April 20, 1992

Mr. William Paty, Chairman
Commission on Water Resource Management
Department of Land & Natural Resources
Division of Water Resources Management
State of Hawaii
P.O. Box 373
Honolulu, Hawaii 96809

ATTENTION: Ms. Rae M. Loui
Deputy Director

SUBJECT: WELL NO. 3957-01-KEOPU/PUUHONUA WELL
A&A JOB NO: HHI 91-01

REFERENCE: Well Construction Permit for Keopu Mauka/Puuhonua Well
Well No. 3957-01, Kailua-Kona, Hawaii dated Dec. 5, 1990

Dear Mr. Paty:

Please be informed that Haseko (Hawaii), Inc. has contracted KKRC Water Development JV to construct, pump test, and install a production well as per referenced permit and as approved by the Hawaii County Department of Water Supply.

Upon its completion and the construction of a proposed 0.3 million gallon reservoir, connecting pipeline, access road, and appurtenant work, subject well will be dedicated to the Hawaii County Department of Water Supply.

The expected well construction and pump installation schedule is as follows:

<table>
<thead>
<tr>
<th>Task:</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization:</td>
<td>15 April</td>
<td>1 May 92</td>
</tr>
<tr>
<td>Pilot Hole:</td>
<td>1 May</td>
<td>1 Aug</td>
</tr>
<tr>
<td>Pilot Hole Pumping:</td>
<td>5 Aug</td>
<td>15 Aug</td>
</tr>
<tr>
<td>Ream Well:</td>
<td>17 Aug</td>
<td>15 Nov</td>
</tr>
<tr>
<td>Casing:</td>
<td>16 Nov</td>
<td>1 Dec</td>
</tr>
<tr>
<td>Grouting:</td>
<td>1 Dec</td>
<td>14 Dec</td>
</tr>
<tr>
<td>Pump Install. &amp; Testing:</td>
<td>15 Dec</td>
<td>3 Jan 93</td>
</tr>
</tbody>
</table>

w/ File w/ construction report
The drilling contractor KKRC Water Development JV will be using a rotary air hammer for drilling the pilot hole. The open pilot hole will be pumped with a 200 to 300 gpm submersible pump. This test will then be used to establish completed depths, water quality, and for determining final pump depths and sizing. The second pumping test will be performed upon completion and cleaning of the well.

Waimea Water Services, Inc. will be coordinating the construction activities for Haseko (Hawaii), Inc. You may contact them at (1)885-5941 for any information. All field inspections should be coordinated through them.

We are enclosing two sets of contract construction plans and specifications for your use, information and files.

If there are any questions, please call the undersigned.

Very truly yours,

Robert Y. Akinaka
President

Enclosure

c.c. H. William Sewake (2 sets of contract plans & specifications)
    Waimea Water Services, Inc.
    Lin McIntosh
    Gordon Imata

RYA:cyk
CONTRACT DOCUMENTS
FOR
KEOPU MAUKA/PUUHONUA WELL
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING
AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

CONSTRUCTION SET
APR 11 1992
PREPARED FOR:
HASEKO (HAWAII), INC.
C/O WAIMEA WATER SERVICES
P.O. BOX 326
KAMUELA, HAWAII 96743

SPECIAL PROVISIONS
PREPARED BY:
WAIMEA WATER SERVICES
P.O. BOX 326
KAMUELA, HAWAII 96743
AND
AKINAKA & ASSOCIATES, LTD.
250 NORTH BERETANIA STREET, SUITE 300
HONOLULU, HAWAII 96817

APRIL, 1992
THE CONTRACT DOCUMENTS FORMING THE CONTRACT CONSIST OF:

I. BIDDING REQUIREMENTS:
   Instructions to Bidders
   Proposal

II. CONTRACT FORMS:
   Construction Contract
   Notice to Proceed Form
   Progress Payment Invoice Form
   Contract Change Order Form

III. CONDITIONS OF CONTRACT:
   General Conditions
   Special Provisions

IV. PLANS:
   Title Page
   Location Map
   Vicinity Map
   Site Plan
   Well Detail
   Grading Plan and Section
   Access Road Plan

ALL APPLICABLE SECTIONS OF THE FOLLOWING ARE INCORPORATED BY REFERENCE
(1 TO 7, INCLUSIVE):

1. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER
   1986, of the Departments of Public Works, County of Kauai, City and
   County of Honolulu, County of Maui, and County of Hawaii of the State of
   Hawaii. (Bound Separately)

2. WATER SYSTEM STANDARDS, VOLUME 1, DATED 1985, and APPROVED MATERIAL LIST
   AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION, VOLUME 2, 1985, of
   the Department of Water, County of Kauai, Board of Water Supply, City
   and County of Honolulu, Department of Water Supply, County of Maui,
   Department of Water Supply, County of Hawaii. (Bound Separately)

3. STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER, 1984, of the
   Department of Public Works, County of Kauai, City and County of
   Honolulu, County of Maui, and County of Hawaii, of the State of Hawaii.
   (Bound Separately)

4. PLUMBING CODE OF THE COUNTY OF HAWAII (Bound Separately)

5. UNIFORM BUILDING CODE OF THE COUNTY OF HAWAII (Bound Separately)
6. WELL CONSTRUCTION/PUMP INSTALLATION PERMIT to drill one well and install well pump at Tax Map Key: 7-5-01:01 (Third Division) at Honuaula, North Kona, Hawaii issued by the Department of Land and Natural Resources. (Bound Separately)

7. STATE WATER CODE, CHAPTER 174C OF THE HAWAII REVISED STATUES, MAY 1988. (Bound Separately)
I. BIDDING REQUIREMENTS
INSTRUCTIONS TO BIDDERS

QUALIFICATION OF BIDDERS:

Bids for this project will be accepted only from pre-qualified bidders who have been invited, in writing, by the Owner, Haseko (Hawaii), Inc. A bidder must have the required contractor's license in accordance with Chapter 444, Hawaii Revised Statutes, before he submits a proposal. Each bidder shall have been engaged in the business of constructing water test and production wells of the diameter, depth and capacity equivalent to the proposed well. Each prospective bidder shall be a licensed Contractor holding a current C-57 Well Drilling specialty license from the State of Hawaii and provide satisfactory evidence of licensing with the Bid. The license number shall be entered in the space provided at the end of the proposal.

ISSUANCE OF PLANS AND SPECIFICATIONS:

No Plans and Specifications will be issued to any subcontractor. Each bidder will be limited to five (5) sets of Plans and Specifications for the deposit of Twenty Dollars ($20.00) each. Bidders may obtain additional sets of prints and specifications for the costs of reproduction and handling.

RETURN OF PLANS AND SPECIFICATIONS BY BIDDER:

Should any bidder taking Plans and Specifications fail to return them intact and in good condition within thirty (30) days after the opening of bids, the deposit on said Plans and Specifications shall be forfeited to the Owner.

EXAMINATION OF SITE, DRAWINGS, ETC.:

Each bidder shall inspect the site and fully acquaint himself with the conditions relating to construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the Contract. Each bidder shall thoroughly examine and be familiar with the Plans and Specifications. The failure or omission of any bidder to examine any form, instrument, addendum, or other document or to visit the site and acquaint himself with conditions there existing shall in no way relieve any bidder from obligations with respect to his bid or to the Contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.
INTERPRETATION OF PLANS AND DOCUMENTS:

If any prospective bidder is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in or omissions from the Plans and Specifications, he may submit to the Owner a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by Addendum duly issued and a copy of each Addendum will be mailed or delivered to each person receiving a set of such Contract Documents. No oral interpretations of any provision in the Contract Documents will be made to any bidder. All requests shall be made by the bidder, and no requests from any subcontractor will be considered except through the general contractor.

ADDENDUM OR BULLETIN:

Any addendum or bulletin issued during the time of bidding or forming a part of the documents loaned to the bidder, for the preparation of his bid, shall be covered in the bid, and shall be deemed a part of the Contract.

FEES:

The prices bid shall include all the fees for all the necessary permits (grading, etc.) and also for any work or inspections to be done by government agencies as noted in the project specifications.

TAXES:

The prices bid shall include all taxes imposed by law, except taxes and assessments on the real property comprising the site of the work.

PREPARATION OF PROPOSAL:

Each bidder shall consider the cost of all work and material and allow for such cost under whatever items he considers appropriate. It is the intention of the Owner to secure a complete and proper performance of the Contract and each bidder must make his proposal with the understanding that the total cost of the completed project, with all incidental or implied work, materials, or other item of cost, is included in the Proposal.
ERASURES:
The bid submitted must not contain any erasures, interlineations, or other corrections unless each such correction is suitably authenticated by affixing in the margin immediately opposite the correction the initials of the person or persons signing the bid.

SIGNATURE MARKING:
The bid must be signed in the name of the bidder and must bear the signature in long hand, in ink, of a person or persons duly authorized to sign the bid. Each bid shall be enclosed with accompanying papers in a plain envelope securely sealed, bearing the name of the bidder and shall be marked:

BID: KEOPU MAUKA/PUUHONUA WELL
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

and shall be addressed to:

Haseko (Hawaii), Inc.
c/o Waimea Water Services
P.O. Box 326
Kamuela, Hi. 96743

EVIDENCE OF AUTHORITY OF SIGNER

When the proposal is signed by an agent, an officer or manager of a corporation or a member of a partnership, evidence of the authority of the signer(s) to submit a proposal and to enter a contract shall be submitted with the proposal.

WITHDRAWAL OF BIDS:

Any bidder may withdraw his bid, either personally or by written request, at any time prior to the scheduled closing time for receipt of bids. No bid may be withdrawn thereafter. The withdrawal of a bid shall not prejudice the right of a bidder to file a new bid.
AWARD OF CONTRACT:

The Owner reserves the right to accept, negotiate or reject any bid or all bids, waive any discrepancy in the proposal, and to accept the proposal deemed best in the interest of the Owner in its sole discretion.

The Owner reserves the right to hold all bids received until a contract is entered into with the successful bidder.

CONTRACT:

Any contract entered into shall, by reference, incorporate the provisions of all the Contract Documents, including General Conditions, Proposal, Specifications, Plans, Instruction to Bidders, Advertisement for Bids, Special Provisions, Contract, Contractor's Bond, including all modifications thereof incorporated into the Documents before their execution.

In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order: Contract, Instructions to Bidders, Special Provisions, General Conditions, Plans, Detailed Specifications, Standard Details, and Standard Specifications.

The form of Contract which the successful bidder, as Contractor, will be required to execute, is included in the Contract Documents and will be executed in six (6) original counterparts. The Contractor whose bid is accepted will be required to sign a contract within fifteen (15) days of being notified that his bid has been accepted.

TIME OF COMPLETION:

Time will be of the essence for the completion of the Contract and the successful bidder shall agree to complete the work within the number of consecutive calendar days specified in the Proposal after the effective date of the Notice to Proceed.

LIQUIDATED DAMAGES:

The Contract with the successful bidder will require that it be mutually understood and agreed between the parties to the Contract that time shall be an essential part of the Contract and that in case of failure of the Contractor to complete his Contract within the time specified and agreed upon, the Owner will be damaged thereby; and the amount of said damages shall be agreed upon and fixed at the sum specified in the Proposal for each and every

INSTRUCTIONS TO BIDDERS 4

3/30/92
calendar day the Contractor shall delay in the completion of the work; and the Contractor shall agree to pay the Owner, as liquidated damages, such total sum as shall be due for such delay, computed as aforesaid, and this sum shall be deducted from any payment due or to become due to the Contractor. Completion of the work earlier than the contract time shall not be a reason for the Contractor to claim additional compensation.

COORDINATION OF WORK WITH OTHERS:

Where other work and the work required by this Contract are in close proximity or occupy the same area, the Contractor shall be responsible for proper coordination of his activities with the work of others to result in the most economical and expeditious completion of the project.

Wherever a conflict of work occurs, the Contractor shall prepare an acceptable schedule and drawings showing the plan of operations, and he shall submit the same for the approval of the Owner at least fourteen (14) days prior to the date required for starting any part of the conflicting work. Work shall not commence until the plan of operation has been approved in writing by the Owner.

INDEMNITY:

The Contractor shall assume all risks associated with its execution of the work under this Contract and shall protect and indemnify the Owner, the Owner’s agents, consulting engineers and employees and the Landowner, the Landowner’s agents and employees against any liens, loss, damage or expenses, including attorneys fees, suffered by anyone arising through the sole or concurrent negligence of the Contractor, its sub-contractors, agents or servants’ performance of the work described in these Contract Documents.

LIMITATION OF LIABILITY:

The Contractor and his subcontractors are skilled and experienced in the use and interpretation of plans and specifications such as those included in the bid documents for this Contract. They have carefully reviewed the plans and specifications and have found them free of ambiguities and sufficient for bid purposes. Further, they have based their bid solely on those documents, not relying in any way on any explanation or interpretation, oral or written, from any other source. Having assured himself of the adequacy of the documents and the accuracy of his bid, the Contractor agrees and shall require his subcontractors to agree to limit the liability of the Engineer and the Owner and the Landowner for negligence, errors or omission of the Engineer to a total aggregate sum of $50,000 or 5% of the Contract amount whichever is greater. The Contractor and his subcontractors do not assume any liability for damages to others caused by the negligence, errors or omissions of the Engineer.
PROPOSAL

FOR

KEOPU MAUKA/PUUHONUA WELL
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING
AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

____________________, 1992

Gentlemen:

The undersigned, has, carefully examined the local conditions affecting the cost of the above listed projects at the places where the work is to be done, has carefully examined the Plans and Specifications and other Contract Documents and, hereby proposes to furnish and pay for all material, tools, equipment, labor and do all appurtenant and incidental work required and called for, all according to the true intent and meaning of the Plans and Specifications, and other Contract Documents and will fully complete all the work as authorized by the Owner's Written Notice to Proceed for:

KEOPU MAUKA/PUUHONUA WELL
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING
AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

all for a total sum of ___________________ _ DOLLARS ($ ),

and to fully complete all the work under this contract within two hundred forty (240) consecutive calendar days.

The total sum being itemized in Unit Price Bids shown as Items 1 to 15 inclusive, as follows:
KEOPU MAUKA/PUUHONUA WELL
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING
AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

The undersigned also agrees as follows:

1. It is understood and agreed that the unit prices bid in the proposal include all material, equipment, tools, labor and all incidentals necessary for the completion of the work covered in the proposal.

2. It is also understood and agreed that the estimated quantities shown for items for which a unit price is asked in this proposal are only for the purpose of comparing bids offered for the work under this Contract on a uniform basis.

3. It is further understood that the quantities shown in the proposal shall be used as a guide in the preparation of bids. The Contractor shall be responsible for his own takeoff of quantities for his bid.

4. It is also understood and agreed that he will make no claim for anticipated profit or loss of profit because of a difference between the quantities of the various classes of work done or the materials and equipment actually installed and the said estimated quantities.

5. It is also understood and agreed that all items are lump sum bid items except for contingent items which shall be measured and paid for as specified under SPECIAL PROVISIONS SECTION SP-16.

6. It is also understood and agreed that the bids will be compared on the basis of the total sum bid for all items contained in the proposal.

7. It is also understood and agreed that the Owner reserves the right to accept or reject any or all bids, to waive all defects therein, and to select a bid, which is not the lowest bid.

8. It is also understood and agreed that if the product of the unit price bid by the number of units does not equal the total amount named by a bidder of any item, it will be assumed that the error was made in computing the total amount and for the purpose of computing the lowest bidder, the named unit price alone will be considered as representing the bidder's intention and the total amount bid on such item shall be considered to be the amount arrived at by multiplying the unit price by the number of units.
9. It is also understood and agreed that the Contractor will do extra work not covered by this Proposal which may be ordered by the Owner, and will accept as full compensation therefor such prices as may be agreed upon by the Owner and the Contractor.

10. It is also understood and agreed that the work will begin within fifteen (15) calendar days from the effective date of the Notice to Proceed and that the time of completion for the project shall be two hundred forty (240) consecutive calendar days after the effective date of the Notice to Proceed.

11. It is also understood and agreed that liquidated damages in the amount of Two Hundred Fifty Dollars ($250.00) will be assessed against the Contractor for each and every calendar day of delay in the completion of the Contract.

