This application is for a replacement well. Though in Kulaio, County Planning says it's okay to re-drill (see e-mail from Bethany). Also, no additional comments from WWB (see e-mail), so I'm not going to re-rate. Rather, I'm just issuing new WCP&P2, and for new well 4859-11, and per Lorrie Diamond 7/1/11, they intend to abandon 2nd exist well 4859-11, so though they didn't apply, 11 issue Well Abandonment Permit at the same time.
July 7, 2011

Ref: 4859-05.wap

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

Dear Mr. Diamond:

Well Abandonment Permit
Lucus Well (Well No. 4859-05)

Enclosed are two (2) copies of your approved Well Abandonment Permit for the captioned well(s) which authorizes well abandonment/sealing activities. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 7:

**Special Conditions**

1. Well must be sealed prior to issuance of certificates of completion for Well No. 4859-11.

To validate your permit, please sign both permit originals and return one for our files.

**IMPORTANT** - The contractor is responsible for all conditions of the permit. This includes ensuring that the submission of a completed Well Abandonment Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $5000 per day for any violations of your permit conditions.

If you have any questions, please call Ryan Imata of the Commission staff at (Hawaii), (Kauai), (Maui), or extension 70255.

Sincerely,

[Signature]

WILLIAM J. AILA, JR.
Chairperson

Enclosures
c: Lucus Living Trust
WELL CONSTRUCTION PERMIT TO ABANDON/SEAL

Lucus Well, Well No. 4859-05

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 abandonment/sealing of Lucus Well (Well No. 4859-05), Hawaii, TMK 7-2-019:020, 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, P.O. Box 621, Honolulu, Hawaii 96809, shall be notified in writing before any work covered by this permit commences.

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 application is incorporated into this permit by reference and is subject to the HWCPIS. If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

4. The Well Abandonment Report form shall be submitted to the Commission on Water Resource Management within sixty (60) days after completion of the work. Please contact staff or visit our website at www.state.hi.us/dlnr/cwrm for the current form.

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

6. The sealing shall be completed within two (2) years.

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

Date of Approval: July 1, 2011
Expiration Date: None

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.

Contractor's Signature: __________________ License # __________ Date: ______________
Printed Name: ___________________________ Firm or Title: __________________________

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

Attachment
July 7, 2011

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

Dear Mr. Diamond:

Pump Installation Permit
Lucus 2 Well (Well No. 4859-11)

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 [phone number] 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 [phone number] or toll-free at [phone number] (Hawaii), [phone number] (Kauai), [phone number] (Maui), or [phone number] (Lanai & Molokai), extension 70255.

Sincerely,

WILLIAM J. AILA, JR.
Chairperson

Enclosure

c: Lucus Living Trust (with applicable comments – DOH SDWB, WWB, CWB)
PUMP INSTALLATION PERMIT
Lucus 2 Well, Well No. 4859-11

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 Lucus 2 Well (Well No. 4859-11) at TMK 7-2-019:020, 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 30 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, 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: July 1, 2011
Expiration Date: July 1, 2013

WILLIAM J. AILA, JR., 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: 
C-57, C-57a, or A 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.

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

Dear Mr. Diamond:

Well Construction Permit  
Lucus 2 Well (Well No. 4859-11)

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 [redacted] to check compliance with construction noise permit requirements for this project.

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/cwrm/forms.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 [redacted] or toll-free at [redacted] (Hawaii), [redacted] (Kauai), [redacted] (Maui), or [redacted] (Lanai & Molokai), extension 70255.

Sincerely,

WILLIAM J. AILA, JR.
Chairperson

Enclosures

c: Lucus Living Trust (with applicable comments – DOH SDWB, WWB, CWB)
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 Lucus 2 Well (Well No. 4859-11) at TMK 7-2-019:020, 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/cwrm/resources_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 stop work and immediately contact the Department of Land and Natural Resources' State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.

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/cwrm/resources_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 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.

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: July 1, 2011
Expiration Date: July 1, 2013

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
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<tr>
<th>Data Input</th>
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<tr>
<td>Well Number</td>
<td>4859-11</td>
</tr>
<tr>
<td>Well Name</td>
<td>Lucus 2</td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>25</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>21</td>
</tr>
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<td>Grouting Method</td>
<td>other</td>
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<td>Hole Diameter</td>
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<td>Depth to water</td>
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<td>Solid Casing Wall Thickness</td>
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<tr>
<td><strong>Well Depth</strong></td>
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<tr>
<td>Theoretical Thickness of Aquifer</td>
<td>82</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
<td>20.5</td>
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<tr>
<td>Depth of Well below Sea Level</td>
<td>-5 okay</td>
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<td><strong>Well Casing</strong></td>
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<tr>
<td>Minimum Wall Thickness</td>
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<tr>
<td>Material</td>
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<td>Minimum Thickness per standards</td>
<td>no requirement</td>
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<tr>
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<td>Minimum Length of Solid Casing</td>
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<td>90% of ground to top of aquifer</td>
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<td>(for pvc only - check for 200' limit)</td>
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<td>Annular Space</td>
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<tr>
<td>Thickness of Annular Space</td>
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</tbody>
</table>
Hi Ryan,

Yes, for a well permit that has previously received our approval in Kukio, they would be allowed to relocate it within the same parcel. Let me know if you need any further info.

Have a great 4th of July!!!! 😊

Bethany

---

From: Ryan.R.Imata@hawaii.gov [mailto:Ryan.R.Imata@hawaii.gov]
Sent: Friday, July 01, 2011 1:23 PM
To: Morrison, Bethany
Subject: (3)7-2-019:020

Hi Bethany,

Just following up - I know a while ago you told me it would be okay to approve a replacement Well Construction Permit for the Lucus well, located on (3)7-2-019:020 in Kukio, since they were replacing a well that they were previously permitted to drill.

I didn't have any written documentation in the file, and I just wanted to make sure it was okay for them to do this.

Thanks and have an awesome weekend!!

Ryan Imata
Hi again –

(3) 7-2-019:020 - Yup - nothing new. No comments.

And it’s so easy now with our on-line database.

Have a great weekend.

