MEMORANDUM FOR THE RECORD

FROM: Lenore Nakama
SUBJECT: Water Shortage Plan for WUPA No. 655

Bill Blaisdell called on 6/18/2003 to let us know that the water shortage plan under WUP No. 655 will be the same. I told him that I would make a memorandum for the record that the same water shortage plan, submitted under WUP No. 63 on 2/3/2003, still applies.
February 3, 2005

Mr. Bill Blaisdell
Ko Olina Co.
92-1480 Alii Nui Drive
Kapolei, HI 96707

Dear Mr. Blaisdell:

Water Use Permit No. 655 for Well No. 2006-13

This is in response to a February 2, 2005 telephone call from Mr. Tom Nance, inquiring as to the process to extend the subject water use permit. This permit was approved by the Board of Land and Natural Resources (BLNR) at its meeting on October 11, 1985 under Chapter 177, Hawaii Revised Statutes (HRS). An Additional Condition of the permit specifies that the term of the permit shall be twenty years from the date of issuance, subject to review and adjustment every five years.

Following the repeal of Chapter 177 HRS, effective 7/1/89, and its replacement with Chapter 174C HRS, certified water uses and permitted water uses approved by the BLNR are recognized by the Commission on Water Resource Management (Commission) as permanent water use permits. The permits will remain active until the Commission conducts a compliance review, as provided in Section 174C-56 HRS:

"At least once every twenty years, the commission shall conduct a comprehensive study of all permits issued under this chapter to determine whether the conditions on such permits are being complied with. The commission shall prepare a formal report to the legislature which shall be available to the public."

The Commission anticipates conducting this review in the 2006-2007 timeframe with a formal report to the legislature by May 2008. Until such time that a review and formal report are made, Water Use Permit No. 665 for Well No. 2006-13 will remain active, unless a prior modification or revocation action is initiated by either the Commission or the permittee.

Lastly, we have updated your water use permit information to reflect your current mailing address, which was provided by Mr. Nance.

Sincerely,

[Signature]

YVONNE Y. IZU
Deputy Director

LYN:ss

for

YVONNE Y. IZU
Deputy Director

c: Tom Nance
Mr. Peter Young  
Chairman  
Commission on Water Resource Management  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, HI 96809  

SUBJECT: WUP NO. 655, STATE WELL NO. 2006-13  

Dear Mr. Young:  

We have recently been apprised of the Commission’s new well reporting requirements. Inasmuch as the subject well was constructed prior to the adoption of the new reporting requirements, to provide the required data would be an undue burden. We, therefore, would like to just continue reporting the pumpage. We look forward to your favorable response.  

Also, regarding the water shortage plan for the subject well, one was filed with the Commission on January 29, 2003, and it has not changed. For your convenience, a copy is attached herewith.  

Should there be any questions, please call William Blaisdell at 673-7678.  

Sincerely,  

Ko Olina Intangibles, LLC  
By Ko Olina Company, LLC, its sole member  
By Ko Olina Partners, LLC, its sole manager  

JRS:co  
Attachment
January 29, 2003

Mr. Dean Nakano  
Acting Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii 96809

SUBJECT: WELL NO. 2006-13 – WATER SHORTAGE PLAN

Dear Mr. Nakano:

Returned herewith is the Commission’s letter dated August 6, 2002 with the appropriate information filled in the table, as requested.

Future correspondence regarding the subject well should be directed to:

Jeffrey R. Stone  
Ko Olina Intangibles, LLC  
55 Merchant Street, Suite 1500  
Honolulu, Hawaii 96813

Should there be any questions on this matter, please contact William Blaisdell at 673-7678.

Sincerely,

Ko Olina Intangibles, LLC  
By Ko Olina Company, LLC, its sole member  
By Ko Olina Partners, LLC, its sole manager

Jeffrey R. Stone, Manager

JS:co  
Attachment  
c: Lenore Nakama  
William Blaisdell
August 6, 2002

Mr. Ken Williams
West Beach Estates
2024 North King Street
Honolulu, HI 96814

Dear Mr. Williams:

We are writing to request that you submit a water shortage plan for the West Beach Estates Well (Well No. 2006-13), as required under Administrative Rule §13-171-42(c), which states:

"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."

Your water shortage plan should identify what you are willing to do should the Commission declare a water shortage situation in the Ewa-Kunia Ground-Water Management Area. In a water shortage situation, the Commission may require temporary reductions in pumping from all sources. The Commission is required, by law, to formulate a plan to implement such area-wide reductions, which shall consider and incorporate appropriate provisions set forth within your water shortage plan for implementation. Therefore, your help in submitting a water shortage plan will be beneficial in the Commission's formulation of an overall Water Shortage Plan. At a minimum, we request that you identify the percent reduction (e.g. 5%, 10%, 15%, etc.) in water use that can be sustained indefinitely during a water shortage situation by filling in the table below:

<table>
<thead>
<tr>
<th>Well Name (Well No.)</th>
<th>Use</th>
<th>Allocation (mgd)</th>
<th>Percent Reduction</th>
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<td>Irrigation</td>
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<td>50%</td>
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</tbody>
</table>
Mr. Ken Williams
Page 2
August 6, 2002

After you have filled in the last column on the above table, please make a copy of this letter and return it to us at the above address. Please retain the original for your records.

Please respond to this letter within the next thirty (30) days. If there are any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

LN:ss
May 20, 2003

Ref: 655.wup

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Jeffrey R. Stone
Ko Olina Intangibles, LLC
55 Merchant St., Ste. 1500
Honolulu, HI 96813

Dear Mr. Stone:

Transfer of Water Use Permit for Well No. 2006-13
Ewa-Kunia Ground-Water Management Area, Oahu

This is in reference to your January 29, 2003 letter, and our follow-on telephone call to Mr. William Blaisdell, which clarified that the water use permit for Well No. 2006-13 has been transferred from West Beach Estates to Ko Olina Intangibles, LLC, effective December 31, 2002. Section 174C-51(1)(B) Hawaii Revised Statutes requires that the landowner at the water source, The Estate of James Campbell, also be stated as a joint permittee.

This letter transmits your water use permit for Ko Olina Well (Well No.2006-13) for use of 0.700 million gallons per day (mgd) of water on a 12-month moving average basis that was approved by the Board of Land and Natural Resources (BLNR) on October 25, 1985. Please note that the current set of standard water use permit conditions, adopted by the Commission on Water Resource Management on April 16, 2003, has been attached to your water use permit. This water use permit, WUP No. 655, supersedes WUP No. 63, which has been cancelled.

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.

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-Kunia 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 Lenore Y. Nakama of the Commission staff at 587-0218.

Sincerely,

[Signature]

Peter T. Young
Chairperson

Attachments

c: The Estate of James Campbell
    William Blaisdell, West Beach Estates
**GROUND-WATER USE PERMIT**

**WUP NO. 655**

### PERMITTEE

<table>
<thead>
<tr>
<th>Permittee/Water User</th>
<th>Address</th>
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</tr>
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<tr>
<td></td>
<td></td>
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</tr>
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<table>
<thead>
<tr>
<th>Landowner of Source</th>
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<tr>
<td></td>
<td></td>
<td>1001 Kamokila Boulevard</td>
</tr>
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### PERMITTED SOURCE INFORMATION

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<th>Island</th>
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<td>Ewa-Kunia</td>
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<td>State Well No.</td>
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### PERMITTED USE INFORMATION

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<td>Address</td>
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<td>State land use classification</td>
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<tr>
<td>County zoning classification</td>
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</tr>
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</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 permittee 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 Board of Land and Natural Resources at its October 25, 1985 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. reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
   e. meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
   f. carry out such other measures 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 Ewa-Kunia 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-Kunia 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 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 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.

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 Ewa-Kunia 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 are incorporated herein by reference.

Attachment

c: The Estate of James Campbell
January 29, 2003

Mr. Dean Nakano  
Acting Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii  96809

SUBJECT:  WELL NO. 2006-13 – WATER SHORTAGE PLAN

Dear Mr. Nakano:

Returned herewith is the Commission’s letter dated August 6, 2002 with the appropriate information filled in the table, as requested.

Future correspondence regarding the subject well should be directed to:

Jeffrey R. Stone  
Ko Olina Intangibles, LLC  
55 Merchant Street, Suite 1500  
Honolulu, Hawaii  96813

Should there be any questions on this matter, please contact William Blaisdell at 673-7678.

Sincerely,

Ko Olina Intangibles, LLC  
By Ko Olina Company, LLC, its sole member  
By Ko Olina Partners, LLC, its sole manager

Jeffrey R. Stone, Manager

JS:co  
Attachment

c:  Lenore Nakama  
William Blaisdell

Harbor Court • Suite 1500 • 55 Merchant Street • Honolulu, Hawaii 96813 • Phone: (808) 531-9761 • Facsimile: (808) 531-2144
August 6, 2002

Mr. Ken Williams
West Beach Estates
2024 North King Street
Honolulu, HI 96814

Dear Mr. Williams:

We are writing to request that you submit a water shortage plan for the West Beach Estates Well (Well No. 2006-13), as required under Administrative Rule §13-171-42(c), which states:

"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."

Your water shortage plan should identify what you are willing to do should the Commission declare a water shortage situation in the Ewa-Kunia Ground-Water Management Area. In a water shortage situation, the Commission may require temporary reductions in pumping from all sources. The Commission is required, by law, to formulate a plan to implement such area-wide reductions, which shall consider and incorporate appropriate provisions set forth within your water shortage plan for implementation. Therefore, your help in submitting a water shortage plan will be beneficial in the Commission's formulation of an overall Water Shortage Plan. At a minimum, we request that you identify the percent reduction (e.g., 5%, 10%, 15%, etc.) in water use that can be sustained indefinitely during a water shortage situation by filling in the table below:

<table>
<thead>
<tr>
<th>Well Name (Well No.)</th>
<th>Required Use</th>
<th>Allocation (mgd)</th>
<th>Percent Reduction in Water Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>W Beach Estates (2006-13)</td>
<td>Irrigation</td>
<td>0.700</td>
<td>5%</td>
</tr>
</tbody>
</table>
Mr. Ken Williams  
Page 2  
August 6, 2002

After you have filled in the last column on the above table, please make a copy of this letter and return it to us at the above address. Please retain the original for your records.

Please respond to this letter within the next thirty (30) days. If there are any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

[Signature]

LINNELL T. NISHIOKA  
Deputy Director

LN:ss
Hi Ken,

Attached is a copy of the letter we sent out. We appreciate your forwarding this to the right person in your organization. In the response, please update us as to the new contact information so we can update our records. Thanks for your help.

Aloha, Lenore
August 6, 2002

Mr. Ken Williams
West Beach Estates
2024 North King Street
Honolulu, HI 96814

Dear Mr. Williams:

We are writing to request that you submit a water shortage plan for the West Beach Estates Well (Well No. 2006-13), as required under Administrative Rule §13-171-42(c), which states:

"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."

Your water shortage plan should identify what you are willing to do should the Commission declare a water shortage situation in the Ewa-Kunia Ground-Water Management Area. 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 shall consider and incorporate appropriate provisions set forth within your water shortage plan for implementation. Therefore, your help in submitting a water shortage plan will be beneficial in the Commission's formulation of an overall Water Shortage Plan. At a minimum, we request that you identify the percent reduction (e.g. 5%, 10%, 15%, etc.) in water use that can be sustained indefinitely during a water shortage situation by filling in the table below:

<table>
<thead>
<tr>
<th>Well Name (Well No.)</th>
<th>Permitted Use</th>
<th>Allocation (mgd)</th>
<th>Percent Reduction in Water Use</th>
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<tbody>
<tr>
<td>W Beach Estates (2006-13)</td>
<td>Irrigation</td>
<td>0.700</td>
<td></td>
</tr>
</tbody>
</table>
After you have filled in the last column on the above table, please make a copy of this letter and return it to us at the above address. Please retain the original for your records.

Please respond to this letter within the next thirty (30) days. If there are any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director
Chairperson and Members  
Commission on Water Resource Management  
State of Hawaii  
Honolulu, Hawaii  

Gentlemen:

RESUBMITTAL  
Adjustments to Water Use Permits  
Pearl Harbor Water Management Area, Oahu  

Changes in ground water conditions, irrigated acreage, irrigation practice, and the recent downward revision of sustainable yield in the Pearl Harbor Water Management Area (PHWMA), has resulted in the need for adjustments to existing permitted use.

Staff Analysis

On April 19, 1989, the Commission revised the sustainable yields for the Koolau basal aquifer and the Schofield High-Level aquifers downward to 165 mgd and 13 mgd, respectively by the year 1995. Action on the recommended 17 mgd sustainable yield for the Waianae basal aquifer was deferred to further study until no later than October of 1990. Until the sustainable yield of the Waianae basal aquifer is revised, the Commission will manage the permitted uses of water in the PHWMA within the recommended total sustainable yield of 195 mgd targeted for 1995.

As a result, staff has prepared a schedule of adjustments to existing water use permits to meet current and projected changes in water use. Numerous meetings and discussions were held with the major water users to formulate this schedule, in an effort to avoid and minimize undue hardship to existing water users and planned developments.

The proposed schedule of reduction of existing water use permits on a well source basis, was developed from information supplied by the major water users. The schedule coincides with anticipated changes in water use resulting from reduction in Oahu Sugar Co.'s irrigated acreage in Ewa plain caprock area and planned urban growth throughout the PHWMA.

Prior to the Water Code, existing water use permits were conditional and subject to review. Also, it is not clear whether the water use permits allocated under Chapter 177 HRS, for ground water control areas, are valid to continue as new water use permits because of the due process in awarding permits under a water management area. It is additionally unclear, through comments of major water users, as to what constitutes an existing use based on previous permits under Chapter 177 HRS. Therefore, water use permits granted under the proposed schedule should be issued as interim permits in accordance with the Water code and Administrative Rule 13-171-20(b).
The proposed schedule of permitted water use for the Pearl Harbor Water Management Area are summarized below from the details of Exhibits 1, 2, and 3.

<table>
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<th>Year</th>
<th>OCSo</th>
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<th>Military</th>
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**RECOMMENDATION:**
That the Commission adopt the proposed schedule of permitted water use tabulated in Exhibits 1, 2, and 3 by user, well source, and aquifer for the Pearl Harbor Water Management Area, subject to the following conditions:

1. That within each aquifer the total permitted use shall not exceed the sustainable yield.
2. That any water available for allocation shall be for in-district use.
3. That scheduled reductions to Oahu Sugar Co. permitted use shall be initiated upon final termination of an OSco lease or sub-lease, whichever occurs earlier.
4. That permits for water use issued in accordance with the proposed schedule shall be interim permits subject to review and adjustment by 1995.

Respectfully submitted,

MANABU TAGOMORI
Deputy Director

APPROVED FOR SUBMITTAL

WILLIAM W. KATY, Chairperson
## PROPOSED SCHEDULE OF INTERIM WATER USE PERMIT
### KOOLAU BASAL AQUIFER

### DHNU ZUMA COMPANY

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<th>EXHIBIT 1: Proposed Authorized Use Schedule</th>
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### MUSKULU INC

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### SCHEDULE

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<th>Source</th>
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</thead>
<tbody>
<tr>
<td>Kaohe Wells</td>
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</tr>
</tbody>
</table>

### EXHIBIT 1

The table represents the proposed schedule of interim water use permit for Koolau Basal Aquifer. The data includes authorized use schedules across different years for various wells under different companies.
### MILITARY

<table>
<thead>
<tr>
<th></th>
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</thead>
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<tr>
<td>Waialua Shaft</td>
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<tr>
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<td>1.806</td>
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<tr>
<td>Toshiera</td>
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### OTHERS (New Sources added since designation)

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<td>Church/Museum</td>
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<td>Los Tern Faras</td>
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<tr>
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**Subtotal (New others)**: 0.603  0.603  0.603  0.603  0.603  0.603  0.603  0.603  0.603

**TOTAL**: 181.452  172.491  140.940  167.491  167.491  167.491  167.491  167.491  161.950

---

EXHIBIT 1 (Cont'd)
# Proposed Schedule of Interim Water Use Permit

## Waianae Basal Aquifer

### Proposed Authorized Use Schedule (agd)

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<tr>
<td>Barbers Pt</td>
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<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
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<td>4.500</td>
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<td>0.700</td>
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<td>0.700</td>
<td>0.700</td>
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<td>Grace Pac Corp</td>
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<td>0.500</td>
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<tr>
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<td>1.200</td>
<td>1.200</td>
<td>1.200</td>
<td>1.200</td>
</tr>
</tbody>
</table>

---

*Exhibit 2*
# Proposed Schedule of Interim Water Use Permit

## Schofield High-Level Aquifer

<table>
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<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
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<tr>
<td><strong>HONOLULU BVS</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mahiaa I</td>
<td>3.270</td>
<td>3.270</td>
<td>3.270</td>
<td>3.270</td>
<td>3.270</td>
<td>3.270</td>
<td>3.270</td>
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<tr>
<td>Mahiaa II</td>
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<td>1.000</td>
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<td>1.000</td>
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<td><strong>MILITARY</strong></td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
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<td></td>
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<td>Del Monte Corp I</td>
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<td>2.121</td>
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<td>Del Monte Corp II</td>
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<tr>
<td><strong>Subtotal (others)</strong></td>
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</tbody>
</table>

(Schofield High-Level Aquifer)

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**Grand Totals**

|------|---------|---------|---------|---------|---------|---------|

EXHIBIT 3
PERMIT
TO WITHDRAW AND USE GROUND WATER

Applicant: West Beach Estates Date: 9/26/85
Address: 2024 No. King St., Room 209, Honolulu, Hawaii 96819
Ground Water Control Area: Pearl Harbor Subarea: Waianae
Well(s) Name: State Well No.(s): 2006-13, 14
Amount of Withdrawal: (Average Annual) 0.7 mgd (Max. Day) N/A
Beneficial Purpose of Withdrawal: Golf course irrigation
Area or Projects Served: West Beach Estates Golf Course

The applicant is hereby granted a permit to withdraw and use ground water from the source identified above, in accordance with Chapter 177, HRS, Administrative Rule, Chapter 166 of Title 13; and the following:

General Conditions. (1) the water use authorized by this permit must be for the beneficial purpose described in this permit; (2) the use must not interfere substantially and materially with existing individual household uses, existing preserved uses, or existing permitted uses; (3) the use is subject to the shortage and emergency powers of the Board of Land and Natural Resources; (4) this permit may be suspended or revoked in accordance with Chapter 166 of Title 13; (5) 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; (6) 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, Hawaii 96809, on a monthly basis.

