



# University of Hawaii at Manoa

Environmental Center  
Crawford 317 • 2550 Campus Road  
Honolulu, Hawaii 96822  
Telephone (808) 948-7361

September 20, 1985

RP:0053

Mr. Shinji Soneda, Chief  
Environmental Protection and Health Services  
Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

Dear Mr. Soneda:

Zone of Mixing  
Waianae WWTP Ocean Outfall Extension  
(Waianae Wastewater Treatment Plant)  
Waianae, Oahu

In response to your request of August 13, 1985, we have reviewed the Zone of Mixing (ZOM) application for the Waianae WWTP Ocean Outfall Extension and the dimensions for the Zone of Mixing prepared by M & E Pacific Inc. We have been assisted in this review by Hans-Jurgen Krock, Ocean Engineering; and Walington Yee, Environmental Center.

The dimensions of the ZOM have been derived by M & E Pacific Inc. based on certain dilution calculations taking into account effluent and receiving water densities and the effects of ocean currents. According to the text, the resulting dilution-dispersion data were used to determine whether the proposed zone of mixing dimensions were adequate to meet the state water quality standards. This information is cited as being presented in Appendix IV. Unfortunately, Appendix IV is missing from our copy. Furthermore we note that there is no reference to an Appendix IV in the table of contents.

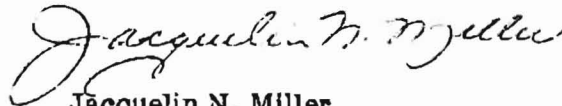
Since the purpose of the zone of mixing is to provide a necessary variance from the state water quality standards, outside of which ZOM standards must be met, the relationship of the proposed dimensions of the ZOM to these standards is quite essential. If this information is not available (Appendix IV?) then M & E Pacific should be asked to provide the necessary calculations.

On a separate, but related topic, in looking over our files on this project I note that monitoring studies of fish tissue for pesticides and heavy metals were to be required for two years. While it is most unlikely that pesticides or heavy metals would be present in sewage waste from this area, the concern expressed by local fishermen regarding

potential bioaccumulation of toxic substances by fish at the nearby "fish haven," suggest that some minimal biological monitoring might be publicly (if not scientifically) called for. In this regard, monitoring of the effluent only would not provide the answers to bioaccumulation concerns. I have attached for your information a copy of a review prepared in 1983 for Mike Chun of the Department of Public Works that discusses the issue.

If you have any questions regarding our comments, please don't hesitate to call me.

Yours truly,

A handwritten signature in cursive script, reading "Jacquelin N. Miller".

Jacquelin N. Miller  
Acting Associate Director

cc: OEQC  
Patrick Takahashi, Act. Dir., Env. Ctr.  
Hans-Jurgen Krock  
Wilmington Yee



# University of Hawaii at Manoa

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July 25, 1983

Dr. Michael J. Chun  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mike:

## Waianae Sewage Outfall

In response to your request for our review of the summary of the meeting on the Waianae Sewage Outfall held on June 24, 1983, I have found the summary to be correct to the best of my knowledge with the following exceptions:

1. ISSUE: Blasting

RESOLUTION:

a. Seasonal restrictions

- 2) According to my notes, the seasonal restriction of charge size to 100 lbs. or less was to be from November-March (not April). This is an important point as the months of April and May are the most critical for potential impacts on whales according to the Department of Land and Natural Resources (DLNR) and the National Marine Fisheries Service (NMFS). Furthermore, as noted in items 1) "no blasting, except under special circumstances with the approval of NMFS," was to be allowed during the months of April and May.

3. ISSUE: Disposal in Fish Haven

The discussion with regard to the general restrictions on disposal in the fish haven seem unnecessarily restrictive with respect to the requirement for 3 days notification prior to any disposal into the fish haven. If, as seemed apparent from the tone of the discussion during our meeting, there is no particular reason for concern on the part of NMFS, DLNR or the Corps with regard to disposal of the demolished plug or pipes damaged during construction and in fact such disposal would augment the utility of the fish haven by providing additional habitat, the requirement of 3 days notice prior to disposal may place an unnecessary burden on the pipeline contractor. I don't recall the discussion of the rationale for this prior notification but if it is perceived to be a problem to the contractor perhaps DLNR and NMFS could verify its necessity.

July 25, 1983

5. ISSUE: Monitoring

FINDINGS:

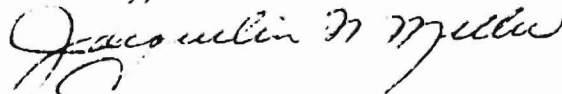
- c. Toxics bioaccumulation

RESOLUTION:

- c. I have discussed the issue of bioaccumulation of toxic wastes in fish with regard to the location of the proposed outfall and the existing fish haven site with several members of the University community with expertise in pesticide and heavy metal pollutants in the marine environment. The general consensus of opinion is that given the lack of sources of industrial pollutants in the sewage, the probability of serious or significant toxic wastes in the effluent is minimal and consequently the probability of significant bioaccumulation of toxic wastes is considered highly unlikely. The University has the capability of analyzing fish tissue for heavy metals and pesticides should baseline information from edible species in the fish haven be desired. Given the existing public concern with regard to pesticide contamination in the milk and water supply systems on Oahu it might be expeditious for the Department of Health to conduct a minimal test survey of heavy metals and pesticide residues in several edible fish species at the fish haven prior to waste disposal to establish a chemical baseline against which any future samples could be compared should the need arise.

We appreciate the opportunity to participate in the discussion relative to the potential environmental considerations pertinent to this project and hope you will find our comments useful in the development of the project.

Yours truly,



Jacquelin N. Miller  
Associate Specialist