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DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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5616-09.atf-wcpi.sub

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

February 15, 2006
Honolulu, Oahu

Donald O'Connor

**APPLICATION FOR AFTER-THE-FACT WELL CONSTRUCTION / PUMP INSTALLATION
PERMITS FOR MANAWAI-O'CONNOR WELL
(WELL NO. 5616-09), TMK 2-8-003:044
VIOLATIONS, AND FINES**
Manawai Place, Manawai, Makawao Maui

APPLICANT:

Donald O'Connor
P.O. Box 93
Puunene, HI 96784

LANDOWNER:

Same

SUMMARY OF REQUEST:

The applicant requests approval of his after-the-fact well construction/pump installation permit application for a 13 gallon-per-minute (gpm) pump to irrigate 3 acres of palm trees. There are several potential violations regarding this request.

DESCRIPTION:

Location: (See Exhibit 1)

Dimensions: (unverified; well was drilled by unknown contractor; WCR 1&2 are Exhibit 2)

BACKGROUND:

November 24, 2004 The County of Maui Planning Department approved a Special Management Area (SMA) Minor Permit (see Exhibit 3) for Donald O'Connor to construct a 300-foot deep irrigation well at this residence.

April 1, 2005 Staff received a phone call from a licensed well contractor on Maui, Mike Robertson (Wailani Drilling, Inc.), alerting us to a potential illegal well drilling

activity by an unlicensed driller. Hoping to catch the unlicensed driller on site, the information was immediately passed along to the Division of Conservation and Resource Enforcement (DOCARE), with a request to investigate. DOCARE investigated immediately on behalf of the CWRM staff.

April 5 to 16, 2005

In the two weeks following, Mr. Robertson called a few more times to request a status update and to relay information, particularly reflecting concerns of several domestic well and home owners in the neighborhood. Staff independently spoke with neighbors Rick Strini, Richard Perry, Tom Caltrider, Frank Felton, and Bill Steele, and verified their concern that their wells might be affected if the unpermitted drilling activity resulted in incorrectly grouted wells that could conduct pesticides known to have been used in this area down to the basal aquifer.

May 2, 2005

Staff received the field investigation report from DOCARE (see Exhibit 4). The report verified that a well was constructed and that the landowner, Donald O'Connor, did not have well construction or pump installation permits, although he instead presented an SMA Permit. The well site consisted of a rectangular box with plumbing and electrical items (see photos in Exhibit 4). Mr. O'Connor was cooperative and was given staff's telephone number to call for more information. Subsequently, staff did receive two calls from Mr. O'Connor, and told him that failure to obtain permits from the Commission was subject to potential fines.

The DOCARE report included a copy of the SMA Minor Permit (Exhibit 3) issued by Maui County on November 24, 2004 that covered the well. This was the first instance staff learned of this permit.

May 20, 2005

Staff received a letter from Mike Robertson (see Exhibit 5), a licensed contractor who has drilled most of the wells in the north Maui area, with the facts he knew about this situation. Robertson's written testimony is that his earlier conversations with Mr. O'Connor were a clear indication that Mr. O'Connor understood the requirement for well construction and pump installation permits.

May 26, 2005

Staff sent a notice of potential violation letter to Donald O'Connor by certified mail (return receipt dated June 8, 2005), citing the section of the Water Code in potential violation, noting the neighbors' expressed concerns and staff's concerns regarding potential contamination, and asking 6 questions about the well, including a request to file an after-the-fact application. (see Exhibit 6).

June 15, 2005

Staff received a written reply from Mr. O'Connor (see Exhibit 7), identifying the driller as "owner-builder", and his willingness to allow a field inspection, and that he would be submitting after-the-fact applications.