12. It is also understood that if any bid is accepted, the undersigned agrees to furnish within ten (10) calendar days of the date of Notice of Award, or by such other date as may be acceptable to the Owner, a Performance Bond and Labor and Materialmen Payment Bond in the form and with a Surety satisfactory to the Owner in an amount not less than one hundred percent (100%) of the Contract price to guarantee faithful performance upon execution of the Contract.

Enclosed herewith is a certified check or its equivalent for the sum of ________________ DOLLARS ($______________), which is not less than five percent (5%) of the total sum bid(s). The undersigned agrees that said check or its equivalent shall be forfeited to the Owner if the undersigned shall fail to execute the Contract in conformance with these Contract Documents.

NAME OF FIRM ___________________________ AUTHORIZED REPRESENTATIVE

OFFICIAL ADDRESS ___________________________

TELEPHONE NUMBER _________________________ CONTRACTOR'S LICENSE NO.

PROPOSAL ___________________________ P-3 4/6/92
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L.S.</td>
<td>Mobilization, including necessary site grading and access road</td>
<td>Lump Sum</td>
<td>$</td>
</tr>
<tr>
<td>2</td>
<td>1706 Lin. Ft.</td>
<td>Drilling 10-inch minimum diameter pilot borehole (Contingent Item)</td>
<td>Per Lin. Ft.</td>
<td>$</td>
</tr>
<tr>
<td>3</td>
<td>L.S.</td>
<td>Obtaining representative water samples</td>
<td>Lump Sum</td>
<td>$</td>
</tr>
<tr>
<td>4</td>
<td>L.S.</td>
<td>Furnishing and installing design pump equipment to pump at 200 gpm and subsequent removal of pumping equipment</td>
<td>Lump Sum</td>
<td>$</td>
</tr>
<tr>
<td>5</td>
<td>L.S.</td>
<td>Perform video survey of borehole</td>
<td>Lump Sum</td>
<td>$</td>
</tr>
</tbody>
</table>

**SUB-TOTAL PHASE I** *(ITEMS 1 TO 5)*

$
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated Quantity</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PHASE II - WELL CONSTRUCTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1706</td>
<td>Lin. Ft., Ream pilot borehole to 20-inch minimum diameter (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>Lin. Ft., Drilling 13-inch diameter open hole below cased section of well using Cable tool method (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1676</td>
<td>Lin. Ft., Furnishing and installing 14-inch minimum I.D., 0.375 inch thick, solid well casing conforming to ASTM 139 Grade B, including cement basket (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>30</td>
<td>Lin. Ft., Furnishing and installing 14-inch minimum I.D., 0.315 inch thick, perforated casing conforming to ASTM 242-75, including welded shoe (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>18</td>
<td>Lin. Ft., Rock packing the annular space, including 10-feet of grout above basket (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1648</td>
<td>Lin. Ft., Cement-grouting the annular space (Contingent Item)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Per Lin. Ft. $ _________ $ _________</td>
<td></td>
<td></td>
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PROPOSAL P - 5 r4/8/92
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated No.</th>
<th>Description</th>
<th>Unit Quantity</th>
<th>Price</th>
<th>Total</th>
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<tbody>
<tr>
<td>12</td>
<td>L.S.</td>
<td>Furnishing, installing and subsequent removal of pumping test equipment</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>capable of 700 gpm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Lump Sum</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>Each, Furnishing, installing and subsequent removal of pumping test equipment</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(for subsequent tests if required) (Contingent Item)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Per Each</strong> $ __________ $ __________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>150</td>
<td>Hours, Development and Test Pumping (Contingent Item)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Per Hour</strong> $ __________ $ __________</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**SUB-TOTAL PHASE II**

(ITEMS 6 TO 14)

**PHASE III - DEMOBILIZATION**

<table>
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<th>Item No.</th>
<th>Estimated No.</th>
<th>Description</th>
<th>Unit Quantity</th>
<th>Price</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>15</td>
<td>L.S.</td>
<td>Demobilization</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Lump Sum</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUB-TOTAL PHASE III**

(ITEM 15)

PROPOSAL

P - 6

r4/8/92
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Estimated No. Quantity</th>
<th>Description</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTALS:**

**SUB-TOTAL PHASE I (ITEMS 1 TO 5)**  

**SUB-TOTAL PHASE II (ITEMS 6 TO 14)**  

**SUB-TOTAL PHASE III (ITEM 15)**  

**TOTAL LUMP SUM BID PRICE FOR WELL NO. 3957-01 (ITEMS 1 TO 15, INCLUSIVE)**  

$
II. CONTRACT FORMS
CONSTRUCTION OF WELL NO. 3957-01
DRILLING, CASING AND TESTING
AT
HONUAULA, NORTH KONA, HAWAII
TMK: 7-5-01:01 (THIRD DIVISION)

CONSTRUCTION CONTRACT

THIS AGREEMENT, hereinafter referred to as the "Construction Contract"
made and entered into this __________ day of ______________ 1992,
between Haseko (Hawaii), Inc., a Hawaii Corporation, whose address is 820
Mililani Street, Suite 820, Honolulu, Hawaii 96813 hereinafter referred to as
"Owner" and ________________________________

(Contractor's License No. ) located at ________________________________

hereinafter referred to as "Contractor", agree as follows:

FIRST: The Contractor, for and in consideration of the payment of

_________________________ such payment

(as adjusted by the contingent items within the proposal) to be made to the
Contractor as hereinafter provided, shall furnish all plant, labor, technical
and professional services, supervision, materials and equipment, other than
such materials and equipment as may be specified to be furnished by the Owner,
and perform all operations necessary and required to drill, case and test one
depthwell per plans and specifications entitled "KEOPU MAUKA/PUUHONUA WELL;
CONSTRUCTION OF WELL NO. 3957-01; DRILLING, CASING AND TESTING;" in strict
conformity with the terms and conditions of this Construction Contract, which include:

All contract documents as defined in Article 2 of the General Conditions of this Construction Contract, which documents are by this reference incorporated herein and made a part thereof.

SECOND: The Owner, in consideration of the Contractor's performance in accordance with the Construction Contract, will pay to the Contractor compensation in the manner and upon the conditions set forth in the Construction Contract. The Contractor will commence work within fifteen (15) calendar days after the effective date of the Owner's written Notice to Proceed, a copy of which is attached hereto as EXHIBIT "A" and by this reference made a part hereof, and shall complete all work under this Construction Contract within two hundred forty (240) calendar days from the effective date of such Notice to Proceed. It is hereby agreed by the parties hereto that the Contractor shall not commence any work under this Construction Contract until the said effective date.

Time is of the essence. Should the Contractor fail to complete any part or all of the work under this Construction Contract within the time specified above, and as such time as may be extended in accordance with Article 3 of the General Conditions, the Owner will suffer damage, the amount of which is difficult if not impossible to ascertain, and the Owner shall, therefore, be entitled to TWO HUNDRED FIFTY DOLLARS ($250.00) per calendar day as liquidated damages for each calendar day or part thereof that substantial completion extends beyond the date specified in the Contract Documents and
as so extended in accordance with such Article 3 of the General Conditions. It is understood that liquidated damages shall not be due and owing to the Owner in the event the Owner issues to the Contractor, the Owner’s Acceptance Letter prior to the date set forth in the Contract Documents. The Contractor shall request payment by submittal of Progress Payment Invoices, a copy of which is attached hereto as EXHIBIT "B".

THIRD: No oral agreement or conversation with any representative of the Owner, either before or after execution of this Construction Contract, shall affect or modify any of the terms or obligations herein contained. Changes in work shall be executed by the Contractor upon mutual agreement and signature of the contracting parties of a Contract Change Order, a copy of which is attached hereto as EXHIBIT "C".

FOURTH: This Construction Contract, notwithstanding any other provisions to the contrary, is conditioned upon and subject to the delivery by the Contractor to the Owner of a Performance and Labor and Material Payment Bond each in the full amount of the price of this Construction Contract, issued by a Surety approved by the Owner. Failure of the Contractor to deliver these said bond(s) to the Owner within ten (10) days herefrom will at the Owner’s option render this Construction Contract null and void.
This Construction Contract, as defined herein, and EXHIBITS "A", "B" and "C" constitute the entire agreement between the parties hereto and no changes alterations or modifications hereof shall be effective unless in writing and signed by the parties hereto.

DATED: ____________________________, 19____.

Contractor: ____________________________

By______________________________

Its

Haseko (Hawaii), Inc.

By______________________________

Henry K. Sheldon
Its Senior Executive Vice-President
EXHIBIT "A"

Date:

Subject: NOTICE TO PROCEED

Gentlemen:

This letter is your Notice to Proceed with work contracted for in the Construction Contract between ___________ and ___________ for the "Keopu Mauka/Puuhonua Well, Construction of Well No. 3957-01; Drilling, Casing and Testing at Honuaula, North Kona, Hawaii TMK: 7-5-01:01 (Third Division).

The effective date of this Notice to Proceed is ________________.

Very truly yours,

Haseko (Hawaii), Inc.

By ____________________

Its
PROGRESS PAYMENT INVOICE

EXHIBIT "B"

TO: ____________________________

FROM: ____________________________

Project Name: ____________________________

Invoice No. ____________________________ Payment No. ________ Date__________

SUMMARY OF CONTRACT

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Original Contract Amount</td>
<td>$______________</td>
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</tr>
<tr>
<td>Change Orders:</td>
<td>Additions</td>
<td>Deductions</td>
</tr>
<tr>
<td>$______________</td>
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</tr>
<tr>
<td>(2) Total Change Orders:</td>
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<tr>
<td>(3) Revised Contract Amount</td>
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<td>(5) Total Payments Received</td>
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<td>(6) Total Retention Held</td>
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</tr>
</tbody>
</table>

APPLICATION FOR PAYMENT

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(7) Estimated Amount of Work Completed to Date</td>
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<td></td>
</tr>
<tr>
<td>(8) Previous Estimate of Work Completed</td>
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</tr>
<tr>
<td>(9) Work Accomplished in Current Period</td>
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<tr>
<td>(10) Less Retention Held (10%)</td>
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</tr>
<tr>
<td>(11) Amount of this Invoice</td>
<td>$______________</td>
<td></td>
</tr>
</tbody>
</table>

CODE & AMOUNT

REVIEWED AND RECOMMENDED FOR PAYMENT: APPROVED FOR PAYMENT:

By__________________________________________ By__________________________________________

Waimea Water Services Date Haseko (Hawaii), Inc. Date

Check #____________Date Paid____________

PROGRESS PAYMENT INVOICE FORM -1- 3/30/92
CONTRACT CHANGE ORDER NO. ____________  EXHIBIT "C"

Project: KEOPU MAUKA/PUUHONUA WELL; CONSTRUCTION OF WELL NO. 3957-01; DRILLING, CASING AND TESTING

Owner: Haseko (Hawaii), Inc.

It is hereby mutually agreed that when this Change Order has been signed by the contracting parties, the following changes in the work shall be executed by the Contractor in accordance with the Contract Documents without changing the terms of the Construction Contract except as herein stipulated and agreed. Unless this Change Order includes a change in price or time, such claim will be deemed permanently waived for the work covered by this Change Order.

Description of Change:

=================================================================================
Total of Change Order No. ____________

A. Price for Change
   ADD $__________
B. Change in completion date

Statement of Contract Amount

Original Contract Amount: $__________
Previous Change Orders: 
Total: 
This Change Order: ADD 
Revised Contract Amount: 

Statement of Completion Date:

Original Contract Completion Date: 
Total Days added/subtracted per previous Change Orders: 
Completion date prior to this Change Order: 
Days added/subtracted this Change Order: 
Revised Contract Completion Date: 

Signatures:

Waimea Water Service
Reviewed and Approved by: ___________________________ Date: ________

Haseko (Hawaii), Inc.
Approved: ___________________________ Date: ________

Contractor:
Approved: ___________________________ Date: ________

contract change order form -1- 3/30/92
III. CONDITIONS OF CONTRACT
# Index

<table>
<thead>
<tr>
<th>Article Number</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Scope of Work</td>
<td>GC-1</td>
</tr>
<tr>
<td>2</td>
<td>Contract Documents</td>
<td>GC-1</td>
</tr>
<tr>
<td>3</td>
<td>Starting and Completion Dates, Delays and Extension of Time</td>
<td>GC-1-2</td>
</tr>
<tr>
<td>4</td>
<td>Contract Price</td>
<td>GC-2-4</td>
</tr>
<tr>
<td>5</td>
<td>Definitions</td>
<td>GC-5-6</td>
</tr>
<tr>
<td>6</td>
<td>Liens--Indemnifications of Owner--Owner’s Rights</td>
<td>GC-6</td>
</tr>
<tr>
<td>7</td>
<td>Termination with Cause</td>
<td>GC-6-7</td>
</tr>
<tr>
<td>8</td>
<td>Termination without Cause</td>
<td>GC-7-8</td>
</tr>
<tr>
<td>9</td>
<td>Arbitration</td>
<td>GC-8</td>
</tr>
<tr>
<td>10</td>
<td>Owner’s Right to Suspend Performance of the Work</td>
<td>GC-8-9</td>
</tr>
<tr>
<td>11</td>
<td>Interpretation of Contract Documents</td>
<td>GC-9-10</td>
</tr>
<tr>
<td>12</td>
<td>Drawings and Specifications Furnished by Owner or by Contractor</td>
<td>GC-10-11</td>
</tr>
<tr>
<td>13</td>
<td>Shop Drawings</td>
<td>GC-11-12</td>
</tr>
<tr>
<td>14</td>
<td>Samples</td>
<td>GC-12</td>
</tr>
<tr>
<td>15</td>
<td>Quality of Materials and Workmanship</td>
<td>GC-12</td>
</tr>
<tr>
<td>16</td>
<td>Shipment of Materials</td>
<td>GC-12-13</td>
</tr>
<tr>
<td>17</td>
<td>Owner’s Right to Have Materials Stored or Moved</td>
<td>GC-13</td>
</tr>
</tbody>
</table>

*Delete all references to Supplemental Conditions (SC).*

General Conditions Index -1- 3/03/92
<table>
<thead>
<tr>
<th>ARTICLE NUMBER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>SUBSTITUTION OF PRODUCTS</td>
<td>GC-13</td>
</tr>
<tr>
<td>19</td>
<td>DEFECTIVE WORK BEFORE FINAL ACCEPTANCE</td>
<td>GC-14</td>
</tr>
<tr>
<td>20</td>
<td>DEFECTIVE WORK AFTER FINAL ACCEPTANCE</td>
<td>GC-14</td>
</tr>
<tr>
<td>21</td>
<td>OWNER'S RIGHT TO CHANGE THE SCOPE OF THE WORK</td>
<td>GC-14-16</td>
</tr>
<tr>
<td>22</td>
<td>COOPERATION AT THE WORKSITE - COORDINATION OF WORK</td>
<td>GC-16-17</td>
</tr>
<tr>
<td>23</td>
<td>OWNER'S INSPECTION OF COMPLETED WORK - TESTS</td>
<td>GC-17</td>
</tr>
<tr>
<td>24</td>
<td>CONTRACTOR'S DUTIES AT THE WORKSITE</td>
<td>GC-17-18</td>
</tr>
<tr>
<td>25</td>
<td>CONTRACTOR'S CARE OF ITS WORK AND THE WORKSITE</td>
<td>GC-18-20</td>
</tr>
<tr>
<td>26</td>
<td>CONTRACTOR'S DUTIES FOR THE SAFETY OF PERSONS AND PROPERTY</td>
<td>GC-20-21</td>
</tr>
<tr>
<td>27</td>
<td>INDEPENDENT CONTRACTOR RELATIONSHIP</td>
<td>GC-21-22</td>
</tr>
<tr>
<td>28</td>
<td>CONTRACTOR'S SUPERINTENDENT AND EMPLOYEES</td>
<td>GC-22</td>
</tr>
<tr>
<td>29</td>
<td>CONTRACTOR'S SCHEDULE OF ACTIVITIES</td>
<td>GC-22-23</td>
</tr>
<tr>
<td>30</td>
<td>CONTRACTOR'S SUBCONTRACTORS</td>
<td>GC-24</td>
</tr>
<tr>
<td>31</td>
<td>PERMITS AND COMPLIANCE WITH LAWS</td>
<td>GC-24-25</td>
</tr>
<tr>
<td>32</td>
<td>OWNER'S RIGHT TO OCCUPY</td>
<td>GC-25</td>
</tr>
<tr>
<td>33</td>
<td>CONSTRUCTION SIGNS</td>
<td>GC-25</td>
</tr>
<tr>
<td>34</td>
<td>CUTTING, FITTING AND PATCHING</td>
<td>GC-25-26</td>
</tr>
<tr>
<td>35</td>
<td>PATENT HOLD HARMLESS - ROYALTIES</td>
<td>GC-26</td>
</tr>
<tr>
<td>36</td>
<td>CONTRACTOR'S RESPONSIBILITIES, INDEMNIFICATION OF OWNER</td>
<td>GC-26-27</td>
</tr>
<tr>
<td>37</td>
<td>CONTRACTOR'S INSURANCE</td>
<td>GC-27-28</td>
</tr>
<tr>
<td>38</td>
<td>ASSIGNMENT OF CONTRACT DOCUMENTS</td>
<td>GC-29</td>
</tr>
<tr>
<td>39</td>
<td>PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND</td>
<td>GC-29</td>
</tr>
</tbody>
</table>

