



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

September 19, 2007  
Honolulu, Hawaii

Petition to Amend Interim Instream Flow Standard (SCAP.1550.8)  
Fredrick and Diane Holcomb  
Aamakao Stream, North Kohala, Hawaii  
TMK: 3-5-02-007:013

PETITIONERS:

Frederick and Diane Holcomb  
P.O. Box 1312  
Kapaau, HI 96755

LANDOWNER:

Frederick and Diane Holcomb

SUMMARY OF REQUEST:

The applicants are requesting approval of a Petition to Amend the Interim Instream Flow Standard (IIFS) for Aamakao Stream in North Kohala, Hawaii, to divert stream flow for agricultural use.

LOCATION:

Aamakao Stream is located east of Hawi on the Big Island. See Exhibits 1a and 1b.

BACKGROUND:

The applicants requested a partial after-the-fact stream channel alteration permit (SCAP-HA-364) to construct a 700-foot long driveway and to install a capped pipeline at Aamakao Stream. The SCAP was partially after-the-fact because the contractor had previously graded the area for the driveway without a permit. The proposed pipeline would cross under the proposed driveway from Aamakao Stream to a taro loi on the applicants' property. The pipeline would be capped and would not be used until the Commission on Water Resource Management (Commission) approved a request to divert water from Aamakao Stream. The applicants planned to apply for a petition to amend the interim instream flow standard for Aamakao Stream at a later date.

On March 17, 2004, the Commission approved the applicants' request for a partial after-the-fact stream channel alteration permit to construct a driveway and to install a capped, 10-inch, polyvinyl chloride (PVC) pipeline under the driveway at Aamakao Stream.

Approved by Commission on  
Water Resource Management  
at the meeting held on  
SEP 19 2007 (as amended)

Item D1

The applicants' new driveway connects the applicants' property to Akoni Pule Highway and is approximately 700 feet along the right bank (looking downstream) of a side channel of Aamakao Stream. The driveway and bank of the side channel are lined with grouted rubble paving (GRP) ranging in height from three to fifteen feet. See Exhibits 4 and 5.

The applicants are presently applying for a petition to amend the interim instream flow standard for Aamakao Stream to divert water from the side channel of Aamakao Stream to the applicants' taro loi via the 10-inch PVC pipeline that was previously installed under the driveway.

According to the applicants, the two loi on their property were established approximately in 1920 or earlier. The 10-inch PVC pipe reaches loi #1 on the west, and water overflows into loi #2 on the east. See Exhibits 2 and 3.

On July 30, 2007, USGS staff measured the:

- 1) Stream flow of the side channel of Aamakao Stream on the applicants' property
- 2) Stream flow entering the applicants' 10-inch PVC pipe
- 3) Amount of water discharged from the applicant's 10-inch pipe.

USGS flow measurements at the side channel of Aamakao Stream on July 30, 2007, were:

- |                                                  |                                                                                                |
|--------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1) Aamakao side channel stream flow              | = 0.216 cfs x 448.8 gpm/cfs = 96.9 gpm                                                         |
| 2) Stream flow into applicants' 10-inch pipe     | = 0.010 cfs x 448.8 gpm/cfs = 4.5 gpm                                                          |
| 3) Flow discharged from applicants' 10-inch pipe | = 43.2 seconds per five gallon standard bucket<br>= 5 gallons/43.2 sec. x 60 sec/min = 6.9 gpm |

Notes: cfs = cubic feet per second  
gpm = gallons per minute

A flow meter was used to measure the stream flow entering the applicants' 10-inch PVC pipe, and a five-gallon bucket was used to measure the discharge from the 10-inch pipe. Two different methods were used to measure the amount of stream flow entering and leaving the 10-inch pipe. Consequently, the intake and discharge measurements are not the same.

### ANALYSIS:

The Division of Aquatic Resources conducted a stream survey of Aamakao Stream near sea level (from 3 feet to 96 feet elevation) in 2004 and observed two of five native stream fishes (*Awaous guamensis* and *Sicyopterus stimpsoni*). In 1980 researcher Dr. Amadeo Timbol reported the presence of *Lentipes concolor* in the stream near the old highway bridge.

The Commission's database of Registration of Stream Diversion Works and Declaration of Water Use indicated two diversions on Aamakao Stream. See Exhibit 1b.

