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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

October 28, 2008
Honolulu, Hawaii

Application for a Stream Diversion Works Permit (SDWP.1794.8) and
Amendment of the Interim Instream Flow Standard for the North Tributary to
Puuokalepa Stream, Papaikou, Hawaii, TMK: (3) 2-7-005:018

APPLICANT:

Roy Tanaka
27-440 Kaieie Road
Papaikou, HI 96781

LANDOWNER:

Betty Tanaka
Same

SUMMARY OF REQUEST:

Application for a Stream Diversion Works Permit (SDWP.1794.8) and amendment of the interim instream flow standard for a two-inch diameter pipe in the north tributary to Puuokalepa Stream, Papaikou, Hawaii, TMK: (3) 2-7-005:018. The diversion works was installed in 1985, but was not registered with the Commission in 1988-1989.

LOCATION: Exhibits 1a and 1b.

BACKGROUND:

In May 9, 1984, the owners of Lot 18, conveyed their interests to Shinichi and Betty Tanaka. Shinichi Tanaka is the applicant's brother.

In 1985, Mr. Robby Yoshimura, a friend of the applicant, installed two, two-inch diameter, metal intake pipes in the north tributary to Puuokalepa Stream and used both intake pipes to irrigate his crops on TMK (3)-2-7-005-018.

In about 1992 the applicant started using the second intake pipe for aquaculture purposes to the present day.

ITEM C2

In the late 1990's, Mr. Yoshimura stopped farming and stopped using one of the two-inch diameter intake pipes.

During the 2000 storm event, the two-inch diameter intake pipe that Mr. Yoshimura had been using in the 1980's and 1990's was washed away, but the applicant's intake pipe was not washed away because it was wedged between some rocks in the stream.

On November 1, 2007, the applicant submitted an application for a Stream Diversion Works Permit (SDWP) and a Petition to Amend Interim Instream Flow Standard (PAIIFS) to replace an existing two-inch diameter pipe in the north tributary to Puuokalepa Stream for aquaculture.

On November 13, 2007, Buddy Perry with the Natural Resources Conservation Service called the Commission staff for information on the Commission's stream diversion works permit process on behalf of the applicant who wanted to replace the corroded pipes with new pipes and to "make it legal."

On November 27, 2007, Commission staff conducted a site visit and met with the applicant to inspect his stream diversion and aquaculture operation.

On December 27, 2007, Commission staff requested the assistance of U.S. Geological Survey (USGS) staff in measuring the stream flow of the north tributary to Puuokalepa Stream since the USGS had no stream flow data for the north tributary to Puuokalepa Stream.

On April 18 and 19, 2008, USGS staff measured the stream flow of the north tributary of Puuokalepa Stream approximately 150 feet upstream from the intake pipe and 100 feet downstream but above the applicant's out-flow pipe from the aquaculture ponds. The first day's measurements were poor; however, the second day's measurements were better. The second day's upstream measurement was 1.30 cubic feet per second (cfs), and the downstream measurement was 1.15 cfs.

On June 11, 2008, USGS staff obtained more accurate measurements of the north tributary of Puuokalepa Stream than the April 18 and 19th measurements with the following results:

- 1.08 cfs, or 0.70 million gallons/day (mgd), or 485 gallons/minute (gpm) - total stream discharge approximately 80 feet above the bridge upstream from the applicant's intake pipe.
- 0.12 cfs, or 0.08 mgd, or 54 gpm – water being taken by the applicant's diversion intake pipe.
- 0.08 cfs, or 0.05 mgd, or 36 gpm – water re-entering the stream from the applicant's aquaculture ponds.

The USGS staff noted that stream flow in the north tributary to Puuokalepa Stream was during a period of low stream flow which was also reflected in the USGS stream gage data for Honolii Stream located two miles east of the north tributary to Puuokalepa Stream for the month of June 2008.