Additional Conditions.

The term of this permit shall be twenty years from the date of issuance, subject to review and adjustment every five years.

The development of the ground water source shall be completed within 24 months from the date of permit issuance.

If water with less than 250 parts per million chlorides is found, the water will not be used for irrigating the golf course.

The issuance of this permit was approved by the Board of Land and Natural Resources at its meeting on Oct. 25, 1985

[Signature]
Chairperson of the Board
Date of Issuance: NOV 14 1985
WATER RESOURCES & FLOOD CONTROL RANCH
Division of Water and Land Development

FROM: [Redacted]  DATE: 10/18/85  FILE IN: 

TO: INITIAL:

☑️ T. FUJII
☑️ D. Lum
☐ E. Sakoda
☐ D. Nakano
☐ J. Menor
☐ M. Ohye
☐ S. Samuels
☐ W. Koyanagi
☐ D. Hamada
☐ K. Oshiro
☑️ M. Tagomori
☑️ H. Sakai
☑️ H. Morimatsu
☑️ J. Sato

PLEASE:

☐ See Me
☐ Call
☐ Review & Comment
☐ Take Action
☐ Investigate & Report
☐ Draft Reply
☐ Acknowledge Receipt
☐ Type Draft
☐ Type Final cc:
☐ Xerox copies
☐ File
☐ Mail

REMARKS:

Recommended we amend Bond Submitted (for 25 Oct 85) for West Beach Golf Course from 0.70 mgd to 0.58 mgd based on actual usage figures.

FOR YOUR:

☐ Approval
☐ Signature
☒ Information

OK, should we limit per year also?
October 18, 1985

MEMORANDUM FOR THE RECORD

FROM: Ed Sakoda

SUBJECT: West Beach Golf Course WUP Application - Determination of Average Annual Use

Following are actual use figures for several golf courses on Oahu:

<table>
<thead>
<tr>
<th>GOLF COURSE</th>
<th>TIME PERIOD</th>
<th>AVERAGE ANNUAL USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waialae</td>
<td>July 1984 - June 1985</td>
<td>0.267 mgd</td>
</tr>
<tr>
<td>Pearl County Club</td>
<td>July 1984 - June 1985</td>
<td>0.195 mgd</td>
</tr>
<tr>
<td>HICC</td>
<td>July 1984 - June 1985</td>
<td>0.282 mgd</td>
</tr>
<tr>
<td>Hawaii Country Club</td>
<td>July 1984 - June 1985</td>
<td>0.157 mgd</td>
</tr>
<tr>
<td>Hawaii Kai</td>
<td>*Sept. 1982 - May 1984</td>
<td>0.280 mgd</td>
</tr>
</tbody>
</table>

*During this period, the Hawaii Kai course was using only BWS water - no contribution from the Hawaii Kai Sewage Treatment Plant (STP) (oral communication from Riley Smith who operated the STP at that time.

From the above data, it seems that West Beach Golf Course's request of 0.7 mgd (4,080 gals. per day x 170.5 acres) Permitted Use is on the high side. The BWS Water Consumption Guidelines figure of 0.58 mgd (3,400 gals. per acre per day x 170.5 acres) may still be on the high side but we have a provision for adjusting the amount every five years. I think we should recommend a permitted use of 0.58 mgd, averaged annually, instead of the 0.7 mgd. The amount can be adjusted in the future if needed.

ED SAKODA

ES:ko
Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

West Beach Estates Water Use Permit Application,
Pearl Harbor Ground Water Control Area, Oahu

West Beach Estates has submitted a Water Use Permit application to withdraw 0.7 million gallons per day (mgd), averaged annually, from two new wells to be drilled into the Waianae Subarea of the Pearl Harbor Ground Water Control Area. The water will be used to irrigate the proposed 18-hole West Beach Estates Golf Course, Ewa, Oahu.

The status of the Waianae Subarea is as follows:

- Sustainable Yield: 25 mgd
- Present Use: 19.529 mgd
- Water Available for Allocation: 5.471 mgd

Based on the availability of water for allocation in the Waianae Subarea, and since the proposed use of the wells will have no detrimental effects on existing wells in the vicinity, the withdrawal of 0.7 mgd is recommended.

RECOMMENDATION:

That the Board approve the issuance of a Water Use Permit to West Beach Estates for 0.7 mgd, averaged annually, from two wells in the Waianae Subarea for golf course irrigation, subject to any special conditions and applicable laws, rules and ordinances.

The term of the permit shall be 20 years from the date of issuance of the permit with a five-year Board review to determine compliance with the provisions of the permit. The development of the ground water source shall be completed within 24 months from the date of permit issuance.

Respectfully submitted,

MANABU TAGOMORI
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairperson
Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

West Beach Estates Water Use Permit Application,
Pearl Harbor Ground Water Control Area, Oahu

West Beach Estates has submitted a Water Use Permit application to withdraw 0.7 million gallons per day (mgd), averaged annually, from two new wells to be drilled into the Waianae Subarea of the Pearl Harbor Ground Water Control Area. The water will be used to irrigate the proposed 18-hole West Beach Estates Golf Course, Ewa, Oahu.

The status of the Waianae Subarea is as follows:

| Sustainable Yield:          | 25 mgd |
| Present Use:               | 19.629 mgd |
| Water Available for Allocation: | 2.371 mgd |
|                           | 5.471 mgd |

Based on the availability of water for allocation in the Waianae Subarea, and since the proposed use of the wells will have no detrimental effects on existing wells in the vicinity, the withdrawal of 0.7 mgd is recommended.

RECOMMENDATION:

That the Board approve the issuance of a Water Use Permit to West Beach Estates for 0.7 mgd, averaged annually, from two wells in the Waianae Subarea for golf course irrigation, subject to any special conditions and applicable laws, rules and ordinances.

The term of the permit shall be 20 years from the date of issuance of the permit with a five-year Board review to determine compliance with the provisions of the permit. The development of the ground water source shall be completed within 24 months from the date of permit issuance.

Respectfully submitted,

MANABU TAGOMORI
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairperson

Approved by the Board of
Land & Natural Resources
at the meeting held on
10-25-85

ITEM D-2
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

October 25, 1985

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

West Beach Estates Water Use Permit Application,
Pearl Harbor Ground Water Control Area, Oahu

West Beach Estates has submitted a Water Use Permit application to withdraw 0.7 million gallons per day (mgd), averaged annually, from two new wells to be drilled into the Waianae Subarea of the Pearl Harbor Ground Water Control Area. The water will be used to irrigate the proposed 18-hole West Beach Estates Golf Course, Ewa, Oahu.

The status of the Waianae Subarea is as follows:

<table>
<thead>
<tr>
<th>Sustainable Yield:</th>
<th>25 mgd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Use:</td>
<td>19,629 mgd</td>
</tr>
<tr>
<td>Water Available for Allocation:</td>
<td>5,471 mgd</td>
</tr>
</tbody>
</table>

Based on the availability of water for allocation in the Waianae Subarea, and since the proposed use of the wells will have no detrimental effects on existing wells in the vicinity, the withdrawal of 0.7 mgd is recommended.

RECOMMENDATION:

That the Board approve the issuance of a Water Use Permit to West Beach Estates for 0.7 mgd, averaged annually, from two wells in the Waianae Subarea for golf course irrigation, subject to any special conditions and applicable laws, rules and ordinances.

The term of the permit shall be 20 years from the date of issuance of the permit with a five-year Board review to determine compliance with the provisions of the permit. The development of the ground water source shall be completed within 24 months from the date of permit issuance.

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairperson

Respectfully submitted,

MANABU TAGOMORI
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

S. ONO
October 10, 1985

MEMORANDUM FOR THE RECORD

FROM: Ed Sakoda

SUBJECT: West Beach Golf Course WUP Application

West Beach Golf Course has requested 0.7 mgd permitted use for the golf course based on 4,080 gal/acre per day. Figure (4080) is taken from page 1-2 (attached report). However, the 4080 has a factor of 1.2 applied by BWS to allow for uncertainty in operating the new dual system. The West Beach Golf Course will not be part of the BWS dual system so the 1.2 factor should not apply. The BWS Water Consumption Guidelines figure of 3,400 gal/acre per day (attached Table 1) should be used for West Beach (3,400 gpad x 170.5 acres = 0.58 mgd). It should be taken into account that the period of establishment of the golf course will require more than the average annual use and should be noted in the water use permit issued and perhaps in the Board submittal.

RECOMMENDATION:

Recommend that the Board approve a WUP for West Beach Estates G.C. for 0.58 mgd, averaged annually. It should be noted that the proposed West Beach G.C. wells will draw from the Waianae Basal Aquifer (Waianae Subarea) although it is located on the Caprock Subarea (similar situation as OSCo. Pump 10). The Permitted Use given to West Beach G.C. will be subtracted from the total available from the Waianae Subarea.

EDWIN SAKODA

ES:dh

Buster Monte - Olomana G.C. Pr.
Table 1. Summary of Water Consumption Guidelines and Sizing Factors

WATER CONSUMPTION GUIDELINES

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>SINGLE</th>
<th>DUAL SYSTEM</th>
<th>Alternative A</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>gal/unit</td>
<td>Non- Potable</td>
<td>Potable</td>
<td>Non- Potable</td>
</tr>
<tr>
<td>Single Family Duplex</td>
<td>500</td>
<td>345</td>
<td>155</td>
<td>210</td>
</tr>
<tr>
<td>Multi Family Low Rise</td>
<td>400</td>
<td>276</td>
<td>124</td>
<td>168</td>
</tr>
<tr>
<td>Multi Family High Rise</td>
<td>300</td>
<td>207</td>
<td>93</td>
<td>126</td>
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<tr>
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<td>1,200</td>
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<tr>
<td>Resort</td>
<td>350</td>
<td>203</td>
<td>147</td>
</tr>
<tr>
<td>Golf Course &amp; Parks</td>
<td>4,000</td>
<td>2,320</td>
<td>1,680</td>
</tr>
<tr>
<td>School</td>
<td>60</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td>Light Industry</td>
<td>4,000</td>
<td>1,184</td>
<td>2,168</td>
</tr>
<tr>
<td>Commercial/Industrial</td>
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<tr>
<td>Commercial/Residential</td>
<td>120</td>
<td>83</td>
<td>37</td>
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</table>

Heavy Industry - Where heavy demand for high quality water is required, it will be subject to special review and control by the Manager.

PIPELINE, RESERVOIR, AND WELL PUMP SIZING FACTORS

1. Demand Factors
   a. AVERAGE DAY DEMAND. For land uses to be served by the dual system, a 1.2 factor shall be applied to the above unit consumption rates to derive the average day demand. For land uses served by the potable system only, the above unit consumption rates are equivalent to average day demand.
   b. MAXIMUM DAY DEMAND = (1.5) AVERAGE DAY DEMAND
   c. PEAK HOUR RATE = (3.0) AVERAGE DAY DEMAND

2. Fire protection can be met in either the potable or non-potable system subject to meeting all present fire protection standards.

3. Reservoir Size
   a. The potable reservoir volume shall be equivalent to maximum day demand.
   b. The non-potable reservoir volume shall be equivalent to average day demand.

4. Potable and non-potable pipelines shall be sized for peak hour flowrates with a minimum residual pressure of 40 psi and maximum velocity in the main of 6 feet per second. Pipelines providing fire protection shall also be sized for maximum day flow plus fire flow with a residual of 20 psi at the critical fire hydrant.

5. Well pumps for potable and non-potable systems shall provide maximum day in an operating time of 16 hours.
9 Oct 85  
Memo  
From: Ed  
Subject: West Beach Estates Golf Course Irr. Wells  

Phoned Lester Fukuda of Akinaka & Assoc re 0.7 mgd request. He says it is based on actual consumptive figures of Hawaii Kai golf course — similar conditions. Our calculations came to 0.56 to 0.58 mgd. He will try to supply us with the backup data they used to get 0.7 mgd.

9 Oct 85 Bob Akinaka phoned: 0.7 mgd based on 4080 gpd/acre taken from BWS-approved figures & Hawaii Kai G.C. consumptive figures. He (Bob) will send us the backup data ASAP.
Maximum irrigated rate for golf course

\[ = 1.5 \text{ mils per week over 170.5 acres.} \]

\[ = \frac{1.5 \text{ mils/wk}}{12 \text{ in/ft}} = 0.125 \text{ ft/wk} \]

\[ 0.125 \text{ ft/wk} \times 170.5 \text{ acres} = 21.3 \text{ acre-feet/week} \]

\[ 21.3 \text{ acre-feet/week} \times 325,851 \text{ gals/acre-foot} = 6,945 \text{ mils/week} \]

\[ \frac{6,945 \text{ mils/week}}{1 \text{ day/week}} = 0.992 \text{ mgd} = 1.0 \text{ mgd} \]

Max Irrigation Rate in 170.5 acre golf course = 1.0 mgd

Water Use C.C. given 56.25% of MAX RATE = 1.0 \times 0.56 = 0.56 mgd

Water Conservation Guidelines (from Table 1, EWAD WATER MASTER PLAN - 1984)

Golf Courses - Parks

\[ 3,400 \text{ gal/acre (non-potable)} \]

\[ 3,400 \text{ gal/acre} \times 170.5 \text{ acres} = 579,780 \text{ gals/acre} \]

\[ = 0.58 \text{ mgd} \]
Table I. Summary of Water Consumption Guidelines and Sizing Factors

**WATER CONSUMPTION GUIDELINES**

<table>
<thead>
<tr>
<th></th>
<th>SINGLE SYSTEM</th>
<th>DUAL SYSTEM</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>gal/unit</td>
<td>Alternative A</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td>Non-Potable</td>
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<td>Non-Potable</td>
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<tr>
<td></td>
<td>gal/unit</td>
<td>gal/unit</td>
<td>gal/unit</td>
<td>gal/unit</td>
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<tr>
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<td>345</td>
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<td>290</td>
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<td>400</td>
<td>276</td>
<td>124</td>
<td>168</td>
<td>232</td>
</tr>
<tr>
<td>Multi Family High Rise</td>
<td>300</td>
<td>207</td>
<td>93</td>
<td>126</td>
<td>174</td>
</tr>
<tr>
<td>Commercial</td>
<td>3,000 gal/acre</td>
<td>1,800</td>
<td>1,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resort</td>
<td>350 gal/unit</td>
<td>203</td>
<td>147</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4,000 gal/acre</td>
<td>2,320</td>
<td>1,680</td>
<td></td>
<td></td>
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<tr>
<td>Golf Course &amp; Parks</td>
<td>4,000 gal/acre</td>
<td>600</td>
<td>3,400</td>
<td></td>
<td></td>
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<tr>
<td>School</td>
<td>60 gal/student</td>
<td>35</td>
<td>25</td>
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<tr>
<td>Light Industry</td>
<td>4,000 gal/acre</td>
<td>1,184</td>
<td>2,816</td>
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<td>Commercial/Industrial</td>
<td>100 gal/1000 ft²</td>
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<tr>
<td></td>
<td>120 gal/1000 ft²</td>
<td>83</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 4. Projected Water Use of the West Beach Project

<table>
<thead>
<tr>
<th>Year</th>
<th>Land Use</th>
<th>No. of Units</th>
<th>Acres</th>
<th>Potable Water (MGD)</th>
<th>Non-Potable Water (MGD)</th>
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<td>0.1970</td>
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<td>18.5</td>
<td>0.0111</td>
<td>0.0629</td>
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<tr>
<td></td>
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<td>170.5</td>
<td>0.1023</td>
<td>0.0000*</td>
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<tr>
<td></td>
<td>HCC</td>
<td>--</td>
<td>21.8</td>
<td>0.0327</td>
<td>0.0540</td>
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<tr>
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<td>0.0174</td>
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<tr>
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<td>2.2</td>
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<td>86</td>
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<tr>
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<td>87</td>
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<td>94</td>
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<td>0.0828</td>
<td>0.0372</td>
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<td>Marina</td>
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<td>18.1</td>
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Sub-total for 1985-1992: 2.2734 1.4306

Post '95 Design Allocation for Future Development: 0.9203 0.3624

TOTAL FOR 1985-2000: 3.1937 1.7930

* The golf course will be irrigated by private, on-site wells.
TO: Mr. Manabu Tagomori  
Manager and Chief Engineer  
Division of Water and Land Development  
Dept. of Land & Natural Resources  
P.O. Box 373  
Honolulu, Hawaii 96809  

ATTENTION: Mr. Ed Sakoda  

SUBJECT: West Beach Estates  
Golf Course Test Well  

We are sending you attached herewith:

<table>
<thead>
<tr>
<th>No. of Copies</th>
<th>Description or Remarks</th>
</tr>
</thead>
</table>

General Remarks:

We herewith transmit above subject report for your information and files.

As per telephone conversation, please be informed of the following:

1) EXHIBIT I, page 1-2: Golf Course - 4,080 gpd (non-potable) is part of the interim standards adopted for this project by the Honolulu BWS.

