March 5, 1987

Honorable John Lewin  
Director  
Department of Health  
1250 Punchbowl Street  
Honolulu, Hawaii  96813

Dear Dr. Lewin:

Based upon the recommendation of your office, I am pleased to accept the Final Environment Impact Statement for Moanalua Road, from Pali Momi Street to Aiea Interchange, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding whether the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under applicable laws, and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, provide a useful analysis to the proposed action.

With kindest regards,

Sincerely,

JOHN WAIHEE

cc: U.S. DOT-Federal Highway Administration  
State DOT-Highways Division  
City & County of Honolulu, Department of Public Works

RECIPIENT
FINAL ENVIRONMENTAL IMPACT STATEMENT

MOANALUA ROAD FROM PALI MOMI STREET TO AIEA INTERCHANGE CITY AND COUNTY OF HONOLULU STATE OF HAWAII

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

DEPARTMENT OF TRANSPORTATION
State of Hawaii
Highways Division

DEPARTMENT OF PUBLIC WORKS
City and County of Honolulu
Division of Engineering
# II. TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. SUMMARY</td>
<td>I-1</td>
</tr>
<tr>
<td>A. Description of the Proposed Action</td>
<td>I-1</td>
</tr>
<tr>
<td>B. Description of any Significant Actions Proposed in the Vicinity of</td>
<td>I-1</td>
</tr>
<tr>
<td>the Project</td>
<td></td>
</tr>
<tr>
<td>C. Major Alternatives Considered</td>
<td>I-3</td>
</tr>
<tr>
<td>1. No-Action Alternative</td>
<td>I-3</td>
</tr>
<tr>
<td>2. Alternative I</td>
<td>I-3</td>
</tr>
<tr>
<td>3. Alternative II</td>
<td>I-3</td>
</tr>
<tr>
<td>4. Alternative III</td>
<td>I-3</td>
</tr>
<tr>
<td>5. Alternative IV</td>
<td>I-4</td>
</tr>
<tr>
<td>D. Significant Environmental Impacts</td>
<td>I-4</td>
</tr>
<tr>
<td>E. Areas of Controversy</td>
<td>I-4</td>
</tr>
<tr>
<td>F. Significant Unresolved Issues</td>
<td>I-4</td>
</tr>
<tr>
<td>G. Federal Actions Required</td>
<td>I-4</td>
</tr>
<tr>
<td>II. TABLE OF CONTENTS</td>
<td>II-1</td>
</tr>
<tr>
<td>III. PURPOSE AND NEED FOR ACTION</td>
<td>III-1</td>
</tr>
<tr>
<td>A. Purpose and Need</td>
<td>III-1</td>
</tr>
<tr>
<td>B. System Linkage</td>
<td>III-2</td>
</tr>
<tr>
<td>C. Capacity</td>
<td>III-2</td>
</tr>
<tr>
<td>1. Traffic Volumes</td>
<td>III-3</td>
</tr>
<tr>
<td>2. Traffic Conditions</td>
<td>III-4</td>
</tr>
<tr>
<td>3. Future Conditions</td>
<td></td>
</tr>
<tr>
<td>D. Compliance with Transportation Plan and Other Legislation</td>
<td>III-7</td>
</tr>
<tr>
<td>E. Social Demands or Economic Development</td>
<td>III-8</td>
</tr>
<tr>
<td>F. Modal Interrelationships</td>
<td>III-8</td>
</tr>
<tr>
<td>G. Existing Safety Hazards</td>
<td></td>
</tr>
<tr>
<td>IV. ALTERNATIVES INCLUDING PROPOSED ACTION</td>
<td>IV-1</td>
</tr>
<tr>
<td>A. Development of Alternatives</td>
<td>IV-1</td>
</tr>
<tr>
<td>Preferred Alternative</td>
<td>IV-2</td>
</tr>
<tr>
<td>B. Alternatives</td>
<td>IV-5</td>
</tr>
<tr>
<td>1. No-Action Alternative</td>
<td>IV-5</td>
</tr>
<tr>
<td>2. Alternative I</td>
<td>IV-5</td>
</tr>
<tr>
<td>3. Alternative II</td>
<td>IV-5</td>
</tr>
<tr>
<td>4. Alternative III</td>
<td>IV-6</td>
</tr>
<tr>
<td>5. Alternative IV</td>
<td></td>
</tr>
<tr>
<td>C. Summary of Alternatives for Proposed Project</td>
<td>IV-6</td>
</tr>
<tr>
<td>D. Traffic Evaluation of Alternatives for Proposed Project</td>
<td>IV-6</td>
</tr>
<tr>
<td>E. Project Schedule and Costs</td>
<td>IV-13</td>
</tr>
<tr>
<td>V. AFFECTED ENVIRONMENT</td>
<td>V-1</td>
</tr>
<tr>
<td>A. Natural Environment</td>
<td>V-1</td>
</tr>
<tr>
<td>1. Topography</td>
<td>V-1</td>
</tr>
<tr>
<td>2. Geology</td>
<td>V-1</td>
</tr>
<tr>
<td>3. Soils</td>
<td>V-1</td>
</tr>
<tr>
<td>4. Climatology</td>
<td>V-3</td>
</tr>
<tr>
<td>5. Hydrology</td>
<td>V-3</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS
(continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Flora</td>
<td>V-5</td>
</tr>
<tr>
<td>7. Fauna</td>
<td>V-5</td>
</tr>
<tr>
<td>8. Archaeological Sites</td>
<td>V-6</td>
</tr>
<tr>
<td>9. Visual</td>
<td>V-6</td>
</tr>
<tr>
<td>10. Ambient Air Quality</td>
<td>V-6</td>
</tr>
<tr>
<td>11. Ambient Noise Quality</td>
<td>V-6</td>
</tr>
<tr>
<td>B. Social Environment</td>
<td></td>
</tr>
<tr>
<td>1. Population</td>
<td>V-9</td>
</tr>
<tr>
<td>2. Housing, Cultural Aspects, Public Institutions, Neighborhoods, and Community Facilities</td>
<td>V-9</td>
</tr>
<tr>
<td>3. Fire Protection</td>
<td>V-11</td>
</tr>
<tr>
<td>4. Police Protection</td>
<td>V-11</td>
</tr>
<tr>
<td>5. Public and Private Educational Facilities</td>
<td>V-11</td>
</tr>
<tr>
<td>6. Recreational Facilities</td>
<td>V-13</td>
</tr>
<tr>
<td>C. Economic Setting</td>
<td></td>
</tr>
<tr>
<td>2. Income</td>
<td>V-13</td>
</tr>
<tr>
<td>D. Physical Setting</td>
<td></td>
</tr>
<tr>
<td>1. Potable Water System</td>
<td>V-15</td>
</tr>
<tr>
<td>2. Sewer System</td>
<td>V-15</td>
</tr>
<tr>
<td>3. Drainage System</td>
<td>V-15</td>
</tr>
<tr>
<td>4. Gas System</td>
<td>V-16</td>
</tr>
<tr>
<td>5. Telephone System</td>
<td>V-16</td>
</tr>
<tr>
<td>6. Electrical System</td>
<td>V-16</td>
</tr>
<tr>
<td>E. Planning Process</td>
<td></td>
</tr>
<tr>
<td>1. City and County of Honolulu General Plan</td>
<td>V-17</td>
</tr>
<tr>
<td>2. City and County of Honolulu Development Plan</td>
<td>V-17</td>
</tr>
</tbody>
</table>

VI. ENVIRONMENTAL CONSEQUENCES

A. Urban and Community Impacts                                          | VI-1 |
| 1. Social and Economic Impacts                                         | VI-1 |
| 2. Relocation Impacts                                                  | VI-2 |
| 3. Land Use Impacts                                                    | VI-3 |
| a. State Land Use District Boundaries                                  | VI-3 |
| b. State Transportation Plan                                           | VI-3 |
| c. City and County of Honolulu Zoning                                 | VI-4 |
| 4. Considerations Relating to Pedestrians and Bicyclists               | VI-4 |
| a. Relationship of the Project to Local Plans for Bicycles and Pedestrian Facilities | VI-4 |
| b. Current and Potential Bicycle and Pedestrian Activity               | VI-7 |
| c. Construction and Operation Impacts on Bicycling and Walking         | VI-7 |
| d. Consistency with 23 USC 109 (n)                                     | VI-7 |
| 5. Visual Impacts                                                      | VI-8 |

II-2
TABLE OF CONTENTS  
(continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Physical Impacts</td>
<td></td>
</tr>
<tr>
<td>1. Air Quality</td>
<td>VI-8</td>
</tr>
<tr>
<td>2. Noise</td>
<td>VI-8</td>
</tr>
<tr>
<td>3. Energy</td>
<td>VI-10</td>
</tr>
<tr>
<td>4. Wild and Scenic Rivers</td>
<td>VI-12</td>
</tr>
<tr>
<td>5. Floodplain Impacts</td>
<td>VI-14</td>
</tr>
<tr>
<td>6. Coastal Zone Impacts</td>
<td>VI-19</td>
</tr>
<tr>
<td>7. Wetland Impacts</td>
<td>VI-20</td>
</tr>
<tr>
<td>8. Water Quality and Drainage Impacts</td>
<td>VI-21</td>
</tr>
<tr>
<td>9. Threatened or Endangered Species, Native Aquatic Fauna</td>
<td>VI-23</td>
</tr>
<tr>
<td>10. Prime and Unique Agricultural Lands</td>
<td>VI-23</td>
</tr>
<tr>
<td>11. Construction Impacts</td>
<td>VI-24</td>
</tr>
<tr>
<td>12. Right-of-Way Impacts</td>
<td>VI-26</td>
</tr>
<tr>
<td>13. Parking Impacts</td>
<td>VI-27</td>
</tr>
<tr>
<td>14. Public Utilities</td>
<td>VI-28</td>
</tr>
<tr>
<td>C. Historic and Archaeological Preservation Effects</td>
<td>VI-28</td>
</tr>
<tr>
<td>D. Section 4(e) Impacts</td>
<td>VI-29</td>
</tr>
<tr>
<td>VII. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH</td>
<td></td>
</tr>
<tr>
<td>CANNOT BE AVOIDED AND MITIGATION MEASURES</td>
<td></td>
</tr>
<tr>
<td>PROPOSED TO MINIMIZE IMPACTS</td>
<td>VII-1</td>
</tr>
<tr>
<td>VIII. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATIONS</td>
<td></td>
</tr>
<tr>
<td>OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL</td>
<td></td>
</tr>
<tr>
<td>EFFECTS OF THE PROPOSED ACTION</td>
<td></td>
</tr>
<tr>
<td>IX. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM Uses</td>
<td></td>
</tr>
<tr>
<td>OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF</td>
<td>IX-1</td>
</tr>
<tr>
<td>LONG-TERM PRODUCTIVITY</td>
<td></td>
</tr>
<tr>
<td>X. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES</td>
<td>X-1</td>
</tr>
<tr>
<td>XI. LIST OF PREPARERS</td>
<td>XI-1</td>
</tr>
<tr>
<td>XII. SUMMARY OF UNRESOLVED ISSUES</td>
<td>XII-1</td>
</tr>
<tr>
<td>XIII. LIST OF NECESSARY APPROVALS</td>
<td>XIII-1</td>
</tr>
<tr>
<td>A. Community Noise Permit</td>
<td>XIII-1</td>
</tr>
<tr>
<td>B. Coastal Zone Management (CZM), Federal Consistency Notice</td>
<td>XIII-1</td>
</tr>
<tr>
<td>C. Building Permit</td>
<td>XIII-1</td>
</tr>
<tr>
<td>D. Grubbing, Grading, and Stockpiling Permit</td>
<td>XIII-1</td>
</tr>
<tr>
<td>E. Erosion Control Permit</td>
<td>XIII-1</td>
</tr>
<tr>
<td>F. Department of the Army 404 Permit</td>
<td>XIII-1</td>
</tr>
</tbody>
</table>

II-3
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV. LIST OF AGENCIES, ORGANIZATIONS, AND</td>
<td>XIV-1</td>
</tr>
<tr>
<td>PERSONS CONSULTED ON ENVIRONMENTAL IMPACT</td>
<td></td>
</tr>
<tr>
<td>STATEMENT PREPARATION NOTICE</td>
<td></td>
</tr>
<tr>
<td>XV. COMMENTS AND COORDINATION/PUBLIC HEARING</td>
<td>XVI-1</td>
</tr>
<tr>
<td>COMMENTS AND EVALUATION</td>
<td></td>
</tr>
<tr>
<td>XVI. DRAFT EIS COMMENTS AND EVALUATION</td>
<td>XVI-1</td>
</tr>
<tr>
<td>XVII. HISTORIC PROPERTIES</td>
<td>XVII-1</td>
</tr>
<tr>
<td>XVIII. REFERENCES</td>
<td>XVIII-1</td>
</tr>
<tr>
<td>XIX. INDEX</td>
<td>XIX-1</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figures</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Location Map</td>
</tr>
<tr>
<td>2</td>
<td>Existing Traffic Patterns</td>
</tr>
<tr>
<td>3</td>
<td>Preferred Alternative</td>
</tr>
<tr>
<td>4</td>
<td>Typical Section Preferred Alternative</td>
</tr>
<tr>
<td>5</td>
<td>Typical Section 1</td>
</tr>
<tr>
<td>6</td>
<td>Typical Section 2</td>
</tr>
<tr>
<td>7</td>
<td>Typical Section 3</td>
</tr>
<tr>
<td>8</td>
<td>Public and Service Facilities</td>
</tr>
<tr>
<td>9</td>
<td>Zoning Map</td>
</tr>
<tr>
<td>10</td>
<td>100 Year Flood Hazard</td>
</tr>
</tbody>
</table>

## LIST OF TABLES

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Existing Levels of Service</td>
</tr>
<tr>
<td>2</td>
<td>Traffic Analysis</td>
</tr>
<tr>
<td>3</td>
<td>Project Schedule and Cost</td>
</tr>
<tr>
<td>4</td>
<td>Summary of Hawaii and National Ambient Air Quality Standards</td>
</tr>
<tr>
<td>5</td>
<td>Summary of Air Pollutant Measurements At Nearest Monitoring Stations</td>
</tr>
<tr>
<td>6</td>
<td>Census Population Counts</td>
</tr>
<tr>
<td>7</td>
<td>Labor Force and Occupations</td>
</tr>
<tr>
<td>8</td>
<td>Summary of Comparative Energy Use</td>
</tr>
<tr>
<td>9</td>
<td>Organizations and Agencies Consulted During EIS Preparation</td>
</tr>
</tbody>
</table>
III. PURPOSE AND NEED FOR ACTION

A. Purpose and Need

Moanalua Road is an existing arterial roadway, running generally in an east-west direction and serving the Aiea and Pearl City communities (Figure 1). Approximately 3.3 miles in length, Moanalua Road begins at Waimano Home Road in Pearl City, crosses under the H-1 Freeway at the Waiaku Interchange, and continues to the Aiea Interchange. Within the Pearl City area, Moanalua Road is typically a four-lane, limited access roadway with separate left turns at intersections. From Kaahumanu Street to Pali Momi Street, the four-lane roadway is continued and a center lane is provided for left turns. Between Pali Momi Street and Aiea Heights Drive, Moanalua Road is narrower, with only two lanes, one in each direction. Between Aiea Heights Drive and Aiea Interchange, four lanes, two in each direction, are provided.

Within the project boundaries, Moanalua Road crosses the Kaluaoa and Aiea streams. The Moanalua Road crossing at Kaluaoa Stream consists of a simply supported single span bridge approximately 39 feet long. The height of the opening is approximately 15 feet and the width of the bridge is 35 feet. The Moanalua Road crossing at Aiea Stream consists of an arch bridge with a span of 25 feet and a width of 52 feet.

Due to past efforts, the entire length of Moanalua Road, except for the section running through Aiea, has been improved. The proposed project will improve this gap in the roadway, thereby alleviating problems related to vehicular capacity and traffic volumes, and increasing the safety of all users of Moanalua Road.
B. System Linkage

Major east-west regional traffic through the area is served by the parallel Interstate Route H-1 and by Kamehameha Highway (State Route 99). Moanalua Road serves as a collector and distributor to these major highways. Although city buses run on portions of Moanalua Road, the primary modal use on the facility is the automobile.

Bus routes currently serving the affected portion of the project include: route 11, Aiea Height-Honolulu; route 53, Pacific Pali-sades-Honolulu; route 54, Pearl City-Honolulu and route 74, Aiea-Halawa Heights.

Within the project limits of Pali Momi Street and Aiea Interchange, the existing roadway has limited width, with little or no shoulders and a lack of adequate sidewalks. This segment also has poor alignment which is characterized by such features as sharp curves and limited sight distance. The proposed project would upgrade this segment of Moanalua Road to provide better consistency with the rest of the facility.

C. Capacity

1. Traffic Volumes. Current (1983) daily traffic volumes on Moanalua Road within the project limits range between 15,500 (east of Kaamilo Street) and 22,800 (east of Pali Momi Street) vehicles per weekday. Daily commuting traffic from the residential areas of Pearl City and Aiea is combined with traffic generated by the businesses, schools, churches, and other activities along Moanalua Road to form distinctive peak periods each weekday morning and afternoon.

Current morning peak hour (AM) traffic volumes range from
700 to 1100 vehicles per hour in the peak direction toward downtown Honolulu (eastbound). Opposing AM traffic volumes range from 300 to 500 vehicles per hour.

Afternoon peak hour (PM) traffic currently are between 900 and 1400 vehicles per hour, westbound. Opposing PM traffic is 500-700 vehicles per hour.

Moanalua Road experiences heavy traffic during special occasions. The Christmas shopping season and other sales promotions at either the Aiea Town commercial areas or the nearby Pearlridge Shopping Center cause extended periods of high traffic volumes during evening hours and weekends. Activities at Aloha Stadium also result in peak conditions on Moanalua Road, although this condition usually is short-termed and is probably attributable to vehicles which were parked in the Aiea business area by stadium users.

2. **Traffic Conditions.** The current traffic volumes and existing roadway configuration result in poor traffic conditions. Intersections along the two-lane portion of Moanalua Road operate at or near capacity conditions. Bumper-to-bumper traffic in the peak direction is typical. Drivers approaching on cross streets experience long delays; vehicular and pedestrian crossing at unsignalized intersections are hazardous and time-consuming. Pedestrians including school children walking along Moanalua Road also experience hazardous conditions.

Levels of service which describe traffic conditions, were calculated for existing counted traffic volumes using the Critical Movement Analysis procedure\(^1\). Field observations, however, indicate that capacity conditions at the Moanalua Road and Kaamilo Street intersection in the PM peak hour result in a long queue which affects operations at the Moanalua Road and Aiea Heights intersection. Similarly, AM
peak hour operations at the Moanalua Road and Honomanu Street and the Moanalua Road and Pali Momi Street intersections are affected by capacity conditions at Kaamilo Street. Table 1 summarizes the existing levels of service. Field observations also indicate that the actual operating conditions are influenced by the poor geometrics of the roadway, and actual service levels may be lower than those shown in Table 1.

A study of the peak period traffic patterns on Moanalua Road also indicates that some drivers elect not to use certain portions of the roadway because of the lack of intersection capacities. In the AM peak period, 30 percent of the eastbound traffic on Moanalua Road approaching Honomanu Street turn right onto Honomanu Street to get to Kamehameha Highway.

In the PM peak hour, many of the westbound commuters using Moanalua Road were observed to also use Ulune Street. Of the total westbound traffic on Moanalua Road at Honomanu Street, one-third turned right from Kaamilo Street (southbound), and over one-fourth turned right from Alea Heights Drive, indicating that a large number of the westbound commuters desiring to use Moanalua Road through Alea town had to divert to Ulune Street because of the limited capacity on Moanalua Road. Figure 2 presents these traffic patterns that were observed.

3. Future Conditions. Future traffic demands for year 2005 have been projected based on current traffic volumes and potential growth in the area. This growth includes increases in residential dwelling units and in commercial space in the vicinity of the project. Additional residential population has been assumed to increase at an annual rate of about 0.52%; this is equal to the average annual rate of population growth expected in the Primary Urban Center between 1980 and 2000.
### TABLE 1

**EXISTING LEVELS OF SERVICE**

<table>
<thead>
<tr>
<th></th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signalized Intersections</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moanalua Road at Ala Heights Drive</td>
<td>C</td>
<td>F</td>
</tr>
<tr>
<td>Moanalua Road at Kaamilo Street</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td><strong>Unsignalized Intersection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moanalua Road at Honomanu Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left turns to Honomanu Street</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td>Honomanu Street (stop-controlled)</td>
<td>E</td>
<td>E</td>
</tr>
</tbody>
</table>

**Notes:** *Levels of Service as defined by Highway Capacity Manual*

- Level A - free flow; no delays and easy turn movements
- Level B - stable conditions; slight restrictions, no delays exceed one cycle
- Level C - stable operation; some restriction, but not objectionable
- Level D - approaching instability; possible substantial delays during short peaks, periodic clearance of queues
- Level E - capacity conditions; long queues and delays of several cycles
- Level F - intersection affected by queuing from downstream (ahead)

Levels of service for design (urban): desirable = C, minimum = D
The future traffic demand is expected to increase a total of 11 percent from current demands. A future traffic assignment has been prepared to reflect demand volumes, including traffic which is currently diverted in the AM to Kamehameha Highway via Honomanu Street or in the PM to Ulune Street.

Future peak hour, peak direction traffic demand volumes are between 900 and 1600 vehicles per hour. Moanalua Road, which currently carries 700-1400 vehicles per hour in the peak direction at capacity conditions, will not be able to serve this projected future traffic demand.

D. Compliance With Transportation Plan and Other Legislation

The improvement of Moanalua Road is needed to serve both the existing and future traffic demands. This need has been identified in regional transportation and urban plans.

The current Long Range Transportation Plan for 1985 guides transportation planning on Oahu and directs that Moanalua Road be improved. The Long Range Plan is presently being updated to the year 2000, and the planning for this update assumes that Moanalua Road between Pali Momi Street and Aiea Interchange will be improved.

