Supply
Attn: Mr. Chester Lao
Attn: Mr. Barry Usugawa
Mr. Patrick Onishi, Director
Department of Land Utilization
Mrs. Cheryl D. Soon, Chief Planning Officer
Planning Department

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Water Use Permit Application
Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the proposed use that is described in the attached application (i.e. line item 6 or Table 1) for any conflicts or inconsistencies with the land use designations, programs, plans, or objectives specific to your organization or department only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

Response:

() We have no comments
() We have no objections
() Comments attached

Contact Person: Bert Kuioka
Phone: 527-6134

Signed: DATE: 9/19/96
FOR RAYMOND H. SATO
Manager and Chief Engineer
Mr. Bernard H. Matano  
Kapolei People's Inc.  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

Notice of Action  
Water Use Permit Application for Well Nos. 2003-01, 02, 05  
Ewa Caprock Ground Water Management Area, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission) on your application for a water use permit for Kapolei Irr A, B, & E Wells (Well Nos. 2003-01, 02, & 05).

By a unanimous vote of the Commission at their meeting of August 14, 1996, the Commission deferred action on your application until a decision is made on the possible establishment of a sustainable yield estimate for the Ewa Caprock Aquifer in the Water Resources Protection Plan.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

RAE M. LOUI  
Deputy Director

LN:ss
TESTIMONY BY APPLICANT:

Mr. Garrick Iwamura of Hawaii Prince and Mr. Tom Nance, consultant, was available for questions.

TESTIMONIES:

MOTION: (NOBRIGA/RICHARDS)

To approve staff's recommendation.

UNANIMOUSLY APPROVED.

11. KAPOLEI PEOPLE'S INC., DEFERRAL – APPLICATION FOR WATER USE PERMIT, KAPOLEI IRR A, B, & E WELLS (WELL NOS. 2003-01, 02, & 05), REQUEST TO CONTINUE NONPOTABLE IRRIGATION USE FOR 1.0 MGD, EWA CAPROCK GROUND WATER MANAGEMENT AREA, OAHU (TMK 9-1-16:35)

PRESENTATION OF SUBMITTAL: Ms. Lenore Nakama

STAFF RECOMMENDATION:

The staff recommends that the Commission defer action on the water use permit application by KPI until a decision is made on the possible establishment of a sustainable yield estimate in the Water Resources Protection Plan.

MOTION: (NOBRIGA/GIRALD)

To approve staff's recommendation to defer action.

UNANIMOUSLY APPROVED TO DEFER.

12. GENTRY DEVELOPMENT CO., DEFERRAL – APPLICATION FOR WATER USE PERMIT, GENTRY GOLF COURSE WELL (WELL NO. 2002-15), TMK 9-1-61:32, FUTURE GOLF COURSE IRRIGATION USE FOR 0.690 MGD, EWA CAPROCK GROUND WATER MANAGEMENT AREA, OAHU

PRESENTATION OF SUBMITTAL: Ms. Lenore Nakama

STAFF RECOMMENDATION:

Staff recommends that the Commission defer action on the water use permit modification application until a decision is made on the possible establishment of a sustainable yield estimate for the Ewa Caprock Aquifer in the Water Resources Protection Plan.

TESTIMONY BY APPLICANT:

Mr. Jeff Dinsmore, of Gentry Development, was available for questions. He stated that he concurs with staff's recommendation.
STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

August 14, 1996
Honolulu, Oahu

Kapolei People's Inc.

DEFERRAL -- APPLICATION FOR WATER USE PERMIT
Kapolei Irr A, B, & E Wells (Well Nos. 2003-01, 02, & 05), TMK 9-1-16:35
Request to Continue Nonpotable Irrigation Use for 1.0 mgd
Ewa Caprock Ground Water Management Area, Oahu

APPLICANT:

Kapolei People's Inc.
91-701 Farrington Hwy.
Kapolei, HI  96707

LANDOWNER:

Same

LOCATION MAP:  See Exhibit 1

BACKGROUND:

On July 13, 1994, the Commission on Water Resource Management (Commission) approved an interim one-year water use permit for the State of Hawaii, Housing Finance and Development Corporation (HFDC) for 1.494 mgd for dust control, golf course irrigation, and various urban irrigation uses for Kapolei Irr A to E Wells (Well Nos. 2003-01 to 05).

On October 19, 1994, the Commission approved a modification of the permit to replace Well No. 2003-03 (Kapolei Irr C Well) with Well No. 2003-07 (Kapolei Irr C-1 Well).

On May 5, 1995, the Commission notified HFDC of the July 12, 1995 water use permit expiration date and requested that HFDC confirm their intent to continue the water use after July 12, 1995.

On May 23, 1995, HFDC submitted a written request to extend the permit.

At a regular meeting on July 5, 1995 in Honokaa, Hawaii, the Commission approved staff's recommendation to extend the duration of the water use permit until such time that a decision is made at a meeting on Oahu.
On February 29, 1996, HFDC notified the Commission of the transfer of the water use permit for 1.0 mgd for three of the five wells in the battery (Well Nos. 2003-01,02,&05) to Kapolei Peoples, Inc. (KPI), effective November 7, 1995. The transfer of the water use permit for the three wells was related to HFDC's sale of the golf course to KPI.

On March 13, 1996, the Commission acknowledged receipt of the water use permit transfer request and issued a water use permit to KPI for 1.0 mgd for irrigation of the Kapolei Golf Course. The Commission notified KPI that there are no provisions for transfer of a water use permit application under the Water Code and requested that a new application to continue the golf course irrigation use for the three wells be made by KPI within ninety (90) days. A request to continue the dust control and urban irrigation uses for the other two wells (Well Nos. 2003-04 & 07) is also pending per HFDC's letter of May 23, 1995.

Also, on March 13, 1996, the Commission deferred action on all pending requests for new water use permits in the Ewa Caprock Aquifer for approximately six (6) months until a decision is made on the possible establishment of a sustainable yield estimate in the Water Resources Protection Plan.

On June 10, 1996, KPI submitted a water use permit application to continue the golf course irrigation use.

A public hearing on the proposed sustainable yield(s) for the Ewa Caprock Aquifer has been scheduled for August 14, 1996 at 9:00 a.m.

RECOMMENDATION:

The staff recommends that the Commission defer action on the water use permit application by KPI until a decision is made on the possible establishment of a sustainable yield estimate in the Water Resources Protection Plan.

Respectfully submitted,

RAE M. LOUI
Deputy Director

Exhibit(s): 1 (Location Map)

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson
Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your division only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.
MEMORANDUM

TO: Rae M. Loui, Deputy Director
Commission on Water Resource Management

FROM: William Devick, Acting Director
Division of Aquatic Resources

SUBJECT: Comments on Application for a Water Use Permit, Puuola Ground Water Management Area, Oahu (TMK 9-1-16:35)

The applicant, Kapolei People's, Inc. proposes to withdraw 1,000,000 gallons of brackish water per day from the Ewa Caprock Management Area. The water will be withdrawn from existing Wells 2003-01, 02, 03 with a pump and used for irrigation of 220 acres of the Kapolei Golf Course.

The Division of Aquatic Resources has no objections to this request since the proposed project is not expected to have any significant impact on aquatic resource values in this area.
July 29, 1996

Honorable Michael D. Wilson, Chairperson  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Water Use Permit Applications for Kapolei  
People's Inc., Well Nos. 2003-01, 02, 05 and Hawaii Prince Golf Club, Well Nos. 1900-02, 17 to 20 and 1901-03

This is in response to your memorandums dated June 25, 1996. We have reviewed the subject applications and provide the comments below for your consideration.

Kapolei People's Inc.

- The parcel identified as Tax Map Key 9-1-16: 35 is designated public facilities on the Ewa Development Plan Land Use Map (DPLUM).

- The Ewa Development Plan Public Facilities Map identifies a site undetermined, within six years police station symbol in the area for the Ewa Plains Regional Police Station. If the applicant proposes any new uses in the area, we recommend that the applicant contact the City's Building Department prior to any approvals.

- Our records indicate that the Kapolei Golf Course is approximately 192 acres in size and not 220 acres. We recommend that the applicant clarify this discrepancy prior to approval of this request.

- It is our understanding that the Kapolei Golf Course is located at Tax Map Key 9-1-16: 110. Parcel identified as Tax Map Key 9-1-16: 110 is designated agriculture on the Ewa DPLUM.
Although the existing golf course operation is not consistent with the agriculture designation, the Villages of Kapolei project (including the Kapolei Golf Course) has Act 15 exemption from the City’s Development Plans.

- Section 24-1.15.(b)(3)(E) of the City’s Development Plans Common Provisions states that non-potable water sources should be used for the irrigation of golf courses. The use of non-potable caprock water for irrigation purposes is consistent with this policy.

Hawaii Prince Golf Club

- The parcel identified as Tax Map Key 9-1-10: 6 is designated agriculture on the Ewa Development Plan Land Use Map.

Although the existing golf course operation is not consistent with the agriculture designation, the City’s Land Use Ordinance (LUO) does permit golf courses in AG-2 zoning.

- Section 24-1.15.(b)(3)(E) of the City’s Development Plans Common Provisions states that non-potable water sources should be used for the irrigation of golf courses. The use of non-potable caprock water for irrigation purposes is consistent with this policy.

- The Board of Water Supply (BWS) have no objections to the subject water use permit applications (see attached memorandum from the BWS).

Should you have any questions, please call Eugene Takahashi of our staff at 527-6022.

Sincerely,

CHERYL D. SOON
Chief Planning Officer

CDS:lh
Attachment

cc: Honorable Jeremy Harris, Mayor
(Mayor’s Control No. 26929 and 26931)
TO:  
CHERYL D. SOON, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

FROM:  
RAYMOND H. SATO, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

SUBJECT: YOUR LETTERS DATED JUNE 25, 1996 TO MAYOR JEREMY HARRIS
ON THE WATER USE PERMIT APPLICATIONS FOR CAMPBELL ESTATE
KAHUW WELL 4100-02; HAWAII PRINCE GOLF CLUB WELLS 1900-02,
17 TO 20 AND 1901-03; AND KAPOLEI PEOPLE'S, INC. WELL
NOS. 2003-01, 02, 05

We have no objection to the following:

1. Permitted use of 0.360 million gallons per day (mgd) for the Campbell
   Kahuku Well 4100-02 which will be used for agriculture.

2. Permitted use of 0.900 mgd for these caprock wells in Ewa to be used for
   golf course irrigation at the Hawaii Prince Golf Club.

3. Permitted use of 1.000 mgd for these caprock wells in Kapolei to be used for
   golf course irrigation by Kapolei People's, Inc.

If you have any questions, please call Bert Kuioka at 527-6134.
MEMORANDUM

TO: Lenore Nakama  
Commission on Water Resource Management

FROM: Darrell Yagodich, Planning Officer

SUBJECT: Water Use Permit Applications, Puuloa Ground Water Management Area, Oahu

By way of this memorandum, we are requesting an extension of time to August 15, 1996, to review the following applications:

(1) Hawaii Prince Golf Club, Well Nos. 1900-02, 17 to 20 & 1901-03; and

(2) Kapolei People's Inc., Well Nos. 2003-01, 02, 05.

If you have any questions, please call Keoni Agard at 586-3848. Thank you in advance for your cooperation in this matter.

July 31, 1996
July 23, 1996

Rae M. Loui  
Deputy Director  
State of Hawaii  
Commission on Water Resource Management  
P O Box 621  
Honolulu, HI 96809

Re: Water Use Permit Application

Dear Mr. Loui,

We concur with the review comments from the Land Use Commission on our water use permit application for Well numbers 2003-01, 02,05. (reference Land Use Commission letter, dated July 2, 1996)

Sincerely,

[Signature]

Bernard H. Matano  
Director of Administration
TO: Aquatic Resources
    Forestry and Wildlife/Natural Area Reserve System
    Historic Preservation
    Land Management
    State Parks

FROM: Rae M. Loui, Deputy Director

SUBJECT: Request for Comments
          Water Use Permit Application
          Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of the application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your division only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

Response:

( ) We have no comments
(✓) We have no objections
( ) Comments attached

Contact Person: Andrew M. Monden

Phone: 587-0227

Signed: Andrew M. Monden

Date: 7/24/96
July 18, 1996

MEMORANDUM

TO: Rae M. Loui, Deputy Director
Commission on Water Resource Management

FROM: Don Hibbard, Administrator
Historic Preservation Division

SUBJECT: 6E-42 Historic Preservation Review Application for Water Use Permit, Puuloa Ground Water Management Area, O'ahu for Kapolei People's Inc. for Well Nos. 2003-01, 02, 05 Honouliuli, 'Ewa, O'ahu
TMK: 9-1-16:35

Thank you for the opportunity to review this project. The applicant proposes to use water from an existing source. Since an approved permit will not authorize any ground disturbing activities and the use of the water is for an existing golf course, we believe that there will be "no effect" on historic sites.

EJ:jk
TO: Honorable Kali Watson, Chairperson
Department of Hawaiian Home Lands

Honorable Lawrence Miike, Director
Department of Health
Attn: Mr. Dennis Tulang
Attn: Mr. William Wong

Honorable Clayton H. W. Hee, Chairperson
Office of Hawaiian Affairs

Ms. Esther Ueda, Executive Officer
Land Use Commission

Mr. Raymond Sato, Manager & Chief Engineer
Honolulu Board of Water Supply
Attn: Mr. Chester Lao
Attn: Mr. Barry Usugawa

Mr. Patrick Onishi, Director
Department of Land Utilization

Mrs. Cheryl D. Soon, Chief Planning Officer
Planning Department

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Water Use Permit Application
Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the proposed use that is described in the attached application (i.e. line item 6 or Table 1) for any conflicts or inconsistencies with the land use designations, programs, plans, or objectives specific to your organization or department only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

☐ We have no comments
☐ We have no objections
☐ Comments attached

Contact Person: Lori N. Kajiwara
Signed: Lori N. Kajiwara
Phone: 586-4294
Date: 7/10/96
Mr. Bernard H. Matano  
Kapolei People's, Inc.  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

Water Use Permit Application  
Kapolei Irr A, B, E (Well Nos. 2003-01,02,05)  
Ewa Caprock Ground Water Management Area, Oahu

We are forwarding the review comments from the State of Hawaii, Land Use Commission on your water use permit application for Well Nos. 2003-01, 02, 05.

We request that you submit a written response to these comments by July 31, 1996 so that we may incorporate your response into the staff's submittal to the Commission. We are planning to submit your application for action at the Commission's next regular meeting on Oahu, tentatively on August 14, 1996.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

RAE M. LOUI  
Deputy Director

LN:ss  
Attachment
TO: Honorable Kali Watson, Chairperson
   Department of Hawaiian Home Lands
   Honorable Lawrence Miike, Director
   Department of Health
   Attn: Mr. Dennis Tulang
   Attn: Mr. William Wong
   Honorable Clayton H. W. Hee, Chairperson
   Office of Hawaiian Affairs
   Ms. Esther Ueda, Executive Officer
   Land Use Commission
   Mr. Raymond Sato, Manager & Chief Engineer
   Honolulu Board of Water Supply
   Attn: Mr. Chester Lao
   Attn: Mr. Barry Usugawa
   Mr. Patrick Onishi, Director
   Department of Land Utilization
   Mrs. Cheryl D. Soon, Chief Planning Officer
   Planning Department

FROM: Michael D. Wilson, Chairperson
   Commission on Water Resource Management

SUBJECT: Water Use Permit Application
   Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for
Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be
published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the proposed use that is described in the attached
application (i.e. line item 6 or Table 1) for any conflicts or inconsistencies with the land use
designations, programs, plans, or objectives specific to your organization or department only.
Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an
extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

( ) We have no comments
( ) We have no objections
( ) Comments attached

Contact Person: Esther Ueda Phone: 587-3822
 Signed: Date: July 2, 1996
Mr. Michael D. Wilson, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai‘i 96809

Dear Mr. Wilson:

Subject: Water Use Permit Application
Puuloa Ground Water Management Area, Oahu
Kapolei People’s, Inc.

We have reviewed the subject water use permit application as transmitted by your letter dated June 25, 1996 and have the following comments to offer:

1) We note that the subject application incorrectly identifies the Kapolei Golf Course (location of proposed water use) as TMK: 9-1-16: 35. A portion of the golf course lies within parcel 35. The remaining portions of the golf course lie within TMK: 9-1-16: 110.

2) We confirm that the location of the existing well, identified as TMK: 9-1-16: 35, is within the State Land Use Urban District, and not the Agricultural District as noted in the application.

3) We confirm that the location of the proposed water use, the Kapolei Golf Course, is within the State Land Use Urban District, and not the Agricultural District as noted in the application.

4) The location of the existing well was placed into the Urban District pursuant to a Decision and Order issued on August 23, 1989 in LUC Docket No. A88-622/Housing Finance and Development Corporation, for the development of the Villages of Kapolei and a portion of the Kapolei Golf Course.
5) The location of the proposed water use (Kapolei Golf Course), was placed into the Urban District pursuant to a Decision and Order issued on June 25, 1990 in LUC Docket No. A90-653/Housing Finance and Development Corporation.

We have no further comments to offer at this time.

As requested, we have enclosed the cover memo to the subject application.

Thank you for the opportunity to provide comments on this application.

If you have any questions in regards to this matter, please feel free to contact me or Leo Asuncion of my staff at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:th

Enclosure
TO: Honorable Kali Watson, Chairperson
Department of Hawaiian Home Lands
Honorable Lawrence Milke, Director
Department of Health
Attn: Mr. Dennis Tulang
Attn: Mr. William Wong
Honorable Clayton H. W. Hee, Chairperson
Office of Hawaiian Affairs
Ms. Esther Ueda, Executive Officer
Land Use Commission
Mr. Raymond Sato, Manager & Chief Engineer
Honolulu Board of Water Supply
Attn: Mr. Chester Lao
Attn: Mr. Barry Usugawa
Mr. Patrick Onishi, Director
Department of Land Utilization
Mrs. Cheryl D. Soon, Chief Planning Officer
Planning Department

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Water Use Permit Application
Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the proposed use that is described in the attached application (i.e. line item 6 or Table 1) for any conflicts or inconsistencies with the land use designations, programs, plans, or objectives specific to your organization or department only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

(x) We have no comments
(□) We have no objections
(□) Comments attached

Contact Person: Bill Wong
Phone: 586-9258

Signed: Bill Wong
Date: 06/21/96
Transmitted for your review and comment is a copy of a water use permit application for Kapolei People’s, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your division only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

Response:

☐ We have no comments
☐ We have no objections
☐ Comments attached

Contact Person: Rae M. Loui, Deputy Director
Phone: 587-0218
Signed: Rae M. Loui, Deputy Director
Date: JUN 25 1996
TO: Aquatic Resources
Forestry and Wildlife/Natural Area Reserve System
Historic Preservation
Land Management
State Parks

FROM: Rae M. Loui, Deputy Director
Commission on Water Resource Management

SUBJECT: Request for Comments
Water Use Permit Application
Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for WellNos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your division only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

Response: June 16, 1996

We have no comments

DOFAW HAS NO COMMENTS OR OBJECTIONS TO THE PROPOSED REQUEST.

Contact Person: Wayne Ching, Res. Mgmt. Forester Phone: X70166
Signed: 

MICHAEL G. BUCK, Administrator
PUBLIC NOTICE

Applications for Water Use Permits
Ground Water Management Areas, Oahu and Molokai

The following applications for water use permits have been received and are hereby made public in accordance with Department of Land and Natural Resources Administrative Rules 13-171, "Designation and Regulation of Water Management Areas."

Opana (Well No. 4100-02)
Applicant: The Estate of James Campbell
1001 Kamokila Blvd.
Kapolei, HI 96707
Date Completed Application Received: May 24, 1996
Aquifer: Koolauloa System, Windward Sector, Oahu
Water Source: Opana Well (Well No. 4100-02) at Kawela, Oahu, Tax Map Key 5-7-1:21
Quantity Requested: 360,000 gallons per day.
New Water Use: Irrigation supply for 160 acres diversified agriculture
Place of Water Use: Kawela at Tax Map Key: 5-7-1:21

Kapolei Irr A, B, & E (Well Nos. 2003-01,02,05)
Applicant: Kapolei People’s, Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707
Date Completed Application Received: June 10, 1996
Aquifer: Puuloa System, Ewa Caprock Sector, Oahu
Water Source: Kapolei Irr A, B, & E (Well Nos. 2003-01,02,05) at Kapolei Golf Course, Oahu, Tax Map Key 9-1-16:25
Quantity Requested: 1,000,000 gallons per day.
New Water Use: Irrigation supply for Kapolei Golf Course
Place of Water Use: 91-701 Farrington Hwy., Kapolei, HI at Tax Map Key: 9-1-16:25

EP 22, Wells 1 to 5 (Well Nos. 1900-02, 17 to 20 & 1901-03)
Applicant: Hawaii Prince Golf Club
91-1200 Fort Weaver Rd.
Ewa Beach, HI 96706
Date Completed Application Received: June 12, 1996
Aquifer: Puuloa System, Ewa Caprock Sector, Oahu
Water Source: EP 22, Wells 1 to 5 (Well Nos. 1900-02, 17 to 20, & 1901-03) at 91-1200 Fort Weaver Rd., Oahu, Tax Map Key 9-1-10:6
Quantity Requested: 900,000 gallons per day.
Existing Water Use: Irrigation supply for 190-ac Hawaii Prince Golf Course
Place of Water Use: 91-1200 Fort Weaver Rd., Ewa Beach, HI at Tax Map Key: 9-1-10:6
Request is to modify existing water use permit (WUP No. 152) to include all six (6) Hawaii Prince wells.

Applicant: Kamehameha Schools/Bishop Estate
P.O. Box 3466
Honolulu, HI 96801
a. Keawanui Dug Well (Well No. 0350-01)
b. Kamalo-Bishop Dug Wells #1-3 (Well Nos. 0353-06 to 08)
Naehu Dug Well (Well No. 0353-01)
Kamalo-Bishop Aquaculture Well (Well No. 0353-05)
Date Completed Application Received: May 8, 1996
a. **Aquifer:** Ualapu' e System, Southeast Sector, Moloka'i  
**Water Source:** Keawanui Well (Well No. 0350-01) at Keawanui, Mana'e, Tax Map Key 5-6-6:24  
**Quantity Requested:** 240,000 gallons per day.  
**New Water Use:** Aquaculture  
**Place of Water Use:** Keawanui at Tax Map Key: 5-6-6:24

b. **Aquifer:** Kawela System, Southeast Sector, Moloka'i  
**Water Source:** Kamalo-Bishop Dug Wells #1-3 (Well Nos. 0353-06 to 08) at Tax Map Key 5-5-2:30,32,36, Kamalo-Bishop Aquaculture Well (Well No. 0353-05) at Tax Map Key 5-5-2:30, Naehu Dug Well (Well No. 0353-01) at Tax Map Key 5-5-2:16, Kamalo, Mana'e.  
**Quantity Requested:** 0353-06 to 08: 144,000 gallons per day, each; 0353-05 and 0353-01: 72,000 gallons per day, each.

**Applicant:** Charles Bostwick  
P.O. Box 1829  
Kaunakakai, HI 96748  
Keoneku'ino-Bostwick Well (Well No. 0354-07)  
**Date Completed Application Received:** June 17, 1996  
**Aquifer:** Kawela System, Southeast Sector, Moloka'i  
**Water Source:** Keoneku'ino-Bostwick Well (Well No. 0354-07) at Keoneku'ino, Mana'e, Tax Map Key 5-5-1:7  
**Quantity Requested:** 25,000 gallons per day.  
**New Water Use:** Domestic and Irrigation  
**Place of Water Use:** Keoneku'ino at Tax Map Key: 5-5-1:7

Written objections or comments on the above applications may be filed by any person who has property interest in any land within the hydrologic unit of the source of water supply, any person who will be directly and immediately affected by the proposed water use, or any other interested person. Written objections shall: (1) state property or other interest in the matter (provide TMK information); (2) set forth questions of procedure, fact, law, or policy, to which objections are taken; and (3) state all grounds for objections to the proposed permit. Written objections must be received by July 31, 1996. Objections must be sent to 1) the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809 and 2) the applicants at the above addresses.

**COMMISSION ON WATER RESOURCE MANAGEMENT**

[Signature]

RAE M. LOUI, Deputy Director for  
MICHAEL D. WILSON, Chairperson

**Dated:** 6/24/96

**Publish in:** Honolulu Advertiser issues of July 10 and 17, 1996
Mr. Bernard H. Matano  
Kapolei People's, Inc.  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

We acknowledge receipt, on June 10, 1996, of your completed application for a water use permit for Kapolei Irr A, B, E Wells (Well Nos. 2003-01,02,05).

Enclosed is a copy of the public notice for your water use permit application that will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

Please be aware that there may be objections to your application. If objections are made, the objector is required to file such objections with the Commission and is also required to send you a copy of the objections. You, or any other party, may respond to objections by filing a brief in support of your application with the Commission within ten (10) days of the filing of an objection. You, or the other party, must also send a copy of the response to the objector.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

[Signature]

RAE M. LOUI
Deputy Director

LN:ss

Enclosure
State of Hawaii
Department of Land and Natural Resources
COMMISSION ON WATER RESOURCE MANAGEMENT
Honolulu, Hawaii
JUN 25 1996

TO: Aquatic Resources
    Forestry and Wildlife/Natural Area Reserve System
    Historic Preservation
    Land Management
    State Parks

FROM: Rae M. Loui, Deputy Director
      Commission on Water Resource Management

SUBJECT: Request for Comments
         Water Use Permit Application
         Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your division only. Please respond by returning this cover memo form by July 31, 1996.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

( ) We have no comments
( ) We have no objections
( ) Comments attached

Contact Person: ____________________________ Phone: __________
Signed: ____________________________ Date: __________
TO: Other Interested Parties

FROM: Rae M. Loui, Deputy Director, Commission on Water Resource Management

SUBJECT: Request for Comments
Water Use Permit Application
Puuloa Ground Water Management Area, Oahu

Transmitted for your review and comment is a copy of a water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01, 02, 05. Public notice of this application will be published in the Honolulu Advertiser issues of July 10 and 17, 1996.

We would appreciate your review of the attached application for any conflicts or interferences with the programs, plans, and objectives of the organization or agency that you represent. Written objections should be made in accordance with Section 13-171-18 of our Administrative Rules and must be filed by the July 31, 1996 deadline.