2) Historical average daily irrigation flows for the Hawaii Kai Championship Golf Course is approximately 0.7 MGD. (Mr. Riley Smith, Kaiser Hawaii Kai Wastewater Treatment Plant Manager)
Mr. Manabu Tagomori
Manager & Chief Engineer
Division of Water and Land Development
Dept. of Land & Natural Resources
October 9, 1985
Page 2

If there are any questions, please call the undersigned.

Very truly yours,
AKINAKA & ASSOCIATES, LTD.

BY

Transmittal Form
IN THE MATTER OF

Public Notice

STATE OF HAWAII,
City and County of Honolulu.

Leatrice Yamane, being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit, of the HAWAII NEWSPAPER AGENCY, INC., agent for HONOLULU ADVERTISER, INC., publisher of THE HONOLULU ADVERTISER and SUNDAY STAR-BULLETIN & ADVERTISER, and agent for GANNETT PACIFIC CORPORATION, publisher of HONOLULU STAR-BULLETIN; that said newspapers are newspapers of general circulation in the state of Hawaii; that the attached notice is a true notice as was published in the afore-referenced newspapers as follows: The Honolulu Advertiser .......... times, on

Honolulu Star-Bulletin: ..one... times, on October 14, 1985

Sunday Star-Bulletin & Advertiser: .......... times, on

and that affiant is not a party to or in any way interested in the above entitled matter.

Subscribed and sworn to before me this 14th day of October, A.D. 1985...

Notary Public of the First Judicial Circuit, State of Hawaii
My commission expires
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Leatrice Yamane

Subscribed and sworn to before me this 14th day of October, A.D. 1985...

[signature]

Notary Public of the First Judicial Circuit,
State of Hawaii
My commission expires...
PUBLIC NOTICE

Consideration of Water Use Permit Application in the Pearl Harbor Ground Water Control Area

All interested parties are hereby notified that the Board of Land and Natural Resources plans to consider and act on the following application for a Water Use Permit in the Pearl Harbor Ground Water Control Area at its regularly scheduled meeting on Friday morning, 9:00 a.m., October 25, 1985, at the Kahului Library Conference Room, Kahului, Maui.

West Beach Estates requests permission to withdraw a total of 0.7 mgd of brackish water, averaged annually, from two new wells in the Waianae Subarea of the Pearl Harbor Ground Water Control Area. The water will be used to irrigate the proposed 18-hole West Beach Estate Golf Course.

State of Hawaii
BOARD OF LAND AND NATURAL RESOURCES

[Signature]
Chairperson of the Board

Dated: October 10, 1985
Publication of Public Notice to appear in the Honolulu Star Bulletin on October 14, 1985

"Consideration of Water Use Permit Application in the Pearl Harbor Ground Water Control Area"

(Any questions, call Ph. 548-7619)

West Beach Est. (0135)

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<td>STATE ACCOUNTING FORM C-03</td>
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<td>JULY 1, 1983 (REVISED)</td>
</tr>
</tbody>
</table>
October 3, 1985

West Beach Estates
2024 No. King St.
Room 209
Honolulu, Hawaii 96819

Gentlemen:

This is to acknowledge receipt of your applications for a Water Use Permit and a Well Drilling Permit for two (caprock) wells to furnish irrigation water for the West Beach Estates Golf Course located in the Pearl Harbor Ground Water Control Area.

My staff is processing the applications and will contact your office if more information is needed.

Sincerely,

MANABU TAGOMORI
Manager-Chief Engineer

ES:ey
APPLICATION FOR: (check one)

☐ PERMIT TO WITHDRAW WATER FOR BENEFICIAL USE
☐ PERMIT TO SUPPLY WATER FOR BENEFICIAL USE

Instructions: Fill out, sign, and send application with pertinent attachments to Dept. of Land & Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809. A non-refundable filing fee of $100 is required, excepting military, federal, state, and local government agencies.

1. NAME OF APPLICANT: West Beach Estates
   Address: 2024 No. King St
   Phone: 848-2260

2. REQUESTED BENEFICIAL USE OF WATER:
   ☐ Domestic ☐ Municipal ☐ Military ☐ Agricultural ☐ Industrial ☐ Other Irrigation (specify)
   Appropriately describe nature and purpose of requested use: The proposed wells will furnish irrigation water for the proposed 18-Hole West Beach Estates Golf Course. Two wells will alternate to furnish approximately 0.7 mgd for the Golf Course irrigation.
   Proposed commencement date of water use: __________

3. REQUESTED AMOUNT OF WITHDRAWAL OR SUPPLY:
   Average Annual 0.7 mgd; Maximum Month 30 mgd; Maximum Day 1.0 mgd.
   Appropriately describe schedule or times of taking requested withdrawal: Normal golf course irrigation will be during evening hours from 6:00 p.m. to 6:00 a.m.

4. NATURE AND TERM OF REQUESTED PERMIT: ☐ Temporary ☐ Permanent
   Requested period of permit: __________

5. PROPOSED SOURCE OF WATER SUPPLY:
   ☐ Existing source ☐ Modification of existing source ☐ New source
   Briefly describe existing or proposed source and any related facilities and submit map, plot plan, and plans or drawings of source of supply: Proposed well section is covered in companion Well Drilling Permit Application.

6. ASSESSMENT OF REQUESTED WATER USE OR SUPPLY
   In a separate attachment to this application, applicant must provide a written assessment addressing the desirability of issuing the requested permit, including such considerations as the availability of water, the beneficial purpose of the proposed water use, and the impact, if any, of the proposed water use on existing permitted uses, preserved uses, and individual household uses. SEE ATTACHMENT

Signature: ____________________________ Date: September 20, 1985
Water User or Supplier

Signature: ____________________________ Date: 9/23/85
Owner of Water Source

In accordance with Department Regulation No. 9, every permit approved and issued by the Board of Land & Natural Resources shall be for a specified period of time, for a specified beneficial use, subject to suspension and revocation, and subject to the shortage and emergency powers of the Board. Consideration of applications for a permit shall include: availability of water, beneficial purpose of water use, non-impairment of the most beneficial use and development of the water resources in the designated area, and no substantial and material interference with existing uses of water.

For Official Use:

Docket No. 180
180 days 24 MAR 86
Board Approved ☐ Disapproved ☐
Well No. 2006-13,14
6. ASSESSMENT OF REQUESTED WATER USE OR SUPPLY:

The proposed West Beach Estates golf course irrigation wells were reported by Belt Collins and Associates as separate on-site irrigation wells (privately owned) in the "Ewa Water Master Plan", dated July 1985, which was approved by the Honolulu Board of Water Supply.

The proposed irrigation wells will provide a non-potable water source to the West Beach Estates 18-hole golf course. This conforms to agreements by the Honolulu Board of Water Supply, Department of Land and Natural Resources - DOWALD, and the James Campbell Estate to reserve potable water for domestic uses.

The permit application is a request to develop two non-potable irrigation wells which will alternately pump to furnish 0.7 MGD for the golf course irrigation. The first well is located on the site plan and the second well will be located after development and results of the first exploratory well.
COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST-WELL
DRILLING, CASING AND
TESTING ONE WELL
EWA, OAHU, HAWAII
LOCATION MAP

SCALE

1000 0 1000 2000 3000 4000 5000 FEET

PROPOSED GOLF COURSE
170.5 ACS.

PROPOSED IRRIGATION TEST WELL FOR GOLF COURSE
COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND
TESTING ONE WELL
EWA, OAHU, HAWAII
SITE PLAN
SHEET 2 OF 2 SHEETS
DEPARTMENT OF LAND AND NATURAL RESOURCES

PERMIT

TO WITHDRAW AND USE GROUND WATER

Applicant: Honolulu Board of Water Supply  Application Date: July 2, 1985
Address: 630 S. Beretania St., Honolulu, Hawaii 96843

Ground Water Control Area: Pearl Harbor  Subarea: Waianae
Well(s) Name: Barbers Point  State Well No.(s): New

Amount of Withdrawal: (Average Annual) 1,000 mgd (Max. Day) -------
Beneficial Purpose of Withdrawal: Municipal
Area or Projects Served: Ewa/Waianae Water System - Others

The applicant is hereby granted a permit to withdraw and use ground water from the source identified above, in accordance with Chapter 177, HRS, Administrative Rule, Chapter 166 of Title 13; and the following:

General Conditions. (1) the water use authorized by this permit must be for the beneficial purpose described in this permit; (2) the use must not interfere substantially and materially with existing individual household uses, existing preserved uses, or existing permitted uses; (3) the use is subject to the shortage and emergency powers of the Board of Land and Natural Resources; (4) this permit may be suspended or revoked in accordance with Chapter 166 of Title 13; (5) 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; (6) 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, Hawaii 96809, on a monthly basis.

Additional Conditions.

The term of this permit shall be twenty years from the date of issuance of the permit, subject to review and adjustment every five years.

The issuance of this permit was approved by the Board of Land and Natural Resources at its meeting on July 11, 1985

Chairperson of the Board

Date of Issuance: AUG 12 1985
Attached is an interim report on West Beach No.2 as built and tested. Complete chemical analyses and drilling logs will be provided, when available, and included in a final comprehensive report covering West Beach No.1, West Beach No.2, and a hydrogeologic review with interpretive conclusions.

Should more data be required in the meantime, please call on me.

Sincerely,

Stephen P. Bowles
WEST BEACH NON-POTABLE WELL NO. 2
CONSTRUCTION AND PRELIMINARY TEST RESULTS
Interim Report

CONSTRUCTION

Construction of West Beach brackish well No. 2 commenced on October 20, 1987. A 20 inch diameter bore hole was constructed to a depth of 245 feet by November 20, 1987. According to the drilling logs, the first water was struck at a depth of about 190 feet.

On December 4, 1987, bail samples of water were collected at depths of 13, 43 and 53 feet below the water table. The depth to water was about 178 feet below the ground surface (approximately elevation 193 feet). The decision was made to set the permanent 16 inch diameter casing to elevation -50 feet, as called for in the specifications.

The well was electric logged by the Honolulu Board of Water Supply and casing installed and grouted as specified. Open hole drilling commenced on December 17, 1987 and was drilled to a depth of 300 feet on December 29, 1987. Additional water samples were collected daily as the drilling progressed. Based on indications of highly permeable rocks (as determined by drill cuttings) and water quality (a consistent chloride analysis between 318 and 354 mg/l), a decision was made to conduct pumping tests.

On January 4, 1988, a yield-drawdown test was conducted. At 9:00 A.M. on January 5, 1988, the long term test was started and run continuously until 9:00 A.M. on Friday, January 8 (72 hours). The well was tested for a total of 75 hours and 45 minutes.

AS BUILT DIMENSIONS AND TEST RESULTS

Figure 1 is an as built sketch of West Beach well as of January 8, 1988. The well will be capped as per specifications. Final acceptance of the well is pending approval by the Honolulu Board of Water Supply.

The results of the yield-drawdown test are listed on Table 1. Data on the long term test are summarized in Figure 2. A total of 4,840,700 gallons were pumped over 72 hours, for an average pump
rate of 1120 gallons per minute.

As noted in Figure 2, the water quality, i.e., salinity expressed as total chlorides, remained constant during the test. Complete chemical analyses and drilling logs including interpretive information, will be provided upon the completion of West Beach No.1.

For purposes of this report, it is reasonable to conclude the following:

1) Construction and test results of West Beach No.2 meet all specifications.

2) The depth of casing and open hole is satisfactory to provide sustained yield and water quality, as called for under the permit approvals.

3) The design pumping rate of 1100 gpm can be met with a drawdown of about .6 feet.

4) The consistent and low chloride readings during sampling and testing indicate that sustained pumping will provide high quality brackish water in the long term.

5) The depth of West Beach No.2 is satisfactory and it is concluded that the present depth meets all requirements, and that there is no reason to drill further.

6) The pump design for West Beach No.2 can proceed as planned.
**WEST BEACH NON-POTABLE WELL NO. 2**

**YIELD VS DRAWDOWN TEST**
January 4, 1988

<table>
<thead>
<tr>
<th>Casing Elevation</th>
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<td>Open Hole Depth</td>
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<tr>
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<td>-24.89'</td>
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<td>Measured Water Level</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Pressure Gage PSI</th>
<th>Drawdown In Feet</th>
<th>Rate In GPM</th>
<th>CL In MG/L</th>
<th>Remarks</th>
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</table>

Total Gallons Pumped 327,300

**TABLE 1**
Hauula Well (375-8-03)

7. 19,400 Gals per day is okay; the well's natural artesian flow rate of 95 GPM will yield 136,800 GPD. 19,400 GPD = 13.68 M. DD should be ~ 0.025 ft.

3/16/94 Pipe clay eval.

Notable greater based on CTD instrument reading for Cl of 0.17 ppt converted to 25-30 mg/l Cl based on previous experience. That actual water sample from flow test was not collected and analyzed would have given representative Cl error.

Flow test is a steel-balloon but does not give elapsed time for each rate. Can't tell if increase in flow rate will substantially impact draw down.

10/25/94 Amsc

14 ft.

seal end
WATER USE PERMIT NO. 082

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:** Honolulu Board of Water Supply
  
  630 S. Beretania St.
  
  Honolulu, HI 96843

- **Landowner of Source:** West Beach Estates
  
  2024 North King Street, Room #209
  
  Honolulu, HI 96819

- **Permitted Withdrawal Rate:** 1.000 mgd (Based upon a 12-month moving average)

- **Water Management Area:** Ewa-Kunia

- **Island:** Oahu

- **Aquifer Sector/System:** Pearl Harbor/Ewa-Kunia

- **System Sustainable Yield:** 16.0 mgd

- **Water Type:** Non-Potable

- **Original CWRM Date:** May 17th, 1989

- **Standard Conditions:** N/A

- **Special Conditions:** N/A

**Water Source**

- **State Well Number(s):** 2006-14, 2006-15

- **Well Name:** Barbers Point

- **Water Source TMK Number(s):** 1st Division, 9-1-015:004

- **State Land Use Classification(s):** Urban

- **County Zoning Classification(s):** AG-1/BMX-3

- **Geographical Coordinates:**
  
  **State Well No. 2006-14:**
  
  Latitude 21° 20’ 47.0” North
  
  Longitude 158° 06’ 19.0” West

  **State Well No. 2006-15:**
  
  Latitude 21° 20’ 46.0” North
  
  Longitude 158° 06’ 18.0” West

- **Beneficial Use Explanation:** Supply proposed golf courses in West Beach
Background Information

State Well Nos. 2006-14 and 2006-15 located on TMK parcel 9-1-015:004 and are used for irrigational purposes on the island of Oahu. Consistent water use reporting records are available for at least the past four years. During this time, the permittee’s 12-month moving average has not exceeded the permitted allocation of 1.000 mgd. There are no salinity records on file for either well. Reference the permit file for additional information on reporting history.

Water Use Permit 082 was issued on May 17th, 1989 by the Commission on Water Resource Management. During the research phase of this project, the file for State Well Nos. 2006-14 and 2006-15 could not be located. As such, the standard conditions and special conditions governing this water use permit are not available, which makes determining overall permit compliance impossible. A complete list of all standard and special conditions is given in the permit file.

Field Investigation Information

Due to certain project constraints, no Honolulu Board of Water Supply well sites were visited. However, information collected during the data gathering phase of this project is included in previous sections of this report.

Recommendations

- Address the following discrepancies between the Commission’s electronic database and actual field investigation findings:
  - Update permittee contact with new BWS director
- Locate the standard and special conditions associated with WUP 082 and cross reference with information in this report in order to determine the extent of permit compliance.
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 reconsideration 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 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 Waikele 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.
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

<table>
<thead>
<tr>
<th>Permit Information</th>
<th>Details</th>
</tr>
</thead>
</table>
| Water User:        | Ko'olina Co.  
92-1480 Ali'i Nui Dr.  
Kapolei, HI 96707 |
| Source:            | Campbell Estate  
1001 Kamokila Blvd  
Kapolei, HI 96707 |
| Permitted Withdrawal Rate: | 0.700 mgd (Based upon a 12-month moving average) |
| Water Management Area: | Ewa-Kunia |
| Island:            | Oahu |
| Aquifer Sector/System: | Pearl Harbor/Ewa-Kunia |
| System Sustainable Yield: | 16.0 mgd |
| Water Type:        | Brackish |
| Original CWRM Date: | October 25, 1985 |
| Standard Conditions: | 1-19 |
| Special Conditions: | None |

### Water Source

<table>
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<tr>
<th>Water Source</th>
<th>Details</th>
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<tbody>
<tr>
<td>State Well Number(s):</td>
<td>2006-13</td>
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<tr>
<td>Well Name:</td>
<td>W. Beach Estates</td>
</tr>
<tr>
<td>Water Source TMK Number(s):</td>
<td>1st Division, 9-2-003:002</td>
</tr>
<tr>
<td>State Land Use Classification(s):</td>
<td>Agriculture, Urban</td>
</tr>
<tr>
<td>County Zoning Classification(s):</td>
<td>AG-2</td>
</tr>
</tbody>
</table>
| Geographical Coordinates: | Latitude 21° 20' 12.8" North  
Longitude 158° 06' 21.4" West |

### End Use

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<th>Details</th>
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<td>State Land Use Classification(s):</td>
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<td>County Zoning Classification(s):</td>
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<tr>
<td>Beneficial Use Explanation:</td>
<td>Golf course irrigation</td>
</tr>
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</table>
Background Information

Water Use Permit 655 was approved during the October 25th, 1985 Commission on Water Resource Management meeting. Standard conditions 1-19 are the governing conditions for this water use permit. A complete list of all standard and special conditions is given in the permit file.

Consistent water use reporting records are available for at least the past five years. The permittee’s 5-year moving average has not exceeded the permitted amount of 0.70 mgd during this time. Reference the permit file for additional information on reporting history.