Moanalua Road is within the Primary Urban Center Development Plan area. The Public Facilities Map for the Development Plan includes improvement to Moanalua Road between Kalauao Stream and Aiea Interchange. The Public Facilities Map also shows that additional right-of-way may be necessary for roadway improvements between Kalauao Stream and Alvah Scott Elementary School and between Laulima Street and Aiea Interchange.

The City and County of Honolulu Department of Public Works is proposing to improve the conditions on Moanalua Road. The
proposed project would upgrade Moanalua Road from Pali Momi Street to Aiea Interchange.

E. Social Demands or Economic Development

No significant economic developments or land use changes are projected for the general area which would facilitate need for the proposed project, though it is anticipated that additional residential population would increase at a rate consistent with the rate of growth expected in the Primary Urban Center between 1980 and 2000. However, as previously mentioned, the existing roadway has limited width, with little or no shoulders and a lack of adequate sidewalks.

F. Modal Interrelationships

The proposed project does not interface with or serve to complement airports, rail and port facilities, and/or mass transit services.

G. Existing Safety Hazards

Traffic accident records show that, during the past three years, there has been an average of 34 major accidents per year on Moanalua Road, in the section from Pali Momi to Kaimakani Streets. However, the number of accidents has decreased in recent years. Traffic signals installed at the intersection of Kaamilo Street and Moanalua Road during this time may have contributed to the decrease. Still, the accident rate is nearly twice the State-wide or the County-wide rates. The accident rate, then, on Moanalua Road within the project boundaries, can be considered excessive. Accident and vehicle inspection records were used to derive accident rates of
2.8 and 2.9 accidents per million vehicle-miles traveled within the State and the City and County of Honolulu, respectively. Accident records and traffic volume estimates for Moanalua Road, within the project limits, produced an accident rate of 5.2 accidents per million vehicle-miles traveled.
MOANALUA ROAD
PALI MOMI STREET TO AIEA INTERCHANGE
CITY & COUNTY OF HONOLULU
STATE OF HAWAII

FINAL
ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 USC 4332(2)(c)
and Chapter 343, Hawaii Revised Statutes

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
Highways Division

DEPARTMENT OF PUBLIC WORKS
CITY & COUNTY OF HONOLULU
Division of Engineering

Date

Federal Highway Administration
Region IX

The following persons may be contacted for additional
information concerning this document:

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Acting Director &
Chief Engineer
Department of Public Works
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(Telephone No: 808 523-4341)

The proposed action will improve Moanalua Road between Pali Momi
Street and Aiea Interchange. The project would upgrade this
0.8-mile segment of Moanalua Road to provide better consistency with
the rest of the facility.
I. SUMMARY

A. Description of the Proposed Action

The proposed City and County of Honolulu project will improve Moanalua Road between Pali Momi Street and the Aiea Interchange within the City & County of Honolulu, State of Hawaii (Figure 1).

Along both sides of the road right-of-way, grade adjustment walls will be constructed as required. Driveway ramps will be reconstructed to provide access to existing driveways and garages. Existing street intersections will be modified, as necessary, to provide for safer vehicular traffic movement and smoother riding conditions.

The improvements will include clearing, grubbing, grading, landscaping, roadway pavements, curbs, drainage facilities, sidewalks, signing, street lighting, traffic signal systems, and utility relocations. Bridge structure improvements for the Aiea stream crossing and reconstruction at the Kalua Stream crossing will also be included.

The preferred alternative consists of two through traffic lanes in each direction with a middle, two-way left turn lane for most of the project length. The "nominal" road right-of-way width is 80 feet from Pali Momi Street to Lualima Street, and 70 feet from Lualima Street to Aiea Interchange. The right-of-way widths vary to accommodate turning lanes or to improve the horizontal alignment of the existing roadway.

This alternative is a hybrid of Alternatives II and IV with turning movement modifications.

B. Description of Any Significant Actions Proposed in the Vicinity of the Project
No other government agencies are proposing any other significant action in the vicinity of the proposed project.

C. Major Alternatives Considered

1. No-Action Alternative

Minor maintenance work to allow continued use of the facility can be expected; this work includes repairing, restriping, and traffic signal timing adjustments.

2. Alternative I

This alternative primarily consists of Transportation Systems Management (TSM) type actions, which would maximize the utilization of the present facility. A portion of the roadway will be realigned slightly to the north and additional rights-of-way would have to be acquired from the presently vacant lots north of the roadway. Provision of separate left turn lanes would improve intersection operations.

3. Alternative II

This alternative would upgrade the roadway to a standard city 80-foot right-of-way with a 64-foot roadway width between curb faces. Five 12-foot lanes would be provided, allowing for two lanes in each direction and a middle left turn lane.

4. Alternative III

This alternative which would utilize a 70-foot right-of-way, considers a reduced roadway width for most of the project length. A roadway of 52 feet between curb faces would be constructed, providing four 12-foot lanes.
5. **Alternative IV**

   This alternative would construct a roadway 54 feet wide, from curbface to curbface. Five 10-foot lanes would be provided, with right-of-way width of 70 feet.

D. **Significant Environmental Impacts**

1. The preferred alternative for the proposed project will improve vehicular, pedestrian, and bicyclist safety.

2. Roadway realignment and additional right-of-way required for the preferred alternative would necessitate the taking of one residence and one business. Some additional land will be acquired and some existing residential and appurtenant structures may have to be raised.

3. There will be short-term effects on air, noise, and traffic resulting from construction activities for the preferred alternative.

E. **Areas of Controversy**

   At the present time, there are no known major areas of controversy.

F. **Significant Unresolved Issues**

   There are no unresolved issues from the standpoint of potential environmental impacts.

G. **Federal Actions Required**

   A Department of the Army permit is required for the Kalauao Stream culvert crossing for discharge of dredged or fill material.

   There are no other federal permit approvals or environmental requirements to be addressed at this time.

I-4
IV. ALTERNATIVES INCLUDING PROPOSED ACTION

A. Development of Alternatives

Several alternatives were developed from four basic criteria. The alternatives should:

1. Be consistent with the Long Range Transportation Plan and complement the other transportation facilities in the surrounding area.
2. Avoid major relocation of existing businesses and residences.
3. Maintain access to properties along Moanalua Road.
4. Provide reasonable operational characteristics.

Certain types of actions were not considered as alternatives because they are inappropriate to the intent of this project, due to the limited size and localized character of the roadway. These actions have included fringe parking, ride sharing, diversion of automobile users to transit, flexible work schedules, and road pricing. Satisfying criterion (1) above in any of these actions would have required improvements beyond the limits of this project. These actions are more appropriately addressed in a regional or islandwide perspective rather than as alternatives to improving a one-mile segment of roadway. These actions are also possible Transportation Systems Management (TSM) options which are not applicable to this project. Their ultimate use, however, could be expected if roadway capacities are inadequate.

The use of high-occupancy vehicle (HOV) lanes, a TSM action, was also given consideration. Since the existing facility provided access to abutting properties and, in many parts, consisted of only one lane in each direction, HOV lanes on existing roadways are not feasible.
Other specific TSM type intersection improvements were considered but rejected because of inadequate safety, other operational deficiencies, or the need for major construction to implement or support the improvements. Examples included a westbound-left turn lane at Aiea Heights Drive and a second westbound-through lane across Aiea Heights Drive.

Actions that were considered inappropriate included a straight-line connection between the ends of the project, which would have been inconsistent with criteria (2) and (3). A viaduct over Aiea Library or other significant realignment of the roadway would also not have met criteria (2) and (3).

**Preferred Alternative.** The alternative recommended for final design is a composite of two separate alternatives. From Pali Momi Street to Aiea Heights Drive, Alternative II would be utilized. From Aiea Heights Drive to Aiea Interchange Alternative IV would be used with some modifications to the turn lane striping (Figure 3).

The preferred alternative consists of two through traffic lanes in each direction with a middle, two-way left turn lane for most of the project length. The "nominal" right-of-way width is 80 feet from Pali Momi Street to Lualima Street, and 70 feet from Lualima Street to Aiea Interchange. The actual right-of-way widths vary, at locations shown on the plans, to accommodate turning lanes or to improve the horizontal alignment of the existing roadway.

From Pali Momi Street to Aiea Heights Drive all lanes will be 12 feet wide, and from Aiea Heights Drive to Aiea Interchange all lanes will be 10 feet wide. Throughout the project length, curb lanes will have an additional 2 foot offset to the face of curb.

Sidewalk areas will be 8 feet wide and, in residential areas, will consist of a 4-foot wide concrete walkway and a 4-foot wide (including curb width) grassed utility strip that will be landscaped.
CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S) IMMEDIATELY FOLLOWING
In commercial areas the sidewalk will consist of an 8-foot wide concrete walkway (including curb width). Drop curbs will be provided at all existing driveways, and wheelchair ramps will be included at all intersections and crosswalks.

The existing bridge structure at Kaluaao Stream crossing will have to be demolished. The type of stream structure to replace the existing one will be determined during the final design. The existing Aiea Stream crossing will be widened to accommodate the increased roadway width of the preferred alternative.

A possible replacement for the existing Kaluaao Stream bridge is a 28-foot span, 13-foot high, concrete box culvert and increasing its width to 85 feet, with its invert elevation about 1 foot lower than the invert of the existing bridge opening. The transitions upstream and downstream of the bridge will be modified to suit the proposed box culvert.

An alternative to a box culvert would be the replacement of the existing bridge with a new bridge that spans the stream channel. This type of crossing would reduce impacts on the stream channel and minimize potential erosion and sedimentation problems during construction. Alternative stream crossing types will be investigated during the design phase, in conjunction with Corps of Engineers Section 404 Permit Application requirements and preliminary design practice. The investigation will focus on environmental impacts, costs, constructability, and traffic maintenance operations.

Modifications over Aiea Stream will include expansion of the existing Moanalua Road bridge width to about 81 feet with appropriate structural modifications.

The horizontal and vertical alignment of the preferred alternative, as well as the right-of-way requirements, location of bridges, and
access locations (driveways, street intersections, etc.) are illustrated in the attached plans.

Design of the preferred alternative shall be in accordance with the Hawaii Statewide Uniform Design Manual for Streets and Highways, October 1980, and shall be as follows:

1. **Classification:** Urban Arterial
2. **Design Speed:** 35 mph desirable, 30 mph minimum.
3. **Posted Speed:** 25 mph
4. **Lane Widths:**
   a. Pali Momi Street to Aiea Heights Drive: 12 feet.
   b. Aiea Heights Drive to Aiea Interchange: 10 feet.
5. **Sidewalk Width:** 8 feet.

**B. Alternatives**

1. **No-Action Alternative.** With a "no-action" alternative, minor maintenance work to allow continued use of the facility could be expected; this work includes repaving, restriping, and traffic signal timing adjustments. These actions would not improve traffic service levels, since roadway capacities would not be changed.

2. **Alternative I.** This alternative which primarily consists of TSM type actions, would maximize the utilization of the present facility.

3. **Alternative II.** Alternative II would upgrade Moanalua Road between Pali Momi Street and Aiea Interchange to a standard City street with a 80-foot right-of-way and a 64-foot width between curb faces.

4. **Alternative III.** Alternative III considers a reduced roadway width between Kalauan Stream and Aiea Library.
5. **Alternative IV.** Alternative IV would construct a roadway 54-feet wide, from curb face to curb face.

C. **Summary of Alternatives for Proposed Project**

Future conditions without the proposed project are expected to be worse than existing, since current peak period traffic demands already exceed roadway capacities. The alternatives developed range from a "no-action" case to the construction of additional lanes, as listed below:

1. Preferred Alternative - 70-foot and 80-foot roadway (5 lanes). (Figure 4)
2. No-Action Alternative - No build.
3. Alternative I - Transportation System Management actions (through laneage remains the same).
4. Alternative II - 80-foot roadway (64-foot curb-to-curb, 5 lanes). (Figure 5)
5. Alternative III - 70-foot roadway (54-foot curb-to-curb, 4 lanes). (Figure 6)
6. Alternative IV - 70-foot (54-foot curb-to-curb, 5 lanes). (Figure 7)

D. **Traffic Evaluation of Alternatives for Proposed Project**

Roadway capacities and traffic levels of service for urban streets are determined from conditions at major intersections. Within the project limits, these intersections include the Moanalua Road intersections with Honomanu Street, Kaamilo Street, and Aiea Heights Drive. Projections of future (year 2005) traffic demands were used with the Critical Movement Analysis procedure to determine levels of service and capacities.

At the Honomanu Street intersection, the analysis showed that the capacity of an unsignalized intersection would be exceeded in all alternatives and the "no-action" case. In the comparative analysis that follows, signalization of this intersection was assumed in the "no-action" case and in all alternatives.
FIGURE 4

TYPICAL SECTION
PREFERRED ALTERNATIVE
**FIGURE 6**

**TYPICAL SECTION 2**

- **Parking/Thru lane**
- **Thru lane**
- **Thru lane**
- **Parking/Thru lane**

- **Sidewalk, Residential Area**
- **Sidewalk, Business Area**

- **Existing R.O.W. (Varies)**
- **Proposed R.O.W. = 70'**

*Street lighting, trees & other appropriate appurtenances.*
FIGURE 7
TYPICAL SECTION 3
ALTERNATIVE IV
Intersection levels of service were determined for the signalized Moanalua Road intersections at Honomanu Street, Kaamilio Street, and Aiea Heights Drive for morning (AM) and afternoon (PM) peak hour traffic demands and are summarized in Table 2.

In the No-Action and Alternative I analyses, limited capacities at the Honomanu Street and the Kaamilio Street intersections would not be able to serve projected peak hour traffic demands. The limited capacity would probably result in longer peak periods, forced changes in travel modes, or other actions on the part of individual users to lessen peak hour traffic demands. At capacity, the no-action case will be able to serve between 85 and 90 per cent of the projected traffic demand, while Alternative I would serve approximately 90 percent of the demand. Levels of service for the Aiea Heights Drive intersection shown in the table reflect the metering effect of the other intersections.

Alternatives II, III, and IV were analyzed for the projected traffic demands and it was determined that capacities would be adequate.

Levels of service would be appropriate for urban design in all locations except Alternative III, PM peak hour at Aiea Heights Drive. The analyses also indicated that on-street parking could be allowed on the north side (westbound traffic) in the AM peak period between Kaamilio Street and Aiea Library with Alternatives II, III, or IV and on the south side (eastbound traffic) in the PM peak period with Alternatives II or IV.

Other intersections were also checked; the stop controls to Hale Momi Place, Nalopaka Streets and Puakala Street were all found to have adequate capacity to serve expected traffic volumes in and out of those streets.
<table>
<thead>
<tr>
<th>Peak Hour Traffic on Moanalua Road at:</th>
<th>Honomanu St.</th>
<th>Kaamilo St.</th>
<th>Aiea Heights Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
<td>AM</td>
</tr>
<tr>
<td>Intersection Levels of Service:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing (1983)</td>
<td>E</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>Future (2005)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No Build</td>
<td>E*</td>
<td>E*</td>
<td>D*</td>
</tr>
<tr>
<td>Alternative I</td>
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<td>E*</td>
<td>C*</td>
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<tr>
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<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Preferred Alternative</td>
<td>D</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

**Notes:**

1 - Honomanu Street intersection analyzed as unsignalized for existing and as signalized for future conditions.

2 - As defined by Highway Capacity Manual:
   - Level B - stable conditions; slight restrictions, no delays exceed one cycle.
   - Level C - stable operation continues; greater restriction, but not objectionable.
   - Level D - approaching instability; possible substantial delays during short peaks, periodic clearance of queues.
   - Level E - capacity conditions; long queues and delays of several cycles.
   - Level F - intersection affected by queueing from downstream (ahead).

   Levels of service for design (urban): desirable = C, minimum = D

3 - Calculation indicates that capacity is exceeded.

4 - Volume carried, if not externally affected, would result in Level C.

5 - * Indicates that volumes carried are less than projected demand due to limited capacities.
E. Project Schedule and Costs

The projected project schedule and estimated costs are presented in Table 3.
### TABLE 3

**PROJECT SCHEDULE AND COST**

#### PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ALT. I</th>
<th>ALT. II/III/IV &amp; PREFERRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) Completion of Planning Studies (EIS, Design Approval)</td>
<td>Late 1986</td>
<td>Late 1986</td>
</tr>
<tr>
<td>C) Right-of-Way Acquisition</td>
<td>Mid-1987</td>
<td>Mid-1987</td>
</tr>
<tr>
<td>D) Bidding/Contract Award</td>
<td>1987</td>
<td>Mid-1988</td>
</tr>
<tr>
<td>E) Construction</td>
<td>Late 1987</td>
<td>Late 1988</td>
</tr>
<tr>
<td></td>
<td>Late 1988</td>
<td>-Late 1990</td>
</tr>
</tbody>
</table>

#### PROJECT COSTS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>ALT. I</th>
<th>ALT. II</th>
<th>ALT. III</th>
<th>ALT. IV</th>
<th>PREFERRED</th>
</tr>
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<tbody>
<tr>
<td>Construction</td>
<td>$908,000</td>
<td>$5,733,000</td>
<td>$5,357,000</td>
<td>$5,305,000</td>
<td>$5,698,000</td>
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<td>Preliminary Engineering</td>
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<td>600,000</td>
<td>600,000</td>
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<tr>
<td>Right-of-Way Acquisition</td>
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<td>1,056,000</td>
<td>733,000</td>
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<td>957,000</td>
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<td><strong>SUBTOTAL</strong></td>
<td>$1,158,000</td>
<td>$7,389,000</td>
<td>$6,690,000</td>
<td>$6,638,000</td>
<td>$7,255,000</td>
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<tr>
<td>Contingency (5%)</td>
<td>58,000</td>
<td>369,000</td>
<td>335,000</td>
<td>332,000</td>
<td>363,000</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>$1,216,000</td>
<td>$7,758,000</td>
<td>$7,025,000</td>
<td>$6,970,000</td>
<td>$7,618,000</td>
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</tbody>
</table>

This project is designated as a Federal Urban System project. Funding will be approximately 75% Federal and 25% local with the State and the City and County dividing the local share equally.
V. AFFECTED ENVIRONMENT

A. Natural Environment

1. Topography

The project terrain varies from flat to rolling, creating steep slopes and sharp curves at several locations. Elevations range from 25 to 85 feet above mean sea level.

2. Geology

East of Pearl Harbor lies a cluster of overlapping tuff cones including Alhamanu, Makalapa, and Salt Lake craters. Near Aiea and within the project area, tuff deposits have well-defined, thin, nearly horizontal bedding, and are probably part of a delta that was growing into Pearl Harbor.

3. Soils

The existing Moanalua Road right-of-way traverses over soils classified in the Lahaina (Lahaina silty clay, 0 to 3 percent slopes, LaA) Hanalei (Hanalei silty clay, 2 to 6 percent slopes, HnB); Waialua (Waialua stony silty clay, 3 to 8 percent slopes, W1B); and Waipahu (Waipahu silty clay, 0 to 2 percent slopes, W2A and Waipahu silty clay, 6 to 12 percent slopes, W2C) series; and Tropaquents (TR).

The Lahaina Series consists of well-drained soils. These soils are developed in material weathered from basic igneous rock. They are nearly level to steep. Elevations range from 10 to 1,500 feet. The mean annual soil temperature is 72°F. Lahaina soils are geographically associated with Helemano, Hoolehua, Kahana, Molokai, Pamoa, and Wahiawa soils.
The Hanalei Series consists of somewhat poorly drained soils. These soils are developed in alluvium derived from basic igneous rock. They are level to gently sloping. Elevations range from nearly sea level to 300 feet. The mean annual soil temperature is 74°F. Hanalei soils are geographically associated with Haleiwa, Hihimanu, Mokuleia, and Pearl Harbor soils.

The Waflua Series consists of moderately well drained soils on alluvial fans. These soils are developed in alluvium, weathered from basic igneous rock. They are nearly level to steep. Elevations range from 10 to 100 feet. The mean annual soil temperature is 73°F. Waflua soils are geographically associated with Honouliuli, Kaena, and Waihapa soils.

The Waipahu Series consists of well-drained soils. These soils are developed in old alluvium derived from basic igneous rock. They are nearly level to moderately sloping. Elevations range from nearly sea level to 125 feet. The mean annual soil temperature is 75°F. Waipahu soils are geographically associated with Hanalei, Honouliuli, and Waialua soils.

Tropaquepts are poorly drained soils that are periodically flooded by irrigation in order to grow crops that thrive in water. Elevations range from sea level to 200 feet. These soils have been flooded for varying lengths of time, and soil development differs in degree from place to place. Generally, the surface layer, about 10 inches thick, consists of dark-gray, soft, mucky silty loam. This layer overlies firm to compact silty clay loam, 5 to 10 inches thick, that is mottled with gray, yellow, and brown. The mottled layer overlies friable alluvium.
4. **Chinatoman**

Tradewinds (north-easterly) winds predominate 70 percent of the time, at an average velocity of 10.5 mph. Temperature varies between 68 and 80 degrees for the coolest and warmest months, respectively. Mean annual rainfall at Moanalua is approximately 30 inches.23

5. **Hydrology**

The Kalauao drainage basin, located about 7 miles Northwest of Honolulu, is one of eight major basins that drain into Pearl Harbor. The basin, which is located in Southern Oahu, has a drainage area of about 3.3 square miles. The basin’s configuration is approximately rectangular with a length of about 7 miles and an average width of 1/2 mile. Elevations in the basin range from Mean sea level along the coast to over 2600 feet at the crest of the Koolau Range and average annual precipitation ranges from less than 30 inches in the low coastal areas to over 150 inches at the crest. The major land use in the basin is forest reserve, which includes about 70 percent of the land area, while the remaining land area is used for residential, apartment, commercial, and agricultural purposes. The two major hydrologic features of this basin are Kalauao Stream and Kalauao Springs. The Kalauao Springs are the result of cracks which occur in the thin alluvial layer immediately overlying the Koolau basalt. This feature is characteristic of the geology of the Pearl Harbor region, and numerous springs are present along the periphery of the harbor. The second major hydrologic feature of this basin is Kalauao Stream, which derives its natural discharge from both overland and groundwater sources. The overland flow originates as direct runoff from rainfall. The groundwater flow occurs as springs where the basal water table is intersected by topographic lows. Inasmuch as quantities of rainfall that are sufficient to sustain base flow occur only in the
mountains, and since the basal water table is intersected only in the coastal plain, Kaluau Stream is observed to be perennial in the upper elevations above approximately 750 feet, and in the lower elevations below about 30 feet. Moanalua Road, within the project boundaries, is located at an elevation of approximately 30 feet.