GENERAL CONDITIONS INDEX -2- 3/30/92
<table>
<thead>
<tr>
<th>ARTICLE NUMBER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>OWNER'S REPRESENTATIVE</td>
<td>GC-29</td>
</tr>
<tr>
<td>41</td>
<td>UTILITIES AND SERVICES FURNISHED BY OWNER</td>
<td>GC-29</td>
</tr>
<tr>
<td>42</td>
<td>UTILITY SERVICES</td>
<td>GC-29-30</td>
</tr>
<tr>
<td>43</td>
<td>FINAL ACCEPTANCE</td>
<td>GC-30-31</td>
</tr>
<tr>
<td>44</td>
<td>NOTICE OF COMPLETION</td>
<td>GC-31</td>
</tr>
<tr>
<td>45</td>
<td>CERTIFICATE OF OCCUPANCY</td>
<td>GC-32</td>
</tr>
<tr>
<td>46</td>
<td>ENGINEER</td>
<td>GC-32-33</td>
</tr>
<tr>
<td>47</td>
<td>CONFIDENTIAL INFORMATION</td>
<td>GC-33</td>
</tr>
<tr>
<td>48</td>
<td>MODIFICATION OF THE CONTRACT DOCUMENTS</td>
<td>GC-33</td>
</tr>
<tr>
<td>49</td>
<td>SUCCESSORS AND ASSIGNS</td>
<td>GC-33</td>
</tr>
</tbody>
</table>

GENERAL CONDITIONS INDEX -3- 3/30/92
GENERAL CONDITIONS

ARTICLE 1. SCOPE OF WORK

1.1 Contractor agrees to do, furnish and pay for all labor, supervision, skill, materials, taxes, tools, utilities, temporary facilities, transportation, transportation expenses F.O.B. to Worksite, machinery, equipment, supplies, facilities, services, apparatus, scaffolds, and any and all other things necessary to construct, install and complete the Project strictly in accordance with and as expressly required by or reasonably implied from the Contract Documents and to Owner's reasonable satisfaction.

ARTICLE 2. CONTRACT DOCUMENTS

2.1 The following collectively constitute the Contract Documents, whether prepared before or after the signing of the attachment or by reference, viz; the Notice to Bidders, if any; the Instructions to Bidders, if any; the Construction Contract; these General Conditions and Special Provisions and Specifications; Construction Drawings (Plans) and Approved Drawings prepared by Contractor, if any; Approved Drawings as shown on schedule initially by Owner and Contractor; and formal Amendments, Addenda, Bulletins, Notices and Orders, if any.

ARTICLE 3. STARTING AND COMPLETION DATES, DELAYS AND EXTENSION OF TIME

3.1 Contractor agrees to commence performance of the Work and complete the entire Work as stipulated under the signed Construction Contract.

3.2 Contractor agrees to perform all its duties and obligations required by the Contract Documents so that others will not be delayed, obstructed or hindered. Where Owner's approval is required before Contractor may proceed with performance, Contractor shall request such approval sufficiently in advance of the performance date so that Owner's approval will not delay performance of the Work and will not delay the progress of the Project, including the work of others.

3.3 Contractor shall not be responsible for delays caused by acts of God, strikes or by other unavoidable causes wholly beyond its control. Failure to obtain men, materials or equipment, unless directly caused by the outbreak of a war or a strike, shall not be an unavoidable cause wholly beyond Contractor's control. Time is of the essence of Contractor's performance dates. Owner acknowledges that Contractor contemplates five (5) days of lost work due to unusually inclement weather. Loss of time in excess of such five (5) days due to unusually inclement weather shall be the subject of an extension claim.
3.4 In the event Contractor is delayed, obstructed or hindered in the prosecution or completion of the Work by Owner which is not otherwise permitted by the Contract Documents or by law, or by any other Contractor, or by any unavoidable cause defined in Article 3.3, then, except as provided in Article 7.1, the time for completion shall be extended for a period equal to the period of working days lost, as determined by Owner. No extension shall be granted unless a claim therefor is presented in writing to Owner within seven (7) calendar days after the start of such delay. Furthermore, Contractor shall notify Engineer within twenty-four (24) hours of the time any condition or instance becomes apparent that might cause or become reason for a claim for time extension.

3.5 Contractor hereby releases Owner from any claim for damages, direct, incidental, or consequential, and for additional costs on account of any delay, which is not the fault of Contractor or its sub-contractors or materialmen, except as provided for in Article 10.1, whether or not described in Articles 3.3 and 3.4. Such delay shall allow Contractor to request an extension of the Completion Date. This provision shall not be construed to prohibit Contractor from seeking recovery of damages from any other contractor.

ARTICLE 4. CONTRACT PRICE

4.1 As sole consideration for Contractor’s promises and for Contractor’s performance of the Work strictly in accordance with the Contract Documents and to Owner’s reasonable satisfaction, Owner agrees to pay, and Contractor agrees to accept as full payment, the amount (Contract Price) stipulated in the signed Construction Contract.

4.2 The Contract Price shall be paid as follows: By the first day of each month, Contractor shall submit to Owner a written request for Progress Payment using the form attached to the Construction Contract and identified as EXHIBIT "B", which, among other things, shall contain as estimate of the percent of all the Work performed and for materials delivered to the jobsite or to other locations previously approved by Owner and stored and safeguarded in a manner acceptable to Owner during the preceding month and a job order breakdown of the preceding month’s costs. Within twenty (20) days after receipt, Owner shall pay to Contractor an amount ("Progress Payment") equal to ninety percent (90%) of that percentage of the Contract Price that the Work completed and materials so delivered, stored and safeguarded during the preceding month bears to the Total Work. The final ten percent (10%) ("Final Payment") will be paid forty-seven (47) days after completion of the publication of notice of completion in accordance with Section 507-43, Hawaii Revised Statutes, as amended.
4.3 The Contract Price shall be subject to increase or decrease solely as provided, in Article 21 or by the provisions of a lump sum incentive type contract, if the same is used.

4.4 Contractor, with respect to the Work, as defined herein, agrees to indemnify, defend and hold harmless Owner against liability for and the payment of the following:

1. All contributions, taxes and premiums required by law measured by the payroll of persons performing the Work, and

2. All sales, use or other taxes assessed against Owner, Contractor or its subcontractors arising out of the Work, including but not limited to taxes on any kind of building materials, supplies or equipment furnished by Contractor.

4.5 Any Progress Payment and any partial or entire use of occupancy of any part of the Work by Owner shall not constitute Final Acceptance of the Work, and shall not constitute a waiver by Owner of any of its rights under the Contract Documents. Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. Consent of Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, Owner, Contractor and Engineer shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

4.6 Contractor's acceptance of all or part of the Final Payment shall operate as a release of Owner from any and all claims and liability to Contractor for any act or omission of Owner relating to the Work and for anything Owner performed or furnished or failed to perform or furnish to Contractor under the Contract Documents; provided, however, that Contractor retains its claim against Owner for the unpaid portion, if any, of the Contract Price.

4.7 Engineer may decide not to approve a payment request and may withhold approval of payment in whole or in part, to the extent necessary to protect Owner and Owner shall have the right to withhold any Progress Payment and/or the Final Payment to protect Owner from loss because of any of the following reasons:
1. Owner has not received Contractor's monthly estimate, or Owner, in good faith, disagrees with Contractor's estimate of the percent of all the Work performed during the preceding month;

2. Owner, in good faith, believes part of the Work is defective as provided by Article 19; or Contractor has failed to perform any duty or obligation required by the Contract Documents;

3. Legal action has been taken or is threatened to be taken to enforce a claim(s) against Owner, Contractor, or its subcontractors arising out of the Work, or the Contract Documents;

4. Contractor has failed to make prompt and satisfactory payments for labor or to subcontractors or materialmen who performed any part of the Work.

5. Damage has occurred to Owner or other contractors arising out of the Work.

6. There is reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price.

4.8 If Engineer, on behalf of the Owner, or Owner withholds any Progress Payment and/or the Final Payment for any of the above reasons, Engineer or Owner will notify Contractor in writing of the cause(s) for such withholding. If, within seven (7) days after receipt of such notice, Contractor eliminates or disposes of the cause(s) for the withholding or gives evidence that the claim(s) is covered by insurance satisfactory to Owner, Owner will pay to Contractor the amount withheld. If Contractor has not removed the cause(s) of the withholding seven (7) days after it receives notice of the withholding from Engineer or Owner, Owner may take whatever action it deems necessary to remove or dispose of the cause(s) for the withholding.
ARTICLE 5. DEFINITIONS

5.1 The term "Changed Work" shall mean Work which is deleted or omitted from or different from the original scope of the Work.

5.2 The term "Defective Work" shall mean any part of the Work which is not performed strictly in accordance with the Contract Documents and Owner's reasonable satisfaction.

5.3 The term "Engineer" shall mean the appointed representative of the Owner. The Engineer will provide interpretation of the Construction Contract as described in the Contract Documents. The Engineer will advise and consult with the Owner. The Engineer will have authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by writing in accordance with other provisions of the Construction Contract. Nothing contained in the Contract Documents shall create any contractual relationship between the Engineer and Contractor.

5.4 The term "Extra Work" shall mean Work which is extra or additional to the original scope of the Work.

5.5 The term "Final Acceptance" shall mean and shall occur at the time when Contractor receives Owner's letter of Final Acceptance and/or Final Payment.

5.6 The term "Landowner" shall mean Komo Brothers Partners, or its successors and assigns.

5.7 The term "Materials" shall mean any tangible item to be incorporated into the Work, including but not limited to all materials, equipment, machinery, parts and supplies, and, unless otherwise stated, whether furnished by Contractor, or its subcontractors or materialmen, or by others.

5.8 The term "Others" shall mean Owner, other contractors and all persons at Worksite who are not required to perform Work.

5.9 The term "Owner" shall mean Haseko (Hawaii), Inc. or its authorized representative.

5.10 The term "Project" shall mean the Keopu Mauka/Puuhonua Well; Construction of Well No. 3957-01; Drilling, Casing and Testing at Honuaula, North Kona, Hawaii, TMK: 7-5-01:01.

5.11 The term "Samples" shall mean physical examples furnished by Contractor for the purpose of illustrating materials, equipment, appliances, finishes, workmanship or other features.

5.12 The term "Shop Drawing(s)" shall mean drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

GENERAL CONDITIONS GC-5 4/6/92
5.13 The term "Substantial Completion of the Work" or "Date of Substantial Completion of the Work" or designated portion thereof is the date or time certified by the Engineer when construction is sufficiently complete, in accordance with Contract Documents, so Owner may occupy the Work or designated portion thereof for the use for which it is intended.

5.14 The term "Supplies" shall mean any tangible item, not to be incorporated into the Work, which is used to perform the Work or is necessary to perform the Work.

5.15 The term "Surety" shall mean the corporation that has issued a performance and labor and material payment bond for the Project.

5.16 The term "Work" shall mean the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

5.17 The term "Worksite" shall mean the geographical area at the location mentioned in Article 5.10 wherein the Work is performed.

ARTICLE 6. LIENS--INDEMNIFICATIONS OF OWNER - OWNER'S RIGHTS

6.1 Contractor shall assume all risks associated with its execution of the work under this Contract and shall protect and indemnify Owner, Owner's agents, consulting engineers and employees, Landowner, Landowner's agents and employees against any liens, loss, damage or expenses, including attorneys fees, suffered by any one arising thorough the sole or concurrent negligence of Contractor, its sub-contractors, agents or servants performance of the work described in these Contract Documents.

ARTICLE 7. TERMINATION WITH CAUSE

7.1 Should Contractor at any time fail to perform any part of the Work or fail to perform any obligation or duty required by the Contract Documents, strictly in accordance with the Contract Documents and to Owner's reasonable satisfaction, or make a general assignment for the benefit of creditors, or become insolvent, or if a receiver is appointed for Contractor or for its assets, or if reorganization or arrangement proceedings by or against Contractor is approved by a court, Owner shall give ten (10) days written notice to Contractor and Surety of default. Whenever Contractor shall be, and declared by Owner to be, in default under the Contract, Owner having performed Owner's obligations thereunder, Surety may promptly remedy the default, or shall promptly complete the Contract in accordance with its terms and recommence the Contracted project within forty-five (45) days of Receipt of Notice. If Surety cannot recommence project, Owner may terminate this Construction Contract and all rights and duties hereunder, except for certain
rights and duties that will survive said termination as set forth in Article 11.6 and may do all things necessary, including using Contractor's tools, and materials at the Worksite, to complete the Work. The cost of completing the Work shall be deducted from any unpaid portion of the Contract Price. If the unpaid portion of the Contract Price exceeds the expense incurred by Owner in completing the Work, such excess shall be paid by Owner to Contractor; but if such expense exceeds such unpaid balance, then Contractor shall pay the difference to Owner. In the event a court finds that Contractor was not in default at the time of Owner's termination, then said termination will be deemed to have been made pursuant to Article 8.

ARTICLE 8. TERMINATION WITHOUT CAUSE

8.1 Owner, after thirty (30) days' written notice to Contractor, may terminate this Construction Contract and all rights and duties hereunder, except for certain rights and duties that will survive said termination, as set forth in Article 11.6, at any time for any reason, including a desire to secure a different contractor, even though Contractor is not in default as provided in Article 7. In such event, Owner shall pay Contractor for actual work performed prior to the effective date of such termination. The amount shall be determined at contract unit prices for the actual work performed. Where no unit price is contained in the Contract for any particular item of work, the amount shall be determined at the unit price shown on the cost analysis sheet. Contractor shall be reimbursed for such expenditures as in the judgment of Engineer are not otherwise compensated for, and as are required in preparing for and moving to and from the Work, the intent being that an equitable settlement shall be made with Contractor. No claim for loss of anticipated profits shall be considered.

Materials obtained by Contractor for the Work that have been inspected, tested, and accepted by Engineer, and that are not incorporated in the Work, and which have been properly stored and maintained, shall be purchased from Contractor at actual cost as shown by receipted bills or other proper evidence of actual cost, at such points of delivery as may be designated by Engineer.

The Performance and Labor and Material Payment Bonds for which payment is to be made shall be strictly in accordance with the Contract Documents and to Owner's reasonable satisfaction. There shall be deducted from the amount payable to Contractor all payments previously made by Owner and all amounts which Owner is entitled to charge Contractor under the Contract Documents. In no event shall the amount to be paid including all amounts previously paid, and all amounts which Owner is entitled to charge Contractor, exceed the Contract Price, as adjusted.

8.2 In the event Owner terminates pursuant to this Article, Contractor shall: (1) assign and transfer to Owner, as directed by Owner, all materials, equipment, tools, plant and facilities for which payment has or will be made under the Contract Documents and all subcontracts, orders and commitments and
shall execute the deliver all such papers and take all such action as Owner may require to vest fully in Owner, the rights of Contractor; (2) cancel, as directed by Owner, subcontracts, orders, and commitments; and (3) sell at prices approved by Owner such materials, equipment, tools, plant and facilities as Owner shall direct, the proceeds to be paid or credited to Owner as Owner shall direct. Contractor promptly shall furnish Owner with detailed costs, accounts and statements, or submit to Owner's inspection an audit thereof. Contractor shall exert every effort to reduce to a minimum Owner's liability for subcontractors, order and commitment which have not been fully fulfilled at the time of the termination.