On August 21, 2008, the applicant contacted Commission staff regarding the Commission's request for additional information on the species of catfish and tilapia that he was raising and DAR's request for best management practices (BMPs) to prevent the accidental introduction of aquaculture species into the stream ecosystem. The applicant was referred to Glenn Higashi in DAR for assistance.

On September 16, 2008, Commission staff contacted the applicant for an update and was informed that the applicant had been unable to reach Glenn Higashi in DAR but had contacted Dr. James Szyper, Aquaculture Extension Specialist with the University of Hawaii Sea Grant College Program in Hilo for advice. Dr. Szyper recommended either a catch pit or a fine mesh screen to prevent the catfish and tilapia from escaping into the stream. The applicant stated that he had tried a catch pit previously but it was not large enough and the water did not infiltrate into the ground fast enough. The applicant also tried using a

1/8-inch mesh screen to filter the water returning to the stream but the 1/8-inch mesh screen clogged up with debris in less that a day and was not workable.

On September 30, 2008, the applicant called Commission staff with his latest water filtering set up: a 3/8-inch mesh screen is used to filter water coming out of a four-inch PVC pipe from his last pond into a smaller 6' x 8' x 2' deep settling pond; a second 3/8-inch mesh screen covering a four-inch PVC pipe filters water from the settling pond into a 4' x 4' screen of 80% shade-cloth fabric over a ditch that returns the diverted water back to the stream. The shallow ditch is approximately 2 feet wide, five inches deep and eight feet long. The shade-cloth fabric must be cleaned daily to remove the leaves, trash and debris.

On October 1, 2008, Commission staff contacted Dr. Jim Szyper who identified the catfish species as *Clarius fuscus* and the tilapia species as *Oreochromis sp*. Dr. Szyper had inspected the applicant's water filtering system earlier in the day and thought that the 80% shade cloth fabric was a workable solution to prevent the applicant's catfish and tilapia from entering into the stream.

DESCRIPTION:

In 1985 Mr. Robby Yoshimura, the applicant's friend, installed two, two-inch diameter intake pipes in the north tributary to Puuokalepa Stream to irrigate his crops. In about 1992 the applicant started using one of the intake pipes for aquaculture. The applicant would like to replace the existing corroded galvanized, "T" intake pipe with a new two-inch diameter intake pipe. The intake pipe leads to a 55-gallon collection barrel with two distribution pipes to the applicant's fish tanks which are interconnected (20' x 50', 14' x 20', 3' x 16', three 6' x 14', 6' x 20', five 6'-diameter and seven 8'-diameter). In addition, the applicant has two fish ponds (50' x 50' and 20' x 50') and a settling pond (6' x 8'). The applicant raises catfish and tilapia as a hobby and for sale to the public.

ANALYSIS:

Agency Reviews

The Office of Hawaiian Affairs (OHA) expressed the following concerns:

- The applicant will be using significant amounts of water for aquaculture related to non-native and potentially harmful species.
- The discharged water will be of deteriorated quality due to feed and excrement, and the remaining nutrients derived from fish wastes will stimulate excessive phytoplankton growth.
- This permit should be conditioned upon a Department of Health (DOH) National Pollutant Discharge Elimination System (NPDES) permit.
- All water discharges must comply with the State's water quality standards.
- Information on the size and scope of this project and water quality monitoring should be disclosed for review before permitting.

The Division of Aquatic Resources (DAR):

- Requested additional information on the species of tilapia and catfish that will be raised in the aquaculture ponds and best management practices (BMPs) to prevent the escape of the aquaculture species into the stream ecosystem.
- Commented that Puuokalepa Stream provides habitat to five native species including four fish species, and the accidental introduction of the aquaculture species can have an impact on the native species through predation, disease or competition.

The Engineering Division commented that the project is located in Flood Zone X according to the Flood Insurance Rate Map (FIRM) and that the National Flood Insurance Program (NFIP) does not have any regulations for developments within Flood Zone X.

