## Commission on Water Resource Management

### Route Slip for Permit Issuance 6/25/08

**From:** RYAN  
**Date:** 3/5/09  
**Suspense Date:**

<table>
<thead>
<tr>
<th>TO</th>
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<tbody>
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<td>CHING, F.</td>
<td>RONGHUI, C.</td>
<td>KUNIMURA, I.</td>
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<td>CHONG, R.</td>
<td>DANBARA, S.</td>
<td>MILLIS, D.</td>
<td>ENGLAND, D.</td>
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<td>Information</td>
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<td>FUJII, N.</td>
<td>HARDY, R.</td>
<td>SAKODA, E.</td>
<td>HOAGBAIN, S.</td>
<td>1</td>
<td>Review &amp; Comment</td>
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<td>ICE, C.</td>
<td>IMATA, R.</td>
<td>YODA, K.</td>
<td>KAWAHARA, K.</td>
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<td>Type Final</td>
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### Application Info

- **Well Number:** 3488-01
- **Well Name:** The Shack
- **Application Type:** BOTH

**WCP Cover Letter:** ✔  
**WCP:** ✔

**WELL CHECK PRINTOUT:** ✔

- **Proposed Well Section Issues:**

**PIP Cover Letter:** ✔  
**PIP:** ✔

**Comments:**

- **SDWB:** ✔
- **WWB:** ✔
- **CWB:** ✔
- **LD:** ✔
- **HP:** ✔
- **LUC:** not in CD
- **OCCL:** not in CD
- **SMA:** not in SMA
- **BWS:**

### Notes:

**Driller:** Rod Diamond  
Diamond Construction and Water Well Drilling  
23379 HCR#3 Box 14073  
Keeau, HI 96749  
Phone: 966-4129  
Fax: 966-4129  
Cell: 987-8100

**TMK:** 1-5-041:134

**Pump Capacity:** 18

**Well Owner:** David Thielen

**Land Owner:** David Thielen

**Comment Deadline:** 2/19/09
Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR#3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Pump Installation Permit
The Shack Well (Well No. 3488-01)

Enclosed are two (2) originals of your approved Pump Installation Permit for the captioned well(s) that authorize permanent pump installation work for your well(s). As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 14:

Special Conditions

1. If the elevation benchmark needs to be altered, the permittee, well operator, and/or well owner shall ensure that the benchmark is transferred (or the well resurveyed) and documentation of the new benchmark shall be submitted to the Commission within sixty (60) days after the pump is installed.

2. Attached for your information are copies of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities. Also, please contact the Noise Radiation and Indoor Air Quality Branch at 586-4700 to check compliance with construction noise permit requirements for this project.

The permittee is responsible for all conditions of the permit. This includes ensuring the submission of a completed Well Completion Report Part II form within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $5,000 per day for any violations of your permit conditions starting from the permit approval date.

Please sign both permit originals and return one copy to the Commission office for our files.

IMPORTANT - Pump installation shall not commence until a fully signed permit is returned to the Commission.

If you have any questions, please call Ryan Imata of the Commission staff at 587-0255.

Sincerely,

[Signature]

LAURA H. THIELEN
Chairperson

Enclosure

c: David Thielen (with applicable comments – DOH SDWB, WWB, CWB)
USGS
Hawaii DWS
PUMP INSTALLATION PERMIT
The Shack Well, Well No. 3488-01

Note: This permit shall be prominently displayed at the site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installation for The Shack Well (Well No. 3488-01) at TMK 1-5-041:134, Hawaii, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules (HAR).

2. No withdrawal of water shall be made other than for testing until a Certificate of Pump Installation Completion has been issued by the Commission.

3. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.

4. The pump installation permit shall be for installation of a 18 gpm rated capacity, or less, pump in the well. This permanent capacity may be reduced in the event that the pump test data does not support the capacity.

5. A water-level measurement access shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels.

6. The permittee shall install an approved meter or other appropriate means for measuring and reporting withdrawals and appropriate devices or means for measuring chlorides and temperature at the well head.

7. Well Completion Report Part II shall be submitted to the Chairperson within sixty (60) days after completion of work (please contact staff or visit www.hawaii.gov/dlnr/cwrm/resources_permits.htm for current form).

8. The permittee, well operator, and/or well owner shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.

9. The pump installation permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.

10. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

11. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.

12. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.

13. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

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

Date of Approval: March 31, 2009
Expiration Date: March 31, 2011

LAURA H. THIELEN, Chairperson
Commission on Water Resource Management

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I and the pump installer have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $5,000 per day starting from the permit date of approval.