Aloha, Lori

From: Ryan.R.Imata@hawaii.gov [mailto:Ryan.R.Imata@hawaii.gov]
Sent: Friday, July 01, 2011 10:22 AM
To: Morikami, Lori N
Subject: RE: 7-2-019:020

Sorry Lori, this is on the Big Island.

Thanks for your quick review!

Ryan

Good Morning Ryan –

Sorry – but which Island is this for?

Although I did a search for all islands, it appears no further comments or land use was done for the TMK.
I will agree that previous comments are still applicable.

Thank you.

Aloha,
Hi Lori,

One of our drillers has asked us if he can redrill a well. He has already drilled the well, and it's on TMK 7-2-019:020. You previously had no comments on this well (Well No. 4859-05).

I was wondering if you might have any new comments on this well, or are your previous comments still applicable.

Thanks, and hope you have a great 3 day weekend!

Ryan Imata, P.E.
Regulation Branch
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii

---

From: Ryan.R.Imata@hawaii.gov [mailto:Ryan.R.Imata@hawaii.gov]
Sent: Friday, July 01, 2011 7:34 AM
To: Morikami, Lori N
Subject: 7-2-019:020
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<tr>
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<th>AMOUNT</th>
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<tr>
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<td>$25.00</td>
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TOTAL          |          |          |        |          | $125.00                       |

REMARKS: LINE (1)  Lucus Well
LINE (2)  Sullivan #1 Well
LINE (3)  Holy Well
LINE (4)  Saville Well
LINE (5)  NSLF-001
LINE (6)  
LINE (7)  
LINE (8)  
LINE (9)  
LINE (10) 

we received only one copy of the application. Please note that
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 $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch or . For further information and updates to this application form, visit http://www.hawaii.gov/dlm/cwrm.

WELL LOCATION INFORMATION

5. WELL OPERATOR'S NAME/COMPANY: Lucas Living Trust
   Well Operator's Fax: 325-5881
   Well Operator's E-mail: lucas.trust@gmail.com

6. LANDOWNER'S NAME/COMPANY: Lucas Living Trust
   Landowner's Phone: 408-354-0560
   Landowner's Fax: 408-354-0560
   Landowner's E-mail: lucas.trust@gmail.com
   Landowner's Mailing Address: 72-3057 Kakapa Pl., Kailua-Kona, HI 96740 / 96745
   C: 808-935-3879

APPLICANT:immer

PROPOSED WELL CONSTRUCTION

8. Construction Type: 0 Dredged. 0 Deep. 0 Shaft. 0 Tunnel

10. Proposed Pumping Rate, gpm (gallons per minute): 30

11. Proposed Pumping Rate, psi (pounds per square inch): 300

12. Proposed Amount of Withdrawal, gpd (gallons per day): 500

13. Method of flow measurement: X Flow meter

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

16. Domestic Number of units to be served: 1

17. Irrigation (describe crop and no. of acres):

18. Military (describe):

20. Other (describe):

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

22. Conservation District Use Permit (COUP) if required, Items 22, and 23 must be obtained before the Commission can legally issue a permit:
   0 Well is in Conservation District
   0 Required, COUP # , date approved
   0 X Required, UCC documentation for COUP
   0 I have not checked with OGC about whether or not a COUP 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. Special Management Area Permit (SMAP) if required, Items 22, and 23 must be obtained before the Commission can legally issue a permit:
   0 Required, SMAP # , date approved
   0 X Required, UCC documentation from applicable County agency
   0 I have not checked with the County about whether or not an SMAP 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.

24. Water Use Permit No.: (if applicable):
   Additional remarks, explanations, etc. (attach additional sheet if more space is needed): This is the well that Rod talked with you about and the one that Bethany Morrison emailed you about. Saying it was okay to do a new well.

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, they understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Comman completion/abandonment report within 60 days after the completion date of the permitted work; 3) in the event that the application is not completed correctly, any payment suspended until the item is brought to compliance, and any work done while the permit is in suspension may result in fines of up to $5000/day.

24. WELL HONOLULU (Must be filled out if application is for Well Construction)
   Licensor/business name: Rodney K Diamond
   License/business name: BC23379
   License/business name: C-267C-Stark License No. 31-MAR-11
   Address: 3670 Keaau Rd.

25. PUMP INSTALLER (Must be filled out if application is for Pump Installation)
   Licensor/business name: Rodney K Diamond
   License/business name: BC23379
   License/business name: C-267C-Stark License No. 31-MAR-11
   Address: 3670 Keaau Rd.

WCR App. Form 52599
PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Hole Diameter: 8.5 inches.

Elevation at top of casing: 26 ft., msl*

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

Ground Elevation: 25 ft., msl*

- Cement Grout: 21 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: 2 in. (for other methods: 3")
- Rock or Gravel Packing: 9 ft.
- Material: Crushed Basalt
- Estimated Water Level Elevation: 2 ft., msl*

Grouting method:
- Positive Displacement
- x Other

Total Depth: 30 feet

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 (Grades B, D or S) □ Type E □ Type S □ Grade B □ Other
Stainless Steel: compliant with (check one or more): □ ASTM A409 (production wells) □ ASTM A312 (monitor wells)
ABS Plastic: compliant with (check one or more): □ ASTM A495 (schedule 40) □ ASTM A120 (schedule 80)
ASTM 01527: (check one): □ Schedule 40 □ Schedule 80
ASTM 02241: (check one): □ Schedule 40 □ Schedule 80
ASTM 03296: (check one): □ Schedule 40 □ Schedule 80
ASTM 03517: (check one): □ Schedule 40 □ Schedule 80

Pump Installation Standards:
- Centrifugally Cast Resin Pipe compliant to ASTM D2996
- Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing:
- Perforated □ Screen
- Total Length: ______ ft.
- Nominal Diameter: ______ in.
- Wall Thickness: ______ in.
- Bottom Elevation: ______ ft., msl*

- Annular space between hole and casing (1.5" for positive displacement, 2" for other methods)

- Solid Grouting method: licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Water Elevation - 41 x Water Level Elevation / 4)
Example: Estimated Water Level: 2 ft. Water Level Elev. > > > Bottom Elevation of Well Limit = (2 - 41 x (2) / 4) = -18.5 ft.