Field Investigation Information

Contact: Alan Nakamura
Site Address: 92-1480 Ali'i Nui Dr.
Kapolei, HI 96707

Brown and Caldwell conducted a field investigation on August 5, 2008 from 9:00 a.m. until 10:00 a.m. with Alan Nakamura. 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. 655

State Well No. 2006-13 is located on TMK parcel 9-2-003:002 at 21° 20’ 12.8” N, 158° 06’ 21.4” W, with a real time accuracy of ±12-feet. Water is normally only drawn from the well during testing and at times when the primary R-1 water supply is unavailable, currently the golf course is using a mixture of R-1 and well water. When in use, the water is drawn from the well via an above ground pump, metered at the well site, and conveyed to a holding pond/reservoir on TMK parcel 9-2-003:002. A series of booster pumps located in a pump house adjacent to the holding pond distribute the water across the Ko’olina Golf Course for general landscape irrigation. 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 an installed flowmeter 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 and chloride levels are being reporting on a monthly basis.

**Recommendations**

- Address the following discrepancies between the Commission’s electronic database and actual field investigation findings:
  - Change permittee contact to Alan Nakamura at (808) 677-5814
  - Create memo field entry noting field investigation on 8/5/08
- 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. 655

APPENDIX

Field Investigation Photographs
Figure 1 – State Well No. 2006-13

Figure 2 – Flowmeter
Figure 3 – Well Site

Figure 4 – Storage reservoir
Figure 5 – End use
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 yeats 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 Waiekele 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: 655
Well Number(s): 2006-13

Contact Information (of the person who will be present at site visit):
Name: Alan Nakamura
Phone (for phone interview): 677-5814
Fax:
Email:
Best time to reach for phone interview: M-F, 9:00 a.m.

Property Information (of the water well/well location):
Address: 92-1220 Aliinui Drive
City: Kapolei
Zip: 96707
Well Location TMK (list all if multiple wells present): 9-1-15: 4
Water Use TMK (list all if used on multiple lots): 9-1-56: 3, 8, 15, 20, 23, 24&25

Water Use/Well Information:
Is the water source currently in use? Yes [X] No [ ]
If no, please explain:

What are you currently using the water for? (example: “Use for 45 acres of diversified agriculture and 3 residences”):
Used to irrigate golf course and clubhouse area, approximately 160 acres

Is a flow meter installed and working properly? Yes [X] No [ ]
If no, please explain:

Do you submit monthly water use reports to the State? Yes [X] 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): M-F Time: 9:00 am [X] 12:00 pm [] 3:00 pm []
Option #2 Date (M-F): M-F Time: 9:00 am [] 12:00 pm [X] 3:00 pm []
Option #3 Date (M-F): 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: 1/28/08 Information Updated: 1/11/08 Phone Interview Complete: ____________________________
Notes/Comments: ____________________________
Phone Interview

WUP Number: 655  Well Number(s): 2006-13

Contact Name: Alon Nakamura  Phone Number: [Redacted]

Attempt #1: Date/Time:  Result: 

Attempt #2: Date/Time:  Result: 

Well Location TMK(s): 9-1-016,024-1
Water Use TMK(s): 9-1-056,003,006,015,020,023,024,025
Water Source Address: 92-1220 Aliihoi Dr.
City: Kapolei  Zip Code: 96707

Currently using water source?  Yes ☒  No ☐

Notes/Comments: Use for golf course and clubhouse area irrigation (two acres)

How often is the water source being used?  Daily ☒  Weekly ☐  Monthly ☐

Notes/Comments: 

How long have you been using this water source?: Approx 1980

Has there been any rezoning of the water source/water use properties?  Yes ☐  No ☒
Have you reported the rezoning to the State?  Yes ☐  No ☐  N/A ☒
If no, explain:

Scheduled field investigation day/time: Tuesday August 5th, 2008  C. 9:00

Notes (Special directions, site conditions, potential hazards, general notes, etc.):

Ko Olina GC - Kapolei

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:  Time: 7/26/08
# Field Investigation Checklist

**WUP Number:** 655  
**Well Number(s):** 2006-13

## Water Source
- **Well Location TMK(s):** 9-1-15-4
- **Well Head GPS Coordinates:**  
  - Latitude: N 21° 20' 12.8"
  - Longitude: 158° 00' 21.4"
- **Well Type:** Non-Potable, first use

Currently using water source?  
Yes [ ]  
No [ ]

Notes/Comments: Use for watering, golf course

Is there a flow meter installed?  
Yes [ ]  
No [ ]

Is the flow meter operational?  
Yes [ ]  
No [ ]

Notes/Comments:

## Water Use
- **Water Use TMK(s):** 9-1-56: 3, 8, 15, 20, 24, 25 Just golf course

What is the water being used for?  
golf course, watering

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: [ ]  
Date: 8/4/08  
Time: 9:00
May 20, 2003

Ref: 655.wup

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Jeffrey R. Stone
Ko Olina Intangibles, LLC
55 Merchant St., Ste. 1500
Honolulu, HI 96813

Dear Mr. Stone:

Transfer of Water Use Permit for Well No. 2006-13
Ewa-Kunia Ground-Water Management Area, Oahu

This is in reference to your January 29, 2003 letter, and our follow-on telephone call to Mr. William Blaisdell, which clarified that the water use permit for Well No. 2006-13 has been transferred from West Beach Estates to Ko Olina Intangibles, LLC, effective December 31, 2002. Section 174C-51(1)(B) Hawaii Revised Statutes requires that the landowner at the water source, The Estate of James Campbell, also be stated as a joint permittee.

This letter transmits your water use permit for Ko Olina Well (Well No.2006-13) for use of 0.700 million gallons per day (mgd) of water on a 12-month moving average basis that was approved by the Board of Land and Natural Resources (BLNR) on October 25, 1985. Please note that the current set of standard water use permit conditions, adopted by the Commission on Water Resource Management on April 16, 2003, has been attached to your water use permit. This water use permit, WUP No. 655, supersedes WUP No. 63, which has been cancelled.

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.

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-Kunia 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 Lenore Y. Nakama of the Commission staff at 587-0218.

Sincerely,

[Signature]

Peter T. Young
Chairperson

Attachments

c: The Estate of James Campbell
   William Blaisdell, West Beach Estates
STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96806

GROUND-WATER USE PERMIT
WUP NO. 655

PERMITTEE

<table>
<thead>
<tr>
<th>Permittee/Water User</th>
<th>Landowner of Source</th>
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<tr>
<td>Ko Olina Intangibles, LLC</td>
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<tr>
<td>55 Merchant St., Ste. 1500</td>
<td>1001 Kamokila Boulevard</td>
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<tr>
<td>Honolulu, HI 96813</td>
<td>Kapolei, HI 96707</td>
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PERMITTED SOURCE INFORMATION

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PERMITTED USE INFORMATION

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<th>Reasonable beneficial use</th>
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<tr>
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<td>Ko Olina Golf Course</td>
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<td>County zoning classification</td>
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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 permittee 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 Board of Land and Natural Resources at its October 25, 1985 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. 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 Ewa-Kunia 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-Kunia 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 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 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.

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 Ewa-Kunia 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 are incorporated herein by reference.

Attachment

c: The Estate of James Campbell
WELL Ko'Olina Golf Course

The information below reported from Mr. Ken Williams, Project Engineer, West Beach Estates in 4-95.

Water commitments:

Ko'Olina Golf Course #1 700,000 gpd, 170 acres to be irrigated from well 2006-13 at 700 mgd or 4118 gpd/acre. TMK: 9-1-56: 3, 8, 15, 20, 23, 25 = 168.943 ac. (The irrigated acreage should be less than the total size of the golf course, subtracting out nonirrigated areas such as sand traps, 4 - 5 miles of 4' wide cart paths, water hazards, structures, etc.) Mr. Williams estimated 4/6/95) that 94% of the golf course area is being irrigated. Ken Williams said approx. 10 acres makes up the bunkers (sand traps), clubhouse & parking, & 2 ac of cart paths.

Other areas being irrigated: Parks, including shoreline walkway 147,220 gpd
Circulation - medial strip landscape 40,392 gpd
Visitor Center 1,941 gpd
Hotels for nonpotable landscape
(4000 hotel rooms x 147 gpd.) 588,000 gpd
1,477,553 gpd

Remaining available water:
(vacant lot maintenance/dust control and shoreline irrigation) 83,477 gpd

Ko'Olina Phase I Resort, Residential, Park & Commercial Landscaping, 272 acres @ .551 mgd or 2026 gpd/acre.
TMK: 9-1-56: 1, 2, 4, 5, 6, 7, 9, 11, 12, 13, 14, 16, 21, 22, 26. TMK: 9-1-57: 1, 2, 4, 5, 6, 7, 9, 10, 11, 13, 14, 15, 17, 20, 21, 22, 23, 24, 26.

I spoke with Mr. Williams by phone on 6/14/95. I asked him if there was an overlap of use requests, ie, if the acreage described above was being irrigated with water from wells 2006-13, 14 & 15. He said, "No", that the total Phase I acreage was 600+ acres and they didn't receive enough nonpotable water from the three wells to irrigate the remaining 272 acres. He said that the calculations were based on the BWS's projected requirements for the various use areas.

Ko'Olina Golf Course # 2 (not built yet) "Net Irrigable Acreage" of 183 acres, described in the January 12, 1995 letter from Takeyama & Sullivan describes the total acreage the new golf course will occupy of the 503 ac parcel. 183 acres would calculate to .70 mgd or 3825 gpd/acre. Mr. Williams estimated (6-14-95) that 94 % of the acreage will be irrigated.

Ko'Olina Phase 2, Resort, Residential, Park and Commercial Landscaping - 190 acres of same 503 acre parcel @ .385 mgd or 2026 gpd/acre.

Current water supply: Ko'Olina Golf Course Well (2006-13) 700,000 gpd
Two BWS Nonpotable wells(2008-14, 15) 861,000 gpd
1,561,000 gpd

These wells, 2006-14 & 15, are now operated by the BWS and used by West Beach Estates and Campbell Estate as nonpotable irrigation sources. There is a large nonpotable reservoir adjacent to the wells. Mr. Williams said that Ko'Olina has an agreement to receive up to .861 mgd from the wells & that Campbell Estate receives the remainder.

Water Requested for Completion of Phase 2 Development:

Ko'Olina Golf Course # 2 700,000 gpd
Ko'Olina Phase 2 Resort, Residential, Park & Commercial Landscaping 385,000 gpd
Needed to complete Ko'Olina Phase 1 landscaping 551,000 gpd
1,636,000 gpd

Total NonPotable Water Requirements: 3,113,553 gpd

Current irrigation requests exceed West Beach's current available nonpotable water supplies. The total nonpotable irrigation water requested is 3,113,553 gpd. This would allow them to irrigate around eight hotels, two golf courses, parks, medial strips on roads, low and medium density residential and commercial properties.

Attachments: maps, photos
FIELD INSPECTION INFORMATION CHECKLIST

WELL 2006-13 KO'OLINA GOLF COURSE WELL

What Initiated this Inspection? West Beach Estates requested permission to use other sources such as Waiahole Ditch water, Campbell Estates EP 10 (permitted for agriculture irrigation only) and/or request to drill a second well (Pearl Harbor Management Zone).

File Reference: W Beach Est (West Beach Estates)
System User: same

PART I: USE OF WATER

1. Tax Map Key where the water is used: 9-1-15. See attached map.
2. What is the water used for? Ko'Olina Golf Course #1 irrigates 168 acres of golf course including 13.10 acres of lagoons (water hazards).
3. Is the quantity of water use being measured? - The Pumpage Report submitted monthly by WBE indicates that the well is metered, but the meter was not documented during the field visit in 1995.
4. Does this person takes from a multi-user pipe or ditch system? No

PART II: WATER SOURCE

1. Where does the water come from/what kind of source is this? 2006-13 is the nonpotable well that irrigates the golf course. The well is located northeast of Osco's old pump EP 10.
2. Show the source location on maps, determine latitude and longitude, and document the nature of source development by measurements, sketches, and photographs.
   How is the water taken? Well 2006-13 is a 25 hp pump
   What is the capacity for taking (gpm)? 840 gpm
   How often is it taken (used)? daily
3. Tax Map Key at the source: 2006-13
   Latitude: 21-20-25
   Longitude: 158-06-31

Determine declarant's relation to source.
Does the declarant:
1) Operate and maintain the source? yes
2) Own the land at the source? The declarant is the developer of the project.
3) Use the water from this source? yes

4. Does anyone else also use water from this source? No

Verified By: Susan Swanson (CWRM) Date of Inspection: 4-13-95
WELL 2006-14 & 15 - BWS BARBERS POINT NON POTABLE WELLS

These two BWS source wells and pumps have not been inspected.

File Reference: W Beach Est, the full name is West Beach Estates.

These wells in May of 1989, were also declared in FILE REF "HONOLULU BWS" as "nonpotable wells, not in use."

PART I: USE OF WATER

1. Tax Map Key where the water is used: multiple tmks, 9-1-56 & 57, 9-1-15. See attached maps.

2. What is the water used for? Ko'Olina Development, medial strips (called "circulation" by the developer) landscaping around the visitor center, parks, public areas, hotels, future small boat harbor and other construction throughout the Ko'Olina. Additional water is used for dust control of undeveloped lots.

Mr. Ken Williams of WBE stated that there wasn’t enough water from Wells 2006-13, 14 & 15 to irrigate all 600 acres of Phase 1 (includes 1st golf course), leaving 272 acres not irrigated. WBE requested additional water to Irrigate 183 acres of Golf Club #2, 190 acres of Phase 2 commercial irrigation.

3. Is the quantity of water use being measured? BWS reports the total pumpage under "Barbers Point Non Potable Source"

4. Does this person takes from a multi-user pipe or ditch system? No

PART II: WATER SOURCE

1. Where does the water come from/what kind of source is this? 2006-14 & 15 are two out of three wells used to irrigate the Ko'Olina Golf Course and the subdivisions and hotel properties. These wells are operated by the Board of Water Supply and are located to the east of the golf course and are on the mauka side of Farrington Highway. The wells are each listed on WBE’s declaration as having 100 hp electric pumps producing 1100 gpm.

2. Show the source location on maps, determine latitude and longitude, and document the nature of source development by measurements, sketches, and photographs.

(No access at the time of site inspection of use area at Ko'Olina.- BWS Keys needed to enter chain link well/reservoir enclosure.) A request for use of water from other sources initiated the site inspection at Ko'Olina, so information was gathered on use area and golf course well on site.

How is the water taken? two large pumps – I used to take monthly water samples for chloride testing from these pumps ten years ago when I worked for the Board of Water Supply.

What is the capacity for taking (gpm)? listed on WBE’s declaration as 1100 gpm, not documented.

How often is it taken (used)? daily

3. Tax Map Key at the source: 2006-15, 14 BWS Barbers Point Nonpotable Wells and Reservoir.

   Latitude: 21-20-46,47
   Longitude: 158-06-18,19
Determine declarant's relation to source.

Does the declarant:

1) Operate and maintain the source? No, BWS operates
2) Own the land at the source? The land may be owned by Campbell Estate, unless it's been deeded over to BWS
3) Use the water from this source? yes
4) Own the land where the water is being used? Yes it is my understanding that WBE provides the infrastructure for the development.

Does anyone else also use water from this source? Yes, some of the remainder of the 1 mgd is reported to be used by Campbell Estate – the land appears to be have been owned by Campbell Estate before the wells were drilled, they may still own it, or it may have been deeded to the BWS. The developer was involved in the drilling of the wells; then the operation of the wells were turned over to BWS.

Verified By: Susan Swanson (CWRM) Date of Inspection: Use area inspected 4-13-95
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Ko Olina Resort
Phase I

- Resort, Residential Park,
  and Commercial Parcels

Where roads are highlighted,
irrigation refers to medial strips.
STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF WELL
AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-3948 or 548-7543 for assistance.

BATTERY OF WELLS: For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

STATE WELL NO.: 2006-13
WELL NAME OR DESIGNATION: West Beach Golf Course Well No. 1
ISLAND: Oahu

SOURCE OR STATION NAME (For a battery of wells):

A. WELL OPERATOR
Firm name: West Beach Estates
Contact person: Brian Minnaa
Address: 1585 Kapiolani Blvd, Suite 1430, Honolulu, HI
Zip: 96814 Phone: __________

B. OWNER OF WELL SITE
Firm name: West Beach Estates
Contact person: Brian Minnaa
Address: 1585 Kapiolani Blvd, Suite 1430, Honolulu, HI
Zip: 96814 Phone: __________

C. WELL LOCATION
Tax Map Key: 9-1-15:4
Town, Place, District: Honouliuli; Ewa
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA
For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.
For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (Mean sea level): 58.12 ft.
Reference point (used to measure depth to water):
Elevation: 59.02 ft.
Description: Top of Casing
Depth to water (Below reference point): 45 ft.
Maximum recorded chloride: __ ppm
Minimum recorded chloride: __ ppm
Minimum chloride in 1987: __ ppm

E. INSTALLED PUMP DATA
Pump type: __ Vertical shaft __ Submersible __ Centrifugal __ Other (specify):
Power: __ Diesel, __ HP __ Gas, __ HP __ Electric, __ HP __ Other (specify):
Pump capacity: 700 gallons per minute
Pump installation contractor: __________

... (continued over)

For Official Use Only:
Date received: __________ Date accepted: __________
Field checked by: __________ Date: __________
Latitude: __________ Hydrologic Unit: __________
Longitude: __________ State Well No.: __________

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 15-167 to 15-191.
F. DECLARATION OF WATER USE

NOTE: The purpose of the Declaration of Water Use is to obtain Information necessary for the management of the State's water resources. The Declaration does not confer a legal right to water or its use.

Water use data are recorded: □ Daily □ Weekly □ Monthly □ Other (Describe): _____________________________.

Method of measurement: □ Flow Meter □ Orifice □ Other (Describe): _____________________________.