If you have any questions, require additional information, or would like to request an extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

( ) We have no comments
( ) We have no objections
( ) Comments attached

Contact Person: ___________________ Phone: ___________________

Signed: ___________________ Date: ________________
TO: Honorable Kali Watson, Chairperson
   Department of Hawaiian Home Lands

   Honorable Lawrence Miike, Director
   Department of Health
   Attn: Mr. Dennis Tulang
   Attn: Mr. William Wong

   Honorable Clayton H. W. Hee, Chairperson
   Office of Hawaiian Affairs

   Ms. Esther Ueda, Executive Officer
   Land Use Commission

   Mr. Raymond Sato, Manager & Chief Engineer
   Honolulu Board of Water Supply
   Attn: Mr. Chester Lao
   Attn: Mr. Barry Usugawa

   Mr. Patrick Onishi, Director
   Department of Land Utilization

   Mrs. Cheryl D. Soon, Chief Planning Officer
   Planning Department

FROM: Michael D. Wilson, Chairperson

SUBJECT: Water Use Permit Application
   Puuoa Ground Water Management Area, Oahu

   Transmitted for your review and comment is a copy of a water use permit application for
   Kapolei People's, Inc. for Well Nos. 2003-01,02,05. Public notice of this application will be
   published in the Honolulu Advertiser issues of July 10 and 17, 1996.

   We would appreciate your review of the proposed use that is described in the attached
   application (i.e. line item 6 or Table 1) for any conflicts or inconsistencies with the land use
   designations, programs, plans, or objectives specific to your organization or department only.
   Please respond by returning this cover memo form by July 31, 1996.

   If you have any questions, require additional information, or would like to request an
   extension of the review period for this application, please contact Lenore Nakama at 587-0218.

LN:ss
Attachment(s)

Response:

   () We have no comments
   () We have no objections
   () Comments attached

Contact Person: _____________________________ Phone: ______________

Signed: _____________________________ Date: ______________
Honorable Jeremy Harris, Mayor
City & County of Honolulu
City Hall
Honolulu, HI 96813

Dear Mayor Harris:

Notice of an Application for Water Use Permit
Puuloa Ground Water Management Area, Oahu

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-171-17(a), we are sending you a copy of the public notice for the water use permit application for Kapolei People's, Inc. for Well Nos. 2003-01,02,05, which will be published in the Honolulu Advertiser.

In addition, Section 13-171-13(b), of our Administrative Rules, states:

"Within sixty days after receipt of notice of a permit application, the county shall inform the commission if the proposed use is inconsistent with the county land use plans and policies."

We have attached a copy of the application for your review and would appreciate receiving your comments, within the next sixty (60) days, on whether this water use is consistent with county plans and policies.

Very truly yours,

MICHAEL D. WILSON
Chairperson

Enclosures
Ms. Rae Loui  
Deputy Director  
Commission on Water Resource Management  
Department of Land & Natural Resources  
P.O. Box 621  
Honolulu, HI 96809

Re: Application for Water Use Permit  
Kapolei Golf Course Wells A, B, & E (Well Nos. 2003-01, 02, & 05), Oahu

Dear Ms. Loui:

We acknowledge receipt of your letter of May 7, 1996, indicating additional information necessary to process the subject application.

As requested, we enclose 15 copies of the completed application, including USGS and TMK maps showing the location of the source and the proposed water use area, and a check for $25.00.

Please note that TMK No. 9-1-16:35 is the location of both the source and use areas.

If you have any questions, please call us.

Sincerely,

Bernard H. Matano  
Administration Director

Enc.
APPLICATION FOR WATER USE PERMIT

State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR WATER USE PERMIT

Instructions: Please print in ink or type and send completed application with attachments plus 15 copies to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96807. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225 (neighbor islands), 1-800-468-4644.

PERMITTEE INFORMATION

1. (a) APPLICANT
   FirmName: Kapolei People's, Inc.
   Contact Person: Bernard H. Matano
   Address: 91-701 Farrington Hwy
   Phone: 674-2173

(b) LANDOWNER OF SOURCE
   FirmName: Same
   Contact Person: Same
   Address: Same
   Phone: Fax

SOURCE INFORMATION

2. WATER MANAGEMENT AREA:
   Name: Ewa Caprock
   Island: Oahu

3. (a) EXISTING WELL/DIVERSION NAME AND STATE NUMBER:
   Name: Kapolei Irr. A,B & E (2003-01, 02, 05)

(b) PROPOSED (NEW) WELL/DIVERSION NAME:

(c) LOCATION:
   Address: Kapolei Golf Course, Kapolei, HI
   Tax Map Key 9-1-1635
   (Attach a USGS map, scale 1"=2000', and a property tax map showing source location referenced to established property boundaries.)

4. SOURCE TYPE (check one):
   □ Stream □ Dike-confined □ Perched □ Caprock

5. METHOD OF TAKING WATER (check one):
   □ Artesian □ Well & Pump □ Diverted Surface □ Other (explain)

USE INFORMATION

6. LOCATION OF PROPOSED WATER USE: (if possible, show on same maps as source location. Otherwise, attach similar maps)
   (a) □ PUC-Regulated System □ Intended Dedication to Dept./Board of Water Supply □ Non-PUC-Regulated Private System
   (b) Proposed use of water is: □ Existing □ New □ Both existing & new uses
   (c) Tax Map Key: 9-1-16-35 (If location of use is over multiple TMKs, please complete Table 1 on back of application)
   (d) Address: 91-701 Farrington Hwy, Kapolei, HI

(e) Current State Land Use District(s):
   □ Urban □ Agriculture □ Conservation □ Rural
   (f) Current County Zoning District(s):

7. QUANTITY OF WATER REQUESTED: (combined) 1,000,000 gallons per day (averaged over 1 year)

8. METHOD OF MEASUREMENT:
   □ Flowmeter □ Open-pipe □ Weir □ Orifice □ Other (explain)

9. QUALITY OF WATER REQUESTED:
   □ Fresh □ Brackish □ Salt □ Potable □ Non-Potable

10. PROPOSED USE:
    □ Municipal (including hotels, stores, etc.) □ Individual Domestic □ Irrigation
    □ Industrial □ Military □ Other (explain)

   For questions 11 & 12: If multiple TMKs are involved where water is to be used, please complete Table 1 on back of application.

11. TOTAL NUMBER OF RESIDENCES TO BE SERVED:
    □ N/A

12. TOTAL ACRES TO BE IRRIGATED AND TYPE OF CROP:
    □ 220 acres □ Golf course (acres) □ varies (crop)

13. PROPOSED TIME OF WATER WITHDRAWAL OR DIVERSION:
    (daytime hours of operation, ex. 7 a.m. to 2 p.m.)

14. APPLICANT MUST ESTABLISH THAT THE PROPOSED USE OF WATER:
    (a) Can be accommodated with the available water source
    (b) Is a reasonable-beneficial use as defined in section 13-171-2, HAR. (see backside of this application)
    (c) Will not interfere with any existing legal use.
    (d) Is consistent with the public interest.
    (e) Is consistent with state and county general plans and land use designations.
    (f) Is consistent with county land use plans and general policies.

15. REMARKS, EXPLANATIONS: (see backside of this application)

NOTE: Signing below indicates that the signatories understand and swear that: 1) the information provided on this application is accurate and true to the best of the their knowledge; 2) Item 14 is the responsibility of the applicant prior to Commission approval; 3) If necessary, further information may be required before the application is considered complete; 4) If a water use permit is granted by the Commission, this permit is subject to prior existing permitted uses, changes in sustainable yields and instream flow standards, reserved uses as defined by the Commission, and Hawaiian Home Lands future uses; and 5) Upon permit approval, a water shortage plan must be submitted by the applicant should the Commission require one.

Applicant (print) Kapolei People's, Inc. Landowner (print) Kapolei People's, Inc.
Signature _______ Date __06/19/94________ Signature _______ Date __06/19/94____
"Reasonable-beneficial use" means the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is not wasteful and is both reasonable and consistent with the state and county land use plans and the public interest.

15. REMARKS, EXPLANATIONS (cont'd):

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

TABLE 1. MULTIPLE TMKs TO USE REQUESTED WATER

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>TMK</th>
<th>CURRENT COUNTY ZONING CODE</th>
<th>CURRENT % OF TOTAL TO BE USED</th>
<th>% OF TOTAL TO BE USED OVER NEXT 4 YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For Official Use Only:

Date Received ____________  Hydrologic Unit No. ____________  Diversion Works No. ____________

Date Accepted ____________  Application No. ____________  State Well No. ____________

01/09/96 WUPA Form
<table>
<thead>
<tr>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>SRC/</th>
<th>COST</th>
<th>OBJ</th>
<th>CTR</th>
<th>PROJECT</th>
<th>PH</th>
<th>ACT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>000</td>
<td>G</td>
<td>1026</td>
<td>0252</td>
<td>------</td>
<td></td>
<td></td>
<td>--------</td>
<td></td>
<td></td>
<td>(1) 25.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOTAL 25.00</td>
</tr>
</tbody>
</table>

**Remarks:**
LINE (1): Well No. 2003-01, 02, 05 (WUPA)
LINE (2)
LINE (3)
LINE (4)

---

**Bank of Hawaii**

MAIN BRANCH, HONOLULU, HAWAI'I

May 30, 1996

PAY TO THE ORDER OF: Department of Land & Natural Resources

$25.00

*****Twenty-Five and no/100***** DOLLARS

KAPOLEI PEOPLE'S INC.
210 WARD AVENUE, SUITE 336
HONOLULU, HAWAII 96814

For

[Signature]

**P-126 00 2869# 4 2 130 0 0 0 1 0 3 8 5 5 5#**
Mr. Bernard H. Matano  
Kapolei People's, Inc.  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

Application for Water Use Permit  
Kapolei Golf Course Wells A, B, & E (Well Nos. 2003-01, 02, & 05)  
Ewa Caprock Ground Water Management Area, Oahu

We acknowledge receipt, on April 15, 1996, of your application for a water use permit for the subject wells.

We have reviewed your application and find that it is incomplete. As such, we are returning your original application (attached). Please resubmit your application with the following items that are needed to complete your application:

1. $25.00 filing fee (payable to the Department of Land and Natural Resources).
2. USGS map(s), scale 1"=2000', showing the location of the source and clearly delineating the area of the proposed water use.
3. TMK map(s) showing the location of the source and clearly delineating the area of the proposed water use.
4. Current County Zoning District(s) for the parcel(s) at which water is to be used.
5. Completed Table 1.
6. 15 copies of the complete application.

A preliminary check on ownership for TMK 9-1-16:25 indicates the parcel is owned by The Estate of James Campbell. Section 174C-51(1)(B) states "[i]n 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". If you have a terminable interest or estate in TMK 9-1-16:25, please state The Estate of James Campbell as joint applicant in your water use permit application.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

RAE M. LOUI  
Deputy Director

LN:ss

Attachment
Chairperson Michael Wilson called the meeting of the Commission on Water Resource Management to order at 9:10 a.m.

The following were in attendance:

MEMBERS:  Mr. Michael Wilson  
            Mr. Richard Cox  
            Dr. Lawrence Miike  
            Mr. Robert Girald  
            Mr. David Nobriga  
            Mr. Herbert Richards, Jr.

STAFF:  Ms. Rae Loui  
         Mr. Roy Hardy  
         Mr. Charley Ice  
         Ms. Lyann Mizuno  
         Ms. Lenore Nakama  
         Ms. Janis Uwaine

COUNSEL:  Mr. William Tam

OTHERS:

Douglas MacDougal  
Ben Matsubara  
Richard Montgomery  
Kathleen Hoff  
Yvonne Izu  
Carol Wilcox

Dawn K. Wasson  
Yukie Ohashi  
Kay Muranaka  
Garrick Iwamuro  
Barry Usagawa  
Stephen Kubota

Dr. Jim Anthony  
Tom Nance  
Harry Hida  
Herb Lee, Jr.  
Chester Lao

All written testimonies submitted at the meeting are filed in the Commission office and are available for review by interested parties. The items were not taken in the order posted on the agenda.

**ITEM 1.**  MINUTES OF THE MARCH 13, 1996 MEETING.

MOTION: (RICHARDS/NOBRIGA)

To approve the minutes.

UNANIMOUSLY APPROVED.
TESTIMONY BY APPLICANT:

Mr. Ben Matsubara, representing Pacific Atlas, Inc., testified that they are in agreement with the staff recommendation and intend to comply with them. He further stated that the applicant accepts full responsibility for what has occurred and have undertaken steps to ensure that all of the requirements are complied with and will be updating the Commission staff in regards to their progress.

TESTIMONIES:

Ms. Carol Wilcox, testified that there should be no excuses for overlooking permits that are required.

Mr. Stephen Kubota, a Kaneohe resident, testified that he is concerned about the potential impacts on the fishpond, which he felt is valuable to Kaneohe Bay.

Mr. Herb Lee, Consultant to Pacific Atlas, Inc. and President of Waikalau Fishpond Preservation Society, which was set up due to a condition agreement between the City and the community, and Pacific Atlas, Inc. to preserve the Waikalau Fishpond as part of the SMA and PRU agreement going back to September, 1994. He testified that the Society is comprised of people from the community and recently got their preservation plan approved by the Department of Land and Natural Resources and have been in the process of implementing it since then. Part of that plan is to eradicate all of the mangrove around the pond area. They are also looking into planting native Hawaiian coastal plants around the pond as well as in the golf course area.

Mr. Ben Matsubara informed the Commission that they are currently grassing the area to prevent erosion.

Deputy Director Rae Loui suggested that the staff go to the area and report back to the Commission at its next meeting on April 19, 1996.

MOTION: (COX/GIRALD)

To defer action for 30 days and have the applicant stop all work related to the permits but allow work necessary to control the erosion.

UNANIMOUSLY APPROVED AS AMENDED.

ITEM 10. REPORT ON PERMIT VIOLATIONS, APPLICANTS FOR NEW INTERIM WATER USE PERMITS, EWACAPROCK GROUND WATER MANAGEMENT AREA, OAHU

PRESENTATION OF REPORT: Ms. Lenore Nakama
Staff submitted a report as requested by the Commission during the March 13, 1996 meeting.

No action was required on this item.

ITEM 10.  OTHER BUSINESS

None.

ADJOURNMENT: Chairperson Wilson adjourned the meeting at 2:52 p.m.

Respectfully submitted,

JANIS F. UWAIN
Secretary

APPROVED AS SUBMITTED:

RAE M. LOUI
Deputy Director
State of Hawaii  
Dept of Land and Natural Resources  
Commission on Water Resource Management  
P O Box 621  
Honolulu, HI 96809  

Re: Water Use Permit for Well Nos. 2003-01,02, 05  
Ref: CWRM-55  

Dear Mr. Wilson,  

Attached are signed copy of Ground Water Use Permit WUP #431, application for water use permit, and a water shortage plan for Kapolei Golf Course.  

Sincerely,  

[Signature]  
Bernard H. Matano  
Administration Director
GROUND WATER USE PERMIT
WUP NO. 431

PERMITTEE

Applicant/Water User
KAPOLEI PEOPLES, INC.
91-701 FARRINGTON HIGHWAY
KAPOLEI, HI 96707

Landowner of Source
KAPOLEI PEOPLES, INC.
91-701 FARRINGTON HIGHWAY
KAPOLEI, HI 96707

PERMITTED SOURCE INFORMATION

<table>
<thead>
<tr>
<th>Island</th>
<th>OAHU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Management Area</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>Aquifer Sector</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>Aquifer System</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>System Sustainable Yield</td>
<td>N/A mgd</td>
</tr>
<tr>
<td>Well Name</td>
<td>KAPOLEI IRRIGATION A,B,E</td>
</tr>
<tr>
<td>State Well Nos.</td>
<td>2003-01,02,05</td>
</tr>
</tbody>
</table>

PERMITTED USE INFORMATION

Reasonable beneficial use
IRRIGATION

Withdrawal (12 month moving ave.)
1,000 mgd (Kapolei Golf Course irrigation supply)

Location of water use
TMK #
9-1-16:25
Address
KAPOLEI GOLF COURSE
State land use classification
AGRICULTURE
County zoning classification
VARIOUS

Pursuant to Hawaii’s State Constitution, Article XI, Section 7, Hawaii Revised Statutes, Chapter 174C; Hawaii Administrative Rules, Chapters 13-167 through 13-171; and Hawaii decisional law and custom, the applicant is hereby authorized to use ground water from the sources and in the amount and from and upon the locations described above; subject however, to the requirements of law including but not limited to the following conditions:
1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and 174C-101(a), HRS.

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its July 13, 1994 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
d. require efficiency of water uses;
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on a monthly basis.

12. This permit shall be subject to the Commission's periodic review of the Ewa Caprock Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Ewa Caprock Aquifer System, or relevant modified aquifer(s), is reduced.

13. This permit may not be transferred or the use rights granted by this permit sold or in any other way alienated. Pursuant to HRS § 174C-59 and the requirements of chapter 174C, the Commission on Water Resource Management has the authority to allow the transfer of the permit and the use rights granted by this permit in a manner consistent with HRS § 174C-59. Any such transfer shall only occur with the Commission's prior express written approval. Any sale, assignment, lease, alienation, or other transfer of any interest in this permit shall be void.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Ewa Caprock Ground Water Management Area.
18. The water use permit granted shall be an interim water use permit, pursuant to HRS § 174C-50. The final determination of the water use quantity shall be made within five years of the filing of the application to continue the existing use.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. This permit is subject to the special conditions attached as Exhibit A which are incorporated herein by reference.

21. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

22. The issuance of this permit was approved by the Commission on Water Resource Management at its meeting on July 13, 1994.

MICHAEL D. WILSON, Chairperson
Commission on Water Resource Management

Date of Permit Issuance: MAR 13 1996

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant’s Signature: Bernard H. Matano Date: 4-5-96

Printed Name: Bernard H. Matano

Firm or Title: Administration Director

PLEASE SIGN AND RETURN ONE COPY OF THIS PERMIT TO THE COMMISSION AND RETAIN A COPY FOR YOUR RECORD.
Kapolei Golf Course

Water Shortage Plan

In the event that the Commission on Water Resource Management declares a water shortage situation, Kapolei Golf Course will voluntarily reduce the water used for irrigation by 25% of its daily allocation.

The 25% reduction in water usage will be achieved through watering only selected areas of the golf course on a priority basis, as follows:

Priority #1 - Greens
Priority #2 - Fairway landing areas
Priority #3 - Other areas on the fairway
Priority #4 - Roughs and non-playing areas

If there are any questions, please contact our course superintendent, Steve Swanhart at 674-0884.

[Signature]

Bernard H. Matano
Administration Director
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

APPLICATION FOR WATER USE PERMIT

Instructions: Please print in ink or type and send completed application with attachments plus 15 copies to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225 (neighbor islands), 1-800-468-4644.

PERMITTEE INFORMATION

1. (a) APPLICANT
   Firm/Name: Kapolei People's, Inc.
   Contact Person: Bernard H. Matano
   Address: 91-701 Farrington Hwy
   Phone: 674-2173 Fax: 674-2634

   (b) LANDOWNER OF SOURCE
   Firm/Name: Same
   Contact Person: 
   Address: 
   Phone: Fax

SOURCE INFORMATION

2. WATER MANAGEMENT AREA: Ewa Caprock
   ISLAND: Oahu

3. (a) EXISTING WELL/DIVERSION NAME AND STATE NUMBER: Kapolei Golf Course
   (b) PROPOSED (NEW) WELL/DIVERSION NAME: Kapolei Golf Course Well A,B,& E
   (c) LOCATION: Address: Kapolei Golf Course, Kapolei, HI
   Tax Map Key 9-1-16:25
   (Attach a USGS map, scale 1”=2000’, and a property tax map showing source location referenced to established property boundaries.)

4. SOURCE TYPE (check one): Stream Basal Dike-confined Perched Caprock

5. METHOD OF TAKING WATER (check one): Artesian Well & Pump Diverted Surface Other (explain)

USE INFORMATION

6. LOCATION OF PROPOSED WATER USE: (If possible, show on same maps as source location. Otherwise, attach similar maps)
   (a) PUC-Regulated System ○ Intended Dedication to Dept./Board of Water Supply ○ Non-PUC-Regulated Private System
   (b) Proposed use of water is:
   ○ Existing ○ New ○ Both existing & new uses
   (c) Tax Map Key: 9-1-16:25
   (If location of use is over multiple TMKs, please complete Table 1 on back of application)
   (d) Address: 91-701 Farrington Hwy, Kapolei, HI 96707
   (e) Current State Land Use District(s):
      ○ Urban ○ Agriculture ○ Conservation ○ Rural
   (f) Current County Zoning District(s):

7. QUANTITY OF WATER REQUESTED:(combined) 1,000,000 gallons per day (averaged over 1 year)

8. METHOD OF MEASUREMENT: Y Flowmeter Open-pipe Well Orifice Other (explain)

9. QUALITY OF WATER REQUESTED: Fresh Brackish Salt Potable Non-Potable

10. PROPOSED USE: Municipal (including hotels, stores, etc.) Individual Domestic Irrigation
    ○ Industrial Military Other (explain)

For questions 11 & 12: If multiple TMKs are involved where water is to be used, please complete Table 1 on back of application.

11. TOTAL NUMBER OF RESIDENCES TO BE SERVED: N/A

12. TOTAL ACRES TO BE IRRIGATED AND TYPE OF CROP: 220 golf course
    (acres)

13. PROPOSED TIME OF WATER WITHDRAWAL OR DIVERSION: varies
daytime hours of operation, ex. 7 a.m. to 2 p.m.

14. APPLICANT MUST ESTABLISH THAT THE PROPOSED USE OF WATER:
    (a) Can be accommodated with the available water source.
    (b) Is a reasonable-beneficial use as defined in section 13-171-2, HAR. (see backside of this application)
    (c) Will not interfere with any existing legal use.
    (d) Is consistent with the public interest.
    (e) Is consistent with state and county general plans and land use designations.
    (f) Is consistent with county land use plans and general policies.

15. REMARKS, EXPLANATIONS: (see backside of this application)

NOTE: Signing below indicates that the signatories understand and swear that: 1) the information provided on this application is accurate and true to the best of the their knowledge; 2) Item 14 is the responsibility of the applicant prior to Commission approval; 3) If necessary, further information may be required before the application is considered complete; 4) If a water use permit is granted by the Commission, this permit is subject to prior existing permitted uses, changes in sustainable yields and instream flow standards, reserved uses as defined by the Commission, and Hawaiian Home Lands future uses; and 5) Upon permit approval, a water shortage plan must be submitted by the applicant should the Commission require one.

Applicant (print) Kapolei Peoples, Inc
Signature: Yukiyama, C.E.O.
Date: 04/09/94

Landowner (print) Kapolei Peoples, Inc
Signature: Yukiyama, C.E.O.
Date: 04/09/96
"Reasonable-beneficial use" means the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is not wasteful and is both reasonable and consistent with the state and county land use plans and the public interest.

15. REMARKS, EXPLANATIONS (cont'd):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

TABLE 1. MULTIPLE TMKs TO USE REQUESTED WATER

<table>
<thead>
<tr>
<th>PROJECT NAME</th>
<th>TMK</th>
<th>CURRENT COUNTY ZONING CODE</th>
<th>UNITS or NET ACRES</th>
<th>GPD/UNIT or GPD/acre</th>
<th>TOTAL GPD</th>
<th>% OF TOTAL TO BE USED OVER NEXT 4 YEARS</th>
</tr>
</thead>
</table>

For Official Use Only:
Date Received
Date Accepted
Hydrologic Unit No.
Application No.
Diversion Works No.
State Well No.
STAFF SUBMITTAL
for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT
April 15, 1996
Honolulu, Oahu

REPORT ON PERMIT VIOLATIONS
Applicants for New Interim Water Use Permits
Ewa Caprock Ground Water Management Area, Oahu

APPLICANT(S):

(Well Nos. 1905-08,10)
The Estate of James Campbell
1001 Kamokila Blvd.
Kapolei, HI 96707

(Well Nos. 2003-04,07)
State of Hawaii,
Housing Finance & Development Corp.
7 Waterfront Plaza, Suite 300
500 Ala Moana Blvd.
Honolulu, HI 96813

(Well Nos. 1900-02,17 to 20 & 1901-03)
Hawaii Prince Golf Club
91-1200 Fort Weaver Rd.
Ewa Beach, HI 96706

(Well Nos. 2001-03,04,05,09,10,11)
Gentry Development Co.
P.O. Box 295
Honolulu, HI 96809

(Well No. 2001-07)
The Arbors Association
91-920 La’aulu St., #1G
Ewa Beach, HI 96706

LANDOWNER(S):

Same

Same

Same

Same
Table 1. Summary of Permit Violations

<table>
<thead>
<tr>
<th>APPLICANT/WELL NO.</th>
<th>NO PERMIT APPLICATION</th>
<th>WELL</th>
<th>PUMP</th>
<th>WATER USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WCR</td>
<td>ELEV</td>
<td>AS-BUILT</td>
<td>PUMP TEST</td>
</tr>
<tr>
<td>Hawaii Prince</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1901-03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900-02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900-17</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1900-18</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1900-19</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>1900-20</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Campbell Estate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1905-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1905-10</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gentry Development</td>
<td></td>
<td></td>
<td></td>
<td>WELL/PUMP**</td>
</tr>
<tr>
<td>2001-03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001-05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001-07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001-08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001-09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002-12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State HFDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003-05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Not a clear condition of the permit
** After-the-fact application for a pump installation permit received 3/13/96.

WCR: Well Completion Report
ELEV: Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
AS-BUILT: As-built sectional drawing of the well
PUMP TEST: Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other water quality data.
PCR: (Permanent) Pump Installation Completion Report
AS-BUILT: As-built sectional drawing of the permanent pump installation
WUR: Water Use Report
OVER PUMPAGE: 12-month moving average withdrawals in excess of allocation
An issue is whether the overpumpage should be viewed as an indication of underestimated water needs or whether enforcement action is more appropriate. The Commission has been approving interim permits for new uses pending verification of the actual quantity of water needed. Section 174C-50(g) provides "[i]n the final determination, the Commission may increase or reduce the amount initially granted the permittee".

