



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

June 27, 2007  
Honolulu, Hawaii

Application for a Stream Channel Alteration Permit (SCAP-HA-408)  
Mr. Mike Penney  
Construction of Ford Crossing for Hapuna Well No. 4  
Waiulaula Stream (also Waikoloa Stream), Kamuela, Hawaii  
(TMK: (3) 6-2-001:051)

APPLICANT:

Mr. Mike Penney  
Mauna Kea Properties  
62-100 Kaunaoa Drive  
Kamuela, Hawaii 96743

LANDOWNER:

Same as Applicant

SUMMARY OF REQUEST:

Application for a Stream Channel Alteration Permit (SCAP) to construct a ford crossing for Hapuna Well No. 4 across Waiulaula Stream, Kamuela, Hawaii.

LOCATION: Exhibit 1.

BACKGROUND:

Mauna Kea Properties (MKP) proposes to construct a ford across Waiulaula Stream on its property, approximately one mile mauka of the Queen Kaahumanu Highway (Exhibit 1). Stream flow at this location is intermittent (Exhibit 4) and occurs only after substantial rainfall in the upper reaches of the watershed.

The ford crossing will provide access from Hapuna Irrigation Well No. 3 (6047-04) to Hapuna Irrigation Well No. 4 (6047-05) that MKP has drilled and is proposing to install a 450 gpm pump to supply irrigation water for 85 acres of Hapuna Golf Course and 50 acres of the Uplands residential development. The ford crossing will: 1) house the waterline needed to connect the new well with the irrigation system serving MKP's Mauna Kea Uplands residential development, and 2) provide vehicle access to the well for maintenance purposes during periods of low and no stream flow.

DESCRIPTION:

The applicant proposes to place approximately 15 feet of waterline beneath the Waiulaula Stream channel (Exhibit 2). The eight inch diameter waterline will be made of ductile iron and enclosed in a poured concrete jacket. The pre-cast concrete ford crossing structure will be 32 feet long and include two rectangular culverts, each of which will be two feet high by six feet wide (Exhibit 3).

Approximately 25 cubic yards of material will be excavated from within the stream channel, and excess materials primarily excavated from the stream bed will be hauled to a suitable off-site disposal location. Approximately 165 cubic yards of fill material will be placed in the stream bed and will include the waterline, concrete jacket for the waterline, coarse gravel fill above the waterline, and the pre-fabricated crossing structure.

Work will be scheduled during the summer months (June-August) and will occur only when there is no water flow in the stream bed. Construction access will be from the north side of the gulch. The contractor will excavate a trench, emplace the waterline and the culverts using a crane, and backfill with clean, coarse material to create a gravel roadway.

After construction is completed, water will flow through two, six feet by two feet culverts at low stream-flow levels. The bottom of the culverts will be installed at and below the current stream bed elevation. During periods of high stream-flow, water will flow over the top of the roadway and continue down the existing channel.

ANALYSIS:

The applicant's consultant, John I. Ford with SWCA Environmental Consultants, prepared a biological assessment of Waiulaula Stream for the Hapuna Well No. 4 stream crossing project in December 2006 to evaluate the impacts of the proposed gulch crossing. SWCA, Englund et al. (2002), and Division of Aquatic Resources (DAR) found both native and introduced aquatic species in several locations along Waiulaula (Waikoloa) Stream. The presence of native species below, at, and above the project site suggested that periodic flows below the Marine Dam (near 3,350 feet elevation above Waimea Town) were sufficient to support recruitment of and to provide habitat for native aquatic species.

SWCA recommended best management practices (BMPs) to minimize disturbance to the stream channel and to minimize soil erosion. SWCA also recommended avoiding structures that restrict upstream migration of native species such as raised pipe culverts, or pipe-arches and culverts with inverts raised above the stream bed.

The U.S. Army Corps of Engineers indicated that this activity is being processed under the Department of the Army (DA) Permit No. POH-2007-26.

The Department of Health Clean Water Branch made the following comments:

- Any project and its potential impacts must meet the State's anti-degradation policy, designated uses, and water quality criteria.
- A National Pollutant Discharge Elimination System (NPDES) permit for discharges of stormwater runoff into State surface waters may be required if construction activities result in the disturbance of one acre or more of land area.
- All discharges related to the project construction or operation activities must comply with the State Water Quality Standards.

The Division of Aquatic Resources (DAR) performed biological surveys in the lower, middle, and upper reaches of Waiulaula Stream. DAR noted that this stream provides habitat for native macrofauna including native fish species (*Awaous guamensis*, *Sicyopterus stimsoni*, and *Lentipes concolor*), native crustacean (*Macrobrachium grandimanus*), native dragonflies (*Anax junis* and *Anax strenuus*), and the native damselfly (*Megalagrion blackburni*).

DAR recommended the following mitigative measures to protect aquatic resources and minimize the potential for erosion, siltation and pollution of the aquatic environment:

- The design and installation of the box culvert boxes should be level and conform to the stream channel bottom to avoid an overhang that inhibits upstream migration.
- Lands denuded of vegetation should be planted or covered as quickly as possible to prevent erosion.
- Site work, particularly excavation and grading, should be scheduled during periods of minimal rainfall.
- Construction materials, petroleum products, debris, and landscaping products at the construction site and staging areas should be prevented from falling, blowing, or leaching into the aquatic environment.

The Division of Forestry and Wildlife, Land Division, State Parks, and Department of Hawaiian Home Lands had no objections to the proposal. The Engineering Division indicated that the project site is located in Flood Zone X, and the National Flood Insurance Program does not have any regulations for developments in Flood Zone X.

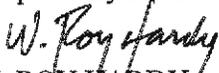
The County of Hawaii did not require a Special Management Area (SMA) permit and had no comment regarding a certificate of no-rise determination.

The State Historic Preservation Division, Office of Hawaiian Affairs, University of Hawaii, Environmental Center and U.S. Fish and Wildlife Service did not submit comments as of the date of preparation of this submittal.

RECOMMENDATION

That the Commission approve a Stream Channel Alteration Permit to construct a ford crossing for Hapuna Well No. 4 across Waiulaula Stream (also Waikoloa Stream), Kamuela, Hawaii. The permit shall have a term of two (2) years subject to the Commission’s standard permit conditions in Exhibit 5, and the following special conditions:

1. The design and installation of the box culvert boxes should be level and conform to the stream channel bottom to avoid an overhang that inhibits upstream migration.
2. Lands denuded of vegetation should be planted or covered as quickly as possible to prevent erosion.

Respectfully submitted,  
  
W. ROY HARDY  
Hydrologic Program Manager

- Exhibit(s):
1. Location map
  2. Plan and Profile
  3. Plan and Profile of Concrete Box Culvert
  4. Upstream view of the main channel of Waiulaula Stream at the proposed stream crossing site
  5. Standard Stream Channel Alteration Permit Conditions

APPROVED FOR SUBMITTAL:

  
ALLAN A. SMITH  
Interim Chairperson