

LINDA LINGLE
GOVERNOR OF HAWAII



LAURA H. THIELEN
CHAIRPERSON
WILLIAM D. BALFOUR, JR.
SUMNER ERDMAN
NEAL S. FUJIWARA
CHIYOME L. FUKINO, M.D.
DONNA FAY K. KIYOSAKI, P.E.
LAWRENCE H. MIIKE, M.D., J.D.

KEN C. KAWAHARA, P.E.
DEPUTY DIRECTOR

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

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

April 21, 2010
Honolulu, Hawaii

Application for Stream Diversion Works Permit (SDWP.2586.6) and
Petition to Amend Interim Instream Flow Standard for
New Auwai for Irrigation and Domestic Use, Honokala Gulch
Haiku, Maui, TMK: (2) 2-9-002:041

APPLICANT:

Andrew J. Baker
P.O. Box 790556
Paia, HI 96779

LANDOWNER:

Michael J. and Laurie A. Baker
725 North Honokala Road
Haiku, HI 96708

SUMMARY OF REQUEST:

Application for Stream Diversion Works Permit (SDWP.2586.6) and Petition to Amend Interim Instream Flow Standard (PAIIFS) for New Auwai for Irrigation and Domestic Use, Honokala Gulch in Haiku, Maui at TMK: (2) 2-9-002:041.

LOCATION: See Exhibit 1a and 1b.

BACKGROUND:

The two-acre property is owned by the applicant's parents. The applicant proposes to construct a new auwai to provide an irrigation system for a 0.3 acre garden on his property and grow fruits and vegetables in several existing agricultural terraces.

DESCRIPTION:

The applicant is proposing to construct an irrigation system with a high volume system to power the water wheel and a low volume drip irrigation system. The proposed diversion will include the following components: (See Exhibit 2.)

- A - Diversion gate - a reinforced concrete gate about 4 feet tall by 4 feet wide and 3.5 inches thick with a valve at stream level to control the auwai flow. The proposed flow restrictor is a four-inch pipe through the diversion gate with a valve to limit flow especially during low flow periods.
- B - Auwai section 1 - constructed of a poured concrete bottom with mortared concrete block sides about four feet tall with an eight-inch wide channel.
- C - Underground six-inch diameter PVC pipe, 22 feet long.
- D - Auwai section 2 - constructed of a poured concrete bottom with mortared concrete block sides about two feet tall with an eight-inch wide channel.
- E - Waterwheel - six to eight feet in diameter made of wood or metal. Concrete footers will be anchored into the ground to prevent danger of collapse and properly support the waterwheel.
- F - Underground pipe - six-inch diameter plastic pipe placed six feet underground traveling from the water wheel back to the stream.
- G - 300-500 gallon water storage tank.

Water will be diverted from Honokala Gulch at the diversion gate (A) and travel 46 feet north in the first auwai (B) to the driveway crossing. The driveway crossing (C) is made of a six-inch PVC pipe that is 22 feet long and buried under the driveway. Next, the water flows approximately 152 feet in the second auwai (D) where it turns approximately 90 degrees to the east. At this point, a water wheel (E) about six to eight feet in diameter will be constructed to pump water that will flow through a one-inch PVC pipe to a 300-500 gallon water storage tank (G). After falling from the water wheel, the water travels through another underground pipe (F) and returns to the stream.

The 300-500 gallon water storage tank will be approximately 50 feet higher in elevation than the stream, and water will be fed by gravity to a drip irrigation system in the garden (Exhibit 2). The estimated draw of the drip irrigation system will be 500 gallons per day, or 0.0007 cubic feet per second (cfs).

ANALYSIS:

Agency Review Comments:

The Department of Health (DOH) Clean Water Branch (CWB):

- Any project and its potential impacts to State waters must meet the State's anti-degradation policies, designated uses and water quality criteria.
- A site-specific construction Best Management Practices (BMPs) Plan should be established and properly implemented by the applicant to properly isolate and confine the construction activities and to contain and prevent potential pollutant(s) discharges from adversely impacting the State waters.
- There must be no pollutants added to the return flow to Honokala Gulch. A National Pollutant Discharge Elimination System (NPDES) permit may be required if any water pollutant is added to Honokala Gulch.
- All discharges related to the project construction activities must comply with the State Water Quality Standards (WQS).

The Office of Hawaiian Affairs (OHA) was concerned that the diversion could affect other users of Honokala Gulch including those with appurtenant rights.

The Department of Hawaiian Home Lands did not have any objections to the project.