The water quality of the stream has been reported by Tenorio et. al.\(^5\) and the U.S. Geological Survey\(^6\). From the data available, water samples included nitrates, phosphates, hardness, dissolved solids, \(PH\), temperature, turbidity, alkalinity, and numerous other metallic and non-metallic materials. According to its existing water quality, Kalau Stream could be considered to be consistent with its Class 2 designation for most of the time.

The Aiea Stream also flows through Moanalua Road. The Aiea Stream's watershed is situated on the lower leeward slopes of the Koilau Mountains between Halawa Stream on the southeast and Kaluau Stream on the northwest. The watershed is approximately 4 miles long and averages 1/2 mile wide; the total area is approximately 1,250 acres (1.95 mi.\(^2\)). The Aiea Stream watershed has two major sub-basins which join just below Moanalua Road. The west basin drains approximately 370 acres and the east basin drains 880 acres. Figure 8 presents the locations of the Kalau Stream and Aiea streams relative to the project.

Existing water quality of the Aiea stream is being affected by the discharges from the C&H Refinery. The Refinery at Aiea takes in raw sugar and processes it by filtering and boiling to remove the impurities. The processed effluents are then discharged into the stream. Conventional treatment of the Aiea stream has indicated that a National Pollution Discharge Elimination System (NPDES) permit, which places restrictions on the discharge of biochemical oxygen demand, total suspended solids, temperature, \(PH\), and floatable solids and foam was obtained, and that present water quality is within standards allowable by the permit.\(^7\)
6. **Flora**

The Moanalua Road alignment traverses through an existing residential community. Therefore, the flora species located within the area are common in urbanized regions and include trees, shrubs, and other ornamental plants. These plants have been planted and maintained by man's efforts and are not considered indigenous or rare.

7. **Fauna**

During the Early Coordination and Consultation Period for the project, conversation with the U.S. Fish & Wildlife Service indicated that there are no endangered or threatened fauna species in the project area and there are none likely to be listed.

A brief reconnaissance of Aiea Stream was made in conjunction with the Aiea Stream Flood Control Project in 1977, to assess the existing aquatic habitat and to determine what species were present. According to the reconnaissance, aquatic beetles and snails were found in the upper portions of the stream; while in downstream pools, guppies (family Poeciliidae), crayfish (Procambarus clarkii), tilapia (Tilapia mossambica), tadpoles, and bullfrogs (Rana catesbiana) were observed.

The Fish & Wildlife Service, U.S. Department of the Interior, in their report entitled, "Stream Channel Modification in Hawaii. Part A: Statewide Inventory of Streams; Habitat Factors and Associated Biota," surveyed Kalauao Stream. Their survey indicated that the following native species, Awaous genivittatus and Electris sandwicensis, and exotic species, clarias fuscus, Misgurnus anguillicaudatus, Poecilia mexicana, Poecilia reticulata, and Xiphophorus helleri, were found.
8. **Archaeological Sites**

The State Department of Land and Natural Resources (State Historic Preservation Officer) have indicated that there are no properties within the project limits listed in the National Register of Historic Places, however, a few plantation homes outside the project limits have been determined to be eligible for inclusion in the Register.

9. **Visual**

The project terrain varies from flat to hilly and is characterized by steep slopes and sharp curves at several locations.

10. **Ambient Air Quality**

A technical document entitled "Air Quality Assessment for Moanalua Road" was prepared by Barry D. Root, Air Pollution Consultant, for this project and is included in this document as Appendix A and is summarized as follows:

Applicable State and Federal ambient Air Quality Standards (AQS) are summarized in Table 4. Measurements of air pollutant concentrations at the nearest long-term monitoring stations are shown in Table 5. From the data presented, it appears that the levels of all monitored pollutants have been within Federal limits during the past seven years, but that levels of particulates, carbon monoxide, and ozone have sometimes exceeded allowable State AQS.

11. **Ambient Noise Quality**

Existing traffic noise along Moanalua Road was measured at eleven locations (receptor locations in Appendix B) during the week of August 27, 1983 for the purpose of calibrating the traffic noise model used in generating the Base Year and
### TABLE 4

**SUMMARY OF HAWAII AND NATIONAL AMBIENT AIR QUALITY STANDARDS**  
(Micrograms per Cubic Meter)

<table>
<thead>
<tr>
<th>POLLUTANT</th>
<th>SAMPLING PERIOD</th>
<th>NATIONAL Primary</th>
<th>National Secondary</th>
<th>Hawaii Primary</th>
<th>Hawaii Secondary</th>
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<tbody>
<tr>
<td>Particulates</td>
<td>Annual Geometric Mean</td>
<td>75</td>
<td>60</td>
<td>55</td>
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<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>--</td>
<td>--</td>
<td>35</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Maximum 24-Hour Average</td>
<td>260</td>
<td>150</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>Annual Arithmetic Mean</td>
<td>80</td>
<td>--</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum 24-Hour Average</td>
<td>365</td>
<td>--</td>
<td>80</td>
<td></td>
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<tr>
<td></td>
<td>Maximum 3-Hour Average</td>
<td>1300</td>
<td></td>
<td>400</td>
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<td>Nitrogen Dioxide</td>
<td>Annual Arithmetic Mean</td>
<td>100</td>
<td></td>
<td>70</td>
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<tr>
<td>Ozone</td>
<td>Maximum 1-Hour Average</td>
<td>240</td>
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<tr>
<td>Carbon Monoxide</td>
<td>Maximum 8-Hour Average</td>
<td>10</td>
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<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum 1-Hour Average</td>
<td>40</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>Calendar Quarter</td>
<td>1.5</td>
<td></td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

Notes:  
1. Carbon Monoxide Standards are in milligrams per cubic meter.  
### TABLE 5

**SUMMARY OF AIR POLLUTANT MEASUREMENTS AT NEAREST MONITORING STATIONS**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td><strong>PARTICULATE MATTER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No. of Samples</td>
<td>71</td>
<td>54</td>
<td>60</td>
<td>58</td>
<td>60</td>
<td>59</td>
<td>53</td>
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<tr>
<td>Range of Values</td>
<td>16-83</td>
<td>22-111</td>
<td>20-81</td>
<td>20-48</td>
<td>22-93</td>
<td>19-71</td>
<td>19-54</td>
</tr>
<tr>
<td>Average Value</td>
<td>41</td>
<td>40</td>
<td>37</td>
<td>33</td>
<td>36</td>
<td>34</td>
<td>31</td>
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<td>No. of Times</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>State AQS Exceeded</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>SULFUR DIOXIDE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Samples</td>
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<td>52</td>
<td>58</td>
<td>56</td>
<td>52</td>
<td>56</td>
<td>43</td>
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<tr>
<td>Range of Values</td>
<td>5-50</td>
<td>5-38</td>
<td>5-74</td>
<td>5-63</td>
<td>5-15</td>
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<td>Average Value</td>
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<td>15</td>
<td>10</td>
<td>5</td>
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<td>No. of Times</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State AQS Exceeded</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>CARBON MONOXIDE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Samples</td>
<td>355</td>
<td>359</td>
<td>365</td>
<td>207</td>
<td>286</td>
<td>311</td>
<td></td>
</tr>
<tr>
<td>Range of Values</td>
<td>.5-24.2</td>
<td>0-19.6</td>
<td>0-20.7</td>
<td>0-17.3</td>
<td>1.2-13.8</td>
<td>0-4.6</td>
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</tr>
<tr>
<td>Average Value</td>
<td>2.4</td>
<td>3.5</td>
<td>3.1</td>
<td>2.9</td>
<td>5.1</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>No. of Times</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State AQS Exceeded</td>
<td>41</td>
<td>22</td>
<td>19</td>
<td>10</td>
<td>13</td>
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<tr>
<td><strong>OXIDANT (OZONE)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No. of Samples</td>
<td>322</td>
<td>300</td>
<td>284</td>
<td>338</td>
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<td>33</td>
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<td>No. of Times</td>
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<td></td>
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</tr>
<tr>
<td>State AQS Exceeded</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>NITROGEN DIOXIDE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Samples</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of Values</td>
<td>11-44</td>
<td></td>
<td></td>
<td></td>
<td>6-77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Value</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td></td>
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<td>No. of Times</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>State AQS Exceeded</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:** See text for locations of monitoring stations. Carbon monoxide reported in milligrams per cubic meter; other pollutants in micrograms per cubic meter. Carbon monoxide and ozone readings are daily peak one hour values; other pollutant values are for a 24 hour sampling period.

**SOURCE:** State of Hawaii Department of Health
representative Future Year traffic noise contours. These measurements are provided in this report as Appendix B, "Acoustic Study for the Moanalua Road Project," and was prepared by Darby-Ebisu & Associates, Inc., Acoustical Consultants.

It was found that existing traffic noise at noise sensitive receptors along Moanalua Road are below 70 Leq(h). These noise sensitive receptors include single family residences, Aiea Library, St. Elizabeth Church school, Alvah Scott Elementary School, Seventh Day Adventist Church, and Bethany Assembly of God Church. Along all sections of Moanalua Road west of Aiea Heights Drive, traffic noise levels at noise sensitive receptors are at or below 65 Leq(h), and are within the federal criteria for traffic noise. East of Aiea Heights Drive, single family residences are currently exposed to slightly higher traffic noise levels of 65 to 67 Leq(h). Therefore, current ambient noise quality was found to be within federal standards.

B. Social Environment

1. Population

Between the years 1970 and 1980, the population in Aiea increased 21.6 percent. This increase is below the 25.3 percent increase for the state and slightly higher than the 20.9 percent increase for the City & County of Honolulu. The neighboring Pearl City population increased by 55.4 percent. Table 6 presents the population trends between 1970 and 1980.

2. Housing, Cultural Aspects, Public Institutions, Neighborhoods, and Community Facilities

The Moanalua Road alignment traverses the existing Aiea community. Residential sites in the area consist primarily of older single-family dwellings. A cluster of commercial
### TABLE 6
CENSUS POPULATION COUNTS

<table>
<thead>
<tr>
<th>Location</th>
<th>1970</th>
<th>1980</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Hawaii</td>
<td>769,913</td>
<td>964,691</td>
<td>25.3</td>
</tr>
<tr>
<td>City &amp; County of Honolulu</td>
<td>630,497</td>
<td>762,534</td>
<td>20.9</td>
</tr>
<tr>
<td>Aiea*</td>
<td>34,192</td>
<td>43,610</td>
<td>21.6</td>
</tr>
<tr>
<td>Pearl City**</td>
<td>27,398</td>
<td>42,575</td>
<td>55.4</td>
</tr>
</tbody>
</table>

* Includes Aiea, Foster Village, Halawa Heights, and Waimalu.
  Census tracts 0074, 0074.99, 0075.01, 0075.02, 0075.03, 0076, 0077.01, 0077.02, and 0078.02.

Census tract 0074.99 consist of persons living aboard vessels anchored off tract 0074 in Pearl Harbor.

** Census tracts 0078.01, 0080.01, 0080.02, 0080.02, 0080.03, 0080.05, 0080.06, 0080.07 and 0081.
establishments, consisting of banks, gas stations, markets, stores, shops and restaurants are found around the Aiea Heights Drive-Moanalua Road intersection at the Aiea Shopping Center. Commercial and retail uses are also located at the Pearlridge Shopping Center. Other distinctive sites within the project area include St. Elizabeth's Church and School, Alvah A. Scott Elementary School, Our Savior Lutheran Church and School, the Aiea Library, the Bethany Assembly of God, the Seventh Day Adventist Church and the Hawaiian Electric Kaonohi Substation. Camp H.M. Smith and McGrew Pt. Naval Housing are also located in the general vicinity of the project site. Figure 8 presents the locations of these sites.

3. **Fire Protection**

The Aiea and Moanalua Fire Stations are located in close proximity to the Moanalua Road project boundaries.

A notice of construction will be sent to the Fire Department's Fire Alarm Bureau, so they may prepare response routes should an emergency incident occur in the area during construction.

4. **Police Protection**

The Pearl City Station provides primary police protection to the project area.

5. **Public and Private Educational Facilities**

The St. Elizabeth's Church and School, Alvah Scott and Aiea Elementary, Our Savior Lutheran School, Aiea Intermediate, and Aiea High Schools are located in the general vicinity of the project. Both Alvah Scott and Our Savior Lutheran schools lie in the immediate project area.
The projected fall enrollments for these schools are 750, 440, 350, 860 and 1600 respectively.

Design of the roadway improvements would provide safe and easy vehicular and pedestrian accesses to the Alvah Scott and Aiea Elementary Schools.

The Alvah Scott Elementary and Aiea High Schools are both serviced by school buses, six buses at Alvah Scott and ten buses at Aiea High. Existing access roadways will have sufficient width to accommodate the turning radii of these buses.

6. Recreational Facilities

Several parks and playgrounds are located in the near vicinity of the project area, including the Aiea Recreation Center, Pearl Harbor Park, Halawa District Park, and Moanalua Pool.

C. Economic Setting

1. Labor Force, Industry, and Services

Aiea's census data indicates that only 58.9 percent of persons 16 years and older are currently employed (Table 7). The majority of the employed are in technical sales and administrative support occupations, while only a small percent are in farming, forestry, and fishing occupations. Pearl Harbor Shipyard and Supply Center is a major employment center near the project area.

2. Income

The 1980 census reports that Aiea's median income and mean income per family are $27,665 and $30,107, respectively. Median and mean incomes for the Honolulu SMSA are $23,554 and $27,318. Per capita income for the Aiea population was $8,734 in 1980.
<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
<th>Percent</th>
<th>Honolulu SMSA</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persons 16 Years and Over</td>
<td>25,269</td>
<td></td>
<td>574,903</td>
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<tr>
<td>Employed Persons 16 Years and Over</td>
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<td>58.9</td>
<td>324,113</td>
<td>56.4</td>
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<tr>
<td>Managerial and Professional Specialty Occupations</td>
<td>3,682</td>
<td>24.8</td>
<td>79,934</td>
<td>24.7</td>
<td></td>
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<tr>
<td>Technical Sales and Administrative Support Occupations</td>
<td>5,518</td>
<td>37.1</td>
<td>109,521</td>
<td>33.8</td>
<td></td>
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<tr>
<td>Service Occupations</td>
<td>2,151</td>
<td>14.5</td>
<td>56,939</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>Farming, Forestry, and Fishing Occupations</td>
<td>162</td>
<td>1.1</td>
<td>8,538</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Precision Production, Craft, and Repair Occupations</td>
<td>1,951</td>
<td>13.1</td>
<td>36,546</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Operators, Fabricators, and Laborers</td>
<td>1,410</td>
<td>9.5</td>
<td>35,335</td>
<td>10.9</td>
<td></td>
</tr>
</tbody>
</table>
D. Physical Setting

1. Potable Water System

The water distribution system within the roadway consists of 8- and 36-inch lines. The proposed installation of an additional 36-inch water main by City & County of Honolulu Board of Water Supply (BWS) will be coordinated with the roadway improvements.

2. Sewer System

Sewer lines are located below the existing roadway along the entire length of the proposed project.

3. Drainage System

Two streams, Kalauao and Aiea Stream are crossed by existing Moanalua Road, within the limits of the proposed project.

The Kalauao Stream crossing consists of a concrete bridge which spans 35 feet on full height abutments. Upstream and downstream of the bridge are low sections of CRN walls which line the east side of the channel for short distances. The remainder of the existing stream channel is overgrown and appears unimproved.

The Aiea Stream crossing is a short, concrete arch type bridge which has previously been widened with concrete girders. The bridge spans a 24-foot wide rectangular, concrete channel which extends upstream and downstream of the project site.

In the existing four-lane section, between Aiea Heights Drive and Aiea Interchange, storm runoff is intercepted by
curbside catch basins and piped to a large drainage culvert and Aiea Stream channel.

In the two-lane section, a lined drainage ditch carries storm runoff above grade and parallel to Moanalua Road between Kaamilo Street and Hale Momi Place, then empties into Kaluao Stream. Runoff collected by an open concrete channel, on the mauka side of Moanalua Road between Heleconia Street and Lilikoi Place, is routed under Moanalua Road via a 12' x 6' box culvert and discharges into Aiea Stream. The remainder of the two-lane section has no system for collecting storm runoff. The drainage is allowed to flow on the roadway and across the roadway transversely, and eventually finds a way to enter Kaluao or Aiea Stream. Steep tranverse roadway grades and steep lateral grades on each side of the corridor, which drain towards Pearl Harbor, are the likely reason why no flooding problems have been reported in the area.

4. Gas System

Gas Company distribution lines include 4- and 16-inch pipelines along Moanalua Road from Aiea Interchange to Aiea Heights Drive.

5. Telephone System

Both underground and aerial communications lines are present along Moanalua Road.

6. Electrical System

The Hawaiian Electric Company (HECO) has installed pole mounted aerial transmission lines along the existing roadway. The aerial lines capacities are 12, 46, and 138 kilovolts. The HECO Kaonohi Substation is located along Moanalua Road between
the Hale Momi Place and Honomanu Street intersections. The high voltage (138 kv) transmission lines were installed in the 1960s with temporary wood poles within the project limits in recognition of the possibility of widening the roadway. Permanent steel poles were used in other areas which would be unaffected by the widening.

E. Planning Process

1. City and County of Honolulu General Plan\(^\text{12}\). The General Plan for the City and County of Honolulu, a requirement of the City Charter, is a written commitment by the City and County government to a future for the Island of Oahu which it considers desirable and attainable. The proposed project is in compliance with the following City and County of Honolulu General Plan Objectives and Policies:

"To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost....." (Transportation and Utilities; Objective A)

"Improve roads in existing communities to reduce congestion and eliminate unsafe conditions." (Transportation and Utilities; Objective A; Policy 5)

"Consider both environmental impact as well as construction and operating costs as important factors in planning alternative modes of transportation." (Transportation and Utilities; Objective A; Policy 6)

2. City and County of Honolulu Development Plan\(^\text{13}\). Development Plans, according to the Revised Charter of 1973, are relatively detailed guidelines for the physical development of the island. They are an intermediate means of implementing the objectives and policies of the General Plan. They are also meant to indicate the sequence in which development will occur.
Moanalua Road within the project boundaries, is located in the Primary Urban Center (PUC) Development Plan (DP) district. The DP Public Facilities Map indicates that the roadway between Kalauao Stream and the Aiea Interchange be improved within the existing right-of-way and that funding be provided within two to six years. The map also shows that additional right-of-way will be necessary for roadway improvements between Kalauao Stream and Alvah Scott Elementary School and between Laulima Street and Aiea Interchange.
VI

ENVIRONMENTAL CONSEQUENCES
VI. ENVIRONMENTAL CONSEQUENCES

The discussions of impacts in the following sections are based on the preferred alternative.

A. Urban and Community Impacts

1. Social and Economic Impacts

There will be benefits to be derived by all users of this section of Moanalua Road and by the community itself. Moanalua Road, between Kalauao Stream and the Aiea Interchange, is currently substandard and is inadequate in accommodating the increased traffic volume generated by adjacent residential and commercial developments. The project will improve the existing Moanalua Road, thereby, reducing traffic congestion and hazards and increasing pedestrian safety. Wheelchair ramps will also be constructed for handicapped persons at all crosswalks.

It is anticipated that the proposed action, along a route which is not used extensively as a pedestrian thoroughfare, will have either minimal or no impact to the following social variables: neighborhood splitting, isolation of a distinct ethnic group, introduction of new developments, change in property values, change in school districts, and reduction of recreational resources. Additionally, specific social groups, including the elderly, handicapped, nondrivers, transit dependents, and minorities should not be impacted more than the rest of the community. The children will be provided safer pedestrian movement to Alvah Scott School, due to the provision of improved sidewalks.

Short-term economic gain is anticipated overall should the project be implemented. Although this will be of short duration, the
project will create work for the construction industry, service industries, and suppliers of construction materials. Further, there will be an infusion of cash into the local economy resulting from increased tax revenue accrued from the sale of supplies. There should be then, an increase in public expenditures, employment opportunities, accessibility, retail sales, and availability of retail goods and services. This overall economic gain will, however, be partially offset by some loss of business during peak hour restricted parking schedules. Pete's Taxi Stand will also be displaced. However, the project should have no effect on the partial distribution of development.

At this time, there are no known public or private plans for development within the project limits.

The Aiea Shopping Center is located near the eastern boundary point of the roadway. Pearl Ridge Shopping Center is located at the western boundary of the project.

During construction, accessibility to both shopping centers will be negatively impacted; however, upon completion, accessibility would improve to a level better than existing conditions.

2. Relocation Impacts

The City & County of Honolulu Department of Housing and Community Development (DHCD) prepared the "Conceptual Stage Relocation Program Plan" for the proposed project. The study, which is included in this report as Appendix C, basically discussed the availability of replacement housing, impacts on the community and relocation payments. DHCD found that the preferred alternative will cause the displacement of one residence. The displacement of only one house will have little sociological or economic impact upon the community. All efforts
will be made to provide this home owner with a replacement residence that is fee simple and is located in the Aiea, Pearl City, or Waipahu areas. This cost would be covered by the Department of Public Works, City and County of Honolulu.

Federal law provides for the payment of moving expenses and replacement housing payments to all residential tenants or owner-occupants. However, due to the high cost of housing in Hawaii, benefit maximums mandated by Federal laws may not be sufficient to accommodate the satisfactory relocation of the residence being displaced. Should this occur, alternatives presented under the Housing of Last Resort can be utilized. Reference to Appendix C will provide further discussion on these alternatives and presents a tabulation of replacement housing sales within the Aiea, Pearl City, and Waipahu areas.

