



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

May 21, 2008
Honolulu, Oahu

Request to Enter Into a Contract for Professional Services to
Assess Methods for Measuring Diverted Streamflow

SUMMARY OF REQUEST:

Staff is requesting that the Commission authorize the Chairperson to enter into a contract for professional services to conduct an inventory and assessment of various methods for measuring diverted streamflow.

LOCATION: Statewide application.

BACKGROUND:

The State Water Code, Chapter 174C, Hawaii Revised Statutes (HRS), gives the Commission on Water Resource Management (Commission) the authority to regulate water use in select areas throughout the State via the designation of water management areas. "When it can be reasonably determined, after conducting scientific investigations and research, that the water resources in an area may be threatened by existing or proposed withdrawals or diversions of water, the [C]ommission shall designate the area for the purpose of establishing administrative control over the withdrawals and diversions of ground and surface waters in the area to ensure reasonable-beneficial use of the water resources in the public interest (§174C-41 (a), HRS)."

In surface water management areas, permits are required for stream diversions and withdrawal of stream water. Uses in existence at the time of designation of an area as a water management area are subject to permitting; existing users have one year from the effective date of designation to apply for a permit. Conditions of a permit for existing uses may include measurement of flow. "The quantity being consumed shall be determined and verified by the best available means not unduly burdensome on the applicant, as determined by the [C]ommission. The [C]ommission may prescribe the installation of metering or gauging devices, and, if so prescribed, such metering or gauging devices shall be in place and operational for at least one year before a determination is made as to the quantity of water being consumed in an existing use and a final permit is issued (§174C-50 (f), HRS)."

Further, the State Water Code declares that "[a]s a condition for the issuance of a [new or existing use] permit the [C]ommission may require the permittee to install meters, gauges, or other appropriate measuring devices. [L 1987, c 45, pt of §2] (§174C-53 (d), HRS)."

In the interest of identifying methods of flow measurement that are not "unduly burdensome" on permittees, the Commission seeks a comparison of various methods of flow measurement, together with advantages and limitations of each.

On March 13, 2008, the Commission designated Na Wai Eha, Maui, as the first surface water management area in the state. It is anticipated that current water users in the area will begin submitting permit applications shortly. Upon issuance of a water use permit, the Commission may need to prescribe allowable methods for measuring diverted streamflow. If this request to enter into a contract is disapproved, the Commission may not be able to make appropriate recommendations, resulting in the inability to accurately quantify surface water withdrawals from the management area in a timely manner.

SCOPE OF SERVICES:

This proposed Assessment calls for identification and documentation of different methods of measuring the volume of diverted streamflow (i.e. the amount of water being diverted offstream, not the amount of water in the stream). Some methods will only apply to certain types of diversions. Methods should include continuous flow measurements and point-in-time measurements. Measurement devices include, but are not limited to: bucket-and-stopwatch, weirs, flumes, submerged orifices, current meters, acoustic flow meters, other open-channel devices, and other closed-conduit devices.

The Assessment would include but not be limited to: 1) description of measurement methodology; 2) accuracy range; 3) description and diagram or photo of measuring device; 4) type(s) of diversion structure / conduit for which the device might be used; 5) range of flow rates; 6) entity for whom method is most suited (e.g. government, farmer); 7) approximate costs; 8) construction, installation, operating, and maintenance requirements; 9) life expectancy of measuring device for Hawaii environment; and 10) examples of manufacturers and suppliers of any structures or instrumentation required, together with their contact information.

FUNDING:

The funds, in the amount of \$25,000 are already available for project implementation from the Department's LNR 404, Water Resources Program FY '08 Budget.

RECOMMENDATION:

Staff recommends that the Commission authorize the Chairperson to enter into a contract for professional services to inventory and assess various methods for measuring diverted streamflow. The terms of this contract will be subject to the approval of the Chairperson and the Department's Deputy Attorney General. Contract execution will be done in accordance with Chapter 103D, HRS, and Chapter 3-122, Hawaii Administrative Rules.

Respectfully submitted,


KEN C. KAWAHARA, P.E.
Deputy Director

APPROVED FOR SUBMITTAL:


LAURA H. THIELEN
Chairperson