- September 1, 2005 Staff sent a second letter (see Exhibit 8) to Mr. O'Connor requiring a well completion report for his well, to be completed and returned by September 30, 2005. In the interim, telephone messages elicited the understanding that he had received the letter and had completed the forms.
- October 13, 2005 Staff received the after-the-fact Application for Well Construction and Pump Installation Permits. While the application appears complete, discrepancies in its representations of the grouted annulus, especially in view of Mike Robertson's representations, caused staff to withhold acceptance of the application as complete until the well completion reports could be evaluated and other facts reviewed.
- October 27, 2005 Staff received deficient well completion reports (WCR) 1&2. The well completion reports were not completed by a licensed well contractor, as required. Most importantly, questions remain concerning proper grouting of the annulus.
- November 7, 2005 Staff sent an acknowledgement of the well completion reports, noting several items needing attention before they could be accepted as complete (Exhibit 9).
- December 9, 2005 Staff received a letter dated December 7, 2005, responding to our November 7 letter requesting additional information. The applicant requested deferral of a wellhead survey and pump test, specifically required in our November 7 letter. Measurements of well depth and pump intake setting were rounded to the nearest foot rather than nearest 0.1 foot. Temperature, water level, and chlorides reported appear consistent with neighboring well information.
- January 18, 2006 Staff conducted a field verification of the well. Staff reported well information provided by Mr. O'Connor, and noted that there was no concrete slab, elevation benchmark, nor visible flow meter. Staff took a GPS reading of the wellhead location. Mr. O'Connor's asserted for the first time that a well driller from New Mexico drilled the well, whom he declined to name. Finally, Mr. O'Connor was informed that the Commission was considering enforcement action. (Exhibit 10).
- January 25, 2006 Staff sent a letter to Mr. O'Connor deferring the certified survey of the wellhead elevation, excusing the aquifer pump testing, and noting several items that caused staff to deem the well completion reports deficient.

WATER AVAILABILITY:

Haiku Aquifer System Area of the Koolau Sector
 Estimated Sustainable Yield: 15 mgd
 Current Aquifer System Pumpage (12-MAV as of 5/13/05): <2.5 mgd
 Proposed Use: about 200 gpd to irrigate 3 acres of palm trees

ISSUES/ANALYSIS:

Staff highlights the following significant violation issues: 1) drilling a well without a proper Commission permit; 2) installing a pump without a proper Commission permit; 3) work by an unlicensed contractor;

4) non-conformance with construction standards, resulting in potential contamination of aquifer and neighboring wells; and 5) late filing of incomplete well completion reports (WCR 1 & 2).

1 & 2. Drilling Well and Installing Pump Without a Commission Permit:

Hawaii Revised Statutes (HRS) 174C-84 states that:

“No well construction and no installation of pumps and pumping equipment shall commence without appropriate permit from the commission.”

No permit for well construction nor pump installation has been issued for Well No. 5616-09 at TMK: 2-8-003:044. The well was, in fact, unknown to staff until after its completion. Therefore, construction work without these permits constitutes at least two violations of the Water Code.

Knowledge of Commission Permit Requirements

As reported by DOCARE, the applicant contends that the SMA permit allowed him to construct his well. The SMA permit from the County, which itemizes a well as part of the approved land use, mentions other land use requirements still to be completed but fails to note well drilling and pump installation permit requirements from the Commission. The SMA Permit notes conditions to be met regarding historic preservation and Department of Water Supply (MDWS) requirements, but there is no mention of the requirement to obtain a well construction permit from the Commission. Similarly, MDWS' attached comment letter raises issues regarding best management practices but does not mention obtaining a well construction permit from the Commission either. Staff acknowledges that this may have given Mr. O'Connor the impression that the SMA permit was sufficient

However, licensed contractor Mike Robertson's written testimony contends that he informed Mr. O'Connor of the need for well construction and pump installation permits. Mr. Robertson stated that O'Connor requested an estimate for well drilling in the summer of 2004. Mr. Robertson offered to obtain the Commission well permits once Mr. O'Connor completed the SMA permitting process. Then in November 2004, Mr. Robertson had been contacted by a man claiming to be a land owner in Huelo, who needed consultation on a well being drilled on his property by a driller named Don because the well bore kept collapsing. Robertson advised against continuing this work because 1) the driller was unlicensed; 2) the well was unpermitted; and 3) because the annulus was too small for proper grouting. Robertson offered to assist the landowner in completing the well and to help him obtain the necessary permits; however, he never heard from the man again. Several weeks later Mr. Robertson got a call from a former client on Manawai Place asking if Mr. Robertson knew about a well being drilled on an adjacent parcel, which turned out to be O'Connor's residence. Robertson sent one of his work crew to look into it and learned that the same "Don the driller" was drilling with an 8-inch bit and had brought 6-inch PVC casing on site. This is the site of Well No. 5616-09, the subject well for this submittal and unpermitted well construction on TMK: 2-8-003:044.