The U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, County of Maui Planning Department and the University of Hawaii Environmental Center did not submit comments as of the date of preparation of this submittal.

DLNR Review Comments:

- The Division of Aquatic Resources (DAR): On September 30, 2009, DAR staff conducted a site survey at several locations and found standing pools of water with prawns, snails, guppies, swordtails and one juvenile *oopu nakea*. DAR measured 0.06 cubic feet per second (CFS), or 0.0388 million gallons per day (mgd), upstream from the road crossing on the applicant's property and 0.01 cfs, or 0.0065 mgd, downstream from the applicant's property where DAR noted that the water was seeping underground.
- Historic Preservation: the applicant's parents commissioned an archaeological inventory survey for which a report was accepted by the State Historic Preservation Division (SHPD) in May 2009. SHPD reviewed and accepted the applicants' archaeological preservation plan for a portion of their property which involves rehabilitation, allows re-use of a historic property, and is an acceptable site preservation method.
- Land Division: the streambed and surrounding lands are privately owned; accordingly, no permits are required from the Land Division.
- Engineering: the project site is located in Flood Zone X according to the Flood Insurance Rate Map (FIRM). The National Flood Insurance Program (NFIP) does not have any regulations for developments within Flood Zone X.
- Forestry and Wildlife: not subject to their authority or permit.
- State Parks had no objections to the project.

Staff Review

Honokala Gulch is 1.8 miles long and is listed as a non-perennial stream in the U.S. Geological Survey's (USGS) topographic map of Maui. Honokala Gulch does not appear in DAR's Atlas of Hawaiian Watersheds & Their Aquatic Resources, Island of Maui, April 2008. DAR's September 30, 2009, site survey indicated the presence of one juvenile *oopu nakea* upstream from the applicant's road crossing. DAR measured 0.06 cfs stream flow upstream from the applicant's property and 0.01 cfs downstream from the applicant's property. DAR noted that the water was seeping underground at the downstream location which may indicate that this portion of Honokala Gulch is a losing reach.

There is insufficient hydrologic and aquatic information for Honokala Gulch, and additional information would be useful. DAR's hydrologic and aquatic data are based on one site visit where one juvenile *oopu* was found. Honokala Gulch appears to be a losing reach with standing pools of water downstream from the applicant's property. Stream flow decreased from 0.06 to 0.01 cfs, and water was flowing underground downstream from the applicant's property according to DAR's site visit. The applicant's proposed diversion of 0.0007 cfs (0.0005 mgd) will be limited by the one-inch pipe and the 300-500-gallon storage tank. The proposed 0.0007 cfs, or 0.0005 mgd, diversion is approximately one-percent of the measured stream flow, 0.06 cfs or 0.0388 mgd, on the applicant's property and is considered *de minimis*, i.e., less than five percent of the stream flow.

RECOMMENDATION:

That the Commission:

1. Approve the applicant's Stream Diversion Works Permit (SDWP.2586.6) for a New Auwai for Irrigation and Domestic Use, Honokala Gulch in Haiku, Maui at TMK: (2) 2-9-002:041;
2. Approve the applicant's Petition to Amend the Interim Instream Flow Standard (PAIIFS) for a stream diversion at Honokala Gulch in Haiku, Maui at TMK: (2) 2-9-002:041;
3. Amend the Interim Instream Flow Standard for Honokala Gulch, in Haiku, Maui as adopted by the Commission on October 19, 1988, to include the changes at TMK: (2) 2-9-002:041; and

4. Allow the applicant to divert up to 500 gallons per day at a pumping rate of 0.007 cfs for irrigation purposes. This amendment of the interim instream flow standard shall be subject to the conditions for interim instream flow amendments in Exhibit 5.

Respectfully submitted,



KEN C. KAWAHARA, P.E.
Deputy Director

- Exhibits:
1. Location Map
 2. Site Plan
 3. Photos of Kawela Gulch
 4. Standard Stream Diversion Works Permit Conditions
 5. Interim Instream Flow Standard Amendments

APPROVED FOR SUBMITTAL:



LAURA H. THIELEN
Chairperson

ISLAND OF MAUI

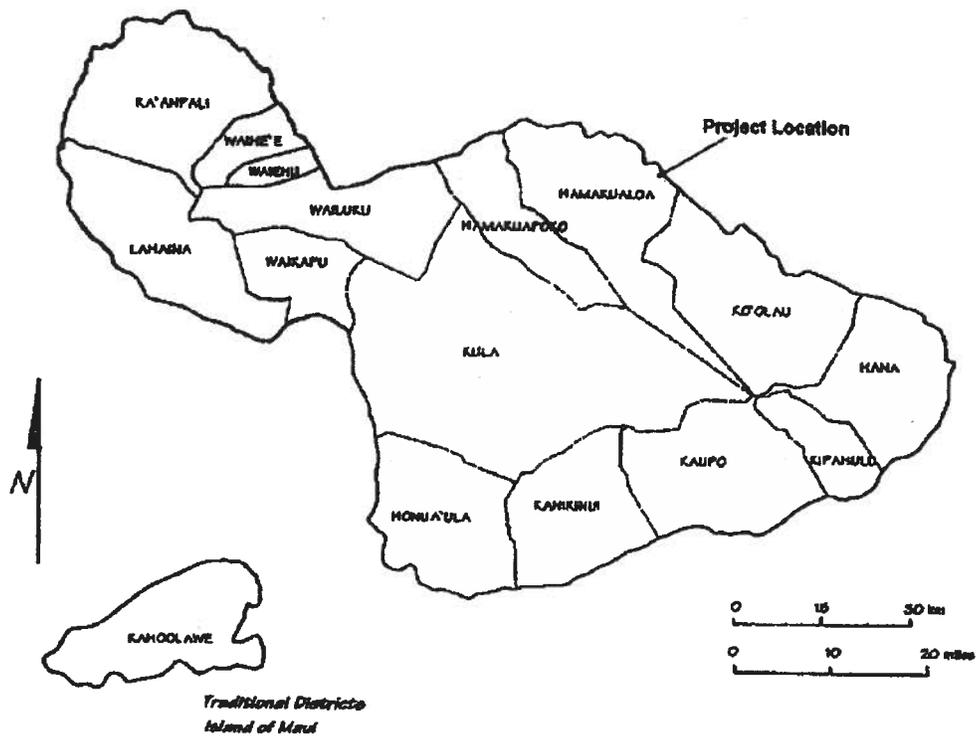


Figure 1. General Location Map of Maui (from Borthwick *et al.*, 1992)

Map 1

- KEY:**
- A - Diversion Gate
 - B - Auwai, section 1
 - C - Underground 6" pipe
 - D - Auwai, section 2
 - E - Waterwheel
 - F - Underground pipe
 - G - Water Tank