3. Land Use Impacts

The project proposes the improvement of a closure gap to complete Moanalua Road. No induced or joint development is expected to result, since the area is already currently developed. The project is consistent with the following Federal, State, and County plans and regulations:

a. State Land Use District Boundaries. The State Land Use Designation is "urban" along the entire roadway.

b. State Transportation Plan. Chapter 279 A, HRS, required the Department of Transportation to prepare a new Statewide Transportation Plan. Chapter 279 A, HRS required the plan to be directed "toward the ultimate development of a balanced, multi-modal statewide transportation system that services clearly identified social, economic and environmental objectives." The proposed project is in conformance with several policy statements regarding the "Statewide Highway System," a
separate program, specifically discussed in the State
Transportation Plan. These policy statements include:

"Develop and update Highway Master Plans which serve
statewide needs relating to the efficient, safe, and
convenient movement of people and goods within Hawai'i." (Objective C)

"Promote the planning for and improvement of the pri-
mary, secondary, and urban highway and street systems
consistent with state and county plans to control growth." (Objective C, Policy C (3))

"Improve safety on state and county highways and
streets." (Objective C, Policy C (3), Implementing
Action C (3) (b))

c. City and County of Honolulu Zoning. The areas sur-
rounding the project boundaries are comprised of lands
zoned residential and business. The residential zoning
is primarily comprised of R-4, R-5, and R-6 designations
(Figure 9).

4. Considerations Relating to Pedestrians and Bicyclists

a. Relationship of the Project to Local Plans for Bicycles and
Pedestrian Facilities. The State Transportation Plan and
County General Plan provide specific policies relating to
bikeways and pedestrian safety.

"Improve vehicular and pedestrian safety on State and
County highways and streets." (State Transportation Plan;
Policy C (3); Implementing Action (b))

"Develop a bikeway system along state highways and
county roads to promote low use energy alternative
transportation statewide." (State Transportation Plan; E
(1); Implementing Action (b))

"Develop and maintain an integrated ground transportation
system consisting of the following elements and their pri-
mary purposes: Bikeways for recreational activities and
trips to work, schools, shopping centers, and community
facilities; and Pedestrian walkways-for getting around
Downtown and Waikiki, and for trips to schools, parks,
and shopping centers." (General Plan; Objectives A;
Policy 1)
The preferred alternative will improve sidewalks to City standards. In residential areas, a four-foot wide concrete sidewalk and a three-and-a-half-foot planting and utility strip would be provided. In business areas, the entire width between curb and right-of-way line would be covered with concrete, creating an eight-foot wide sidewalk. Landscaping in the form of trees in tree wells within the sidewalk area, will be provided in conformance with the City's standards.

Four-foot wide standard City sidewalks would be provided on each side of the realigned roadway. Improvements to the sidewalks will provide for better pedestrian safety for the Alvah Scott School students.

Wheelchair ramps will be constructed at crosswalks and signalized intersections. Pedestrian signals and actuation buttons, if necessary, would be provided. Preliminary investigations do not indicate a need for pedestrian overpasses at any location.

Another State document, The State Bikeway Master Plan\textsuperscript{15} indicates that Moanalua Road within the project's limits should have bikelanes. Marked bikelanes have been considered in the development of the project, but have not been included because of several considerations. The project's roadway width is limited and marked bikelanes would take the space of the traffic lane. Additionally, on-street parking during off-peak hours may be allowed in certain areas, resulting in poor bikelane location in either the peak or the off-peak condition.

Unmarked bikelanes, in which the lanes nearest the curbs are of sufficient width to accommodate bicycles and larger vehicles, are possible in the preferred alternative where curb lane widths would be 14 feet.
b. **Current and Potential Bicycle and Pedestrian Activity.**

Current bicycle activity in the project area is limited. Potential bicycle activity generators include the schools, churches, and businesses along and near Hoanalua Road. Current pedestrian activity includes school children and their parents in the vicinity of the schools and a broader mix of people in the business area. Senior citizen programs and other activities on church property also generate pedestrian traffic.

Bicycle and pedestrian travel along portions of the project is hazardous due to the existing narrow traffic lanes, substandard roadway curvature, and inadequate sidewalks. Five-year (1978-1982) accident records show a total of eleven traffic accidents involving pedestrians and one accident involving a motorized bicycle.

c. **Construction and Operation Impacts on Bicycling and Walking.** During construction, the amount of noise and dust generated, and the number of construction machinery and vehicles on-site would represent a deterrent to pedestrian and bicyclist safety. In an attempt to minimize harm to residents of the community, a notice of the construction would be made public. The contractor will also cone-off the roadway to prevent access, if and when necessary.

During operations of the proposed action, bikelanes, if constructed, would provide a safer pathway for bicyclists. Pedestrian activity will also become safer, since traffic congestion and hazards would be reduced.

d. **Consistency With 23 USC 109 (n)^16.** The code reads as follows:

"The Secretary (of Transportation) shall not approve any project under this title that will result in the..."
severance or destruction of an existing major route for nonmotorized transportation traffic and light motorcycles, unless such project provides a reasonably alternate route or such a route exists."

Since the project will not sever or destroy an existing major route, alternative routes need not be provided.

5. Visual Impacts

The project proposes to improve the existing Moanalua Road within its general right-of-way and roadway alignment. The proposed action then, will not obscure or conflict with existing aesthetic values, and viewplanes from and of the roadway. Landscaping will be provided which will enhance the appearance of the roadway.

B. Physical Impacts

1. Air Quality

The proposed alternative will cause some short-term construction-related air quality impact of a magnitude directly proportional to the scale of the improvement and the amount of construction time required. However, a well timed work site watering program should be effective in controlling fugitive dust emissions.

A study of vehicular carbon monoxide emission rates on Moanalua Road, using the EPA computer model, MOBILE 2, shows that these rates decrease dramatically with increasing vehicular speed. Thus, the more a particular roadway improvement can increase vehicle flow, the lower will be the associated carbon monoxide emissions.
The EPA computer model, HIWAY 2, was used to calculate projected carbon monoxide (CO) concentrations at three intersections (Honomanu Street, Kaahale Street, and Aiea Heights Drive) for target years 1985, 1995, and 2005 in order to assess the impact of the proposed modifications to Moanalua Road at these locations. Results of the modelling study show that maximum peak and eight hour CO concentrations at these locations are expected to be well within allowable Federal and State AQS even under the worst case of traffic and meteorological conditions considered for both the maximum improvement and the do-nothing alternative. Thus, no roadway improvements are necessary to insure compliance with existing AQS. In general, the maximum proposed improvement will result in lowering future CO concentrations in the project area by less than 1 milligram per cubic meter.

The State of Hawaii Air Pollution Control Implementation Plan is based on the Federal standards. This project is an area where the State implementation plan does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

It is stressed that the alternatives which have been proposed for consideration in this project are designed primarily to reduce traffic congestion and to improve safety. Any reductions in air pollution levels must be considered merely as desirable by-products of this effort. None of the proposed alternatives has any foreseeable negative air quality impacts.
2. Noise

Short-term noise impacts associated with drainage, sewer, utility, and street widening construction activities will occur as a result of the proposed project. Noise levels of diesel-powered construction equipment typically range from 80 to 90 dB at a distance of 50 feet. Because the proposed right-of-way widths of Moanalua Road are 70 to 80 feet, and because a major portion of the work will occur between the existing curb and the right-of-way, construction equipment will be operated within 30 feet of the walls of existing structures fronting Moanalua Road. Construction noise levels at existing structures will intermittently exceed 85 dB when work is being performed in front of these structures. State Department of Health Regulations currently regulate noise from construction activities under a permit system. Noise levels from construction activities could exceed 95 dB at the project boundary lines. Under current permit procedures, noisy construction activities which exceed 95 dB at the project boundary lines will be restricted to hours between 9:00 AM and 5:30 PM, from Monday through Friday, and excluding certain holidays. These restrictions would minimize construction noise impact on residences and churches, and have generally been successfully applied.

The existing and future traffic noise along Moanalua Road from Jalaau Stream to Aiea Interchange was studied to evaluate potential noise impacts resulting from the road widening project. Noise measurements were obtained, noise contours developed, and noise abatement alternatives evaluated. The Acoustical Study concluded that traffic noise levels under the preferred alternative, traffic noise levels would increase by various amounts. Federal exterior noise abatement criteria would not be exceeded, except at a few residential locations, where the degree exceeded is too small to accurately assess. Existing and future interior noise levels exceed federal and state criteria under conditions of open-windows and natural ventilation.
However, this is a local condition that is not attributable solely to the proposed project.

Noise-sensitive developments along Moanalua Road include single family residences, Aiea Library, St. Elizabeth's Church and School, Alvah Scott Elementary School, Seventh Day Adventist Church, and Bethany Assembly of God Church. Traffic noise impacts occurring from the preferred alternative are predicted to occur in the form of increased exterior noise levels of ranging from 1 to 7 dB. At receptors east of Aiea Heights Drive, future noise levels may exceed Federal Exterior Criteria by 1 dB.

Bethany Assembly of God Church and St. Elizabeth's School may be affected by minor traffic noise increases in the order of 1 Leq Unit. However, interior noise levels within a few classrooms of St. Elizabeth's School are predicted to exceed FHWA interior noise criteria under conditions of natural ventilation. It is recommended that noise mitigation provisions be provided for the affected rooms within this structure. Window air conditioning units in the four affected classrooms would reduce the future noise impacts to a level below the FHWA interior noise criteria, at a total cost of about $6,000. A six foot high sound attenuation wall is suggested for noise mitigation at the Seventh Day Adventist Church at a cost of $5,500. All mitigation measures suggested would reduce interior traffic noise levels below the FHWA criteria of 52 Leq for public use structures.

Noise impacts will vary with distance from the roadway centerline. Noise impacts will be greater if the space between the roadway and receptor was open (front yard), than if an intervening structure (wall or building) exists. In cases where residential levels exceed Federal and State criteria; the
report found that these levels would be exceeded by only 1 dB, an amount which is virtually unmeasurable. Mitigation measures that may be taken include barrier walls or air conditioning; however, it should be noted that the relatively small amount of noise impact excess may not require mitigation. At the early stages of design, noise impacts cannot be accurately predicted, therefore, actual impacts and mitigation measures will be assessed and implemented as necessary during later design stages.

3. Energy

A technical document, entitled "Comparative Energy Analysis for Moanalua Road" was prepared for this project by Barry D. Root, Energy Use Consultant. The document, included in this report as Appendix D, evaluates the energy utilization of each of the alternatives and provides discussions on direct and indirect energy uses. Direct energy use results from the increase in traffic volume due to the project, while indirect energy use is associated with the maintenance-related operational costs of the vehicles traveling along Moanalua Road.

Results of the comparative energy analysis are summarized in Table 8. The key assumption of the analysis is that widening Moanalua Road from 2 to 5 lanes will result in significantly decreased traffic congestion within the project area. For the target year considered, 1995, projected traffic volumes per lane indicate that the roadway would be categorized as "congested" for energy usage estimation purposes about 12 hours per day if no action was implemented, while the proposed improvement to 5 lanes would reduce this congested period to about 5 hours.
TABLE 8
SUMMARY OF COMPARATIVE ENERGY USE

1995 DAILY EQUIVALENT ENERGY
(million BTU)
PROJECT ALTERNATIVES

<table>
<thead>
<tr>
<th>DIRECT ENERGY</th>
<th>NO-ACTION</th>
<th>MAXIMUM IMPROVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTOS/PICKUPS/VANS</td>
<td>136.96</td>
<td>100.62</td>
</tr>
<tr>
<td>SIX TIRE TRUCKS</td>
<td>9.36</td>
<td>6.86</td>
</tr>
<tr>
<td>COMBO-TRAILER TRUCKS</td>
<td>4.00</td>
<td>2.56</td>
</tr>
<tr>
<td>BUSES</td>
<td>5.26</td>
<td>4.42</td>
</tr>
<tr>
<td><strong>TOTAL DIRECT</strong></td>
<td><strong>155.58</strong></td>
<td><strong>114.46</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDIRECT ENERGY</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VEHICLE MANUFACTURING</td>
<td>26.13</td>
<td>22.67</td>
</tr>
<tr>
<td>VEHICLE MAINTENANCE</td>
<td>52.85</td>
<td>45.87</td>
</tr>
<tr>
<td>FACILITY CONSTRUCTION</td>
<td>- 0 -</td>
<td>3.89</td>
</tr>
<tr>
<td>FACILITY MAINTENANCE</td>
<td>0.53</td>
<td>1.32</td>
</tr>
<tr>
<td><strong>TOTAL INDIRECT</strong></td>
<td><strong>79.51</strong></td>
<td><strong>73.75</strong></td>
</tr>
<tr>
<td><strong>TOTAL DAILY ENERGY</strong></td>
<td><strong>235.09</strong></td>
<td><strong>188.21</strong></td>
</tr>
<tr>
<td>EQUIVALENT BARRELS OF</td>
<td>40.5</td>
<td>32.5</td>
</tr>
<tr>
<td>CRUDE OIL PER DAY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VI-13
per day with an attendant decrease of about one stop per vehicle mile for each of the traffic volume categories considered.

To the extent that these assumptions hold true, there could be a potential energy savings of as much as 20 percent associated with the level of improvement being considered for this project. There are, however, numerous assumptions and estimates included in the energy analysis. The variation about the mean of these assumptions could also be as high as 20 percent in some cases. In spite of difficulties in specifically quantifying the magnitude of energy savings associated with projected improvements to Moanalua Road, the analysis indicates that it is almost certain that the energy savings produced by these proposed improvements will significantly exceed the energy costs of the improvements themselves.

Reference to Appendix D will provide detailed discussions regarding the various assumptions and the methodology utilized in conducting the comparative energy analysis.

4. **Wild and Scenic Rivers**

Currently, no rivers in the State of Hawaii are identified as a part of the wild and scenic river system.

5. **Floodplain Impacts**

The flood hazard map for the island of Oahu was prepared as part of the Flood Insurance Study by the U.S. Department of Housing and Urban Development, Federal Insurance Administration. Figure 10 shows the alignment of the portion of Moanalua Road to be improved; Zones A, B and C are delineated for the project area. Most of the improvements to Moanalua Road will not occur in a regulatory floodplain, but rather in an area designated as Zone C, areas of minimal flooding. Other portions
of the road alignment are located in flood plain areas of Zone A and Zone B designations, and are subject to riverine flooding from Kalauao and Aiea Streams.

Since the potential for impact on floodplains exists, the project must be consistent with Executive Order (E.O.) 11988, Floodplain Management, dated May 24, 1977. The E.O. states that the project should comply with the "Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency (FEMA)." The Hydraulic Study, however, that was prepared for this project reports that no increases in base flood elevation of the stream beds are anticipated and, therefore, is in compliance with E.O. 11988 and FEMA, and any formal coordination with FEMA is unnecessary. It is further anticipated that the project's impact on floodplains would be negligible since no stream modifications are being proposed. Reference to E.O. 11988 and the procedures paper 17 will provide discussions regarding the circumstances which would ordinarily require coordination with FEMA, while the Moanalua Road Hydraulic Study 18 will show that the potential increases in the base flood elevation for the adjacent streams would be below the 1-foot maximum normally allowed.

The Moanalua Road Hydraulic study is an evaluation of the impacts of the proposed modifications to the existing Moanalua Road crossings of Kalauao and Aiea Streams. The study consists of the following:

a. Estimates of the 50-year and 100-year flood discharges in Kalauao and Aiea Streams based on the results of previous studies and using the City and County method.

b. Water surface profiles for the above discharges for the existing conditions and the proposed improvements.
Previous studies used include the following:

1. Kaluaun Flood Hazard Area, map FP-7, DLNR

2. The Analysis of the Magnitude and Frequency of Floods

Studies were carried out for Kaluaun Stream which has more
than 27 years of recorded stream flow data. The 50-year and
100-year floods for Ailea Stream were estimated by interpolating
the Kaluaun Stream flow frequency curve on the basis of
drainage areas, and from the general regression equation
developed in above Study No. 2. In addition, the City and
County Storm Drainage Standards were used to estimate the
50-year and 100-year floods for both streams.

The largest estimated flow values were selected for use in this
study as these floods would have the greatest impact on flood
water surface elevations and flooding in the project area. The
50-year and 100-year floods used for Kaluaun Stream are 4,830
cfs and 5,800 cfs respectively. The peak floods used for
Ailea Stream are 3,200 and 4000 cfs.

Flood water surface profiles were prepared for both streams
for the existing and proposed conditions and for the 50-year
and 100-year floods. For Ailea Stream there is no change in
the water surface elevations, and for Kaluaun Stream the
proposed conditions result in a fairly significant lowering of
the water surface elevation in the vicinity of the proposed
crossing. The elevation differences are tabulated as follows:
### Differences in Proposed vs. Existing Water Surface Profiles at Kalanlao Stream

<table>
<thead>
<tr>
<th>Location</th>
<th>50-Year Flood</th>
<th>100-Year Flood</th>
</tr>
</thead>
<tbody>
<tr>
<td>50' Upstream</td>
<td>- 3.3'</td>
<td>- 3.7'</td>
</tr>
<tr>
<td>10' Upstream</td>
<td>- 5.4'</td>
<td>- 5.7'</td>
</tr>
<tr>
<td>10' Downstream</td>
<td>- 1.5'</td>
<td>- 1.0'</td>
</tr>
<tr>
<td>50' Downstream</td>
<td>- 1.1'</td>
<td>- 1.0'</td>
</tr>
</tbody>
</table>

The extent of encroachment into the designated flood plain will be minimal and only to the extent of additional width of the right-of-way. The proposed action will improve an existing stream crossing, therefore, it is anticipated that there would be no additional risks associated with implementation of the action and no additional impacts on national and beneficial floodplain values.

To further ensure that the proposed project would not support incompatible floodplain development, compliance will be made with Ordinance No. 80-62, Relating to Flood Hazard Districts, City and County of Honolulu, if appropriate. In summary, the ordinance states "All proposed developments within the General Flood Plain District, shall be subject to review and approval by the Director (of Land Utilization, City and County of Honolulu)." In their submittal to the Director, the following would be included: topographic data, relationship of project to floodway and flood fringe areas as determined by a flood study, drainage report, and profiles of the area and the regulatory flood elevation. Measures to minimize floodplain impacts, and restore and preserve the natural and beneficial floodplain values would subsequently be coordinated with the City. Further, all applicable measures stated in the ordinance itself will be complied with.
The alterations to the bridge structures at Kaluao and Aiea Streams for the preferred alternative will not have any adverse impact on the flood water levels or the flooding problems in these two streams. The existing stream alignments will not be modified and therefore will remain within the existing stream rights-of-way.

6. Coastal Zone Impacts

Portions of the island of Oahu are subject to control by the Hawaii State Coastal Zone Management Program and Chapter 205A, Hawaii Revised Statutes. It is the purpose of this program to comply with the requirements of the National Coastal Zone Management Act and "to provide for the effective management, beneficial use, protection, and development of the coastal zones of the several states." Sections 205A-2 and 205A-6 presents objectives and policies of the program. The following discusses those objectives and policies that are directly applicable to this project which lies outside of the Special Management Area. It can be assumed that those objectives and policies not discussed, have no relationship to the proposed action.

"Provide public or private facilities and improvements important to the State's economy in suitable locations." (Section 205A-2 (a) (5) Economic Uses (A))

The proposed action will improve the existing Moanalua Road. The impact resulting from construction of the improvements will provide the state with economical benefits.

"Identify and analyze significant archaeological resources." (Section 205A-6 (c) (2) Historic resources (A))

"Support State goals for protection, restoration, interpretation, and display of historic resources." (Section 205A-6 (c) (2) Historic resources (c))
This Environmental Impact Statement will identify the existence of significant archaeological resources and analyze them, if necessary. If the State Historic Preservation Officer determines any site found to be significant, the project will protect, restore interpret, and/or display the site.

"Develop and communicate adequate information on storm wave, tsunami, flood, erosion, and subsidence hazard"

"Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard"

"Ensure that developments comply with requirements of the Federal Flood Insurance Program." (Section 205A-6 (c) (6) Coastal hazards (A) (B) (c))

A Coastal Zone Management (CZM) Consistency Determination for the proposed project was issued by the Department of Planning and Economic Development. This determination states that the proposed project complies with the Hawaii Coastal Zone Management Program at this stage of planning. A copy of this consistency statement can be found in Section XV. The CZM Consistency Determination will also be reviewed during the processing and review of the Department of the Army 404 Permit.

The Department of the Army, Corps of Engineers, has provided this project with the revised Flood Insurance Rate Map. The map indicates that portions of the roadway are located in flood plain areas of Zone A and Zone B designations and are subject to riverine flooding. However, the hydraulic study that was prepared for this project has indicated that no substantial increases in base flood elevation are expected and, therefore, no mitigative measures appear to be necessary.

7. **Wetland Impacts**

Discussions with the U.S. Department of Interior\textsuperscript{21} have indicated that no wetlands exist in the Area area which may be impacted by the proposed project.
8. Water Quality and Drainage Impacts

Due to the scope of work and scale of development, the project will not significantly impact the water quality of the adjacent streams or groundwater aquifers.