ARTICLE 9. ARBITRATION

9.1 If at any time prior to completion and acceptance of all the Work and final payment by Owner under Section 4.2, any dispute arises which cannot be settled to the mutual satisfaction of Owner, and Contractor, then every such matter shall, at the option of Owner, be submitted to arbitration and be determined by three (3) arbitrators in the manner provided by Chapter 658, Hawaii Revised Statutes, as amended, in which case Owner may give to Contractor written notice of its desire to have an arbitration of the matter in question and appoint one of the arbitrators in said notice, whereupon Contractor, within ten (10) days after the receipt of such notice, shall appoint a second arbitrator and, in case of failure so to do, the party who has already appointed an arbitrator may have the second arbitrator appointed by a Judge of the Circuit Court of the Third Circuit of the State of Hawaii, and the two arbitrators so appointed, in either manner, shall appoint the third arbitrator, and in the event that the two arbitrators so appointed shall, within ten (10) days after the appointment of the second arbitrator, fail to appoint the third arbitrator, either party may have the third arbitrator appointed by said judge, and the three (3) arbitrators so appointed shall thereupon proceed to determine the matter in question, and the decision of any two of them shall be final, conclusive and binding upon Owner and Contractor unless the same shall be vacated, modified or corrected as provided or allowed under Chapter 658, Hawaii Revised Statutes, as amended. The arbitrators shall have all the powers and duties prescribed by Chapter 658, Hawaii Revised Statutes, as amended, and judgment may be entered upon such award by the Third Circuit Court as provided by Chapter 658, Hawaii Revised Statutes, as amended, and said judgment shall not be subject to appeal. Each of the parties shall pay its own expenses, but the compensation and expenses of the arbitrators shall be borne equally by both parties.

ARTICLE 10. OWNER'S RIGHT TO SUSPEND PERFORMANCE OF THE WORK

10.1 Owner shall have the right to require Contractor at any time to suspend performance of all or part of the Work for an indefinite period of time. In no event shall such period exceed six (6) consecutive calendar months. In the event Owner exercises said right, Contractor shall cease performance of the Work, as directed by Owner. Contractor agrees to commence performance of the suspended Work within a reasonable time after receiving
Owner's notice to commence the suspended Work. In the event Owner requires a suspension of Work under this Article, an equitable adjustment in the Completion Date and also in the Contract Price shall be made according to Owner's choice of one of the three methods, as provided for in Article 21.3. Any action taken by Owner which results in a suspension of part or all of the Work, and which action is permitted by any other provision of the Contract Documents, shall not constitute a suspension of Work under this Article. Any suspension of work that expands the Construction Contract Completion Date beyond 240 days of the stated completion date in this Contract shall require a consultation and agreement with Surety in order to bind Surety to the revised Completion Date.

ARTICLE 11. INTERPRETATION OF CONTRACT DOCUMENTS

11.1 That which is mentioned in the Specifications and not in the Drawings, or vice versa, shall be of like effect as if mentioned in both, provided such is reasonably applicable to the Work. All other conflicts, omissions, or errors in or between the Specifications and/or Drawings must have been submitted to Owner at the time of bidding for determination. Such determination is final and binding on Contractor and no increase in the Contract Price or change in the Completion Date will be due Contractor. Any conflict, omission or error discovered thereafter will be clarified by Owner and no increase in the Contract Price or change in the Completion Date will be due Contractor. Unless specifically provided otherwise, the provisions of this Construction Contract shall supersede any conflicting provisions of the Specifications or Drawings, whether prepared by Owner, Engineer or Contractor. This paragraph shall not be construed to impose liability on Contractor for inherent design errors by Engineer, the correct solution to which could not reasonably be inferred or interpreted from the Contract Documents by the Contractor.

11.2 Any terms which have recognized or trade meanings, unless otherwise specifically defined in the Contract Documents, shall be interpreted in accordance with recognized meanings.

11.3 The grouping of the Articles of this Construction Contract and of the Specifications under the various headings is solely for the purpose of convenient organization and in no event shall the grouping of provisions or the use of paragraphs or headings be construed to limit or alter the meaning of any of the provisions.

11.4 Owner's failure to exercise or to enforce at any time any right which may exist under the Contract Documents shall not constitute a waiver of its right to exercise said right thereafter and Owner's subsequent conduct shall not be held to so constitute such a waiver.

11.5 In the event any provision of the Contract Documents is void, unenforceable or waived, the parties intend that all other provisions shall remain in full force and effect.
11.6 In the event of termination of this Construction Contract under Articles 7 and 8, the rights, duties, and obligations under Articles 3.5, 4, 6, 19, 20, 35, 36, and 47 with respect to work actually performed by Contractor, Contractor’s sub-contractors, agents, and employees, shall survive such termination.

11.7 No provision contained in the Contract Documents, or any breach thereof shall create or shall give to any third party any claim or right of action against Owner or Contractor beyond such as may legally exist in the absence of any such provision or breach.


11.9 In the event any provision of the General Conditions or Special Provisions of this Construction Contract conflicts with or is inconsistent with any other provision of the other Contract Documents, the provisions of the General Conditions and Special Provisions shall govern, unless the other provision specifically refers to the provision it supersedes and replaces. In the event of a conflict between the General Conditions and the Special Provisions, the Special Provisions shall govern.

ARTICLE 12. DRAWINGS AND SPECIFICATIONS FURNISHED BY OWNER OR BY CONTRACTOR

12.1 Contractor shall not commence or accomplish any part of the Work without current Drawings and Specifications and Owner’s clarifications thereof. Unless otherwise specified, Owner will furnish to Contractor, free of charge, three (3) copies of the Drawings and Specifications reasonably necessary for performance of the Work. Owner will furnish additional copies of Drawings and Specifications at the actual cost of reproduction and shall charge Contractor for these copies.

12.2 All copies of Drawings and Specifications are the property of Owner and shall not be used by Contractor or its subcontractors on any other work or for any purpose other than as required under this Contract.

12.3 Contractor shall maintain at the Worksite at least one (1) copy of this Construction Contract, all Drawings, Specifications, Bulletins, Addenda, approved Shop Drawings and clarifications thereof, in good order and marked to record all changes made during the progress of the Work. Contractor shall deliver to Owner, via Engineer, a complete set of reproducible as-built drawings together with Contractor’s marked-up field office plans prior to Final Acceptance of the Work.

12.3.1 Refer to SP-1.
12.4 In the event Contractor is required to furnish Drawings and/or Specifications, all such Drawings and Specifications shall be submitted to Owner for its approval prior to commencement of the Work affected thereby. Failure to obtain Owner's prior written approval of such Drawings and/or Specifications, may subject the Work affected thereby to Owner's rejection. Contractor shall be responsible for all extra cost and delays due to errors, omissions, and design deficiencies in its Drawings and Specifications.

ARTICLE 13. SHOP DRAWINGS

13.1 Contractor promptly shall prepare, submit, review and correct all Shop Drawings so that the Work and the work of Others is not delayed. At the time of submission, Contractor shall inform Owner in writing of any deviation in the Shop Drawings from the requirements of the Contract Documents.

13.2 The Contractor shall have a rubber stamp made in the following manner:

---------------------------------------------
Contractor's Name

PROJECT

---------------------------------------------
Name of Project

THIS SUBMITTAL HAS BEEN CHECKED BY THIS GENERAL CONTRACTOR AND IS CERTIFIED "CORRECT"

DATE RECEIVED

SPECIFICATION SECTION NO.

SPECIFICATION PARAGRAPH NO.

DRAWING NUMBER

SUBCONTRACTOR NAME

SUPPLIER NAME

MANUFACTURER NAME

This stamp "filled in" shall appear on each sepia copy of Shop Drawing, on the cover sheet of all required submittals. Further, the stamp should be placed on a heavy stock paper merchandise tag (approximately three inches by six inches - 3" x 6") and one tag tied to each sample submitted for approval. The tag on the Sample shall also state what the Sample is, so if accidentally the tag is separated from the Sample, they can be matched up again. The back of this tab will also be used for approval, log stamp and for any comments that relate to the sample.
13.3 Owner will review and approve Shop Drawings with reasonable promptness so as to cause no unreasonable delay. Owner’s approval of Shop Drawings will be an approval of general detail and arrangement only. Owner’s approval shall be construed as gratuitously assisting Contractor and shall not relieve Contractor from its responsibility for deviations from the Contract Documents, unless Contractor in writing has notified Owner of such deviations at the time of submission and Owner has given written approval to the specific deviations. Such approval shall not relieve Contractor from responsibility for errors or omissions of any kind on the approved Shop Drawings or the Work resulting therefrom.

13.4 Owner’s approval of Shop Drawings does not constitute authorization to Contractor to perform Extra Work or Changed Work, unless the procedures specified Article 21 are followed.

ARTICLE 14. SAMPLES

14.1 Contractor promptly shall furnish to Owner at least two (2) of each Sample required by the Contract Documents or by Owner so that the Work and the work of Others is not delayed. Samples shall be approved in writing by Owner before Work affected thereby commences. All Work shall be performed strictly in accordance with approved Samples, unless otherwise agreed. Each Sample shall be identified by Contractor’s name, project name and number, the type of brand, place of manufacture and name of manufacturer.

ARTICLE 15. QUALITY OF MATERIALS AND WORKMANSHIP

15.1 Unless otherwise approved by Owner, Materials shall be new, of good quality, and of the manufacture specified.

15.2 Unless otherwise specified, all workmanship shall be of good quality, free from defects, faults and omissions and performed strictly in accordance with the Contract Documents. If not otherwise provided, workmanship shall be performed strictly in accordance with established practices and standards, recognized by Engineers and the Trade involved.

ARTICLE 16. SHIPMENT OF MATERIALS

16.1 Unless otherwise specified, when making or ordering shipment Contractor shall not consign or have consigned in the name of Owner any Materials or Supplies.

16.2 All Materials shall be delivered not later than the times required to maintain construction progress as scheduled. Contractor and subcontractors shall place and expedite Material orders and deliveries as necessary. In the event Materials furnished by Contractor or its suppliers are not delivered
promptly to the Worksite, thereby delaying or threatening to delay the general progress of the Work or the work of Others, Owner shall have the right to investigate said delay and to expedite all said deliveries. All expenses thus incurred by the Owner shall be paid by Contractor on demand or Owner may deduct such expenses from the Contract Price.

ARTICLE 17. OWNER’S RIGHT TO HAVE MATERIALS STORED OR MOVED

17.1 Unless otherwise specified, Contractor shall receive, unload and store all Materials delivered to the Worksite and upon failure to do so, Owner may do so at Contractor’s expense.

17.2 In the event temporary placement or storage of Materials at the Worksite makes the partial or complete occupancy of Owner difficult, or makes difficult the work of Others, Owner shall have the right to require Contractor to move at Contractor’s sole expense, all said Materials promptly and to designate the areas in which said Materials shall be placed.

ARTICLE 18. SUBSTITUTION OF PRODUCTS

18.1 Unless otherwise specified, wherever in the Contract Documents a product is defined (1) by stating one name-brand product, or (2) by using the name of only one manufacturer or one vendor, only that product, as defined, may be used.

18.2 Wherever in the Contract Documents a product is defined by naming several name-brand products, or by naming several manufacturers or vendors, or is followed by the term "or equal" (or words to the same effect), Contractor shall submit to Owner a written request for approval of the particular name-brand product, manufacturer, or vendor it proposes to use. Said written request shall be submitted to Owner prior to the execution of this Construction Contract. Owner may request recommendations from Engineer as to the equality of the requested substitution but it is understood that Owner shall make the final decision as to whether or not to approve the substitution. The cost of all approved products is included in the Contract Price. If Contractor fails to request such approval prior to execution of this Construction Contract, the Contract Price will not be adjusted if its costs are increased by Owner’s subsequent refusal to approve.

18.3 Owner may request written information concerning any Product not described in Article 18.1 or Article 18.2. Only upon receipt of Owner’s written approval shall Contractor commence its purchase of said Product. If Owner’s decision of approval increases or decreases the cost which Contractor used for purposes of bidding, the Contract Price shall be adjusted pursuant to Article 21.
ARTICLE 19. DEFECTIVE WORK BEFORE FINAL ACCEPTANCE

19.1 Prior to Final Acceptance, Contractor, at its expense, promptly shall correct all Defective Work, including the work of Others. Owner may take corrective actions at Contractor's expense if Contractor fails to take said corrective actions, or, in its sole discretion, Owner may accept such Defective Work, in which event the Contract Price shall be decreased by the amount of the difference in value, as mutually agreed upon between Owner and Contractor, between the Work as it should have been performed and the Defective Work.

Contractor's corrective actions shall be taken in a manner which least affects the work of Others. If Owner fails to discover or to reject any Defective Work, such failure shall not be deemed an acceptance thereof or a waiver of its right subsequently to reject such Defective Work.

ARTICLE 20. DEFECTIVE WORK AFTER FINAL ACCEPTANCE

20.1 Contractor agrees to correct at its own expense and at Owner's convenience, Defective Work which is discovered within one (1) year after the date of Final Acceptance or within such longer period as may be provided in the Contract Documents, by custom, or by law, whichever is longer. Contractor shall pay for all damages resulting from Defective Work and all expenses necessary to correct any other work which may be damaged by Defective Work, which may be damaged in correcting Defective Work, or which may be damaged in uncovering Defective Work.

ARTICLE 21. OWNER'S RIGHT TO CHANGE THE SCOPE OF THE WORK

21.1 Owner unilaterally may require Contractor to perform Extra Work or Changed Work without invalidating any provision of this Construction Contract. Except for changes in the Contract Price and/or in the completion date, all provisions of this Construction Contract shall apply to Extra Work or Changed Work.

21.2 Extra Work, Changed Work and any modification to the Contract Documents are legally enforceable only by use of one of the following legal documents to amend this Construction Contract: Owner's Change Order, prepared by Owner. No change in the Contract Price or in the Completion Date shall be made for Extra Work and Changed Work not required by one of the above documents.

The following procedure must be used to authorize any Changed Work that affects either Contract Price, Completion Date, or both. Contractor should complete the Owner Change Order form, in full, reflecting the change(s). Contractor or its representative should sign the form and submit it to Owner for review. If Owner agrees with the Change Order, its proper representative(s) will approve the Change Order by signing the form and returning a signed copy to Contractor.
21.3 Whenever possible, Extra Work and Changed Work should be performed after mutual agreement on the change in the Contract Price, if any, and the change in the Completion Date, if any. In the absence of mutual agreement, Contractor shall perform the Extra Work or Changed Work as required in the Change Order. The change, if any, in the Contract Price shall be computed according to Owner's choice of one of the following methods:

1. By unit prices either contained in Contractor's bid or subsequently mutually accepted and incorporated herein;

2. By Contractor's proposal for Extra and Changed Work if incorporated herein by Article 2; or

3. By the following Formula:

   (1) Labor

   (2) Supervision
       Subtotal - A

   (3) Labor, Taxes and Insurance, Fringe Benefits
       Subtotal - B

   (4) Materials including permits, subcontractor's bonds, bonds
       Subtotal - C

   (5) Cost of Subcontractor (as applicable)
       Subtotal - D

   (6) Overhead for Home Office Costs, Estimating, Purchasing, etc.
       Subtotal - E

   (7) Construction Equipment

   (8) Hauling and Freight

   (9) Transportation

   Direct Payroll Cost
   Total of Items 1 and 2
   Actual Cost
   Subtotal A plus Item 2
   Direct Cost to Contractor
   Subtotal B plus Item 4
   Subtotal C plus Item 5
   10% x Subtotal D
   Subtotal D plus Item 6
   Prevailing Rental Cost
   Actual Cost
   Actual Cost

GENERAL CONDITIONS GC-15

3/30/92
(10) Subsistence  
Subtotal - F  
Subtotal plus Items 7, 8, 9, and 10

(11) Profit  
Subtotal - G  
5% x Subtotal F  
Subtotal F plus Item 11

(12) G.I. Tax (on total contract amount less Item 5, cost of subcontractor)  
Prevailing Rate

(13) GRAND TOTAL  
Subtotal G plus Item 12

ARTICLE 22. COOPERATION AT THE WORKSITE - COORDINATION OF WORK

22.1 Contractor (and its subcontractors, if any) shall cooperate with Others and shall proceed with the Work in a manner which does not hinder, delay, obstruct or interfere with the work of Others or result in the work of Others being defective.

22.2 Contractor shall afford to Others reasonable opportunity at the Worksite to introduce and to store materials, tools, etc., and to perform their work.