Through discussions with staff, Mr. O'Connor stated that he had never met Mr. Robertson in person but had spoken to him about the costs of drilling a well, but nothing about permit requirements. He has also mentioned that he had called every driller in the State, concerning cost, prior to construction of his well. In addition, he had talked with Mr. Robertson years ago in connection with the Peter Martin Well (5616-02), constructed in 1997, in which O'Connor also had some involvement. He maintains he was unaware of Commission permit requirements and thought the SMA permit was all that he needed to construct his well.

Based on the applicant's and Mr. Robertson's conflicting testimony, staff cannot conclude Mr. O'Connor knew that Commission permits were required, though it seems unlikely that after all the discussions with Mr. Robertson and other drillers that none had made it clear to him that Commission permits were required.

3 & 4. Work By an Unlicensed Contractor:

HAR §13-168-12(b) identifies that well construction and pump installation work is to be done by a licensed contractor.

The landowner specifies in his letter that the well was constructed as an "owner-builder", not by a licensed contractor. This would constitute a violation of the Water Code. Further, during staff's field investigation, Mr. O'Connor stated that the driller was from New Mexico, that it was not O'Connor himself. Mr. O'Connor specifically declined to name the driller then, as he had failed to do in all previous correspondence. In another case still under investigation, an unlicensed driller, Don Wilburn, constructing an unpermitted well stated that he brought his drill rig from New Mexico.

5. Non-Conformance With Construction Standards

The purpose of the Hawaii Well Construction and Pump Installation Standards (HWCPIS, 2004) is to specify proper construction to assure safe drinking water and to protect the aquifer from contamination through accident or from natural percolation through unsaturated zones of rock. Staff is particularly concerned with the thickness of the grout seal between the well bore and well casing, the manner of grouting, and the quality of the casing, which have specified minimums to accomplish proper grouting to protect the well and aquifer. HWCPIS requires at least a 2-inch grouting annulus, 70% of the depth to water and proper casing material to 90% of the well depth. A licensed driller under Mr. Roberts, who was on site, reports that the driller was using an 8-inch bit and installing 6-inch casing, precluding anything but a one-inch annulus. The well is located above an area known to have three separate layers of very dense, as reported in by drilling logs of nearby wells, making it very difficult even for an experienced licensed driller to keep a straight open hole to achieve a proper grout seal. The collapsing hole problem mentioned by Mr. Robertson in the earlier consultation is evidence of difficult drilling conditions for a hole this deep in this area.

Based on well completion reports and staff's field investigation and analysis, the well depth is greater than 200-feet deep and cased with Schedule 40 thermoplastic. The standards prohibit use of any thermoplastic casing in wells of depth greater than 200 feet. If the annulus were the proper thickness, and the hole sufficiently straight, it is most likely that Schedule 40 casing would have been distorted by the weight of the grout and the heat of the curing process. If the casing did not totally fail, such a situation might still have complicated installation of the pump, but no such problems were reported. This could mean that the well was not grouted to 70% of the depth to water. These foregoing factors -- thickness of annulus, depth of well, and substandard casing material, with installation of the pump -- suggest either that an unlicensed driller in a difficult area performed a very difficult feat, or that a standard grout seal was not made. Without having a licensed driller sign-off on the as-built conditions of the well, the grouting depth of the well is virtually unknown.