Installer’s Signature: Rod Diamond
Printed Name: C-57, C-57a, or A License #: BC-23379
Firm or Title: Diamond Construction and Water Well Drilling

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

Attachments
April 20, 2009

Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR #3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Well Construction Permit
The Shack Well (Well No. 3488-01)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) that authorize well construction activities but excludes installation work for a permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 17:

**Special Conditions**

1. Attached for your information are copies of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities. Also, please contact the Noise Radiation and Indoor Air Quality Branch at 586-4700 to check compliance with construction noise permit requirements for this project.

2. The annular space shall be in compliance with Section 2.6(d) of the Hawaii Well Construction and Pump Installation Standards.

Please refer to the Permit Processes Worksheet (transmitted with your acknowledgement letter) for further information regarding the process of drilling a well and installing a pump.

No withdrawal of water shall be made other than for testing purposes until a certificate of pump installation completion has been issued by the Commission.

Please sign both permit originals and return one copy to the Commission office for our files. For copies of the aquifer pump test worksheet, please call staff or visit www.state.hi.us/dlnr/cwrmlforms.htm.

**IMPORTANT** - Drilling work shall not commence until a fully signed permit is returned to the Commission. The permit shall be prominently displayed or made available at the construction site during construction. Be advised that you may be subject to fines of up to $5,000 per day for any violations of your permit conditions starting from the permit approval date.

If you have any questions, please call Ryan Imata of the Commission staff at 587-0255.

Sincerely,

Laura H. Thielen
Chairperson

Enclosures

c: David Thielen (with applicable comments – DOH SDWB, WWB, CWB)
USGS
Hawaii DWS
WELL CONSTRUCTION PERMIT
The Shack Well, Well No. 3488-01

Note: This permit shall be prominently displayed at the construction site until the work is completed

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the construction and testing of The Shack Well (Well No. 3488-01) at TMK 1-5-041:134, Hawaii, subject to the Hawaii Well Construction & Pump Installation Standards (HWCPIS - February 2004) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-15; Hawaii Administrative Rules (HAR).

2. This permit shall be prominently displayed, or made available, at the site of construction work until work is completed.

3. The well construction permit shall be for construction and testing of the well only. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the HWCPIS (the latest pump test worksheet can be obtained by contacting Commission staff or at www.hawaii.gov/dlnr/cwrmlresources_permits.htm). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson. No withdrawal of water shall be made for purposes other than testing without a Certificate of Pump Installation Completion. The permitted pump capacity described on the pump installation permit may be reduced in the event that the pump test does not support the capacity.

4. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson. If it can be shown that the well does not tap basal ground water then this condition may be waived after consultation with and acceptance by Commission staff. However, in no instance can the well be drilled deeper than one-half (1/2) of the theoretical thickness without Commission approval.

5. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

6. In the event that historically significant remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall report them to Commission staff immediately. If such remains are found to be of historic significance, then the Chairperson may, after consultation with appropriate State agencies, order a stop work permit in accordance with §13-168-12(f), HAR.

7. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.

8. The Well Completion Report Part I shall be submitted to the Chairperson within sixty (60) days after completion of work (please contact staff or visit www.hawaii.gov/dlnr/cwrmlresources_permits.htm for current form).

9. The permittee shall comply with all applicable laws, rules, and ordinances; non-compliance may be grounds for revocation of this permit.

10. The well construction permit application and, if relevant, any related staff submittal approved by the Commission are incorporated into this permit by reference.

11. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

12. Any variances from the HWCPIS shall be approved by the Chairperson prior to invoking the variance.

13. The work proposed in the well construction application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than the date the permit expires.

14. If the well is not to be used it must be properly capped. If the well is to be abandoned during the course of the project then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.

15. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

16. This permit shall apply to the location shown on the application only. If the well is to be relocated, the permittee shall apply for a new well construction/pump installation permit in accordance with §13-168-12(f), HAR.

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

Date of Approval: March 31, 2009
Expiration Date: March 31, 2011

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed and understand that I shall not commence work until I have signed, dated, and returned the permit to the Commission. I understand that this permit is not to be transferred to any other entity. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $5,000 per day starting from the permit date of approval.