Quantity of Use (Report metered or estimated monthly water use from the well described on the reverse side of this form, for the calendar years 1983 through 1987. For a battery of wells which are not individually metered, but which are connected to a single meter or other measuring device, report total use from the battery.):

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<thead>
<tr>
<th>WATER USE, IN GALLONS x 1000</th>
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<td>ANNUAL</td>
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</tbody>
</table>

Minimum day's use: 0 gallons
Maximum day's use: 1,000,000 gallons
Typical times of usage: 24 hours/day

Type of Use (Check all category boxes that apply and provide additional information as indicated.):

- □ Municipal (including resorts, hotels, businesses)
- □ Domestic (systems serving 25 people or less)
- □ Irrigation:
  - Acres Irrigated: ____________
  - Crop(s): □ Sugar □ Pineapple □ Other (specify): ____________
  - Non-Crop: □ Landscape □ Golf Course □ Other (specify): ____________
  - Method: □ Drip □ Furrow □ Sprinkler □ Other (specify): ____________
- □ Industrial
  - □ Cooling □ Manufacturing □ Mill □ Other (specify): ____________
- □ Military
- □ Other
  - Specify (livestock, aquaculture, etc.): ____________

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User's Signature: ____________ Date: 5/25/89
Printed Name: Brian Minaai
Firm or Title (Well Operator, etc.): West Beach Estates

[Signature]
STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF WELL
AND
DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 273, Honolulu, Hawaii 96808. Phone 548-3548 or 548-7543 for assistance.

BATTERY OF WELLS: For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

STATE WELL NO.: 2006-14
WELL NAME OR DESIGNATION: West Beach Non-Potable Well No. 2
SOURCE OR STATION NAME (for a battery of wells):

A. WELL OPERATOR
Firm name: West Beach Estates
Contact person: Brian Miniak
Address: 1585 Kapiolani Blvd.
Suite 1430, Honolulu, HI
Zip: 96814 Phone: ______________

B. OWNER OF WELL SITE
Firm name: West Beach Estates
Contact person: Brian Miniak
Address: 1585 Kapiolani Blvd.
Suite 1430, Honolulu, HI
Zip: 96814 Phone: ______________

C. WELL LOCATION
Tax Map Key: 9-1-15:5
Town, Place, District: Honolulu, Ewa
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA
For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.
For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (Mean sea level): 194 ft.
Reference point (used to measure depth to water): 195.11 ft.
Description: Top fo Casing

Depth to water (below reference point): 180.17 ft.
Maximum recorded chloride: 341 ppm
Minimum recorded chloride: 333 ppm
Maximum chloride in 1987: N/A ppm

E. INSTALLED PUMP DATA UNDER CONSTRUCTION
Pump type: Vertical shaft
Power: Diesel, 100 HP
Pump capacity: 1100 gallons per minute
Pump installation contractor: Roscoe Moss Co.

For Official Use Only:
Date received: ______________ Date accepted: ______________
Field checked by: ______________ Date: ______________
Latitude: ______________ Hydrologic Unit: ______________
Longitude: ______________ State Well No.: ______________

These wells, 2006-14 & 15, are now operated by the BWS for use by West Beach Estates and Campbell Estate as nonpotable irrigation sources. There is a large nonpotable reservoir adjacent to the wells. Ken Williams of West Beach Est. (Ko'O'olina) stated that Ko'O'olina has an agreement to receive up to .861 mgd from the wells & that Campbell Estate receives the remainder. Access is from the BWS. BWS wells on leeward Oahu have not yet been documented. BWS personnel previously took weekly water samples. -S Smithson
F. DECLARATION OF WATER USE

NOTE: The purpose of the Declaration of Water Use is to obtain information necessary for the management of the State’s water resources. The Declaration does not confer a legal right to water or its use.

Water use data are recorded: □ Daily □ Weekly □ Monthly □ Other (Describe): To be established

Method of measurement: □ Flow Meter □ Orifice □ Other (Describe): Flow Tube

Quantity of Use (Report metered or estimated monthly water use from the well described on the reverse side of this form, for the calendar years 1983 through 1987. For a battery of wells which are not individually metered, but which are connected to a single meter or other measuring device, report total use from the battery):

WATER USE, IN GALLONS x 1000

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Minimum day’s use: __________ gallons Maximum day’s use: __________ gallons

Typical times of usage:

Type of Use (Check all category boxes that apply and provide additional information as indicated):

- □ Municipal (including resorts, hotels, businesses)
- □ Domestic (systems serving 25 people or less)
- □ Irrigation
- □ Industrial
- □ Military
- □ Other

Additional Information

- Number of service connections: __________________
- Acres Irrigated: __________________
- Crop(s): □ Sugar □ Pineapple □ Other (specify): __________________
- Non-Crop: □ Landscape □ Golf Course □ Other (specify): __________________
- Method: □ Drip □ Furrow □ Sprinkler □ Cooling □ Manufacturing □ Mill □ Other (specify): __________________
- Specify (livestock, aquaculture, etc.): __________________

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User’s Signature: ______________ Date: 5/25/89

Printed Name: Brian Minai

Firm or Title (Well Operator, etc.): West Beach Estates
# Registration of Well and Declaration of Water Use

**INSTRUCTIONS:** Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96802. Phone: 548-3948 or 548-7543 for assistance.

**Battery of Wells:** For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

## State of Hawaii

**Commission on Water Resource Management**

**Department of Land and Natural Resources**

**Division of Water Resource Management**

## Registration of Well and Declaration of Water Use

### Battery of Wells

#### Information is not available or not applicable.

Indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96802. Phone: 548-3948 or 548-7543 for assistance.

---

**State Well No.:** 2006-15  
**Island:** Oahu

**Well Name or Designation:** West Beach Non-Potable Well No. 1

**Source or Station Name:** (For a battery of wells):__

### A. Well Operator

**Firm name:** West Beach Estates  
**Contact person:** Brian Minaii  
**Address:** 1585 Kapiolani Blvd., Suite 1430, Honolulu, HI  
**Zip:** 96814  
**Phone:** 941-1533

### B. Owner of Well Site

**Firm name:** West Beach Estates  
**Contact person:** Brian Minaii  
**Address:** 1585 Kapiolani Blvd., Suite 1430, Honolulu, HI  
**Zip:** 96814  
**Phone:** 941-1533

### C. Well Location

**Tax Map Key:** 9-1-15:5  
**Town, Place, District:** Honolulu, Ewa

Attach USGS “Quad” map (scale 1:24,000), tax map, or other map showing the well location.

### D. Well Data

**For Drilled Wells, submit “as-built” drawing, driller’s log, and pump test results, and complete items below.**

**For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground elevation (Mean sea level)</td>
<td>178.83 ft.</td>
</tr>
<tr>
<td>Year drilled or constructed</td>
<td>1988</td>
</tr>
<tr>
<td>Reference point (used to measure depth to water)</td>
<td>Elevation: 178.83 ft.</td>
</tr>
<tr>
<td>Description</td>
<td>Top of Drilling Platform</td>
</tr>
<tr>
<td>Depth to water (below reference point)</td>
<td>154.4 ft.</td>
</tr>
<tr>
<td>Maximum recorded chloride</td>
<td>340 ppm 1988</td>
</tr>
<tr>
<td>Minimum recorded chloride</td>
<td>N/A ppm</td>
</tr>
<tr>
<td>Maximum recorded chloride in 1987</td>
<td>N/A ppm</td>
</tr>
</tbody>
</table>

### E. Installed Pump Data

**Under Construction**

- **Pump type:** [ ] Vertical shaft  [ ] Submersible  [ ] Centrifugal  [ ] Other (specify):__
- **Power:** [ ] Diesel,  [ ] Gas,  [ ] Electric,  [ ] Other (specify):__
- **Pump capacity:** 1100 gallons per minute
- **Pump installation contractor:** Roscoe Moss Co.

(continued over)

---

**For Official Use Only:**

**Date received:**  
**Date accepted:**  
**Field checked by:**  
**Date:**  
**Latitude:**  
**Longitude:**  
**Hydrologic Unit:**

**State Well No.:**

---

**References:** Hawaii Revised Statutes, Chapter 174C.  
Hawaii Administrative Rules, Chapters 13-167 to 13-171.
F. DECLARATION OF WATER USE

NOTE: The purpose of the Declaration of Water Use is to obtain information necessary for the management of the State's water resources. The Declaration does not confer a legal right to water or its use.

Water use data are recorded: □ Daily □ Weekly □ Monthly
□ Other (Describe): _______.

Method of measurement: □ Flow Meter □ Orifice
☑ Other (Describe): Flow Tube.

Quantity of Use (Report metered or estimated monthly water use from the well described on the reverse side of this form, for the calendar years 1983 through 1987. For a battery of wells which are not individually metered, but which are connected to a single meter or other measuring device, report total use from the battery):

WATER USE, IN GALLONS x 1000

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</table>

Minimum day's use: _______ gallons  Maximum day's use: _______ gallons

Typical times of usage: _________________________

Type of Use (Check all category boxes that apply and provide additional information as indicated):

☐ Municipal (Including resorts, hotels, businesses)
☐ Domestic (systems serving 25 people or less)
☑ Irrigation
☐ Industrial
☐ Military
☐ Other

Additional Information

Number of service connections: ______.

Acres Irrigated:
Crop(s): ☐ Sugar ☐ Pineapple
☐ Other (specify): ______.

Non-Crop: ☐ Landscape ☐ Golf Course
☐ Other (specify): ______.

Method: ☐ Drip ☐ Furrow ☐ Sprinkler
☐ Cooling ☐ Manufacturing ☐ Mill
☐ Other (specify): ______.

Specify (livestock, aquaculture, etc.): ______.

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User's Signature: __________________________ Date: 5/25/89

Printed Name: Brian Minna

Firm or Title (Well Operator, etc.): West Beach Estates
REFERENCE: USGS EWA QUADRANGLE, 1983

WELL LOCATION MAP

SCALE: 1000 0 1000 2000 3000 4000 FEET
August 8, 1988

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Hayashida:

West Beach Wells 1 & 2 2006-14-15, Oahu

In order to complete our well record files, we would appreciate your providing us an accurate location of your recently completed West Beach Wells 1 & 2 (State Well Nos. 2006-14 and 15). Please accurately mark the location of the wells on the enclosed 1:24,000 Scale USGS map and return it to our office.

Thank you very much for your cooperation.

Sincerely,

MANABU TAGOMORI
Deputy for Water Resource Management

MO:ko
Enc.
Date of report: March 22, 1988... Person filing report: Loran H. Runnels

A. OWNER: West Beach
B. GENERAL LOCATION: Roscoe Moss Company
C. DRILLING COMPANY: Roscoe Moss Company
D. TYPE OF RIG: 361
E. ELAVATION, msl: Top of drilling platform 195.11
F. HOLE SIZE: 22 inch dia. to 244 ft. below drilling platform.
G. CASING INSTALLED: 16 in. I.D. x .375 in. wall solid section to 244 ft. below drilling platform.
H. ANNULUS: Grouted 0 ft. to 244 ft. below drilling platform.

HYDROLOGY

K. INITIAL CHLORIDE: 0.367 ppm, total depth of well: 300 ft. below drilling platform.

L. PUMPING TESTS:

<table>
<thead>
<tr>
<th>Date</th>
<th>Start water level</th>
<th>End water level</th>
<th>Depth of well</th>
<th>Rate (gpm)</th>
<th>Draw-down (ft.)</th>
<th>Cl- (ppm)</th>
<th>Temp. °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 05, 1988</td>
<td>0 to 71, 100</td>
<td>180 to 202</td>
<td>180 to 202</td>
<td>0.2 to 1</td>
<td>to</td>
<td>0 to 7</td>
<td>to</td>
</tr>
</tbody>
</table>

SUBSURFACE FORMATION

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Water Level, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
<th>Rock Description &amp; Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 16</td>
<td>180 to 202</td>
<td>Med. Hard Rock</td>
<td>202 to 283</td>
<td>Cinders &amp; Broken rock</td>
</tr>
<tr>
<td>16 to 20</td>
<td>283 to 296</td>
<td>Med. Hard Rock</td>
<td>296 to 300</td>
<td>Cinders</td>
</tr>
<tr>
<td>20 to 50</td>
<td>300 to 300</td>
<td>Red Clay, Broken Rock</td>
<td>300 to 300</td>
<td>Red. Cinders</td>
</tr>
<tr>
<td>50 to 60</td>
<td>155 to 180</td>
<td>Red. Cinders</td>
<td>155 to 180</td>
<td>Red. Cinders</td>
</tr>
<tr>
<td>60 to 70</td>
<td>127 to 127</td>
<td>Clinker - Red &amp; Black</td>
<td>127 to 127</td>
<td>Clinker - Red &amp; Black</td>
</tr>
<tr>
<td>70 to 72</td>
<td>106 to 106</td>
<td>Basalt Hard</td>
<td>106 to 106</td>
<td>Clinker - Red &amp; Black</td>
</tr>
<tr>
<td>80 to 80</td>
<td>16 to 16</td>
<td>Clinkers &amp; Basalt</td>
<td>16 to 16</td>
<td>Clinkers &amp; Basalt</td>
</tr>
<tr>
<td>80 to 106</td>
<td>50 to 50</td>
<td>Clinkers &amp; Clay</td>
<td>50 to 50</td>
<td>Clinkers &amp; Clay</td>
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<tr>
<td>106 to 127</td>
<td>127 to 127</td>
<td>Basalt &amp; Clay</td>
<td>127 to 127</td>
<td>Basalt &amp; Clay</td>
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<tr>
<td>127 to 155</td>
<td>72 to 72</td>
<td>Basalt</td>
<td>72 to 72</td>
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<tr>
<td>155 to 180</td>
<td>16 to 16</td>
<td>Clinkers</td>
<td>16 to 16</td>
<td>Clinkers</td>
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M. DRILLER'S LOG:

N. REMARKS:

FOR DRILLER'S USE

Job Name: ...
Job No.: ...

INSTRUCTIONS: Send three (3) copies to: Manager-Chief Engineer, Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96809.


FOR OFFICIAL USE

Latitude: 21° 20' N
Longitude: 158° 06' W
Well No.: 2006-15
<table>
<thead>
<tr>
<th>Start Jan 5 1986 Weld #2</th>
<th>8:00</th>
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<tbody>
<tr>
<td>1100 RPM</td>
<td>8.70 (specified)</td>
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<tr>
<td>Air l/min</td>
<td>8.40</td>
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<tr>
<td>Engine RPM</td>
<td>8.40</td>
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<tr>
<td>Water Temp</td>
<td>8.40</td>
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<td>chloride</td>
<td>Time</td>
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<tr>
<td>GPM sq</td>
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</table>
pump setting 229' 6"
Air line 220
Elevation top casing 194' 4"
water level 180' 1"
casing depth 240'
hole depth 295' 300'

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<tr>
<th>SAMPLE DESCRIPTION</th>
<th>UNITS</th>
<th>(Potable) Maximum Contaminant Levels</th>
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<td>2,4,5-TP</td>
<td>mg/L</td>
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LABORATORY ANALYSIS REPORT (1)

TO:  ROSCOE MOSS COMPANY  ATTN:  
ADDRESS:  830 AHUA STREET  PHONE:  
HONOLULU, HAWAII 96819

SAMPLES OF: Well Water -- West Beach
SAMPLER BY: Stephen Bowles  SAMPLING DATE: 01-12-88  TIME:  
RECEIPT DATE: 01-13-88  TIME: 1000

| DATE SAMPLE ANALYZED | 01/13-29/88 |
| TIME SAMPLE ANALYZED |
| SAMPLE TYPE |
| SAMPLE DESCRIPTION | WELL No.2 |
| UNITS |
| TOTAL ALKALINITY | mg/L as CaCO₃ | 156 |
| TOTAL HARDNESS | mg/L as CaCO₃ | 449 |
| pH | Units | 8.19 |
| CONDUCTIVITY | umhos/cm | 1330 |
| SALINITY | ppt | 0.5 |
| CHLORIDES | mg/L | 367 |
| SODIUM | mg/L | 129 |
| TOTAL PHOSPHORUS | mg/L | 0.10 |
| POTASSIUM | mg/L | 9.1 |
| CALCIUM | mg/L | 60.90 |
| MAGNESIUM | mg/L | 72.20 |
| COPPER | mg/L | < 0.01 |
| IRON | mg/L | < 0.02 |
| MANGANESE | mg/L | < 0.01 |
| ZINC | mg/L | < 0.005 |
| SULFATES | mg/L | 60 |
| SILICA | mg/L | 40 |
| TOTAL DISSOLVED SOLIDS | mg/L | 1147 |

**Driller's Report**

**Date of report**: March 22, 1988  
**Person filing report**: Loran H. Runnells

**A. Owner**: West Beach  
**Name**: Well #1  
**Island**: Oahu

**B. General Location**: Roscoe Moss Company

**C. Drilling Company**: Roscoe Moss Company

**D. Type of Rig**: 36L  
**Drilling Completed**: March '88  
**Driller**: David McAllister

**E. Elevation, msl**: Top of drilling platform 0 ft.  
Bench mark and method used to determine height of drilling platform above ground level: 178.83 ft.