With regard to pumpage at the Hawaii Prince wells, the extent to which the withdrawals have exceeded the allocation is not certain. Hawaii Prince has been estimating their water use on the basis of pumping times and pump capacities. The pump in EP 22 (Well No. 1900-02), Hawaii Prince’s major pumping source, is a very old OSCo pump that is most likely running at less than 100% efficiency. Therefore, reported estimated pumpage is probably greater than actual pumpage. The installation of flowmeters in each of the Hawaii Prince wells was completed on February 29, 1996. A review of actual water use in relation to the allocation should be done in light of metered pumpage data.

SUMMARY/CONCLUSION:

Letters have been sent to each of the entities listed in Table 1, notifying them of their lack of compliance with permit conditions and requesting the submittal of other items and documents that are needed by the Commission but were not clear conditions of the permit. The letters establish a May 15, 1996 deadline for compliance.

The requests for continued uses will be resubmitted for Commission action once all violations have been resolved and following the public hearing to modify the Water Resources and Protection Plan to include the Ewa Caprock as a hydrologic unit and to establish a sustainable yield for the caprock aquifer system. We are planning to hold the public hearing in July 1996.

Respectfully submitted,

RAE M. LOUI
Deputy Director

Exhibit(s):  1 (Monthly Water Use Report Form)
               2 (Graph of Monthly Water Use for Well No. 2001-05)
               3 (Graph of Monthly Water Use for Well No. 2001-08)
               4 (Graph of Monthly Water Use for Well Nos. 1900-02, 17 to 20 & 1901-03)

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson
Ewa By Gentry Community Association
Soda Creek III (Well No. 2001-05)

EXHIBIT 2

monthly values — WUP  × Cl (mg/l)  ○ 12-MAV

date (latest data 02/96)
Hawaii Prince G.C. Combined Pumpage
(Well Nos. 1900-02, 17 to 20; 1901-03)
Mr. Masanabu Shimada, President
Kapolei Peoples, Inc.
91-701 Farrington Highway
Kapolei, HI 96707

Dear Mr. Shimada:

Water Use Permit for Well Nos. 2003-01,02,05
Ewa Caprock Ground Water Management Area, Oahu

We received a request to transfer the water use permit for Well Nos. 2003-01,02,05 from the State of Hawaii, Housing Finance and Development Corp. (HFDC) to Kapolei Peoples, Inc. (KPI), effective November 7, 1995. Transmitted herewith are two (2) copies of your water use permit for the subject wells for use of 1.0 million gallons per day (mgd) of water on a 12-month moving average basis that was approved by the Commission on Water Resource Management (Commission) on July 13, 1994. On July 5, 1995, the Commission approved an extension of the duration of the water use permit pending decision-making on HFDC's request for a new interim permit.

Please be sure to read the conditions of your approved permit. If you accept these terms, please sign and return one copy of this permit to the Commission and retain a copy for your record.

We draw your attention to two key conditions of your permit that require your response. First, you are required to keep a record of your monthly total pumpage, water level, salinity, and water temperature. This information must be submitted to the Commission on a regular monthly basis using the enclosed water use report form. You should make copies of the enclosed report form as needed.

Second, you are required to submit a water shortage plan to the Commission within thirty (30) days of the issuance date of this permit. Your water shortage plan simply identifies what you are willing to do should the Commission declare a water shortage situation in the Ewa Caprock Ground Water Management Area and can be as short as a one page letter. In a water shortage situation, the Commission may require temporary reductions in pumpage from all sources. The Commission is required, by law, to formulate a plan to implement such area-wide reductions, which should accommodate, include, and be consistent with your plans. Therefore, your help, by submitting your water shortage plan, is greatly needed in formulating the Commission's overall Water Shortage Plan.

We understand that HFDC has informed you of the annual permit renewal requirement. HFDC submitted a request for a new interim water use permit for Well Nos. 2003-01,02,04,05,07 on May 23, 1995. However, because the Water Code does not have any provisions for transfer of a water use permit application, you will need to submit a new application to continue the use of the wells for irrigation of your golf course. We have enclosed an application form for your convenience. Be advised that you may continue to use the wells for irrigation supply provided that we receive a completed application within the next ninety (90) days.

If you have any questions, please contact Rae M. Loui, Deputy Director, at 587-0214.

Aloha,

MICHAEL D. WILSON
Chairperson

Attachments

c: Mr. Steve Thomas, Department of Housing Finance and Development Corp.
GROUND WATER USE PERMIT
WUP NO. 431

PERMITTEE

Applicant/Water User
Address: KAPOLEI PEOPLES, INC.
91-701 FARRINGTON HIGHWAY
KAPOLEI, HI 96707

Landowner of Source
Address: KAPOLEI PEOPLES, INC.
91-701 FARRINGTON HIGHWAY
KAPOLEI, HI 96707

PERMITTED SOURCE INFORMATION

<table>
<thead>
<tr>
<th>Island</th>
<th>OAHU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Management Area</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>Aquifer Sector</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>Aquifer System</td>
<td>EWA CAPROCK</td>
</tr>
<tr>
<td>System Sustainable Yield</td>
<td>N/A mgd</td>
</tr>
<tr>
<td>Well Name</td>
<td>KAPOLEI IRRIGATION A,B,E</td>
</tr>
<tr>
<td>State Well Nos.</td>
<td>2003-01,02,05</td>
</tr>
</tbody>
</table>

PERMITTED USE INFORMATION

Reasonable beneficial use
IRRIGATION

Withdrawal (12 month moving ave.)
1.000 mgd (Kapolei Golf Course irrigation supply)

Location of water use

<table>
<thead>
<tr>
<th>TMK #</th>
<th>9-1-16:25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>KAPOLEI GOLF COURSE</td>
</tr>
<tr>
<td>State land use classification</td>
<td>AGRICULTURE</td>
</tr>
<tr>
<td>County zoning classification</td>
<td>VARIOUS</td>
</tr>
</tbody>
</table>

Pursuant to Hawaii's State Constitution, Article XI, Section 7, Hawaii Revised Statutes, Chapter 174C; Hawaii Administrative Rules, Chapters 13-167 through 13-171; and Hawaii decisional law and custom, the applicant is hereby authorized to use ground water from the sources and in the amount and from and upon the locations described above; subject however, to the requirements of law including but not limited to the following conditions:
1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and 174C-101(a), HRS.

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its July 13, 1994 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
d. require efficiency of water uses;
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on a monthly basis.

12. This permit shall be subject to the Commission's periodic review of the Ewa Caprock Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the Ewa Caprock Aquifer System, or relevant modified aquifer(s), is reduced.

13. This permit may not be transferred or the use rights granted by this permit sold or in any other way alienated. Pursuant to HRS § 174C-59 and the requirements of chapter 174C, the Commission on Water Resource Management has the authority to allow the transfer of the permit and the use rights granted by this permit in a manner consistent with HRS § 174C-59. Any such transfer shall only occur with the Commission's prior express written approval. Any sale, assignment, lease, alienation, or other transfer of any interest in this permit shall be void.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the Ewa Caprock Ground Water Management Area.
18. The water use permit granted shall be an interim water use permit, pursuant to HRS § 174C-50. The final determination of the water use quantity shall be made within five years of the filing of the application to continue the existing use.

19. The water use permit shall be subject to the Commission’s establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. This permit is subject to the special conditions attached as Exhibit A which are incorporated herein by reference.

21. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

22. The issuance of this permit was approved by the Commission on Water Resource Management at its meeting on July 13, 1994.

______________________________
MICHAEL D. WILSON, Chairperson
Commission on Water Resource Management

Date of Permit Issuance: MAR 13 1996

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant’s Signature: ____________________________ Date: ____________

Printed Name: __________________________________________

Firm or Title: ____________________________________________

PLEASE SIGN AND RETURN ONE COPY OF THIS PERMIT TO THE COMMISSION AND RETAIN A COPY FOR YOUR RECORD.
GROUND WATER USE PERMIT
KAPOLEI PEOPLES, INC., Well Nos. 2003-01,02,05, WUP No. 431

EXHIBIT A

Water Use Permit
Ground Water

SPECIAL CONDITIONS

A. This water use permit supersedes WUP No. 174.
MINUTES
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: March 13, 1996
TIME: 9:00 a.m.
PLACE: Honolulu Int'l Airport
       Interisland Terminal Conference Center, 7th Floor

Chairperson Michael Wilson called the meeting of the Commission on Water Resource Management to order at 9:15 a.m.

The following were in attendance:

MEMBERS: Mr. Michael Wilson
          Mr. Richard Cox
          Dr. Lawrence Miike
          Mr. Robert Girald
          Mr. David Nobriga
          Mr. Herbert Richards, Jr.

STAFF: Ms. Rae Loui
       Mr. Roy Hardy
       Mr. Glenn Bauer
       Mr. Charley Ice
       Ms. Lyann Mizuno
       Mr. Eric Hirano
       Ms. Lenore Nakama
       Ms. Janis Uwaine

COUNSEL: Mr. William Tam

OTHERS:

Alan Suwa
James Kumagai
Piikea Miller
Bob Nakata
Ryan Imata

Yvonne Izu
Kathleen Hoff
Lola N. Mench
Stephen Thomas
Raymond Kanna

Garrick Iwamuro
E.A. Ho'oipo Martin
Yukie Y. Ohashi
Tom Nance

All written testimonies submitted at the meeting are filed in the Commission office and are available for review by interested parties. The items were not taken in the order posted on the agenda.

1. MINUTES OF THE FEBRUARY 21, 1996 MEETING

MOTION: (NOBRIGA/RICHARDS)
To approve the minutes.

UNANIMOUSLY APPROVED.

2. OLD BUSINESS/ANNOUNCEMENTS

Deputy Director Rae Loui announced that there would be a hearing on Friday, March 15, 1996 on Maui regarding the following:
ORDER TO SHOW CAUSE TO THE COUNTY OF MAUI WHY:

1. A WATER EMERGENCY SHOULD NOT BE DECLARED FOR THE IAO AQUIFER SYSTEM

2. THE ACTIONS NECESSARY TO MEET THE EMERGENCY SHOULD NOT BE ORDERED

3. REQUEST TO SCHEDULE A PUBLIC HEARING TO MODIFY WATER RESOURCES AND PROTECTION PLAN, SUSTAINABLE YIELD ESTIMATE FOR EWA CAPROCK AQUIFER SYSTEM

GENTRY DEVELOPMENT COMPANY, APPLICATION FOR A WATER USE PERMIT, APPLICATION FOR WELL PERMITS, GENTRY AREA 26 WELL (WELL NO. 2001-11).
WELL CONSTRUCTION: 19-INCH DIAMETER, 58-FOOT DEEP WELL. PUMP INSTALLATION: 500 GPM PUMP. WATER USE: FUTURE NONPOTABLE URBAN USE FOR 0.172 MGD

APPLICATIONS FOR WATER USE PERMITS, REQUESTS TO CONTINUE NONPOTABLE URBAN USES, EWA GROUND WATER MANAGEMENT AREA, OAHU

(WELL NOS. 1905-08.10), THE ESTATE OF JAMES CAMPBELL

(WELL NOS. 2003-01.02.04.05.07), STATE OF HAWAII HOUSING FINANCE & DEVELOPMENT CORP.

(WELL NOS. 1900-02.17 TO 20 & 1901-03), HAWAII PRINCE GOLF CLUB

(WELL NOS. 2001-03.04.05.09.10.11 & 2002-15), GENTRY DEVELOPMENT CO.

(WELL NO. 2001-07), THE ARBORS ASSOCIATION

(WELL NO. 2001-08), PALM VILLAS II ASSOCIATION

(WELL NO. 2002-12), PALM COURT ASSOCIATION

(WELL NO. 1902-01), HASEKO (EWA), INC.

PRESENTATION OF SUBMITTAL: Deputy Director Rae Loui and Glenn Bauer

STAFF'S RECOMMENDATION:

Staff requested to amend the recommendation as follows:

1. The Commission directs staff to submit the preliminary draft report for a peer review and to finalize the report in light of any review comments that may be received. The final report should include recommendations on further delineation of aquifer systems within the Ewa Caprock Aquifer and the possible adoption of a sustainable yield estimate(s).
2. The Commission authorizes staff to schedule a public hearing to modify the Water Resources and Protection Plan in accordance with HRS 174C-31(m). This hearing must be held on Oahu and must be noticed at least 90 days in advance. Permittees shall be mailed a copy of the notice.

3. The Commission directs staff to notify existing water use permittees and applicants for new water uses in the Ewa Caprock Aquifer System that the applications for continued or future use will be deferred for a period of approximately six (6) months until a decision is made on the possible establishment of a sustainable yield estimate in the Water Resources Protection Plan.

4. Direct staff to resolve violations prior to Commission action on requests for continued uses.

5. The Commission adopts the following policy statement on water reclamation: It is the policy of the Commission on Water Resource Management (Commission) to promote the viable and appropriate reuse of reclaimed water in so far as it does not compromise beneficial uses of existing water resources.

I. Ewa Caprock

Recognizing that reclaimed water is a valuable resource in the Ewa Plain and reuse will be championed by the Commission. It is the policy of the Commission that the water resources of the Ewa Caprock Aquifer will be allocated only for nonpotable uses.

TESTIMONIES:

James Kumagai, consultant for the Commission on Water Resource Management was available to answer questions.

Deputy Director Rae Loui stated that a report on the progress of the recharge trench would be submitted to the Commission at the next Oahu Commission meeting.

MOTION: (COX/GIRALD)

To approve staff's recommendation as amended.

UNANIMOUSLY APPROVED AS AMENDED.

Chairperson Wilson directed Deputy Director Rae Loui to send a letter informing the Ewa caprock users that there may not be enough water to go around at a certain time and to stress to the users that it is important for them to work with the City and County and also to indicate to the City and County that we are anxious to help them in working with the users. In the event that the users and the City and County cannot work together to come up with a solution, then the Commission will have to step in and institute a solution.

The Commission requested staff to submit a report on the permit violations in the Ewa Caprock.
The Commission also requested a report on current allocations and potential pumpages in the caprock.

4. PACIFIC ATLAS (HAWAII) INC., DEFERRAL–APPLICATION FOR A WATER USE PERMIT, BAY VIEW NOS. 1 TO 5 WELLS (WELL NOS. 2447-02 TO 06), TMK 4-5-30:37, FUTURE IRRIGATION USE FOR 0.208 MGD. KOOLAUPKO GROUND WATER MANAGEMENT AREA, OAHU

PRESENTATION OF SUBMITTAL: Ms. Lyann Mizuno

Staff amended the second paragraph under the Background section of the submittal as follows:

On October 5, 1995, pump installation permit applications were received from Pacific Atlas (Hawaii), Inc. for Bay View Nos. 1 to 5 (Well Nos. 2447-02 to 06).

STAFF'S RECOMMENDATION:

Staff recommended that the Commission:

1. Defer action on the water use permit application for Bay View Nos. 1 to 5 (Well Nos. 2447-02 to 06) until the next regular meeting on Oahu.

2. Direct staff to report to the Commission on the applicant's compliance with the well construction permit conditions, along with recommendations on the imposition of fines, if any. This report shall be submitted prior to recommendations for Commission action on the applications for the pump installation permits, the after-the-fact stream channel alteration permit, and the water use permit.

TESTIMONY BY APPLICANT:

Mr. Tom Nance, project engineer, stated that they pumped each of the wells for just two days. There is an effect on the other wells that is noticeable and in that time period they did not see any affect on the stream. He also stated that there may be one over a longer period of time, although he does not think it will happen but he is willing to run more tests. He further stated that these are very small capacity wells with a cost of around $15,000 each and a seven day pump test would double their cost. He requested that they put the permanent pumps in the wells and pump them simultaneously, which is how they would be operated, and run the aquifer test in that manner. They would pump three of the five wells over a seven day period, producing a little more than the water use permit that they are asking for and they would monitor all the wells, including the two that weren't pumped. They would also monitor several locations on Kawa Stream and would get all the information that they would need. He further testified that the grassing begins next week. The only source of water that they have is a temporary connection to the Board of Water Supply and they received notice that they need to get off. He asked that the Commission consider allowing the permanent pumps to be installed for testing and grassing. Therefore, he requested that the Commission allow them to go ahead and
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P. O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

March 13, 1996
Honolulu, Oahu

REQUEST TO SCHEDULE A PUBLIC HEARING
TO MODIFY WATER RESOURCES AND PROTECTION PLAN
Sustainable Yield Estimate for
Ewa Caprock Aquifer System

Gentry Development Company
APPLICATION FOR A WATER USE PERMIT
APPLICATION FOR WELL PERMITS
Gentry Area 26 Well (Well No. 2001-11)
Well Construction: 19-inch Diameter, 58-foot Deep Well
Pump Installation: 500 gpm Pump
Water Use: Future Nonpotable Urban Use for 0.172 mgd

APPLICATIONS FOR WATER USE PERMITS
Requests to Continue Nonpotable Urban Uses
Ewa Ground Water Management Area, Oahu

APPLICANT(S):
(Well Nos. 1905-08,10)
The Estate of James Campbell
1001 Kamokila Blvd.
Kapolei, HI 96707

(Well Nos. 2003-01,02,04,05,07)
State of Hawaii,
Housing Finance & Development Corp.
7 Waterfront Plaza, Suite 300
500 Ala Moana Blvd.
Honolulu, HI 96813

LANDOWNER(S):
Same

Same

Item 3
(Well Nos. 1900-02,17 to 20 & 1901-03)
Hawaii Prince Golf Club
91-1200 Fort Weaver Rd.
Ewa Beach, HI 96706

(Well Nos. 2001-03,04,05,09,10,11 & 2002-15)
Gentry Development Co.
P.O. Box 295
Honolulu, HI 96809

(Well No. 2001-07)
The Arbors Association
91-920 La'aulu St., #1G
Ewa Beach, HI 96706

(Well No. 2001-08)
Palm Villas II Association
91-1119 Mikohu St., #D
Ewa Beach, HI 96706

(Well No. 2002-12)
Palm Court Association
91-1019 Puaniu St., #25R
Ewa Beach, HI 96706

(Well No. 1902-01)
Haseko (Ewa), Inc.
820 Mililani St., Suite 810
Honolulu, HI 96813

BACKGROUND:

In 1990, the Commission on Water Resource Management (Commission) adopted the Water Resources and Protection Plan (Plan). The Plan included, as required by HRS 174C-31(c), "hydrologic units and their characteristics, including the quantity and quality of available resource...". The Plan did not include the brackish Ewa Caprock Aquifer as a hydrologic unit (Exhibit 1).

In the 1988-1992 timeframe, Ewa Caprock water use permits totalling 19.524 million gallons per day (mgd) were awarded mainly to existing irrigation uses (eg. Oahu Sugar Co.). Other existing water use permits totaled 39.608 mgd for various salt water and highly brackish to saline water uses (chlorides > 1,000 MG/L).
On March 3, 1993, the Commission officially adopted the boundary of the entire brackish Ewa Caprock Aquifer and designated the aquifer as a water management area (Exhibit 1). Due to uncertainties regarding the aquifer's sustainable yield, the Commission did not adopt a sustainable yield estimate for the aquifer.

On March 17, 1993, the Commission deferred action on pending applications for water use permits in the Ewa Caprock Aquifer to provide additional time for the public to review the proposed permits and issues related to water use permit processing.

On April 28, 1993, to satisfy the needs of new developments in the Kapolei and Puuloa areas of the caprock, applicants were awarded interim water use permits with a specified duration of one year. Special conditions were attached to each interim permit; these are shown in Exhibit 2.

On May 18, 1994, the Commission deferred action on requests for new interim permits to continue nonpotable urban uses to provide applicants with an additional thirty (30) days to comply with the data reporting requirement of the expired interim permits. In order for the Commission to track the behavior and response of aquifers in designated ground water management areas, all water use permits are conditioned on regular monthly reporting of pumpage, chlorides, water levels, and water temperatures. Water use reporting is required from all ground and surface water users statewide in accordance with §13-168-7 HAR.

On July 13, 1994, the Commission awarded new interim permits, valid for one year, for the above sources (excluding Well Nos. 2001-10 & 11). The special conditions of the new interim permits are shown in Exhibit 3.

On January 25, 1995, an interim water use permit was issued to Gentry Development Corp. for a new source to supply the Ewa by Gentry developments (Well No. 2001-10). The duration of this permit was for less than one year to be consistent with all other interim permits set to expire on July 13, 1995.

At the July 5, 1995 Commission meeting at Honokaa, Hawaii, the Commission voted to extend the duration of the interim permits that were due to expire on July 13, 1995, to allow decision-making on these requests to be made on Oahu. Requests for new water use permits to continue ground water uses after the July 12, 1995 expiration date have been received from each of the above applicants. Hawaii Prince has requested that their interim permitted use be increased by 0.371 mgd to bring their total interim allocation to 0.5 mgd.

On August 25, 1995, Gentry Development Company submitted applications for new well construction/pump installation and water use permits for Gentry Area 26 Well (Well No. 2001-11) for future nonpotable urban use for 171,600 gpd. At the January 24, 1996 Commission meeting in Wailuku, Maui, action on the water use permit application was deferred to the Commission's next regular meeting on Oahu.
On February 21, 1996, the Commission approved the staff's recommendation to again defer action on the applications for Well No. 2001-11 pending the staff's review and analysis of ground water conditions in the Ewa Caprock Aquifer.

ANALYTICAL WORK:

The Ewa Caprock Aquifer is currently undergoing a period of change in response to the large-scale modifications in land and water use as sugarcane is replaced by urban developments. There has been much effort involved in modelling the behavior of the caprock aquifer. In an effort to better understand the existing and historical data upon which assessments of Ewa Caprock Aquifer dynamics are based, the available historical data from basal and caprock wells that were used for sugarcane irrigation supply were compiled and analyzed by staff. In addition, the staff has established a monitoring network and has been collecting ground water data at Oahu Sugar Company (OSCo) and private wells since April 1994. The primary purpose of sampling is to provide baseline data that can measure changes to the caprock aquifer over time.

A preliminary draft report of this analysis is submitted herewith as Exhibit 4. The major preliminary conclusions drawn in the draft report include recommendations for:

1. A sustainable yield of less than 10 mgd in the Puuloa area and less than 5 mgd in the Kapolei area. (Exhibits 5 and 6 show the current allocations and pending requests for ground water in the Puuloa and Kapolei areas.)

2. Reduction in permitted uses, unless there is a drastic change to the inflow of ground water to the caprock.

3. Adoption of a "go slow" approach to new wells in the Puuloa region.

4. Further division of the caprock into smaller management areas.

WATER USE PERMITS:

One condition that new water use permit applications must meet is that the use: "can be accommodated with the available water source..." §174C-49(a) HRS. An estimate of sustainable yield is critical to this determination.

In light of the staff's recent analysis, which recommends a sustainable yield that is considerably less than current permitted uses, the Commission should defer action on new use applications pending 1) a final draft report, revised subsequent to peer review, and 2) incorporation of the Ewa Caprock Aquifer in the Water Resources and Protection Plan (in the event that the final report recommends adoption of a sustainable yield for the caprock aquifer). Pursuant to §174C-31(m), a public hearing must be held to modify the Water Resources and Protection Plan. Staff hopes to hold the public hearing by July 1996.
Possible violations are another issue with the interim water use permits in the caprock. There are possibly twenty (20) violations which range from unpermitted well construction and pump installations to noncompliance with approved permit conditions concerning all permittees to differing degrees. The staff is in the process of identifying potential violations for each well listed above and will attempt to resolve these issues with the applicants.

With regard to well construction permit conditions for wells that have been transferred to another permittee, it is unclear who should be responsible for compliance. For example, pumps have been installed in a number of the Gentry wells without an application or approval. Some of these wells have since been transferred to individual homeowner's associations. Should the homeowner's association be responsible for seeking an after-the-fact permit, or should the entity who was in control of the well at the time of the violation be responsible?

**NON-POTABLE WATER MASTER PLAN:**

The Planning Department, City and County of Honolulu, is in the process of revising the Development Plans for Ewa and Central Oahu. The draft plan shows a projected population increase from 130,526 in 1990 to 185,091 in 2020. This corresponds to a 42% increase in population for the area. A 60% increase in housing units over the same time period is projected: from 36,262 units in 1990 to 58,118 units in 2020 (for Ewa Employment and Dispersed Residential; Exhibit 7). This will result in an unquantified (as yet) but certain increase in nonpotable water needs.

To address the expected increase in nonpotable water demand for urban uses, the Commission and the City Department of Wastewater Management hired a consultant to develop a nonpotable water master plan for Central Oahu, including the Ewa plain. The plan recommends construction of a demonstration recharge trench in the Ewa Caprock using reclaimed water. There are many issues regarding the use of reclaimed water. An entity is needed to address and resolve these issues. Staff has been discussing the feasibility and potential application of the recharge trench proposed by our consultant as a means by which to ensure the future viability of the nonpotable Ewa Caprock Aquifer with key personnel from the Department of Health, City Department of Wastewater Management, City Planning Department, and the Board of Water Supply. The consensus is that a water reclamation program should move forward, and the recharge trench is a good first step.

It is recommended that the Commission adopt a reclaimed water policy statement, which specifically addresses only the Ewa Caprock, but may include other areas in the future. The policy statement should recognize reclaimed water as a valuable water resource. A policy statement is also needed to address the concerns of the Department of Health regarding contamination of potable water resources. Specific language is suggested in the recommendation section below.
RECOMMENDATIONS:

The staff recommends the following:

1. The Commission directs staff to submit the preliminary draft report for a peer review and to finalize the report in light of any review comments that may be received. The final report should include recommendations on further delineation of aquifer systems within the Ewa Caprock Aquifer and the possible adoption of a sustainable yield estimate(s).

2. The Commission authorizes staff to schedule a public hearing to modify the Water Resources and Protection Plan in accordance with HRS 174C-31(m). This hearing must be held on Oahu and must be noticed at least 90 days in advance. Permittees shall be mailed a copy of the notice.

3. The Commission directs staff to notify existing water use permittees and applicants for new water uses in the Ewa Caprock Aquifer System that the applications for continued or future use will be deferred for a period of approximately six (6) months until a decision is made on the possible establishment of a sustainable yield estimate in the Water Resources Protection Plan.

4. Direct staff to resolve violations prior to Commission action on requests for continued uses.
5. The Commission adopts the following policy statement on water reclamation:

It is the policy of the Commission on Water Resource Management (Commission) to promote the viable and appropriate reuse of reclaimed water in so far as it does not compromise beneficial uses of existing water resources.

1. Ewa Caprock

Recognizing that reclaimed water is a valuable resource in the Ewa Plain, direct or indirect reuse will be championed by the Commission. It is the policy of the Commission that the water resources of the Ewa Caprock Aquifer will be allocated only for nonpotable uses.