LOT 7-C
Area=2.000 acres

LOT 7-B

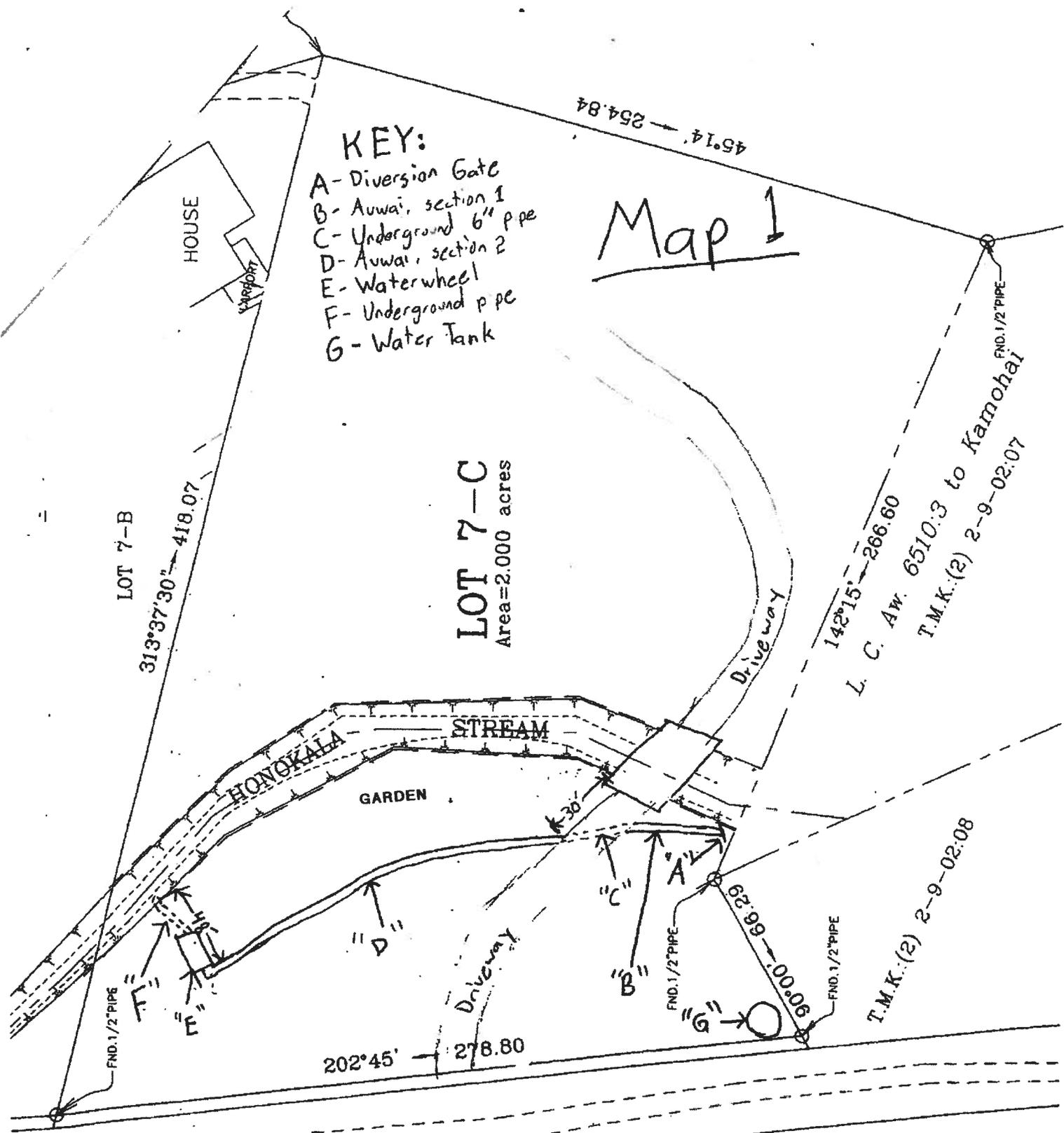
313°37'30" → 418.07

45°14' → 254.84

142°15' → 266.60
L. C. Aw. 6510:3 to Kamohai

T.M.K.:(2) 2-9-02:07

T.M.K.:(2) 2-9-02:08



KEY:

- A - Diversion Gate 1
- B - Auwai section 1 pipe
- C - Underground 6
- D - Auwai section 2
- E - Waterwheel
- F - Underground pipe