Open Hole:
- Length: ______ ft.
- Diameter: ______ in.
- Bottom Elevation: ______ 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.
MEMO and ROUTE SLIP (ver. 07/21/09) 07/21/09

WCR 1 Check for Well No. 4859-05 (regulation/survey route)

1. From Charley/Ryan (initial)

2. Well Log Check Geology Code for Well Index: QNL Fm Name: Hualalai Vic. England (initial)

3. Pump Tests Check Diane England (initial)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
   Step-Drawdown Test: followed WCPI Stds analysis attached | 0 | 0 |
   Constant Rate Test: followed WCPI Stds analysis attached | 0 | 0 |

Potential Well Interference: 
Potential Stream Impacts: 
Additional Testing or Data Required: 
Pump Test Comments Attached: 
Proposed Pump Capacity is OK:

4. Construction Check Mitch Ohye (initial) R. Torres (initial)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
   data complete | 0 | 0 |
   followed Special Cond & elevations well database updated | 0 | 0 |
   location change significant? (SMA/CD, TMK) | 0 | 0 |

Latitude Longitude
NAD27
NAD83

5. Charley/Ryan (initial) take action based on above analysis

ATTACHMENTS FOR PUMP INSTALLATION PERMIT (2x):
1 COVER LETTER
2 COUNTY COMMENTS (DWS/SMA)
3 DOH COMMENTS
4 DLNR COMMENTS (LD/OCC/DP)
5 WCR 1 Accept
6 WELL CONST. COMPLETION CERTIFICATE
7 UGSS MAP UPDATED
8 PARCEL CHECK
9 WELL DATABASE INPUT CHECK
10 PUMP TEST WORKSHEET
11 WELL As-Built CHECK PRINT

6. Roy (initial) check (Entered WCR 1/WCCC accept date into database)
7. Susan Hodgson (initial) finalize
8. Ken (initial) signature
9. Mitch (initial) Enter PIP issue date if attached/required
10. Charley/Ryan File
Mr. Don Lucus  
72-3057 Kakapa Place  
Kailua-Kona, HI 96740  

Dear Mr. Lucus:  

Certificate of Pump Installation Completion for Lucus Well  
Well No. 4859-05 (TMK 7-2-019:020)  

We are pleased to inform you that the Pump Installation work permitted for the Lucus Well (Well No. 4859-05) is complete and acceptable and welcome you as a new member to the community of well owners and ground water users in Hawaii. This certificate of pump installation completion allows you to commence pumping your well for reasonable & beneficial water use.  

To protect Hawaii's natural ground water resources for the benefit of all, the following requirements apply to the use of your well:  

1. If the well is not in use it must be properly capped.  

2. If the well is to be abandoned then the landowner must cause a licensed contractor to apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.  

3. In the event that the well operator and/or landowner changes, the Commission shall be notified prior to the change.  

4. In the event the benchmark in the concrete base of the well is altered in any way, an updated version of the Well Elevation page of the Well Completion Report Part I shall be submitted to the Commission. If a licensed surveyor had estimated the original benchmark elevation then a licensed surveyor must establish the new benchmark elevation. The Well Elevation portion of the Well Completion Report Part I can be obtained by contacting Commission staff or at www.hawaii.gov/dlnr/cwrm/forms.htm.
5. Your approved pump has a capacity of 33 gpm at a head of 24.6 ft. In the future, pump replacements of equal or lesser capacity will not require an additional permit from the Commission, but will require the submission of a Well Completion Report Part II by the licensed pump installer. If the pump replacement is greater than the existing pump, you will need to apply for a new pump installation permit.

6. The landowner shall cause the well operator to maintain the installed meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a annual basis, on forms provided by the Chairperson (attached), in accordance with §13-168-7, HAR. Blank water use report forms are also available at www.hawaii.gov/dlnr/cwm/resources_permits.htm

7. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. The authorization to drill a well and/or install a pump shall not constitute a determination of correlative water rights. The landowner and well operator are notified that the quantity of water taken from the well and/or the pump capacity could be reduced by the Commission in the future.

8. In the event that your installed pump is less than 70 gallons per minute, and no elevation survey has been completed, you may be required to do one in the future.

Because ground water in Hawaii is a public trust, and adverse effects at one well may affect other water resources, any violation of the above conditions or any other provision of the Hawaii Administrative Rules may be subject to fines of up to $5,000 per day. The Commission needs your help and asks that you do your part in utilizing this shared resource. We prefer to work with you in meeting the goal of protecting our ground water resources together.

If you have any questions, please contact Ryan Imata of the Commission staff at (Hawaii), (Kauai), (Maui), or (Lanai & Molokai).

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

RI:ss
Encl: Water Use Report Form

c: Hawaii Department of Water Supply
Diamond Construction and Water Well Drilling
Mr. Don Lucus
72-3057 Kakapa Place
Kailua-Kona, HI 96740

Dear Mr. Lucus:

Certificate of Well Construction Completion for Well No. 4859-05 (TMK 7-2-019:020)

We are pleased to inform you that the Well Construction work permitted for the Lucus Well (Well No. 4859-05) is complete and acceptable and welcome you as a new member to the community of well owners and ground water users in Hawaii.

To protect Hawaii’s natural ground water resources for the benefit of all, the following requirements apply to the use of your well:

1. Before this well can be pumped on a regular basis, a certificate of pump installation completion must be obtained.

2. If the well is not in use it must be properly capped.

3. If the well is to be abandoned then the landowner must cause a licensed contractor to apply for a well abandonment permit in accordance with §13-168-12(f), HAR, prior to any well sealing or plugging work.

4. In the event that the well operator and/or landowner changes, the Commission shall be notified prior to the change.

5. In the event the benchmark in the concrete base of the well is altered in any way, an updated version of the Well Elevation page of the Well Completion Report Part I shall be submitted to the Commission. If a licensed surveyor had estimated the original benchmark elevation then a licensed surveyor must establish the new benchmark elevation. The Well Elevation portion of the Well Completion Report Part I can be obtained by contacting Commission staff or at our website at www.hawaii.gov/dlnr/cwrm/resources_permits.htm.

Because ground water in Hawaii is a public trust, and adverse effects at one well may affect other water resources, any violation of the above conditions or any other provision of the Hawaii Administrative Rules may be subject to fines of up to $5,000 per day. The Commission needs your help and asks that you do your part in utilizing this shared resource. We prefer to work with you in meeting the goal of protecting our ground water resources together.