Respectfully submitted,

W. Pay Hardy

For RAE M. LOUI
Deputy Director

Attachments

APPROVED FOR SUBMITTAL:

MICHAEL D. WILSON, Chairperson
ISLAND OF OAHU
TOTAL = 465 MGD
HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code

NORTH
91 MGD / 304

KOAUAULOA
35 MGD / 30801

KAWAIALOA
30 MGD / 30403

KWAIALA
23 MGD / 30601

HAHUWA
19 MGD / 30501

WINDWARD
99 MGD / 306

WAIPAULOA
49 MGD / 30402

WAIALA
119 MGD / 30203

WAIMALA
48 MGD / 30201

WAIPAHU-WAIAWA
52 MGD / 30204

WAIALA
21 MGD / 30104

PEARL HARBOR
184 MGD / 302

HONOLULU
53 MGD / 301

KOOLAPOKO
13 MGD / 30600

KOOLAPPOKO
12 MGD / 30600

(HYDROLOGIC UNITS)
Special Conditions

Ewa Caprock Temporary Water Use Permits

1. The temporary permits shall be valid for one (1) year from its approval date (April 28, 1994).

2. Quantities of allocations for each applicant are those calculated in Exhibit 3 for 1993 under the additional required allocation column. The pending applications which have no new or negative additional requirements are denied.

3. Each applicant's allocation shall be for the cumulative withdrawals from the corresponding well sources specified by each applicant in Exhibit 2, except for Gentry Pacific's well sources. Staff will be working with Gentry to associate water use permits for each well with each project individually within their total required allocation as shown in Exhibit 3.

4. Each applicant's allocation shall be used only for the corresponding uses specified by each applicant in Exhibit 3.

5. Within one (1) year, the applicants shall jointly submit a plan for the conversion to an alternative non-potable source other than the Ewa Caprock Aquifer. This plan shall include the applicant's intentions of funding the actual development of the alternative non-potable source.

6. Within sixty (60) days after approval, each applicant shall submit a water conservation plan or program according to the conditions in Attachment C.

7. The applicants shall continue to actively participate in the continuing development of the Ewa Caprock Regional Plan and its two main components which shall be coordinated by the Commission on Water Resource Management.

8. The applicants must actively participate in generating more information to show the utility of the caprock source in the absence of OSCo. recharge irrigation over the caprock and the complete absence of OSCo. irrigation in the Pearl Harbor area.

9. Temporary permits shall not be renewed if any of the above is not provided or followed.

EXHIBIT 2
CONSERVATION CONDITIONS
EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:
   a. Reduce the demand for non-potable water by:
      - Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      - Mulching planting areas with organic materials, etc., to minimize evaporation;
      - Efficiently maintaining the plants;
      - Improving land management practices to conserve water.
   b. Improve efficiency in use and reduce losses and waste of non-potable water by:
      - Using efficiently designed landscaping and irrigation systems;
      - Monitoring irrigation requirements and controlling usage accordingly;
      - Managing irrigation scheduling to minimize water demand;
      - Eliminating opportunities for water wastage;
      - Maintaining and improving irrigation systems as necessary.
   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

EXHIBIT 2
5. Require applicants cooperate with the Commission's initiative in the development of the Nonpotable Water Master Plan for Central and Leeward Oahu.

6. Require that all temporary permits be subject to the standard conditions of a water use permit listed in Attachment B and the Conservation conditions listed in Attachment C.

CONSERVATION CONDITIONS

EWA CAPROCK WATER USE PERMITS

1. The permittee shall adopt self-administered water conservation programs and plans with collective monitoring to protect and maintain the caprock resource. Water conservation programs and plans shall be submitted to the Commission within 60 days from the date of Commission approval.

2. Water conservation programs and plans shall address (as applicable) but not be limited to the following:

   a. Reduce the demand for non-potable water by:
      • Identifying and utilizing water efficient plants and drought tolerant plants for landscaping and quantifying their demands (Xeriscape);
      • Mulching planting areas with organic materials, etc., to minimize evaporation;
      • Efficiently maintaining the plants;
      • Improving land management practices to conserve water.

   b. Improve efficiency in use and reduce losses and waste of non-potable water by:
      • Using efficiently designed landscaping and irrigation systems;
      • Monitoring irrigation requirements and controlling usage accordingly;
      • Managing irrigation scheduling to minimize water demand;
      • Eliminating opportunities for water wastage;
      • Maintaining and improving irrigation systems as necessary.

   c. Industrial users should employ the recirculation of cooling water and the reuse of cooling and process water.

3. The permittee shall pursue and participate in alternative non-potable water source development and use such as wastewater reuse (direct reuse and/or recharge injection).

4. In the event that water conservation programs and plans are not complied with or that a waste of water is occurring, the Commission shall proceed with the necessary actions to revoke this permit.

EXHIBIT 3
Description of the Caprock Aquifer

The Ewa Plain caprock is a thick wedge of interbedded marine and terrestrial sediments that were deposited on the flanks of the Koolau and Waianae volcanoes during sea level changes and isostatic subsidence of Oahu during the Pleistocene ice ages. At the coast this sequence is greater than 1,000 feet thick (Stearns and Chamberlain, 1967). Inland, the sediments thin and pinch out against weathered lava flows.

The primary caprock aquifer is the highly permeable upper coralline limestone layer (referred to as "Limestone Aquifer 1" in Report R-79). The limestone layer continues offshore, but inland contacts alluvial sediments (Mink, 1989). Ground water within the aquifer is unconfined with a water level only several feet above sea level. The general ground water gradient is toward the coast.

Below this limestone layer, and found throughout the Ewa Plain, is a ubiquitous brown clay layer that acts as a bottom (aquiclude) to the coral aquifer. The clay layer is deeper at the coast than inland. Therefore, near the coast the brackish ground water floats on saline water as a Ghyben-Herzberg lens, but inland the brown clay truncates the salt water. Below the clay layer are other coral, sand, and mud deposits that contain very saline water. All plantation caprock wells and all new wells exploit the upper limestone aquifer. Alluvial ground water may be available in the Honouliuli area. However, developing alluvial water is not as easy as from coral due to the generally lower permeability of alluvium.

Prior to sugar cultivation, the caprock received a steady flux of ground water from natural leakage from the Koolau and Waianae basal aquifers, intermittent recharge from rainfall, and from occasional large storms which allowed dry streams, such as Kaloi Gulch, to flow to the Ewa Plain. The amount of leakage into the mauka caprock boundary is dependent upon the height of the water table in the basalt. When the first artesian well was drilled near Honouliuli in 1879 ground water rose to an estimated height of 32 feet msl (Cox, 1981, p. 55). West of Honouliuli the original ground water level in the Waianae aquifer would have been about 10 feet less (Mink, 1980, p.37). The demise of sugar recharge into the caprock aquifer is similar to pre sugar days, except that the amount of natural leakage is much less due to the reduction of water levels in the basal aquifers.

Because of Ewa Plain’s land use history, CWRM Report R-79 (Mink, 1989) divided the caprock into five broad areas: 1) Honouliuli; 2) Puuloa; 3) Kapolei; 4) BPNAS; and 5) Malakole. Honouliuli and Kapolei areas essentially overlie alluvium, while Puuloa, BPNAS, and Malakole areas are composed essentially of
coral limestone. However, for convenience of management, Honouliuli-Puuloa is considered to be a single region as are Kapolei-BPNAS and Malakole. Though in essence, the upper aquifers are hydraulically connected, and there may be only a weak connection between this aquifer and the lower ones.

History of Ewa Caprock Aquifer Development

The Ewa Plain has been irrigated with ground water since 1890. By 1930, Ewa Plantation had drilled 70 artesian basal wells (clustered as pumping batteries) through the Ewa Plain caprock sediments to irrigate cane lands makai of Farrington Highway (Stearns and Vaksvik, 1935). From 1930-35, five shallow wells (EP Pumps 20-24) were dug into the Ewa caprock to produce more irrigation water. All of them penetrated a shallow coral aquifer and were capable of producing large quantities of irrigation water. Later, other caprock sources were brought on line (EP Pumps 26,27,28,29; EP Pump 30; and EP Pump 31). The accompanying map shows the location of Ewa Plantation basal and caprock pumps.

When the shallow caprock wells were constructed, they pumped brackish ground water that originated primarily from basal return irrigation water. Consequently, the caprock water mixed with the artesian basal water already irrigating the region.

Figures 1-3 illustrate the chloride and pumpage history of the Ewa Plantation's basal sources. Pumpage includes total draft from the Koolau Aquifer (excluding EP Pump 10-12), and well battery pumpage. For convenience, water quality from the various pump batteries are shown separately. Figure 1 presents the most saline of the sources. EP Pumps 1 and 9 probably applied all of its water in the vicinity of Ewa Mill and near the first caprock sources. These batteries had deep wells that were drilled into the upper transition zone. To improve quality some were plugged back with cement, but all were abandoned and sealed by 1950. Figures 2 and 3 shows the marginal quality and potable quality sources respectively.

The freshest source, EP Pump 15,16, was recommended by Stearns (Stearns and Vaksvik, 1935, p. 460) as a way to freshen up the limestone aquifer. He noted that chloride concentrations in the basal sources had approached high levels and that pumpage from the new caprock wells would increase chloride concentrations in the coral aquifer by recirculating irrigation water. Evapotranspiration by sugar cane concentrated the salts in the return water. Construction of EP Pump 15,16 began in 1937 and it was put on-line to irrigate cane fields around 1939 or 1940.

Figure 4 shows initial (first 10 years) conditions in the caprock when the shallow wells were first constructed. Average yearly pumpage was about 11 mgd, while seasonal variations ranged from less than 5 mgd to more than 15 mgd. Water quality varied slightly with pumpage and with the seasonal variation of applied
basal water. Though Stearns mentioned (1935, p. 460) that much of the applied basal water had chlorides as high as 700± mg/l (and higher), Figure 4 shows that the caprock sources range between 700± mg/l to 1,000± mg/l.

Figure 5 presents the history of pumpage and chlorides for all caprock sources utilized by Ewa Plantation and Oahu Sugar Company (OSCo). Unfortunately there are missing monthly pumpage data between 1940 and 1963. The estimated average of 12 mgd is from CWRM Report R-79 (Mink, 1989). The graph does show a significant rise in chlorides for all caprock sources during the 1940’s. Until the 1970’s the average imported amount of Koolau basal water was 60-70 mgd. After 1981, the average amount dropped to less than 50 mgd.

CWRM Report R-88 entitled, Drought in Hawaii, indicates that the period from 1940-1954 was dry, and that "drought" was reported to be moderate to extreme. Though the data do not overlap, increased pumpage from artesian, and probably the caprock wells, contributed to the rise in chloride concentration around 1947 as seen in Figure 5. After EP Pumps 1 and 9 were abandoned and sealed, fresher basal water was used to irrigate Ewa cane lands. The result was a wholesale freshening of the caprock aquifer from the mid 1950’s to the mid 1970’s.

The rise in caprock chloride concentration beginning in the mid 1970’s was due to several factors: 1) an increase in caprock well pumpage from 20 mgd to 30 mgd; 2) continued use of marginal quality basal water on lands near Ewa Mill and Fort Weaver Road; 3) several "extreme drought" periods throughout the 1970’s reported in R-88; and 4) switching from furrow-irrigated cane to drip-irrigated cane in the mid 1970’s to early 1980’s (Hugh Morita, personal communication, 1996).

When OSCo took over from Ewa Plantation around 1970, they may have operated the irrigation system differently. Hugh Morita (personal communication, 1996) said that EP Pumps 3 and 7 supplied water to Field 57, which is mauka of EP Pump 23. From here the water split, some was piped to the EP 23 distribution system and the remainder was sent towards Ewa Mill. All of this water irrigated fields growing over the coral aquifer. EP Pumps 4 and 6 sent water west to a ditch system that runs at elevation 120± feet msl. EP Pump 5 supplied water to a ditch at elevation 160± feet msl. EP Pump 2 and Pumps 15 and 16 supplied water to cane in the Honouliuli area. All of this water irrigated fields growing on the alluvium. EP Pump 8 was for domestic use only.

Examination of Figures 2 and 3 will provide approximate 50-50 mixes of artesian water. For example during the last 15 years, Pumps 3 and 7 give a 50-50 mix of 500 mg/l chloride, while Pumps 4 and 6 show a mix of about 400 mg/l. The actual mix would be weighted to the pump which supplies the greatest proportion of water.
Report R-79 utilized a single cell mixing model to calculate ground water flows and caprock water chloride concentrations. The model calculated a steady-state inflow of return water and natural leakage for 1930 at 15 mgd. For the drip irrigation period between 1982-87 the model still assumes a 15 mgd inflow of ground water with a quality of 550 mg/l. The model calculated a steady-state mix of 1226 mg/l for water pumped from the caprock aquifer. Mink (1989) estimates that 4 mgd of the 15 mgd was the due to natural leakage, and 11 mgd was return irrigation water.

Since the late 1980's, Ewa Plain land use changes occurred rapidly as many cane fields were replaced by golf courses and housing developments. Consequently, the amount and location of applied irrigation water changed considerably. By November 1994 all irrigation to Ewa Plain cane fields had ceased and all OSCo caprock sources stopped pumping (except EP Pump 22). This action reduced the average 1994 pumpage from the caprock aquifer in the Puuloa area from 17 mgd to 3 mgd, and a portion of irrigation water ceased returning to the caprock aquifer.

Periods of Chloride Equilibrium

Examination of Figure 5 shows that only two periods of relative chloride stability exist in the record. The first is from 1930 to about 1940, and the second is from 1952 to approximately 1970. These intervals represent periods of stable pumping, acreage, and irrigation methods. The chloride quality of the mixture of the applied basal water (Figures 1-3) was relatively stable during the early 1930's, and again between 1952 to 1970. Chlorides in the caprock wells rose in the early 1940's when water quality in EP Pumps 1 and 9 worsened.

All other periods in the record that show rising (1940-1949; 1975-present) or falling (1950-1952) chloride values are during times of non-equilibrium when a major change took place such as caprock pumpage, irrigation method, acreage, or quality of applied basal water.

It is interesting to note from Figure 5 that even after sugar ceased, and total pumpage reduced to less than 5 mgd, some wells continued to exhibit rising chlorides. Any ground-water flow or solute transport model constructed should calibrate to the two equilibrium periods outlined above.

Estimated Sustainable Yield of the Ewa Plain

Report R-79 provided sustainable yield estimates for the Ewa Plain caprock aquifer. Unlike the methodology used to calculate sustainable yield for large basaltic aquifer systems (State Water Resource Protection Plan, Vol. II, 1992), the sustainable yield estimate for the caprock is based on an optimal amount of pumpage to achieve an acceptable water quality for irrigation (< 1,000 mg/l chloride). Essentially, sustainable yield for the caprock aquifer is defined as "net pumpage" or the difference between
total pumpage and the return irrigation component plus natural leakage.

During the plantation time, water quality was a function of cane acreage, caprock pumpage, irrigation method (furrow or drip), and basal water quality. Assuming that natural leakage is constant, changes in the irrigation method and acreage changed net pumpage or sustainable yield. Since the upper limestone aquifer is a result of a 100 years of irrigation, past land use changes and irrigation methods have altered the sustainable yield several times. Return basal irrigation water and natural basal leakage inflow from the Honouliuli alluvium into the limestone aquifer contributed to recharge. The table below summarizes these changes as presented in R-79 and Figure 5 for the Puuloa area.

<table>
<thead>
<tr>
<th>Period</th>
<th>Average Caprock Pumpage (mgd)</th>
<th>Caprock Chloride (mg/l)</th>
<th>Irr. Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930-1940</td>
<td>11</td>
<td>700-1050</td>
<td>Furrow</td>
<td>Equilibrium condition 2500 acres of cane</td>
</tr>
<tr>
<td>1970-1980</td>
<td>22</td>
<td>600-800</td>
<td>Furrow Drip</td>
<td>Non-equilibrium conditions EP Pumps 20,21,22 increasing chlorides</td>
</tr>
<tr>
<td>1980-1989</td>
<td>21</td>
<td>900-1000</td>
<td>Drip</td>
<td>Non-equilibrium conditions</td>
</tr>
<tr>
<td>1989-1994</td>
<td>14</td>
<td>1000-1400</td>
<td>Drip</td>
<td>Non-equilibrium conditions Reduced acreage</td>
</tr>
</tbody>
</table>

Report R-79 estimates (p. 41) that fields irrigated by Koolau or Waianae basal sources return 53 percent of the applied water if furrow irrigation methods are employed or 41 percent if drip methods are used (using water balance coefficients applied in CWRM Report R-78, 1988). For caprock sources 49 percent is returned for furrow, whereas only 29 percent is returned for drip. Using 1981 and 1986 (mentioned in R-79 as predominately furrow and drip years respectively) to compare differences for return water quantities over the entire region, the report estimates that 32 mgd of basal water and 15.3 mgd of caprock water was return irrigation in 1981, while 16 mgd basal and 5.5 mgd caprock was return water in 1986. Net pumpage in 1981 was 15.7 mgd, while in 1986 it was 13.5 mgd (R-79, p. 43).
From the above analysis of the return component, R-79 (p. 48) estimated the sustainable yield for the three areas. Sustainable yield is maintaining chlorides at "less than 1,000 mg/l for current [as of 1989] and anticipated land use conditions". "Future" means when sugar operations cease, our present condition, and when there is no significant amount of return irrigation water. Below is the table presented in R-79 (p. 48).

<table>
<thead>
<tr>
<th>Area</th>
<th>Estimated Sustainable Yield</th>
<th>Caprock Aquifer</th>
<th>Current (mgd)</th>
<th>Future (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honouliuli-Puuloa</td>
<td>10-15</td>
<td></td>
<td>10-15</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Kapolei-BPNAS</td>
<td>5</td>
<td></td>
<td>5</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Malakole</td>
<td>&lt;1</td>
<td></td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

\(^1\)The present time

Presently the Puuloa Sector caprock aquifer is in a state of non-equilibrium. All imported basal water has ceased. Though pumpage from private wells averages between 2-3 mgd, a very small fraction of that amount returns as recharge. Recirculation of the same water and salt build-up in the soil can only be alleviated by direct infusion of fresh water. This infusion comes from sporadic large winter storms and from an unknown amount of leakage from the basal aquifer. The estimated recharge by rainfall over the Puuloa Sector is 2 mgd (R-79, p. 42).

Leakage estimates for the range from 1-1.5 mgd/mile (CDM Report, 1993) to 5 mgd/mile as used in the Ewa Plain strip model (Bolke and Bauer, in prep.). Over the two mile boundary, the inflow estimates range from 3-10 mgd. The R-79 single-cell mixing model estimated 15 mgd inflow from Honouliuli into Puuloa, but of that amount natural leakage was estimated to be 4 mgd.

Eyre (1987, p. 12) estimated a net of 30 mgd leaking into the caprock (Kapolei area) from the Waianae basal lens during the plantation era (after removing plantation pumpage), and 33 mgd for pre-development (pre 1879) time (8 mgd of rainfall and 25 mgd natural ground-water flow from Schofield). The hydrologic budget was based on work by Giambelluca (1986) and employed by Eyre to solve a mixing-cell model that determined the effects of drip irrigation to water quality in the basal aquifer.

Changes to Sustainable Yield

The caprock aquifer is currently undergoing a period of change. It will take an unknown amount of time for a new equilibrium to set in. One and a half years have elapsed since the cessation of both sugar and the infusion of basal irrigation that resulted. Ground water (residual cane irrigation water +
storm recharge + natural leakage + minor irrigation return water) is slowly moving through the coral aquifer. Hydrologic properties of the aquifer will govern how long it takes to change to a new steady-state.

As stated above, estimated sustainable yield for the caprock was based on a net pumpage that supported a particular water quality. Net pumpage now does not include a large return irrigation component, but may include an increase in natural leakage due to reduction of 60± mgd of plantation pumpage and attendant changes in the basal water level. Therefore, a new sustainable yield that would maintain irrigation quality water must be much less than previously assigned. For the Honolulu–Puuloa area, estimates for natural leakage and rain recharge could be as high as 12 mgd or as low as 5 mgd. A good estimate for caprock recharge was lost when sugar cultivation ceased.

Golf course irrigation is different than drip irrigation for cane since it is less intensive and is concentrated over a small area. Giambelluca (1991, p. 43) estimates that recharge attributed to park irrigation is about 6 percent of recharge from drip-irrigated cane fields. Golf courses may be somewhat greater. For natural areas Giambelluca's water balance puts recharge at 16 percent of drip irrigation.

The Commission granted a current allocated use of 19 mgd for the caprock aquifer. If everyone with a permitted use pumped their allocated amount, the aquifer would quickly salt up and become unusable for irrigation. Every user would have to cease or drastically reduce pumping and wait for natural leakage or for some kind of artificial recharge to improve water quality. From Figure 5, nonuse of EP Pump 27,28 after 1994 drastically reduced the chloride concentration at that source. Later, Figures 6-8 will show a movement of fresher water into the area surrounding EP Pumps 27,28.

Due to the profound changes in land and water use, the Commission should tread slowly until there is a better idea of the natural changes occurring within the aquifer. The new sustainable yield for the Puuloa area will be less than 10 mgd, perhaps close to 5 mgd. Constant monitoring of pumpages and chloride data will provide a refined estimate. As will be discussed below, we know that low capacity wells in Puuloa Sector have maintained relatively stable or improving water quality, whereas large capacity plantation wells appear to cause localized up-coning and increasing chlorides.

Analysis of Caprock Aquifer Since 1994

Anticipating the cessation of sugar and the accompanying widespread land and water use changes, the CWRM staff have regularly sampled OSCo and private wells since April 1994. Chloride samples and specific conductance measurements are collected from about 20 wells on a monthly to six week schedule,
and over a single day. Most of the wells are located in the Puuloa Sector, three wells are in the Kapolei Sector, and two wells are in the Malakole Sector. Since the program began, several wells were dropped and others added depending upon access or reliability of the measurement. The primary purpose of sampling is to provide baseline data that can measure changes to the caprock aquifer with time.

Figures 6, 7 and 8 are computer-drawn isochlor (lines representing equal chloride concentration) maps based on chloride data collected from wells in June 1994, September 1995, and February 1996. The isochlor lines only relate chloride data between the wells from which they were collected. In June 1994 sugar was still being cultivated in the vicinity of EP Pump 23. Figures 7 and 8 represents land and water use conditions as they are today. Recharge by rainfall and natural leakage will lower chloride concentrations and cause a shift of the isochlor lines. What is apparent when comparing Figures 6 with 7 and 8 is the worsening water quality around EP Pump 22, and freshening taking place west and southeast of Kapolei Golf Course. The EP Pump 22 situation may be a result of pumping and irrigation practices at Hawaii Prince Golf Course, whereas changes in water quality west of Kapolei Golf Course are probably natural.

Generally, the data collected since 1994 support an estimated sustainable yield that is less than 10 mgd for the Puuloa area (current pumpage averages 2-3 mgd). As will be shown later, individual wells equipped with small capacity pumps, show either a reduction or stabilization of chlorides, while EP Pump 22, fitted with a large capacity pump, shows a continuing rise in chlorides. Figures 6-8 provide a "animated" view of the changes now occurring.

In the Kapolei-BPNAS Sector, the majority of the pumpage is from the Kapolei Golf Course. Chlorides at the golf course are stable, and may be a result of basal ground-water leakage from the Waianae aquifer. The sustainable yield estimated by Mink (R-79, 1989) was less than 5 mgd. Present usage is about 1.1 mgd. A large portion of this aquifer is located under BPNAS where no pumpage occurs. Leakage from the Waianae basal aquifer is no longer 30 mgd estimated by Eyre (1987) but some lesser quantity. This amount would be natural ground-flux (estimated 33 mgd) minus total pumpage in Ewa-Kunia Aquifer System (present average about 9 mgd) or about 22 mgd.

R-79 estimated the Malakole area sustainable yield to be less than one mgd after sugar irrigation. Most of the usage is industrial. The upper aquifer supplies some water that is in excess of 1,000 mg/l. Pumpage from this sector is over 12 mgd. Some of the pumpage is from a lower coral aquifer in the caprock.

Honouliuli-Puuloa Area

Since the demise of OSCo the greatest aquifer changes will
occur in the Puuloa Sector. Present pumpage for the area averages 2.8 mgd. About 1.5 mgd of the present pumpage is east of Fort Weaver Road at the Hawaii Prince Golf Course and Ewa International Golf Club. Gentry Development Company irrigation wells and the Honouliuli Sewage Treatment Plant wells make up the remainder with small capacity wells.

Figures 9, 9a, 10, 10a, 11, and 11a focus on chloride as related to pumpage and land use changes since 1992 at Hawaii Prince Golf Course. Six wells supply the course with water. HPGC wells 1, 2, and EP Pump 22 (wells 1901-03, 1900-17, and 1900-02 respectively) are located about 500 feet, 1,000 feet, and 2,000 east of Fort Weaver Road respectively. Water quality at HPGC wells 1 and 2 appears to be improving over time, whereas at EP Pump 22 the opposite is occurring. EP Pump 22 pumps about four times the amount of water produced from each of the other wells. Though not shown, water quality at the HPGC wells near EP Pump 22 are affected by the high pumpage, suggesting possible upconing. Evaporation from the large reservoir ponds prior to irrigation will increase the chlorides of the applied water. Pan evaporation in Ewa is about 85 inches/year (R-79, p. 43). Salt can build up in the soil, only to be flushed back into the aquifer after a storm. The wells closer to Fort Weaver Road may also be affected more by storm recharge because of improving quality.

Currently, there is a request to increase the usage at EP Pump 22. From the data presented in Figures 11 and 11a, an increase in pumpage is not warranted since chlorides are already in excess of what the grass can tolerate and exceeds the 1000 mg/l associated with sustainable yield. Greater pumpage at this well could adversely affect their other sources by increasing the chloride mixture of the irrigation water applied to the west end of the course, as well as exacerbate the localized up-coning on the east side. Ewa International Golf Club, located south and down gradient of Hawaii Prince, could also be detrimentally affected.

Figures 12, 12a, 13, 13a, 14, and 14a illustrate chloride and pumping trends at three Gentry sources. Palm Villa 1 (2001-06), and Palm Court (2002-12) show a steady chloride decline since 1994. Palm Villa 2 (2001-08) averaged about 800 mg/l since 1994, but had declined from 1,200 mg/l from a sample collected in 1993.