During construction, potential incidences of erosion and sedimentation may impact the water quality of the streams during a significant storm, resulting in increased nitrogen, phosphorus, and suspended solids. Thus, there exists the potential for the nehu bait fishery located at Pearl Harbor to be impacted. The Alea and Kalaula Streams discharge into Pearl Harbor and any adverse impacts to the streams would ultimately impact the fishery. However, the potential for impacts to these waters are not anticipated to be high, since erosion and sedimentation problems would arise only during heavy storms and secondly, since all efforts would be made to minimize erosion problems on-site. The impact of construction activities will be mitigated by conforming to strict erosion control measures, including Chapter 23, Grading, Soil, Erosion, and Sediment Control, Revised Ordinances of Honolulu, 1978, as amended; the USDA Soil Conservation Services Erosion and Sediment Control Guide for Hawaii, 1981; and the State Department of Health's Water Quality Standards, Chapter 54, Title 11, Administrative Rules. Approval by the City & County of Honolulu Department of Public Works will be required to ensure proper erosion control. Examples of specific sediment and erosion control measures which may be utilized for this project include temporary and permanent erosion control planting, jute mesh slope protection, rip rap slope protection, gravel filter berms, silt fences, and sediment ponds. Specific designs and locations for such measures will be determined during the design of the project.

The possible occurrence of oil spills may also adversely impact
water quality of the streams. To ensure that this does not happen, no refueling operations will be allowed near stream beds, thus, reducing the chances of fuel and oil being spilled into the streams.

The Corp of Engineers has indicated that a Department of Army permit may be required for any fill or structure at Kalauao Stream.

The project will not alter existing drainage patterns or characteristics and will, in actuality, improve drainage conditions by reducing the amounts of sediment and debris currently found at the project area after storm activities. The existing 12' x 6' box culvert under Moanalua Road between Lilikoi Place and Aiea Stream will remain. Existing curbs and gutters within the project boundaries are either non-existent or too small to adequately intercept storm runoff. The proposed project will improve this situation by providing adequate curbs and gutters which will be able to intercept storm runoff and discharge it into adjacent streams. These improvements should, therefore, reduce the amounts of sediment and debris that may be transported in the runoff and are normally found within the project area. Currently, storm runoff which goes across corridor is flowing to the streams at random locations which, due to the flow concentration, could create greater erosion. Reduction of the cross corridor flow would therefore reduce the erosion potential downstream of the corridor.

After construction is completed, potential water quality impacts may result due to the increase in traffic volume and the subsequent increase in surface pollutants, including solids, organics, metals, nutrients, and bacteria. However, since the increase in traffic volume is projected to be only marginal, it is anticipated that the generation of pollutants, too, will be limited, thereby, reducing the project's impact on water quality.
It is also believed that impacts would be further minimized, since EPA approved biocides currently in use for roadside and stream maintenance, that may potentially affect water quality tend to break down more readily in comparison to the more lasting types of a few years ago. Finally, lead concentrations originating from automobiles should be steadily decreasing, since new automobiles have been designed to only utilize unleaded gasoline, which would reduce the output of lead into the environment.  

9. Threatened or Endangered Species, Native Aquatic Fauna

Since the Moanalua Road alignment traverses through an existing residential community, the existence of any threatened or endangered species of mammals or avifauna appears unlikely. The Fish & Wildlife Service, U.S. Department of Interior, based on their surveys, have indicated through coordination conversations that only native and exotic species of stream biota were found within the Kaluaoa and Aiea Streams. No threatened or endangered species were observed. The Fish and Wildlife Service has further recommended that a bridge structure for crossing Kaluaoa Stream be considered because culverts can impede the upstream migration of native aquatic fauna by creating wide, laminar flows. If a bridge cannot be constructed, they recommend a low flow notch be provided in a concrete box culvert. Investigations and studies of alternative structure types during the design phase of the project will include consideration for upstream migration of native aquatic fauna.

10. Prime and Unique Agricultural Lands

The Moanalua Road alignment traverses through an existing urban community. The U.S. Department of Agriculture Soil Conservation Service Soil survey of Oahu indicates that there are no prime or unique agricultural lands in the general vicinity that would be impacted due to the proposed project.
11. **Construction Impacts**

Impacts resulting from construction related activities are short-term. Minor utility relocations including sewer and water will be required to accommodate the roadway widening, hence service interruptions to businesses and residences along the proposed alignment are anticipated. The contractor will be required to minimize the duration of service interruptions, however, these impacts are unavoidable. Interruptions may be expected throughout the duration of the construction period.

It is anticipated that construction of the proposed project will have some impact on the existing topography. The preferred alternative will impact the existing roadway at varying degrees along the project length. Some flora will be cleared during construction, however, existing vegetation is limited and located only along the roadways adjacent sidewalk areas. Landscaping will be provided in the residential sections of the roadway which will replace the vegetation uprooted during construction. Tree wells will be provided in conformance with City standards.

Fauna may be displaced or frightened away. However, after completion of the project, it is anticipated that the fauna will return for food and shelter in the community.

Since residences and businesses are located within the project area and adjacent to the roadway, some disruption to the community is anticipated during construction. The St. Elizabeth's Church and School, Alvah Scott Elementary School, Aisa Library, Aisa Seventh Day Adventist Church, Bethany Assembly of God, and Our Savior Lutheran Church and School are located adjacent to the roadway right-of-way and dust and noise generated during construction would disrupt their normal operations.
To minimize air pollution, a well timed work site watering program should be effective in controlling fugitive dust. The proposed project will also require construction specifications and compliance with State Department of Health, Rules and Regulations, which stipulate control measures (Section 11-60-5, Fugitive Dust, Chapter 60, Title 11, Air Pollution Control).

There will also be some short term air pollutant emissions from heavy construction vehicles. Many of these vehicles are diesel powered. Diesel engines produce significant amounts of nitrogen dioxide but very little carbon monoxide that is the major concern for this project. The air pollution impact of construction vehicles is expected to be miniscule compared to emissions from vehicles traveling on roadways within the project area.

The contractor will ensure that all construction equipment is in proper operating condition. Further, the project must comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu.

a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the regulations.

b. Construction equipment and on-site vehicles or devices requiring exhaust of gas or air must be equipped with mufflers.

c. The contractor must comply with the conditional use of the permit as specified in the regulations and the conditions issued with the permit. This includes minimizing noise impacts on classroom activities when operating near all schools along the project route.

Traffic noise from heavy vehicles traveling to and from the
construction size must be minimized in residential areas and must comply with the provisions of Title 11, Administrative Rules Chapter 42, Vehicular Noise Control for Oahu.

Erosion problems could arise during site preparation of the project, which may impact the adjacent streams. Though no significant problems are anticipated, the project will conform to Federal, State, and City & County of Honolulu regulations which stipulate erosion control measures.

In an attempt to minimize harm to residents of the community, a notice of construction initiation would be made public. The contractor will be required to keep the road open to all traffic during the progress of the work. This will probably require the construction of detours, particularly at the Kalauao and Ala Stream crossings. Because of the necessity to maintain existing traffic and access to properties during construction, and to construct the roadway, bridges and utilities in stages, the construction period for this project could last up to 24 months.

12. Right-of-Way Impacts

There will be some effect on properties adjacent to the roadway widening where right-of-way will be required. Partial takes from front yards will necessitate the vertical adjustment of some lawn areas, driveways, garages and/or carports; and other front yard fixtures such as walls, mailboxes, landscaping and other property improvements will also be affected. In most cases these improvements may be relocated or reconstructed, and in these cases details would be worked out with the homeowners during the design phase, and the work performed by the contractor.

Remainder parcels which are substandard with regard to current
zoning regulations, but still useable, will be granted a variance from those regulations if the homeowners apply for a building permit.

Where construction will require removal of the residence, these impacts would be mitigated as discussed in Section VI.A.2 Relocation Impacts.

Listed below are the parcels which will be affected by right-of-way takes:

<table>
<thead>
<tr>
<th>Mauka</th>
<th>Makai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel</td>
<td>Parcel</td>
</tr>
<tr>
<td>9-8-12-38</td>
<td>* 9-8-16-53</td>
</tr>
<tr>
<td>9-8-12-45</td>
<td>* 9-8-16-54</td>
</tr>
<tr>
<td>9-8-12-11</td>
<td>9-8-25-19</td>
</tr>
<tr>
<td>9-8-30-30</td>
<td>9-8-25-1</td>
</tr>
<tr>
<td>9-8-30-37</td>
<td>9-8-18-51</td>
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<td>9-8-30-38</td>
<td>9-8-18-76</td>
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<td>9-8-30-39</td>
<td>9-8-18-77</td>
</tr>
<tr>
<td>9-8-29-3</td>
<td>9-8-18-89</td>
</tr>
<tr>
<td>* 9-9-43-29</td>
<td>* 9-9-12-17</td>
</tr>
</tbody>
</table>

* Commercial Properties

13. Parking Impacts

Right-of-way requirements are also expected to affect parking
in the project area. Alvah A. Scott Elementary School may lose one parking stall, while the Bethany Assembly of God church may incur a loss of about ten stalls. However, in the preferred alternative, parking during non-peak traffic periods will be permitted in curb lanes where improvements provide adequate width. Some impact on businesses along the corridor may occur as a result of loss or restriction of curb-side parking.

14. **Public Utilities**

Construction activities will require the relocation and/or reconstruction of several utilities. Electric, telephone, and cable television overhead utilities which currently traverse the project will be affected and will require relocation. In addition, there are underground telephone lines which could also require relocation. Underground, there are existing sewer, water and gas lines which will require some adjustment or relocation, and a new 36-inch water main is proposed by the Board of Water Supply. Location of the main will be coordinated with them during the design and it will be included as part of the construction package.

C. **Historic and Archaeological Preservation Effects**

There are no known historic or archaeological sites within the project area. The State Historic Preservation Officer has indicated that the project does not affect any on historic properties which are listed on the Hawaii Register or the National Register of Historic Places, however, a few plantation homes along the project alignment are eligible for inclusion on the National Register of Historic Places. The State Historic Preservation Officer has also indicated that the proposed project will not have any effect on the historic character of the buildings. The existence of other significant sites are unlikely, since an existing roadway already traverses the area. However, in the event that any unanticipated sites or remains are uncovered,
the contractor will halt work and the State Historic Preservation Officer will be notified.

D. Section 4(f) Impacts

Alsea Park is in the general vicinity of the project area, however, there are no other parks, recreation areas, historic sites, wildlife refuges, etc. along the project alignment. Therefore, Section 4(f) does not apply to this project.
PROBABLE ADVERSE ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES
VII. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACTS

Adverse impacts were summarized in the previous section. Since the proposed project will improve conditions on an existing roadway, no adverse impacts are anticipated after construction is completed. Impacts resulting from operations should remain consistent with existing conditions or be improved.

Traffic noise impacts resulting from construction of the preferred alternative may require mitigation provisions as suggested by the Noise Quality study. This would include air conditioning units for affected rooms within the St. Elizabeth's Church and School, at an estimated cost of $6,000. A six foot high sound attenuation wall was suggested for the Seventh Day Adventist Church, at an estimated cost of $5500.

FHWA exterior noise criteria is predicted to be exceeded at two private residences at the Puakala Street Intersection. However, sound attenuation walls have not been recommended for these structures because a 10 foot wall height is required. The required decrease of only 1 Leq unit would be achieved at the expense of aesthetic, ventilation, and lighting effects on the residences. The 1 Leq unit is within the tolerance range of the noise prediction procedures and should have minimal impact.
VIII. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATIONS OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

The current Long-Range Transportation Plan for 1985 guides transportation planning on Oahu and directs that Moanalua Road be improved. The plan is presently being updated to the year 2000, and it is assumed that Moanalua Road would be improved. The project is also consistent with the State Coastal Zone Management Program, Transportation Plan, and Bikeway Master Plan, and County General Plan and Development Plan.
IX

SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE ENHANCEMENT OF LONG-TERM PRODUCTIVITY
IX. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The preferred alternative will result in short-term adverse impacts such as increased generation of noise and fugitive dust, disrupted traffic flow, and loss of land for right-of-ways.

The long-term productivity of this project will offset these adverse impacts. The long-term productivity of this project includes the:

A. Reduction of present and future traffic congestion.
B. Increase in pedestrian safety.
C. Provision of pedestrian and bicycle facilities, where possible.

Based on these considerations, and the fact that the adversity of all impacts can be minimized, it is considered that the long-term productivity of the selected alternative is beneficial for the community as well as the present and future land uses in the surrounding area.
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES
X. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

As in any proposed action involving construction, the preferred alternative will result in the commitment of various resources which include:

A. Construction materials such as concrete, steel, asphalt, rock, etc., may be utilized. Once used, these materials will be utilized for Moanalua Road for an indefinite time period.

B. Labor will be used. Labor for this project will be required for construction, planning, engineering design, landscaping, purchasing, and services, etc. Once utilized, this labor is irretrievable. However, labor can be compensated, thus, generating monies into the island's economy.

C. Additional land may need to be committed for roadway use. The exact amount of land will be determined during the design of the project. Once acquired for the selected proposed action, the land will be irretrievably committed.
XI. LIST OF PREPARERS

Below is a listing of persons who provided information for the preparation of or were primarily responsible for preparing this Final Environmental Impact Statement (FEIS).

A. F. J. Rodriguez
   
   **Educational Background:** B.A. Sociology/Business Administration
   
   **Professional Experience:** 11 years work relating to environmental concerns and impact statements in Hawaii; President, Environmental Communications, Inc.
   
   **Responsibility:** Coordinated efforts with subconsultants on technical environmental support studies; prepared the overall EIS documents.

B. Duane Morita
   
   **Educational Background:** M.U.R.P., Urban and Regional Planning.
   
   **Professional Experience:** 5 years work relating to Urban Planning; 2 year Environmental Impact Statement preparer with Environmental Communications, Inc.
   
   **Responsibility:** Prepared Draft EIS document.

C. Taeyong M. Kim
   
   **Educational Background:** B.A. Sociology, M.U.R.P. Candidate
   
   **Professional Experience:** 2 years Environmental Impact Statement preparer with Environmental Communications, Inc.
   
   **Responsibility:** Prepared EIS documents.

D. Yoichi Ebisu, P.E.
   
   **Educational Background:** M.S.E.E.
   
   **Professional Experience:** 18 years of experience in acoustics. Principal with Darby-Ebisu & Associates, Inc.
   
   **Responsibility:** Responsible for data collection, noise contour calculations, and prepared the Acoustical Study for the Moanalua Road project.
E. Barry D. Root

**Educational Background:** M.A. Geography/Public Health

**Professional Experience:** 5 years duty with U.S. Air Force, Air Weather Service; 5 years University Geography assistant/instruction; 5 years air pollution consultant in Hawaii.

**Responsibility:** Prepared Appendix A, "Air Quality Assessment for Moanalua Road" and Appendix D, "Comparative Energy Analysis for Moanalua Road."

F. Stan Kawaguchi, P.E.

**Educational Background:** B.S.C.E., M.S.C.E.

**Professional Experience:** 18 years in civil, structural, and transportation engineering. Vice President at Parsons Brinckerhoff Quade and Douglas, Inc.

**Responsibility:** Coordinated overall efforts of engineering design.

G. Tony D'Alessio, P.E.

**Educational Background:** B.C.E.

**Professional Experience:** 21 years in planning, design, and environmental assessment of highway and other civil engineering projects. Engineer at Parsons Brinckerhoff Quade and Douglas, Inc.

**Responsibility:** Coordinated efforts of engineering design.

H. Julian Ng, P.E.

**Educational Background:** B.S.C.E.

**Professional Experience:** 11 years civil and traffic engineering and transportation planning. Staff engineer at Parsons Brinckerhoff Quade and Douglas, Inc.

**Responsibility:** Assist in coordinating efforts of engineering design.

I. Susan Uejo, P.E.

**Educational Background:** B.S.C.E.

**Professional Experience:** 5 years civil and traffic engineering and transportation planning. Staff engineer at Parsons Brinckerhoff Quade and Douglas, Inc.

**Responsibility:** Assist in coordinating efforts of engineering design.
Technical Review Assistance

Federal
U.S. Area Engineer
Department of Transportation
Federal Highway Administration

State
Kenneth Au
Department of Transportation

City and County of Honolulu
Chew Lun Lau, Environmental Engineer
Department of Public Works
Paul Won, Chief Highway Engineer
Department of Public Works
SUMMARY OF UNRESOLVED ISSUES
XII. SUMMARY OF UNRESOLVED ISSUES

At this time, there are no unresolved issues from the standpoint of potential environmental impacts. The Draft EIS reviewed the alternatives for the proposed action and the selection of the preferred alternative will be approved upon acceptance of this EIS.

A list of necessary approvals required after completion of the EIS are listed in Chapter XIII.
XIII. LIST OF NECESSARY APPROVALS

The following approvals or permits may be required for the preferred proposed action prior to its construction:

A. **Community Noise Permit.** This permit must be obtained from the Department of Health when anticipated noise levels are expected to exceed the noise standards set forth in Title 11, Administrative Rules, Chapter 43, Community Noise Control for Oahu.

B. **Coastal Zone Management (CZM), Federal Consistency Notice.** This permit is processed by the State Department of Planning and Economic Development. The Consistency Notice shows that a project is consistent with the objectives of the CZM program. It is necessary when the action (a) is initiated by a Federal agency; (b) will use Federal funds; and (c) requires Federal licenses or permits.

C. **Building Permit.** This permit is required by the City and County of Honolulu Building Department when construction work is involved that would alter any sidewalk, curb or driveway in a public right-of-way.

D. **Grubbing, Grading, and Stockpiling Permit.** This permit is required by the City and County of Honolulu Department of Public Works when any type of excavation work is employed.

E. **Erosion Control Permit.** This permit is required by the City and County of Honolulu Department of Public Works to ensure proper erosion control.

F. **Department of the Army 404 Permit.** This permit will be required for structures or construction work including excavation, dredging or discharging of dredged or fill material for the Kaluaoo Stream.
crossing. The Aiea Stream crossing is approved by Nation-wide permit in accordance with 33 CFR 330.5(2)(14).

It should be recognized that an accepted EIS document is necessary to process these permits and approvals. Therefore, this EIS document is prepared to meet both Federal and State requirements.
February 12, 1986

Mr. Kent M. Keith, Director
Department of Planning and
Economic Development
State of Hawaii
P. O. Box 2359
Honolulu, Hawaii 96804

Attention: Hawaii Coastal Zone Management Program (HCZMP)

Dear Mr. Keith:

Subject: Moanalua Road, Pali Momi Street to Alia Interchange

The attached copy of the draft environmental impact statement (DEIS) for the subject project is transmitted for your review and HCZMP consistency determination. The project has been designated as part of the Federal Aid Urban System. The Federal Government is expected to fund approximately 75% of the cost with the State and City and County equally funding the remaining 25%. We are requesting a consistency determination with HCZMP, a requirement before federal funds can be released. We are presently working on the final environmental impact statement (FEIS) and would like to incorporate your DEIS comments into the FEIS.

Prior to construction, a U.S. Department of the Army permit under Section 404 of the Federal Water Pollution Control Act is required to be obtained for the project. Therefore, in the permit process the HCZMP will have another opportunity to review and ensure consistency of the project's impacts prior to implementation.

A completed Federal Consistency Supplemental Information Form is attached. Should you have any questions or require more information, please contact Paul Won at phone 527-5084.

Very truly yours,

Russell L. Smith, Jr.
Director and Chief Engineer

Attach.
FEDERAL CONSISTENCY
SUPPLEMENTAL INFORMATION FORM

Project/Activity Title or Description: Moanalua Road, Palii Momi Street to Aiea Interchange
Island Oahu Tax Map Key No. various Est. Start Date: 1987

APPLICANT OR AGENT
Name & Title Mr. Russell L. Smith, Jr., Director and Chief Engineer
Agency/Organization Department of Public Works Telephone 523-4341
Address 650 South King Street Zip 96813

TYPE OF APPLICATION (check one only)
[ ] I. Federal Activity (statement "a")

"The proposed activity is consistent with and will be conducted in a manner consistent to the maximum extent practicable with the Hawaii Coastal Zone Management Program."

Signature __________________________ Date ________________

[ ] II. Permit or License (statement "b")

"The proposed activity complies with Hawaii's Coastal Zone Management Program and will be conducted in a manner consistent with such a program."

Signature __________________________ Date 2/13/86

[ ] III. OCS Plan/Permit

[ ] IV. Grants & Assistance

- 39 -
March 13, 1986

The Honorable Russell L. Smith, Jr.
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Smith:

Subject: Coastal Zone Management (CZM) Consistency Determination
Moanalua Road Improvements from Pali Momi Street to Aina
Interchange (FC/86-006)

We have reviewed the subject consistency submission and Draft
Environmental Impact Statement and find the proposed project consistent with
Hawaii's CZM Program for the current stage of planning. As indicated in your
February 12, 1986, letter, we will subsequently be reviewing related bridge
construction work should it require a U.S. Department of the Army permit.

Your observance of the CZM consistency review procedures is
appreciated.

Very truly yours,

[Signature]
Kent M. Keith

---

Ref. No. P-3691
In accordance with the Federal Highway Administration and NEPA procedures and the State's statute (Chapter 343, Hawaii Revised Statutes) a Notice of Intent (see XVI-2) was filed and published in the Federal Register and an "EIS Preparation Notice" was submitted to the Environmental Quality Commission (EQC) for publication in its EQC Bulletin. A "Consultant Period" of 30 to 60 days commenced after the EIS Preparation Notice was officially filed (the date of the Bulletin on which the EIS Preparation Notice was first published). The Consultation Period allowed interested agencies and organizations to make comments and to become consulted parties in the actual preparation of the EIS. As required by the Federal and State regulations, responses were sent to each agency and organization that provided substantive comments. The following are copies of the letters received and its subsequent responses.

A total of 45 letters were received in response to the EIS Preparation Notice. In most cases, the comments identified specific concerns that should be addressed in the EIS.

Table 9 identifies the agencies to whom copies of the EIS Preparation Notice were sent, the date of the comment, and the date of the response to the comment (when necessary).