Driller’s Signature: ___________________________  C-57 License #: BC-23379  Date: ___________________________

Printed Name: Rod Diamond  Firm or Title: Diamond Construction and Water Well Drilling

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

Attachment
### Data Input

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<td>Well Name</td>
<td>The Shack</td>
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<td>Ground Elevation</td>
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<td>Cement Grout</td>
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<td>Grouting Method</td>
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<td><strong>Water Level</strong></td>
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### Results

#### Well Depth
- Theoretical Thickness of Aquifer: 164
- 1/4 Aquifer Thickness: 41
- **Depth of Well below Sea Level**
  - Depth: 158.4
  - Provided: 123.2
  - Okay: Section 2.2

#### Well Casing
- Minimum Wall Thickness Material: pvc plastic
- Minimum Thickness per standards: no requirement
- **Wall Thickness Provided**
  - Provided: 0
  - Standard: no standard
  - Section: 2.4(b)
- Minimum Length of Solid Casing
  - Provided: 158.4
  - Standard: 180
  - Section: 2.4(c)
- Casing Material
  - Provided: Schedule 40
  - Standard: in compliance
  - Section: 2.4(d)
  - **Annular Space**
    - Depth of Grouting: 123.2
    - Depth of Grouting provided: 133
      - Okay: Section 2.6(c)
    - Minimum Annular Space required: 2
    - **Thickness of Annular Space**
      - Provided: 1.75
      - Standard: too small
      - Section: 2.6(d)
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
PO BOX 621
HONOLULU, HAWAII 85509

February 26, 2009

TO: Honorable Chiyoue L. Fukino, M.D., Director
Department of Health
Attention: Director's Office
Tomas See, Chief, Wastewater Branch
Stuart Yamada, Chief, Safe Drinking Water Branch
Alec Wong, Chief, Clean Water Branch
Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: Laura H. Thielen, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
The Shack Well (Well No. 3488-01)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RF: ss
Attachment(s)

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 5 or more people, or 15 or more service connections) and shall receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-230-19.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or 15 or more service connections) and shall receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-230-19.

[ ] If the well is used to supply both potable and non-potable purposes in a single system, the user shall employ cross-connections and backflow prevention devices by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable outlets with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices shall be routinely inspected and tested.

[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant's information, a source of possible contamination [ ] is not located near the proposed well site (information attached)

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review that new location.

[ ] No comments/observations

Contact Person: Joanna L. Sato Phone: 586-4309

Signed: Joanna L. Sato Date: 3-24-09
Subject: Well Construction/Pump Installation Permit Application(s)

Well No(s). 4855-01, 4856-30, 5610-02, 3586-34, 3488-01, 3802-09, 3802-10,
4000-01, 2966-03, 3487-71

The Department of Health, Clean Water Branch (CWB) has the following comments:

1. For Well-Drilling Activities

Any discharge to State waters of treated process wastewater effluent associated with well drilling activities is regulated by Hawaii Administrative Rules (HAR), Title 11, Chapter 55, Appendix I, effective October 22, 2007. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewater, and well purge wastewater. This general permit does not cover well pump testing. The applicable Notice of Intent (NOI) Forms and filing fee shall be submitted at least 30 calendar days before the start of discharge to the:

Department of Health
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

The CWB-NOI Forms are available online at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html. Inquiries may be directed to the CWB at (808) 586-4309 or by fax (808) 586-4352.

2. For Well Pump Testing

The discharger shall take all measures necessary to prevent the discharge of pollutants from entering State waters. Such measures shall include, if necessary, containment of initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of the storm drain prior to discharge. Furthermore, best management practices shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.
3. For Construction Activities Disturbing One (1) or More Acres of Total Land Area

By HAR, Title 11, Chapter 55, Appendix C, effective October 22, 2007, an NPDES permit or Notice of General Permit Coverage is required before the start of the construction activities that result in the disturbance of one (1) or more acres of total land area, including clearing, grading, and excavation. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NOI (see Comment No. 1, above) shall be submitted 30 calendar days before the start of construction activities.
February 26, 2009

TO: Morris Atta, Administrator
   Land Division

FROM: Ken C. Kawahara, P.E., Deputy Director
       Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
         The Shack Well (Well No. 3488-01) TMK 1-5-04-1:134

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RI:ss
Attachment(s)

RESPONSE:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

XX] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. _________________.

[ ] Other relevant Land Division rules/regulations, information, or recommendations are attached.

[ ] No objections

XX] Other comments: Original source of private title was issued prior to statehood.

Contact Person: Gary Martin
Phone: 587-0421

Signed: Gary Martin
Date: MAR 18 2009
The Shack Well (Well No. 3488-01)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 387-0255.

RI:5s
Attachment(s)

RESPONSE: UIC Comments 2 & 4

This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §§11-20-29

This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the person owner should test for bacteriological and chemical presence before using such water and routinely secure the water quality. However, if future plans include this source to meet the public water system definition then Director of Health approval is required prior to implementation.