Maui Department of Water Supply's wellhead protection program maps show that this well is in an area formerly in pineapple production, which is known to use fumigants such as DBCP. For health reasons, this contaminant is not recommended in drinking water above a trace levels, and requires treatment in water systems defined by the Department of Health (DOH) as a "public" water system, meaning 15 or more service connections or 25 individuals served. For individual private wells, DOH's position is that individual private well owners are responsible for their own water quality testing. Mike Robertson's

experience from drilling private individual wells in this area, knowing that pineapple had formerly been cultivated here, is that the contaminants in this area are only being found in the perched aquifer layers above the basal aquifer. He is aware that these contaminants can follow the drill bit down to the basal aquifer and does water quality analysis for his clients. After grouting the casing properly through those layers and pump testing, he has found that pineapple related contaminants are not in the basal aquifer, at least not at the wells he has constructed in close proximity to O'Conner's well. Therefore, Mr. Robertson's experience shows that an adequate annulus and standard grouting is absolutely crucial to the protection of ground water resources in this particular area. Staff is concerned that O'Conner's private well may have breached and caused a contamination of the aquifer that could affect not only his well but other well owners in the area as well.

Contamination is a primary concern for the Commission, as HRS 174C-86 (b) states:

"If any well construction or pump installation standard is violated and as a consequence ground water is wasted or any well is contaminated, the commission, after giving notice of the defect to the owner of the land on which the well is located and giving such owner a reasonable time to correct the defect, may itself correct the defect and charge the landowner for the cost of such correction. Such cost constitutes a lien on the land until paid..."

So far, there is no evidence of waste or contamination to allowing the Commission to compel the owner to seal this well at this time. There is also no counter evidence, while there is a record of contaminants in this area. If the well is not grouted properly, the risk of waste and/or contamination remains high. Staff has suggested to O'Conner to do water quality analysis of his well for his own peace of mind, which he is planning on doing.

6 & 7. Lack of Acceptable Well Completion Reports

HRS 174C-82 also states that:

"In addition to its other powers and duties, the commission shall ... (3) Require well completion reports, as provided in section 174C-85."

The well completions reports filed indicate a few significant HWCPIS insufficiencies, which are: 1) the improper casing; 2) reported annulus of 1.5 inches (still substandard unless positive displacement grouting is used, which is not the case); 3) PVC casing extends beyond 200 ft deep; 4) no identification of a required flowmeter; 5) no well pad, verified by photos and by field inspection; and 6) reports are required to be completed by a licensed driller. It is not known whether any other of the proper standards for well construction and pump installation were followed for this O'Connor Well.

The driller was initially identified as "owner-builder", but the landowner is not a licensed contractor, and he only recently has indicated the work was done by a driller from New Mexico. An unlicensed contractor would not be expected to know the standards, which are made known through the permitting processes, and also soon will be part of the licensing process testing, nor expected to have any experience drilling under difficult geologic conditions. Mr. O'Conner has been given several opportunities to identify a licensed contractor and has failed to do so. An acceptably complete well completion report form is still not on file

PENALTY POLICY:

The policy used in this submittal was adopted in 2001. Exhibit 12 is a summary of the penalty calculation in this case.

Basic Component: Hawaii Revised Statutes (HRS) Section 174C-15, as amended, provides for fines up to \$5,000 per day per violation. The minimum fine established by the Commission's penalty policy is \$250 per violation, set when the maximum fine was \$1,000 (see Exhibit 11 & 12). Staff recommends the minimum basic fine component for each violation.

Gravity Components: Six elements are outlined in the Commission's Penalty Policy: a) damage to resource; b) risk to resource; c) refusal to correct; d) violator should have known; e) number of violations of standard conditions; f) failure to meet deadlines. The gravity component can add an additional \$250-\$1000 per violation, and initiate daily fines.

Applicability to Violations:

1 & 2. Drilling Well and Installing Pump Without a Commission Permit: None. Obtaining permits is ultimately the responsibility of the contractor. There are conflicting views as to Mr. O'Connor's understanding of permit requirements.