22.3 Contractor properly shall connect and coordinate the Work with the work of Others. If any part of the Work depends for proper execution upon work performed by Others, or affects work performed by Owners, Contractor shall inspect such work and report in writing to Owner any defects which render it unsuitable for proper execution of the Work. Contractor's failure to inspect and report such defects shall constitute its acceptance of said defects.

22.4 Contractor shall check all measurements necessary to fit properly the Work to the work of Others. The accuracy of all measurements is Contractor's responsibility. Work performed in accordance with inaccurate measurements shall be Defective Work.

22.5 If a controversy exists regarding the existence or nonexistence of Defective Work, Engineer shall decide such dispute and its decision shall be final and binding upon Contractor. In the event Contractor causes damage to the work or property of Others, Contractor shall settle said damage claim so that progress of the Work and of the work of Others is not affected thereby. Should any Work be damaged by Others, Contractor, at its expense, shall correct the damaged Work at Owner's request if to do so will minimize the delay in the Work or the work of Others; provided, however, Contractor shall not be prevented thereby from recovering against the party causing the damage.
22.6 Except as specifically provided herein, Owner shall respond to all inquiries by Contractor within fifteen (15) days from the date of the inquiry unless said fifteen-day period is extended in writing by Owner or Owner’s authorized representative.

ARTICLE 23 OWNER’S INSPECTION OF COMPLETED WORK - TESTS

23.1 Owner shall have access to the Work at all times and wherever it is in preparation and Contractor shall provide proper, safe and sufficient facilities for such access and for Owner’s inspection of the Work.

23.2 As required by Owner, Contractor shall give reasonable notice in writing to Owner of the time and place at which Materials will be fabricated or workmanship performed in order that Owner might inspect and test the same. All tests required by the Contract Documents, by Owner, by law, or by any public authority shall be performed by laboratories approved by Owner and/or in accordance with standard methods approved by Owner. Required certificates of inspection, testing or approval shall be secured by Contractor at its own expense, and promptly delivered to Owner.

23.3 Prior to Final Acceptance and, during the guarantee period, Contractor shall furnish all necessary labor, Materials and facilities to uncover any of the Work which Owner in writing requests to be uncovered. Said uncovering work shall commence no later than twenty-four (24) hours after Contractor’s receipt of Owner’s written request. If the uncovered Work is determined by Owner to be in accordance with the Contract Documents, the Contract Price shall be increased in accordance with Article 21 by an amount equal to Contractor’s actual expenses for said uncovering work and for the replacement of the removed Work and for other Work destroyed or damaged thereby. If the uncovered Work is found to be defective by Owner, Contractor shall bear the entire expense of said uncovering Work and Owner may take whatever action it deems appropriate under this Construction Contract.

23.4 Owner shall have the right to inspect completed Work and Work in the process of completion; however, Contractor shall not be relieved of its obligation to replace any Defective Work by Owner’s failure to direct Contractor’s attention to any defect.

ARTICLE 24. CONTRACTOR’S DUTIES AT THE WORKSITE

24.1 Contractor has had an opportunity to inspect the Worksite and to become fully aware of all existing conditions at the Worksite. Contractor agrees that it shall make no claim for an increase in the Contract Price or an extension of the Completion Date based on a plea of ignorance of conditions at the Worksite whether such conditions existed at the time of commencement of the Work, or thereafter, if said ignorance results from Contractor’s failure to make all necessary examinations and investigations of the Worksite and/or if said conditions reasonably should have been anticipated or could have been discovered.
24.1.1 Refer to INSTRUCTION TO BIDDERS.

24.2 Prior to commencing the Work, Contractor shall make a careful examination of all previously established lines, grades and elevations and their relation to the approved drawings to determine for itself whether they comply with the Contract Documents and will allow proper accomplishment of the Work. Contractor shall inform Owner in writing of the existence of any defective line, grade or elevation which is discovered by Contractor in the course of such examination. Contractor shall not commence any Work affected by such defect until the defect is corrected or until Owner approves of its commencing. If Contractor commences the Work without complying with the above provisions, Contractor may not claim that defects in the Work result from defects in said lines, grade or elevations and said Work may be rejected by Owner.

24.3 Unless otherwise specified, Contractor shall locate all other general reference points and take action necessary to prevent their destruction and the destruction of previously established lines, grades and elevations.

24.4 Contractor shall refer to the Drawings for all dimensions and measurements and shall field-check all dimensions and measurements before commencing affected Work. Any discrepancy shall be reported in writing to Owner. Contractor shall take all field measurements necessary to insure the proper fitting and matching of the Work with contiguous Work. The accuracy, completeness and currency of all dimensions and measurements are Contractor's responsibility, the failure of which will render affected Work defective.

24.5 Contractor shall confine the performance of the Work to the areas at the Worksite described in the Contract Documents or as permitted by Owner.

ARTICLE 25. CONTRACTOR'S CARE OF ITS WORK AND THE WORKSITE

25.1 Environmental pollution control shall consist of the protection of the Work Site and the surrounding areas from pollution during and as a result of construction operations under the Contract. The control of environmental pollution requires the consideration of air, water and land and involves noise, dust, and solid waste management as well as other pollutants. It is the responsibility of Contractor to investigate and comply with all applicable Federal, State, and County laws and regulations concerning environmental pollution control and abatement.

25.2 Contractor shall keep the Worksite reasonably free from accumulations of dirt, debris, cartons, crates, waste materials, tools, equipment and rubbish resulting from the Work and shall remove and properly dispose of the same but not by burning on the Worksite. Owner shall have the right to request the removal of the same and Contractor shall fulfill such request immediately. If Contractor fails to do so, Owner may remove the same

GENERAL CONDITIONS GC-18

3/30/92
and charge to Contractor the cost thereof. Construction debris and wastes shall be deposited by Contractor at an appropriate site approved by Owner and Government authorities in compliance with any applicable laws or regulations. Contractor shall inform Engineer of the location of any disposal site. The disposal site must also fulfill the requirements of the grading ordinances.

25.3 Contractor shall remove all silt and debris resulting from the Work and deposited in drainage facilities, roadways and other areas. The costs incurred for any necessary remedial action by the County of Hawaii shall be payable by Contractor.

25.4 Premises shall be maintained free from unnecessary debris as work progresses. Upon completion of Work, the entire premises shall be cleaned free from trash, waste, and other debris of any description.

25.5 All grading operations shall be performed in conformance with the applicable provisions of the Water Pollution Control and Water Quality Standards contained in the Public Health Regulations, State Department of Health, on Water Pollution Control and Water Quality Standards. Contractor shall not pollute water resources, including streams and drainage systems, with fuel, oil, bituminous materials, calcium chloride, acids, construction wastes, wash waters or any hazardous or toxic substances. Surface drainage from cuts and fills, whether or not completed, and from borrow and waste disposal areas, if turbidity producing materials are present, shall be held in suitable sedimentation ponds or shall be graded to control erosion to meet acceptable limits. Construction discharges shall be processed, filtered, ponded or otherwise treated prior to their discharge into a waterway or drainage system, as required by applicable law. Disposal of any material, garbage, oil, grease, chemicals, trash and other similar materials on areas adjacent to streams or drainage systems shall be, in compliance with any applicable laws or regulations and subject to the approval of the Engineer.

25.6 Existing improvements, including trees and other thriving plant life, on or adjacent to Project property and not otherwise required to be removed shall be preserved and protected against removal or damage unless absolutely necessary to accomplish construction required. Contractor shall not deface, injure or destroy trees or shrubs nor remove or cut them without approval. Any tree or other landscape features scarred or damaged by Contractor’s equipment or operations shall be restored as nearly as possible to its original condition and/or replaced at Contractor’s expense.

25.7 Engineer will notify Contractor of any non-compliance with the foregoing provisions and the action to be taken. If Contractor fails or refuses to comply promptly, Engineer on behalf of Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. No extension of time or
payment for excess costs or damages shall be made for the time lost due to such stop action.

25.8 The cost of environmental pollution control shall not be paid directly but shall be considered incidental and included in the prices bid for the various items of the Work.

25.9 Prior to Final Acceptance, or prior to Owner's partial or complete occupancy thereof, Contractor shall do the following, unless Owner requests otherwise: (1) Clean completely all surfaces and spaces of the Work so that they are ready for Owner's use and occupancy without further cleaning; (2) Remove from the Worksite all temporary buildings or facilities erected by Contractor and all equipment, materials, supplies, tools, etc., which are the property of Contractor or Materials over which Contractor has care, custody and control.

ARTICLE 26. CONTRACTOR'S DUTIES FOR THE SAFETY OF PERSONS AND PROPERTY

26.1 Contractor shall be responsible solely for the safety and protection of persons and property on or near the Worksite area in which the Work is performed. This responsibility includes taking all necessary precautions, including but not limited to, taking the following precautions:

(1) Erect and maintain on the property all necessary safeguards, including but not limited to danger signs, warnings and barricades;

(2) Make sure that all derricks, hoists, staging, scaffolding and all other apparatus are safe, sound, secure and are maintained properly;

(3) Take care not to load or to permit any part of any structure to be loaded so as to endanger its safety or the safety of others;

(4) Obey and enforce the smoking and other safety requirements of Owner;

(5) Provide all watchmen or other means of protection necessary to protect its Materials, Work, tools and other things; and

(6) Establish and enforce all other appropriate and adequate safety rules.

(7) Establish safeguards to insure that no one will go down into the drill hole.

26.1.1 Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful ordinances of government authorities relating to safety of persons or property or their protection from damage, injury or loss.
26.2 Contractor shall notify Owner in writing of the name of Contractor's employees whose duty shall be the prevention of accidents at the Worksite and who shall be present at the Worksite on a full-time basis, and who shall report immediately, in writing, to Owner all accidents and injuries in any way related to Contractor's presence at the Worksite or to the performance of the Work. In those cases where Contractor files an accident report with a public authority, Contractor shall furnish a copy of said report to Owner.

26.3 Prior to Final Acceptance or such earlier date as Owner may determine, all reasonable quantities of Materials at the Worksite, whether incorporated into the Work or not, are, upon payment, the property of Owner; however, Contractor shall have the care, custody and control of said Materials and shall be responsible for their safety and protection. Contractor shall do all things reasonably necessary to protect the Work and Materials against damage due to the weather or injury due to the weather. If any Work or materials are damaged or injured by reason of Contractor's failure to protect them adequately, as determined by Owner, such Work or Materials shall be deemed Defective Work.

26.4 Whenever Contractor uses Materials, equipment, tools, or other things, furnished by Others, Contractor shall satisfy itself as to their suitability and safety prior to its use thereof and Contractor shall be responsible solely for the suitability and safety thereof, to the extent and just as if such things were owned by and in the sole control of Contractor. When Owner furnishes such things for Contractor's use, unless Owner requests otherwise, Contractor shall protect and store such things. All losses, costs and liabilities caused by Contractor's failure properly to determine the suitability, safety and/or storage of Owner-supplied Materials, equipment, tools and other things shall be borne by Contractor.

26.5 In the event Owner deems any part of the Work or any part of Contractor's Worksite unsafe, when requested to do so in writing by Owner, Contractor shall stop performance of said Work and shall take corrective measures, satisfactory to Owner, prior to commencing said Work again. Contractor agrees to make no claim for damages, for an increase in the Contract Price, or for a change in the completion date, due to Owner's request. In the event Contractor does not adopt such corrective measures, Owner may perform them and deduct their cost from payments due or to become due to the Contractor. Owner's failure to notice or to stop unsafe practices shall not relieve Contractor of its duties under this Article.

ARTICLE 27. INDEPENDENT CONTRACTOR RELATIONSHIP

27.1 Contractor represents that it is an independent contractor and that in its performance of the Work it shall be and shall act as an independent contractor and that all of its agents and employees, and all agents and employees of any other performing the Work, shall be subject solely to
the control, supervision and authority of Contractor, or its subcontractors, as the case may be, and they shall be considered to be employees of Contractor and under no circumstances or for any purpose, are they to be construed or considered to be employees of Owner.

27.2 Neither Contractor nor any of its employees or subcontractors shall act on behalf of or in the name of Owner unless Owner in writing requests otherwise.

ARTICLE 28. CONTRACTOR'S SUPERINTENDENT AND EMPLOYEES

28.1 Contractor shall provide a competent level of superintendency for the Work, including but not limited to, a competent superintendent (or foreman) who shall possess full authority to receive instructions from Owner and to act thereon. The superintendent (or foreman) shall be deemed the representative of Contractor in the performance of the Work, and all directions, including Field Change Orders, instructions or notices given to him by Owner shall be binding upon Contractor, as if such were delivered in hand to Contractor.

28.2 Prior to commencement of the Work, Contractor shall notify Owner in writing of the name of its proposed superintendent (or foreman) required by this Article so that Owner may approve of him. In the event Owner refuses to approve or withdraws its approval after once giving it, Contractor shall name a different superintendent (or foreman) for Owner's approval. Any disapproved superintendent (or foreman) shall not be permitted to perform in that capacity thereafter in the performance of the Work.

28.3 Contractor shall permit only fit and skilled persons to perform the Work. Contractor shall enforce strict discipline and good order among persons performing the Work. In the event Owner determines that a particular person is unfit or unskilled for the Work assigned to him, Contractor shall remove said person from said Work immediately upon receipt of Owner's written notice to do so.

28.4 Contractor shall use its best efforts in choosing its subcontractors, Materials and trades so that there are no jurisdictional disputes which delay the Work. No changes in the Contract Price will be given for delays caused by jurisdictional disputes.

ARTICLE 29. CONTRACTOR'S SCHEDULE OF ACTIVITIES

29.1 Within ten (10) days after Owner’s written request, Contractor shall submit to Owner at least six (6) copies of a detailed construction schedule. The detailed construction schedule shall be based on a detailed critical path analysis of construction activities and sequence of operations needed for the orderly performance and completion of any separable parts of any work and all work in accordance with the Contract.
The diagram shall show in detail and in orderly sequence all activities, their descriptions, durations and dependencies, necessary and required to complete all work and any separable parts thereof. The activity listing shall show the following information for each activity on the diagram.

(1) Identification of activity.
(2) Duration.
(3) Items of work.
(4) Start and finish dates.

The construction schedule shall be complete in all respects, covering in addition to activities at the site of work, offsite activities, such as design, fabrication and procurement of Contractor-furnished equipment and the scheduled delivery dates of equipment to be furnished by Owner. Contractor shall also furnish a cash flow diagram. Contractor shall promptly inform Owner of any proposed change in the schedule and shall furnish Owner with a revised schedule and cash flow diagram within ten (10) calendar days. The schedule shall be kept up-to-date, taking into account the actual progress of work. The revised schedule shall, as determined by Owner, be sufficient to meet the requirements for the completion of the entire project as set forth in the Contract.

During the performance of any work, Contractor shall submit monthly to Owner, a progress status report on the work.

29.2 Contractor acknowledges that certain items of the work will be done on the Worksite by Others. Contractor will make reasonable adjustments to its work schedule and will otherwise conduct its operations to accord with the operations conducted at the Worksite by Others.

29.3 Owner, for any reason, unilaterally may require Contractor at any time to perform any portion of the Work on an overtime basis and/or may require Contractor not to perform any portion of the Work on an overtime basis. In the event Owner exercises its right to require overtime work, the overtime portion shall be considered Extra Work when such overtime results from Owner exercising its right to accelerate the scheduled completion date(s) or to promote Owner's interest. Overtime work required to enable Contractor to complete the Work within the time required under the Contract and/or to correct Defective Work shall not be considered Extra Work. The Contract Price and/or the completion date(s) shall be increased (or changed) pursuant to Article 21 for all overtime work constituting Extra Work, but in no event will such increase in the Contract Price be greater than the amount determined by the actual cost of Contractor's overtime labor only, plus the actual cost of payroll taxes and insurance applicable to the overtime portion of the applicable wage rates.
ARTICLE 30. CONTRACTOR'S SUBCONTRACTORS

30.1 Contractor shall permit only fit and skilled subcontractors to perform the Work. Contractor shall enforce strict discipline and good order among Sub-Contractors performing the Work. In the event Owner determines that a particular subcontractor is unfit or unskilled for the Work assigned to him, Contractor shall remove said subcontractor from said Work immediately upon receipt of Owner's written notice to do so.

30.2 In the event Contractor fails to submit a list of its subcontractors prior to the execution of this Construction Contract for Owner's approval, no adjustment in the Contract Price or extension of the completion date shall be allowed if Owner subsequently rejects one (1) or more of Contractor's subcontractors, thereby requiring Contractor to perform that part of the Work itself or to engage a different approved subcontractor to perform said Work.