Gentry Development is proposing two new wells and water use permits in Puuloa. Because of the small pump capacities proposed for these wells, the likelihood that they would detrimentally affect the aquifer or neighboring wells is simply unknown. What will occur will be a reduction of ground-water flux equal to amount of pumpage.

Figures 15 and 15a show an unusual phenomena at the Honouliuli Sewage Treatment Plant (STP). Wells 1902-03 and 04
are about 20 feet apart, both drilled to a bottom elevation of -15 feet msl. Chloride concentrations are typically 50-200 mg/l apart, with water quality ranging between 500 and 700 mg/l chloride. General trend shows that chlorides have increased in Well 1902-03 but have remained stable in Well 1902-04. The difference in water quality must be due to some geologic control, such as a crack or solution cavity within the coral aquifer.

As stated above, water levels within the caprock are do not enter into estimating sustainable yield. Water levels can fluctuate as much as 0.5 feet during the day due to the tidal signal. During 1957-58 water levels were collected in EP Pumps 21-24. Figure 16 shows that instantaneous water levels varied during the two years of measurement. Water levels dropped to a low of 1.3 in January 1958. The strike began in February 1958 and lasted two months. Even though irrigation ceased, water levels were increasing when the first measurements were done after the strike. Report R-88 indicates that years these years had average to slightly above average rainfall. Static water levels in January 1957 were about 2.5 feet msl. The highest water level during the entire time appears to be near EP Pump 22 and could indicate mounding of irrigation water at that site, since wells west and north appear to be "down-gradient".

Figure 17 plots 1995 water level data collected by Tom Nance at EP Pump 24 with daily rainfall at Ewa Mill and Honolulu Observatory at Ewa Beach. There does not seem to any correlation between storm events and rising water levels. In fact, several high water level periods are during the driest part of the year. When Nance (personal communication, 1996) compared EP Pump 24 water levels with ocean tidal data he found a very close correlation. Tides could account for large water level changes observed in Figure 16. Storm events seem to have a greater impact on water quality than water levels.

Unknown factors make it difficult to compare water levels presented in Figure 16 to Figure 17. What is known, however, irrigation water was applied to fields by the furrow method in the 1950's, with water levels changing by a foot over a year. EP Pump 24 water levels collected by Nance represent a time of localized and limited irrigation and average about 1.7± feet msl.

Kapolei-BPNAS Sector

Present water use in this sector averages about 1.1 mgd. Most of the pumpage occurs at the Kapolei (HFDC) Golf Course. Of the six wells drilled, five are pumping. Water quality has stayed relatively constant. Figures 18 and 18a present pumpage and chloride data for Well B (2003-02). Average chloride is 450 mg/l. Increased leakage from the basal aquifer is thought to be the reason for the constancy of the chloride data.

Other wells in the sector include the Kapolei Campbell wells 1905-08 and 1905-10. The primary source, 1905-08, pumps about
0.150 mgd with chlorides averaging 500 mg/l. The Desalt Plant wells are presently off line. Its caprock source, Well 1905-09, averaged about 700 mg/l. The Desalt Plant wells can almost be placed in the Malakole Sector.

Water quality underlying Barbers Point Naval Air Station is unknown. Pumpage from the mauka Kapolei Golf Course wells and the Kapolei Campbell wells will affect ground water quality and its availability when BPNAS is turned over to the State.

Malakole Sector

Pumpage from the Malakole Sector is presently about 12.6 mgd. The estimated sustainable yield for 1,000 mg/l water is less than 1 mgd. Of the total quantity pumped, 2.6 mgd from is brackish water developed by Kalaeloa Partners (wells 1805-03-09). Specific conductivity of the water developed by them average about 10,000 umhos which is equivalent to a chloride concentration of over 3,000 mg/l. The additional 9.6 mgd is essentially highly brackish and saline used for wash down, cooling and other industrial purposes.

CWRM personnel sample the Hawaii Raceway Park well (1905-01). This well is used infrequently for dust control. Chlorides ranged between 1,100 mg/l in June 1993 to 580 mg/l in October 1995. Most of the samples collected hover around 870 mg/l.

If the Commission wants to preserve the 1,000 mg/l water for other than industrial purposes, then the Malakole Sector should be divided. Total pumpage for new wells mauka of Hawaii Raceway Park could be managed at less than 1 mgd, whereas industrial wells in Campbell Industrial Park can be allowed to continue at present rates.

Refinement of Data and Future Projects

Water quality and pumpage data collected by CWRM personnel and by water users will be continually updated by graphs and isochlor maps. More sampling points need to be added to the CWRM network. Three or four test holes should be drilled within or near BPNAS. Though water level do not appear to be related to water quality, a network of small diameter water level wells should be drilled throughout the Ewa Plain.

Bolke and Bauer (in prep.) began a ground water model using SUTRA. The model was calibrated to a period (late 1980's) that was not in equilibrium. Additional work should be done to calibrate the model to the two stable periods outlined above. Additional modelling work combined with caprock monitor wells need to address the changes in natural leakage that are now occurring from both the Waianae and Koolau aquifer.

Conclusions and Recommendations
Several major conclusions can be drawn from the above discussion:

1. Sustainable yield for the caprock aquifer assumes that total pumpage within a sector will maintain a chloride concentration of $1,000 \pm 1$ mg/l.

2. The caprock aquifer, especially the Honouliuli-Puuloa area, has not reached an equilibrium since cessation of cane irrigation in 1994. To achieve and maintain a good irrigation quality water will require a change in the sustainable yield to a value less of than $10 \text{ mgd}$, and less than $5 \text{ mgd}$ in the Kapolei-BPNAS area. The historical record of the caprock aquifer argues for a reduction of permitted uses, unless there is a drastic change to the inflow of ground water.

3. In light of 2. above, the Commission should adopt a "go slow" approach to new wells in the Puuloa region. Small irrigation wells appear not to presently cause problems; however, cumulative effects could occur. At the present time we do not have enough data regarding the natural post-OSCo changes that are occurring within the limestone aquifer. The isochlor maps do show a continuing change throughout the Ewa Plain.

4. The Malakole area is pumping much higher than the sustainable yield of less than $1 \text{ mgd}$ estimated in R-79. This sector should be divided into two. Sustainable yield for Campbell Industrial Park is meaningless when water for industrial purposes is used. However, there should be some limit, because heavy pumpage could affect ground water underlying BPNAS. Mauka of Campbell Industrial Park, pumpage should be limited to less than $1 \text{ mgd}$.

5. Future modelling efforts should use calibration "targets" of equilibrium periods of 1930-1940 and from 1952-1965.

6. Separation of the Ewa caprock aquifer into three broad management areas has merit. These broad regions can be subdivided into smaller areas that require special management. Perhaps the concept of "sustainable capacity", the amount of water developed from a well or a battery of wells (such as Hawaii Prince Golf Course) that will allow stabilization of chlorides, should be more fully developed and used by the Commission for special management of smaller areas.
REFERENCES

Board of Water Supply, unpublished data files.


Most Saline EP Basal Sources
Chlorides and Pumpage

Ewa Plantation Pumps 1 and 9 supplied the most saline water. They were located near Ewa Mill.

FIGURE 1

- Ewa Pump 1
- Ewa Pump 9 (Well A)
- Ewa Pump 9 (Wells B,C,D)
- Ewa Pump 9 (Wells E,F)
- Ewa Pump 9 (Wells G,H)
Marginal EP Basal Sources
Chlorides and Pumpage

Ewa Plantation Pumps 3, 4, 5, & 6 supplied marginal quality water.

Combined Pumps 3, 4, 5, & 6 pumpage (mgd)

Year

Chloride Concentration (mg/l)

Average Yearly Pumpage (mgd)

FIGURE 2

- Ewa Pump 3  - Ewa Pump 4  - Ewa Pump 5  - Ewa Pump 6
Marginal to Potable EP Basal Sources
Chlorides and Pumpage

Ewa Plantation Pumps
2, 7, 8, 15 & 16 supplied
marginal quality to
potable irrigation water.

FIGURE 3
- Ewa Pump 2
- Ewa Pump 7
- Ewa Pump 8
- Ewa Pumps 15, 16
Chloride and Pumpage of Ewa Plantation
Shallow Wells, Ewa Caprock, Oahu

Start 1937

Basal (low Cl) irrigation
Pumps 15,16

Basal (high Cl) irrigation

Total imported basal water from Koolau ranged < 50-70 mgd

Average monthly pumpage (mgd)

Average yearly pumpage (12 mgd)

Est. average yearly pumpage (12 mgd)

Total imported basal water from Koolau ranged < 50-70 mgd

Ref: CWRM. BWS files. R-79; & Stearns (1935, 1940)

FIGURE 5

Isochlor Map of Ewa Caprock Aquifer
September 1995

FIGURE 7
Chloride and Pumpage of HPGC Well 1
Ewa Caprock, Oahu

![Graph showing chloride and pumpage data for HPGC Well 1. The graph includes data on total caprock average monthly pumpage, total Hawaii Prince pumpage, and OSS caprock pumpage ceased.](image)

FIGURE 9

Ref: CWRM, BWS files, & R-79
Chloride and Pumpage of HPGC Well 1
Ewa Caprock, Oahu

FIGURE 9a
- HPGC 1 (Qave = .148 mgd)
Chloride and Pumpage of HPGC Well 2
Ewa Caprock, Oahu

FIGURE 10

HPGC 2 (Qave=0.160 mgd)
Chloride and Pumpage of HPGC Well 2
Ewa Caprock, Oahu

Total caprock average monthly pumpage (mgd)
Basal (low Cl) irrigation
OSCo caprock pumpage ceased

Chloride Concentration (mg/l)

Average Pumpage (mgd)

Ref: CWRM, BWS files, & R-79

FIGURE 10a  HPGC 2 (Qave=0.160 mgd)
Chloride and Pumpage of HPGC Well EP22
Ewa Caprock, Oahu

FIGURE 11
EP-22 (Qave=1.021 mgd)
Chloride and Pumpage of HPGC Well EP22
Ewa Caprock, Oahu

Total caprock average monthly pumpage (mgd)

Basal (low Cl) irrigation

OSCo caprock pumpage ceased

Total Hawaii Prince pumpage

Well EP-22 pumpage

Ref: CWRM, BWS files, & R-79

EP-22 (Qave=1.021 mgd)
Chloride and Pumpage of Ewa
Gentry Wells, Ewa Caprock, Oahu

**Figure 12a**

- Total caprock average monthly pumpage (mgd)
- Basal (low Cl) irrigation
- OSCo caprock pumpage ceased
- Total Ewa Gentry pumpage
- Palm Villa 1 pumpage

*Gentry Palm Villa 1 (Qave=0.019 mgd)*

Ref: CWRM, BWS files, & R-79
Chloride and Pumpage of Ewa
Gentry Wells, Ewa Caprock; Oahu

Total caprock average monthly pumpage (mgd)

Basal (low Cl) irrigation

OSCo caprock pumpage ceased

Total Ewa Gentry pumpage

Palm Court pumpage

Gentry Palm Court (Qave=.025 mgd)
Chloride and Pumpage of Ewa
Gentry Wells, Ewa Caprock, Oahu

FIGURE 14

Gentry Palm Villa 2 (Qave=0.031 mgd)
Chloride and Pumpage of Ewa
Gentry Wells, Ewa Caprock, Oahu

Total caprock average monthly pumpage (mgd)
Basal (low Cl) irrigation
OSCo caprock pumpage ceased

Total Ewa Gentry pumpage
Palm Villa 2 pumpage

FIGURE 14a

Gentry Palm Villa 2 (Qave=0.031 mgd)
Chloride and Pumpage of Honouliuli STP Wells, Ewa Caprock, Oahu

FIGURE 15

- Honouliuli STP 1902-03  - Honouliuli STP 1902-04 (Qave=0.654 mgd)

Stop

Basal (low Cl) irrigation

OSCo caprock pumpage ceased

Total caprock average monthly pumpage (mgd)

Total Honouliuli STP pumpage

Ref. CWRM, BWS files, & R-79
Chloride and Pumpage of Honouliuli STP Wells, Ewa Caprock, Oahu

FIGURE 15a

- Honouliuli STP 1902-03  
- Honouliuli STP 1902-04 (Qave=0.654 mgd)

Ref: CWRM, BWS files, & R-79
Monthly Water Level Measurements
Ewa Plantation Caprock Wells

FIGURE 16

Water Level @ EP-24 & Daily Rainfall
Ewa Caprock, Ewa, Oahu

FIGURE 17

No data available between days 212-251

Missing data: daily rainfall at Honolulu Observatory

Ref. Tom Nance, water level data
Chloride and Pumpage of HFDC Golf Course Well B, Ewa Caprock, Oahu

FIGURE 18

* HFDC B (Qave=0.270 mgd)

Ref: CWRM, BWS files, & R-79
Chloride and Pumpage of HFDC Golf Course Well B, Ewa Caprock, Oahu

**FIGURE 18a**

- **HFDC B (Qave=0.270 mgd)**
## PUULOA AQUIFER SYSTEM

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PUULOA AQUIFER SYSTEM (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Yield Estimate</td>
<td>15.000</td>
</tr>
<tr>
<td>Less: Other Existing Permits (shown in Exhibit 8)</td>
<td>-17.170</td>
</tr>
<tr>
<td>Current Available Allocation</td>
<td>-2.170</td>
</tr>
<tr>
<td>Less: Expired Interim Permits</td>
<td></td>
</tr>
<tr>
<td>Hawaii Prince Golf Club (1900-02, 17 to 20, 1901-03)</td>
<td>0.129</td>
</tr>
<tr>
<td>Gentry Co. (2001-03)</td>
<td>0.030</td>
</tr>
<tr>
<td>(2001-04)</td>
<td>0.040</td>
</tr>
<tr>
<td>(2001-05)</td>
<td>0.020</td>
</tr>
<tr>
<td>(2001-09)</td>
<td>0.023</td>
</tr>
<tr>
<td>(2001-10)</td>
<td>0.022</td>
</tr>
<tr>
<td>(2002-15)</td>
<td>0.130</td>
</tr>
<tr>
<td>Haseko (Ewa), Inc. (1902-01)</td>
<td>1.500</td>
</tr>
<tr>
<td>Arbors Assoc. (2001-07)</td>
<td>0.063</td>
</tr>
<tr>
<td>Palm Villa II Assoc. (2001-08)</td>
<td>0.048</td>
</tr>
<tr>
<td>Palm Court Assoc. (2002-12)</td>
<td>0.066 -2.071</td>
</tr>
<tr>
<td>Less: Pending Applications</td>
<td></td>
</tr>
<tr>
<td>Hawaii Prince Golf Club (1900-02, 17 to 20, 1901-03)</td>
<td>0.371</td>
</tr>
<tr>
<td>Gentry Development Co. (2001-11)</td>
<td>0.172</td>
</tr>
<tr>
<td>Haseko (Ewa), Inc. (Ewa Marina)</td>
<td>* -0.543</td>
</tr>
<tr>
<td>Available Allocation</td>
<td>-4.784</td>
</tr>
</tbody>
</table>

* Proposed marina project will result in a permanent reduction in caprock storage capacity.

**EXHIBIT 5**
### KAPOLEI AQUIFER SYSTEM

<table>
<thead>
<tr>
<th>ITEM</th>
<th>KAPOLEI AQUIFER SYSTEM (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable Yield Estimate</td>
<td>5.000</td>
</tr>
<tr>
<td>Less: Other Existing Permits</td>
<td></td>
</tr>
<tr>
<td>Pu‘u Makakilo (1904-02)</td>
<td>-1.150</td>
</tr>
<tr>
<td>Current Available Allocation</td>
<td>3.850</td>
</tr>
<tr>
<td>Less: Expired Interim Permits</td>
<td></td>
</tr>
<tr>
<td>Campbell Estate (1905-08,10)</td>
<td>0.302</td>
</tr>
<tr>
<td>State HFDC (2003-01,02,04,05,07)</td>
<td>1.494 (none)</td>
</tr>
<tr>
<td>Less: Pending Applications</td>
<td>-1.796 (none)</td>
</tr>
<tr>
<td>Available Allocation</td>
<td>2.054</td>
</tr>
</tbody>
</table>

**EXHIBIT 6**
### Scenario Comparisons

**Central Oahu Development Plan Area**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In Population</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive Ewa</td>
<td>130,528</td>
<td>169,950</td>
<td>38,424</td>
</tr>
<tr>
<td>Dispersed</td>
<td>130,528</td>
<td>184,444</td>
<td>53,918</td>
</tr>
<tr>
<td>Ewa Employment</td>
<td>130,528</td>
<td>185,091</td>
<td>54,565</td>
</tr>
<tr>
<td>Ewa &amp; Central Oahu Urban Centers</td>
<td>130,528</td>
<td>210,802</td>
<td>80,276</td>
</tr>
<tr>
<td><strong>Current Trend</strong></td>
<td>130,528</td>
<td>177,738</td>
<td>47,212</td>
</tr>
</tbody>
</table>

**NOTE:** Baseline forecast for 1990-2020 islandwide increase is 29%.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Ewa</td>
<td>36,262</td>
<td>53,240</td>
<td>16,978</td>
</tr>
<tr>
<td>Dispersed</td>
<td>36,262</td>
<td>57,907</td>
<td>21,645</td>
</tr>
<tr>
<td>Ewa Employment</td>
<td>36,262</td>
<td>58,118</td>
<td>21,856</td>
</tr>
<tr>
<td>Ewa &amp; Central Oahu Urban Centers</td>
<td>36,262</td>
<td>68,085</td>
<td>31,823</td>
</tr>
<tr>
<td><strong>Current Trend</strong></td>
<td>36,262</td>
<td>55,726</td>
<td>19,464</td>
</tr>
</tbody>
</table>

**NOTE:** Baseline forecast for 1990-2020 islandwide increase is 42%.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Ewa</td>
<td>23,029</td>
<td>52,394</td>
<td>29,365</td>
</tr>
<tr>
<td>Dispersed</td>
<td>23,029</td>
<td>56,304</td>
<td>33,275</td>
</tr>
<tr>
<td>Ewa Employment</td>
<td>23,029</td>
<td>57,116</td>
<td>34,087</td>
</tr>
<tr>
<td>Ewa &amp; Central Oahu Urban Centers</td>
<td>23,029</td>
<td>69,395</td>
<td>46,366</td>
</tr>
<tr>
<td><strong>Current Trend</strong></td>
<td>23,029</td>
<td>54,751</td>
<td>31,722</td>
</tr>
</tbody>
</table>

**NOTE:** Baseline forecast for 1990-2020 islandwide increase is 49%.

---

**Change in Resident Population**

**Central Oahu Development Plan Sub-Areas (1990-2020)**

[Graph showing population changes across different areas, with labels for different scenarios.]

**Change in Non-Construction Jobs**

**Central Oahu Development Plan Sub-Areas (1990-2020)**

[Graph showing job changes across different areas, with labels for different scenarios.]
**WATER USE PERMIT INDEX REPORT 08/08/1995**

**ISLAND OF OAHU**

Aquifer System: **PUULOA**

<table>
<thead>
<tr>
<th>WUP NO.</th>
<th>APPLICANT</th>
<th>WELL NO.</th>
<th>WELL NAME</th>
<th>APPROVAL</th>
<th>mgd</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>GENTRY DEVELOPMENT CORP.</td>
<td>EWA GENTRY</td>
<td>09/27/1985</td>
<td>0.080</td>
<td></td>
</tr>
<tr>
<td>2001-06</td>
<td>PALM VILLA 1 ASSOCIATION</td>
<td>PALM VILLA 1</td>
<td>09/13/1989</td>
<td>0.080</td>
<td></td>
</tr>
<tr>
<td>1900-02</td>
<td>HAWAII PRINCE GOLF CLUB</td>
<td>EP 22</td>
<td>10/19/1988</td>
<td>0.900</td>
<td></td>
</tr>
<tr>
<td>1900-16</td>
<td>PUULOA HOMES, LTD.</td>
<td>PUULOA HOMES</td>
<td>04/18/1990</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>1900-21</td>
<td>SOGO HAWAII, INC.</td>
<td>PUULOA GC IRR</td>
<td>02/13/1991</td>
<td>0.100</td>
<td></td>
</tr>
<tr>
<td>1900-01</td>
<td>OAHU SUGAR CO., LTD.</td>
<td>EP 20</td>
<td>12/16/1992</td>
<td>1.550</td>
<td></td>
</tr>
<tr>
<td>1901-01</td>
<td>OAHU SUGAR CO., LTD.</td>
<td>EP 24</td>
<td>12/16/1992</td>
<td>1.194</td>
<td></td>
</tr>
<tr>
<td>1900-13</td>
<td>OAHU SUGAR CO., LTD.</td>
<td>EP 30</td>
<td>12/16/1992</td>
<td>1.320</td>
<td></td>
</tr>
<tr>
<td>1902-03</td>
<td>C&amp;C OF HONOLULU DWWM</td>
<td>HONOULULI STP 1</td>
<td>03/15/1990</td>
<td>0.500</td>
<td></td>
</tr>
<tr>
<td>1959-08</td>
<td>PUULOA HOMES, LTD.</td>
<td>PUULOA DUG WELLA</td>
<td>04/18/1990</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>1900-22</td>
<td>PUULOA HOMES, LTD.</td>
<td>PUULOA DUG WELLB</td>
<td>04/18/1990</td>
<td>0.600</td>
<td></td>
</tr>
<tr>
<td>2001-03</td>
<td>GENTRY PACIFIC, LTD.</td>
<td>GEIGER PARK</td>
<td>11/29/1991</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>2002-12</td>
<td>GENTRY PACIFIC, LTD.</td>
<td>PALM COURT 3</td>
<td>11/29/1991</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>2101-14</td>
<td>U.S. FISH &amp; WILDLIFE</td>
<td>HONOULULI UNIT</td>
<td>10/27/1993</td>
<td>0.216</td>
<td></td>
</tr>
<tr>
<td>1902-04</td>
<td>C&amp;C OF HONOLULU DWWM</td>
<td>HONOULULI STP 2</td>
<td>12/08/1993</td>
<td>0.000</td>
<td></td>
</tr>
</tbody>
</table>

18 Permits Totaling 17.170

**EXHIBIT 8**
February 26, 1996

TO: Rae M. Loui, Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources

FROM: Roy S. Oshiro, Executive Director

SUBJECT: Request for Transfer of Water Use Permit for Well Nos. 2003-01, 02 and 05 Ewa Caprock Groundwater Management Area, Oahu

As an addendum to our memorandum to the Commission on Water Resource Management (CWRM), dated July 13, 1995, the Housing Finance and Development Corporation (HFDC) is herewith notifying the CWRM that the effective date of transfer of the Kapolei Golf Course, along with the above referenced caprock wells to Kapolei Peoples, Inc. (KPI), occurred on November 7, 1995.

Attached for your reference is a copy of our previous memoranda along with a copy of the letter of acknowledgment and acceptance of the transfer by KPI.

KPI has engaged Mr. Dan Lum, Water Resource Associates, as a consulting hydrologist for compliance with the CWRM reporting requirements.

We would appreciate your informing KPI, by letter, of the next annual renewal application deadline date.

If there are any questions, please call me at 587-0640, or Stephen Thomas, Project Manager, at 587-0541.

Attachments
July 13, 1995

TO: Rae M. Loui, Deputy Director
 Commission on Water Resource Management
 Department of Land and Natural Resources

FROM: Roy S. Oshiro, Acting Executive Director

SUBJECT: Request for Transfer of Water Use Permit for
 Well Nos. 2003-01, 02, and 05
 Ewa Caprock Groundwater Management Area, Oahu

The Housing Finance and Development Corporation (HFDC) respectfully requests transfer of its conditional non-potable caprock water use permits for the above referenced wells, for the Kapolei Golf Course, to Kapolei Peoples, Inc. (KPI).

This request is precipitated by a condition of the Agreement of Sale between HFDC and KPI which requires HFDC to provide a continuous source of irrigation water supply to the golf course.

Pursuant to request from your staff, and for your review, enclosed is a letter indicating KPI's willingness to accept the transfer of the usage permits.

KPI and their attorney have been informed by HFDC of the required monitoring, reporting, and annual permit renewal requirements of the Commission on Water Resource Management (CWRM).

HFDC currently has a renewal application before the CWRM for Well Nos. 2003-01, 02, 04, 05, and 07, and it is our understanding that this request for transfer of Well Nos. 2003-01, 02, and 05 will be considered after the renewal application, which is currently in process, is approved.
Permits for Well Nos. 2003-04 and 07 will remain with HFDC until the Kapolei Association of Homeowners can assume responsibility for operation and maintenance of the non-potable water system.

If there are any questions, please contact Stephen Thomas, Project Manager, at 587-0541.

Enclosure
Mr. Masanabu Shimada, President
Kapolei Peoples, Inc.
91-701 Farrington Highway
Kapolei, Hawaii 96707

Dear Mr. Shimada:

Subject: Transfer of Temporary Use Permits for Non-potable Caprock Well Nos. 2003-01, 02 and 05

Please be advised that it is the intent of the Housing Finance and Development Corporation (HFDC) to transfer, subject to approval of the Commission on Water Resource Management (CWRM) of the State of Hawaii, Department of Land and Natural Resources, the above cited caprock wells to Kapolei Peoples, Inc. (KPI).

CWRM has requested of HFDC that evidence of KPI's acceptance, by way of authorized signature(s), be provided to CWRM prior to the application for transfer being submitted.

Upon return receipt of this letter, with your acceptance indicated by signature below, HFDC will immediately begin to process the application for transfer of the well usage permits.

If there are any questions, please call me at 587-0541.

Sincerely,

STEFHGN THOMAS
Project Manager

Acknowledged and accepted this ___ day of July, 1995.

Kapolei Peoples, Inc.