- 1) James A. Riley's Registration and Declaration of Water Use were accepted by the Commission in 1989. According to the declaration, water is diverted from Aamakao Gulch (Aamakao Stream) via an auwai to irrigate one acre of taro and for drinking, bathing, and washing.
- 2) Soichi and Rose P. Maeda's Registration and Declaration of Water Use were accepted by the Commission in 1990. According to the declaration, water is diverted from Pakolea Gulch, a tributary to Aamakao Stream, via an auwai to irrigate four patches of wetland taro. Outflows from the taro patches return to Pakolea Gulch.

Aamakao Stream is a perennial stream located east of Hawi, Hawaii. The Hawaii Stream Assessment, prepared by the Hawaii Cooperative Park Service Unit of the National Park Service for the Commission in December 1990, ranks Aamakao Stream as “Outstanding” from an aquatic and cultural resources standpoint, and “Substantial” from a recreational resources standpoint. Aamakao Stream has one major tributary (Puwaiole) makai of the applicants’ property and one major tributary (Waipunalau-Waipuhi) mauka of the applicants’ parcel. Aamakao Stream and its tributaries are not gaged, and consequently, there is little information available on the amount of stream flow at each tributary.

The tax map for the area indicates that several parcels have Land Commission Award (LCA) numbers suggesting that these parcels may have appurtenant water rights, i.e. rights to use water by parcels of land at the time of their conversion into fee simple lands (Kuleana Act of 1850). The applicants’ parcel (013) bears the LCA number 10859:1.

The applicants’ parcel is located adjacent to the side channel of Aamakao 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. Aamakao Stream is not located in a Commission-designated surface water management area.

Hawaii Administrative Rules Chapter 169 provides an administrative process for the Commission to review and approve requests to amend interim instream flow standard. Staff believes that the applicants are entitled to a reasonable amount of water diverted from Aamakao Stream based on the LCA number for the applicants’ property and the applicants’ riparian rights to Aamakao Stream.

Staff recommends approval of the applicants’ petition to amend the interim instream flow standard for Aamakao Stream based on the following:

- It appears that the applicants’ property may have appurtenant rights to Aamakao Stream.
- The applicants have riparian rights to use water from Aamakao Stream for any reasonable and beneficial use: the applicants’ property is adjacent to Aamakao Stream, and their intake pipe is located on their property.
- USGS stream flow measurements were taken in July during drought and low stream flow conditions. The amount of water that the applicants are proposing to divert from the side channel of Aamakao Stream (4.5 gallons per minute) is very small (less than 10%) compared to the overall side channel stream flow (96.9 gallons per minute) that was measured by the USGS on July 30, 2007. The flow in the main channel was not measured.
- The applicants’ intake pipe will only divert water from the side channel of Aamakao Stream when there is sufficient stream flow (96.9 gallons per minute or more) in the side channel. Water will not be diverted during lower stream flows because the intake pipe is located above the lower stream flow.

#### RECOMMENDATION:

That the Commission:

1. Approve the applicants’ petition to amend the interim instream flow standard for a stream diversion at Aamakao Stream at TMK 3-5-02-007:013.
2. Amend the Interim Instream Flow Standard for all streams on the Island of Hawaii, as adopted by the Commission on June 15, 1988, to include an amended interim instream flow standard for Aamakao Stream at TMK 3-5-02-007:013.

3. Allow the applicant to divert up to the capacity of the 10-inch PVC pipe by gravity flow for agricultural purposes, within the applicants' LCA 10859:1.
4. Waive condition 5 because: 1) the diverted amount will be by gravity flow only; 2) the flow will be limited to the area at the loi (LCA 10859:1); and 3) requiring measurement of the flow for this specific situation would be unduly burdensome to the applicants.
5. The amendment of the interim instream flow standard shall be subject to the conditions for interim instream flow standard amendments in Exhibit 6, with the exception of condition 5.

Sincerely,



KEN C. KAWAHARA, P.E.  
Deputy Director

- Exhibits:
1. Location Maps 1a and 1b
  2. Site Plan
  3. Section A Schematic
  4. Photo of new driveway with grouted rubble paving (GRP) along side channel of Aamakao Stream and capped PVC pipeline under driveway.
  5. Photos of downstream view (top photo) and upstream view (bottom photo) of driveway along side channel of Aamakao Stream.
  6. Conditions for Interim Instream Flow Standard Amendments

APPROVED FOR SUBMITTAL:



LAURA H. THIELEN  
Chairperson