30.3 Nothing contained in the Contract Documents shall create any contractual relationship between Contractor's subcontractor (and every subcontractor of the subcontractor) and Owner. Contractor shall require each subcontractor, to the extent of the Work to be performed by the subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor, by the Contract Documents, assumes towards Owner and Engineer. Each subcontract agreement shall preserve and protect the rights of Owner and Engineer under the Contract Documents with respect to the Work to be performed by the subcontractor that subcontracting thereof will not prejudice such rights. Where appropriate, Contractor shall require each subcontractor to enter into similar agreements with sub-subcontractors. Contractor shall make available to each proposed subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the subcontractor will be bound, and, upon written request of the subcontractor, identify terms and conditions of the proposed subcontract agreement which may be at variance with the Contract Documents.

ARTICLE 31. PERMITS AND COMPLIANCE WITH LAWS

31.1 Owner shall secure the well permits. Contractor shall give all notices to public authorities required by law, and shall obtain and pay for all necessary permits and licenses, and renewals thereof, pertaining to the Work. The entire cost of all notices, permits and licenses and renewals thereof is included in the Contract Price. Should a permit be refused for any reason, this Construction Contract is voidable at Owner's option, and claims for damages for anticipated profits or otherwise will not be considered.
31.2 Contractor shall comply with and give notices required by all Federal, State, municipal and public laws, ordinances including building codes, rules, regulations and orders in the performance of the Work, now existing or hereafter enacted or in force, whether or not required to do so by the Contract Documents.

31.3 The Contractor shall confine its employees, agents, equipment, machinery, tools and Materials to those areas in or near the Worksite required by any law, ordinance, regulation or permit or as required by Owner in writing, or by the Contract Documents.

31.4 Work on adjacent properties - either public or private and outside of Project property lines indicated - shall be included and provided as work under the Contract when and as particularly shown.

31.5 If Contractor performs Work knowing it to be contrary to laws, statutes, ordinances, building codes and rules and regulations without giving notification to Engineer and Owner, Contractor shall assume full responsibility for such Work and shall bear the attributable costs. If Contractor observes that portions of the Contract Documents are at variance therewith, Contractor shall properly notify Engineer and Owner in writing, and necessary changes shall be accomplished by appropriate modification.

ARTICLE 32. OWNER'S RIGHT TO OCCUPY

32.1 Owner shall have the right to occupy any portion of the Work and the Worksite at any time. The exercise of said right and any occupancy resulting therefrom shall not constitute partial or Final Acceptance of the Work. In the event of said occupancy, Owner will use its best efforts not to hinder or delay the performance of the Work.

ARTICLE 33. CONSTRUCTION SIGNS

33.1 Unless otherwise specified, no signs, billboards, posters or other advertising (collectively referred to as signs) shall be placed on or about the Worksite without the prior written approval of Owner. Owner shall have the right to determine the size, shape, contents, materials, final appearance, number and placement of any signs.

ARTICLE 34. CUTTING, FITTING AND PATCHING

34.1 Contractor shall perform all cutting, fitting and patching which is required to make the various parts of the Work fit together properly and fit to receive and be received by the work of Others. All cutting, fitting and patching shall be performed so as to leave no visible trace and to return the parts affected to the condition of undisturbed work.
34.2 Contractor shall not endanger, alter, damage or destroy the work of Others by cutting, digging or otherwise, without the prior written approval of Owner.

ARTICLE 35.  PATENT HOLD HARMLESS - ROYALTIES

35.1 Contractor agrees to secure for all times to Owner at no cost to Owner, the free and undisputed right to use any and all patented products, designs, and processes used or embodied in the Work and agrees to defend and to pay all expenses and costs, including legal fees, of all actions to enjoin Owner's use thereof. Contractor agrees to defend at its own expense all suits, claims or actions for the infringement of any patent rights and to indemnify and hold harmless Owner from any expense, cost and loss resulting therefrom, including legal fees. Contractor shall have no responsibility under this Article if Owner, in the Contract Documents, expressly and specifically requires Contractor to use a patented product, design or process and no other and Contractor does not have reason to believe such use is an infringement of a patent.

ARTICLE 36.  CONTRACTOR'S RESPONSIBILITIES. INDEMNIFICATION OF OWNER

36.1 Contractor agrees to assume the entire responsibility and liability for the following:

(1) Any and all death, injury, sickness or disease, of any kind or nature whatsoever, to all persons (including employees, servants, agents, and invitees of Contractor, its subcontractors and its materialmen) and any and all loss, damage or destruction, of any kind or nature whatsoever, to all property, (including, but not limited to, property of Owner, property of Landower, and property of Contractor, its subcontractors, materialmen, agents, employees, servants and invitees; and property of all third parties) which is caused by, grows out of, results from or occurs in connection with, directly or indirectly, the following:

(a) the performance of any portion of the Work, and any work incidental thereto, performed by Contractor, its subcontractors, materialmen, agents, employees servants or invitees;

(b) the presence at the Worksite of Contractor, its subcontractors, materialmen, agents, employees, servants or invitees, including, but not limited to, Materials, supplies, tools, implements, appliances, scaffolding, ways, hoists, elevators, work or machinery.
(2) The protection of and the theft, loss, damage or destruction of any kind or nature whatsoever, (including, but not limited to, loss, damage or destruction from fire, lightning, windstorm, hail, explosion (not steam boiler), riot, riot attending a strike, civil commotion, aircraft, vehicles or smoke, or from any other cause whatsoever of the following:

(a) all supplies, tools, equipment, machinery and all other property of Contractor and of Contractor's subcontractors, materialmen, agents, servants, employees and invitees, whether owned in whole or in part, or rented from third parties or on loan; and

(b) all Materials, equipment, and work, whether furnished by Contractor, by Owner, or by any other person, which are intended to be or have incorporated into the Work, or which are used directly or indirectly by Contractor, or by others in the performance of the Work.

36.2 Contractor agrees to indemnify, defend and hold harmless Owner, and Owner's directors, officers, agents, employees and servants, Landowner, Landowner's employees and agents, from and against any and all common law, statutory and other, liability, loss, cost and expense, including court costs and legal fees, incurred by them because of any and all deaths, injuries, sickness, disease, damage, destruction, theft and loss referred to in this Article, to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such liability, loss, cost and expense is caused in part by a party indemnified herein. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in Article 36. Owner may reserve, from the unpaid sums of the contracts such funds reasonably necessary to cover any of the above which are not covered by insurance.

36.3 The indemnities provided in this Article shall apply to all the Work, including Extra Work and Changed Work and shall apply to the entire term of the Construction Contract, including any extensions or renewals thereof, and shall continue thereafter until all applicable Statutes of Limitations have run.

ARTICLE 37. CONTRACTOR'S INSURANCE

37.1 During performance of the Work and until Final Acceptance, Contractor, at its own expense, shall maintain the following minimum insurance coverages and limits:
(1) Worker's Compensation Insurance (including occupational disease coverage) as required by law, and employees liability insurance;

(2) Liability insurance, including, improvement(s) under construction by Contractor including improvements(s) being constructed and any existing improvements(s) to which Contractor is making additions, alterations or repairs; and personal property of Owner which is contained in the said improvements(s): Operations Premises (must include explosion, collapse, underground property damage coverage when appropriate); Contractor's Protective (required if subcontractors are used); Contractual (for liability assumed under this Contract); and Products/Completed operation. Minimum limits of liability for bodily injury $1,000,000 per person, $1,000,000 per occurrence, including death; and property damage $1,000,000 per occurrence.

The following parties shall be named as additional insureds:
A. Waimea Water Service
B. Haseko (Hawaii), Inc.
C. Komo Brothers Partners
D. Keopuilani Estates Associates
E. Macco Hawaii, Inc.
F. Imata & Associates
G. Island Resources, Ltd.
H. County of Hawaii, Department of Water Supply
I. Akinaka & Associates, Ltd.

(3) Automobile (for all owned, non-owned and hired vehicles engaged in operations related to the Work, whether on or off the Worksite) $1,000,000 per person for bodily injury and $1,000,000 per accident for property damage.

37.2 Before commencing the Work, Contractor shall provide to Owner the insurance certificates showing compliance with this Article. Said certificates shall provide that the required coverage and limits shall not be canceled or changed without thirty (30) days' prior written notice to Owner. Contractor will also provide Owner with copies of all policies within fifteen (15) days of request therefor.

37.3 Owner does not in any way represent or warrant that the insurance or the limits of insurance hereinbefore specified in this Article are sufficient or adequate to protect Contractor's interests or liabilities.
ARTICLE 38. ASSIGNMENT OF CONTRACT DOCUMENTS

38.1 Contractor shall not assign this Construction Contract, in whole or in part, or assign any right or duty arising under the Contract Documents and shall not assign any money due or to become due, without the prior written consent of Owner. In the event an assignment or transfer is made with or without the prior written consent of Owner, Contractor shall not be relieved from responsibility or liability under the Contract Documents.

ARTICLE 39. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

39.1 Owner shall have the right to require at any time Contractor to furnish a performance and/or labor and material payment bond(s), the form, face value, contents, premium costs and Surety of which shall be approved by Owner in writing prior to application for said bonds(s). If said bond(s) is required by the bid form, the premium cost is included in the Contract Price and shall be paid by Contractor; if said bond(s) is required by Owner subsequent to bidding, Owner shall reimburse Contractor for the premium cost. Contractor's ability to procure required bond(s) is a material obligation of the Construction Contract.

ARTICLE 40. OWNER'S REPRESENTATIVE

40.1 In the event Owner retains the services of representatives to represent Owner during Contractor's performance of the Work at the Worksite, said representatives shall have only those powers and rights which Owner expressly delegates to them by Contract. Upon request, Owner shall notify Contractor in writing concerning the scope of representatives' powers and rights under the Contract Documents.

40.1.1 Refer to INSTRUCTION TO BIDDERS.

ARTICLE 41. UTILITIES AND SERVICES FURNISHED BY OWNER

41.1 In the event Owner furnishes electric current, water, gas or other utilities or services, Owner assumes no responsibility or liability for loss of or damage to the equipment or materials of Contractor, or of subcontractors, if any, resulting directly or indirectly from the presence or absence of the same or Contractor's use thereof. Owner is not obligated to furnish any utilities or services unless specifically required to do so by the Contract Documents.

ARTICLE 42. UTILITY SERVICES

42.1 Owner may have applied for one or more utility services required for this Project prior to bid date, in which case bidders will be so notified. Any fees paid by Owner for establishing such services shall not be duplicated under the Base Bid or Contract Price.

GENERAL CONDITIONS GC-29 3/30/92
42.2 Contractor shall establish all utility services for this Project not otherwise established; shall pay fees and charges applicable thereto and not otherwise paid in advance by Owner; and shall pay for utilities used and fuels consumed until Date of Substantial Completion, including any which are in Owner’s name but used for work under the Contract, and including any necessary for Project work under separate contracts.

42.3 Contractor shall make all necessary arrangements with utility companies to assure that all services are fully available and active in advance of completion of work; with sufficient lead time to assure that all Contract and N.I.C. facilities can be connected, tested and placed in full and complete operation not later than Owner’s date of moving into the occupying premises.

42.4 Utility fees and charges shall be understood to include any and all costs related to such services, whether classified or denoted as regular, normal, special or otherwise designated and however so determined, whether by sizes, capacity, number of units or other means. Any and all costs so levied, charged or otherwise assigned to the Project for such services shall be determined and paid for as part of work under the Contract. This shall also include any costs required to be paid in addition to any fees which may have been paid by Owner for establishing service pursuant to Article 42.1 above.

ARTICLE 43. FINAL ACCEPTANCE

43.1 When Contractor determines that Work, or a designated portion thereof which is acceptable to Owner, is substantially complete, Contractor shall:

(1) Notify Engineer two (2) days in advance of anticipated date on which said Work will be ready for inspection;

(2) And, submit to Engineer a comprehensive list of items to be completed or corrected.

(3) Failure to include any items on said list shall not waive other responsibilities of Contractor to complete all work required.

43.2 Upon receipt of Contractor’s list, Engineer, will make an inspection to determine whether the Work or designated portion thereof, is substantially complete. If Engineer’s inspection discloses any item, whether or not included on Contractor’s list, which is not in accordance with the requirements of the Contract Documents, Contractor shall, before issuance of Engineer’s approval of Substantial Completion, complete or correct such item upon notification by Engineer. Contractor shall then submit a request for another inspection by Engineer to determine Substantial Completion. When the Work or designated portion thereof is substantially complete, Engineer
will prepare a Certificate of Substantial Completion which shall establish the
date of Substantial Completion, shall establish responsibilities of Owner and
Contractor for security, maintenance, utilities, damage to the Work and
insurance, and shall fix the time within which Contractor shall finish all
items on the list accompanying the certificate. Warranties required by the
Contract Documents shall commence on the date of Substantial Completion of the
Work or designated portion thereof unless otherwise provided in the Contract
Documents. The Certificate of Substantial Completion shall be submitted to
Owner and Contractor for their written acceptance of responsibilities assigned
to them in such certificate.

43.3 Notice shall be deemed that Contractor has carefully inspected all
portions of the Work; that it has reviewed in detail the Drawings and
Specifications, and that all conditions of the Contract Documents have been
fulfilled. All subcontractors shall review, inspect and otherwise check their
work for compliance with all conditions of the Contract Documents, and prior
to the above Notice.

43.4 Upon receipt of written notice that the Work is ready for final
inspection and acceptance, and upon receipt of a final application for
payment, Engineer will promptly make such inspection and, when Engineer finds
the Work acceptable under the Contract Documents and the Contract fully
performed, Engineer will promptly issue a final certificate for payment
stating that to the best of Engineer's knowledge, information and belief, and
on the basis of Engineer's observations and inspections, the Work has been
completed in accordance with the terms and conditions of the Contract
Documents and that the entire balance found to be due Contractor and noted in
said final certificate is due and payable. The final Certificate for payment
will constitute a further representation that conditions precedent to
Contractor's being entitled to Final Payment have been fulfilled.

43.5 Acceptance of Final payment by Contractor, a subcontractor or
material supplier shall constitute a waiver of claims by that payee except
those previously made in writing and identified by that payee as unsettled at
the time of final application for payment.

ARTICLE 44. NOTICE OF COMPLETION

44.1 Upon completion and acceptance of the work and when advised by
Owner, Contractor shall arrange for publication in a local newspaper of a
Notice of Completion; which shall appear in accordance with Section 507-43
Hawaii Revised Statutes, as amended.

44.2 Contractor shall then file a copy of the newspaper notice with the
Court Clerk of the Third Circuit Court, State of Hawaii.
ARTICLE 46. ENGINEER

46.1 Engineer will be Owner's representative during the Work and will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work shall be referred initially to Engineer in writing with a request for a formal decision in accordance with this paragraph, which Engineer will render in writing within thirty (30) days. Written notice of each such claim, dispute and other matter shall be delivered by the claimant to Engineer and the other party to the Contract within fifteen (15) days of the occurrence of the event giving rise thereto, and written supporting data will be submitted to Engineer and the other party within forty-five (45) days of such occurrence unless Engineer allows an additional period of time to obtain more accurate data. In its capacity as interpreter and arbiter, Engineer will be objective and impartial.

46.2 Engineer will have authority to disapprove or reject work which is defective, and will also have authority to require special inspection or testing of the Work, regardless of whether the Work is fabricated, installed or completed. If Engineer considers it necessary or advisable that covered work be observed by Engineer or inspected or tested by Others, Contractor at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection or testing as Engineer may require, that portion of the work in question, furnishing all necessary labor, material and equipment. If it is found that such work is defective, Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, Contractor shall be allowed an increase in the Contract Amount or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction if Contractor makes a claim for such.

46.3 Engineer will make visits to the Worksite at intervals appropriate to the various stages of construction to observe the progress and quality of the executed work and to determine if the Work is proceeding in accordance with the Contract Documents. On the basis of such visits and on-site observations as an experienced and qualified design professional, Engineer will keep Owner informed of the progress of the Work and will guard Owner against defects and deficiencies in the Work. Engineer will not be required to make exhaustive or continuous onsite inspections to check the quality or quantity of the Work. Engineer will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions.
and programs in connection with the Work, and will not be responsible for Contractor’s failure to carry out the Work in accordance with the Contract Documents.