Reduced, half-size copies of the letters received and responses to the comments are provided in the Final EIS.
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<thead>
<tr>
<th>ORGANIZATIONS/AGENCIES</th>
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<th>Date of Responses</th>
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<td>Mrs. Nancy Chun</td>
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<td>Our Savior Lutheran School and Preschool</td>
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## COMMENTS REQUIRING NO REPLY TO EIS PREPARATION NOTICE

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<td>Department of Planning and Economic Development</td>
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<td>Department of Hawaiian Home Lands</td>
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<td>U.S. Department of Agriculture</td>
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<td>Pacific Islands Forester</td>
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<td>Soil Conservation Service</td>
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<td>United States Department of the Interior</td>
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<tr>
<td>United States Senate, Daniel K. Inouye's Office</td>
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<tr>
<td>United States Senate, Spark M. Matsunaga's Office</td>
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<td>Cenpac Properties, Inc.</td>
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<td>Hawaiian Association of Seventh-day Adventists</td>
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<tr>
<td>Eugene A. H. Magruder, M.D., F.A.C.C., Inc.</td>
<td>9/13/83</td>
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<td>Watercress Associates</td>
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<td>St. Elizabeth's Church</td>
<td>9/23/83</td>
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<tr>
<td>Yong &amp; Helen Y. Kamei</td>
<td>9/22/83</td>
</tr>
<tr>
<td>Cades Schutze Fleming &amp; Wright, Attorneys at Law</td>
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</tbody>
</table>

XIV-3
MEMORANDUM

TO: MR. DOUGLAS GIEB, CHIEF
   HONOLULU POLICE DEPARTMENT

FROM: MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER
       DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR MEMORANDUM, DATED SEPTEMBER 19, 1983,
         RELATING TO COMMENTS ON THE ENVIRONMENTAL
         IMPACT STATEMENT PREPARATION NOTICE FOR
         HONALULU ROAD, FROM PALI HONI STREET TO
         AIEA INTERCHANGE.

Thank you for your comments on the Environmental Impact
Statement (EIS) Preparation Notice for Honolulu Road Improve-
ments from Pali Honi Street to Aiea Interchange.

Construction impacts will be discussed in the Draft EIS. As
you stated, construction activities, especially detours,
traffic would be maintained on Honalulu Road as much as
possible. The contractor will be directed to provide safe
and adequate vehicular and pedestrian access through the
construction area.

Sincerely,

DOUGLAS G. GIEB
Chief of Police

MICHAEL J. CHUN
Director and Chief Engineer
MEMORANDUM

TO: KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER
    BOARD OF WATER SUPPLY

FROM: MICHAEL J. CHUH, DIRECTOR AND CHIEF ENGINEER
    DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER OF SEPTEMBER 8, 1983, ON THE
        ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
        FOR MONALUA ROAD FROM PALI HONI STREET TO AIEA
        INTERCHANGE

We have no objections to the proposed project. We anticipate no adverse impacts on potable groundwater
resources or our water system facilities in the area.

We are currently coordinating the design work for
the installation of a 36-inch water main within the project
limits with your department.

If you have any questions, please call Lawrence
Whang at 527-6138.

KAZU HAYASHIDA
Manager and Chief Engineer

October 26, 1983

MEMORANDUM

TO: MR. HAYASHIDA, MANAGER AND CHIEF ENGINEER
    BOARD OF WATER SUPPLY

FROM: MICHAEL J. CHUH, DIRECTOR AND CHIEF ENGINEER
    DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR MEMORANDUM, DATED SEPTEMBER 23, 1983,
        RELATING TO COMMENTS ON THE ENVIRONMENTAL
        IMPACT STATEMENT PREPARATION NOTICE FOR
        MONALUA ROAD, FROM PALI HONI STREET TO
        AIEA INTERCHANGE

Thank you for your comments on the Environmental Impact
Statement Preparation Notice for Monalua Road improvements
from Pali Honi Street to Aiea Interchange.

We are aware of the planned installation of a 36-inch water
main and will continue to coordinate the Monalua Road
improvements with your department.

MICHAEL J. CHUH
Director and Chief Engineer

W.P.: Approved

KAZU HAYASHIDA
Manager and Chief Engineer
MEMORANDUM
TO: MR. MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS
FROM: MELVIN M. NOHARA, FIRE CHIEF
SUBJECT: EIS PREPARATION NOTICE FOR THE IMPROVEMENTS TO HONOLULU ROAD

September 28, 1983

Thank you for the opportunity to review and comment on the subject project.

We have no objections to the subject project; however, a notice of construction should be sent to our Fire Alarm Bureau within sufficient time prior to your starting the project. This notice is necessary so we may prepare our response routes should an emergency incident occur in this area.

MELVIN M. NOHARA,
Fire Chief

Michael J. Chun
Director and Chief Engineer

October 26, 1983

MEMORANDUM
TO: MR. MELVIN M. NOHARA, FIRE CHIEF
FIRE DEPARTMENT
FROM: MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS
SUBJECT: YOUR MEMORANDUM, DATED SEPTEMBER 28, 1983, RELATING TO COMMENTS ON THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR HOHANALUA ROAD, FROM PALI HOULI TO ALA INTERCHANGE

Thank you for your comments on the Environmental Impact Statement Preparation Notice for Hoanalu Road improvements from Palis Houlia Street to Alana Interchange.

We will keep you advised of the project's progress so that you may prepare your response routes as necessary.

Michael J. Chun
Director and Chief Engineer

MEMORANDUM TO DR. MICHAEL J. CHUN
PAGE 2

Comment: Because traffic volume and speed may increase in a residential area, buffers, landscaping and/or barriers should be considered to mitigate potential impacts from noise and traffic hazards. Also, runoff from construction activities should be carefully controlled and monitored for potential adverse impacts upon Aiea and Kauau Streams and the Pearl Harbor Ma'ili fishery.

If there are any questions, please contact John Nakagawa of our staff at 527-5038.

Michael H. Mcelroy
Director of Land Utilization
MEMORANDUM

TO:    MR. MICHAEL H. MCKELROY, DIRECTOR
       DEPARTMENT OF LAND UTILIZATION

FROM:  MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER
       DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR MEMORANDUM, DATED SEPTEMBER 29, 1983, RELATING TO COMMENTS FOR THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR HONOLUA ROAD, FROM PAIL MOLI STREET TO ALAE INTERCHANGE.

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Honolua Road Improvements from Pail Moli Street to Alae Interchange.

The Draft EIS will provide more details of the various improvements being studied. Plans or diagrams will also be included to help illustrate the alternatives under consideration.

Public participation and input are being encouraged through the EIS process. The Department has already sent letters notifying the Honolua Road residents and businesses about the proposed project. Copies of the EIS Preparation Notice have been sent to governmental agencies and representatives, community organizations and interested individuals. In addition, three informal meetings have already been held with interested community groups to discuss the project and to solicit public input. A public hearing will be held after the publication of the Draft EIS, and the selection of an alternative will consider public concerns.

A study of noise impacts and possible mitigation measures is presently being conducted and will be discussed in the Draft EIS. A discussion of construction impacts will also be included. The design of the selected alternative will incorporate vehicular and pedestrian safety features.

Michael J. Chun
Director and Chief Engineer
MEMORANDUM

TO:    Dr. Michael J. Chun, Director and Chief Engineer; 
        Department of Public Works

VIA:   Mr. Andrew I. T. Chang, Managing Director

SUBJECT: Environmental Impact Statement Preparation 
          Notice for Manaloa Road, from Pali Highway 
          to Ala Interchange

September 30, 1983

DGP/83-474

In addition to the areas of concern expressed in the 
preparation notice, items of interest to us are as follows:

Traffic impact to parallel east-west transportation 
corridors in the Aiea community as commuters as well 
as local residents try to find alternatives to using 
the affected Manaloa Road section during construction.

Traffic impact to makaha-nahiku local roadways and the 
potential hardships drivers may encounter in trying to 
reach makaha-nahiku destinations, e.g., schools, recrea- 
tion areas, churches, etc.

Impacts to commercial operations and the residential 
lots fronting Manaloa Road. Recent highway 
construction experiences near the Honolulu Interna- 
tional Airport indicate that loss of vehicular 
accessibility to commercial properties and traffic 
routing patterns were major factors in causing 
economic hardships.

The estimated two-year construction period seems 
excessive for a roadway improvement project of less 
than a mile. The project description may need to 
elaborate on this period in view of the daily traffic 
inconvenience that the community will be subjected to.
October 26, 1983

TO:    FR. WILLARD T. CHEN, DIRECTOR
       DEPARTMENT OF GENERAL PLANNING

FROM:  MICHAEL J. CHEN, DIRECTOR AND CHIEF ENGINEER
       DEPARTMENT OF PUBLIC WORKS

SUBJECT: NOTICE OF PROPOSED ENVIRONMENTAL IMPACT STATEMENT
         PREPARATION NOTICE FOR
         KUALOA ROAD, FROM PALI HIGH STREET TO
         PATIA INTERCHANGE

Thank you for your comments on the Environmental Impact
Statement (EIS) Preparation Notice for Kualoa Road
Improvements from Palii High Street to Patia Interchange.

Construction impacts will be discussed in the Draft EIS.
Two-way traffic on Kualoa Road will be maintained as much
as possible, and the curving of traffic will be kept to a
minimum. The contractor will be required to provide safe
and adequate vehicular and pedestrian access through the
construction area and to the adjoining properties. Hence,
commercial properties will probably not experience economic
hardship since vehicular access would be maintained.

The actual construction period is dependent upon the alternative
selected. Also, the duration of construction activity will
be affected by the allowance of traffic through the construction
area, which restricts the contractor's working time and space.

This project is funded in part by the Federal Highway
Administration. An accurate EIS document will be prepared in accordance
with the National Environmental Policy Act (NEPA) as set
forth by the U. S. Department of Transportation Federal
Highway Administration guidelines.

MICHAEL J. CHEN
Director and Chief Engineer
MEMORANDUM

TO: MICHAEL J. CHIN, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: WILLIAM A. BONNET, DIRECTOR

SUBJECT: EIR PREPARATION NOTICE FOR MOANALUA ROAD FROM PALI Momi STREET TO AIEA INTERCHANGE

The project will impact traffic movements from abutting properties during the construction phase. Construction phasing should be carefully planned to minimize this impact.

In addition, the City's bus operations will also be impacted. Provisions to have the bus stops maintained at their present locations should be incorporated in the project.

If there are any questions, please contact Kenneth Hirata, of my staff, at 523-4190.

WILLIAM A. BONNET

October 26, 1993

MEMORANDUM

TO: MR. WILLIAM A. BONNET, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

FROM: MICHAEL J. CHIN, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR INFORMATION, DATED SEPTEMBER 30, 1993,
RELATING TO COMMENTS ON THE ENVIRONMENTAL IMPACT STATEMENT FILING NOTICE FOR MOANALUA ROAD FROM PALI Momi STREET TO AIEA INTERCHANGE.

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Moanalua Road improvements from Palimomi Street to Aiea Interchange.

Construction impacts will be discussed in the Draft EIS. During construction, two-way traffic on Moanalua Road will be maintained as much as possible. The contractor will be directed to provide safe and adequate vehicular and pedestrian access through the construction area and to the abutting properties.

The bus stops would be retained at their existing location, wherever feasible. Any relocations of bus stops will be coordinated with your department.
MEMORANDUM

TO: Michael J. Chun, Director & Chief Engineer
    Department of Public Works

FROM: Joseph K. Kanani

SUBJECT: Environmental Impact Statement: Preparation Notice
          Manoa Road Improvement: Pali Momi Street to Aina
          Interchange

October 4, 1983

Thank you for forwarding the subject proposal for our review and
comments.

We note that the existing Manoa Road has only two vehicular
traveling lanes—one in each direction—currently insufficient and
inadequate to accommodate increased traffic generated by adjacent
residential and commercial developments. However, the improved Manoa
Road is expected to reduce accidents by better design and the
installation of highway safety devices, increase pedestrian safety
(sidewalk), especially for the school children.

Additionally, the acquisition of lands for the proposed right-of-way
will involve the displacement of one household and the relocation of
several garages. The Department of Housing and Community Development
will assist the household in minimizing the effects of displacement.

We feel that the Manoa Road Improvement will relieve the traffic
congestion and benefit the Manoa Community.
Mr. Michael J. Chun, Director
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

Subject: EIS Preparation Notice for Moanalua Road from Pali Home St. to Aiea Interchange

Dear Mr. Chun:

We have reviewed the above-mentioned Preparation Notice and offer the following minor comments:

1. The proposed project is identified in OMPO's Transportation Improvement Program which confirms the funding description presented in the Preparation Notice.

2. Under Section 1.C., Alternative 5 (implementing turning movement restrictions) can also be considered a transportation systems management (TSM) action as is Alternative 2 (providing intersection improvements).

Thank you for providing us an opportunity to review this report.

Sincerely,

Gordon Lum
Acting Executive Director

October 26, 1982

Mr. Gordon Lum
Acting Executive Director
Oahu Metropolitan Planning Organization
1164 Bishop Street, Suite 1500
Honolulu, Hawaii 96813

Dear Mr. Lum:

Subject: Your Letter, Dated October 5, 1982, Relating to Comments on the Environmental Impact Statement (EIS) Preparation Notice for Moanalua Road, from Pali Home Street to Aiea Interchange

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Moanalua Road Improvements from Pali Home Street to Aiea Interchange.

The alternatives presented in the EIS Preparation Notice were in the preliminary stage. In order that Alternatives 2 and 5 as described are both considered Transportation System Management actions, we are presently developing our own alternatives, and the TSM type actions may be combined with the indirect/construction options for more effective implementation. The alternatives will be presented with further detail in the Draft EIS.

Yours truly,

Michael L. Fujii
Director and Chief Engineer
Mr. Michael J. Chun  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 S. King Street  
Honolulu, Hawaii  96813

Dear Mr. Chun:

SUBJECT: EIS, Maunalu Road Widening

Our review and comments on the subject road widening project contained in our letter of July 9, 1979, to your department is still valid. A copy of that letter is enclosed. Should there be any questions, please contact Mr. Howard Leu at 737-5231.

Sincerely,

Dennis H. Thompson  
Superintendent of Education

cc: Mr. James Eddington  
Central District

Mr. Wallace Miyahira  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 S. King Street  
Honolulu, Hawaii  96813

Dear Mr. Miyahira:

SUBJECT: EIS Preparation Notice for the Proposed Maunalu Road, From Pali Houi Street to Alaie Interchange, EAU Project No. M-7200(1), Alaie, Oahu, Hawaii

We concur with the subject project with comments for consideration during the construction phase. Our comments reflect our concern for the safety of students walking to and from school and the need to provide for vehicular access.

Provisions should be included in the contract specifications to provide for safe pedestrian pathways to Alahai Scott Elementary School and Alaie High School. This is particularly true in the case of the elementary school as Maunalu Road serves as the primary access to the school.

Both schools are serviced by school buses. 6 buses at Alahai Scott and 10 buses at Alaie High. Specifications should include access roadways with sufficient width to accommodate the turning radius of these buses.
Mr. Wallace Miyahira  
July 9, 1979  
July 9, 1979  
Page 2  

It is suggested that the contractor be required to coordinate the needs of the school with the principals of the schools concerned. If additional information is required, please contact Howard Lau at 548-5704.

Sincerely,

CHARLES G. CLARK  
Superintendent

CCG:HL:JL

cc: Central District  
    Central Services Division  
    Mr. Henry Kamasaka

October 26, 1983  

301-13-0422

Dr. Dennis H. Thompson  
Superintendent  
Department of Education  
State of Hawaii  
P. O. Box 2360  
Honolulu, Hawaii 96804

Subject: Your Letter, dated September 19, 1983, relating to Comments on the Environmental Impact Statement Preparation Notice for Manoa Road, from Pali Hooni Street to Aleo Interchange

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Manoa Road improvements from Pali Hooni Street to Aleo Interchange.

Construction activities will impact Manoa Road traffic; however, vehicular and pedestrian access to Alwah A. Scott Elementary School and Aleo High School will be maintained during the construction period. As suggested, the contractor will be directed to provide safe and adequate access to these schools for school buses as well as pedestrians. Design modifications affecting the entrances to the schools will be coordinated with the DOE, and the Contractor will be required to coordinate his activities with the school principal. Both schools will be notified of the project's progress.

Mo ke aloha o wamana

MICHAEL J. CHILDS  
Director and Chief Engineer
Dr. Michael J. Chum  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
Honolulu, Hawaii  

Dear Dr. Chum:

Subject: Environmental Impact Statement  
Preparation Notice for Hoanalu  
Road Improvements From Pali Momi  
Street to Alea Interchange

We have reviewed the subject preparation notice and have  
the following comments to offer:

1. The widening of the subject portion of Hoanalu  
Road will effect the existing access to Alah  
A. Scott Elementary School and Alea Community  
Library.

2. The design of the subject roadway improvements  
should provide safe and easy vehicular and  
pedestrian access to the above facilities.

3. We would like to review the Environmental Impact  
Statement and the construction plans for the  
subject project when they become available.

If there are any questions, please have your staff call  
Mr. Herbert Iwaid at 548-6321.

Very truly yours,

HIDEO HURAKAMI  
State Comptroller

Honorable Hideo Murakami, Comptroller  
Department of Accounting and  
General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii  96810  

Dear Mr. Murakami:

Subject: Your Letter, dated September 27, 1993,  
relating to Comments on the Environmental  
Impact Statement Preparation Notice for  
Hoanalu Road, from Pali Momi Street to  
Alea Interchange.

Thank you for your comments on the Environmental Impact  
Statement (EIS) Preparation Notice for Hoanalu Road Improvements  
from Pali Momi Street to Alea Interchange.

The design of the Hoanalu Road improvements and access,  
including those at Alah A. Scott Elementary School and Alea  
Community Library will incorporate vehicular and pedestrian  
safety features.

A copy of the Draft EIS, Final EIS, and construction plans  
will be sent to you when they become available.

Ma ka 'aana mea no mea,  
Micheal J. Chum  
Director and Chief Engineer
Honorable Michael J. Chun
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Dr. Chun:

We appreciate the opportunity to identify our concerns regarding the environmental impact of the Manalua Road improvements. We have a few concerns to express:

Stormwaters and Erosion

Our interest lies with on-site erosion, sediment, and stormwater management, particularly with the control of possible pollution of the Au and Kaloa streams and the Pearl Harbor receiving waters. The U.S. Fish and Wildlife Service has expressed a similar concern. We recommend that the forthcoming environmental impact statement (EIS) adequately address pollution control measures.

Aquatic Life

The affected section of Manalua Road crosses Kaloa and Aina Streams at points less than one-half mile upstream of East Loch, Pearl Harbor. Aina Stream empties directly into Aina (“Rainbow”) Bay, which supports oho stocks harvested for saltfish by the alu fleet.

We therefore suggest that the forthcoming EIS discuss impacts on the aquatic life of Kaloa and Aina Streams, and of Aina Bay resulting from sediments produced by erosion of disturbed soils, from depletion of dissolved oxygen resulting from stream blackeye, and from petroleum products and preservatives released by equipment, pavement, and other construction materials. The EIS should also discuss measures which will be adopted to mitigate impacts adverse to aquatic life.
October 6, 1983

Honorable Futura Oka
State Historic Preservation Officer
Department of Land and Natural Resources
P. O. Box 221
Honolulu, Hawaii 96809

Dear Mr. Oka:

Subject: Your Letter, Dated October 6, 1983,
Inquiry to Comments on the Environmental Impact Statement Preparation Notice for
Ponahale Road, Iron Pali Road Street to
Aiea Interchange.

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Ponahale Road improvements from Iron Pali Road Street to Aiea Interchange.

Construction plans on Aiea and Pali Pali Streets and the
local Presidio road project will be discussed in the Draft
EIS. The contractor will be required to provide erosion
control measures in accordance with local ordinances.

Your office will be contacted if any items or concerns are
found during construction.

Aloha on behalf of the

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

Dear Dr. Chan:

Environmental Impact Statement (EIS)  
For Improvements to Hoanalua Road, from  
Pali Momi Street to Ala Interchange  
The EIS Preparation Notice for Hoanalua Road, from Pali Momi Street to  
Ala Interchange has been reviewed.

We agree with the statement made in the last paragraph of page 6,  
concerning the potential impact the construction work performed in Ala  
and Kualoa Streams could have on the Pearl Harbor Hulu fishery.  
Furthermore, silt and debris control measures should be provided during  
construction.

Thank you for the opportunity to review the EIS Preparation Notice.

Sincerely,

M. M. DALLAM  
CAPTAIN, CEC, U.S. NAVY  
BY DIRECTION OF THE COMMANDER

October 26, 1983

Captain M. M. Dallam, CEC  
U.S. Navy  
Facilities Engineer  
Headquarters, Naval Base  
Pearl Harbor  
Box 110  
Pearl Harbor, Hawaii  96840

Dear Captain Dallam:

Subject: Your Letter, 0028:505:15:en, Ser 3205,  
dated September 21, 1983, relating to  
Comments on the Environmental Impact  
Statement Preparation Notice for Hoanalua  
Road, from Pali Momi Street to Ala  
Interchange

Thank you for your comments on the Environmental Impact  
Statement Preparation Notice for Hoanalua Road Improvements  
from Pali Momi Street to Ala Interchange.

The impact of construction activities on Ala and Kualoa  
Streams will be discussed in the Draft EIS.  The contractor  
will be required to provide erosion control measures during  
construction in accordance with appropriate local ordinances.

Michael J. Chen  
Director and Chief Engineer
Dr. Michael J. Choo, Director
Department of Public Works
630 South King Street
Honolulu, Hawaii 96813

Dear Dr. Choo:

Thank you for the opportunity to review the EIS Preparation Notice for Improvements to Moanalua Road, from Pali Highway to Aiea Interchange. The following comments are offered:

a. A Department of Army permit may be required for any fill or structure at Kalawa Stream. The Department of Public Works should submit concept drawings of the proposed crossing for review and permit requirement determinations.

b. Most of the improvements to Moanalua Road will not occur in a regulatory flood plain, but rather in an area of minimal flooding of Zone C designation. Portions of the road alignment are located in flood plain areas of Zone A and Zone B designations, and are subject to riverine flooding from Kalawa and Aiea Streams. Enclosure 1 is the flood hazard map for the Aiea area, prepared as part of the Flood Insurance Study for Oahu by the Federal Insurance Administration, and shows the alignment of the portion of Moanalua Road to be improved.