Its: PRESIDENT
**Commission on Water Resource Management**

**FROM:** 

**DATE:** 

**SUSPENSE DATE:** 

<table>
<thead>
<tr>
<th>TO</th>
<th>INIT</th>
<th>TO</th>
<th>INIT</th>
<th>FOR</th>
<th>PLEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>REGULATION BRANCH</td>
<td></td>
<td></td>
<td>APPROVAL</td>
</tr>
<tr>
<td>R. LOUI</td>
<td></td>
<td>E. SAKODA</td>
<td></td>
<td></td>
<td>SIGNATURE</td>
</tr>
<tr>
<td>J. UWAIN</td>
<td></td>
<td>D. HIGA</td>
<td></td>
<td></td>
<td>INFORMATION</td>
</tr>
<tr>
<td>F. CHING</td>
<td></td>
<td>L. NAKAMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. SUBIA</td>
<td></td>
<td>C. ICE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. YODA</td>
<td></td>
<td>R. JINNAI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S. SWANSON</td>
<td></td>
<td>S. EDMUNDS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SURVEY BRANCH**

<table>
<thead>
<tr>
<th>G. BAUER</th>
<th>I. KUNIMURA</th>
</tr>
</thead>
</table>

**PLANING BRANCH**

<table>
<thead>
<tr>
<th>N. FUJII</th>
<th>L. MIZUNO</th>
</tr>
</thead>
</table>

Refer to file 2003-01,02,04,05,07 for historic info on WUP.

02/95
WATER USE PERMIT NO. 802

This report has been prepared in accordance with 13-171-22(b) of the Hawaii Revised Statutes requiring a 20-year review of issued water use permits to determine permit compliance. Following is a summary of permit information, site characteristics, methodology, findings, and recommendations for this State permit file.

Permit Information

Water User: Kapolei People's, Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707

Landowner of Source: Kapolei People's, Inc.
91-701 Farrington Hwy.
Kapolei, HI 96707

Permitted Withdrawal Rate: 1.000 mgd (Based upon a 12-month moving average)

Water Management Area: Kapolei

Island: Oahu

Aquifer Sector/System: Ewa Caprock/Kapolei

System Sustainable Yield: 1000 mg/L

Water Type: Brackish

Original CWRM Date: July 12, 2006

Standard Conditions: 1-19

Special Conditions: 1-2, 38, 40-44

Water Source

State Well Number(s): 2003-01, -02, -05

Well Name: Kapolei G. Course A

Water Source TMK Number(s): 1st Division, 9-1-016:025

State Land Use Classification(s): Agriculture, Urban

County Zoning Classification(s): AG-1

Geographical Coordinates:

State Well No. 2003-01: Latitude 21° 20' 11.6” North;
Longitude 158° 03’ 25.6” West

State Well No. 2003-02: Latitude 21° 20' 11.4” North;
Longitude 158° 03’ 23.9” West

State Well No. 2003-05: Latitude 21° 20' 18.7” North;
Longitude 158° 03’ 32.6” West
**End Use**

- End Use TMK Number(s): 1st Division, 9-1-016:025
- State Land Use Classification(s): Urban
- County Zoning Classification(s): AG-1
- Beneficial Use Explanation: Kapolei Golf Course irrigation supply

**Background Information**

Water Use Permit 802 was approved during the July 12th, 2006 Commission on Water Resource Management meeting. This water source has been in use since the opening of the Kapolei Golf Course in 1994. Standard conditions 1-19 and special conditions 1-2, 38, & 40-44 are the governing conditions for this water use permit. A complete list of all standard and special conditions is given in the final summary report to the Legislature for this 20-year Water Use Permit Review.

Consistent water use reporting records are available for at least the past four years. The permittee’s 12-month moving average has not exceeded the permitted amount of 1.0 mgd during this time. Reference the permit file for additional information on reporting history.

**Field Investigation Information**

- Contact: Charles Andy Meikle
- Site Address: 91-701 Farrington Hwy.
  Kapolei, HI 96707

Brown and Caldwell conducted a field investigation on August 20th, 2008 from 9:00 a.m. until 11:00 a.m. with Mr. Meikle. During this time, type of water usage was verified, GPS coordinates of well head(s) were recorded, flow meter installation and functionality were documented, and property TMK information was verified. The wellhead, its related appurtenances, and water usage area were visually inspected to assess compliance with permit conditions. Visual inspection of water loss/waste was limited to outdoor areas within the usage boundary. Reference the TMK and GIS maps in the permit file for a visual representation of the site.

**Summary of Findings for Water Use Permit No. 802**
Water is taken from three different well locations. The GPS coordinates for State Well No. 2003-01 (A) is 21° 20' 11.6" N, 158° 03' 25.6" W (±13 ft), State Well No. 2003-02 (B) is 21° 20' 11.4" N, 158° 03' 23.9" W (±12 ft), and Well No. 2003-05 (E) 21° 20' 18.7" N, 158° 03' 32.6" W (±16 ft), respectively. Collectively, the water is used to irrigate approximately 140 acres of the Kapolei Golf Course.

The water is sent from the three wells via underground piping to the golf course irrigation piping system. The golf course uses normally uses a mixture of 50% recycled R-1 water that is purchased from the Honouliuli Wastewater Treatment Plant and 50% well drawn water for the golf course. Reference the Appendix for photographs of the previously described system components.

Based upon visual inspection of the system, all components appear to be in full working order. The permittee demonstrated functionality of installed flowmeters and provided access to the site grounds where no wasting of water or water loss was observed. Visual inspection also confirmed that water use was within the permitted TMK boundaries. Water use is currently being reporting on a monthly basis with no recent evidence of overpumpage violations.

**Recommendations**

- Address the following discrepancies between the Commission's electronic database and actual field investigation findings:
  - Change permittee contact to Charles Andy Meikle at (808) 478-4679
  - Create memo field entry noting field investigation on 8/20/08
- No disciplinary action required for this WUP since the permittee is in compliance with all standard and special conditions.
20-Year Water Use Permit Review
Water Use Permit No. 802

APPENDIX

Field Investigation Photographs
Figure 1 – State Well No. 2003-01 (A)

Figure 2 – System Flowmeter for State Well No. 2003-01 (A)
Figure 3 – State Well No. 2003-02 (B)

Figure 4 – System Flowmeter for State Well No. 2003-02 (B)
Figure 5 – State Well No. 2003-05 (E)

Figure 6 – System Flowmeter for State Well No. 2003-05 (E)
Figure 7 – Typical Well & Pump Storage

Figure 8 – Typical end use area
Standard Conditions List

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means “the use of water in such a quantity as is necessary for economic and efficient utilization, which is both reasonable and consistent with State and County land use plans and the public interest.” (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in Section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.

5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its <Insert Date> meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

Variations of Standard Condition (8) are as follows:
   i. Modification of any permit condition shall be approved by the Commission. Modification of any permit condition without notification may result in the revocation of the water use permit.
9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. Protect the water sources (quantity or quality);
   b. Meet other legal obligations including other correlative rights;
   c. Insure adequate conservation measures;
   d. Require efficiency of water uses;
   e. Reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. Meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. Carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) **must be** installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times **must be** kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a **monthly** basis (attached).

**Variations of Standard Condition (10) are as follows:**
   i. The applicant shall keep monthly pumpage estimates to be submitted annually to the Commission.
   ii. An approved flowmeter(s) **need not** be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times **must be** kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a **yearly** basis (attached).
   iii. An approved flowmeter(s) **must be** installed to measure withdrawals and a monthly record of withdrawals, water-levels, salinity, and temperature **must be** kept and reported to the Commission on a **monthly** basis in accordance with the Commission's September 16, 1992 action on reporting requirements.
   iv. Approved flowmeters **must be** installed to measure monthly withdrawals and a monthly record of withdrawals **must be** kept and reported to the Commission on Water Resource Management on a **monthly** basis.
   v. An approved flowmeter(s) **must be** installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times **must be** kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a **quarterly/yearly** basis (attached).
   vi. An approved flowmeter shall be installed to measure water withdrawals
   vii. An approved flowmeter(s) **must be** installed to measure withdrawals; and a record of the withdrawals **must be** kept and reported to the Department of
Land and Natural Resources, Division of Water and Land Development, P.O. Box 373, Honolulu, HI 96809, on a monthly basis.

viii. Although not stated as a condition of the permit §13-168-7 HAR requires you to keep a record of your monthly total pumpage, water level, salinity, and water temperature. This information must be submitted to the Commission on a regular monthly basis using the enclosed water use report form.

ix. An approved flowmeter shall be installed and the withdrawal from Well 1851-73 shall be recorded and reported to DLNR on a monthly basis by the owner and/or operator of the well.

x. The withdrawals from these wells shall be recorded and reported to the DLNR on a monthly basis by the BWS.

xi. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting water usage on a monthly basis.

xii. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage shall be measured on a monthly basis and reported to the Commission.

xiii. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage shall be measured on a monthly basis and reported to the Commission along with water level and salinity measurements.

11. This permit shall be subject to the Commission's periodic review of the <Aquifer> Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the <Aquifer> Aquifer System, or relevant modified aquifer(s), is reduced.

12. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer, which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The uses(s) authorized by law and by this permit do not constitute ownership rights.

14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances that will affect the permittee's water use.

15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservations, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter
into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period or forfeiture.

16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee’s water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the <Aquifer>Ground-Water Management Area.

17. The water use permit shall be subject to the Commission’s establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

18. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

19. Special conditions in the attached cover transmittal letter or attached exhibits are incorporated herein by reference.

20. If the ground-water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

Variations of Standard Condition (20) are as follows:
 i. The permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit issuance.

21. This permit may not be transferred or the use rights granted by this permit sold or in any other way alienated. Pursuant to HRS § 174C-59 and the requirements of Chapter 174C, the Commission on Water Resource Management has the authority to allow the transfer of the permit and the use rights granted by this permit in a manner consistent with HRS § 174C-59. Any such transfer shall only occur with the Commission’s prior express written approval. Any sale, assignment, lease, alienation, or other transfer of any interest in this permit shall be void.

22. The water use permit granted shall be an interim water use permit, pursuant to HRS § 174C-50. The final determination of the water use quantity shall be made within five (5) years of the filing of the application to continue the existing use.

23. The water use permit shall be issued only after agricultural review.

24. That scheduled adjustments to Oahu Sugar Co. permitted use shall be initiated upon discontinuance of agricultural uses.
25. The issuance of this permit was approved by the Commission on Water Resource Management at its meeting on <Insert Date>.

26. The permit shall be subject to the review by the Attorney General.

27. The permit holder may be required to relinquish this permit at any time or specified time after issuance to the Board of Land and Natural Resources in accordance with Chapter 166 of Title 13.

28. The applicant shall obtain the necessary land acquisition documents from the Hawaii Housing Authority.
Special Conditions List

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. The applicant shall contact the Environmental Management Division, State Department of Health, at 586-4304, concerning “GUIDELINES APPLICABLE TO GOLF COURSES IN HAWAII” date <Insert Date & Version #>.

4. Standard Condition 10 is emphasized, to report consumption on a regular basis.

5. The applicant may continue this existing use of ground water within the limits approved by the Commission, and the actual issuance of the interim permit shall not be a reason to interrupt this existing use.

6. This interim water use permit shall cease to become interim and shall be subject to HRS § 174C-55 upon administrative review of the quantity within five (5) years, provided that all conditions of the use (including the review of the quantity which shall not be greater than the amount initially granted) remain the same. Enforcement of the allocation limit shall be stayed pending staff’s review and issuance of a permanent water use permit.

7. As-built drawings of the well and pump, and a complete pumping test record shall be submitted within sixty (60) days.

8. In the event the pump tests show that aquifer boundary conditions do not support the requested withdrawals, the Commission reserves the right to amend this permit, after a hearing, to a level that is supported by the pump tests.

9. The existing use may be continued within the levels approved by the Commission, and the actual issuance of the permit document shall not be a reason to interrupt the approved level of use.

10. The filing of an application by Kukui, Inc. for a new or modified water use permit for the Kualapuu Aquifer in excess of 2.0 mgd (total system withdrawal) shall be just cause for re-consideration of this interim permit by the Commission.

11. Upon completion of a new transmission line for the transport of water use by Well #17, the permit shall be modified to reduce the allocation amount by the additional 79,220 gallons per day allocated for use of the Molokai Irrigation System.

12. Within six (6) months from the date of approval of a water use permit for the well, the applicant shall conduct a feasibility study and submit a report describing
alternative sources of nonpotable water for irrigation uses at the resort area. It is suggested that the developer consider use of dual lines in the subdivisions so that effluent may be used in the existing reuse system. Another consideration is the development of brackish water wells in the Kaluakoi Aquifer system for mixing with the effluent generated at the resort.

13. Within six (6) months from the date of approval of a water use permit for the well, the application shall evaluate the filter back discharges into Kakaako Gulch to determine if excessive preventable waste is occurring and identify possible measures to eliminate or reduce such waste. The evaluation shall be conducted in cooperation with the Commission staff and staff of the Department of Health's Safe Drinking Water Branch, which regulates the drinking water system.

14. Within six (6) months from the date of approval of a water use permit for the well, the applicant shall 1) implement a leakage control and detection system and compete repairs to prevent such leakage and 2) implement use of xeriscaping and low-flow fixtures.

15. Action on the future use portion of the water use permit application for Well #17 (Well No. 0901-01) is deferred pending the establishment of existing uses in the aquifer. Kukui Inc.'s application for uses in excess of those uses existing on July 15, 1992 will be considered "new" uses and will be taken up by the Commission as soon as other existing use applications have been decided. In the interim,
   a. The Commission shall recognize that there is disagreement between the applicant's staff calculations of reasonable-beneficial existing use
   b. The Applicant will have the burden of proof to show within six (6) months reasonable-beneficial existing use calculations that support the applicant's request as opposed to staff's calculations.
   c. The Commission's enforcement of the approved existing use allocation will be suspended for six (6) months.

16. The permittee shall submit a notice of intent and written request to continue the use at least ninety (90) days prior to the expiration of the interim five-year permit.

17. The Commission shall delegate to Maui Department of Water Supply the authority to allocate the use of water for municipal purposes, as provided in §174C-48(b).

18. Maui Department of Water Supply shall be exempt from the requirements for permit modifications, as provided in §174C-57(c).

19. The permittee must meter water use and monitor chloride concentrations on a monthly basis and submit monthly reports of water use and chloride concentrations to the Commission.

20. Standard Condition 16 is waived for saltwater wells.

21. The permit will be revoked if (1) stream monitoring shows that pumping the well reduces stream flow, or (2) the electromagnetic resistivity survey indicates that the
well was drilled into a dike compartment, unless the applicant submits a petition for an amendment to the interim instream flow standard with the well completion report. However, no use of the water may be made without a Pump Installation Permit, which cannot be issued during consideration of the amendment of the interim instream flow standard.

22. The applicant shall present the results of the electromagnetic resistivity survey, pump tests, and stream monitoring to a community meeting as well as to the Commission.

23. A final determination of water use quantity shall be made within five (5) years of the filing date of the application (<Insert Date>) to continue existing use.

24. The applicant shall implement, by December 31, 1995, a biological and hydraulic monitoring program for a minimum 2-year period that: 1) documents the existing operating procedure, 2) seeks to identify the impacts of all operating alternatives on Waikolu Stream, and 3) seeks to identify the effectiveness of weir modifications (Dam No. 1). This program shall incorporate the three new wells, Wells #4-6 (Well Nos. 0855-06, -05, &-04, respectively), which may be pumped within the approved limits, for monitoring and testing purposes only. Further, semi-annual reports summarizing data and preliminary findings shall be submitted to the Commission. It is suggested that the Department of Agriculture work with the State Division of Aquatic Resources and other affected agencies to prepare the monitoring program in light of the difficult technical questions raised by this application. A particular concern is the coordination of this monitoring program with the ongoing National Park Service study by Anne Brasher. A draft of this plan shall be submitted to the Commission staff within ninety (90) days for technical review and comment. Results of the monitoring program shall be used to make recommendations to the Commission on any additional use of the wells, and shall be made readily available to all interested parties.

25. That the Commission approves the well construction permit for the Kamiloloa-Waiola Well (Well No. 0759-01), subject to the standard well construction conditions and the special conditions for the pumping well for the aquifer tests.

26. That the Commission authorizes the Chairperson to approve and issue a pump installation permit upon acceptance of adequate pump test result, subject to the standard pump installation conditions.

27. Should the well be used for back-up domestic supply, applicant is advised to contact DOH or otherwise ensure safe drinking water quality is maintained.

28. The applicant shall follow the agreed monitoring plan.

29. If pesticides used by the applicant are found in ground or surface water and can be traced to the applicant's use, the CWRM may revoke the permit immediately upon such finding.
30. Issuance of the interim permit shall be withheld until the reservation of water for DHHL is set by rule. Applicant may continue this existing use within the approved limits.

31. The applicant shall submit well modification and pump installation permit applications for administrative approval by chairperson prior to beginning any work required to complete well.

32. Should any stream flow impacts result from use, petition to amend interim instream flow standards shall be submitted.

33. Should any dewatering result from use, pumping shall cease immediately.

34. Shall submit accurate schematic diagram of distribution system for the battery of 5 wells.

35. Shall be subject to a 6-month independent audit & monitoring.

36. Final pump capacity shall be determined from pump test results & approved administratively by signature of chair.

37. The permittee shall seek and submit to the Commission within ninety (90) days written confirmation from the Department of Land Utilization of the non-conforming use.

38. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted. The authority to approve future variance requests is delegated to the chairperson.

39. The duration of the interim permit shall be:
   a. To July 1, 2006, or
   b. Until treated wastewater is available and acceptable for use, or
   c. Until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

40. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).

41. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

42. Require adherence to the chloride sampling protocol and the submittal of weekly chloride data. The authority to approve variances from the weekly reporting requirement is delegated to the Chairperson.

43. Require adherence to the Conservation Conditions.
44. In the event a water shortage is declared by the Commission, permittees in the <Insert Aquifer System> shall comply with the <Insert Aquifer System> water shortage plan adopted by the Commission.

45. The permittee shall contact the Department of Health, Clean Water Branch and obtain the necessary discharge permit(s).

46. Permit shall be interim and replaces existing WUP for 2051-07 & 11.

47. Applicant shall submit an acceptable archaeological inventory survey report to DHP. If historic sites affected, a plan to mitigate these affects must be accepted by DHP and completed by applicant.

48. Should the well be used for back-up domestic supply, applicant is advised to contact DOH or otherwise ensure safe drinking water quality is maintained.

49. (The permittee) may report monthly pumpage on yearly basis.

50. Prior to issuance of any permits, must submit filing fee for after-the-fact pump installation permit.

51. The term of this permit shall be twenty years from the date of issuance of the permit with a five-year Board review to determine compliance with the provisions of the permit.

52. The amount of water to be withdrawn under this permit shall be 0.19 mgd, averaged annually, for irrigation use. This permitted use of 0.19 mgd when added to a preserved use of 0.27 mgd amounts to a total of 0.46 mgd, averaged annually, which may be withdrawn from well 1646-01.

53. The use authorized by the permit must not interfered substantially and materially with existing individual household uses and existing uses.

54. The use of this well shall be subject to the shortage and emergency powers of the Board of Land and Natural Resources (BLNR).

55. This permit may be suspended or revoked, in accordance with Chapter 166.

56. The permit holder may be required to relinquish this permit to BLNR, in accordance with Chapter 166.

57. The withdrawal from Well 1646-10 shall be recorded and reported to DLNR on a monthly basis by the permittee.

58. In the event that emergency water use occurs, the permittee shall notify the Commission in writing within one (1) day of pumping, to in form the Commission as to the nature of the emergency and the expected duration of the emergency. A water
use report shall also be filed pursuant to Standard Condition 10 and Administrative Rule 13-168-7.

59. Note DOH’s requirements related to non-potable water systems (attached to original permit).

60. Standard Condition 16 requiring the submittal of a water shortage plan is waived.

61. All non-potable spigots and piping shall be clearly labeled as “DO NOT DRINK, NON-POTABLE” to prevent direct human consumption.

62. Standard Condition 10 is modified. Due to the inability to take water level measurements, the requirement to measure monthly water levels is waived. In addition, as long as the U.S. Geological Survey is collecting and analyzing the chloride content of the well water, the requirement for the permittee to measure and report chlorides is also waived.

63. Well elevation components must be surveyed by a licensed surveyor and this information must be submitted to commission prior to issuance of permanent permit.

64. The permittee shall obtain approvals from the Department of Health and the U.S. Environmental Protection Agency prior to use of the water.

65. This water use permit, WUP No. <Insert #>, shall supersede WUP No. <Insert #>.

66. WUP No. <Insert #> is revoked

67. Standard Condition 17 is waived.

68. Standard Condition 22 for interim water use permits shall not apply.

69. To supplement our records, we request that you provide a map of the Galbraith Est. lands west of Wahiawa (2100 ac+) and the associated TMK’s for use area.

70. Deferred action on portion requested for golf course irrigation pending further refinement of irrigation requirement and a feasibility study for utilization of surface water sources, including Wahiawa Reservoir.

71. Written justification be provided for any 'cushion' of 0.5 mgd.

72. The water use permit shall be an interim permit. The duration of the interim permit shall be until treated wastewater is available and acceptable for use. The permittee shall continue discussions with Honolulu Board of Water Supply regarding the use of reclaimed water.

73. The permittee is put on notice that this is a qualified approval in that this permit may be modified or revoked prior to the expiration of the interim permit if the
Commission decides that the use of additional basal ground water for dust control and landscape irrigation is not reasonable-beneficial use.

74. The permittee encouraged to use drought-tolerant landscaping to conserve water.

75. Should the applicant provide written evidence that the county DHCD approves a 201E exemption for the elderly affordable housing project then the applicant may modify a corresponding portion of their existing aquacultural use to be used by the exemption approved project within the Commission approved water use permit limits under recommendation 5.

76. The applicant shall obtain a water lease/permit from Land Division prior to actual use of the well water.

77. Require the permittee to sign a contract by May 14, 1998 with the City Department of Wastewater Management to buy and use 0.400 mgd of R-1 water for a corresponding reduction in allocation for Well Nos. 1900-02, 17 to 20, and 1901-03.

78. Standard Condition 9 is waived.

79. Standard Condition 10 is modified to exempt the permittee from monthly measurements of salinity and temperature.

80. Standard Condition 10 is waived.

81. Applicant must seek a determination from BLNR and Land Mgt Div as to whether water license required. If required, license must be obtained prior to issuance of permit. If not, permit will be issued w/out further action.

82. Commission defers action on use in excess of 452,000 gpd pending additional info from BWS and further staff analysis.

83. The permit shall be subject to the Commission’s sustainable yield review by December 1990.

84. The Commission shall delegate to the Honolulu Board of Water Supply the authority to allocate the use of water for municipal purposes, in accordance with §174C-48(b) HRS.

85. Honolulu Board of Water Supply shall be exempt from the requirements of permit modifications as provided in §174C-57.

86. BWS must participate in discussions, to be coordinated by Commission Staff, regarding a monitoring program to address impacts to Kaneohe Bay water quality, prior to any action on applications for future municipal uses.

87. A pump installation permit application must be made and approved prior to the installation of a permanent pump.
88. The water withdrawn shall be 0.7 mgd for municipal use.

89. The installed pump capacity of the well shall not be more than 700 gpm or 1.01 mgd.

90. The term of permit shall automatically expire twelve months from the date of issuance.

91. The Honolulu Board of Water Supply may continue to submit monthly water data on their own form, provided that the data are submitted in a format that is acceptable to the Commission staff.

92. Standard Condition 7 shall not apply.

93. Standard Condition 22 shall not apply.

94. Standard Condition 10 is modified to exempt the permittee from monthly measurements of salinity and temperature.

95. This permit shall be subject to conditions providing for stream restoration if the Commission determines that additional water should be returned to the streams.

96. HECO 1 mgd for industrial use

97. Campbell Estate 1 mgd for municipal use through BWS, by separate agreement with HECO

98. BWS 1 mgd for municipal use.

99. The permit shall be subject to the Commission’s sustainable yield review by <Insert Date>.

100. The applicant shall obtain the current version of the Department of Health’s Guidelines Applicable to Golf Courses in Hawaii. Where relevant and viable, items of the guidelines should be implemented and sustained appropriately. To obtain the current version, contact the Safe Drinking Water Branch, Environmental Management Division at 808-586-4258 (Honolulu).

101. The future use portion of the application shall be deferred until existing uses in the Koolauloa area are established.

102. The water to be withdrawn under this permit shall be a total of 0.03 mgd (0.02 mgd preserved plus an additional 0.01 mgd permitted use), averaged annually, for domestic and irrigation use

103. Existing well 1851-09 shall be properly sealed by a licensed drilling contractor. A well modification permit application, enclosed, shall be submitted to the Department for approval of the well sealing. A filing fee for sealing the well will not be required.
104. The permittee is required to test the source using a certified private laboratory and submit the test results to the Commission within three (3) months. The Commission will then forward the results to the Department of Health for their review. The Department of Health recommends that the well be routinely tested for microbiological and chemical parameters thereafter.

105. The permittee is required to submit a completed Registration of Well and Declaration of Water use by <Insert Date>.

106. The permittee shall contact the Department of Health for a written determination on the status of their water system and comply with any Department of Health requirements for monitoring and testing.

107. In the event that the original spring source decontaminates, the new well authorized will be shut down.

108. That within each aquifer the total permitted use shall not exceed the sustainable yield.

109. That any water available for allocation shall be for in-district use.

110. That scheduled reductions to Oahu Sugar Co. permitted use shall be initiated upon final termination of an Osco lease or sub-lease, whichever occurs later.

111. That permits for water use issued in accordance with the proposed schedule shall be interim permits subject to review and adjustment by 1995.

112. That the permit shall be an interim permit for a new use which is afforded to existing users as specified in §13-171-20.

113. That the original allocation of 0.200 mgd shall be taken to hearing for possible revocation at a later date to complete the transfer of the water use permit entirely to Well No. 3407-02. This revocation would reduce the current allocation afforded to the Kunihiro Well (Well No. 3406-06) to zero.

114. This allocation incorporates the unspecified domestic needs of the applicant and therefore necessitates a single meter be installed at the well.

115. Should any impacts to nearby wells or streams be established by the use of this well, the applicant shall address these issues to the satisfaction of the Commission.

116. If an economically feasible nonpotable source is identified, the applicant shall convert to the alternative nonpotable source.

117. The permit shall be subject to the Chairperson's approval of a water use plan recommending possible measures to prevent or minimize saltwater contamination and establish courses of action to follow should the aquifer become to saline to use.
118. Permittee shall provide the necessary end-use information on the 10th residence to allow regulation of the use under Chapter 174C.

119. Standard Conditions 10 & 18 shall not apply.

120. Standard Condition 10 is modified to exempt the permittee from the requirement to install a flowmeter. Salt water withdrawals may instead be estimated based on pumping capacity and run time.

121. The applicant shall review the existing year long period of pumpage and streamflow data and provide analysis on ground and surface water interaction. Deadline is January 25, 1994.