**F. Hole Size**: 22 inch dia. to 228 ft. below drilling platform.

**G. Casing Installed**: 1.6 in. I.D. x 375 in. wall solid section to 228 ft. below drilling platform.

**H. Annulus**: Grouted 0 ft. to 228 ft. below drilling platform.

**I. Permanent Pump Installation**:  
- Pump type, make, serial no.  
- Motor type, H.P., voltage, r.p.m.  
- Depth of pump intake setting  
- Depth of bottom of airline

**Hydrology**

**J. Initial Water Level**: 154 ft. below drilling platform.  
**Date of measurement**: February 23, 1988

**K. Initial Chloride**: 10 ppm, total depth of well 154 ft. below drilling platform

**L. Pumping Tests**:  
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<thead>
<tr>
<th>Date</th>
<th>Start water level</th>
<th>End water level</th>
<th>Depth of well</th>
<th>Rate (gpm)</th>
<th>Draw-down (ft.)</th>
<th>Cl-(ppm)</th>
<th>Temp. °F</th>
<th>Elapsed Time (hours)</th>
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</table>

**Subsurface Formation**

**M. Driller's Log**:  
- Depth, ft.  
- Rock Description & Remarks  
- Water Level

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
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<tbody>
<tr>
<td>0 to 20</td>
<td>Cinders</td>
<td>105. to 125</td>
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<tr>
<td>20 to 25</td>
<td>Firm Rock</td>
<td>125. to 160</td>
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<tr>
<td>25 to 30</td>
<td>Soft Mud &amp; Cinders</td>
<td>160. to 165</td>
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<td>30 to 40</td>
<td>Firm Rock</td>
<td>165. to 205</td>
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<td>40 to 50</td>
<td>Soft Rock, Cinders</td>
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<td>50 to 55</td>
<td>Firm Lava Rock</td>
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<td>55 to 65</td>
<td>Cinders</td>
<td>261. to 270</td>
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<td>65 to 67</td>
<td>Blue Rock</td>
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<td>67 to 75</td>
<td>Mud Rock</td>
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<td>75 to 85</td>
<td>Blue Rock</td>
<td>280. to 285</td>
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<td>85 to 105</td>
<td>Red, Black &amp; Blue Rock</td>
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</table>

**N. Remarks**: 

**Instructions**: Send three (3) copies to: Manager-Chief Engineer, Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96803.

**For Official Use**

- Latitude 21° 00' 41"  
- Longitude 158° 06' 19"  
- Well No. 9006-14

**For Driller's Use**

- Job Name:  
- Job No.
WEST BEACH WELL #1 2006-14

Water Level 154.4
Well Cased depth 228 ft.

Elevation 178.83
Well Casing 230'4" 16 x 3/8 Wall
Total Well Depth 255'

PUMP TEST START 2/23/88

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LABORATORY ANALYSIS REPORT (1)

TO: ROSCOE MOSS COMPANY  
ADDRESS: 830 AHUA STREET  
HONOLULU, HAWAII 96819

SAMPLES OF: Well Water
SAMPLED BY: Stephen Bowles
SAMPLING DATE: 03-26-88
RECEIPT DATE: 03-03-88

DATE SAMPLE ANALYZED: 03/03-11/88
TIME SAMPLE ANALYZED: 1300

SAMPLE DESCRIPTION: West Beach #1 Well after 72 hours pumping

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<th>RESULTS</th>
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<td>TOTAL HARDNESS</td>
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<td>CALCIUM</td>
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<td>MAGNESIUM</td>
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<td>pH</td>
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<td>CONDUCTIVITY</td>
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August 8, 1988

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Hayashida:

West Beach Wells 1 & 2 2006-14-15, Oahu

In order to complete our well record files, we would appreciate your providing us an accurate location of your recently completed West Beach Wells 1 & 2 (State Well Nos. 2006-14 and 15). Please accurately mark the location of the wells on the enclosed 1:24,000 Scale USGS map and return it to our office.

Thank you very much for your cooperation.

Sincerely,

MANABU TAGOMORI
Deputy for Water Resource Management

Enc.
Mr. Glenn R. Bauer
Board of Water Supply
630 So. Beretania St.
Honolulu, HI 96843

TO

Mr. Manabu Tagomori/State of Hawaii
Department of Land and Natural Resources
P. O. Box 373, Honolulu, HI 96809

RE
Pump Reading for West Beach Estates Well 2006-13

Gentlemen: We are sending you: X ATTACHED □ UNDER SEPARATE COVER VIA

□ SHOP DRAWING  □ COVER LETTER □ PLAN □ SPECIFICATION □ SAMPLE □ WORK ORDER □ PURCHASE ORDER

□ CHANGE ORDER □

These are transmitted as checked: X FOR YOUR INFORMATION □ AS REQUESTED □ FOR REVIEW & COMMENT

□ FOR YOUR USE □ FOR APPROVAL □ FOR RECORD □ FOR PROCESSING □ FOR BID DOCUMENT

1 Pump reading for the month of February, 1988

Remarks:

□
□
□

From
Blaine Ikeda
Cooperating Parties:
Please mail original copy to Board monthly; keep carbon copy for your use.

DAILY DISCHARGE FOR THE MONTH OF Feb. 1988

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<tr>
<th>DATE</th>
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<th>DIFFERENCE (Gals.)</th>
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Readings by F. C. S. P. T****
For:__________________________
## DRILLER'S REPORT

### AMENDED COPY

**Date of report**: March 03, 1986  
**Person filing report**: Loran H. Runnells  
**Owner**: WEST BEACH ESTATES  
**WELL NAME**: ISLAND OAHU

### DESCRIPTION

**A. OWNER**: WEIR

**B. GENERAL LOCATION**: ROSCOE MOSS COMPANY

**C. DRILLING COMPANY**: 6BL

**D. TYPE OF RIG**: DRILLING COMPLETED: 2 86 DRILLER J. Bourn

**E. ELEVATION, msl**: Top of drilling platform 58.24 ft.  
Bench mark and method used to determine height of drilling platform above ground surface: 

**F. HOLE SIZE**: 16 in. dia. to 58 ft. below drilling platform.  
18 in. dia. to 2 ft. below drilling platform.  
20 in. dia. to 1 ft. below drilling platform.

**G. CASING INSTALLED**: 12 in. I.D. x .250 in. wall solid section to 66 ft. below drilling platform.  
in. I.D. x in. wall perforated section to ft. below drilling platform.  
Type of perforation

**H. ANNULUS**: Grouted ft. to 58 ft. below drilling platform.  
Gravel packed ft. to ft. below drilling platform.

### HYDROLOGY

**J. INITIAL WATER LEVEL**: 4.5 ft. below drilling platform, Date of measurement: 2/4/86

**K. INITIAL CHLORIDE**: ppm, total depth of well 120 ft. below drilling platform

**L. PUMPING TESTS**: ppm, Reference point (R.P.) used: T.O.C. which elevation is 59.88 ft.

**Date**: 2-4-86  
Start water level 45 ft. below R. P.  
End water level 45 ft. below R. P.  
Depth of well 110 ft. below R. P.  

<table>
<thead>
<tr>
<th>Date</th>
<th>Start water level</th>
<th>End water level</th>
<th>Depth of well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 12, 1986</td>
<td>45 ft. below R. P.</td>
<td>45 ft. below R. P.</td>
<td>120 ft. below R. P.</td>
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</tbody>
</table>

### SUBSURFACE FORMATION

**M. DRILLER'S LOG**

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 6</td>
<td>Rock</td>
<td>83 to .95</td>
<td>95 to 104</td>
<td>Clinkers hard layer</td>
<td>104 to 110</td>
</tr>
<tr>
<td>6 to 25</td>
<td>Cinders</td>
<td></td>
<td></td>
<td>Red cinders</td>
<td>110 to 115</td>
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<tr>
<td>25 to 34</td>
<td>Blue rock</td>
<td></td>
<td>115 to 120</td>
<td>Fractured AA</td>
<td></td>
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<tr>
<td>34 to 42</td>
<td>Clinkers, cinders</td>
<td></td>
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<td>42 to 44</td>
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<td>57 to 58</td>
<td>blue rock</td>
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<tr>
<td>58 to 73</td>
<td>poahoehoe</td>
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<tr>
<td>73 to 83</td>
<td>Red cinders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**N. REMARKS**

### INSTRUCTIONS:

Send three (3) copies to: Manager-Chief Engineer, Division of Water and Land Development, P. O. Box 373, Honolulu, Hawaii 96813

### REFERENCES:


### FOR OFFICIAL USE

Latitude: 21°20'25"  
Longitude: 158°06'31"  
Well No.: 2006-13
TO: Mr. Manabu Tagomori  
State of Hawaii  
Department of Land and Natural Resources  
P. O. Box 373  
Honolulu, Hawaii 96809  

FROM: Larry Leopardi

RE: Pump Readings for West Beach Estates Well 2006-13

Gentlemen: We are sending you: X ATTACHED  

☐ SHOP DRAWING ☐ COVER LETTER ☐ PLAN ☐ SPECIFICATION ☐ SAMPLE ☐ WORK ORDER ☐ PURCHASE ORDER  

☐ CHANGE ORDER ☐

These are transmitted as checked:  
☐ FOR YOUR INFORMATION ☒ AS REQUESTED ☐ FOR REVIEW & COMMENT

☐ FOR YOUR USE ☐ FOR APPROVAL ☐ FOR RECORD ☐ FOR PROCESSING ☐ FOR BID DUE  


<table>
<thead>
<tr>
<th>COPIES</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>Estimated Pump Readings for months April, May, June</td>
</tr>
<tr>
<td>1</td>
<td>Actual Pump Readings for July and August</td>
</tr>
<tr>
<td>1</td>
<td>Site Plan, Driller's Log, Pump Test #1 &amp; #2, Water Quality Analysis, Driller's Report</td>
</tr>
</tbody>
</table>

Remarks:

__________________________
COPY TO: __________________  
SIGNED: Larry Leopardi
TABLE OF CONTENTS

SUBJECT

WEST BEACH GOLF COURSE WELL #1 AND PROPOSED MAUKA BRACKISH WELL #1

LIST OF EXHIBITS

EXHIBIT I: SITE PLAN
EXHIBIT II: AS-BUILT TEST WELL DETAIL WITH DRILLER'S LOG
EXHIBIT III: PUMP TEST NO. 1 (2/5/86)
EXHIBIT IV: BREWER ANALYTICAL LABORATORIES WATER QUALITY ANALYSIS DURING PUMP TEST NO. 1 (2/5/86) @ 10:35 a.m.
EXHIBIT V: PUMP TEST NO. 2 (2/12/86)
EXHIBIT VI: WELL DRILLER'S REPORT DATED MARCH 3, 1986 (AMENDED COPY)
Attached are the final data on the Golf Course Well #1. The first water struck, at elevation +14 feet, had a salinity of 530 mg/l chlorides. Samples taken from a depth 53' (+5') after bailing showed a salinity of 447 mg/l. The casing was then set in place to a depth of 58' (elevation). Bail samples taken at 85' (elevation - 27') had a salinity of 454 mg/l. A bottom sample taken the following morning at that depth resulted in a reading of 401 mg/L chlorides indicating a substantial (530 vs 401) improvement in quality with depth.

The well was then drilled to depth of 110' and pump test #1 was conducted. A steady freshening of the well is noted in Pump test #1 with a sample taken at 10:35 a.m. on day 2 (2/5/86) for complete analysis (Field Chloride 424 mg/l and Brewer Analytical Laboratories' analysis at 422 mg/l). Based on the steady improvement in quality with depth and time pumped, the hole was deepened 10', a tail pipe added to the pump and a second test run. A further improvement in quality (a low as 402 mg/l) occurred, thus substantiating the quality improvement with depth.

The high salinity at the surface of the water table is most probably caused by nearly 70 years of brackish cane irrigation on the surrounding lands. This freshening trend is encouraging with respect to the proposed brackish water wells. It cannot be concluded however that potable (160 mg/l or less) water will be found. The freshening of the golf course well clearly proves the following:

1. The lens contains water fresher than 400 mg/l.
2. The freshening occurs with depth below sea level.
3. The golf course well did not penetrate to the freshest water.
4. Pumping (volume) removes the upper water and the final quality of water produced by the well will be better than 400 mg/l.

From the evidence produced by the golf course well the following is recommended:

1. The first mauka brackish well to be drilled to a depth of 200 feet to 300 feet below sea level or until the salinity begins to increase (possibly less than 200 feet below sea level).
2. The first well should be drilled immediately to confirm the possible presence of potable water.

February 26, 1986
Stephen P. Bowles
P.O. Box 1656 • Kamuela, Hawaii 96743
PROPOSED IRRIGATION TEST WELL FOR GOLF COURSE

EXIST. RESERVOIR

EXIST. PUMP 10 SITE

COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND TESTING ONE WELL
EWA, OAHU, HAWAII
SITE PLAN

EXHIBIT 1
COORDINATES OF WELL
14,378.90 S
11,404.76 W
REF. TO "KAPUAI NEW △"

EXIST. GROUND ELEV. = 58.12

STANDARD CAP COVER
ELEV. = 60.27'

TOP OF CASING
ELEV. = 59.02'

12" I.D. STEEL CASING
(1/4" THICKNESS)

APPROX. WATER LEVEL
ELEV. = ± 14.0'

1 1/2" GROUT FILLED
ANNULUS

BOTTOM OF CASING
ELEV. = 0

11 3/4" MIN. DIAMETER
OPEN HOLE

BOTTOM OF WELL
ELEV. = (-)62.0'

AS-BUILT TEST WELL SECTION
NOT TO SCALE

DRILLERS LOG
SUBSURFACE FORMATION

<table>
<thead>
<tr>
<th>DEPTH, FT.</th>
<th>ROCK DESCRIPTION &amp; REMARKS</th>
<th>WATER LEVEL FT.</th>
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<tbody>
<tr>
<td>0 TO 6</td>
<td>ROCK</td>
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</tr>
<tr>
<td>6 TO 25</td>
<td>BOULDERS</td>
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<td>25 TO 34</td>
<td>BLUE ROCK</td>
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</tr>
<tr>
<td>34 TO 42</td>
<td>CLINKER, CINDERS</td>
<td></td>
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<tr>
<td>42 TO 44</td>
<td>BLUE ROCK</td>
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<td>44 TO 52</td>
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<td>52 TO 55</td>
<td>BLUE ROCK</td>
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<tr>
<td>55 TO 57</td>
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<tr>
<td>57 TO 58</td>
<td>BLUE ROCK</td>
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</tr>
<tr>
<td>58 TO 73</td>
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<tr>
<td>73 TO 83</td>
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<tr>
<td>115 TO 120</td>
<td>FRACTURED AA</td>
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</table>

*BY ROSCOE MOSS COMPANY

AS-BUILT TEST WELL
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND TESTING ONE WELL
EWA, OAHU, HAWAII
MARCH 3, 1986
WEST BEACH GOLF COURSE WELL NO. 1

TEST NO. 1  2/2/86  5/15/86

ELEVATION = 58.0 FT. (+/-)
DEPTH OF CASING = 58.0 FT.
WATER LEVEL = +14.0 FT.
TOTAL DEPTH = 110.0 FT.
PUMP INTAKE ELEV. = -5 FT.

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TOTAL PUMPED = 1,062,300 GALLONS

EXHIBIT III
LABORATORY ANALYSIS REPORT

TO: ROSCOE MOSS COMPANY
ADDRESS: 830 A'HUA STREET
HONOLULU, HAWAII 96819

SAMPLES OF: WEST BEACH GOLF COURSE
SAMPLED BY: Stephen Bowles
RECEIPT DATE: 02-06-86

SAMPLING DATE: 02/04 - 05/86
TIME: 10:35 a.m.

DATE SAMPLE ANALYZED: 02/19-24/86
TIME SAMPLE ANALYZED: 1015

SAMPLE TYPE
SAMPLE DESCRIPTION: Well No. 1

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EXHIBIT IV
WEST BEACH GOLF COURSE WELL NO. 1

TEST NO. 2  2/12/36

ELEVATION = 58.0 FT. (+/-)
DEPTH OF CASING = 59.0 FT.
WATER LEVEL = +14.0 FT.
TOTAL DEPTH = 120.0 FT.
PUMP INTAKE ELEV. = -45 FT.

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<th>REMARKS</th>
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TOTAL PUMPED = 157,600 GALLONS
**FOR DRILLER'S USE**

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<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
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<tr>
<td>0 to 6</td>
<td>Rock</td>
<td>83 to 95</td>
<td>Pahoehoe</td>
<td></td>
</tr>
<tr>
<td>6 to 25</td>
<td>Cinders</td>
<td>95 to 104</td>
<td>Clinkers, hard layer</td>
<td></td>
</tr>
<tr>
<td>25 to 54</td>
<td>Blue rock</td>
<td>104 to 110</td>
<td>Red cinders</td>
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</tr>
<tr>
<td>34 to 42</td>
<td>Clinkers, cinders</td>
<td>110 to 115</td>
<td>Red pahoehoe</td>
<td></td>
</tr>
<tr>
<td>42 to 52</td>
<td>Blue rock</td>
<td>115 to 120</td>
<td>Fractured AA</td>
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<tr>
<td>52 to 55</td>
<td>Blue rock</td>
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</tr>
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<td>55 to 73</td>
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</tr>
<tr>
<td>73 to 83</td>
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**INSTRUCTIONS:** Send three (3) copies to: Manager, Chief Engineer, Division of Water and Land Development, P. O. Box 77, Honolulu, Hawaii 96819.

Cooperating Parties:

Please mail original copy to Board monthly; keep carbon copy for your use.

DAILY DISCHARGE FOR THE MONTH OF August 1987

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TOTAL

Readings by Jason Sith

For K. S. Hawaii Constr.
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**TOTAL**

Readings by...

For K & H Hawaii Construction
## BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
DIVISION OF PLANNING & ENGINEERING
HYDROLOGY - GEOLOGY SECTION

Cooperating Parties:
Please mail original copy to Board monthly; keep carbon copy for your use.