If the well is to be used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

For the applicant's information, a source of possible wastewater contamination (WIR) is not located near the proposed well site (information attached).

An NPDES permit is required.

Other relevant DOH rules/regulations, information, or recommendations are attached.

In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.

No comments/objections

Contact Person: Michael Aguinaldo
Phone: 587-4254

Signed: LINDA LINGLE
Date: 3/10/09

LINDA LINGLE
Governor of Hawaii

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96829

February 26, 2009

TO: Honorable Chiyome L. Fukino, M.D., Director
Department of Health
Attention: Director's Office
Tomio See, Chief, Wastewater Branch
Stuart Yamada, Chief, Safe Drinking Water Branch
Alec Wong, Chief, Clean Water Branch
Dr. Keith Kawaoka, Office of Hazard Evaluation and

FROM: Laura H. Thielen, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
The Shack Well (Well No. 3488-01)

In General: 3488-01
Q = 250 gpd
use = Dem
location = Kilauea, Hawaii
(above/below) UIC line
grd. elev. = 180'
well dia. = 4.5'
well depth = 19'

DRILLER = Rodney K. Drilling

MAR-12-2009 07:45AM FAX: 8085864351 ID: DLNR CWRM PAGE: 001 R=94%
CWRM Application Source: The Shack Well  
(State Well No. 3488-01)  

Safe Drinking Water Branch Engineering Section  

See attached private water wells information sheet.

Underground Injection Control (UIC)  

1. In general, a shallow well, or a well that recharges quickly from local rainfall, should not be used as a potable water source because such a well increases the risk of having unsatisfactory groundwater quality that when consumed may compromise health. Factors that directly influence a well's groundwater quality include wastewater disposal systems (cesspools, septic systems, drainage wells), lawn/garden/crop-growing activities, and even the proximity to the ocean where salt water intrusion may occur.

2. Well water quality should be initially and periodically tested for its acceptable and intended use, especially if for human consumption. Water quality should not be presumed acceptable and unchanging. Land-based activities around the well and within the well's recharge area may, over time, have an unacceptable effect on the well's water quality. Well construction materials and related equipment could also affect water quality.

3. Questions about UIC may be directed to Chauncey Hew at 586-4258.
WARNING! As the owner of a privately-owned well, you should NOT assume that water from your well is safe for consumption. It is your responsibility to make sure that your well water is safe to drink. The only way to do this is to have your well regularly tested for bacteriological and chemical contaminants.

There are no regulations controlling water quality in private wells serving individual residences as there are for public water systems (public or privately owned utilities supplying water to 25 or more people or 15 service connections). In other words, there are no enforceable limits for contaminants and no requirements for regular testing. Private wells are often found in rural areas, where many activities such as onsite wastewater disposal can contaminate the ground water.

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) RECOMMENDATIONS

The EPA recommends that private well owners test their well water each year for such contaminants as Total Coliform Bacteria, Nitrates, as well as any other contaminants that may be of concern in your area. More frequent testing may be appropriate if you suspect a problem. EPA also suggests that you consider testing for pesticides, organic chemicals, and heavy metals before using it for the first time. Please refer to the EPA website on Private Drinking Water Wells at http://www.epa.gov/safewater/privatewells/faq.html.

OTHER CONTAMINANTS

Water testing can be very expensive. It is important that you spend time to identify what other potential contaminants may be of concern. Please refer to the EPA website on Private Drinking Water Wells at http://www.epa.gov/safewater/privatewells/whatsyoucando.html for more helpful information. Be aware of what and how you use and dispose of household and garden chemicals. Also determine the location of nearby septic tanks or cesspools, and agricultural or industrial activities in the area. General information on known chemical contamination of ground water in Hawaii can also be found at the DOH website www.hawaii.gov/health/environmental/water/sdwb/conmaps/pfd/conmaps05.pdf.

LABORATORIES

Local commercial laboratories can be found in the yellow pages of the telephone book under "Laboratories, Analytical." Whenever possible, utilize a laboratory that is certified or approved for the specific drinking water tests and carefully follow their instructions for collecting, storing, and transporting the samples. Just be sure to ask the lab to use EPA approved methods for drinking water analysis. A list of labs certified or approved by the Department of Health can be found at www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/Testing%20Labs.pdf. As lab certification status changes constantly, confirm their status when you contact the lab. Please note that the list is limited to currently regulated contaminants in public water systems.