If you have any questions, please contact Ryan Imata of the Commission staff at [contact information] or toll-free at [contact information] (Hawaii), [contact information] (Kauai), [contact information] (Maui), or [contact information] (Lanai & Molokai).

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

RI:ss

c: Hawaii Department of Water Supply
Diamond Construction and Water Well Drilling
Mr. Rod Diamond  
Diamond Construction and Water Well Drilling  
HCR3 Box 14073  
Keeau, HI 96749  

Dear Mr. Diamond:  

Well Completion Report Parts I & II for Well No. 4859-05  

We received your Well Completion Report Parts I & II for the Lucus Well (Well No. 4859-05) on July 14, 2009 and acknowledge that they are complete.  

This completes your obligation under the well construction and pump installation permits. Certificates of well construction and pump installation completion will be issued to the well operator/landowner and you will receive a copy. These certificates transfer responsibility of specific aspects of well usage and maintenance from you to the well operator/landowner.  

Finally, please note that you have been using older copies of the Well Completion Report Forms. Please update your forms by visiting our website at http://hawaii.gov/dlnr/cwrm/resources_permits.htm  

If you have any questions, please contact Ryan Imata of the Commission staff at [Redacted].  

Sincerely,  

KEN C. KAWAHARA, P.E.  
Deputy Director  

c: Don Lucus
### Data Input

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<tr>
<th>Field</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Well Number</td>
<td>4859-05</td>
</tr>
<tr>
<td>Well Name</td>
<td>Lucus</td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>26.6</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>21.4</td>
</tr>
<tr>
<td>Grouting Method</td>
<td>other</td>
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<tr>
<td>Hole Diameter</td>
<td>8.5</td>
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<td>Total Depth</td>
<td>30.6</td>
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<tr>
<td>Water Level</td>
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<td>Depth to water</td>
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<td>Public Water Supply Well?</td>
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<tr>
<td>Solid Casing Material</td>
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</tr>
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<td>Solid Casing Specification</td>
<td>Schedule 40</td>
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<td>Solid Casing Length</td>
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### Results

#### Well Depth

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<tr>
<td>Theoretical Thickness of Aquifer</td>
<td>82</td>
</tr>
<tr>
<td>1/4 Aquifer Thickness</td>
<td>20.5</td>
</tr>
<tr>
<td>Depth of Well below Sea Level</td>
<td>-4 okay</td>
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</table>

#### Well Casing

<table>
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<th>Value</th>
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<td>Minimum Wall Thickness</td>
<td>pvc plastic</td>
</tr>
<tr>
<td>Material</td>
<td>no requirement</td>
</tr>
<tr>
<td>Wall Thickness Provided</td>
<td>0 no standard</td>
</tr>
<tr>
<td>Minimum Length of Solid Casing</td>
<td>22.14</td>
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<tr>
<td>90% of ground to top of aquifer</td>
<td></td>
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<tr>
<td>Length of solid casing Provided</td>
<td>24.6 okay</td>
</tr>
<tr>
<td>Casing Material</td>
<td>Schedule 40</td>
</tr>
<tr>
<td>(for pvc only - check for 200' limit)</td>
<td>in compliance</td>
</tr>
<tr>
<td>Annular Space</td>
<td>okay</td>
</tr>
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</table>

#### Depth of Grouting

<table>
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<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Calculated Depth of Grouting</td>
<td>17.22</td>
</tr>
</tbody>
</table>

#### Minimum Annular Space required  

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness of Annular Space</td>
<td>2 okay</td>
</tr>
</tbody>
</table>
1. State Well No.: 4859-05 Well Name: Lucas Island: Hawaii
2. Address: 72-3057 Kakapa Place, Kailua-Kona, HI 96745 Tax Map Key: 7-2-019-020
3. Drilling Company: Diamond Drilling and Pump
4. Drilling method used during construction: Rotary
5. Date Well Construction (drilled, cased, grouted) completed: 5-20-09 Fill out attached Driller’s Log
6. Was the subject well cored? Yes □ No □
7. Step-Drawdown Test completed? □ No □ Yes Attach Step-Drawdown Test Form (12/17/97 SDPTD Form)
8. Constant Rate Aquifer Test completed? □ No □ Yes Attach Constant Rate Aquifer Test Form (12/17/97 CRPTD Form)
9. Water Level Data:
   | Reference Point Elevation | Depth to Water (ft.) | Water Level ft. above msl | Date /Time of Measurement |
   | Initial encountered during drilling | Ground= 8 ft msl | 24.6 | 2 5-20-09 am |
   | Just prior to casing installation | Ground= 26.6 ft msl | 24.6 | 2 5-20-09 am |
10. After casing installation
    (this information should be before any pump tests are performed with casing installed)
    If this reference point is not the benchmark, the difference between the benchmark and this point is: 4 in.
11. Chloride: 6500 ppm. Temperature: 79 °F
12. As-built section filled in completely
13. Attach photograph of well and concrete pad showing benchmark on concrete pad.
14. GPS coordinates provided in degrees, minutes, seconds
15. If a pump is not planned to be installed, please describe (below in the remarks section) how well is secured to prevent unauthorized access (example: lockable cover, threaded coupling, etc.)
16. Remarks:

Licensed Driller: Rod Diamond
C-57 Lic. No. BC 23379
Signature __________________________ Date: 7-9-09

WCR1 Form 6/12/07 Page 1 of 5
13. AS-BUILT WELL SECTION

(Please attach as-built if different from diagram provided below)

**Solid Casing Material:**
- Carbon Steel: compliant with (check one or more):
  - ANSI/AWWA C200
  - API Spec. 5L
- Stainless Steel: (check one):
  - ASTM A409 (production 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 C950
  - FEP 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
- Stainless Steel: (check one):
  - ASTM A409 (production wells)
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - 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 C950
  - FEP Fluorocarbon Tubing conforming to ASTM D3296
  - FEP Fluorocarbon Tubing conforming to ASTM D3296
WELL NUMBER: 4859-05

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, Chlorides PPM</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 30.6</td>
<td>Basalt, Water @24.6 ft., Chlorides 6500 PPM</td>
<td>5-20-09</td>
</tr>
</tbody>
</table>

Remarks:
Latitude: N 19 degrees 49 min. 0.01 x 60 = 0.06 sec
Longitude: W 155 degrees 59 min. 57 sec.