3 & 4. Work by Unlicensed Contractor: (d) a licensed contractor would know the procedures for permitting, construction, and reporting, all of which have been improperly done in this case; a licensed driller could have prevented all these violations. Based on Mr. O'Connor's unwillingness to identify the driller, staff recommends a \$250 gravity component for both well construction and pump installation, which incurs daily fines. However, staff does not know how many days the contractor took to do the work.

5. Non-Conformance to Construction Standards: the testimony of a licensed driller as to the drill bit and casing size suggests that a grout seal would have been substandard. Furthermore, the depth of the well and the substandard casing material used indicate that a standard grout seal is unlikely. Given this the risk to the resource is high.

We have no direct evidence in this case of contamination, but there is also no counter evidence, while there are records of contaminants in this area due to past pineapple cultivation and testimony of Mr. Robertson for other wells nearby when he drills through the perched aquifer formation. An improperly constructed well has a high risk of contaminating the underlying aquifer. With neighboring well owners' water supply at risk, staff recommends an additional \$750 gravity component to the fine. Due to the risk to the resources, this component also incurs daily fines.

6 & 7. Lack of Acceptable Well Completion Reports: None. Well completion reports are ultimately the responsibility of the contractor. At this point, only the person who drilled the well can testify to the actual work done. Lastly, since this is a 'paperwork' violation, the basic fine component with daily fines for the late filing seems sufficient.

Mitigation Components: Six elements are outlined in the Commission's Penalty Policy:

- a) attempt to remedy without notice of violation;
- b) good faith effort to remedy after notice;
- c) diligence once notified;
- d) speedy compliance once notified;
- e) emergency considerations;
- f) insignificant risk to resource.

Applicability to Violations:

1 & 2. The well owner/applicant obtained a SMA permit from the Maui Planning Department, which approved the well. The applicant states that his SMA permit approval led him to believe that he had met all the requirements for constructing a well. The applicant has been cooperative with staff with the exception of naming the contractor who is ultimately responsible for obtaining permits.

Therefore, staff is applying a mitigation component of -\$250 to these violations due to the confusion of the SMA Permit and the contractor's responsibility to get these permits.

3 to 7. No additional mitigative components were made toward reducing the fine for these violations.

Duration Calculation: The duration component is determined according to the circumstances surrounding each type of violation. When compliance is speedy, the policy is to limit the duration exposure to fine to a single day minimum.

1 through 4) Well Construction and Pump Installation Without Permits and Work By an Unlicensed Contractor: Because there is no way to comply with these requirements after work has been completed, and despite a gravity component added to using an unlicensed contractor, staff recommends a single day duration for these violations.

5) Non-Conformance to Construction Standards: The danger and risk to the resource from this violation is ongoing and incurs a duration component. The duration is considered to be from the date of work to the date that a well completion report was filed. We know that work began at least by April 1, 2005, when the rig was noticed and staff received a call. DOCARE confirmed this on site on April 4. A well completion report was filed October 27, 2005, which is a measure of compliance. The duration period totals 209 days. The Commission can increase this duration if it so chooses.

6 & 7) Lack of Acceptable Well Completion Reports: The duration for this violation is considered to run from the expiration of 30 days' notice (specified in our letter as September 30, 2005) to the date of filing (October 27, 2005), 27 days. Had it been filed on time as specified, there would be only a one-day duration component. This violation does not weigh the merits of the information provided, but rather the effort to comply. The well completion reports are still deemed to have missing information, possible errors, and most importantly has no licensed contractor testifying to the work performed.

Summary of Recommended Fines:

1 & 2) Well Construction and Pump Installation Without Permits: Because the applicant may have an acceptable excuse for not pursuing the required permits, was cooperative, and responded to our notice in a timely way, the minimum fine of \$250 per day is recommended to be mitigated to \$0.

3 & 4) Work By an Unlicensed Contractor: The minimum fine plus gravity component equal \$500 in each of these two instances.

5) Non-Conformance to Construction Standards: At the minimum of \$250 plus \$750 gravity component, the total fine for this violation could be $209 \times \$1,000 = \$209,000$.

