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STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

June 18, 2008
Honolulu, Hawaii

Request to Authorize Chairperson to Enter Into a
Planning Assistance to States Agreement With the
U.S. Army Corps of Engineers for the
Update of the Rainfall Atlas of Hawaii

SUMMARY OF REQUEST:

Staff is requesting that the Commission authorize the Chairperson to enter into agreement with the U.S. Army Corps of Engineers, (USACE) under its planning assistance to states program. The purpose of this agreement is to provide cost-share funding to update the *Rainfall Atlas of Hawaii*, Report R-76, published by the Department of Land and Natural Resources (DLNR), Division of Water and Land Development (DOWALD) in 1986.

BACKGROUND:

The *Rainfall Atlas of Hawaii* was published in 1986 with support and funding from the Department of Land and Natural Resources' Division of Water and Land Development (now called Engineering Division).

The *Rainfall Atlas of Hawaii* has historically been the standard rainfall reference document recognized by the Commission for various hydrologic investigations and studies. It is also recognized as the minimum standard rainfall reference document in the Commission's draft *Water Resource Protection Plan 2008 Update*. Since its publication, nearly 25 years of new rainfall data have been collected, as the period of record for rainfall data used in the *Rainfall Atlas of Hawaii* ended in 1983.

With the availability of nearly a quarter century's worth of additional rainfall data and the advent of meteorological satellites and introduction of new circulation models, this an opportunity to improve and update the existing rainfall maps developed in R-76. Current water resource issues combined with future growth and development projections create the need to refine our assessment of the State's water resources.

The objective of updating the *Rainfall Atlas of Hawaii* is to provide the Commission and other users with current and accurate rainfall maps, produced with updated data using state-of-the-art analytical techniques and technologies, for the purpose of accurately assessing the water resources of the State. The proposed update would consist of annual and monthly mean rainfall maps for all major Hawaiian islands.

The updated rainfall maps will be used to refine ground water recharge estimates, sustainable yields, and aid in other related water supply investigations. A discussion of the implications of climate change on rainfall will also be included. This discussion is important given other recent studies showing declining rainfall trends in Hawaii and concerns over global climate change and its impact to Hawaii's water resources.

AGREEMENT:

Provisions of Section 22 of the Water Resources Development Act of 1974, as amended, provide authority for the USACE to assist states in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. This assistance is provided on a 50/50 cost-share basis.

Staff submitted a request for assistance to USACE under this authority. Subsequent discussions were held with USACE to discuss project scope of services and cost. Based on preliminary discussions, the Commission's cost-share to complete an update of the *Rainfall Atlas of Hawaii* would not exceed \$200,000 and the project period would be 24 months. Commission will fund its share of this project with a combination of Fiscal Year 2008 general funds and special funds, which are to be encumbered by June 30, 2008.

Under the proposed agreement, the Commission will provide a cost-share of no more than \$200,000 for this project. The USACE will be responsible for contractor selection, contract management, project management, financial management, and technical review. Staff will have input into all aspects of this project.

The USACE is preparing a detailed project scope of services, fee proposal, and completion schedule, which will be made part of the agreement subject to the Chairperson's approval.

RECOMMENDATION:

Staff recommends that the Commission authorize the Chairperson to enter into a planning assistance to states agreement with the USACE to provide cost-share funding not to exceed \$200,000 to update the *Rainfall Atlas of Hawaii*. The terms of this agreement will be subject to the approval of the Chairperson and the Department's Deputy Attorney General.

Respectfully submitted,



for KEN C. KAWAHARA
Deputy Director

APPROVED FOR SUBMITTAL:



LAURA H. THIELEN
Chairperson