Garage

This lot is on curve so the 30ft. is from Kakapa Place rd. the 40ft. is the property line between driveways.

SKETCH OF WELL LOCATION
(Referenced to permanent landmark, i.e. building, road, fence, etc.)
Well Elevation

Benchmark Elevation

26.10

I certify that the elevation shown above:

1) Was done in accordance with acceptable surveying practices
2) Is accurate to the nearest 0.01 ft.
3) Is referenced to mean sea level

Surveyor

License No.

Date
WELL CONSTRUCTION PERMIT

Lucius Well, Well No. 4859-05

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 Lucius Well (Well No. 4859-05) at TMK 7-2-019:020, Hawaii, subject to the Hawaii Well Construction & Pump Installation Standards (HWPCS - 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 HWPCS (the latest pump test worksheet can be obtained by contacting Commission staff or at www.hawaii.gov/dlnr/cwrmlandresources_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 basinal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basinal ground water unless otherwise authorized by the Chairperson. If it can be shown that the well does not tap basinal 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 stop work and immediately contact the Department of Land and Natural Resources’ State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.

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/cwrmlandresources_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 HWPCS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

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

13. The work proposed in the well construction 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.

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 §13-168-15(j), 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 insurers for 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 §13-168-15(l), HAR.

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

Date of Approval: December 24, 2008
Expiration Date: December 24, 2010

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 date of permit approval.

Driller’s Signature: Rod Diamond
C-57 License #: BC-23379
Date: 5/14/09
Printed Name: Rod Diamond
Firm or Title: Diamond Construction and Water Well Drilling

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

Attachment
**WCR 2 Check for Well No. 4859-05** (survey to regulation memo)

1. From Charley/Ryan.  

2. **Pump Tests Check** (special condition of PIP? Yes/No)  
   - D. England.
   - No deficiency.

<table>
<thead>
<tr>
<th>Step-Drawdown Test:</th>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>followed WCPI Stds</td>
<td></td>
<td></td>
<td>70 gpm no test required</td>
</tr>
<tr>
<td>analysis attached</td>
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<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aquifer Pump Test:</th>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
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<tr>
<td>followed WCPI Stds</td>
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<td>50 gpm no test required</td>
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</tr>
<tr>
<td>attached</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   | Potential Well Interference: | Yes | No | If no, describe deficiency |
   | Potential Stream Impacts:    | Yes | No | If no, describe deficiency |

   | Additional Testing or Data Required: | Yes | No | If no, describe deficiency |

   | Pump Test Comments Attached:    | Yes | No | If no, describe deficiency |

   | Proposed Pump Capacity is OK.:  | Yes | No | If no, describe deficiency |

3. **Pump Installation Check**  
   - Mitch Ohye.  
   - R. Torres.
   - No deficiency.

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   - Take action based on above analysis.

   **ATTACHMENTS FOR ACCEPTANCE:**  
   - 1WCR2 ACCEPTANCE LETTER  
   - 2PUMP INST. COMPLETION CERTIFICATE  
   - 3METER INSTALL. REPORT (if necessary)  
   - 4WUR FORM (if necessary)  
   - SUSGS MAP UPDATED  
   - 6PARCEL CHECK  
   - 7WELL DATABASE INPUT CHECK  
   - 8PUMP TEST WORKSHEET  
   - 9PUMP As-Built CHECK PRINT

   - To be sent to driller.  
   - To be sent to landowner/operator.  
   - Staff internal checks.

5. Roy.  
   - (initial) check (Entered WCR 2/PICC accept date into database).

   - (initial) finalize.

   - (initial) signature.

   - (initial) enter into WUR database.

   - File.
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  
WELL COMPLETION REPORT - PART II  
Pump Installation

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 808-586-0769. For updates to this form or additional information, please visit our website at http://www.state.hi.us/dlnr/cwrm/

1. State Well No.: 4859-05  
2. Address: 72-3057 Kakapa Place, Kailua-Kona, HI 96745  
3. Pump Installation Company: Diamond Drilling and Pump  
4. Date Pump Installed: 5-20-09  
5. PERMANENT PUMP INFORMATION  
   Pump Type, Make, Serial No.: SUB / GOUtLS / 25GS10412CL  
   Rated Capacity: 33 gpm at head of: 24.6 ft.  
   Motor Type, H.P., Voltage, rpm: ITT / 1 HP / 230 V / 3450 RPM  
   Pump type (check one):  
   □ Deep Well Turbine  
   X Submersible  
   □ Centrifugal  
   X Flowmeter  
   Manufacturer Master Model no. PT92194 Size ¾ in.  
   □ Weir  
   □ Open Pipe  
   □ Orifice*  
   □ Other*, explain below  
6. Method of flow measurement:  
   *attach schematic  
7. Fill in the as-built section on the other side of this sheet.  
8. Attach the rating curve for the installed pump.  
9. Attach photograph of well clearly showing the benchmark on the concrete pad, the well head, and the method of flow measurement.  
10. Well Owner: Lucus Living Trust / Don Lucus  
    72-3057 Kakapa Place  
    Kailua-Kona, HI 96745  
11. Land Owner: Same  

Pump Installation Contractor (print) Rod Diamond C-57/C-57a/A Lic. No. BC 23379  

Signature Date 7-9-09
7. AS-BUILT PUMP SECTION (Please attach as-built if different from diagram provided below)

Bench mark elevation surveyed to nearest 0.01 ft. = 26.19 ft. mean sea level

Elevation of top of chase tube
N/A ft. mean sea level

Pump intake depth = \( \frac{26.6}{\text{ft.}} \)
(referenced to bench mark)

Chase tube depth = \( \frac{N/A}{\text{ft.}} \)
(referenced to bench mark)

If airline installed, bottom of airline elevation = \( \frac{N/A}{\text{ft.}} \) mean sea level
PUMP INSTALLATION PERMIT
Lucus Well, Well No. 4859-05

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 Lucus Well (Well No. 4859-05) at TMK 7-2-019:020, 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 16 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/cwrmlresources_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: December 24, 2008
Expiration Date: December 24, 2010