RESULTS

Once the lab provides you with the test results, you will be in a better position to determine if your well water is safe to drink or what contaminant you need to treat for. Generally, you should compare the results with Federal (www.epa.gov/safewater/mcl.html) and State (www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/State%20MCL.pdf) drinking water standards. Where your test results are greater than the State or Federal maximum contaminant levels, your well water should be considered as unsafe for consumption.
February 26, 2009

TO: Honorable Chiyome L. Fukino, M.D., Director
    Department of Health
    Attention: Director’s Office
    Tomas See, Chief, Wastewater Branch
    Stuart Yamada, Chief, Safe Drinking Water Branch
    Alec Wong, Chief, Clean Water Branch
    Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: Laura H. Thielen, Chairperson
    Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
The Shack Well (Well No. 3488-01)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RI:ss
Attachment(s)

RESPONSE:

1. This well qualifies as a source which will serve as a source of possible water to a public water system (defined as serving 25 or more people at least 60 days per year or 15 or more service connections) and used reviews Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HARA), Title 11, Chapter 20, Rules Relating to Public Water Systems, §11-26-29.

2. This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the owner must treat the water following the Hawaii Administrative Rules (HARA), Title 11, Chapter 20, Rules Relating to Public Water Systems, §11-26-29.

3. If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by air gap or an approved backflow preventer, and by clearly labeling all components of both systems with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

4. It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

5. For the applicant’s information, a source of possible water contamination [ ] is not located near the proposed well site (information attached).

6. An NDEES permit is required.

7. Other relevant DOI rules/regulations, instructions, or recommendations are attached.

In the event that the location of the well changes at any parcel described on this application, the Division considers the comments to still be applicable, and we do not need to review the new location.

Contact Person: Richard Palmer
Phone: 586-0957
Signed: Richard Palmer
Date: 3/6/09

MARCH 10, 2009 03:00PM FAX: 808 586 7537 ID:DLNR CWRM PAGE:005 R=95%
March 5, 2009

TO: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

FROM: Nancy McMahon, Deputy SHPO/State Archaeologist and Historic Preservation Manager
State Historic Preservation Division

SUBJECT: Chapter 6E-8 Historic Preservation Review –
Well Construction/Pump Installation Permit Application
The Shack Well (Well No. 3488-01)
Kea‘au Ahupua‘a, Puna District, Island of Hawaii
TMK: (3) 1-5-014:134 (por.)

Thank you for the opportunity to comment on the aforementioned project, which we received on March 4, 2009. We determine that no historic properties will be affected by this project because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other: While we have no records for this property, the photograph submitted with the permit application shows that the well site has been grubbed and graded.

In the event that historic resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Hawaii Island Section, needs to be contacted immediately at (808) 933-7653.

If you have questions about this letter please contact Morgan Davis at (808) 933-7650.
TO: Honorable Chiyome L. Fukino, M.D., Director
   Department of Health
   Attention: Director’s Office
                Thomas See, Chief, Wastewater Branch
                Stuart Yamada, Chief, Safe Drinking Water Branch
                Alec Wong, Chief, Clean Water Branch
                Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: Laura H. Thielen, Chairperson
      Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
          The Shack Well (Well No. 3488-01)

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We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RI:ss
Attachment(s)

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title II, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

[ ] If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant’s information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.

[ ] No comments/objections

Contact Person: Jerry Nunogawa, Eng. in Hilo

Signed: [Signature]

Date: 3-4-09

One-Stop database screen info

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

February 26, 2009
NEW CESSPOOL INFORMATION CARD

TMK: (3) I-5-41:134
Lot No. 407

Property Owner: MATTHEW JENNERS

Project Address: Maka (18th) Ave.
District: PUNA

Engineer: LEN JACOBY
Contractor: JOHN VIOLINNA SEPTIC SYST.

Distance from Building: 140
Distance from Property Line: 650

Diameter (Clear) Feet: 60
Depth Feet: 100

No. Feet to Water Table: 425 1
Ground Slope: 2% 1

Type of Lining: NONE
Reinforced Concrete Cover: 4 8 0CEW

Distance from Finished Ground to Top of Cover (Feet):

Date Inspected by Engineer: 7/23/02
No. of bedrooms: 2

As the engineer performing the final inspection, I submit the above information and the "as-built" as drawn on the back of this card. I also submit the following statement:

[ ] The cesspool has been installed in strict accordance with the plans submitted and approved by DOH.
[ ] The noted changes to the approved plans have been made, and the cesspool installed is acceptable to me.
[ ] The construction of the cesspool is not in accordance with the approved plans and I do not accept the changes made to the plans designed by me.