The Historic Preservation Division determined that no historic properties will be affected by the project because intensive cultivation has altered the land.

The Land Division commented that Kaieie is the name of this stream tributary to Puuokalepa Stream.

The Department of Hawaiian Home Lands (DHHL), Hawaii County Planning Department and Forestry and Wildlife had no objections to the project.

State Parks commented that the project was not subject to its regulatory permit or authority.

The U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Department of Health Clean Water Branch, Hawaii County Department of Public Works and University of Hawaii Environmental Center did not submit comments as of the date of preparation of this submittal.

Commission Review

The Commission's database of Registration of Stream Diversion Works and Declaration of Water Use indicates that there are no diversions on the north tributary of Puuokalepa Stream.

The applicant's brother's parcel is located adjacent to the north tributary of Puuokalepa Stream and has riparian rights to the stream. Riparian rights are rights of land adjoining natural watercourses to use the water on the riparian land. The use must be reasonable, and the reasonable use cannot harm the reasonable use of those waters by other riparian landowners. The north tributary of Puuokalepa Stream is not located in a Commission-designated surface water management area.

Hawaii Administrative Rules Chapter 13-169 provides an administrative process for the Commission to review and approve requests to amend interim instream flow standards. Staff believes that the applicant is entitled to a reasonable amount of water diverted from the north tributary of Puuokalepa Stream based on the riparian rights of the applicant's brother.

Staff recommends approval of the applicant's petition to amend the interim instream flow standard for the north tributary of Puuokalepa Stream based on the following:

- The parcel has riparian rights to use water from the north tributary of Puuokalepa Stream for any reasonable and beneficial use. The property is adjacent to the north tributary of Puuokalepa Stream.
- The applicant's friend, Mr. Yoshimura, was diverting water via two two-inch intake pipes from the north tributary of Puuokalepa Stream in 1985, before the State Water Code was established and did not register his stream diversion in 1989. In 1992 the applicant started using one Mr. Yoshimura's intake pipe and is now applying for a SDWP and PAIIFS for his existing use.
- USGS stream flow measurements on June 11, 2008, indicated that the total stream discharge for the north tributary of Puuokalepa Stream was 1.08 cfs (0.70 mgd); the applicant will divert 0.12 cfs (0.08 mgd), approximately 11%, and will return 0.08 cfs (0.05 mgd) back to the stream. The net diverted amount (0.04 cfs (0.03 mgd) is 4 % of the total streamflow (1.08 cfs or 0.70 mgd) and less than the 5% amount which is considered *de minimis*.
- The USGS noted that the stream flow for the north tributary to Puuokalepa Stream was during a low flow period and that UGSG stream flow data for Honolii Stream, located two miles east of the tributary, also recorded low flows for the month of June 2008.

RECOMMENDATION:

That the Commission:

Stream Diversion Works Permit

1. Approve a Stream Diversion Works Permit to replace a two-inch diameter pipe in the north tributary of Puuokalepa Stream, Papaikou, Hawaii, TMK: (3) 2-7-005:018. The permit shall be subject to the Commission's Standard Conditions in Exhibit 3.

Petition to Amend Interim Instream Flow Standard

1. Approve the applicant's petition to amend the interim instream flow standard for a stream diversion at the north tributary of Puuokalepa Stream, Papaikou, Hawaii, TMK: (3) 2-7-005:018.
2. Amend the Interim Instream Flow Standard for all streams in Hawaii, as adopted by the Commission on June 15, 1988, to include a new interim instream flow standard for the north tributary of Puuokalepa Stream, Papaikou, Hawaii, TMK: (3) 2-7-005:018.
3. Allow the applicant to replace the two-inch diameter intake pipe and to divert up to 0.12 cfs (0.08 mgd) for aquaculture purposes. The amendment of the interim instream flow standard shall be subject to the conditions for interim instream flow standard amendments in Exhibit 4.