122. The water use permit for Well Nos. 2301-27 to -32 for 0.75 mgd (WUP No. 419) shall be revoked upon issuance of a pump installation permit for the well.

123. The permittee shall use mulching to decrease evaporative losses and manage irrigation scheduling to minimize water demand.

124. The permittee shall submit a detailed agricultural plan to support any future water use permit application for increased agricultural use at this parcel.

125. If not already obtained, the permittee shall seek and obtain any necessary permits from the Department of Health for the proposed discharge to Malaekahana Stream.

126. Standard Condition 10 is modified to waive the requirement for installing a water meter on Well Nos. 2358-21, 22, and 29. The permittee shall install a water meter on Well No. 2358-26 to measure total monthly flow through the discharge line. This quantity should then be assumed to be the rate of natural flow from the other three wells for monthly reporting purposes.

127. The permit shall be effective upon submittal of documentation by Navy that it has met the DOH requirements for a public system.

128. This WUP shall be subject to Army's application for a WUP to reduce the permitted use of the Army's Schofield Shaft (2901-02 to 04, 10) by 0.208 mgd to a new total of 5.648 mgd. The Army's application shall be submitted within 60 days after the approval of this WUP or this WUP shall be void. Approval of the modification request shall be obtained from the CWRM prior to use of Well No. 3100-02 and issuance of this WUP.

129. Navy shall submit an after-the-fact PIPA, and approval of the permit shall be obtained prior to use of the well.

130. The well shall not be used for drinking water purposes unless it is properly tested and treated.
131. This permit is approved subject to reclaimed water becoming a practical alternative and provided that the Department of Health approves the reuse application.

132. Should any opae ula be recovered in the well water, the permittee shall notify the Division of Aquatic Resources and provide specimens to the Division of Aquatic Resources for analysis.

133. If a single meter at the well is used, the Commission shall allow an additional 1,000 gallons per day to the water use permit amount for the domestic needs of two residences, although a permit for individual domestic consumption is not required. Otherwise, the applicant must provide a meter to separately measure the irrigation consumption.

134. This permit is approved under the requirement that conversion to either: 1) treated wastewater becoming available for reuse as an alternative supply source, provided that Department of Health concerns over the use of treated effluent over the potable water aquifer have been addressed; and/or 2) other nonpotable source becoming available will occur in a timely manner.

135. These permits shall be subject to a review of actual use within four years for possible modification of the permitted amount.

136. The permit shall be reviewed in two (2) years for possible additional revocation due to nonuse.

137. The allocation is based on the projects listed in Exhibit 5 (of Item 10 of the May 20, 1998 Staff Submittal), except for the Queen’s Beach GC (TMK 139-11-2,3), Lot 9 (TMK 139-17-51), and Varsity Place (TMK 128-24-35).

138. Kamehameha Schools Bishop Estate/Honolulu Board of Water Supply shall transfer the water use permit within ninety (90) days of the effective date of the transfer of the pump station to the Honolulu Board of Water Supply, pursuant to §174C-59 Hawaii Revised Statutes.

139. The permittee shall ensure that the water is recycled by either directing it into the Waiahole Ditch for use by downstream farmers (subject to the approval of the Agribusiness Development Corporation’s Board) or into Waikiki Farm’s existing irrigation system.

140. The permittee shall file a completed application to modify WUP No. 758 to reduce the allocation by 0.100 mgd within 60 days. If a completed water use permit modification application is not received within 60 days from this submittal’s date, then the subject water use permit application (WUPA No. 767) shall be deemed denied without prejudice without the need for another hearing.

141. The water withdrawn shall be for municipal use. No improvements to the existing sources are required as the existing source capacities are greater than the increase.
142. Water license must be determined through LM.

143. Proposed other uses will be considered at a later date.
Water Use Permit Survey
(Please complete one survey form for each WUP)

WUP Number: 602
Well Number(s): well A-B-E (2003-01-02-03)

Contact Information (of the person who will be present at site visit):
Name: Charles Andy Muckle
Phone (for phone interview): 478-4679
Fax: 88 674 0593
Email: Andy @ Kapolei Golf. Co.
Best time to reach for phone interview: 1000 am - 1:30 pm week days

Property Information (of the water use/well location):
Address: 91-101 Farrington Hwy
City: Kapolei
Well Location TMK (list all if multiple wells present): A-B-E 3 total wells
Water Use TMK (list all if used on multiple lots):

Water Use/Well Information:
Is the water source currently in use? Yes ☑ No ☐
If no, please explain:

What are you currently using the water for? (example: "Use for 45 acres of diversified agriculture and 3 residences"): 140 Acres Turf and Land Scrape

Is a flow meter installed and working properly? Yes ☑ No ☐
If no, please explain:

Do you submit monthly water use reports to the State? Yes ☑ No ☐
If no, please explain:

Field Investigations:
A representative from Brown and Caldwell will be visiting wells in your area over the next several months between the times of 9:00 am and 5:00 pm. Each site investigation will take approximately 1-2 hours. Please indicate up to three potential days of the week and availability times for an on-site inspection of the well location and verification of water use compliance. The permit holder must provide Brown and Caldwell with at least five (5) working days notice of the need to reschedule.

Option #1 Date (M-F): ☑ Time: 9:00 am ☑ 12:00 pm ☐ 3:00 pm ☐
Option #2 Date (M-F): ☑ Time: 9:00 am ☐ 12:00 pm ☑ 3:00 pm ☐
Option #3 Date (M-F): ☑ Time: 9:00 am ☑ 12:00 pm ☐ 3:00 pm ☑

Once this survey is returned, a Brown and Caldwell representative will be contacting you to conduct a phone interview and finalize the exact date and time of your field investigation. Please fax/mail completed surveys by December 12th, 2007 and direct any questions related to this survey to Mr. Milo Smith of Brown and Caldwell at:
1099 Alakea Street, Suite #2400
Honolulu, HI 96813
Tel: (808) 203-2661
Fax: (808) 533-0226
mcsmith@brwncald.com

For Official Use Only
Received: 11/08/07 Information Updated: 11/08/07 Phone Interview Complete:

Notes/Comments:
Phone Interview

WUP Number: 602 Well Number(s): 2003-01, -02, -05
Contact Name: Charles Andy Meikle Phone Number: 478-4679

Attempt #1: Date/Time: 3/7/08 Result: Left Message
Attempt #2: Date/Time: 3/21/08 Result: Left Message

Well Location TMK(s): 9-1-016:025
Water Use TMK(s): 9-1-016:025
Water Source Address: 91-701 Farrington Hwy
City: Kapolei Zip Code: 96707

Currently using water source? Yes [ ] No [ ]
Notes/Comments: Used to irrigate golf course

How often is the water source being used? Daily [ ] Weekly [ ] Monthly [ ]
Notes/Comments: Depends on water usage - About 50% golf course 50% well

How long have you been using this water source?: 1991 - Zoned for use since home open 1994
Has there been any rezoning of the water source/water use properties? Yes [ ] No [X]
Have you reported the rezoning to the State? Yes [ ] No [ ] N/A [X]
If no, explain:

Scheduled field investigation day/time: August 28th, 2008 1:00
Notes (Special directions, site conditions, potential hazards, general notes, etc.):
Kapolei Golf Course

Comments To Make:

- Although we prefer that you do not change your scheduled field investigation time, if you require a reschedule, you must provide Brown and Caldwell with at least five (5) working days notice of the need to reschedule.
- A representative from Brown & Caldwell will be making a reminder phone call to you sometime during the week prior to your scheduled field investigation.
- It is very important that you provide access to the site at the day and time agreed upon. Due to a very tight schedule, if you fail to provide access at the agreed upon time and/or do not reschedule with at least a five (5) working day notice, a makeup date will not be allowed.
- If for some reason you don’t know where your well head is located, it would be a good idea to locate it prior to your field investigation to help make the visit go quickly and smoothly.

Interviewed By: [ ] Date: 6/1/08 Time: 1:00
Field Investigation Checklist

WUP Number: 822
Well Number(s): 2003-01, 02, 03

Water Source
Well Location TMK(s): 9-1-015-025 See all wells ABE
Well Head GPS Coordinates:
Latitude: See below
Longitude: See below
Well Type: Drill
Currently using water source? Yes ☐ No ☐
Notes/Comments: _____________________

Is there a flow meter installed? Yes ☐ No ☐
Is the flow meter operational? Yes ☐ No ☐
Notes/Comments: _____________________

Water Use
Water Use TMK(s): 9-1-015-025
What is the water being used for? Landscaping
Is the water being used within the permitted boundaries? Yes ☐ No ☐
If no, explain: __________________________________
Is there any observed wasting of water or water loss? Yes ☐ No ☐
If no, explain: __________________________________
Are the permit conditions being complied with? Yes ☐ No ☐
If no, explain: __________________________________

Other
Photographs of: Water Source ☐ Water Meter ☑ Usage Area ☐ Pump/Motor ☑

General Notes/Comments:

Investigated By: RT
Date: 2/22/03
Time: 10:10
Dear Water Use Permittee:

Hawaii Prince Golf Club/Hawaii Prince Hotel Waikiki Corp.,
Well Nos. 1900-02, 1900-17 to 20, 1901-03, WUP No. 469, 0.301 mgd, TMK 9-1-10:6
Haseko (Ewa), Inc., Well Nos. 1901-06, 1902-01, 1902-09 to 11, WUP No. 650, 3.300 mgd, TMK 9-1-12:5
Department of Parks and Recreation, Well No. 2001-03, WUP No. 167, 0.030 mgd, TMK 9-1-61:35
Palm Court Association, Well No. 2002-12, WUP No. 169, 0.040 mgd, TMK 9-1-61:22
Palm Villa II Association, Well No. 2001-08, WUP No. 168, 0.048 mgd, TMK 9-1-61:27
Arbors Association, Well No. 2001-07, WUP No. 171, 0.063 mgd, TMK 9-1-61:32
U.S. Fish & Wildlife, Well No. 2101-14, WUP No. 247, 0.216 mgd, TMK 9-1-17:12
Gentry Development Co., Well No. 2001-04, WUP No. 302, 0.040 mgd, TMK 9-1-61:7
Gentry Development Co., Well No. 2001-09, WUP No. 344, 0.023 mgd, TMK 9-1-61:2
Ewa by Gentry Community Association, Well No. 2001-05, WUP No. 450, 0.066 mgd, TMK 9-1-70:132
Gentry Homes, Ltd., Well No. 2001-12, WUP No. 504, 0.249 mgd, TMK 9-1-102:31
Gentry Homes, Ltd., Well No. 1901-05, WUP No. 505, 0.056 mgd, TMK 9-1-69:8
U.S. DOC/NOAA/NWS, Well No. 1900-23, WUP No. 501, 0.023 mgd, TMK 9-1-1:1
Coral Creek Golf, Inc., Well No. 2002-17, WUP No. 577, 0.498 mgd, TMK 9-1-69:10
Coral Creek Golf; Inc., Well No. 2001-13, WUP No. 578, 0.800 mgd, TMK 9-1-69:10
Coral Creek Golf, Inc., Well Nos. 2001-14, 2002-15,17,19, WUP No. 579, 0.892 mgd, TMK 9-1-69:10&11, 9-1-16:25
AOAO Suncrest/The Shores/Lombard Way/Avalon, Well No. 2001-10, WUP No. 629, 0.022 mgd, TMK 9-1-10:17
State Housing Community Development Corporation of Hawaii, Well Nos. 2003-04,07, WUP No. 432, 0.494 mgd, TMK 9-1-16:25
State Housing Community Development Corporation of Hawaii, Well Nos. 2003-08, WUP No. 520, 0.237 mgd, TMK 9-1-16:108
Kapolei People’s Inc., Well Nos. 2003-01,02,05, WUP No. 438, 1.000 mgd, TMK 9-1-16:25
Honolulu Board of Water Supply, Well Nos. 1905-08,10, WUP No. 740, 0.302 mgd, TMK 9-1-16:1

Conversion of Interim Water Use Permits for
New Irrigation Uses to Permanent Water Use Permits
Puuloa and Kapolei Ground Water Management Areas, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission) on the subject water use permits.
By a unanimous vote at their meeting on July 12, 2006, the Commission corrected the error of approving and issuing interim permits for new irrigation uses in the Puuloa and Kapolei Ground Water Management Areas of the Ewa Caprock Aquifer Sector Area by converting the subject interim water use permits to permanent water use permits. All terms and conditions of the permits shall remain unchanged, except for Special Condition d., which is deleted.

The Commission ruled that permittees shall be notified by letter of the Commission’s action to convert these water use permits from interim to permanent and the deletion of Special Condition d. The Commission further ruled that re-issuance of these water use permits is not necessary.

Please be advised that a compliance review will be initiated shortly as required under §174C-56 Hawaii Revised Statutes. We recommend that you carefully review the conditions of your permit and ensure that you are in compliance with all Standard and Special Conditions.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

DEAN A. NAKANO
Acting Deputy Director

LYN:ss
STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground-water use here must not interfere with surface or other ground-water rights or reservations.

5. The ground-water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its July 18, 2001 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;

EXHIBIT 3
c. insure adequate conservation measures;
d. require efficiency of water uses;
e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
g. carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

11. This permit shall be subject to the Commission's periodic review of the [Puuloa or Kapolei] Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the [Puuloa or Kapolei] Aquifer System, or relevant modified aquifer(s), is reduced.

12. A permit may be transferred, in whole or in part, from the permittee to another, if:

a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
b. The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The use(s) authorized by law and by this permit do not constitute ownership rights.

14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.
The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the [Puuloa or Kapolei] Ground-Water Management Area.

The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

Special conditions in the attached cover transmittal letter are incorporated herein by reference.

The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.
SPECIAL CONDITIONS

a. Should an alternate permanent source of water be found, the Commission reserves the right to revoke the permit, after a hearing.

b. 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.

c. Pumping shall cease immediately if the chloride reports show that the brackish water developed in the well exceeds 1,000 mg/l of chloride, unless a variance from the chloride limit has been granted. The authority to approve future variance requests is delegated to the Chairperson.

d. The duration of the interim permit shall be
   a) to July 1, 2006, or
   b) until treated wastewater is available and acceptable for use, or
   c) until such time that a significant change in permitted, actual, or projected uses or water supply occurs.

e. Action on any interim permit may be initiated by the Commission or any permittee upon letter request or pursuant to §174C-57 Haw. Rev. Stat. (Modification of permit terms).

f. This permit is approved under the assumption that wastewater will become available for reuse as an alternative supply source.

g. Require adherence to the chloride sampling protocol shown in Attachment B and the submittal of weekly chloride data. The authority to approve variances from the weekly reporting requirement is delegated to the Chairperson.

h. Require adherence to the Conservation Conditions shown in Attachment C.

i. In the event a water shortage is declared by the Commission, permittees in the Puuloa Aquifer System shall comply with the Puuloa Water Shortage Plan adopted by the Commission.
Mr. Bernard H. Matano  
Kapolei People's Inc.  
91-701 Farrington Hwy.  
Kapolei, HI 96707

Dear Mr. Matano:

Approval of Water Use Permit for Well Nos. 2003-01,02,05  
Kapolei Ground Water Management Area, Oahu

This letter transmits your water use permit for KAPOLEI IRR A,B,E Wells (Well Nos. 2003-01,02,05) for use of 1.000 million gallons per day (mgd) of water on a 12-month moving average basis that was approved by the Commission on Water Resource Management (Commission) on May 14, 1997. This water use permit supersedes WUP No. 431 that was transmitted to you on March 13, 1996.

As part of the Commission’s approval, the following special conditions were added and are part of your permit under Standard Permit Condition 20:

**Special Conditions**

a. The duration of the interim permit shall be to October, 1998 or until such time that a significant change in permitted, actual, or projected use of water supply or water quality occurs.

b. Require adherence to the chloride sampling protocol (attached) and the submittal of weekly chloride data, as may be amended by the Commission staff.

c. Require adherence to the Conservation Conditions (attached).

Enclosed with this letter of approval are the following:

1. Your water use permit
2. Your official monthly water use report form

Please be sure to read the conditions of your approved permit. If you accept these terms, please sign and return one copy of this permit to the Commission and retain a copy for your record.

You are required to keep a record of your monthly total pumpage, water level, and water temperature. This information must be submitted to the Commission on a regular monthly basis using the enclosed water use report form. You should make copies of the enclosed report form as needed.

You are also required to submit a water shortage plan to the Commission within thirty (30) days of the issuance date of this permit. Your water shortage plan simply identifies what you are willing to do should the Commission declare a water shortage situation in the Kapolei Ground Water Management Area and can be as short as a one page letter. In a water shortage situation, the Commission may require temporary reductions in pumpage from all sources. The Commission is required, by law, to formulate a plan to implement such area-wide reductions, which should accommodate, include, and be consistent with your plans. Therefore, your help, by submitting your water shortage plan, is greatly needed in formulating the Commission’s overall Water Shortage Plan.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

[Signature]

MICHAEL D. WILSON  
Chairperson

Attachments
GROUND WATER USE PERMIT
WUP NO. 438

PERMITTEE

Applicant/Water User
Address KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI HI 96707

Landowner of Source
Address KAPOLEI PEOPLE'S INC.
91-701 FARRINGTON HWY.
KAPOLEI HI 96707

PERMITTED SOURCE INFORMATION

Island OAHU
Water Management Area KAPOLEI
Aquifer Sector EWA CAPROCK
Aquifer System KAPOLEI
System Sustainable Yield NA
Well Name KAPOLEI IRR A,B,E
State Well No. 2003-01.02.05

PERMITTED USE INFORMATION

Reasonable beneficial use GOLF COURSE IRRIGATION
Withdrawal (12 month moving ave.) 1,000 mgd
Chloride Cap 1,000 mg/l
Location of water use
TMK # 9-1-16:35,110
Address VILLAGES OF KAPOLEI
State land use classification URBAN
County zoning classification AG-1

Pursuant to Hawaii's State Constitution, Article XI, Section 7, Hawaii Revised Statutes, Chapter 174C; Hawaii Administrative Rules, Chapters 13-167 through 13-171; and Hawaii decisional law and custom, the applicant is hereby authorized to use ground water from the sources and in the amount and from and upon the locations described above; subject however, to the requirements of law including but not limited to the following conditions:
1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)

2. The right to use ground water is a shared use right.

3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
   a. Can be accommodated with the available water source;
   b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
   c. Will not interfere with any existing legal use of water;
   d. Is consistent with the public interest;
   e. Is consistent with State and County general plans and land use designations;
   f. Is consistent with County land use plans and policies; and
   g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).

4. The ground water use here must not interfere with surface or other ground water rights or reservations.

5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
   a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
   b. The interim or permanent instream flow standard, as applicable, must be amended.

6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.

7. The water use permit application and submittal, as amended, approved by the Commission at its May 14, 1997 meeting are incorporated into this permit by reference.

8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
   a. protect the water sources (quantity or quality);
   b. meet other legal obligations including other correlative rights;
   c. insure adequate conservation measures;
   d. require efficiency of water uses;
   e. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   f. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   g. carry out such other necessary and proper exercise of the State’s and the Commission’s police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. If the ground water source does not presently exist, the new well shall be completed, i.e. able to withdraw water for the proposed use on a regular basis, within twenty-four (24) months from the date the water use permit is approved.

11. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).

12. This permit shall be subject to the Commission’s periodic review of the KAPOLEI Aquifer System’s sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the KAPOLEI Aquifer System, or relevant modified aquifer(s), is reduced.
13. A permit may be transferred, in whole or in part, from the permittee to another, if:
   a. The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
   b. The Commission is informed of the transfer within ninety days.

   Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

14. The use(s) authorized by law and by this permit do not constitute ownership rights.

15. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

16. The permittee understands that under HRS § 174C-55(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.

17. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the KAPOLEI Ground Water Management Area.

18. The water use permit granted shall be an interim water use permit, pursuant to HAR § 13-167-3(6). The final determination of the water use quantity shall be made within five years of the filing of the application.

19. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.

20. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

21. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

\[\text{Signature}\]

MICHAEL D. WILSON, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed.

Applicant's Signature: _____________________________ Date: ______________________

Printed Name: _____________________________ Firm or Title: _____________________________

Please sign both copies of this permit, return one to the Commission, and retain the other for your records.

Attachment
TO: Commission on Water Resource Management  
Dept. of Land and Natural Resources  
1151 Punchbowl Street, Room 227  
Honolulu, Hawaii 96813

RE: Kapolei Golf Course - Kapolei Wells A, B & E

DATE: September 3, 1996

ATTENTION: Ms. Lenore Nakama

WE ARE SENDING YOU ☑ Attached / courier  
☐ Under separate cover via ........................................ the following items:

<table>
<thead>
<tr>
<th>COPIES</th>
<th>DATE NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ea</td>
<td></td>
<td>Vellum - Location and Topographic Survey (Wells A &amp; B)</td>
</tr>
<tr>
<td>2 ea</td>
<td></td>
<td>Print - &quot; &quot; &quot; &quot;</td>
</tr>
<tr>
<td>1 ea</td>
<td></td>
<td>Vellum - Location and Topographic Survey (Well E)</td>
</tr>
<tr>
<td>2 ea</td>
<td></td>
<td>Prints &quot; &quot; &quot; &quot;</td>
</tr>
</tbody>
</table>

THESE ARE TRANSMITTED as checked below:

☐ For approval  
☒ For your use  
☐ As requested/required  
☐ For review and comment  
☐ FOR BIDS DUE ........................................ 19  
☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

---------------------------------------------------------------

IF THERE ARE ANY QUESTIONS PLEASE CONTACT: Leo Domingo

SIGNED: Project Coordinator

COPY TO

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE.
PART II.  (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company:  ROOSE MOSS HAWAII INC.

21. Name of person performing work:  JOHN HOLE

22. Date Pump Installation Completed:  3/24/93

23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.:  GE, 5K2150NMA9RH  Capacity:  350 gpm
   Motor type, H.P., Voltage, rpm:  10HP, 230/460 Volts, 1745 rpm
   Depth of Pump Intake Setting:  82'-3" ft. below Below Head, which elevation is __ ft.
   Depth to bottom of airline:  79" ft. below Below Head, which elevation is __ ft.
   Pumping Head is:  46 ft. Type of flow meter:  Propeller Type, which measures in Gallons (Hundreds)

24. As-built drawings attached:  Yes  No

25. Other remarks/comments:  (See below)

Pump Installation Contractor (print):  Roscoe Moss Hawaii  C-57 Lic. No.:  C-16437

Signature:  [Signature]

Applicant (print):  [Signature]

Date:  5-9-96

8.(cont'd) DRILLER'S LOG (cont'd):

<table>
<thead>
<tr>
<th>Water Level Dates</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
<th>Water Level Dates</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Well No. 2003-01

19.& 25. Remarks:

________________________

________________________

________________________

________________________

________________________

________________________

________________________

________________________
## WELL CONSTRUCTION REPORT

1. **State Well No.:** 2003-01  
   **Well Name:** KAPOLEI WELL A  
   **Island:** OAHU

2. **Location/Address:** KAPOLEI GOLF COURSE, EWA  
   **Tax Map Key:** 9-1-164-25

### PART I.  

#### WELL CONSTRUCTION REPORT

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Rock Description</th>
<th>Date</th>
<th>Water Level</th>
<th>Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 20</td>
<td>Clay, Redd Brown</td>
<td>30 to 80</td>
<td>Silty IS</td>
<td></td>
</tr>
<tr>
<td>20 to 30</td>
<td>Clay, Calc Mud</td>
<td>80 to 85</td>
<td>Coral IS</td>
<td></td>
</tr>
</tbody>
</table>

- **Drilling Company:** ROSSCO MOSS HAWAII INC
- **Name of driller who performed work:** JERRY FURIE
- **Type of rig/construction:** CABLE TOOL
- **Date(s) Well Construction and pump tests (if any) completed:** JUNE 1991
- **GROUND ELEVATION (referenced to mean sea level, msl):** 58.2 ft.
  - Well Bench Mark (description/location):
  - Elevation (msl): ______ ft.
- **DRILLER'S LOG:** Please attach geologic log (if available or if required by permit)

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 20</td>
<td>Clay, Redd Brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 to 30</td>
<td>Clay, Calc Mud</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. **Casing installed:**
   - 12 in. I.D. x sch 80 in. wall solid section to 65 ft. below ground
   - 12 in. I.D. x sch 40 in. wall perforated section to 85 ft. below ground

- **Casing Material/Slot Size:** PVC
- **Annulus:**
  - Grouted from 0 ft. below ground to 55 ft. below ground
  - Gravel packed from 55 ft. below ground to 85 ft. below ground

13. **Initial water level:** 58.8 ft. below ground.  
14. **Initial chloride:** 465 ppm  
15. **Initial temperature:** __________°F

16. **PUMPING TESTS:**
   - **Reference Point (R.P.) used:** Ground Surface, which elevation is 60.4 ft.
   - **Step-Drawdown Test Date:** 6/18/91
   - **Long-term Aquifer Test Date:**
     - Start water level 58.7 ft. below R.P.
     - End water level 56.1 ft. below R.P.

17. **Aquifer Pump Test Procedures data & graphs (1/96 LTAT Form) attached?** Yes No
18. **As-built drawings attached?** Yes No
19. **Other remarks/comments:**

---

**Well Drilling Contractor (print) C-57 Lic. No.**

**Surveyor (print) Lic. No.**

**Applicant (print)**

**Signature**
Job: 0692 W KAPOLEI WELL

Date: 3/24/93

SURFACE DISCHARGE

¢ TO FACE OF FLANGE

MOTOR: GE MFR. K TY

10 H.P. CY. 230/460 VOLTS
1745 R.P.M. 3 PH. FRAME

BASE TO ¢ OF DISCHARGE

DISCHARGE COMPANION FLANGE FOR

6X6X10 DISCHARGE HEAD

N/A O.D. TOP COL. FLANGE

12" I.D. OF WELL

7" O.D. OF COUPLING

6" COLUMN

1" SHAFT

TUBE

BOWL UNIT:

3 STAGE

OD. OF BOWLS

N/A SUCTION PIPE

STRAINER:

N/A SIZE N6 O.D.