Engineer's Signature and Date: 8/14/02

[Stamp: REGISTERED PROFESSIONAL ENGINEER]
No. 7327-C HAWAII U.S.A.
## Site Information

### Property Owner

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**Added By:** phsieh 2/26/2007 10:35 AM  **Last Modified:**
COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR NEW APPLICATIONS

FROM: RYAN
DATE: 6-Feb-09
SUSPENSE DATE: 13-Feb-09

TO: CHING, F. INIT: KUNIMURA, I. FOR: 1 Approval
TO: FUJII, N. INIT: NAKAMURA, L. FOR: 3 Signature
TO: GOODMAN, K. INIT: OHYE, M. FOR: 4 Information

1 HARDY, R.
2 HIGA, D.
3 HOAGBIN, S.
4 ICE, C.
5 IMATA, R.
6 KAWAHARA, K.

FROM: RYAN
DATE: 6-Feb-09
SUSPENSE DATE: 13-Feb-09

TO: CHING, F. INIT: KUNIMURA, I. FOR: 1 Approval
TO: FUJII, N. INIT: NAKAMURA, L. FOR: 3 Signature
TO: GOODMAN, K. INIT: OHYE, M. FOR: 4 Information

1 HARDY, R.
2 HIGA, D.
3 HOAGBIN, S.
4 ICE, C.
5 IMATA, R.
6 KAWAHARA, K.

WELL NUMBER 3483-01 WELL NAME The Shack WUP Number NA

WELL CONSTRUCTION PUMP INSTALLATION WUPA

ATTACHMENTS FOR APPLICATION PROCESSING - Both applicant & staff generated

1 TRANS. LETTER
2 PERMIT PROCESS TABLE
3 CWRM MAP
4 APPL. FORM (11 COPIES)
5 USGS MAPS (11 COPIES)
6 TAX MAPS (11 COPIES)
7 PARCEL OWNER VERIF.
8 CONTRACTOR VERIF.
9 ALL INFO FILLED IN
10 BACKGROUND CHECK
11 $25 FEE DEPOSIT SLIP
12 DHP/CDUP/SMA pre-screen (SMA map printout http://gis.hicentral.com/website/parcelzoning/viewer.htm., or INGRID'S SMA/CD MAP)
   (LUC map printout http://luc.state.hi.us/luc_maps.htm., or INGRID'S SMA/CD MAP)

FOLDER:

MADE NEW FILE FOLDER, ATTACHED
FILE FOLDER ALREADY MADE, IN FILE CABINET

INCOMPLETE ACTION DATES:

DATE ACTION

SEE TIME + ATTACHMENT
February 26, 2009

Mr. Rod Diamond
Diamond Construction and Water Well Drilling
HCR #3 Box 14073
Keeau, HI 96749

Dear Mr. Diamond:

Well Construction/Pump Installation Permit Application for Well No. 3488-01

We acknowledge receipt, on February 18, 2009, of your completed Well Construction/Pump Installation permit application and filing fee for the The Shack Well (Well No. 3488-01). You can expect your application to be processed within ninety (90) days from this date.

For your information, the attached table describes the process, responsible parties, and deadline requirements for drilling or modifying a well and installing, modifying, or replacing a pump.

By this acceptance letter, we are also notifying the well operator/landowner that water may not be pumped for purposes other than testing until the certificate of well construction/pump installation completion letter is issued to the well operator and landowner. Additionally, the permitted pump capacity described on the pump installation permit may be reduced in the event that the pump test does not support the capacity. No certificate of pump installation will be issued until the Commission has determined that the pump capacity will not have adverse effects on the aquifer, other nearby wells, or streams. In other words, you may need to remove the pump and install a smaller pump at the Commission’s discretion before you can withdraw water for purposes other than testing.

If you have any questions about your permit application, please contact Ryan Imata of the Commission staff at 587-0255.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

RI:ss
Attachment

c: David Thielen
February 26, 2009

TO: Honorable Chiyome L. Fukino, M.D., Director
   Department of Health
   Attention: Director’s Office
   Tomas See, Chief, Wastewater Branch
   Stuart Yamada, Chief, Safe Drinking Water Branch
   Alec Wong, Chief, Clean Water Branch
   Dr. Keith Kawaoka, Office of Hazard Evaluation and Emergency Response

FROM: Laura H. Thielen, Chairperson
   Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
   The Shack Well (Well No. 3488-01)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RESPONSE:

[ ] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 20, Rules Relating to Potable Water Systems, §11-20-29.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

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[ ] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[ ] For the applicant’s information, a source of possible wastewater contamination [ ] is [ ] is not located near the proposed well site (information attached).