Sincerely,

[Signature]

Eliot Chun
Chief, Engineering Division

Enclosure
October 26, 1983

Mr. Klaau Cheung  
Chief, Engineering Division  
Department of the Army  
Pacific Ocean Division, Corps of Engineers  
Ft. Shafter, Hawaii 96058

Dear Mr. Cheung:


Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Nanalua Road improvements from Pali Hwy Street to Alii Interchange.

Your comments on the flood plain encroachments will be included in the Draft EIS. We will also submit our improvement plans at a later date so that you may determine permit requirements, if any.

Me ka aloha pa'i,  
MICHAEL J. CHUH  
Director and Chief Engineer

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February 6, 1985

Col. Michael Jones, District Engineer  
USACE-D-DO  
Ft. Shafter, HI 96058

FTS: POOD-O  
J. Trautman, M. Des

Dear Col. Jones:

Subjects: Nanalua Road, Pali Hwy Street to Alii Interchange  
Federal Highway Project (77-20001)

As requested by your staff, we are sending you documents for the delivery of Section 604 applicability to this project. Documents include pertinent project information about streets and Alii Street crossing and conflict of preliminary plans, sections and calculations of the fill quantities in each street below the ordinary high water mark. Also included is a copy of the pre-draft EIS.

Please advise us as soon as possible if the Section 604 permit requirements will pertain to this project. If so, it is our understanding that the Corps of Engineers may be a Cooperating Agency in the project EIS.

If you have any questions concerning the above material, please call Mr. Cannon Jones at 516-5150.

Sincerely yours,

Division Administrator

Enclosures
Mr. Russell L. Smith, Jr.
Director
City and County of Honolulu
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Paul Han

Dear Mr. Smith:

Subject: Moanalua Road, Pali Haul Street to Alea Interchange,
Project No. H-7200(1)

Enclosed is a copy of the Department of the Army letter, dated March 1, 1985
regarding permit requirements for stream crossings on the subject project.

Contents of the letter are self-explanatory as to what will be required for
this project.

Sincerely yours,

R. Kusunoto
Division Administrator

cc:

Mr. H. Kusunoto
Division Administrator
U.S. Department of Transportation
Federal Highways Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusunoto:

This is in reference to your letter of February 6, 1985
regarding the Moanalua Road Project, Pali Haul Street to Alea
Interchange, Federal Aid Project H-7200(1).

A Department of the Army (DA) permit is required for the
Kualoa Stream culvert crossing. The Alea Stream culvert crossing
is approved by Nationwide permit 1 in accordance with 33 CFR
330.5(a)(14). Because the culvert at the Kualoa Stream is the
only structure within the entire highway project that requires a
DA permit, Corps of Engineers involvement in the Environmental
Impact Statement as a cooperating agency is not necessary.

Attached are the necessary forms to apply for a DA permit for
the Kualoa Stream culvert. If you have any questions on this
matter please call the Corps' Operations Branch at 438-8258.

Sincerely,

[Signature]

N.A. Akes
Assistant Chief, Construction-
Operations Division

Enclosure
Mr. Michael J. Chon
Director and Chief Engineer
City Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

Re: EIS Prep Notice for Koolau Drive
Road, Pali Hoki Street to Alea Interchange

Dear Mr. Chon:

We have reviewed the subject document and offer the following recommendations for your consideration:

a. The EIS should discuss direct and indirect effects of road construction and operation on streams and receiving waters in the project area.

b. Efforts should be taken to avoid impacting piers or abutments in stream beds or immediately adjacent to stream channels.

We appreciate this opportunity to comment.

Sincerely yours,

William R. Kramer
Acting Project Leader
Office of Environmental Services

cc: HFS - WIP
HDOA
EPA, San Francisco

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Mr. William R. Kramer
Acting Project Leader
U. S. Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard
P. O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Kramer:

Subject: Your Letter, dated September 26, 1993, relating to Comments on the Environmental Impact Statement (EIS) Preparation Notice for Koolau Drive, from Pali Hoki Street to Alea Interchange

Thank you for your comments on the Environmental Impact Statement (EIS) for Koolau Drive improvements from Pali Hoki Street to Alea Interchange.

The impacts of construction activity and operations on streams in the project area will be discussed in the Draft EIS. Efforts to avoid impacts to stream beds and areas immediately adjacent to stream channels will be given strong consideration.

Ma ke aho ʻohe, per hana,

Michael J. Chin
Director and Chief Engineer

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League of Women Voters
49 SOUTH HOTEL STREET, SUITE 314 HONOLULU, HAWAII 96813

September 28, 1983

Gentlemen:

In response to your letter of September 8th regarding environmental impacts of the Moanalua Road Improvement Project, we would like to submit the following questions:

Will one or both lanes of Moanalua Road be closed to traffic during the construction period? If so, for how long each day, during peak as well as non-peak hours? How will the environment be affected during the construction period?

Mobility on the Island is one of our transportation concerns and we would like to see the E.I.S. assess the project's effect on traffic flow during construction. Even though the construction is temporary, and the end result is a much needed improvement, a year or two of increased congestion will seem a long time to those depending on the only two, already clogged arteries through the area.

Thank you very much for this opportunity to comment.

Very truly yours,

Arlene Woo, President
League of Women Voters of Honolulu

October 26, 1983

Ms. Arlene Woo, President
League of Women Voters of Honolulu
49 South Hotel Street, Suite 314
Honolulu, Hawaii 96813

Dear Ms. Woo:

Subject: Your Letter, dated September 28, 1983, relating to Comments on the Environmental Impact Statement Preparation Notice for Moanalua Road, from Pali Highway to Alea Interchange

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Moanalua Road improvements from Pali Highway to Alea Interchange.

Construction activities will impact the traffic on Moanalua Road; however, the extent of this impact will depend upon the alternative selected. Furthermore, because of the mixture of residential and commercial properties along the corridor, two-way traffic would be maintained as much as possible. Rerouting of traffic through the local streets would be kept to a minimum. Construction impact will be identified in greater detail in the Draft EIS.

Michael J. Chen
Director and Chief Engineer
Dear Mr. Michael Chan

Having studied the material sent us concerning the WIDENING OF MAUNA L ROAD, we accept your request for suggestions by making the following recommendations.

1. Construct ON/OFF ramps on H-1 Freeway at Kamehameha Stre. This would relieve Alex of most of the traffic going to Pearlridge as well as traffic heading to Waiman, Nuuanu and even Pearl City.

2. Improve Maunaua Road through Aiea with sidewalks and repaving of road, but keep it the same width. A wider road would:
   a. be more hazardous because of increased speeding that a wider road encourages.
   b. cause the noise factor to rise to the point where we would find it extremely difficult to operate our Day Care and Pre-school (the oldest in Aiea).
   c. cause our church to lose 10-12 parking spaces which is vital to our growing congregation. (Present attendance 240...approximately 10% service facilities).

   Bethany Assembly of God has been in Aiea since 1956 (27 years).

3. With Kaneohe Highway on one side and the H-1 Freeway on the other we see no need for a highway right through the middle of Aiea. Also with Aiea Stadium at its entrance and Pearlridge Shopping Center at its exit, Aiea has already suffered the loss of its 'lifestyle' and charm. It is fast becoming another horrible concrete jungle and an enlarged thoroughfare such as the one proposed would certainly hasten that day.

Sincerely,

Albert Cardino
Pastor of Bethany Assembly of God

Pastor Albert Cardino
Bethany Assembly of God
96-1125 Maunaua Road
Aiea, Honolulu 96701

October 2, 1983

To:

Re: Your Letter dated October 2, 1983, relating to Comments on the Environmental Impact Statement Preparation Notice for Maunaua Road, from Pali Road to Alexa Interchange.

Thank you for your comments on our Notice of Preparation for an Environmental Impact Statement (EIS) for Maunaua Road, from Pali Road to Alexa Interchange. This project proposes to improve Maunaua Road within the set back limits to better serve existing and future traffic demands.

Transportation planning on Oahu has been guided by a Long Range Transportation Plan which was first developed in 1967 and subsequently reaffirmed by our elected officials as the basis for project planning. A study to update this plan is currently underway by the Oahu Metropolitan Planning Organization (OMPO). An improvement to Maunaua Road has been a part of the 1987 plan and its implementation would be consistent with the current OMPO studies.

Existing traffic data and projections of future traffic demands indicate that new runs on Interstate Route H-1 at Kamehameha Street would not preclude the need for improvements along Maunaua Road. The improvements will be necessary to serve not only commuter traffic generated by Alexa residents, but also other traffic generated by the many businesses, churches, schools, and other activities in the area. The need for Maunaua Road improvements will be discussed in greater detail in the Draft EIS.

October 31, 1983

301-13-0431
Pastor Albert Cardrino

Your recommendation to keep the roadway the same width does not appear to provide adequate traffic service. However, several alternatives will be considered, including a "no-build" option. The EIS will address social and economic effects of the project as well as environmental impacts such as noise. If it is determined that there are noise impacts on the church and pre-school, in accordance with Federal Standards, these impacts would be mitigated in conjunction with this project. Right-of-way requirements will be dependent on the alternative selected; however, impacts on adjacent properties which result from property acquisition would be mitigated and/or compensated accordingly.

Thank you again for your comments and your interest in this project. We will contact you again when the Draft EIS is available. In the interim, should you have any questions, please contact the City's project engineer, W. Hammann, at phone 523-4071.

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

Dear Dr. Chun,

I am writing in regards to the environmental impact statement (EIS) for improvements to Ko'olau Road, from H-1 Freeway to Aina Interchange.  

Approximately 15 years ago, residents in Aina have petitioned to stop the widening of Ko'olau Road because of the loss of property. Some people almost lost part of their homes!

I am against the widening because I might lose part of my property also!

The widening effort was dropped 15 years ago because the City and County of Honolulu determined enough traffic was diverted to the H-1 Freeway and the Kamehameha Highway. So why is this project brought to our attention again?

To provide better service for the community, I am for new sidewalks. Your reply is appreciated. Thank you for your concern.

Sincerely,

Mrs. Nancy Chun

Mrs. Nancy Chun

301-831-0386

October 17, 1983

Mrs. Nancy Chun  
3326 Alakeakua Street  
Honolulu, Hawaii 96818

Dear Mrs. Chun:

Subject: Your Letter, dated October 6, 1983, relating to Improvements to Ko'olau Road – H-1 Freeway to Aina Interchange.

Thank you for your comments concerning our proposed Ko'olau Road project. For your information, the initial Ko'olau Road project was terminated because the residents were not in favor of sharing in the cost of the road improvement under the improvement district project being considered at that time.

The existing Ko'olau Road is substandard with sharp curves, limited sight distance and narrow shoulder areas. Our present project proposes to improve the roadway including the construction of curbs and sidewalks to improve pedestrian safety.

At the present time, the width and alignment of the proposed roadway have not been selected; however, if your property is one that will be affected, you will be notified.

Should you have any questions, please call W. Nanawart of the Division of Engineering at 323-4071.

cc: Persons, Brumback, Quade

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

Dear Mr. Chun:

Subject: Environmental Impact Statement Preparation Notice
Corner Maunalua Road-Pali Home Street to Ala Interchange (Aiea, Oahu, Hawaii)

We have reviewed the EIS Preparation Notice and have the following comments:

1. There is no mention of HECO's overhead facilities in the subject area which will have to be relocated by this road improvement.

2. Kaahooli Substation
   a. Any change in elevation of Maunalua Road will affect the substation driveway and drainage ditch fronting the substation.
   b. Three existing 5" duct lines emanating from the substation will have to be adjusted or relocated.

3. Easements on private property for anchoring purposes will probably have to be revised.

Thank you for the opportunity to comment on this Environmental Impact Statement.

Sincerely,

Richard L. O'Connell
Manager, Environmental Department

Mr. Richard L. O'Connell
Manager, Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2796
Honolulu, Hawaii 96820

Dear Mr. O'Connell:

Subject: Your Letter, Dated October 6, 1983
Relating to Correection on the Environmental Impact Statement Preparation Notice for Maunalua Road, from Pali Home Street to Ala Interchange

Thank you for your comments on the Environmental Impact Statement (EIS) Preparation Notice for Pali Home Road improvements from Pali Home Street to Ala Interchange.

Utility relocations will be discussed in the EIS and coordinated with the appropriate utility company. Any changes affecting the Kaahooli Substation will be coordinated with HECO.

Sincerely,

Michael J. Chun
Manager, Environmental Department

Mr. Richard L. O'Connell
Manager, Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2796
Honolulu, Hawaii 96820
Mr. Michael J. Ohn
Director & Chief Engineer
Dept. of Public Works
City & County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Re: Environmental Impact Statement Preparation Notice for Mōanalua Road From Pali Hōnūi Street to Aiea Interchange Aiea, Oahu, Hawaii FADS Project No. M-7200 (1)

Dear Mr. Ohn:

The following is the response of Our Savior Lutheran Church & School regarding the proposed project.

10. Alternatives
Since Mōanalua Road is a major thoroughfare, we urge the best possible improvement alternative be selected. Traffic will only increase in coming years as the area develops further. We must build for the future.

1E. Phasing and Funding
Speedy action is of utmost importance. Traffic congestion has been and continues to be a major problem. Pedestrian and vehicular safety is the prime concern. Corrective action on the stretch of road is long overdue.

111.A. Impact on Social Characteristics
We heartily concur that the implementation of this project will contribute greatly to the social well-being of the community in the area.

111.B. Impact on Environmental Characteristics
Care must be taken not to block or slow flow to Kālāwau Stream during or after construction. If blockage or slowing occurs, flooding of the playground and sanctuary on the lower part of our property is inevitable during heavy rains.

General Comments
It would be our hope that during construction, continuous reasonable use of Mōanalua Road can be maintained.

Proposed construction and improvements will mean the loss of some of our current playground space. We will need to continue making use of the remaining section of playground behind our church.

Since this and nearby sections of Mōanalua Road runs through primarily residential sections and borders several schools (Alake Convent, Aiea Elementary, St. Elizabeth, Our Savior Lutheran, Pearlridge Elementary, St. Timothy, Pearlridge Elementary, Wai'anae Elementary), several churches, and the proposed Pali Hōnūi Medical Center, we strongly urge the Department of Public Works, Department of Transportation, City Council and any other appropriate bodies to pass measures restricting use of this road to autos and small trucks. Kamehamea Highway is an appropriate and satisfactory alternate route for medium and heavy truck traffic and there are sufficient cross streets providing easy access to all areas.

We strongly urge consideration of such action for traffic congestion, safety and noise factors.

Sincerely,

David A. Haak
Principal

cc: Mr. George Ahahane
Dept. of Transportation
October 26, 1983

Mr. David A. Yack, Principal
Our Savior Lutheran School and Preschool
49-1000 Pualulu Road
Aiea, Pearl City 96701

Dear Mr. Yack:

Subject: Your letter, dated October 6, 1983,

Re: Environmental Impact Statement (EIS) Preparation Notice for
Punalu'u Road, from Pali Highway to
Aiea Interchange.

Thank you for your correspondence on the Environmental Impact
Statement (EIS) Preparation Notice for Punalu'u Road improvements from Pali Highway to Aiea Interchange.

The construction impacts on Aiea and Kualoa Streets will be
discussed in the draft EIS. Preliminary studies are
progressively being conducted; the improvements to Punalu'u Road are
not expected to worsen existing conditions.

During construction, two-way traffic would be maintained on
Punalu'u Road as much as possible. The contractor will be
directed to provide safe and adequate vehicular and pedestrian
access through the construction area.

Right-of-way requirements will be dependent on the alternative
selected. Since there are no dedicated truck routes on
Punalu'u Road, the restriction of trucks on Punalu'u Road is not a
feasible alternative at this time. However, you suggestion
on truck restrictions will be forwarded to the appropriate
agency.

I look forward to your continued support.

Sincerely,

Richard J. Chin
Director and Chief Engineer

["Director and Chief Engineer"]

["Department of Transportation Services"]
TO: MICHAEL J. CHUN, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: EMIKO I. KURO

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
FOR IMPROVEMENTS TO MAUNALUA ROAD

The proposed improvements to Maunalua Road will not have any impact on
recreation facilities in proximity to the project site.

Thank you for the opportunity to review the EIS Preparation Notice.

EMIKO I. KURO
(Mrs.) Director

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

Dear Mr. Chun,

Thank you for keeping us advised of the proposed improvements to Kuhio Avenue. By sending us the Environmental Impact Statement, we would like to comment that we are pleased with inclusion of the statement “wheelchair ramps will be constructed for handicapped persons at all crosswalks”.

When the project materializes, we would like to be kept apprised of the construction of such ramps.

Thank you for sending us the information.

Sincerely,

Jeffrey D. Aikens  
Chairman

MEMORANDUM

To:  Mr. Michael J. Chun, Director  
Department of Public Works  
City and County of Honolulu

Subject: Environmental Impact Statement Preparation:  
Notice for Kuhio Avenue Road Improvements:  
Pali Hula Street to Aina Interchange  
THU: 5-8-12: 19, 25, 29, 39  
TUE: 5-8-12: 10, 11, 23, 33  
FRI: 5-8-12: 38, 40, 42, 43, 44  
Ala Moana, Oahu

The Department of Agriculture has reviewed the subject Notice and has no comments to offer.

Thank you for the opportunity to comment.

Jack R. Sava  
Chairman, Board of Agriculture

“Support Hawaiian Agricultural Products”
Mr. Michael J. Chun
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Chun:

We have received and reviewed the Environmental Impact Statement Preparation Notice for Improvements to Kamehameha Highway, from Pali Highway to Alapa Interchange. At the present time we have no comments to offer.

Yours truly,

[Signature]

Jenny H. Atsuda
Major, HANO
Conf & Engr Officer

TO: The Honorable Michael J. Chun, Director
City and County of Honolulu

FROM: Takeshi Yoshinara

SUBJECT: Environmental Impact Statement Preparation Notice for Kamehameha Highway from Pali Highway to Alapa Interchange.

Thank you for the opportunity to review your "Environmental Impact Statement for Kamehameha Highway from Pali Highway to Alapa Interchange," dated September 8, 1982. We have no comments at this time.

TY/ES ICQ

Takeshi Yoshinara
Dr. Michael J. Chan
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
639 South King Street
Honolulu, Hawaii 96813

Dear Dr. Chan:

Subject: EIS Preparation Notice for Mamala Road Improvements, Oahu

We have reviewed the subject preparation notice and have the following comments.

The environmental impact statement (EIS) should contain information on present and projected traffic volume and accident statistics for vehicles and pedestrians on the Mamala Road. A more detailed description of relocation activities should be provided. The resulting distance of the houses from the road should be specified for the road widening alternatives. Finally, we agree that an analysis of air quality, noise and energy costs be included in the EIS.

Thank you for the opportunity to review the subject document.

Very truly yours,

[Signature]

Kent M. Keith

cc: Office of Environmental Quality Control
The Honorable Michael Chun,
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Chun:

SUBJECT: Hoanalu Road, Pali Hwy to Ala Interchange

Reference is made to your letter of September 23, 1983, requesting comments on the subject project.

The Department of Hawaiian Home Lands has reviewed the Environmental Impact Statement Preparation Notice for the subject project and has no comments to offer at this time as the project does not affect HNL lands.

Thank you for giving us the opportunity to respond to the EIS.

Sincerely yours,

Mesmay S. Jones
Chairman

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

Dear Dr. Chun:

SUBJECT: EIS Preparation Notice for Hoanalu Road from Pali Hwy Street to Ala Interchange, Ala, Oahu, Hawaii

We have reviewed the subject EISN and have no comment to offer at this time. Thank you for the opportunity to comment. This material was reviewed by DEP personnel.

Sincerely,

Edwin T. Murabayashi
EIS Coordinator

AN EQUAL OPPORTUNITY EMPLOYER
Dear Mr. Shimizu,

We have reviewed and signed your Environmental Impact Statement for the proposed improvements to McNair Road. We have no objection to McNair Road from Hill Road to the Mauna Loa Interchange. We fully support the project's environmental impact statement.

Sincerely,

[Signature]

James W. Coo
AIRPORT DISTRICT OFFICE MANAGER
Michael J. Chun  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Chun:

We are in receipt of the Environmental Impact Statement regarding improvements to the existing Hoanalu Road between Kalauoa Stream and the Area Interchange. These improvements will not affect the safe and efficient use of airspace by aircraft. Therefore, we have no objection to this project.

Sincerely,

[Signature]

Jerry Luce  
Manager, Airspace & Procedures Branch

Dr. Michael Chun  
Director and Chief Engineer, DPW  
City and County of Honolulu  
650 S. King Street  
Honolulu, HI 96813

Dear Mr. Chun:

The USDA Forest Service has reviewed the Environmental Impact Statement for the proposed Hoanalu Road Project.

We feel the EIS will be adequately done if you address the impacts included in your preparation notices.

We do not feel we need to review the Draft EIS for this project.

Sincerely,

[Signature]

Robert V. Clayton  
Pacific Islands Forester
Dr. Michael J. Chun  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, HI 96813

Dear Dr. Chun:

Subject: EIS Preparation Notice for Nosalua Road - From Pali Hana Street to Aiea Interchange, Aiea, Oahu, Hawaii

We reviewed the subject preparation notice and have no comments to make.

In the future, please refer EIS preparation notices for comments to Stratford Whiting, District Conservationist, at our Honolulu Field Office (telephone: 546-8388). Mr. Whiting's mailing address is:

Geological Conservation Service  
P.O. Box 50066  
Honolulu, Hawaii 96850

Thank you for the opportunity to review the document.

Sincerely,

Francis C.H. Lin  
State Conservationist  
cc: S. Whiting

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

Dear Mr. Chun:

Subject: Improvements to Nosalua Road

The Hawaii District Office of the U.S. Geological Survey, Water Resources Division, has reviewed the subject EIS preparation notice and has no comments at this time.

Thank you for giving us an opportunity to review the preparation notice.

Sincerely,

Don A. Hawes  
Acting District Chief  

Enclosure
Mr. Michael J. Shim
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Mike:

Thank you for the copy of the Environmental Impact Statement Preparation Notice on the Improvements to Monsalve Road, from Pali Haul Road to Alea Interchange.