ARTICLE 47. CONFIDENTIAL INFORMATION

47.1 Contractor agrees that it will not disclose to third persons or use for its own benefit any of Owner’s developments, confidential information, know-how, discoveries, production methods and the like that may be disclosed to Contractor or which Contractor may acquire in connection with the Work.

ARTICLE 48. MODIFICATION OF THE CONTRACT DOCUMENTS

48.1 The Contract Documents constitute the entire agreement concerning this subject matter. All prior communications, statements and instruments, verbal and written, are written herein, or superseded hereby. No modification or amendment shall be effective unless one of the forms referred to in Article 21 is used and signed by authorized representatives of the parties.

ARTICLE 49. SUCCESSORS AND ASSIGNS

49.1 The covenants and agreements contained in the Contract Documents shall apply to, inure to the benefit of and be binding upon the parties hereto and upon their respective heirs, personal representatives, assigns, successors in interest, divisions and subsidiaries.

GENERAL CONDITIONS GC-33 3/30/92
SPECIAL PROVISIONS
OF THE
CONTRACT FOR CONSTRUCTION
OF
KEOPU MAUKA/PUUHONUA WELL
NO. 3957-01
AT
KAILUA-KONA, HAWAII
APPROVED

PREPARED BY:

AKINAKA & ASSOCIATES, LTD
250 NO. BERETANIA ST., STE. 300
HONOLULU, HAWAII 96817-4716

WAIMEA WATER SERVICES
P.O. BOX 326
KAMUELA, HAWAII 96743

ROBERT Y. AKINAKA
REGISTERED PROFESSIONAL ENGINEER
NO. 2208-C
HAWAII, U.S.A.

ROBERT Y. AKINAKA

STEPHEN P. BOWLES
# TABLE OF CONTENTS

**SPECIAL PROVISIONS OF THE CONTRACT FOR CONSTRUCTION**

**KEOPU MAUKA/PUUHONUA WELL**

**NO. 3957-01**

**HONUAULA, NORTH KONA, HAWAII**

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP-1</td>
<td>2</td>
</tr>
<tr>
<td>REFERENCE SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>SP-2</td>
<td>3</td>
</tr>
<tr>
<td>DESCRIPTION OF WORK</td>
<td></td>
</tr>
<tr>
<td>SP-3</td>
<td>3</td>
</tr>
<tr>
<td>CONSTRUCTION SURVEYS</td>
<td></td>
</tr>
<tr>
<td>SP-4</td>
<td>3</td>
</tr>
<tr>
<td>MATERIALS</td>
<td></td>
</tr>
<tr>
<td>SP-5</td>
<td>4</td>
</tr>
<tr>
<td>DUST AND OTHER NUISANCES</td>
<td></td>
</tr>
<tr>
<td>SP-6</td>
<td>5</td>
</tr>
<tr>
<td>PROTECTION OF ALL EXISTING UTILITIES</td>
<td></td>
</tr>
<tr>
<td>SP-7</td>
<td>5</td>
</tr>
<tr>
<td>SITE PREPARATION</td>
<td></td>
</tr>
<tr>
<td>SP-8</td>
<td>5</td>
</tr>
<tr>
<td>OVERTIME INSPECTION CHARGES</td>
<td></td>
</tr>
<tr>
<td>SP-9</td>
<td>5</td>
</tr>
<tr>
<td>ACCESS BY STATE AND GOVERNMENT OFFICIALS</td>
<td></td>
</tr>
<tr>
<td>SP-10</td>
<td>5</td>
</tr>
<tr>
<td>COORDINATION OF PROJECT WITH THE DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII</td>
<td></td>
</tr>
<tr>
<td>SP-11</td>
<td>6</td>
</tr>
<tr>
<td>STANDARD SPECIFICATIONS</td>
<td></td>
</tr>
<tr>
<td>SP-12</td>
<td>6</td>
</tr>
<tr>
<td>DETAILED SPECIFICATIONS FOR DRILLING, CASING AND TESTING OF WELL</td>
<td></td>
</tr>
<tr>
<td>SP-13</td>
<td>17</td>
</tr>
<tr>
<td>ORDER OF AUTHORITY</td>
<td></td>
</tr>
<tr>
<td>SP-14</td>
<td>17</td>
</tr>
<tr>
<td>SAFETY STANDARDS</td>
<td></td>
</tr>
<tr>
<td>SP-15</td>
<td>17</td>
</tr>
<tr>
<td>EXISTING CONDITIONS</td>
<td></td>
</tr>
<tr>
<td>SP-16</td>
<td>17</td>
</tr>
<tr>
<td>CONTINGENT ITEMS</td>
<td></td>
</tr>
</tbody>
</table>

**SPECIAL PROVISIONS**

**TABLE OF CONTENTS**
SPECIAL PROVISIONS OF THE
CONTRACT FOR CONSTRUCTION

SP-1 REFERENCE SPECIFICATIONS

1.1 Reference to known Standard Specification shall mean the latest edition of such specifications adopted and published at date of advertisement for bids, unless otherwise specified.

1.2 Reference to a technical society, organization or body is made in these specifications or plans in accordance with the following abbreviations:

- AASHTO: American Association of State Highway Officials
- ACI: American Concrete Institute
- AISC: American Institute of Steel Construction
- ASA: American Standards Association
- ASTM: American Society for Testing and Materials
- AWS: American Welding Society
- AWWA: American Water Works Association
- FS: Federal Specifications
- NEC: National Electric Code
- PUBLIC ROADS: Bureau of Public Roads, Department of Commerce
- UL: Underwriters' Laboratories, Inc.

1.3 All the directions, provisions and requirements contained herein are to be taken together with supplemental specifications, and as supplemented by such special provisions as may be necessary, pertaining to the method and manner of performing the work or to the quantities and qualities of materials to be furnished under the contract.

SPECIAL PROVISIONS

SP-1

3/30/92
SP-2 DESCRIPTION OF WORK

2.1 The Work consists of the furnishing and installation of all materials for the drilling, casing and testing of one (1) deepwell, plans prepared by Waimea Water Services and Akinaka & Associates, Ltd., or as required by the specifications, in place complete.

2.2 The Work to be done includes but is not limited to the installation of the deepwell and other appurtenances as called for on the plans in accordance with the specifications.

2.3 The Owner will not be furnishing any water, electric, telephone, gas or sewer services or facilities for use by the Contractor.

SP-3 CONSTRUCTION SURVEYS

3.1 Survey Controls and Bench Marks. The Owner shall establish survey controls and bench marks for construction stakeouts after the clearing and grubbing operation. These points shall be preserved and protected during construction by the Contractor. The Contractor shall not, at any time, disturb or remove any one of these points without the permission of the Engineer. Any control point found disturbed or destroyed shall be replaced by the Owner and the cost for such replacement shall be paid for by the Contractor.

3.2 Construction Stakeouts. One construction stakeout for well location shall be furnished the Contractor for the applicable phases of the work listed below. The Contractor shall be responsible for all stakes and markings made for his guidance in connection with construction and shall preserve them carefully without disturbance until permission for their removal has been given by the Engineer. All replacements and additional staking shall be made by the Owner and paid for by the Contractor.

3.3 Stakeout Notice. The Contractor shall give a minimum of one (1) week advance notice when he is ready for any of the aforementioned stakeouts, and shall have the ground where the offset is to be staked cleared of any debris or other obstructions before requesting the stakeouts. The Engineer and Owner will not be responsible for the delay of any stakeout if the information furnished by others guiding that stakeout is insufficient or erroneous.

3.4 Errors. During construction if the Contractor should discover any error either in alignment or grade, he shall immediately notify the Engineer who will check such errors.

SP-4 MATERIALS

4.1 Quality of Material. Only materials conforming to the requirements of these specifications shall be used in the work. Unless otherwise specified, all materials to be incorporated in the work shall be new, unused and of recent manufacture. All materials proposed to be used may be inspected or tested at any time during their preparation and use. If, after trial, it is found that sources of supply which have been approved do not furnish uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources.
4.2 **Defective Materials.** All materials not conforming to the requirements of these specifications shall be considered as defective, and all such materials, whether in place or not, shall be rejected and shall be removed immediately from the site of work, unless otherwise permitted by the Engineer.

4.3 The Contractor is free to purchase any items required for performance of this Contract from any source of his choice. This in no way relieves him of his responsibilities outlined under this Construction Contract.

**SP-5 DUST AND OTHER NUISANCES**

5.1 The Contractor shall exercise extreme care during construction to prevent and eliminate excessive quantities of dust, silt, air pollution, noise, water pollution and other nuisance and shall be responsible for acting upon all complaints involving dust and other nuisances caused directly or indirectly by his work. The Contractor shall defend and hold the Owner, and the Engineer free and harmless from all claims and damages arising or growing out of or during the performance of said work. The cost for control of dust, silt and other nuisances shall be considered incidental to the project and included in the lump sum bid for the various items of work.
SP-6 PROTECTION OF ALL EXISTING UTILITIES

6.1 The Contractor shall be responsible for the protection of all existing utilities whether or not shown on the plans. The Contractor shall notify the respective agencies prior to excavation and construction around existing lines.

SP-7 SITE PREPARATION

7.1 The Contractor will clear and level the well site as necessary and will clear and grade an access road to the site. The Contractor shall maintain the vehicular access to the well site from the existing roadway until all work is completed and accepted. No blasting will be permitted on this project. Excess excavated material will not be stockpiled but will be removed from the area.

The cost for site preparation and maintaining vehicular access from the roadway, shall be considered incidental to the project and included in the mobilization lump sum bid and in the various items of work.

SP-8 OVERTIME INSPECTION CHARGES

8.1 The Contractor shall be responsible for all charges for overtime inspection performed at his request, or other agencies.

SP-9 ACCESS BY STATE AND GOVERNMENT OFFICIALS

9.1 Authorized representatives of the state and county government shall at all times have access to the work while in preparation or progress, and the Contractor shall provide proper facilities for such access and for inspection.

SP-10 COORDINATION OF PROJECT WITH THE DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII

10.1 The Engineer shall coordinate the project with the Design and Construction Section, Division of Water and Land Development, Department of Land and Natural Resources and the County of Hawaii, Department of Water Supply.
SP-11 STANDARD SPECIFICATIONS

11.1 The County of Hawaii, Department of Water Supply's WATER SYSTEM STANDARDS, VOLUME 1, 1985 and APPROVED MATERIAL LIST AND STANDARD DETAILS FOR WATER SYSTEM CONSTRUCTION, VOLUME 2, 1985, as amended, are by reference incorporated herein and made a part of these specifications. The term "Standard Specifications" used hereafter refers to the applicable standard specification called out above.

SP-12 DETAILED SPECIFICATIONS FOR DRILLING, CASING AND TESTING OF WELL

12.1 Scope of Work. The work to be performed hereunder includes that furnishing of all labor, material, transportation, tools, supplies, plant, equipment and appurtenances, unless hereinafter specifically excepted, necessary for the complete and satisfactory construction and testing of one (1) water well as herein specified.

12.2 Contractor's Qualifications. All bidders shall have been engaged in the business of constructing water wells of the diameter, depth and capacity equivalent to the proposed well. All bidders shall be licensed Contractors holding a current C-57 Well Drilling specialty license from the State of Hawaii.

12.3 Competent Workmen. The Contractor shall employ only competent workmen for the execution of his work and all such work shall be performed under the direct supervision of an experienced well driller satisfactory to the Owner and/or Engineer.

12.4 Permits, Certificates, Laws and Ordinances. The Contractor shall procure all permits, certificates and licenses, pay all charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the work, except the well permits which will be secured by the Owner.

The Contractor shall comply with all federal, state and local laws, ordinances or rules and regulations relating to the performance of the work.

12.5 Location. The well to be constructed hereunder is to be located at Honuaula, North Kona, Hawaii as shown in the attached location and site map.

12.6 Local Conditions. The Contractor shall satisfy himself regarding all local conditions affecting his work by personal investigation.

12.7 Boundaries of Work. The Owner shall provide land or rights-of-way for the Work specified in this contract and make suitable provisions for ingress and egress, and the Contractor shall not enter on or occupy with men, tools, equipment or material, any ground outside the property of the Landowner without the written consent of the Owner of such ground. Other Contractors and employees or agents of the Owner may for all necessary purposes enter upon the work and premises used by the Contractor, and the Contractor shall conduct his work so as not to impede unnecessarily any work being done by others on or adjacent to the site.

SPECIAL PROVISIONS SP-5 3/30/92
12.8 Protection of the Site. Excepting as otherwise provided herein, the Contractor shall protect all structures, pipelines, trees, shrubbery, etc., during the progress of his work; shall remove from the site all cuttings, drillings, debris and unused materials; and shall, upon completion of the work, restore the site as nearly as possible to its original condition, including the placement, at the Contractor's sole expense, of any facility or landscaping which has been damaged beyond restoration to its original condition to the satisfaction of the Owner or his agent. **NO BLASTING** in the well hole will be permitted on this project.

12.9 Water for Drilling. The Contractor shall make the necessary arrangements with the proper authorities or private individuals or corporations in reference to the supply of drilling water due to the Contractor's operations.

The Contractor shall record the volume of water furnished to the site and collect water samples of drilling water as required by the Engineer. The water samples shall be preserved in clean containers and marked in a manner as to show the date, and time of day.

Cost for water for drilling shall be included in the appropriate unit prices and no direct payment will be made thereof.

12.10 Disposal of Water. The Contractor shall carefully examine the proposed work site and make the necessary arrangements with the proper authorities or private individuals or corporations in reference to the disposal of waste water due to the Contractor's operation.

The Contractor understands that no compensation will be paid to him due to any difficulty he may have incidental to the disposal of waste water, and all damages resulting therefrom shall be the responsibility of the Contractor.

12.11 Sub-Contractors. None of this work may be sublet without the written consent of the Owner. If any part is sublet the sub-contractor shall be considered as an employee of the Contractor.

12.12 Access and Site Preparation. The Contractor will clear and level the well access road and well site as per "Access Road Plan" and "Grading Plan and Section" exhibits for the Contractor's operations.

12.13 Equipment and Operating Requirements. Equipment must be provided which is in first class working order. No unnecessary delays or work stoppages will be tolerated. The Contractor shall be held responsible and payment may be withheld for damages to the well due to any cause of negligence or faulty operation. The Contractor is cautioned to keep operational noise to a minimum.

With his bid, the Contractor shall submit a description of the equipment which he proposes to use.
12.14 Mobilization-Demobilization. Upon receiving the notice to begin work, the Contractor shall convey to the job site as shown in the plans all well drilling equipment, casing, deepwell turbine pump and other materials and equipment for the satisfactory drilling, casing, and testing of the well as specified elsewhere herein.

The Contractor will clear and level the access and site prior to the Contractor moving on to and setting up the drilling rig at the site as per "Grading Plan and Section" plan and "Access Road Plan".

Demobilization shall commence upon the completion and acceptance of the well and be completed within 15 days. The Contractor shall remove all blocks, pipes, materials not incorporated in or necessary to the completed well and leave the site in a neat and orderly condition satisfactory to the Engineer.

Payment for MOBILIZATION and DEMOBILIZATION shall be made at Lump Sum Price bid in the BID for the actual work performed as specified above and elsewhere herein.

12.15 Site Communications. The Contractor shall maintain a phone on site, with an answering machine if power is available. The Contractor will insure that the construction site can be reached by an outside phone link at all times.
12.16 Drilling, Casing and Testing of Well.

Order of Work: The Contractor shall perform all work in the following order:

Phase 1 (Pilot Hole)

1. Access Road, Grading, and Mobilize on site.

2. Drill a pilot hole of 10" min. diameter with a rotary air hammer to a depth of 1700'. A plumbness and alignment survey of the pilot hole will be done every 500'. (A special rock sampling may be required by the Owner or Engineer by a cable tool and bailer).

3. Perform plumbness and alignment survey of pilot hole.

4. Bail and clean well.

5. Perform T.V. survey in bore hole to the bottom of the hole.

6. Perform water sample traverse and pump test sampling at 200 gpm.

Phase 2 (Well Construction)

7. Drill open hole of 20 inch diameter or larger to same depth as the pilot hole.

8. Perform T.V. survey to bottom of 20' hole.


10. Set cement baskets with grout plug above water level.

11. Perform plumbness and alignment survey of 14 inch I. D. well casing.

12. Grout 14 inch casing annulus.

13. Drill 13' open hole to a depth of at least 50 feet or more as determined by hydrologist with cable tool. Remove rock samples every 5' or when formations change. Take water samples each morning with bailer.