[ ] An NPDES permit is required.

[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] In the event that the location of the well changes but is still within the parcel described on this application, our division considers the comments to still be applicable, and we do not need to review the new location.

[ ] No comments/objections

Contact Person: ___________________________ Phone: ________________

Signed: ___________________________ Date: ___________________________
TO: Morris Atta, Administrator  
Land Division  
FROM: Ken C. Kawahara, P.E., Deputy Director  
Commission on Water Resource Management  
SUBJECT: Well Construction/Pump Installation Permit Application  
The Shack Well (Well No. 3488-01) TMK 1-5-0 1:134  

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255.

RI:ss  
Attachment(s)  

RESPONSE:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

[ ] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. ____________________.

[ ] Other relevant Land Division rules/regulations, information, or recommendations are attached.

[ ] No objections

[ ] Other comments:

Contact Person: ___________________________ Phone: ________________

Signed: ___________________________ Date: ________________
TO: Dr. Puaalaokalani Aiu, Administrator
Historic Preservation

Morgan Davis
Historic Preservation

FROM: Ken C. Kawahara, P.E., Deputy Director
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
The Shack Well (Well No. 3488-01) TMK: 1-5-041:134

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by March 31, 2009. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application or request additional review time, please contact Ryan Imata of the Commission staff at 587-0255. If you require additional information regarding specific information that can be provided by the applicant, please contact the applicant directly at the contact information provided on the application form.

RESPONSE:

[ ] This is a [ ] public (county or state) project [ ] private project and [ ] will [ ] may disturb historic sites.

[ ] We concur that the work described under this permit will not disturb historic sites.

[ ] We do not concur that the work described under this permit will not disturb historic sites. We require the following for our concurrence:

Contact Person: ___________________________ Phone: ___________________________

Signed: ___________________________ Date: ___________________________
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Click here to enter search criteria for prior complaints history ->
For prior complaints and disciplinary history, contact licensing and business information center at (808) 587-3295.

http://pvl.ehawaii.gov/pvlsearch/app?_a=d&_f=n&lictp=CT&licno=23379&off=&nm=RO... 2/17/2009
Assessed values reflect tax year 2008.

Search criteria: TMK Taxkey 3-1-5-41-134

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This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.

Copyright ©2/13/2009 by Hawaii Information Service
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**TOTAL** $150.00

**REMARKS:**
- LINE (1) Traveler's Oasis Well
- LINE (2) The Shack Well
- LINE (3) Falling Water Well
- LINE (4) Tinkertot #1 Well
- LINE (5) TMK: 3-9-005-033
- LINE (6) Hale Mua Well
- LINE (7)                         
- LINE (8)                         
- LINE (9)                         
- LINE (10)                        
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
APPLICATION FOR A WELL CONSTRUCTION / PUMP INSTALLATION PERMIT
ORIGINAL

MAILED

For Official Use Only:

RECEIVED

09 FEB 2 A 8:35

WELL LOCATION INFORMATION

1. STATE WELL No. (If already assigned) 2. WELL NAME
The Shack 3. ISLAND Hawaii 4. TIME 1 2 3 4 5 041 134
The following be attached before this application is accepted as complete (check off if attached):
• Portion of 7.5-Minute Series USGS topographic map (scale 1:24,000) with well location labeled and include the name of the quad map.
• Property tax map, showing well location referenced to established property boundaries.
• Photograph of the proposed well site.
• A schematic diagram showing the well site, access road and proposed well infrastructure (if applicable)

5. WELL OPERATOR'S NAME/COMPANY
same
6. LANDOWNER'S NAME/COMPANY
David Thielen
7. Well Operator's Mailing Address
Landowner's Mailing Address
8. Well Operator's Contact name
David
9. Landowner's Phone number
5 Sand Island Rd.
Box 134
Honolulu, HI 96819
Cell: 306-0826
Landowner's Fax number
808-841-7937

PROPOSED WELL CONSTRUCTION

X Construct New Well.
X Modify Existing Well.
X Abandon/Seal Well.
8. Construction Type
X Drilled
X Dug
X Shaft.
X Tunnel

9. Is this well part of a battery of wells? [ ] Yes [ ] No
X Install New Pump.
X Replace Pump

11. Proposed Pumping Rate, gpm (gallons per minute)
18

12. Proposed Amount of Withdrawal, gpd (gallons per day)
250

13. Method of flow measurement
X Flow meter
X Open Pipe
X Weir
X Orifice
X Other

PROPOSED PUMP INSTALLATION

14. Proposed Surveyor name and license number (a surveyor is required for all Well Construction Permits and may be required for some Pump Installation Permits). Deferred

OTHER LEGAL REQUIREMENTS
If required, items 22, and 23 must be obtained before the Commission can legally issue a permit:

21. Conservation District Use Permit (CDUP)
X Required, CDUP # date approved
X Not in Conservation
Not Required (attach documentation from OCECL) I have not checked with OCECL about whether or not a CDUP is required. I understand that checking with the County prior to making this application will expedite my review. I further understand that issues raised by this agency may delay or result in denial of the permit issuance, or revocation of the permit after it is issued.