Respectfully submitted,

KEN C. KAWAHARA, P.E.
Deputy Director

Exhibits:
1. Location Maps 1a and 1b
2. Photos of site
3. Standard Stream Diversion Works Permit Conditions
4. Interim Instream Flow Standard Amendments

APPROVED FOR SUBMITTAL:

LAURA H. THIELEN
Chairperson

Department of Land and Natural Resources
Commission on Water Resource Management
Stream Protection and Management Branch

ISLAND OF HAWAII

Streams

- Ephemeral
- Intermittent
- Perennial

★ TMK: (3) 2-7-005:018

This map was produced by the Department of Land and Natural Resources (DLNR), Commission on Water Resource Management for planning purposes. It should not be used for boundary interpretations or other spatial analysis beyond the limitations of the data. Information regarding compilation dates and accuracy of the data presented can be obtained from DLNR.

Datum: North American Datum 1983

Tax Map Key (TMK) layer is comprised of tax assessor parcels derived from paper plat maps with attributes from public tax assessor records and is updated by each respective county.

N W E S

0 0.25 0.5 1 Miles

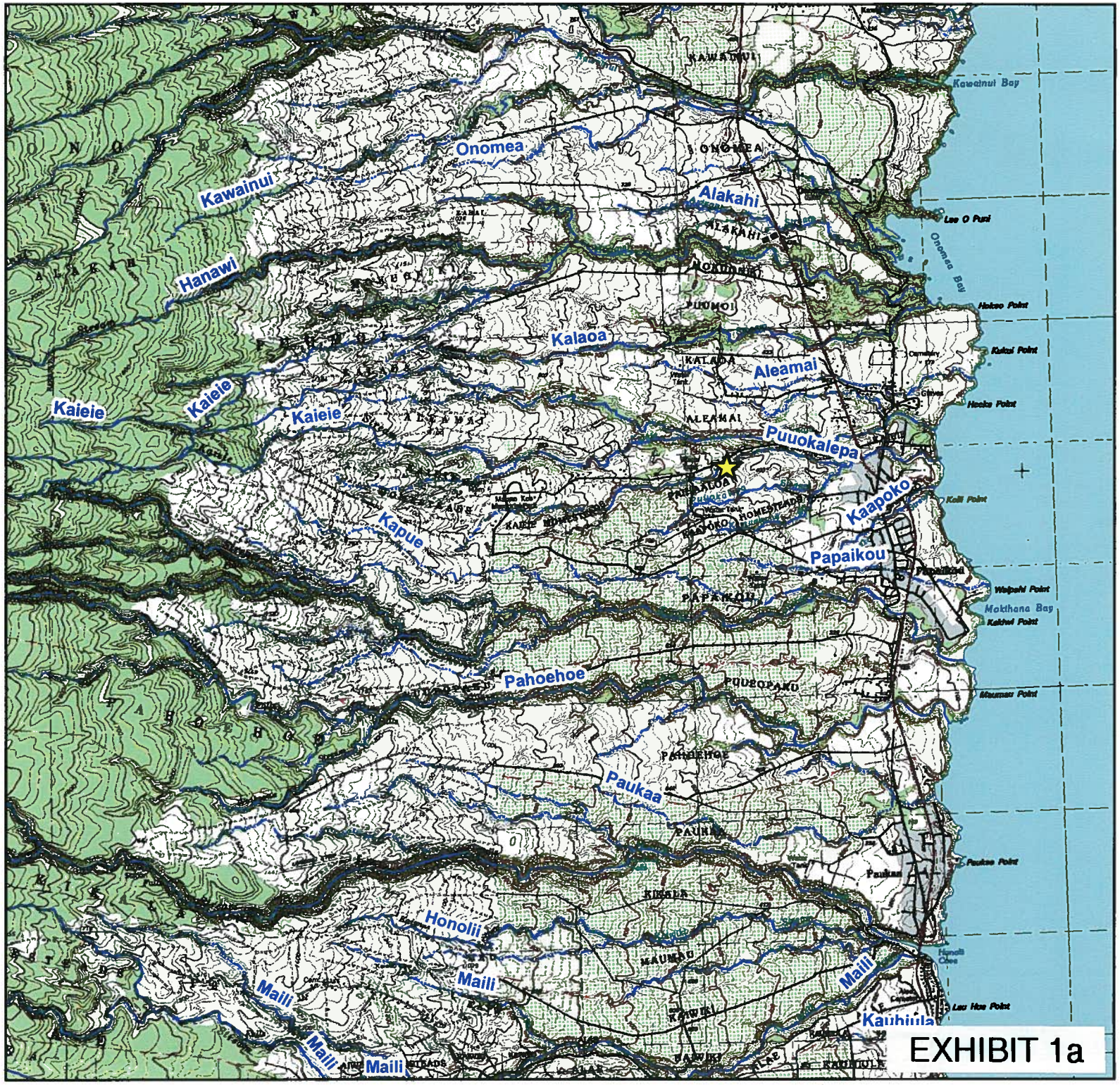
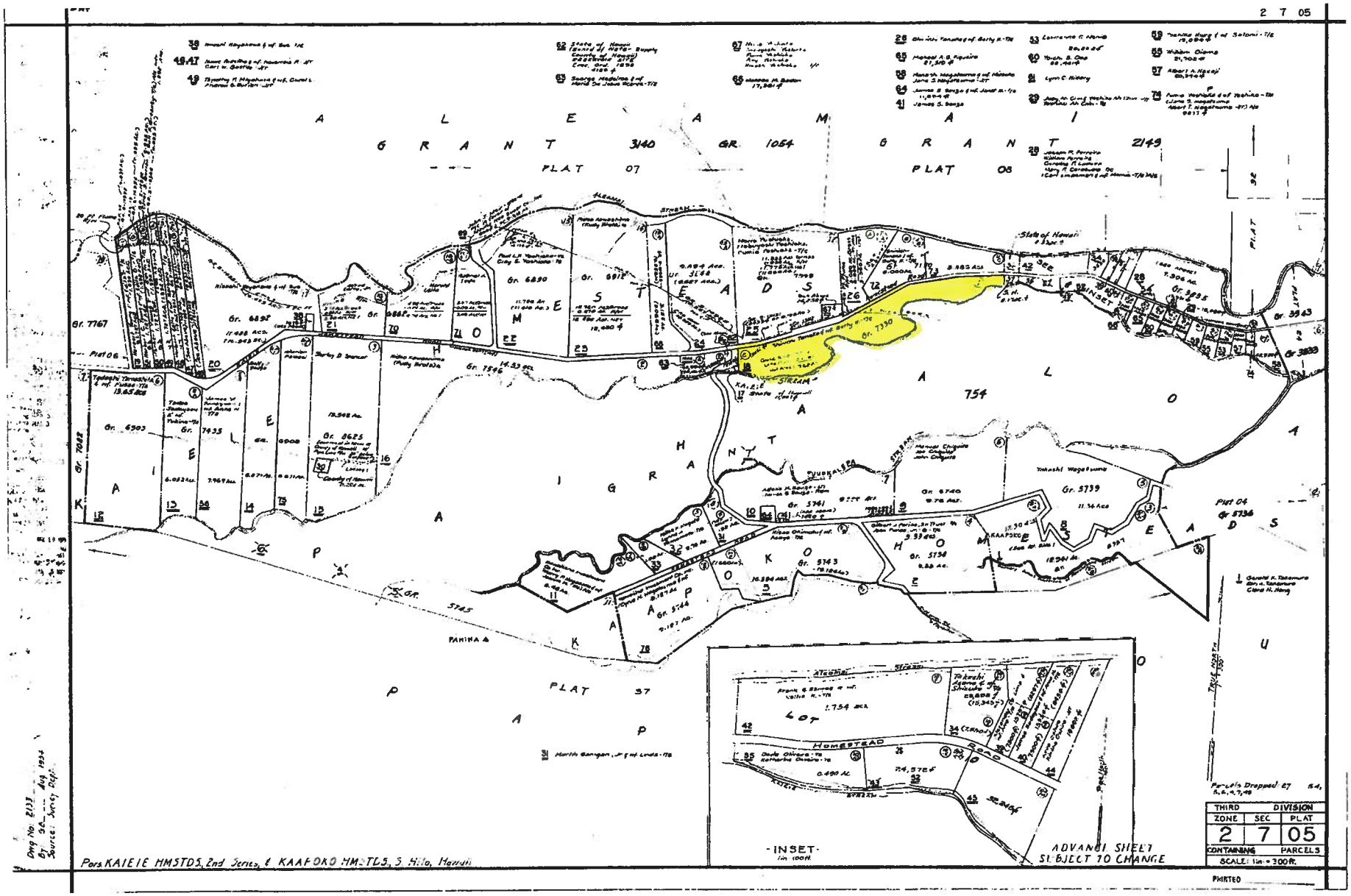