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
Firm or Title: Diamond Construction and Water Well Drilling

Printed Name: Rod Diamond
C-57, C-57a, or A License #: BC-23379
Date: 5/19/09

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

Attachments
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
**ROUTE SLIP FOR PERMIT ISSUANCE 6/25/08**

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TO: Honorable Chiyome L. Fukino, M.D., Director
Department of Health
Attention: Director's Office

TO: Tomas See, Chief, Wastewater Branch
Attention: Director's Office

TO: Stuart Yamada, Chief, Safe Drinking Water Branch
Attention: Director's Office

TO: Alec Wong, Chief, Clean Water Branch
Attention: Director's Office

TO: 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
Lucas Well (Well No. 4839-05) TIN No. (3) T-2-019:020

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
Installation (planned pump or 15 people or less)
location = Kakapu Rd, Yukio,
(grd. elev. = 25')
well dia. = 4.5''
well depth = 30'
Well: Caesar & Diamond

Rule R15-44-4:05

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 Miyahira Phone: ________
Signed: __________ Date: __________
CWRM Application Source: Lucus Well (Well No. 4859-05)

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. The siting of a drinking water source below the UIC line affects the allowed potential for new injection well construction. New injection wells will then be prohibited within setback areas defined in Chapter 11-23. We suggest that surrounding landowners be informed of this proposed action because it may affect the development potential of the properties within the setback area.

3. 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.

4. Questions about UIC may be directed to Chauncey Hew at 586-4258.

CWRM Well Application Standard Comments (SDWB)
Vers. 6/1/07
**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](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/whateveyouande.html](http://www.epa.gov/safewater/privatewells/whateveyouande.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/pdf/conmaps05.pdf](http://www.hawaii.gov/health/environmental/water/sdwb/conmaps/pdf/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](http://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](http://www.epa.gov/safewater/mcl.html)) and State ([www.hawaii.gov/health/environmental/water/sdwb/sdwb/pdf/State%20MCL.pdf](http://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.
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 December 24, 2008. 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 [Contact information].

[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 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 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: Dane Hiromasa in Kona

Signed: [Signature]

Date: 12-23-08
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 921
HONOLULU, HAWAI'I 96806

December 15, 2008

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
Lucas Well (Well No. 1859-05)

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 December 24, 2008. 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 [Contact Information]

RI:ss
Attachment(s)

RESPONSE:

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

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 private owner should test for hardness, biological and chemical parameters 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.

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 a barrier or an approved backflow preventer, and by clearly labeling all non-potable pipes 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 subject to Safe Drinking Water Regulations.

5. For the applicant's information, a source of possible wastewater contamination [ ] is located near the proposed well site (information attached).

6. An NPDES permit is required.

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

In the event that the location of the well changes or 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: [Contact Information]
Phone: [Phone Number]
Signed: [Signature]
Date: DEC 2 2 2008
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
HONOLULU, HAWAII 96829

December 15, 2008

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 Kawaoaka, Office of Hazard Evaluation and Emergency Response

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Lucas Well (Well No. 4859-05)

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 December 24, 2008. 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 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (RAR), Title 11, Chapter 23, Rules Relating to Potable Water Systems, §§1-20-29

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 must test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future plans are drawn that 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 systems with warning signs to prevent unauthorized 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 (§1-14) is not located near the proposed well site (information attached).

An NDDES 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: Richard Palmer
Phone: 587-

Signed: Richard Palmer
Date: 11/4/2008
Subject: Well Construction/Pump Installation Permit Application(s)

Well No(s). 3087-70, 5407-02, 8682-29, 4869-00, 3088-24, 3088-27, 3087-09, 3587-19, 3667-60, 4659-05, 3088-28

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 [contact information] or by fax [contact information].

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 HAC, 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 to the start of construction activities.
December 15, 2008

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
          Lucas Well (Well No. 4859-05) TMK 7-2-019:020

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 December 24, 2008.** 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 [Redacted]

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.

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

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

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

[ ] No objections

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

Contact Person: Gary Martin                  Phone: [Redacted]

Signed: Gary Martin                        Date: DEC 18 2003
Ref: 4859-05.wcp

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

Dear Mr. Diamond:

Well Construction Permit
Lucus Well (Well No. 4859-05)

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 [redacted] to check compliance with construction noise permit requirements for this project.

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 for our files. For copies of the aquifer pump test worksheet, please call staff or visit www.state.hi.us/dlnr/cwrm/forms.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 [redacted]

Sincerely,

[Signature]

Laura H. ThieLEN
Chairperson

Enclosures

c: Lucus Living Trust (with applicable comments – DOH SDWB, WWB, CWB)
    USGS
    Hawaii DWS
WELL CONSTRUCTION PERMIT
Lucus Well, Well No. 4859-05

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 Lucus Well (Well No. 4859-05) at TMK 7-2-019:020, 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/cwrm/resources_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 stop work and immediately contact the Department of Land and Natural Resources’ State Historic Preservation Division. Work may recommence only after written concurrence by the State Historic Preservation Division.

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/cwrm/resources_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 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.

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: December 24, 2008
Expiration Date: December 24, 2010

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

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

Attachment
Ref: 4859-05.pip

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

Dear Mr. Diamond:

Pump Installation Permit
Lucus Well (Well No. 4859-05)

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 [contact information] 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 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 [contact information]

Sincerely,

[Signature]
Laura H. Thielen
Chairperson

Enclosure

c: Lucus Living Trust (with applicable comments – DOH SDWB, WWB, CWB)
USGS
Hawaii DWS
INSTALLATION PERMIT
Lucus Well, Well No. 4859-05

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 Lucus Well (Well No. 4859-05) at TMK 7-2-019:020, 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 16 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/cwrmlresources_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: December 24, 2008
Expiration Date: December 24, 2010

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: ______________________________ C-57, C-57a, or A License #: 23379 Date: ______________
Printed Name: Rod Diamond Firm or Title: Diamond Construction and Water Well Drilling

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

Attachments
## Well Check Program
4/1/04 - Revised for update to Well Standards (February 2004)