22. Special Management Area Permit (SMA)
X Required, SMA # date approved
X Not Required (attach documentation from applicable County agency) I have not checked with the county about whether or not an SMA is required. I understand that checking with the County prior to making this application will expedite my review. I further understand that issues raised by this agency may delay or result in denial of the permit issuance, or revocation of the permit after it is issued.

23. Historic Preservation Division (HPD) of the DLNR
X I have not consulted with the HPD regarding potential impacts of well construction activities on historic sites. I have attached applicable documentation from the HPD.
X I have not consulted with the HPD regarding potential impacts of well construction activities on historic sites. I understand that checking with the HPD prior to making this application will expedite my review. I further understand that issues raised by this agency may delay or result in denial of the permit issuance, or revocation of the permit after it is issued. Additionally the historic of past land use is attached.

Additional remarks, explanations, etc. (attach additional sheet if more space is needed)

NOTE: Signing below indicates that the signatures understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatures understand that upon permit approval
1) the proposed work is to be completed within the (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/bonding report within 45 days after the completion date of the permitted work; 3) in the event that the application is not completed correctly, any permit may be suspended until the lien is brought to compliance, and any work done while the permit is in suspension may result in fines of up to $1000/day.

24. WELL DRILLER (Must be filled out if application is for Well Construction)
Rodney K Diamond
Rodney K Diamond
HCR #3 Box 14073 Keaau HI 96749
987-8100 966-4129

25. PUMP INSTALLER (Must be filled out if application is for Pump Installation)
Rodney K Diamond
Rodney K Diamond
HCR #3 Box 14073 Keaau HI 96749
987-8100 966-4129

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 10 copies and a non-refundable filing fee of $55.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 808-682-2225. For further information and updates to this application form, visit http://www.hawaii.gov/dlnr/cwrm.
PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Hole Diameter: 8 inches

Elevation at top of casing: 181 ft., msl*

Minimum of 2' Radius & 4' Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: 180 ft., msl*

- Cement Grout: 133 ft.
  (min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)
- Annular space between hole and casing (1.5" for positive displacement, 3' for other methods): 2 in.
- Rock or Gravel Packing: 57 ft.
  - Material: x Crushed Basalt
  - x Round Gravel
- Estimated Water Level Elevation: 4 ft., msl*

Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev))
- Total Length: 180 ft.
- Nominal Diameter: 4.5 in.
- Wall Thickness: 0.40 in.
- Bottom Elevation: -10 ft., msl*

- Open Casing: □ Perforated □ Screen
  - Total Length: 10 ft.
  - Nominal Diameter: 4.5 in.
  - Wall Thickness: 0.40 in.
  - Bottom Elevation: -10 ft., msl*
  - note: Neither bentonite nor mud should be used in saturated zone during drilling

Open Hole:
- Length: NA ft.
- Diameter: NA in.
- Bottom Elevation: NA ft., msl*

* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well shall not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Water Elevation - )
Example: Estimated + 2 ft. Water Level Elev. Bottom Elevation of Well Limit = (2 - ) = -18.5 ft.

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
  - And compliant with (check one or more): □ ASTM A242 (or A606) □ Type E □ Type S □ Grade B □ Other
- Stainless Steel: (check one): □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
- Thermoset Plastic: (check one)
  □ Filament Wound Resin Pipe conforming to ASTM D2996
  □ Centrifugally Cast Resin Pipe conforming to ASTM D2997
  □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  □ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C960
  □ PTFE Fluorocarbon Tubing conforming to ASTM D3296
  □ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
  - And compliant with (check one or more): □ ASTM A242 (or A606) □ Type E □ Type S □ Grade B □ Other
- Stainless Steel: (check one): □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
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  □ FEP Fluorocarbon Tubing conforming to ASTM D3296

Hawaii Well Construction and Pump Installation Standards
Please refer to the HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS to ensure that your as-built is in compliance with applicable standards.