EXHIBIT 1a

Close-up of "T" section intake pipe.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State of Hawaii
PANINA
KAAPOKO
LOT
HOMESTEAD
ROAD
-INSET-
1in 100ft.
ADVANCE SHEET
SUBJECT TO CHANGE
THIRD DIVISION
ZONE SEC PLAT
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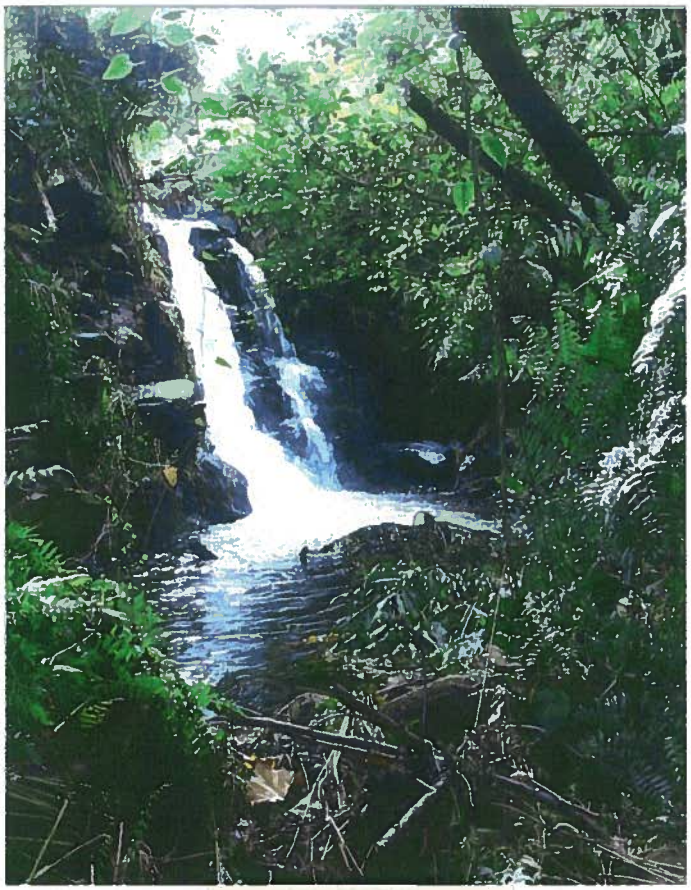
CONTAINING PARCELS
SCALE: 1in = 300ft.
PRINTED
Pars KAIEIE HMSTDS, 2nd Series, & KAAPOKO HMSTDS, S. Hilo, Hawaii

EXHIBIT 1b

Photo of intake pipe in upper left hand corner.



Close-up of two-inch intake pipe.

EXHIBIT 2

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 October 28, 2008, 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.

EXHIBIT 3

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 October 28, 2008, 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.

EXHIBIT 4