### Data Input

<table>
<thead>
<tr>
<th>Data Input</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Number</td>
<td>4859-05</td>
</tr>
<tr>
<td>Well Name</td>
<td>Iucus</td>
</tr>
<tr>
<td>Ground Elevation</td>
<td>25</td>
</tr>
<tr>
<td>Cement Grout</td>
<td>21</td>
</tr>
<tr>
<td>Grouting Method</td>
<td>positive displacement</td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>8</td>
</tr>
<tr>
<td>Total Depth</td>
<td>30</td>
</tr>
<tr>
<td>Water Level</td>
<td>24</td>
</tr>
<tr>
<td>Public Water Supply Well?</td>
<td>no</td>
</tr>
<tr>
<td>Solid Casing Material</td>
<td>pvc plastic</td>
</tr>
<tr>
<td>Solid Casing Specification</td>
<td>Schedule 40</td>
</tr>
<tr>
<td>Solid Casing Length</td>
<td>25</td>
</tr>
<tr>
<td>Solid Casing Diameter</td>
<td>4.5</td>
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<tr>
<td>Solid Casing Wall Thickness</td>
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</tr>
<tr>
<td>Open Casing Length</td>
<td>5</td>
</tr>
</tbody>
</table>

### Results

#### Well Depth
- Theoretical Thickness of Aquifer: 41
- 1/4 Aquifer Thickness: 10.25

#### Well Casing
- Minimum Wall Thickness: pvc plastic
- Minimum Thickness per standards: no requirement

#### Depth of Well below Sea Level
- Depth of Well below Sea Level: -5, okay

#### Minimum Wall Thickness
- Wall Thickness Provided: 0, no standard

#### Minimum Length of Solid Casing
- Length of Solid Casing Provided: 25, okay

#### Casing Material
- Schedule 40, in compliance

#### (for pvc only - check for 200' limit)
- okay

#### Annular Space
- Calculated Depth of Grouting: 0.7
- Depth of Grouting provided: 21, okay
- Minimum Annular Space required: 1.5
- Thickness of Annular Space: 1.75, okay

**Section References:**
- Section 2.2
- Section 2.4(b)
- Section 2.4(c)
- Section 2.4(d)
- Section 2.6(c)
- Section 2.6(d)
COMMISSION ON WATER RESOURCE MANAGEMENT

ROUTE SLIP FOR NEW APPLICATIONS

FROM: RYAN

DATE: 5-Aug-08

SUSPENSE DATE: __________

TO: CHING, F.

INIT. ______________________

TO: KUNIMURA, I.

INIT. ______________________

FOR: Approval

1 Signature

3 Information

PLEASE:

See Me

1 Review & Comment

1 Take Action

Type Draft acknow letter

2 Type Final, label file folder, update People.db

5 File

File Xerox __ copies

WELL NUMBER 1859-05

WELL NAME Lucas

WUP Number ______________________

PUMP INSTALLATION

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 DH/PC/UP/SM/CD 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

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________
December 15, 2008

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. 4859-05

We acknowledge receipt, on September 25, 2008, of your completed Well Construction/Pump Installation permit application and filing fee for the Lucus Well (Well No. 4859-05). 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 [contact information]

Sincerely,

[Signature]

KEN C. KAWAHARA, P.E.
Deputy Director

RI:ss
Attachment

c: Don Lucus
December 15, 2008

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 Kawaoaka, Office of Hazard Evaluation and Emergency Response

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

SUBJECT: Well Construction/Pump Installation Permit Application
         Lucus Well (Well No. 4859-05)

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 December 24, 2008. 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 [ ]

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 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 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: [ ] 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  
Lucus Well (Well No. 4859-05) TMK 7-2-019:020  

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 December 24, 2008. 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 [redacted].

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: ____________
December 15, 2008

TO: Dr. Pualaokalani 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
         Lucas Well (Well No. 4859-05) TMK: 7-2-019:020

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 December 24, 2008. 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 [ ] 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.

RI:ss
Attachment(s)

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: ___________________
Mr. Chris Yuen, Director
Planning Department
County of Hawaii
101 Pauahi Street
Hilo, HI 96720

Dear Mr. Yuen:

Special Management Area Use Permit Requirements for
Well Construction/Pump Installation Permit Application
Lucus Well (Well No. 4859-05)

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 SMA permitting requirements specific to your division. Please respond by returning this cover memo form by December 24, 2008. 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

Sincerely,

[Signature]

RI:ss

RESPONSE:

[ ] This well project [ ] requires [ ] does not require a SMA. If a SMA is required it [ ] has [ ] has not been approved and [ ] is [ ] is not currently active.

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

[ ] No objections

[ ] Other comments:

Contact Person: ___________________________________________ Phone: __________________

Signed: ___________________________________________ Date: __________________
<table>
<thead>
<tr>
<th><strong>GENERAL LICENSEE</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIC ID:</strong> CT-23379</td>
<td>Active/Inactive: ACTIVE</td>
</tr>
<tr>
<td><strong>NAME:</strong> RODNEY K DIAMOND</td>
<td></td>
</tr>
<tr>
<td><strong>TRADE NAME:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>STATUS:</strong> CURRENT, VALID &amp; IN GOOD STANDING</td>
<td></td>
</tr>
<tr>
<td><strong>ENTITY:</strong> INDIVIDUAL</td>
<td>BUSINESS CODE: SOLE OWNER</td>
</tr>
<tr>
<td><strong>ORIG LIC DATE:</strong> 10/12/2001</td>
<td>EXPIRE DATE: 09/30/2010</td>
</tr>
<tr>
<td><strong>CLASS PREFIX:</strong> BC</td>
<td>SPECIAL PRIVILEGE:</td>
</tr>
<tr>
<td><strong>RESTRICTION:</strong></td>
<td>EDUCATION CODE:</td>
</tr>
<tr>
<td><strong>CONDITIONS AND LIMITATIONS:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>BUSINESS ADDR:</strong> HCR #3 BOX 14073 KEAAU HI 96749</td>
<td></td>
</tr>
<tr>
<td><strong>MAILING ADDR:</strong></td>
<td></td>
</tr>
</tbody>
</table>
Assessed Values reflect tax year 2008.