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TOTAL

Readings by [Signature]

For K. G. Hawaii Constr.
## Daily Discharge for the Month of May 1987

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Readings by Jason Cat

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<td>1</td>
<td></td>
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</tr>
</tbody>
</table>

**TOTAL**

Readings by [Signature]

For K.C. Hawai'i Constr.
I received a call from Glenn Bauer, BWS. West Beach Golf Course well is now being used for dust control. There is a meter on it as required by the water use permit. Well water, taken from a test tank truck measured 440 ppm chlorides (BWS lab).
July 13, 1987

West Beach Estates
2024 No. King St., Room 209
Honolulu, Hawaii 96819

Gentlemen:

We understand that the West Beach Estates Golf Course Well, State Well No. 2006-13, is now being used. This is to remind you of condition 3 in the well drilling permit, which states that monthly reports of pumpage shall be submitted after the well is put into production.

We also understand that there may be a consultant's report on the drilling, construction and testing of the well. If there is, we would appreciate a copy for our information and files.

We appreciate your cooperation in this matter.

Sincerely,

MANABU TAGOMORI
Manager-Chief Engineer

ES:ko
Mr. Susumu Ono, Chairperson
Board of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Ono:

Subject: Well Drilling Permit for Barbers Point Non-Potable Wells Nos. 2005-02-03

Thank you for the permit to drill two wells for non-potable purposes at Barbers Point. We will abide by the conditions listed on the permit.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer
WATER RESOURCES & FLOOD CONTROL RANCH
Division of Water and Land Development

FROM:  
DATE:  7/7/06  FILE IN:  2005-02-03

TO:  INITIAL:  

PLEASE:  

REMARKS:

T. FUJII
D. Lum
E. Sakoda
D. Nakano
J. Menor
M. Ohye
N. Kaneshiro
S. Miyamoto
S. Samuels
W. Koyanagi
D. Hamada
K. Oshiro
M. Tagomori
H. Sakai
H. Morimatsu
J. Sato

See Me
Call
Review & Comment
Take Action
Investigate & Report
Draft Reply
Acknowledge Receipt
Type Draft
Type Final cc:
Xerox copies
File
Mail

FOR YOUR:

Approval
Signature
Information

Well Drilling Permit 2012

BWS Barber 17 non-potable wells. Water Use Permit issued previously. Wells are to be used for irrigation from basal aquifer (Wacana).
DIVISION OF WATER AND LAND DEVELOPMENT

FROM:   TO:   INITIAL:   DATE:   FILE IN:  2005-02-03

PLEASE:

M. Tagomori    See Me
T. Fujii       Take Action By
H. Sakai       Route to Your Branch
H. Morimatsu   Review & Comment
A. Ching       Draft Reply By
G. Morimoto    Acknowledge Receipt
G. Matsumoto   Xerox copies
P. Matsuo      Return
L. Asari       File
D. Lum         For Information
N. Kaneshiro   J. Sato
S. Miyamoto    D. Hamada
S. Samuels     L. Nanbu

REMARKS:

Take Receipt
E&L, call BWS. Set
For worldwide location
map

Received, (as expected)
May 10, 96, call back end of next week

Revise Well Section for new section, map, etc.
WATER RESOURCES & FLOOD CONTROL BRANCH
Division of Water and Land Development

GOLF COURSE WELL

FROM: Ed
DATE: 2/6/86
FILE IN: WEST BEACH ESTATES

TO: INITIAL: 

T. FUJII
D. Lum
E. Sakoda
D. Nakano
J. Menor
M. Ohye
S. Samuels
W. Koyanagi
D. Hamada
K. Oshiro
M. Tagomori
H. Sakai
H. Morimatsu
J. Sato

PLEASE:
See Me
Call
Review & Comment
Take Action
Investigate & Report
Draft Reply
Acknowledge Receipt
Type Draft
Type Final
Xerox copies
File
Mail

REMARKS:
Bob Akenaka called. They are going to drill another x10' (120 feet total depth) and run another pump test - maybe middle of next week. Bob said hole will be available for logging if you're interested.

For Your:
Approval
Signature
Information

Thank you for input.

No need to lady fry dinheiro
WATER SOURCES FLOOD CONTROL DANCH
Division of Water and Land Development

FROM: [Blank]
DATE: 2/4/86
FILE IN: [Blank]

TO: INITIAL:
PLEASE: REMARKS:

✓ T. FUJII
✓ D. Lum
✓ E. Sakoda
✓ D. Nakano
✓ J. Menor
✓ M. Ohye

Please:

Call
Review & Comment
Take Action
Investigate & Report
Draft Reply
Acknowledge Receipt
Type Draft
Type Final
Xerox copies
File
Mail

cc:

FOR YOUR:

Head #13

Pump @ 700 gpm
Pump x 2 fans
M. Tagomori
H. Sakai
H. Morimatsu
J. Sato

[Signature]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]

[Initials]
DIVISION OF WATER AND LAND DEVELOPMENT

FROM: 

TO: INITIAL: 

PLEASE: 

M. TAGOMORI See Me
T. Fujii Take Action By
H. Sakai Route to Your Branch
H. Morimatsu Review & Comment
A. Ching Draft Reply By
G. Morimoto Acknowledge Receipt
G. Matsumoto Xerox copies
P. Matsuo File
L. Asari For Information
D. Lum Need to Confer
S. Samuels

REMARKS:

Please check.

Not received.

02 Jan 0-2

They are going to De Island 0-2

original location not necessary.

MT Disps
January 2, 1986

Department of Land & Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Manabu Tagomori

Gentlemen:

SUBJECT: WEST BEACH RESORT DEVELOPMENT
HONOLUILI, EWA, OAHU, HAWAII
TAX MAP KEY: 9-1-15: 4

This is to inform you of the proposed project's golf course test well drilling by the contractor, Roscoe Moss Company. The contractor will commence drilling on January 7, 1986 near the existing well known as Pump No. 10 of Oahu Sugar Company.

Should you require additional information, please call Dail Rhee at 521-7491.

Very truly yours,
COMMUNITY PLANNING, INC.

Bernard P. Kea

DR/BPK/hy
Attachment: Location Map
xc: Robert Akinaka (w/ attachment)
TO: DEPARTMENT OF LAND & NATURAL RESOURCES
WATER & LAND DEVELOPMENT DIVISION
STATE OF HAWAII
KALANIMOKU BLDG., RM. 227

DATE: December 11, 1985

Attention MR. ED SAKODA

Gentlemen:

RE: WEST BEACH RESORT

GOLF COURSE IRRIGATION WELL SITE

We transmit herewith ☑ Under separate cover ☐ As requested ☐

<table>
<thead>
<tr>
<th>No. of Copies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Map with proposed well relocation noted in red</td>
</tr>
</tbody>
</table>

Remarks:

As requested by Sam Keala of Campbell Estate, the attached is transmitted for your approval of relocation.

cc: Sam Keala (Campbell Estate)
    Brian Minaai (West Beach Estates)

Very truly yours,

Bernard P. Kea
Mr. Susumu Ono, Chairperson
Board of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Ono:

Subject: West Beach Estates' Water Use Application, Pearl Harbor Ground Water Control Area, Oahu

We recommend approval of the permitted use for irrigation of the proposed golf course at West Beach, Oahu. The requested use of 0.7 million gallons daily (mgd) is larger than the irrigation requirement of existing golf courses of similar size. Other golf courses such as Waialae, Pearl Country Club, Honolulu International Country Club, and Hawaii Country Club, which rely on well water, use about 0.3 mgd.

Because the source will be from the Waianae basal aquifer, the applicant should be required to conserve water to protect existing sources.

If you have any questions, please contact Herbert H. Minakami at 527-6183.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer
TO: MR. MANABU TAGOMORI  
FROM: TOM NANCE  
SUBJECT: SELECTED GOLF COURSE IRRIGATION RATES IN RELATIONSHIP TO PROPOSED USE FOR THE WEST BEACH GOLF COURSE

1. The several resort golf courses for which we have reliable water use rates are as follows:

a. Mauna Lani Resort (125 to 135 irrigated acres; brackish supply of 800-1000 MGL chlorides).
   (i) Mid-1982 thru January 1984, use rate averaged 1.7 MGD.
   (ii) Water conservation program has cut use to 1.2 MGD in the last year (refer to attached Kea-Bustamante memo).

b. Waikoloa Beach Resort (140 irrigated acres; 700-850 MGL chloride supply).
   (i) System has three sources: 

   Nursery (brackish) well  
   STP (brackish) well  
   STP treated sewage effluent  

   Avge. MGD  
   Nursery (brackish) well  1.0  
   STP (brackish) well  0.3  
   STP treated sewage effluent  0.1  

   Total of All Sources ........ 1.4

c. Waikoloa Village (120 acres irrigated; 550 to 650 MGL chloride supply).
   (i) Parker 1 well, July 1983 thru October 1984: 0.85 MGD average.
2. Average use rates per irrigated acre for the above three courses are as follows:

<table>
<thead>
<tr>
<th>Golf Course</th>
<th>Acres</th>
<th>Avge. GPD/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mauna Lani Resort</td>
<td>130</td>
<td>9,320</td>
</tr>
<tr>
<td>Waikoloa Beach Resort</td>
<td>140</td>
<td>10,000</td>
</tr>
<tr>
<td>Waikoloa Village</td>
<td>120</td>
<td>7,080</td>
</tr>
<tr>
<td>Average of the Three</td>
<td>---</td>
<td>8,800</td>
</tr>
</tbody>
</table>

The average of the three over West Beach's 170 acres would amount to 1.496 MGD.

3. Waialae Golf Course has recently received BLNR approval for 0.56 MGD average use for its 140 acres. For the larger 170-acre West Beach course at the same unit use rate, the average would be 0.68 MGD.

4. A reasonable approach to consumptive use by turfgrass is 70 percent of the pan evaporation rate. Subtracting the supply by rainfall leaves the balance to be provided by irrigation. Calculations for the West Beach site indicate an average requirement of 0.71 MGD year-round and a 1.05 MGD maximum use in summer:

<table>
<thead>
<tr>
<th>Month</th>
<th>Pan Evaporation at Gage 727, Reservoir 10 (Inches)</th>
<th>Rainfall at Gage 700, Waimanalo, Ewa (Inches)</th>
<th>70% of Pan Evaporation Less Rainfall Amount (Inches)</th>
<th>Equivalent MGD Over 170 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>5.82</td>
<td>2.9</td>
<td>1.174</td>
<td>0.175</td>
</tr>
<tr>
<td>Feb.</td>
<td>6.10</td>
<td>1.7</td>
<td>2.570</td>
<td>0.424</td>
</tr>
<tr>
<td>Mar.</td>
<td>7.36</td>
<td>1.2</td>
<td>3.952</td>
<td>0.588</td>
</tr>
<tr>
<td>Apr.</td>
<td>8.13</td>
<td>0.5</td>
<td>5.191</td>
<td>0.799</td>
</tr>
<tr>
<td>May</td>
<td>8.82</td>
<td>0.4</td>
<td>5.774</td>
<td>0.860</td>
</tr>
<tr>
<td>June</td>
<td>9.86</td>
<td>0.1</td>
<td>6.802</td>
<td>1.047</td>
</tr>
<tr>
<td>July</td>
<td>10.40</td>
<td>0.2</td>
<td>7.080</td>
<td>1.054</td>
</tr>
<tr>
<td>Aug.</td>
<td>10.31</td>
<td>0.2</td>
<td>7.017</td>
<td>1.045</td>
</tr>
<tr>
<td>Sept.</td>
<td>9.30</td>
<td>0.4</td>
<td>6.110</td>
<td>0.940</td>
</tr>
<tr>
<td>Oct.</td>
<td>7.97</td>
<td>0.8</td>
<td>4.779</td>
<td>0.712</td>
</tr>
<tr>
<td>Nov.</td>
<td>6.84</td>
<td>1.3</td>
<td>3.488</td>
<td>0.537</td>
</tr>
<tr>
<td>Dec.</td>
<td>5.91</td>
<td>2.2</td>
<td>1.937</td>
<td>0.288</td>
</tr>
<tr>
<td>Annual</td>
<td>96.82</td>
<td>11.9</td>
<td>55.874</td>
<td>0.707</td>
</tr>
</tbody>
</table>
5. In the absence of specific meteorological data and soil moisture retention capacity, golf course architects strive for a supply of 1.5 inches per week for mature turf (equivalent to 5818 gallons per acre per day) and 2.0 to 2.25 inches per week in early stages to establish the turf (7760 to 8730 gallons per acre per day). For West Beach's 170 acres, this would be equivalent to 0.989 MGD long term average and 1.40 MGD in the start-up period.

TN: gk

Attachment
TO: Bernard Kea  
FROM: N. J. Bustamante  
DATE: October 17, 1985  
RE: WEST BEACH WATER AND CONSUMPTION OF BRACKISH WATER PROJECTED FOR THIS FACILITY

This note is a follow-up to our conversation on October 15, 1985.

As I explained to you, there are various elements that need to be researched as to the actual needs to this area. Two of the most important factors are percolation rate (the rate at which water percolates through the soil) and evapotranspiration (the rate at which water evaporates and is given off in transpiration by vegetation).

Every geographical location throughout the island will vary in these areas as different soils will allow various percolation rates. Also, varying wind conditions, temperatures, humidity will affect evapotranspiration rates.

Now having seen a proposal of the "root zone" soil mixture for West Beach, I will have to assume that the percolation rate will be good enough to promote drainage and yet hold a considerable amount of water for plant growth.

I would consider this a plus factor in reducing irrigation needs. However, the area in development for the golf course is in lee of the mountains and therefore, a semi-arid area. I'm not aware of average rainfall at this time which does offset irrigation needs.

Based on my limited knowledge of weather conditions, I would "guess-estimate" a evapotranspiration of .50 acre inches per week to this area. This means that for 170 acres/7,405,200 sq. ft., it would take approximately 550,000 gpd (gallons per day) to replenish the soil with what is lost through evapotranspiration.

In summarizing this information you could simply say that the basic needs for this area must be first established and monitored. These computations will establish the minimum needs to replenish lost moisture to the area.

After this need has been met, then you proceed to the feeding needs for grasses and plants used in an area.

A point of information to note is that turfgrass contains 85% to 95% water. If the moisture falls below 85% within the plant, (grass) root development and leaf development is impaired. It is due to this factor that grass must be supplied with enough moisture to replenish moisture lost thru evapotranspiration.

In Hawaii, a conservative figure to use in computing irrigation needs is approximately .75 to 1.00 acre inches per week. This would mean that a minimum figure used to compute the irrigation needs for your facility would be in the area of .75 to 1.00 plus (.50 evapotranspiration) for a total of 1.25 to 1.50 acre inches per week.
WATER AND CONSUMPTION

PAGE 2

In gallons per day, for an area of 170 acres, this would mean a minimum of 1,400,000 to 1,650,000 gallons.

The final consideration that must not be overlooked is that due to the usage of brackish water it is important to increase irrigation so as to cause a continual leaching of salts contained in the water thru the soil. Salt accumulation does contribute to a decline in all plants as it begins to compete with (other plants) for water.

In closing, I might add that I presently apply upwards of 1,700,000 gpd to an area of 125 acres. Our soil does not have a good percolation rate and is slow to drain. The sodium content of our water is 2,000 ppm. In acre inches per week, it figures in at 2.17 per week.

I'm not sure who is giving you a figure of 600,000 to 750,000 gpd, but, as you can see, the figures do not provide for good turf development.

I would suggest that to substantiate these projections you establish an evaporation test at the West Beach site. This would give you a basis for the minimal needs argument. Also, wind speed, if it could be recorded, would be helpful.

The University of Hawaii could furnish you with a percolation rate information if a soil sample was furnished. And, they also could establish the actual feeding needed for plant and grasses selected.

Armed with this information, I'm sure you could get the needed water for irrigation.

MAHALO!

CC: B. BLAISDELL
**PEA# HARBOR**

**GWCAO**

**Checklist**

**Well Name/Location** West Beach Estates Golf Course

**Well Number** 2006-13, 14

**Owner/User** West Beach Estates

<table>
<thead>
<tr>
<th><strong>Withdrawal/Supply Permit</strong></th>
<th><strong>Drilling/Modification Permit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>26 Sep 85</td>
<td>SAME</td>
</tr>
<tr>
<td>03 Oct 85</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**DATE APPLICATION RECEIVED**

**RECEIPT ACKNOWLEDGED**

**DOCKET NUMBER**

**FILING FEE RCVD/DEPOSITED?** Yes/Yes

**DATE APPROVED** 25 Oct 85 (Amended)

**DATE OF REPLY/ISSUANCE** 14 Nov 85

**Suspense Date: 180 days** 24 Mar 86

**Remarks:** Requesting permitted use of 0.7 mgd from Subarea. Two wells to be used alternately.

*Condt: 11-14 with ≤250 ppm - not to be used for public sup.

OSCa, Pump #10 @ 800' abv of proposed wells. Presumed use of P10 was originally 14.612 mgd. Reduced to 11.563 mgd by 14 Dec. 84 BNR re-certification. Authorized use further reduced to 7.0 mgd by BNR action of 11 Jul 85.
TO: Mr. Kazu Hayashida
Manager & Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

In accordance with Chapter 166 of Title 13, "Rules for the Control of Ground Water Use in the State of Hawaii," your application to drill a primary and backup well for landscape irrigation (State Well Nos. 2005-02,03) is approved subject to the following conditions:

1. A Driller's Well Completion Report (enclosed) shall be submitted to the Division of Water and Land Development within 60 days after completion of the wells.

2. Pumping test data shall be submitted to the Division of Water and Land Development within 60 days after testing of the wells.

3. Monthly reports of pumpage shall be submitted after the wells are put into production.

4. Upon completion of the wells, "as-built" drawings of the wells and a map showing the exact location of the wells shall be submitted.

5. The applicant shall comply with all applicable laws, rules and ordinances.

Enc. Driller's Report Form
cc: USGS
Dept. of Health,
Drinking Water Program

Date of Issuance

Signature
Chairperson of the Board
Mr. Susumu Ono, Chairperson  
Board of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, 96809

Dear Mr. Ono:

Subject: Water Use Permit Application for West Beach Estates  
Non-Potable Water Wells Near Barbers Point 215 Reservoir

We request favorable action on the attached application for a permit to drill wells to obtain 1.0 mgd of brackish water. A permitted use of 1.0 mgd was issued on August 12, 1985. The completed wells and facilities will be turned over to the Board of Water Supply by the developer of West Beach Estates.