TYPE

PUMP RATING

G.P.M. 150
FT. FIELD HD. 96

NOTE: INSTALLED WITHOUT SCREEN
Date: 3/24/93  Customer: KAROLEI WELL  

Motor:  Make/Model: SK215EUM4DAQRH  HP: 10  RPM: 1745
Volts: 230/460  Phase: 3  Cycle: 3  Mfg Date: 3/93

Column Assy:  Column Size: 6 in. dia., Length: 10 ft \( \frac{\text{ft}}{\text{in.}} \)
Water Lube: \( \checkmark \) or Oil Lube: 
Shaft Size: \( \text{in.} \) dia, Bearing Type: RUBBER
Top: 1 pcs, Length (ea): 4 ft \( \text{in.} \)
Intermediate: 1 pcs, Length (ea): 10 ft \( \text{in.} \)
Bottom: 1 pcs, Length (ea): 5 ft \( \text{in.} \)

Bowl Assy:  Make/Model: LANE 9BL
Shaft Size (dia): 1.5 in.
Stages: 3  SN: 1444444  Mfg Date: 3/93
Mat'l: Impeller: POLY  Bowl Shaft: 416  
Cases: 
Air Line: Length: 10 ft \( \text{in.} \) in, Type: BRASS
Location: TOP OF PUMP

Electrical:  Starter:  Size: 
Voltage:  Type: 

Performance:  GPM: Flow Reading, Head: ft or psi
Type of Meter: 
Amps: Load-1  Load-2  Load-3 
Volts: Load-AB  Load-BC  Load-CA 
Amps: No-load-1  No-load-2  No-load-3 
Volts: No-load-AB  No-load-BC  No-load-CA 

Well Data:  Casing ID: \( \frac{\text{in.}}{\text{in.}} \) in, Casing Length: \( \text{ft} \) \( \frac{\text{in.}}{\text{in.}} \)
Well Depth: \( \frac{\text{in.}}{\text{in.}} \) in, Surface Plate Elev: \( \text{ft} \) \( \frac{\text{in.}}{\text{in.}} \)
Static Water Level Elev: \( \frac{\text{in.}}{\text{in.}} \) in, Draw Down: \( \text{ft} \) \( \frac{\text{in.}}{\text{in.}} \).
August 8, 1996

State of Hawaii
Dept of Land and Natural Resources
Commission on Water Resource Mgmt
P.O. Box 621
Honolulu, HI  96809

Attn: Rae M. Loui, Deputy Director

Ref: State Well 2003-01, Kapolei Well A and State Well 2001-08, Palm Villa II

Per your letter dated August 6, 1996, we have made the necessary corrections as requested on the completion report for State Well 2003-01 and completed the well completion report submitted for State Well 2001-08.

Included for your information is a copy of the installers report dated 3/24/93. There were three or more reports prepared for this customer, apparently there was a mix-up in the transposing of the data.

If you have any questions, please call me at 682-5554.

Sincerely,

Bill Moore
Vice President

Encl
Mr. Bill Moore  
Roscoe Moss Hawaii, Inc.  
91-259A Olai St.  
Kapolei, HI 96707

Dear Mr. Moore:

Well Completion Reports for Permanent Pump Installation

We received a well completion report for the permanent pump installation for Well No. 2003-01, showing the depth of pump intake setting is 92 ft. 4 in. and the bottom of the hole is only 85 ft. Please clarify this discrepancy by correcting the error on the well completion report (original enclosed) and return the report to our office.

Additionally, the well completion report for the permanent pump installation for Well No. 2001-08 does not show the date of the pump installation. Please complete the report (original enclosed) by filling in the date of the pump installation and return the report to our office.

By our certified letter of June 21, 1996, you have been notified that well and pump contractors are responsible for filing well completion reports pursuant to §13-168-13 within thirty (30) days after completion of the work. As such, we request that you return the corrected/completed forms to our office within fifteen (15) days from the date of this letter.

If you have any questions, please contact Roy Hardy at 587-0274.

Sincerely,

[Signature]

RAE M. LOUI  
Deputy Director

LN:ss  
Enclosures
AUG - 2 1996

Mr. Steve Thomas
Housing Finance & Development Corp.
677 Queen Street, Suite 300
Honolulu, Hawaii 96813

Dear Mr. Thomas:

Thank you for submitting the well completion reports for the permanent pump installation for Kapolei Irr A, B, & E Wells (Well Nos. 2003-01, 02, & 05). There is a discrepancy in the well completion report for Well A; we are following up with the drilling contractor to resolve the discrepancy.

Our letter of April 23, 1996 (attached) also requested actual as-built drawings for the permanent pump installation for all five wells. We note that the pump installation plans for Kapolei Irr A, B, & E Wells were provided in lieu of actual as-built drawings. However, because the plans correspond closely with the actual construction (as determined from the driller's completion report), we are waiving the requirement to submit actual as-built drawings.

We understand that Well C-1 (Well No. 2003-07) is not in operation and is only plugged at the surface and that Well D (Well No. 2003-04) is outfitted with only a temporary pump. Please be advised that the permit for installing a permanent pump in Well D (Well No. 2003-04) has lapsed and a new application must be made and approved by the Commission prior to any permanent pump installation. The permit for installing a permanent pump in Well C-1 (Well No. 2003-07) will expire on October 19, 1996.

With regard to the use of Well D for dust control purposes, be advised that dust control is not a permitted use of the well. An application to modify the water use permit must be made pursuant to §13-171-23 HAR prior to any future use of the well for dust control purposes. We have attached an application form for your use.

Lastly, we are still not in receipt of elevation (referenced to mean sea level) surveys by a Hawaii-licensed surveyor for Kapolei Irr A, B, C-1, D, & E (surveyor's stamp and license number should be provided on the document). Our letter of April 23, 1996 established a May 15, 1996 deadline for submitting elevation surveys. As this deadline has passed, we request that you respond to this letter as soon as possible.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

RAE M. LOUI
Deputy Director

LN:ss
Attachments
TO State of Hawaii  
Commission on Water Resource Management  
Department of Land and Natural Resources  
P. O. Box 621  
Honolulu, HI 96809

RE Kapolei Golf Course

WE ARE SENDING YOU [x] Attached

[ ] Under separate cover via __________________________ the following items:

<table>
<thead>
<tr>
<th>COPIES</th>
<th>DATE</th>
<th>NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Well Completion Report for Kapolei Caprock E, State Well No. 2003-05</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Well Completion Report for Kapolei Well A, State Well No. 2003-01</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Well Completion Report for Kapolei Caprock F, State Well No. 2003-02</td>
</tr>
</tbody>
</table>

THESE ARE TRANSMITTED AS CHECKED BELOW:

[ ] For approval  [ ] Approved as submitted  [ ] Resubmit ______ copies for approval
[ ] For your use  [ ] Approved as noted  [ ] Submit ______ copies for distribution
[ ] As requested/required  [ ] Returned for corrections  [ ] Return ______ corrected prints
[ ] For review and comment  [ ] For signature
[ ] FOR BIDS DUE ______________________ 19 ________  [ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS __________________________________________________________

IF THERE ARE ANY QUESTIONS PLEASE CONTACT: Leo Domingo

PHONE: 587-3170  

SIGNED: ______________________

COPY TO ______________________

IF ENCLOSURES ARE NOT AS NOTED, KINDLY NOTIFY US AT ONCE
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ROSCOE MOSS HAWAII INC.

21. Name of person performing work: JOHN MOLE

22. Date Pump Installation Completed: 3/24/93

23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.: GE, 5K215QNM49RH
   Capacity: 350 gpm
   Motor type, H.P., Voltage, rpm: 10HP, 230/460 Volts, 1745 rpm
   Depth of Pump Intake Setting: 42 ft. below Bedrock which elevation is 206.0 ft.
   Depth to bottom of airline: 84 ft. below Bedrock which elevation is 209.0 ft.
   Pumping Head is 96 ft. Type of flow meter: Propeller Type which measures in gallons.

24. As-built drawings attached? Yes No

25. Other remarks/comments: (See below)

Pump Installation Contractor (print) Roscoe Moss Hawaii C-57 Lic. No. C-16437
Signature
Applicant (print)
Signature

8.(cont'd) DRILLER'S LOG (cont'd):

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Water Level</th>
<th>Depth (ft)</th>
<th>Rock Description, Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19 & 25. Remarks: * AMENDED 8-8-96 TEL. CONV. W/ PAUL WANKE OF ROSCOE MOSS CO.

KAPOLEI "003-01
WELL COMPLETION REPORT

PART I. WELL CONSTRUCTION REPORT

1. State Well No.: 2003-01
2. Well Name: KAPOLEI WEL. A
3. Island: OAHU
4. Location/Address: KAPOLEI GOLF COURSE
5. Tax Map Key: 9-1-16425

Drilling Company: ROSCOE MOSS HAWAII INC
Name of driller who performed work: JERRY FOURNE
Type of rig/construction: CABLE TOOL
Date(s) Well Construction and pump tests (if any) completed: JUNE 1991
GROUND ELEVATION (referenced to mean sea level, msl): 58.9 ft.
Well Bench Mark (description/location):
Elevation(msl): 1 ft.

8. DRILLER’S LOG: Please attach geologic log (if available or if required by permit)

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Dates, etc.</th>
<th>Depths (ft.)</th>
<th>Rock Description</th>
<th>Water Level</th>
<th>Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 20</td>
<td>Clay, Red Brown</td>
<td></td>
<td></td>
<td>30 to 80</td>
<td>Silty LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 to 30</td>
<td>Clay, Calc Mud</td>
<td></td>
<td></td>
<td>80 to 85</td>
<td>Coral LS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Total depth of well below ground: 85 ft.
10. Hole size: 18 inch dia. from 0 ft. to 85 ft. below ground

11. Casing installed: 12 in. I.D. x sch 80 in. wall solid section to 65 ft. below ground
Casing Material/Slot Size: PVC

12. Annulus: Grouted from 0 ft. below ground to 55 ft. below ground
Gravel packed from 55 ft. below ground to 85 ft. below ground

13. Initial water level: 58.8 ft. below ground. Date and time of measurement: 6/18/91 08:45 am
14. Initial chloride: 465 ppm Date and time of sampling: 6/18/91 09:00 am
15. Initial temperature: 64°F Date and time of measurement:

16. PUMPING TESTS: Reference Point (R.P.) used: GRound surface, which elevation is 60.4 ft.
   (1) Step-Drawdown Test Date 6/18/91 08:45 am
   Start water level 58.71 ft. below R.P.
   End water level 56.842 ft. below R.P.
   (2) Long-term Aquifer Test Date
   Start water level 58.71 ft. below R.P.
   End water level 56.842 ft. below R.P.

17. Aquifer Pump Test Procedures data & graphs (1/96 LTAT Form) attached? Yes No
18. As-built drawings attached/attached? Yes No
19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) C-57 Lic. No.
Signature Date
Surveyor (print)
Signature Lic. No.
Applicant (print)
Signature Date
KAPOLEI WELL A 2003-01
DRAFT: JUNE 1991
PUMP INSTALLED: MARCH 24, 1993 CAP. 350 GPM

3' - 9"

3' - 9"

MOTOR

TOP OF SLAB
ELEV. = 60.0

FIN. GRND.

6" WELL PUMP "A" COLUMN
6" WELL PUMP "B" COLUMN
4" WELL PUMP "E" COLUMN

EXISTING 12" PVC CASING

ELEV. = 1.6 WELL "A"
ELEV. = 0.9 WELL "B"
ELEV. = 1.2 WELL "E"
STATIC WATER LEVEL
ELEV. = (-)18.5 WELL "A"
ELEV. = (-)16.5 WELL "B"
ELEV. = (-)27.0 WELL "E"
BOTTOM AIR LINE

ELEV. = (-)21.5 WELL "A"
ELEV. = (-)19.5 WELL "B"
ELEV. = (-)30.0 WELL "E"
BOTTOM PUMP BOWLS

ELEV. = (-)24.6 WELL "A"
ELEV. = (-)23.0 WELL "B"
ELEV. = (-)40.0 WELL "E"
END OF PERFORATED CASING
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ROSCOE MOSS HAWAI'I INC.
21. Name of person performing work: JOHN MOLE
22. Date Pump Installation Completed: FEB 15, 1993

23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.: GE 5K2150NM4JA4RH
   Motor type, H.P., Voltage, rpm: 10 hp, 460 volts, 1745 rpm
   Capacity: 350 gpm
   Depth of Pump Intake Setting: 80'4" ft. below Bedrock, which elevation is 59'6" ft.
   Depth to bottom of airline: 77'6" ft. below Bedrock, which elevation is 59'6" ft.
   Pumping Head: 96'1" ft. Type of flow meter: TURBINE TYPE which measures in GALLONS.

24. As-built drawings attached: Yes  No
25. Other remarks/comments: (See below)

Pump Installation Contractor (print) Roscoe Moss Hawaii  C-57 Lic. No. C-16437
Signature Date 5-9-96
Applicant (print)
Signature Date

8.(cont'd) DRILLER'S LOG (cont'd):

<table>
<thead>
<tr>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
<th>Water Level Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks,</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
<tr>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
<td>____________ to ____________</td>
<td>____________</td>
<td>__________________________</td>
</tr>
</tbody>
</table>

WELL COMPLETION REPORT

State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources

WELL COMPLETION REPORT

Well No.: 2003-02
Well Name: KAPOLEI CARRICK B
Island: OAHU

1. State Well No.: 2003-02

2. Location/Address: KAPOLEI GOLF COURSE, EWA

3. Drilling Company: ROSCOE MOSS HAWAII, INC.

4. Name of driller who performed work: HAL FENTON

5. Type of rig/construction: CABLE TOOL

6. Date(s) Well Construction and pump tests (if any) completed: SEPT. 1991

7. GROUND ELEVATION (referenced to mean sea level, msl): 58.6 ft.

8. DRILLER'S LOG: Please attach geologic log (if available or if required by permit)

9. Total depth of well below ground: 82 ft.

10. Hole size: 18 inch dia. from 0 ft. to 82 ft. below ground

11. Casing installed:

   - 12 in. I.D. x sch 80 in. wall solid section to 82 ft. below ground
   - 12 in. I.D. x sch 40 in. wall perforated section to 82 ft. below ground

12. Annulus:

   - Grouted from 0 ft. below ground to 50 ft. below ground
   - Gravel packed from 50 ft. below ground to 82 ft. below ground

13. Initial water level: 57.7 ft. below ground


15. Initial temperature: 84 °F

16. PUMPING TESTS: Reference Point (R.P.) used: GROUND SURFACE, which elevation is 58.6 ft.

   - Step-Drawdown Test Date 9/4/91
   - Long-term Aquifer Test Date

   - Start water level 87.9 ft. below R.P.
   - Start water level ft. below R.P.
   - End water level 87.9 ft. below R.P.
   - End water level ft. below R.P.

17. Aquifer Pump Test Procedures data & graphs (1/9/96 LTAT Form) attached? Yes No

18. As-built drawings attached? Yes No

19. Other remarks/comments: (On back of this form)

Well Drilling Contractor (print) C-57 Lic. No.
Signature ____________________________ Date ____________

Surveyor (print) Lic. No.
Signature ____________________________ Date ____________

Applicant (print) ____________________________ Date ____________

Signature ____________________________ Date ____________
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ROSCOE MOSS HAWAII INC.

21. Name of person performing work: JOHN MOLE

22. Date Pump Installation Completed: OCT. 1992

23. PUMP INSTALLATION:

- Pump Type, Make, Serial No.: GE, 5K213QNM4JAJ7RH
- Capacity: 150 gpm
- Motor type, H.P., Voltage, rpm: 5 hp, 460 volts, 1755 rpm
- Depth of Pump Intake Setting: 90 3/4 ft. below BELOW HEAD, which elevation is 59 9/16 ft.
- Depth to bottom of airline: 87 ft. below BELOW HEAD, which elevation is 59 9/16 ft.
- Pumping Head: 96 ft. Type of flow meter: Propeller Type which measures in Gallons

24. As-built drawings attached: Yes

25. Other remarks/comments: (See below)

Applicant (print)
Signature: Date 5-9-96

8.(cont’d) DRILLER’S LOG (cont’d):

- Water Level Depth (ft.) Rock Description, Remarks,
  Dates (ft.)
  89 to 100 Brown Clay Muddy
  to
  to
  to
  to
  to


KAPOLEI E 2003-05
### Part I. Well Construction Report

1. **State Well No.**: 2003-05  
   **Well Name**: KAPOLEI CAPROCK E  
   **Island**: OAHU

2. **Location/Address**: KAPOLEI GOLF COURSE, EWA  
   **Tax Map Key**: 9-1-16:25

#### 3. Drilling Company:
- **ROSCOE MOSS HAWAII INC.**

#### 4. Name of driller who performed work:
- **HAL FENTON**

#### 5. Type of rig/construction:
- **CABLE TOOL**

#### 6. Date(s) Well Construction and pump tests (if any) completed:
- **JUNE 1991**

#### 7. GROUND ELEVATION (referenced to mean sea level, msl):
- **58.9 ft.**  
  - Well Bench Mark (description/location): Elevation (msl): ____ ft.

#### 8. DRILLER'S LOG:
- Please attach geologic log (if available or if required by permit)

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Dates, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 16</td>
<td>Dark &amp; Red Clay</td>
</tr>
<tr>
<td>16 to 70</td>
<td>Muddy Coral</td>
</tr>
<tr>
<td>70 to 80</td>
<td>White Coral</td>
</tr>
<tr>
<td>80 to 89</td>
<td>Green Grey Muddy Coral</td>
</tr>
</tbody>
</table>

(If more space is needed, continue on back)

#### 9. Total depth of well below ground:
- **100 ft.**

#### 10. Hole size:
- 18 inch dia. from 0 ft. to 90 ft. below ground
- 10 inch dia. from 90 ft. to 100 ft. below ground
- ____ inch dia. from ft. to ft. below ground

#### 11. Casing installed:
- 12 in. I.D. x sch 80 in. wall solid section to 62 ft. below ground
- 10 in. I.D. x sch 40 in. wall perforated section to 90 ft. below ground

#### 12. Annulus:
- Grouted from 0 ft. below ground to 60 ft. below ground
- Gravel packed from 50 ft. below ground to 90 ft. below ground

#### 13. Initial water level:
- **57.1 ft.** below ground  
  - Date and time of measurement: 6/3-91 8:25AM

#### 14. Initial chloride:
- **450 ppm**
  - Date and time of sampling: 6/3-91 9:10AM

#### 15. Initial temperature:
- **77.0° F**
  - Date and time of measurement: 6/3-91 8:50AM

#### 16. PUMPING TESTS:
- Reference Point (R.P.) used: Ground Surface, which elevation is 69 ft.

<table>
<thead>
<tr>
<th>(1) Step-Drawdown Test Date (6/3-91)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start water level 57.15 ft. below R.P.</td>
</tr>
<tr>
<td>End water level 51.15 ft. below R.P.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Long-term Aquifer Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start water level ft. below R.P.</td>
</tr>
<tr>
<td>End water level ft. below R.P.</td>
</tr>
</tbody>
</table>

#### 17. Aquifer Pump Test Procedures data & graphs (1/9/96 LTAT Form) attached?  
- **Yes**  
- **No**

#### 18. As-built drawings attached?  
- **Yes**  
- **No**

#### 19. Other remarks/comments:  
- **(On back of this form)**

---

**Well Drilling Contractor (print)**

**C-57 Lic. No.**

**Signature**

**Date**

**Surveyor (print)**

**Lic. No.**

**Signature**

**Date**

**Applicant (print)**

**Signature**

**Date**
Kapolei Well E 2003-05
DRAINED: June 1991
PUMP INSTALLED: Oct. 1992 CAP. 150 GPM

3'-9" 3'-9"

MOTOR

TOP OF SLAB ELEV.= 60.0

FIN. GRND.

6" WELL PUMP "A" COLUMN
6" WELL PUMP "B" COLUMN
4" WELL PUMP "E" COLUMN

EXISTING 12" PVC CASING

ELEV. = 1.6 WELL "A"
ELEV. = 0.9 WELL "B"
ELEV. = 1.2 WELL "E"

STATIC WATER LEVEL

ELEV. = (-)18.5 WELL "A"
ELEV. = (-)16.5 WELL "B"
ELEV. = (-)27.0 WELL "E"

BOTTOM AIR LINE

ELEV. = (-)21.5 WELL "A"
ELEV. = (-)19.5 WELL "B"
ELEV. = (-)30.0 WELL "E"

BOTTOM PUMP BOWLS

ELEV. = (-)24.6 WELL "A"
ELEV. = (-)23.0 WELL "B"
ELEV. = (-)40.0 WELL "E"

END OF PERFORATED CASING
<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT.</th>
<th>TO:</th>
<th>INIT.</th>
<th>FOR:</th>
<th>PLEASE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAUER, G.</td>
<td>4</td>
<td>LOUI, R.</td>
<td></td>
<td>Approval</td>
<td>See Me</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>MIZUNO, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td>2</td>
<td>OHYE, M.</td>
<td></td>
<td></td>
<td>Type Draft</td>
</tr>
<tr>
<td>HIGA, D.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td>Type Final</td>
</tr>
<tr>
<td>HIRANO, E.</td>
<td></td>
<td>SUBIA, S.</td>
<td></td>
<td></td>
<td>File</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td>Xerox ___ copies</td>
</tr>
<tr>
<td>JINNAI, R.</td>
<td></td>
<td>UWAINA, J.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KUNIMURA, I.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Should Much see this? Who needs top of slab info? 

Top of slab is the "permanent benchmark" 

How can all 3 wells from the same slab elevation? 

5/2 called Steve Thomas to hear what his associate will be doing this week. I will verify. They're going to be wiring in a ladder in the next week or so (250F fpm pumps).
April 24, 1996

TO: Rae M. Loui, Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources

ATTN: Lenore Nakama, Hydrologist

FROM: Roy S. Oshiro, Executive Director

SUBJECT: Non-Potable Wells at the Villages of Kapolei
Wells A, B, C-1, D and E

The Housing Finance and Development Corporation (HFDC) herewith submits the following:

The top of slab elevation of Wells A, B, E is 60.0 feet MSL. These Wells are located on the Kapolei Golf Course parcel.

Well C-1 is not in operation and is only plugged at the surface.

Well D is in operation with only a temporary pump for dust control proposes being conducted by Oahu Construction for the Villages of Kapolei.

Wells C-1 and D are anticipated to be connected to the non-potable irrigation system and become operational, sometime between September 1, 1996 and December 31, 1996. We will notify your department of the finished slab elevation of these two Well sites.

If you have any questions, please call me at 587-0640, or Stephen Thomas, Project Manager, at 587-0541.

Enclosure
As requested, the top slab elevation of Wells "A", "B" and "E" is 60.0-feet MSL.
Mr. Steve Thomas
Housing Finance & Development Corp.
677 Queen Street, Suite 300
Honolulu, Hawaii 96813

Dear Mr. Thomas:

Our records show that we have not received the elevation (referenced to mean sea level) surveys by a Hawaii-licensed surveyor that are required under the terms of the well construction permit(s) that were approved by the Commission on Water Resource Management (Commission) for Well Nos. 2003-01 to 03.

In addition, we request that you submit elevation (referenced to mean sea level) surveys by a Hawaii-licensed surveyor for Well Nos. 2003-04 & 05. This condition was inadvertently omitted from the well construction permit(s) for Well Nos. 2003-04 & 05.

Lastly, please submit as-built sectional drawings of the pumps and Part II of the attached Well Completion Reports for all five wells (Well Nos. 2003-01 to 05).

We request that the above items and documents be submitted no later that May 15, 1996. Be aware that you may be considered in willful violation and subject to fines imposed by the Commission if we do not receive the items required under the terms of your permits by the May 15, 1996 deadline.

If you have any questions, please contact Lenore Nakama at 537-0218.

Sincerely,

RAE M. LOUI
Deputy Director

LN:ss
Attachment
Mr. Steve Thomas  
Housing Finance & Development Corp.  
677 Queen Street, Suite 300  
Honolulu, Hawaii 96813  

Dear Mr. Thomas:  

Our records show that we have not received the elevation (referenced to mean sea level) surveys by a Hawaii-licensed surveyor that are required under the terms of the well construction permit(s) that were approved by the Commission on Water Resource Management (Commission) for Well Nos. 2003-01 to 03.  

In addition, we request that you submit elevation (referenced to mean sea level) surveys by a Hawaii-licensed surveyor for Well Nos. 2003-04 & 05. This condition was inadvertently omitted from the well construction permit(s) for Well Nos. 2003-04 & 05.  

Lastly, please submit as-built sectional drawings of the pumps and Part II of the attached Well Completion Reports for all five wells (Well Nos. 2003-01 to 05).  

We request that the above items and documents be submitted no later that May 15, 1996. Be aware that you may be considered in willful violation and subject to fines imposed by the Commission if we do not receive the items required under the terms of your permits by the May 15, 1996 deadline.  

If you have any questions, please contact Lenore Nakama at 587-0218.  

Sincerely,  

RAE M. LOUI  
Deputy Director  

LN:ss  
Attachment
<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT.</th>
<th>TO:</th>
<th>INIT.</th>
<th>FOR:</th>
<th>PLEASE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAUER, G.</td>
<td></td>
<td>LOUI, R.</td>
<td></td>
<td>Approval</td>
<td>See Me</td>
</tr>
<tr>
<td>CHING, F.</td>
<td></td>
<td>NAKAMA, L.</td>
<td></td>
<td>Signature</td>
<td>Review &amp; Comment</td>
</tr>
<tr>
<td>FUJII, N.</td>
<td></td>
<td>NAKANO, D.</td>
<td></td>
<td>Information</td>
<td>Take Action</td>
</tr>
<tr>
<td>HARDY, R.</td>
<td></td>
<td>OHYE, M.</td>
<td></td>
<td></td>
<td>Type Draft</td>
</tr>
<tr>
<td>HIGA, D.</td>
<td></td>
<td>SAKODA, E.</td>
<td></td>
<td></td>
<td>Type Final</td>
</tr>
<tr>
<td>HIRANO, E.</td>
<td></td>
<td>SUBIA, S.</td>
<td></td>
<td></td>
<td>File</td>
</tr>
<tr>
<td>ICE, C.</td>
<td></td>
<td>SWANSON, S.</td>
<td></td>
<td></td>
<td>Xerox ___ copies</td>
</tr>
<tr>
<td>JINNAI, R.</td>
<td></td>
<td>UWAIN, J.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KUNIMURA, I.</td>
<td></td>
<td>YODA, K.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SEE 2003-01, 02, 04, 05, 07
KAPOLEI Irr A TO E
WL/PIP

FOR HISTORY