14. Bail and surge block well.

15. Perform T.V. traverse of completed well.

16. Install pump and test pump well.

Phase 3

17. Clean up site and demobilize.

18. Complete Reports and Logs (State Form).
Well Casing and Screen: The well casing shall be manufactured in accordance with ASTM Specifications A139 Grade B applicable parts with the following additions.

The steel from which the casing is manufactured shall contain not less than 0.2% copper by ladle analysis.

The wall thickness shall be 0.375 inches.

The inside diameter shall be 14 inches.

The casing shall be factory assembled in not less than 20 foot sections and contain not more than one longitudinal seam parallel to the axis of the casing.

For field assembly by welding, sections shall be furnished with beveled ends machined on the outside to an angle 30 degrees, measured from a line drawn perpendicular to the axis of the casing, with a tolerance of plus or minus 2 1/2 degrees and with a width of root face (of flat at the end of the casing) of 1/16 plus or minus 1/32 inch.

The 14 inch blank well casing from elevation 0 to +10 feet (Refer to well Detail) and perforated casing shall be manufactured in accordance with aforementioned casing requirements and shall be made of Cor-ten steel.

The Cor-ten steel shall conform to ASTM A242-75. The choice and use of alloying elements in such steel shall assure four to six times the atmospheric corrosion resistance of carbon steel in the finished material.

The wall thickness shall be 0.315 inches.

The inside diameter shall be 14 inches.

Welding to the blank primary well casing shall be in accordance with accepted practices. Perforated casing shall be factory assembled in not less that 10 foot sections. The openings shall be horizontal to the axis of casing and with factory punched perforations. The aperture size shall be 1/4 inch by 1 1/2 inches with 120 perforations per lineal foot. The minimum area of opening shall be 39 square inches per lineal foot.

An appropriate casing shoe shall be welded to bottom most casing installed in well.

SPECIAL PROVISIONS

SP-9

3/30/92
Drilling and Installing Well Casing: The Contractor shall drill the well and install the well casing to a depth of 1700 feet + using drilling methods approved by Owner as circumstances may require.

The bore hole shall be drilled to a diameter sufficient to permit installation of the well casing with minimum annular space of 3 inches outside the casing.

Local clays, bentonite, or other approved drilling fluid additives may be used only in the portion of the drilling operation to elevation +50 feet.

Welder required for assembly of well casing shall be qualified in accordance with the latest revision of the American Welding Society "Standard Qualification Procedure". All joints of the casing sections shall be joined by an approved metal arc welding process. A minimum of two passes shall be employed with the first pass joining the root faces and subsequent passes providing for complete joint penetration. Welding procedures shall be in accordance with Section 8-8 of AWWA Standard C206-62.

The Contractor shall collect "bottom-of-hole" water samples as described in Section 12.16. Static water level measurements shall be made as directed by Engineer.

The casing depth shall be determined on the basis of water level, salinity profile data and geologic formations by the Engineer.

A pump test will be conducted after completion of the pilot hole. The test will consist of a pumping rate of 100 to 200 gallons per minute for not less than 3 to 6 hours as specified by the project engineer or hydrologist. The pump will be equipped with an appropriate air line water level measuring system.

Representative water samples will be taken every 30 minutes in clean 1 gallon closed containers.

Confirmation of adequate yield and water quality by the owner will initiate completion of the well according to specifications.

In the event that either yield or quality is determined not to meet the requirements, the pilot hole will be sealed according to State law.
Plumbness and Alignment: The hole shall be constructed and the casing set round, plumb and true to line as specified herein. To demonstrate the compliance of his work with these requirements the Contractor shall furnish all labor, tools and equipment and in the presence of the Engineer shall make the tests described herein in the manner prescribed by, and to the satisfaction of Owner. Tests for plumbness and alignment shall be made after the casing is installed and in the sequence described under "Order of Work". However, when ordered by Owner, the Contractor shall make additional plumbness and alignment tests prior to the installation of casing and during the drilling operation.

No specific payments shall be made by Owner for making these tests and the Contractor shall include the costs of such tests in the applicable contract items.

The requirements for plumbness and alignment shall be made in accordance with the requirements of the AWWA Specification A100-66, Standard Specifications for "Deep Wells" and as otherwise specified herein.

Plumbness and alignment shall be tested in the presence of Engineer by lowering into the well to a depth specified by Engineer a section of rigid pipe 40 feet long or a dummy of the same length. The outer diameter of the plumb shall not be more than 1/2 inch smaller than the diameter of that part of the casing or hole being tested. If a dummy is used, it shall consist of a rigid 6 inch minimum diameter spindle with three rings, each ring being 12 inches wide. The rings shall be truly cylindrical and shall be spaced one at each end of the dummy and one ring in the center thereof.

A log of the drift at 20 feet intervals shall be accurately recorded and submitted to Owner.

Should the dummy fail to move freely throughout the length of the casing or hole to the depth specified by Owner or should the well vary from the vertical in excess of two-thirds the smallest inside diameter of that part of the well being tested per any 100 foot interval of depth, or beyond limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at his own expense and, should he fail to correct such faulty alignment, plumbness, or insufficient diameter, Owner may not accept the well and consider the well abandoned.
Cement Grouting and Backfilling of Annular Space

A. Grouting of Well Casing.

All grout will be placed with a 1 inch minimum diameter grout pipe.

Portland cement shall conform to the requirements of ASTM C150, Type I for grout mix. Grout mix shall consist of neat cement.

A grout seal shall be placed in the annular space outside the well casing and above the water table (See Well Detail). This seal may be deleted by Owner as a result of the T.V. Survey. In the event that the seal is deleted, the annular space shall be backfilled with gravel from the casing basket to the ground surface.

Drilling Open Bore Hole: Drilling of the open bore hole shall be at the option of Engineer.

After the well casings have been sealed and the annular space grouted and backfilled, a bore hole not less than 13.5 inches in diameter shall be drilled to the depth of 50 feet (plus) below the casing shoe in increments not exceeding 5 feet with a cable tool drill.

Rock samples will be taken every 5 feet or when the rock formations change. These samples will be placed in bags and labeled with the appropriate depth.

The use of local clays, bentonite, or other additives shall not be permitted in the drilling of the open bore.

Water samples shall be taken from the bottom of the open hole as directed by Engineer. Following drilling of the open hole, the well shall be cleaned as described under "Clean Out".

Clean Out: After the well casing has been installed and backfilled, the Contractor shall thoroughly clean the well by bailing and surge blocking. The Contractor shall remove all loose cuttings, rocks and drilling mud by bailer to the drilled bottom of the well. After bailing has been completed in accordance with the requirements of Owner the Contractor shall remove all accumulations of material to full depth of the well.

In the event that an open bore hole is drilled, the Contractor shall repeat the cleaning process to the satisfaction of Owner.

Development By Pumping: The Contractor shall furnish, install, operate and remove a test pump assembly and prime mover with a capacity in excess of 500 GPM against a total head of 1,700 feet with a bowl setting of 25 feet +. The test pump assembly and prime mover shall be capable of continuous operation of at least 168 hours at a rate of 500 GPM.

The Contractor shall install an air line to measure water level. The air line will be placed at least 3 feet above the pump intake. The air line will have a gage reading 0 to 30 psi with 1/10 degree indications.
The Contractor shall install, operate, and remove the pump to be used for testing and developing the well. The Contractor shall furnish and install discharge piping for the pumping unit of sufficient size and length to conduct water to a point designated by Owner together with acceptable orifices, meters or other approved devices which will accurately measure the flow rate. An air line complete with properly calibrated gauge and air pressure shall be provided to measure the elevation of water in the well.

No drilling mud shall be in evidence below the water table.

If drilling mud is in evidence below the water table, the well shall be treated by the Contractor with an appropriate detergent and permitted to stand idle for not less than 24 hours before final development.

The initial pumping rate shall be restricted and as the water clears shall be gradually increased until the maximum rate is reached. The maximum rate will be determined by Owner after consideration of the well’s drawdown and discharge characteristics. At proper intervals the pump shall be stopped.

The cycle of pumping and surging shall be repeated until the discharged water is clear of sand, silt and mud.

The Contractor shall continue development until in the opinion of Owner the following conditions have been properly met.

1. Turbidity shall be less than 5 on the silica scale described in the Standard Methods of Water Analysis. If the well still does not clear up despite the best efforts of the Contractor and if Owner is otherwise satisfied that the well has been properly constructed, the Owner may waive this requirement.

2. Specific capacity shall have reached a reasonably constant value.

The pump furnished above shall be capable of meeting all other well development criteria and standards as stated under "Pumping Tests" and "Additional Drilling and Testing" of these specifications. The Contractor shall furnish in writing to the Owner the description, pump characteristics, curves and specifications of the test pump and primer mover, including the size and total length of the pump and the outside diameter of the discharge column pipe and couplings. This description must be submitted with the Bid.
**Pumping Tests:** Following development operations the Contractor shall perform two complete pumping tests of the well. The test pumping equipment shall have a capacity of not less than 500 GPM against a total head of 1,700 feet with a bowl setting of 25 feet +. The Contractor shall make a test of the well pumping at a sufficient number of rates to determine the shape of the drawdown curve from zero gallons per minute to 500 gallons per minute or the maximum capacity of the well, whichever is less. Pumping shall continue at each rate for a sufficient length of time to bring about a stable water level in the well.

Following a period of rest, a second continuous pumping test shall be conducted at a rate of 500 GPM for not less than 168 hours.

At the completion of test pumping all sand and debris shall be removed from the bottom of the well. The test pump shall remain in the well during grouting and backfilling as described under "Cement Grouting and Backfilling of Annular Space". The pump shall be run during initial grouting at the direction of Owner.

Upon completion of all work in connection with development and test pumping the Contractor shall cause the test pump to be removed from the well and the well shall be capped welding a 1/4 inch removable steel plate thereon.

**Additional Drilling and Testing:** In the event that the results of the yield test are not satisfactory, the Owner may order the Contractor to drill the well below the final depth specified and perform and additional pump test.

12.16 **Data Collection and Records.** The Contractor shall keep an accurate daily work log and record of all formations drilled through and the depths at which changes in the formation occur together with such other information as may be called for by Engineer. Samples of drill cuttings shall be collected at ten foot intervals and preserved in sample bags marked in a manner as to show date and depth below ground surface. The log of the well shall show all material penetrated and full descriptive notes made of all conditions encountered while drilling. The groundwater level, with reference to the furnished bench mark, shall be ascertained. The Contractor shall furnish either an electrical or mechanical water level sounding device and cable accurately measured and/or marked to the satisfaction of the Engineer. Upon striking water, the Contractor shall, prior to starting daily drilling activities, measure the depth to water and collect a water sample from the bottom of the well. The Contractor shall furnish either an electrical or mechanical one liter water sampling device and cable accurately measured and/or marked to the satisfaction of the Engineer. All water sampling shall be performed as directed by the Engineer. Water samples collected shall be preserved in clean containers (one liter) and marked in a manner as to show the date, time of day and depth collected. The log of the well shall show the method of completing the well, and location, type, dimensions of casing installed. Development and test records shall be maintained on an hourly basis showing production rate, non-pumping water level, pumping water level (in 1/10 degree readings), drawdown, well cutting production, and all other pertinent information concerning method of development.

The Contractor shall furnish and operate a down hole color T.V. survey system complete with video tape capacity. The system shall be able to perform under water and shall have a depth capability of at least 1,800 feet. Verification of system availability shall be furnished at the time of Contract signature. The T.V. system is considered part of mobilization and shall be available on site prior to release of mobilization payment.
12.17 **Provision of Permanent Pump Equipment.** Except as otherwise provided with respect to pump(s) provided by the Contractor in developing and testing the well, the Owner shall be responsible for purchasing permanent pump(s) for well operation by means of a separate bid and contract.

12.18 **Abandonment.** Should the Contractor fail to complete the well in accordance with the specifications or should he abandon the hole because of inability to meet the requirements for alignment, loss of drilling tools, or any other cause, he shall fill the abandoned hole in accordance with local laws and regulations.

The Contractor shall not be compensated for any work done on the well that is abandoned. Any partial payment made for work done on a well which is later abandoned shall be deducted from the amount which becomes payable for work done on a new well.
SP-13 ORDER OF AUTHORITY

In cases of discrepancy between documents, the Engineer will determine the governing document.

SP-14 SAFETY STANDARDS

A. The Contractor shall comply with the standards of the Occupational Safety and Health Administration and all applicable Federal, State and County laws and regulations relating to safety in the performance of the work.

B. No one will be permitted to enter the well bore.

SP-15 EXISTING CONDITIONS

Locations of existing utilities and facilities shown on the drawings are approximate only and are not guaranteed. The Contractor shall verify in the field the location of all existing utilities to which connections are to be made and those near utility lines and appurtenances to be constructed under this Contract. Existing utility lines and appurtenances shall be protected against damage. Utility lines and appurtenances, whether shown on the drawings or not, which are damaged shall be repaired or replaced at no cost to the Owner. Any existing utilities discovered during the site work and not shown on the plans shall be reported immediately to the Engineer so that field adjustments can be made.

SP-16 CONTINGENT ITEMS

The quantity shown in the proposal for contingent items is approximate only and for the purpose of obtaining unit price bid. The quantity may vary depending on the field conditions. Payment for contingent items shall be made by multiplying the number of such contingent item incorporated in the work by the unit price for such item as set forth in the proposal. Adjustments in the total lump sum bid price shall be made accordingly.

SPECIAL PROVISIONS

SP-16

3/30/92
PROGRESS PAYMENT INVOICE

TO: 
FROM: 

PROJECT NAME: ____________________________

INVOICE NO._____ PAYMENT NO.____ DATE:_____

SUMMARY OF CONTRACT

1. Original Contract Amount $_____

<table>
<thead>
<tr>
<th>Change Orders:</th>
<th>Additions</th>
<th>Deductions</th>
</tr>
</thead>
</table>
| $_____

2. Total Change Orders: $_____

3. Revised Contract Amount $_____

4. Previous Estimate of Work Completed (___)% $_____

5. Total Payments Received $_____

6. Total Retention Held to date $_____

APPLICATION FOR PAYMENT

7. Estimated Amount of Work Completed to date (___)% $_____

8. Previous Estimate of Work Completed (___)% $_____


10. Less Retention Held (10%) (___)% $_____

11. Amount of this Invoice $_____

For use by Owner:

REVIEWED AND RECOMMENDED FOR PAYMENT:

BY: ______________________

APPROVED FOR PAYMENT:

BY: ______________________

Check #______ Date Paid:______

SPECIAL PROVISIONS SP-17

3/30/92
IV. PLANS
PROPOSED WELLS

DATE: 12/05/91
WAIMEA WATER SERVICES
AKINAKA & ASSOCIATES, LTD.
KEOPU MAUKA/PUUHONUA WELL
WELL NO. 3957-01
KEOPU, KONA, HAWAII
DRILLING, CASING AND TESTING
VICINITY MAP
TMK 7-5-01:1

FILE: KNP-91
DATE: 02/06/91
SCALE: 1=1
REPORT: 12/11/91
REVISED: 12/11/91

Sheet 2 of 5 Sheets
NOTE: FOR WELL CAP DETAILS, SEE SHT. 5

EXIST. GROUND LEVEL = 1676

CONC. FILL OF ANNULAR SPACE
3" MIN. ANNULAR SPACE

14" I.D 0.375" THICK SOLID WELL CASING
CEMENT 10'
BENTONITE 2'
SAND 2'
AGGREGATE 4'

TWO COMMERCIAL BASKETS 5' APART

BLANK CORTEN CASING 10'

PERFORATED WELL SCREEN 14" I.D.

13" DIA. OPEN HOLE

WATER TABLE
0' ELEV.

WELL SECTION
NOT TO SCALE

DATE: 12/05/91

ROBERT Y. AKINAKA
AKINAKA & ASSOCIATES, LTD.

STEPHEN P. BOWLES
ISLAND RESOURCES, LTD.

WAIMEA WATER SERVICES
AKINAKA & ASSOCIATES, LTD.
KEOPU MAUKA/PUUHONUWA WELL
WELL NO. 3957-01
KEOPU, KONA, HAWAII
DRILLING, CASING AND TESTING
WELL DETAIL
SHEET 4 OF 5 SHEETS