Search criteria: TMK Taxkey 3-7-2-19-20

<table>
<thead>
<tr>
<th>Taxkey</th>
<th>Subdiv/Condo</th>
<th>Tnr</th>
<th>Address</th>
<th>Owner/Lessee</th>
<th>Bds</th>
<th>Bths</th>
<th>Land area</th>
<th>Liv area</th>
<th>Last Sale Instr</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-7-2-19-20</td>
<td>Kukio</td>
<td>F</td>
<td>72-</td>
<td>LUCAS LIVING</td>
<td>4</td>
<td>5</td>
<td>41,905 sqft</td>
<td>6,078</td>
<td>4/25/2001 DEED $10,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3057</td>
<td>TRUST</td>
<td>KAKAPA</td>
<td>1/2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Copyright ©12/5/2008 by Hawaii Information Service
<table>
<thead>
<tr>
<th>F YR</th>
<th>APP D</th>
<th>OBJ</th>
<th>CTR</th>
<th>PROJECT</th>
<th>PH ACT</th>
<th>AMOUNT</th>
<th>NAME/DESCRIPTION (WANG INPUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S 09</td>
<td>326 C</td>
<td>1026</td>
<td>0752</td>
<td>(1)</td>
<td></td>
<td>$25.00</td>
<td>Ledson Construction Co., Inc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2)</td>
<td></td>
<td>$25.00</td>
<td>Amec Earth &amp; Environmental Inc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3)</td>
<td></td>
<td>$25.00</td>
<td>TNWRE</td>
</tr>
</tbody>
</table>

**TOTAL** $ 75.00

REMARKS:
- LINE (1) Lucus Well
- LINE (2) MW II-7 Well
- LINE (3) Supply Well No. 1
- LINE (4)
- LINE (5)
- LINE (6)
- LINE (7)
- LINE (8)
- LINE (9)
- LINE (10)
**WELL LOCATION INFORMATION**

1. **STATE WELL NO.** (if already assigned)  
2. **WELL NAME**  
3. **ISLAND**  
4. **TOWN**  
5. **TAPED**  
6. **ZONE**  
7. **SEC**  
8. **PTA**  
9. **WELL**  
10. **FLAT**  
11. **PARC**

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 quadrant map.
- Property tax map, showing well location referenced to established property boundaries.
- Photograph of proposed well site.
- A schematic diagram showing the well site, access roads and proposed well infrastructure (if applicable).

5. **WELL OPERATOR'S NAME/COMPANY**  
6. **Well Operator's Contact Information**  
7. **Landowner's Name/Company**  
8. **Landowner's Contact Information**

<table>
<thead>
<tr>
<th>Well Operator's Mailing Address</th>
<th>Landowner's Mailing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCR #3 Box 14073 Keaau HI 96749</td>
<td>72-3057 Kakapa Place Kailua Kona HI 96740 / 96745</td>
</tr>
</tbody>
</table>

**PROPOSED WELL CONSTRUCTION**

<table>
<thead>
<tr>
<th>Proposed Work</th>
<th>Proposed Pumping Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. X Construct New Well.</td>
<td>11. Proposed Pumping Rate, gpm (gallons per minute)</td>
</tr>
<tr>
<td>X Modify Existing Well.</td>
<td>16</td>
</tr>
<tr>
<td>X Abandon Well.</td>
<td>12. Proposed Amount of Withdrawal, gal (gallons per day)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method of flow measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. X Flow meter</td>
</tr>
<tr>
<td>Open Pipe</td>
</tr>
<tr>
<td>Well</td>
</tr>
<tr>
<td>Office</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

9. Is this the well part of a battery? (Yes or No) [ ] Yes [ ] No

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

**PROPOSED USE**

<table>
<thead>
<tr>
<th>Domestic Number of units to be served</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial (describe)</td>
<td>17</td>
</tr>
<tr>
<td>Irrigation (describe crop and no. of acres)</td>
<td>18</td>
</tr>
<tr>
<td>Military (describe)</td>
<td>19</td>
</tr>
</tbody>
</table>

**OTHER LEGAL REQUIREMENTS**

15. Municipal (water systems serving greater than 25 individuals or 15 service connections).

16.  X 16 Domestic Number of units to be served: 1

23. Historic Preservation Division (HPD) of the DNR

X I have consulted with the HPD regarding potential impacts of well construction activities or 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 or historic sites. I understand that checking with this 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.

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

**NOTE:** Signing below indicates that the signatories understand and swear that the information provided is accurate and true to the best of their knowledge. Further, the signatories understand that upon permit approval: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 60 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 item is brought to compliance, and any work done while the permit is in suspension may result in fine of up to $5000/day.

**24. WELL DRILLER (Must be filled out if application is for Well Construction)**

<table>
<thead>
<tr>
<th>Name</th>
<th>BC23379</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-30-08</td>
<td>96740</td>
</tr>
</tbody>
</table>

**25. PUMP INSTALLER (Must be filled out if application is for Pump Installation)**

<table>
<thead>
<tr>
<th>Name</th>
<th>BC23379</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-30-08</td>
<td>96740</td>
</tr>
</tbody>
</table>
PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Hole Diameter: 5 inches.

Elevation at top of casing 26.4", ft., msl*

Ground Elevation: 25 ft, msl*

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

Solid Casing: (x 100% x (Ground Elev. - Water Level Elev))

Total Length: 25 - ft.
Nominal Diameter: 4.5 - in.
Wall Thickness: 5/40 - in.
Bottom Elevation: -0 - ft., msl*

Open Casing:  Perforated  Screen

Total Length: 5 - ft.
Nominal Diameter: 4.5 - in.
Wall Thickness: S40 - in.
Bottom Elevation: 5 - ft., msl*

note: Neither bentonite nor mud should be used in saturated zone during drilling

Open Hole:

Length: NA - ft.
Diameter: _______ - in.
Bottom Elevation: _______ - 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 should not be deeper than 60% of aquifer thickness or, Bottom Elevation of Well Limit = (Water Elevation -)

Example: Estimated + 2 ft. Water Level Elev. Bottom Elevation of Well Limit = (2 - 60% of 120 ft) = -185 ft

Solid Casing Material:
Carbon Steel: compliant with (check one or more):  ANSII/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: (check one):  Schedule 40  Schedule 80
PVC Plastic: (check one):  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 C900
- 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):  ANSII/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
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