If you have any questions, please call me at 527-6180.

Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer

Attachment

cc: Community Planning, Inc.  
The Estate of James Campbell
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

DEPARTMENT MASTER APPLICATION FORM

(Print or Type)

I. LANDOWNER/WATER SOURCE OWNER
(If State land, to be filled in by Government Agency in control of property)
Name Honolulu Board of Water Supply
Address 630 So. Beretania Street
Honolulu, HI 96843

Telephone No. 527-6180

II. APPLICANT (Water Use, omit if applicant is landowner)
Name West Beach Estates
Address 2024 North King Street
Honolulu, Hawaii 96813

Telephone No. 848-2260

Interest in Property

Developer
(Indicate interest in property; submit written evidence of this interest)

*SIGNATURE Herbert K. Horita
Date April 23, 1986

*If for a Corporation, Partnership, Agency or Organization, must be signed by an authorized officer.

III. TYPE OF PERMIT(S) APPLYING FOR
( ) A. State Lands
( ) B. Conservation District Use
( ) C. Withdraw Water From A Ground Water Control Area
( ) D. Supply Water From A Ground Water Control Area
(χ) E. Well Drilling/Modification

IV. WELL OR LAND PARCEL LOCATION REQUESTED
District Ewa
Island Oahu
County Honolulu
Tax Map Key 9-2-03: 2 & 9-1-15: 5

Area of Parcel 2 Ac.
(Indicate in acres or sq. ft.)
Term (if lease)
DESIGNATED GROUND WATER CONTROL AREA

APPLICATION FOR: (check one)

- ☒ PERMIT TO WITHDRAW WATER FOR BENEFICIAL USE
- ☐ PERMIT TO SUPPLY WATER FOR BENEFICIAL USE

Fill out, sign page 1, send application with pertinent attachments to Department of Land and Natural Resources, P. O. Box 621, Honolulu, Hawaii 96809. A non-refundable filing fee of $100 is required, excepting military, federal, state, and local government agencies.

1. REQUESTED BENEFICIAL USE OF WATER:
   - ☒ Domestic
   - ☐ Municipal
   - ☐ Military
   - ☐ Agricultural
   - ☐ Industrial
   - ☐ Other (specify)

   Appropriately describe nature and purpose of requested use: *Non-potable landscape irrigation water which will be part of West Beach Estates/James Campbell Estates' Dual Water System. Proposed commencement date of water use: Upon acceptance of facility by the Honolulu BWS.

2. REQUESTED AMOUNT OF WITHDRAWAL OR SUPPLY:
   - Average Annual: __ mgd; Maximum Month: __ mgd; Maximum Day: __ mgd.

   Appropriately describe schedule or times of taking requested withdrawal: As per Honolulu BWS and metered consumers.

3. NATURE AND TERM OF REQUESTED PERMIT:
   - ☒ Temporary
   - ☐ Permanent

   Requested period of permit: ____________

4. PROPOSED SOURCE OF WATER SUPPLY:
   - ☐ Existing source
   - ☐ Modification of existing source
   - ☒ New Source

   Briefly describe existing or proposed source and any related facilities and submit map, plot plan, and plans or drawings of source of supply:

   Well site location, plan, details are enclosed.

   If construction work is proposed for new or modified existing source, give:
   - Commencement Date: Unknown
   - Completion Date: Unknown

5. ASSESSMENT OF REQUESTED WATER USE OR SUPPLY:

   In a separate attachment to this application, applicant must provide a written assessment addressing the desirability of issuing the requested permit, including such considerations as the availability of water, the beneficial purpose of the proposed water use, and the impact if any, of the proposed water use on existing permitted uses, preserved uses, and individual household uses.

   Assessment/approval of proposed well sources has been made by the State Department of Land and Natural Resources and approval granted to the Honolulu BWS.

   * Use additional sheets as necessary.

   Purpose of wells is to conserve potable water by utilizing non-potable sources for landscape irrigation.
APPLICATION FOR (check one)

X WELL DRILLING PERMIT


WELL MODIFICATION PERMIT

Instructions: Send completed application and attachments to the Department of Land and Natural Resources, P.O. Box 621, Honolulu, Hawaii 96809.

Reference: Chapter 166, Department of Land and Natural Resources.

Is the well located in a Designated Ground Water Control Area? X Yes ___ No

If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land and Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL NAME AND/OR LOCATION: Non-Potable Well No. 1 and No. 2. Attach a plot plan showing well location referenced to established property boundaries.

2. PROPOSED DRILLING COMPANY: Bosco Moss Company

3. PROPOSED WORK: X Drill new well ___ Deepen ___ Redrill ___ Alter ___ Seal ___ Abandon ___ Install new pump ___ Replace pump ___ Modify pump

Fill in the diagram and briefly describe the proposed work (use back of form if necessary):

Drill, case, and test two non-potable wells at Honolulu Water System Standards for non-potable wells. (One well is stand-by.)

Completed well will be dedicated to the Honolulu BWS.

4. PROPOSED USE: X Municipal ___ Military ___ Agricultural ___ Industrial ___ Domestic ___ Disposal ___ Other (specify) ___

5. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.

1.0 MGD X Daily ___ Gallons ___ Monthly ___ Gallons quarterly

6. PROPOSED PUMP OR FLOW CAPACITY ___ Gallons per minute
PROPOSED SECTION OF WELL

Elevation at top of casing: 180.0 ft., msl.

Ground Elev. 178.5 ft., msl

208.5 ft.

Cement
Grout __ ft.

19 3/4

Hole
Dia. __ in.

Total 308

Depth __ ft.

Rock Packing N/A ft.

Solid casing:
Material Steel
Length 208.5 ft
Diameter 16" I.D.
Wall thickness 3/8 "

Casing: ☐ Perforated ☐ Screen
Material N/A
Length __________ ft
Diameter __________ in
Wall thickness __________ in
Openings __________ sq. in., L.F

Open Hole:
Length 100 ft
Diameter 15/8 in

*Approximate elev. at filling. Final elev. (msl) by a surveyor licensed by the State must be submitted at start of construction.
PLAN - PUMP BASE

WEST BEACH 100' POTABLE WELLS

PUMP BASE DETAIL

SCALE: 3/8" = 1' - 0"

- 6" BAR 1 6" x 4"
- 16" I.D. STEEL CASING
- PAINT EXPOSED WELL CASING. SEE NOTES.

- 16" I.D. STEEL CASING
- 3/8" THICKNESS

- STEEL SHOE DETAIL

- BOTTOM OF CASING ELEV. = (-) 50
- 15 1/2" MIN. DIAMETER

- BOTTOM OF WELL ELEV. = (-) 200

- ADDITIONAL 50' IF NEEDED

TYPICAL WELL SECTION
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

January 10, 1986

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Request to Relocate the West Beach Estates
Golf Course Wells (2006-13, 14), Pearl Harbor
Ground Water Control Area, Waianae Subarea, Oahu

West Beach Estates has requested to relocate their Golf Course Wells approximately 800 feet north-northeast of the original location the Board approved at its October 25, 1985 meeting. The original location placed the well on cane land presently being used by Oahu Sugar Company. The proposed relocation would place the well site on land not used for cane growing and would be preferred by Oahu Sugar Company. The relocation will have no detrimental effects on existing wells in the vicinity.

Conditions of the original Permit to Withdraw and Use Ground Water and the Well Drilling Permit would remain the same, except for the total depth of the wells would not exceed 145 feet, an increase of 25 feet over the original 120 feet total depth, to compensate for an approximate 25-foot gain in ground elevation at the new site.

RECOMMENDATION:

That the Board approve West Beach Estates' request to relocate the West Beach Estates Golf Course Wells, subject to the same conditions of the original Permit to Withdraw and Use Ground Water and Well Drilling Permit, except for the total depths of the wells would not exceed 145 feet.

Respectfully submitted,

MANABU TAGOMORI
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

SUSUMU ONO, Chairperson

03 JAN 85 — S/J
D2 NOT NECESSARY
MEMORANDUM FOR THE RECORD

FROM: Ed Sakoda

SUBJECT: West Beach Golf Course WUP Application - Determination of Average Annual Use

Following are actual use figures for several golf courses on Oahu:

<table>
<thead>
<tr>
<th>GOLF COURSE</th>
<th>TIME PERIOD</th>
<th>AVERAGE ANNUAL USE</th>
</tr>
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<tbody>
<tr>
<td>Waialae</td>
<td>July 1984 - June 1985</td>
<td>0.267 mgd</td>
</tr>
<tr>
<td>Pearl County Club</td>
<td>July 1984 - June 1985</td>
<td>0.195 mgd</td>
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<tr>
<td>HICC</td>
<td>July 1984 - June 1985</td>
<td>0.282 mgd</td>
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<tr>
<td>Hawaii Country Club</td>
<td>July 1984 - June 1985</td>
<td>0.157 mgd</td>
</tr>
<tr>
<td>Hawaii Kai</td>
<td>*Sept. 1982 - May 1984</td>
<td>0.280 mgd</td>
</tr>
</tbody>
</table>

*During this period, the Hawaii Kai course was using only BWS water - no contribution from the Hawaii Kai Sewage Treatment Plant (STP) (oral communication from Riley Smith who operated the STP at that time.

From the above data, it seems that West Beach Golf Course's request of 0.7 mgd (4,080 gals. per day x 170.5 acres) Permitted Use is on the high side. The BWS Water Consumption Guidelines figure of 0.58 mgd (3,400 gals. per acre per day x 170.5 acres) may still be on the high side but we have a provision for adjusting the amount every five years. I think we should recommend a permitted use of 0.58 mgd, averaged annually, instead of the 0.7 mgd. The amount can be adjusted in the future if needed.

ED SAKODA

ES:ko
ATSUMI KOKUSAI (Volts versus Championship G.C. 20)

(June 9, 1982)

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<tr>
<th>Month</th>
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\[ \text{Dec} = 0.280 \text{ mgd} \]

Sep 82 - May 84
Pure Water...man's greatest need – use it wisely
Board of Water Supply
Planning, Resources and Research Division
City and County of Honolulu

Waialae

For the year ending June 30, 1969

**Chloride (Cl) content, in parts per million**

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<th>Equipment</th>
<th>Type</th>
<th>Size</th>
<th>Limit</th>
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**Discharge in million gallons per day**

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**Total Discharge**

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**Notes**: Control, regulation, accuracy, activity, cooperation, etc.

--

*Note: To convert chloride in parts per million to salt in grains per U.S. gallon, divide by 10.39.

### BOARD OF WATER SUPPLY
PLANNING, RESOURCES AND RESEARCH DIVISION
CITY AND COUNTY OF HONOLULU

**Pearl Country Club**

For the year ending June 30, 1965

**Daily Chloride (Cl) content, in parts per million**

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<tr>
<th>Make</th>
<th>Type</th>
<th>Size</th>
<th>Limit</th>
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**Discharge** in million gallons per day

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<th>Spring or Tunnel</th>
<th>Well No.</th>
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<th>Equipment</th>
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<th>Calendar Year 1965</th>
<th>Total</th>
<th>Max.</th>
<th>Min.</th>
<th>Mean</th>
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*Note: To convert chloride in parts per million to salt in grains per U.S. gallon, divide by 10.39*

<table>
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**TOTAL**

**CHECKED BY**

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*Checked by:*

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**TOTAL** | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 | 3,142 |
**MEAN**  | 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26| 444.26 |
**MAXIMUM** | 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82| 780.82 |
**MINIMUM** | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  | 0.17  |

*Note: To convert chloride in parts per million to salt in grains per U.S. gallon, divide by 10.39.*

Calendar Year 1969: Total = 4,717,815, Min = 0.17, Max = 780.82, Mean = 444.26 (mg/l)
### Daily Chloride (Cl) Content

#### Column Headers:
- **Date**
- **FT Ppm MGD**
- **Ft Ppm MGD**
- **Ft Ppm MGD**
- **Ft Ppm MGD**
- **Ft Ppm MGD**
- **Mean**
- **Maximum**
- **Minimum**
- **Calendar Year 1985**
- **Mean**
- **Min**
- **Max**
- **Total**

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#### Notes:
- **Mean**: To convert chloride in parts per million to salt in grains per U.S. gallon, divide by 10.39.
- **Minimum**: Calendar Year 1985: Total 67.878, Max. 0.184, Min. 0.079.
PEARL HARBOR GROUND WATER CONTROL AREA

WELL DRILLING PERMIT

for

West Beach Estates Golf Course Wells
State Well Nos. 2006-13, 14
Ewa, Oahu, Hawaii

TO: West Beach Estates
2024 No. King St., Room 209
Honolulu, Hawaii 96819

In accordance with Chapter 166 of Title 13, "Rules for the Control of Ground Water Use in the State of Hawaii", your application to drill State Well Nos. 2006-13 and 14 at TMK: 9-1-154 is approved subject to the following conditions:

1. A Driller's Well Completion Report (form enclosed) shall be submitted to the Division of Water and Land Development within 60 days after completion of the well.

2. Pumping test data shall be submitted to the Division of Water and Land Development within 60 days after testing of the well.

3. Monthly reports of pumpage shall be submitted after the well is put into production.

4. Upon completion of the well, submit an "as-built" drawing of the well and a map showing the exact location of the well.

5. The applicant comply with all applicable laws, rules, and ordinances.

6. The total depth of the well shall not exceed 120 feet, as indicated in the proposed section, unless authorized by the Division of Water and Land Development.

SUSUMU ONO
Chairperson of the Board

Date of Issue: NOV 15 1985
Enc. Driller's Report Form
cc: USGS
Dept. of Health
Honolulu BWS
October 3, 1985

West Beach Estates
2024 No. King St.
Room 209
Honolulu, Hawaii 96819

Gentlemen:

This is to acknowledge receipt of your applications for a Water Use Permit and a Well Drilling Permit for two caprock wells to furnish irrigation water for the West Beach Estates Golf Course located in the Pearl Harbor Ground Water Control Area.

My staff is processing the applications and will contact your office if more information is needed.

Sincerely,

MANABU TAGOMORI
Manager-Chief Engineer
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES

APPLICATION FOR (check one)
☑ WELL DRILLING PERMIT  ☐ WELL MODIFICATION PERMIT

Instructions: Send completed application and attachments to Department of Land & Natural Resources, P.O. Box 373, Honolulu, Hawaii 96820.

Reference: Regulation 9, Dept. of Land & Natural Resources.

Is the well located in a Designated Ground Water Control Area? ☑ Yes ☐ No

If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land & Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL LOCATION: Island Oahu Tax Map Key 9-1-15-A. Attach a plot plan showing well location referenced to established property boundaries.

2. WATER USER West Beach Estates Address_2024 North King Street, Room 209, Honolulu, HI Zip Code 96819

3. PROPOSED DRILLING COMPANY: ____________________

4. PROPOSED WORK: Drill new well Deepen Redrill Alter Seal Abandon Install new pump Replace pump Modify pump

Fill in the diagram and briefly describe the proposed work (use back of form if necessary):

SEE ATTACHMENT

PROPOSED SECTION OF WELL

Elevation at top of casing 72± ft., msl.

Cement Grout 70 ft.

Hole Dia. 16 in.

Total Depth 20 ft.

Rock N/A Packing ft.

Solid casing:

Material A-242 CORTEN STEEL

Length 70 ft.

Diameter 12 in.

Wall thickness 1/4 in.

Casing:

Material ____________

Length ____________ ft.

Diameter ____________ in.

Wall thickness ____________ in.

Openings ____________ sq. in. L.F.

Open Hole:

Length 50 ft.

Diameter 1 3/4 in.

*Approximate elev. at filing. Final elev. (msl) by a surveyor licensed by the State must be submitted at start of construction.

5. PROPOSED USE: ☑ Municipal ☐ Military ☐ Agriculture ☐ Industrial ☐ Domestic ☐ Disposal ☐ Other (specify) Golf Course Irrigation

6. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.

☐ Daily 0.7 MG gallons ☐ Monthly _______ gallons ☐ Yearly _______ gallons

7. PROPOSED PUMP OR FLOW CAPACITY: 700 gallons per minute

WEST BEACH ESTATES

Signature: ____________________ Date: September 20, 1985

Water User

Signature: ____________________ Date: 9/18/85

Landowner of Well Site

For Official Use:

State Well No. 2006-13,14

DLNR Permit No. ____________________

DLNR Application No. ____________________
The proposed work includes drilling two wells for a combined capacity of 1.4 MGD. After completion of the golf course landscaping establishment period, the well pumps will alternate to furnish 0.7 MGD for the golf course irrigation.

This permit application request is to develop two exploratory wells which will be utilized for the West Beach Estates golf course irrigation system. The first well is located as shown on the site plan and the second well will be located after the development and results of the first well.
PROPOSED GOLF COURSE

PROPOSED IRRIGATION TEST WELL FOR GOLF COURSE

COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND TESTING ONE WELL
EWA, OAHU, HAWAII
LOCATION MAP

SCALE

0 1000 2000 3000 4000 5000 FEET

COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND TESTING ONE WELL
EWA, OAHU, HAWAII
LOCATION MAP

SHEET 1 OF 2 SHEETS
COMMUNITY PLANNING, INC.
WEST BEACH ESTATES
GOLF COURSE TEST WELL
DRILLING, CASING AND TESTING ONE WELL
EWA, OAHU, HAWAII
SITE PLAN

SCALE

EXIST. RESERVOIR

EXIST. PUMP 10 SITE

PROPOSED IRRIGATION TEST WELL
FOR GOLF COURSE

100-Ft LOOP ROAD

450'