Senator Robert T. Stafford, Chairman
United States Senate
Committee on Environment and Public Works
Washington, D.C. 20510

Dear Senator Stafford:

Analysis of the Luluku Report: An Upland Agricultural System
Kaneohe, Ko'oloupoku District, Oahu

As requested for your committee, the Environmental Center of the University of Hawaii has reviewed the above cited report. It is our understanding that the purpose of this review is to assist in the evaluation and significance determination of the Luluku Agricultural System and the implications of its destruction if the proposed Interstate Highway, H3, is granted a 4(f) waiver. Our comments have been prepared with the assistance of the following members of the University of Hawaii: Bion Griffin, Anthropology; Charles Lamoureux, Botany; and Martha Diaz, Environmental Center.

General Comments

The Luluku agricultural system is one of the more important historic sites in Hawaii. It contains valuable information concerning pre-historic irrigation techniques utilized during the early Hawaiian occupation of this area and indeed contains vast research and interpretive potential. The following responses to your questions are provided for use in your evaluation of the Luluku report and your decision on whether or not to grant the 4(f) waiver.

1. From the information available in the preliminary report, do you believe the Luluku site is eligible for listing on the National Register of Historic Places?

Response: We have no doubt that the Luluku site is eligible for inclusion on the National Register of Historic places. We concur fully with the conclusions presented in the Luluku report concerning the significance of this site (p. 64). The primary reason of importance concerns the taro pond fields located in the site complex which date back to the eleventh century (perhaps earlier). These ponds also display evidence of rebuilding and are well preserved. Research in this area should reveal much about the evolution of the Hawaiian culture and land use practices at this time in history. The orientation of the site itself is significant. It seems that during the early occupation of Hawaii, the oldest sites were clustered and located in the windward portion of the island of O'ahu.
Senator Robert T. Stafford

In a meeting with the Culture and Education Committee, Office of Hawaiian Affairs (March 1986), Dr. Jane Wheeler presented her recent findings concerning new dates which have been obtained through her continued research in this area. If confirmed, these dates would represent some of the earliest dates recorded concerning human occupation of the Hawaiian Islands. Thus, the importance of this new evidence from continued research at Luluku cannot be overestimated.

2. How does the historical, archaeological and anthropological significance of this site compare with other sites in Hawaii? With other sites outside of Hawaii?

Response: The comparison presented in the Luluku report (pp. 10-11) revealed dissimilarities between the Ahuimanu complex and this site. However, no discussion was provided concerning the fact that our present data on Luluku indicates that, in terms of rebuilding phases, it is the earliest and most complex taro irrigation system found in Hawaii. To the best of our knowledge there are no similar systems in the Pacific islands of the United States. Since Luluku is a terraced complex running up a steep hillside, it is especially unique, in that the taro cultivation systems (especially involving irrigation and pond fields) reached so deeply into the interior of the island. No comparison can be made with the continental United States, as the Polynesian culture of Hawaii is unique.

3. What effect will constructing H-3 in the vicinity of Luluku have on the site? Can an alignment be chosen which will have no effect?

Response: Construction of the proposed H-3 project will adversely impact the lower areas of site (G5-85), some of the sites in the immediate vicinity and those which abut this area. Regarding the selection of an alternative alignment to mitigate this problem, several have been considered and vary in terms of ability to effectively preserve the site:

ALTERNATIVE "A" - would avoid the most significant sites, however, they would continue to remain private property, thus be subject to potential destruction, by ancillary planned private developments in the future.

ALTERNATIVE "B" - would provide a "loop" to enclose the most significant sites. A larger part of site G5-85 could thus be preserved under State and Federal jurisdiction.

4. Please describe the significance of the historical archaeological, and anthropological resources at the Luluku site.

Response: As noted in the report, the Luluku site contains the "earliest secure pond field (irrigated field, lo'î) dates recorded for Oahu..."and probably the Hawaiian Islands. The site also constitutes the most extensive early (mid 12th century) wetland agricultural complex known on O'ahu and contains a stratigraphic sequence reflecting a long period of continued use and development. The sites significance is further enhanced by its excellent state of preservation and integrity, as well as its "natural" physical environment when considered in relation to other early sites in the general area.
5. Historic sites have been preserved in various ways including, for example, use for research purposes, use for educational purposes and salvage. What do you believe are the most appropriate uses for the Luluku site? Should it be preserved as an historic district or as individual sites?

Response: The site complex should be preserved (as much as possible) as portions of this site form an integral unit. Portions of the site have already been damaged during the construction of the Likelike Highway in 1960. Therefore, it is important to preserve the remaining portions as a historic district. Such a district would contain great research, interpretive and cultural significance and should therefore be preserved as a cultural-historical park and opened for public use. In particular, site G5-85 should be preserved. This site is a historical cemetery which is still tended. The surrounding areas could be preserved by salvage, rather than "in situ" preservation.

6. What additional information, if any, should be available to determine the significance of the Luluku site?

Response: Further information on this site can only enhance its significance. It is worth mentioning that there are additional sites in the immediate vicinity, including the area proposed in "Alternative B", which have not yet been recorded. Other attributes are the stone tool workshop as well as the geographical significance of Luluku's location, i.e. Windward, O'ahu, which is the birthplace of the Hawaiian genealogy. The relation of these to the complex is still unclear.

7. Please provide any additional comments which you believe would be helpful to the Committee.

Response: The Environmental Center generally concurs with the comments submitted under separate cover by Professor Matthew Spriggs regarding the significance of the Luluku site. While the thrust of our comments have been directed toward your request for our assessment of the archaeological report, two other topics of interest should be called to your attention. Since present information leads us to believe that this area contains the oldest irrigated agricultural complex in the Hawaiian islands a pollen analysis from below the archaeologically dated levels, may lend baseline information on botanical communities prior to the arrival of the polynesians. Secondly, we must reiterate the basis for our original concern and correspondence to you on this issue. Exemption of environmental regulations, such as has been proposed by Senate Bill 1796, would establish a precedent likely to affect the enforcement of existing and subsequent environmental law.

We appreciate the opportunity to respond to your request and hope you will find our comments helpful in your decision making.

Yours truly,

Jacquelin N. Miller
Acting Associate Director