Map 2

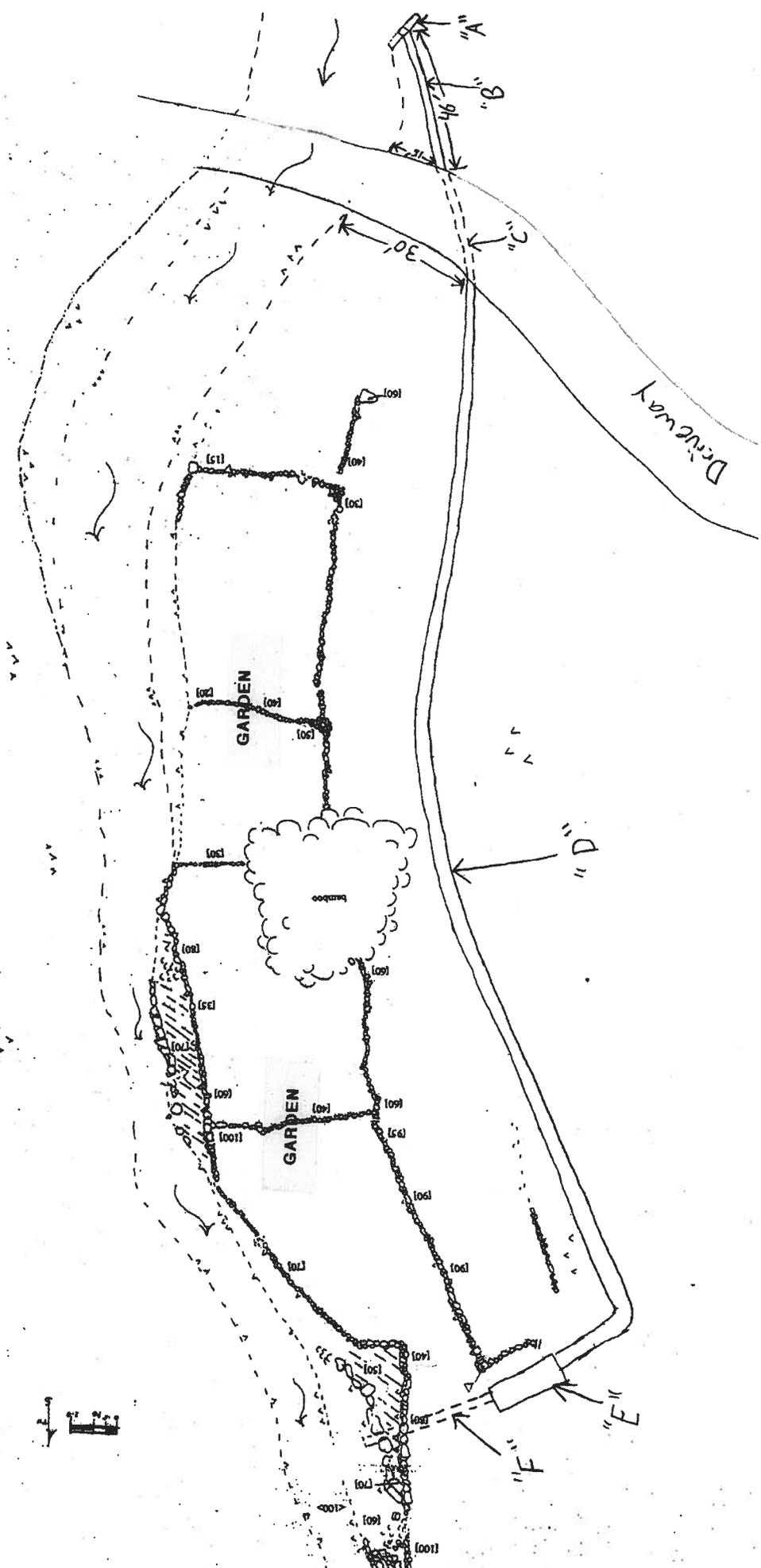




Photo taken towards the West at site "A" of Diversion Gate Location, just to left of dry stack rock wall.



Photo taken to the South, of site "B", first auwai section partially constructed. This is also the meeting of site "C" underground pipe at driveway crossing.



Photo taken to the North, of site "D", auwai section 2 partially constructed.



Photo taken to the West, at site "F" where underground pipe will re-enter stream.

STANDARD STREAM DIVERSION WORKS PERMIT CONDITIONS
(Revised 9/19/07)

1. The permit application and staff submittal approved by the Commission at its meeting on April 21, 2010, shall be incorporated herein by reference.
2. The applicant shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and county governments.
3. The applicant, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the applicant or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.
4. The applicant shall notify the Commission, by letter, of the actual dates of project initiation and completion. The applicant shall submit a set of as-built plans and photos of the completed work to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.
5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.
6. The applicant shall develop site-specific, construction best management practices (BMPs) that are designed, implemented, operated, and maintained by the applicant and its contractor to properly isolate and confine construction activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting state waters. BMPs shall control erosion and dust during construction and schedule construction activities during periods of low stream flow.
7. The applicant shall protect and preserve the natural character of the stream bank and stream bed to the greatest extent possible. The applicant shall plant or cover lands denuded of vegetation as quickly as possible to prevent erosion and use native plant species common to riparian environments to improve the habitat quality of the stream environment.
8. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the applicant shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.

CONDITIONS FOR
INTERIM INSTREAM FLOW STANDARD
AMENDMENTS

The petitioner is hereby granted an amendment to the interim instream flow standard subject to the following conditions:

1. The petitioner acknowledges that the use of stream waters for its project shall be subject to the rights and interests of others, as may be determined by Hawaii Law including but not limited to the rights established in Section 221 of the Hawaiian Homes Commission Act, and Hawaii Revised Statutes §174C-101.
2. The Commission reserves the right to establish, in the future, permanent instream flow standards that may or may not supersede the interim instream flow standard amended by the Commission for this project.
3. The surface water use here must not interfere with interim or permanent instream flow standards. If it does, then:
 - a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
 - b. The interim or permanent instream flow standard, as applicable, must be amended.
4. The Interim Instream Flow Standard petition and submittal, as may be amended, approved by the Commission at its April 21, 2010, meeting are incorporated into this permit by reference.
5. The use authorized by law and by this amendment does not constitute ownership rights.
6. The permittee shall request modification of the amendment as necessary to comply with all applicable laws, rules, and ordinances, which will affect the permittee's water use.
7. This stream diversion works permit shall be subject to the Commission's establishment of instream flow standard and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.
8. The petitioner understands that any violation of any of the above conditions or any provisions of HRS §174C or HAR §13-168, 169, 171 may result in the suspension or revocation of this petition or fines.