6 & 7) Lack of Acceptable Well Completion Reports: At the minimum fine of \$250, the total could be $27 \times \$250 = \$6,750$ in each of these two instances.

The sum of these totals for the seven violations is **\$223,500**.

Alternative Settlement: The penalty policy allows for an alternative settlement along with a minimum fine of \$500 per violation, in this case **\$2,500**. Staff time for processing, meetings, and field investigations has been estimated to equal this amount.

Regardless of any other outcome, the well must also be properly grouted to reduce the risk of ongoing and future perched water contamination from reaching the basal aquifer where it could spread to neighboring wells. Staff believes that the automatic consequence of illegal well drilling should be to have a licensed contractor seal the well. A permit would be required to do this work to ensure that proper sealing standards are followed.

In addition to the monetary component of this alternative settlement, the water from Well No. 5616-09 should be sampled and evaluated by a Department of Health approved or certified water quality laboratory. Staff has consulted DOH and recommends that an EPA regulated new source analysis, including Microscopic Particulate Analysis (MPA), be performed to address contamination issues at the site. If Well No. 5616-09 is found to have contaminants, staff will return to the Commission with further recommendations for actions.

RECOMMENDATION:

That the Commission:

A. Find Donald O'Connor in violation of :

1. HRS 174C-84, for 1) construction of a well and 2) installation of a pump and pumping equipment without required permits;
2. S 174C-82 & 86 and HAR 13-168-12, for 3) well construction by an unlicensed contractor, and 4) pump installation by an unlicensed contractor;
3. HRS 174C-82 & 86 and HAR 13-168-12 for 5) for not following the approved Hawaii Well Construction and Pump Installation Standards; and
4. HRS 174C-82 & 85, for 6 & 7) for failing to file acceptable well completion reports.

B. 1. Impose a fine of **\$223,500** for the violations in A, to be paid in 30 days. If the fine is not paid, daily fines shall continue for violation A.3. until the well is shown to contain no contaminants, as determined by the Department of Health, or is sealed by a licensed driller.

Or

2. Impose an alternative settlement for the violations in A, consisting of
 - a) a **\$2,500** fine and
 - b) require that water quality testing for EPA-regulated new source analysis, including MPA analysis, acceptable to the Department of Health, be completed, analyzed, and certified by a qualified independent lab, with results reported directly to Commission staff and to be shared with the Department of Health.

Based on the lab results, staff will return to the Commission with subsequent recommendations for action. Whatever the water quality testing reveals, staff shall notify and share results with well owners in the affected area accordingly.

C. Order Mr. O'Connor to identify the well driller so that staff can follow up on enforcement action with the driller. Failure to do so will result in further fines and enforcement actions.

- D. Forward a copy of the Commission's decision to the Department of Health Safe Drinking Water Branch and to DOCARE.
- E. Suspend any current, pending or future applications by the landowner until the fines are paid and the applicant/driller completes the permitting and remediation processes for this well.

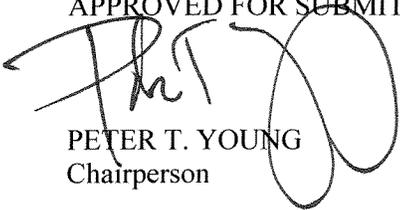
Respectfully submitted,


for DEAN A. NAKANO
Acting Deputy Director

Exhibit(s):

- 1. (Location Map)
- 2. (Well Completion Reports 1 & 2)
- 3. (Maui SMA Minor Permit)
- 4. (DOCARE Report)
- 5. (May 20, 2005 letter from Michael Robertson)
- 6. (May 26, 2005 NOV letter to Donald O'Connor)
- 7. (June 15, 2005 reply from Donald O'Connor)
- 8. (September 1, 2005 second letter to Donald O'Connor)
- 9. (November 7, 2005 acknowledgement of well completion reports)
- 10. (Staff field investigation notes for the record)
- 11. (Penalty Guideline)
- 12. (Penalty Calculation Sheet)

APPROVED FOR SUBMITTAL:


PETER T. YOUNG
Chairperson