Senator Inouye who is presently in Washington, D.C., appreciates your thoughtfulness in including his office on the distribution. He has no comments to make at this time.

Aloha,

David M. Peters
Executive Assistant
Honolulu Office

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

Dear Mike:

Thank you for your letter of September 8, 1983 in which you informed me that the Department of Public Works will be preparing an environmental impact statement for proposed improvements to Monsalve Road.

I have noted with interest the purpose of this improvement project to reduce traffic congestion and hazards in the affected area, as well as to increase pedestrian safety. Although I appreciate your giving me this opportunity, I do not have any comments at this point which I would like considered during the drafting of the environmental impact statement.

Aloha and best wishes.

Sincerely,

Mark Matsuoka
V. S. Senator

September 12, 1983

Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Michael J. Chun
Director and Chief Engineer

Dear Mr. Chun:

Per your notice letter dated September 8, 1983, we hereby request a copy of the "EIS Preparation Notice" filed with the Environmental Quality Commission. As the managing agent for Alea Shopping Center, we would like to know your improvements plan since they will have a dramatic effect on our tenants. Your attention to this request will be appreciated. Thank you.

Very truly yours,
CEN PAC PROPERTIES, INC.

[Signature]

President

HiP&dm

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Hawaiian Association of Seventh-day Adventists
2728 Palı Highway • Box 4857 • Honolulu, Hawaii 96813 • Telephone 524-3540

September 13, 1983

Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Re: THK 9-5-040:019

Dear Friends:

Our Alea Seventh-day Adventist Church is located at 99-005 Manalua Road, which is between Palı Ave and the Alea Interchange.

It appears that our property may be affected by the improvements which are planned to Manalua Road.

Please send us two copies of the EIS preparation notice, which has been filed with the State Environmental Quality Commission. Please send one copy to us at the above address, and the other copy to Pastor John Sharp, Alea Seventh-day Adventist Church, 99-005 Manalua Road, Alea 88701.

Thank you very much for this information.

Sincerely yours,

Robert U. Frost
Vice-president of Finance

[Signature]

[Stamp]

X: Pastor John Sharp
September 13, 1983

Dear Sirs:

Please send me a copy of the Environmental Impact Statement for improvements to Moanalua Road, from Pali Homi Street to Aina Interchange.

Thank you.

Sincerely,

Eugene A. H. Magnier, M.D., F.A.C.C.

October 12, 1983

Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

It is my understanding that the Department of Public Works is preparing an Environmental Impact Statement (EIS) for improvements to Moanalua Road from Pali Homi Street to the Aina Interchange and an EIS preparation notice has been filed with the State Environmental Quality Commission.

Would you please send us copies of this EIS preparation notice and any additional information you might have.

Thank you for your assistance.

Sincerely,

James P. Wallace

[Signature]
Dear Dr. Chun;

Concerning your letter to the Bishop Trust Company, Ltd., regarding property at 1130-230301, I have been asked by Mr. Dolin to act as agent for the Roman Catholic Bishop of Honolulu in this matter, since I am pastor of the local parish in the area. I wish all correspondence concerning the possible enlargement of Kalanianaole Road to be sent to me with a carbon copy to Bishop Trust Company, Ltd. And, I wish to be notified of the Draft Environmental Impact Statement and any hearings in this matter.

Sincerely yours,

Rev. Daniel McNeil
Pastor

Avoid Verbal Orders

Yeg & John Y. K. "SAY IT IN WRITING"

City & County of Honolulu

Dept. of Public Works

10/13/93

SIGNED: STAFF

Thank you.

Signed: W. L. Kama

[Handwritten note:]

Thank you.

[Handwritten note:]

SIGNED: W. L. Kama
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Gentlemen:

Enclosed is a copy of a letter dated September 22, 1983 which has been referred to me by JML Enterprises. Pursuant to that letter, I would appreciate it if you would deliver to me a copy of the EIS Preparation Notice referred to in that letter.

Very truly yours,

Stanley M. Kuriyama
Stanley M. Kuriyama

Enclosure

Copy of EIS Prep Notice forwarded as requested.

AR&D: 10/17/83
Mr. Paul Nan
Chief Highway Engineer
Dept. of Public Works
City & County of Honolulu
630 South King Street
Honolulu, HI. 96813

Dear Mr. Nan,

In behalf of our church family I wish to express our thanks to you and your colleagues for presenting the proposed changes on Maunalua Road to us, and for answering questions on Tuesday evening, October 4. We feel this was a profitable meeting for all concerned.

There are, however, some concerns that we have which I shall list below. These concerns are actually those we expressed to you at the meeting, but we want them on record in your office for reference to those who finally decide on which alternative to pursue.

1. If Maunalua Road is extended in width to the 80 foot maximum, this will bring the road very close to the front door of our church. It will remove about a third of our parking spaces which are already very limited, alter the present landscaping and will necessitate some careful planning to make adjustment to the changes comfortable for us.

2. The much wider roadway will create difficulty for older citizens who need to cross it, and for school children coming from Alva Scott School to our side of the street. There is probably more foot traffic at this location when we come to church, and when school dismisses, than at most other locations along Maunalua Road.

3. With traffic flowing so much closer (and faster) past our church, the noise level will be much elevated above present levels. This elevation will interfere with the quietude desired in our worship services and other church meetings. We will definitely need to plan for some acceptable way to reduce this elevated noise level.

4. With the new grades that will naturally come along with the project, we must insure that rain water is prevented from flowing down into the neighbor's driveway just downhill from our church.

Thank you for giving consideration to these concerns when selecting the alternatives for upgrading Maunalua Road. May we hear from you as progress is made in the planning process so that we may be informed on all the matters of our concern.

Sincerely yours,

[Signature]
John Sharp
Pastor
November 4, 1983

Mr. John Sharp, Pastor
Alex Seventh-Day Adventist Church
95-005 Koaanala Road
Aiea, Hawaii 96701

Dear Pastor Sharp:

Subject: Your Letter, Dated October 5, 1983, Relating to Comments on the Environmental Impact Statement Preparation Notice for Koaanala Road, from Pali Hani Street to Aiea Interchange.

Thank you for your comments on the Koaanala Road improvements between Pali Hani Street and Aiea Interchange.

The right-of-way requirements will depend on the alternative selected. However, the impacts of property acquisition on the Aiea Seventh-Day Adventist Church will be considered in reaching that decision. Also, please be assured that if there are impacts to church property, they would be mitigated or compensated accordingly.

The concern for pedestrian safety is also a consideration in the development of alternatives for this project, and the alternatives will incorporate pedestrian safety features such as elevated sidewalks, traffic walk signals, and pedestrian crosswalks. Also, during construction, the contractor will be required to provide safe and adequate access to adjacent properties for pedestrians.

A study on the noise impacts which could result from this project is presently being conducted and will be discussed in the Environmental Impact Statement (EIS) along with possible measures to mitigate those impacts. The drainage within the area will also be considered. The Koaanala Road improvements are expected to improve the existing drainage conditions.

No lo aloha puehuana,

Michael G. Cruz
Director and Chief Engineer
AX

COMMENTS AND COORDINATION/ PUBLIC HEARING COMMENTS AND EVALUATION
A presentation on the subject project was given to attendees of the Aiea Neighborhood Board meeting held on September 19, 1983. The total number of persons present was about 50. Attendees included Neighborhood Board members, area residents, representatives of the County Department of Public Works, and several elected officials. Questions were raised about the project's impacts on existing houses. A relocation plan has been developed, as required in Federal Highway regulations.

A second presentation was given to the Aiea Nutritional Site people at the Seventh Day Adventist Church on the morning of September 29, 1983. About 100 persons attended, the majority of whom were senior citizens. Most concerns voiced were in regard to the additional distance these individuals would have to walk to cross the widened street, and some were concerned that property taking would affect local residents.

A third presentation was given to members of the Seventh Day Adventist Church on the evening of October 4, 1983. About 20 persons were present in addition to City and County DPW staff. Questions and concerns were raised about their potential loss of parking and landscaping, the greater difficulty for older citizens and school children in crossing a widened roadway, noise and drainage.

A fourth presentation was made following a town meeting in Aiea at the United Methodist Church. The meeting was sponsored by State Senator Norman Mizuguchi and State Representative Tom Okamura and was attended by about 50 persons, including City and County DPW staff. Questions raised at this meeting concerned coordination of this project with possible improvements to H-1, the need to improve Maunalua Road, parking, alternatives, landscape, public input, funding, speed limit and safety.
To comply with regulations regarding Early Coordination and Consultation, various agencies were contacted informing them of the proposed project. Additional comments were also received during the EIS Preparation Notice consultation period. The following is a listing of these agencies and a summary of what was discussed:

1) Federal Highway Administration (FHWA), DOT - The FHWA has issued a Notice of Intent which was published in the Federal Register, Vol. 48, No. 176, Friday, September 9, 1983. This notice was issued to advise the public that an environmental impact statement will be prepared for a proposed highway project in the City and County of Honolulu, Hawaii.

2) U.S. Environmental Protection Agency (EPA) - The EPA's concerns on water quality included comments on drainage patterns affecting drainage hydrology, stream modifications and conformity to Federal, State and local plans and standards. The EPA recommended that the U.S. Army Corps of Engineers be contacted for determination of need for a Department of the Army permit.

3) U.S. Fish & Wildlife Service (F&W) - The primary concern of the F&W related to the potential generation of sediment runoff into the Aiea and Kaluau Streams during construction of the project. The F&W also indicated that there are no endangered species in the project area, and there are none likely to be listed.

4) National Marine Fisheries Service (NMFS) - The NMFS was also concerned about construction work that would be performed in the streams, and the potential sediment runoff, turbidity and chemical (fuel) contamination that could endanger the Pearl Harbor nelu bait fishery. The NMFS suggested that construction in the stream beds, if any, be carefully controlled and/or limited to the dry season, to reduce the potential for erosion and sediment problems.

5) State Department of Land and Natural Resources (State Historic
Preservation Officer) - Discussions with the Department have indicated that there were no significant landmarks or sites within the project limits.

6) U.S. Department of the Army, Corps of Engineers - (COE) - The COE has determined that the Kalauao Stream culvert crossing requires a Department of the Army permit for structures and construction work. The Aiea Stream culvert crossing has been approved by Nationwide permit in accordance with 33 CFR 330.5(2)(14). Also, the COE declined involvement as a cooperating agency in the Environmental Impact Statement.

7) A Public Informational Meeting was held on August 8, 1985 and August 15, 1986 at Alvah Scott Elementary School in accordance with 23 CFR Part 790.

8) A summary of comments and evaluation of public input is included as Appendix A.

9) The Oahu Metropolitan Planning Organization has received the preferred alternative for the proposed project and has indicated that they have no objections.
DEG. 1 1983
Mr. H. Kusumoto, Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

The Environmental Protection Agency (EPA) has reviewed
the Notice of Intent for the project titled PROPOSAL TO
IMPROVE MOANALUA ROAD BETWEEN PALI MOMI STREET AND THE
AIEA INTERCHANGE, OAHU.

Our review is based on the Council on Environmental
Quality (CEQ) Regulations (40 CFR Parts 1500-1508). We
have the enclosed comments to offer at this time.

We appreciate the opportunity to comment on the proposed
project. Please send three copies of the Draft Environmental
Impact Statement (DEIS) to this office at the same time it
is officially filed with our Washington, D.C. office. We
would also appreciate one copy of any Air and Water Quality
Technical Reports which might accompany the DEIS. We also
request notification of any public hearings to be held on
this project. If you have any questions, please contact me
at (415) 974-8188 or FTS 454-8188.

Sincerely yours,

Loretta Kahn Barsamian, Chief
EIS Review Section

Enclosure (1 page)
Water Quality Comments

For each alternative the DEIS should:


2. Assess the effects of proposed stream modifications upon floodplain development both upstream and downstream.

3. Completely describe current drainage patterns in the project locale.

4. Assess how altering drainage patterns and characteristics will affect drainage hydrology, surface runoff, erosion potential, soils, vegetation, and therefore water quality.

5. Discuss the project's conformity with state and local water quality management plans and Federal-state water quality standards.

6. Identify any project impacts on riparian (in-stream) habitats or conditions (such as changes in substrate, direction of stream flow or sediment levels).

7. Evaluate the potential for increased toxicity in the stream due to either discharge to the streams or runoff from surrounding areas.

8. Identify appropriate mitigation measures to protect water quality both during and after project construction.

404(b) Permit Comments

The Honolulu District Office of the U.S. Army Corps of Engineers should be contacted to determine the need for a Section 404 discharge permit for any portion of the proposed project. If a permit is required, EPA will review the project for compliance with Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the Clean Water Act. Our evaluation would focus on the maintenance of water quality and the protection of wetlands, fishery and wildlife resources. If applicable, the results of further study should indicate the amount of dredging required, potential disposal sites, types of fill material to be utilized, and quantities to be discharged into waters and wetlands that fall under Section 404 jurisdiction.
DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
ENVIRONMENTAL IMPACT STATEMENT: CITY AND COUNTY OF
HONOLULU, HAWAII

AGENCY: Federal Highway Administration (FHWA), DOT

ACTION: Notice of intent

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in the City and County of Honolulu, Hawaii.

FOR FURTHER INFORMATION CONTACT:
Mr. H. Kusumoto, Division Administrator
Federal Highway Administration
U. S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850
Telephone: (808) 546-5150

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the City and County of Honolulu Department of Public Works and the State of Hawaii Department of Transportation, will prepare an environmental impact statement (EIS) on a proposal to improve Moanalua Road between Pali Momi Street and the Aiea Interchange in Kalauao, Aiea, on the island of Oahu, in the State of Hawaii. The total length of the proposed improvement is approximately 4,200 feet.
The proposed project would consist of widening and improving the existing Moanalua Road. Along both sides of the roadway, grade adjustment walls will be constructed as required. Driveway ramps will be reconstructed where necessary to provide access to existing driveways and garages. Existing street intersections will be modified, as necessary, to provide for safer traffic movement and smooth riding connections.

Moanalua Road, between Pali Momi Street and the Aiea Interchange, is currently substandard and is inadequate in accommodating the increased traffic volume generated by adjacent residential and commercial developments.

Alternatives under consideration include: (1) taking no action; (2) providing intersection improvements as a transportation systems management (TSM) action; (3) widening the existing two- and four-lane roadway to between four and six lanes; (4) constructing a divided four-lane roadway; and (5) implementing turning movement restrictions. Various combinations of the above alternatives will be studied.

No formal scoping meetings will be scheduled. However, FHWA will be meeting with several agencies to identify crucial issues and to ensure that matters of importance are not overlooked in the early stages of review. To further ensure that the full range of issues related to this proposed action is addressed and all significant issues are
identified, comments will be received from all interested agencies and parties, pursuant to Chapter 343, Hawaii Revised Statutes.

A public information meeting and a public hearing will be held; public notice will be given of the time and place of the meeting and of the hearing. The draft EIS will be available for public and agency review and comment.

Comments or questions concerning the proposed project and the EIS should be directed to the FHWA at the address provided above.

Issued on: __8/30/83__

H. Kusumoto
Division Administrator
Honolulu, Hawaii
June 16, 1986

Mr. Russell L. Smith, Jr.
Director & Chief Engineer
Department of Public Works
Honolulu Municipal Building
650 South King Street, 11th Floor
Honolulu, Hawaii  96813

Dear Mr. Smith:

Moanalua Road EIS

We have reviewed the preferred alternative for the improvement of Moanalua Road between Pali Homi Street and the Aiea Interchange and have no objections. This project is identified in the annual element of OMPO's FY 1986 Transportation Improvement Program which was endorsed by our Policy Committee in their November 26, 1985 meeting.

Sincerely,

[Signature]
Gordon G.W. Lum
Executive Director

GGWL:pc
XVI. DRAFT EIS COMMENTS AND EVALUATION

The following agencies, organizations and individuals have been sent copies of the Moanalua Road Draft EIS for their information and comments. This 30-day review period afforded consulted parties the opportunity to air their concerns and comments which are addressed in the Final EIS. Copies of all comments received on the Draft EIS are included in this section.

FEDERAL AGENCIES

Advisory Council on Historic Preservation
Council on Environmental Quality - Washington D.C.
Environmental Protection Agency
    Office of Federal Activities (A-104)
    Region IX Library
U.S. Department of Agriculture
    Soil Conservation Service, Honolulu
U.S. Department of Commerce
    National Oceanic & Atmospheric Administration, Honolulu
U.S. Department of the Air Force
    15th Airbase Wing
U.S. Department of the Army
    U.S. Army Corps of Engineers, Honolulu
U.S. Department of Energy, Honolulu
U.S. Department of Housing & Urban Development, Honolulu
U.S. Department of Interior
    Fish and Wildlife Service, Honolulu
    Office of Environmental Project Review, Washington D.C.
U.S. Department of Transportation
    14th Coast Guard District
U.S. Department of the Navy
    Commander Naval Base, Pearl Harbor

STATE AGENCIES

Commission on Transportation
Department of Accounting and General Services
Department of Agriculture
Department of Defense
Department of Education
Department of Hawaiian Home Lands
Department of Health
Department of Land and Natural Resources (3)
    State Historical Preservation Officer
Department of Planning & Economic Development
Department of Social Service & Housing
Oahu Metropolitan Planning Organization
Office of Environmental Quality Control (2)
State Energy Office
University of Hawaii
   Environmental Center (4)
   Marine Programs
   Water Resources Research Center
   State Archives

CITY & COUNTY AGENCIES

Board of Water Supply
Building Department
Department of General Planning
Department of Housing & Community Development
Department of Land Utilization
Department of Parks and Recreation
Department of Transportation Services
Fire Department
Honolulu City Council
Neighborhood Commission
Oahu Civil Defense Agency
Police Department
The Honorable Patsy Mink
Municipal Reference and Records Center

LIBRARIES

Alea Library
DPED Library
Hawaii State Library (2)
Legislative Reference Bureau
Pearl City Regional Library
Kaneohe Regional Library
Kaimuki Regional Library
University of Hawaii
   Hamilton Library
   Sinclair Library

PUBLIC UTILITIES

GASCO, Inc.
Hawaiian Electric Company, Inc.
Hawaiian Telephone
Oceanic Cablevision

NEWS MEDIA

Honolulu Advertiser
Honolulu Star-Bulletin
Sun Press
STATE LEGISLATORS

Senator Richard Wong
Senator Benjamin Cayetano
Senator Joseph Kuroda
Senator Norman Mizuguchi
Representative Henry Peters
Representative Clarice Hashimoto
Representative Tom Okamura
Representative Brian Taniguchi

CONGRESSIONAL REPRESENTATIVES

The Honorable Daniel Inouye
The Honorable Spark Matsunaga
The Honorable Cecil Heftel
The Honorable Daniel Akaka

SCHOOLS - CHURCHES

Alea High School
Alvah A. Scott School
Alea Seventh-Day Adventist Church
Bethany Assembly of God
Our Savior Lutheran Church & School
St. Elizabeth School

ORGANIZATIONS

Alea Neighborhood Board
Oahu Development Conference
Outdoor Circle
Life of the Land
Chamber of Commerce of Hawaii
Sierra Club, Hawaii Chapter
Bishop Museum
Citizens for Hawaii
Commission on the Handicapped
American Lung Association of Hawaii
Hawaii Transportation Association
League of Women Voters
Hawaiian Historic Society
Hawaii Bicycle League
Cancer Center of Hawaii
Colorado State University
Conservation Council for Hawaii
Hawaii Audubon Society
Health and Community Services Council of Hawaii
Historic Hawaii Foundation
Downtown Improvement Association
Downtown Business Council
Watercress Associates
Office of Hawaiian Affairs
MOANALUA ROAD COMMENTS AND EVALUATION

The following agencies have submitted substantive comments which have merited evaluation as presented in the following pages.

FEDERAL AGENCIES

United States Environmental Protection Agency
United States Department of the Interior
Fish and Wildlife Service
United States Department of the Interior
Office of the Secretary

STATE AGENCIES

Department of Health
Department of Land and Natural Resources
Office of Environmental Quality Control
University of Hawaii Environmental Center

CITY AND COUNTY OF HONOLULU

Department of General Planning
Fire Department

PUBLIC UTILITIES

Hawaiian Electric Company, Inc.
Hawaiian Telephone
Oceanic Cablevision

ORGANIZATIONS AND INDIVIDUALS

Aiea Neighborhood Board No. 20
Aiea Seventh-Day Adventist Church
Nancy Chun
Edward, Marlene and Damon Wilcox
Our Savior Lutheran Church and School
Gerald M. Tokuno, AIA

XVI-4
MOANALUA ROAD COMMENTS TO DRAFT EIS REQUIRING NO RESPONSE

FEDERAL AGENCIES

U.S. Department of Agriculture, Soil Conservation Service
U.S. Department of the Air Force, Headquarters, 15th Air Base
Wing (PACAF)
U.S. Department of the Army, U.S. Army Engineer District,
Honolulu
U.S. Department of Energy, Pacific Site Office
U.S. Department of Housing & Urban Development
Honolulu Area Office, Region IX
U.S. Department of the Navy
Headquarters, Naval Base Pearl Harbor

STATE AGENCIES

Department of Accounting & General Services, Division of
Public Works
Department of Agriculture
Department of Defense, Office of the Adjutant General
Department of Education
   Alvah A. Scott Elementary School
   Office of the Superintendent
Department of Hawaiian Home Lands
Oahu Metropolitan Planning Organization
University of Hawaii at Manoa
   Cancer Research Center of Hawaii
   Water Resources Research Center

CITY & COUNTY AGENCIES

Board of Water Supply
Building Department
City Council, Chairman
Department of Housing & Community Development
Department of Land Utilization
Department of Parks & Recreation
Oahu Civil Defense Agency
Police Department

CONGRESSIONAL REPRESENTATIVES

U.S. Senator Spark Matsunaga

INDIVIDUALS AND ORGANIZATIONS

Downtown Improvement Association
Hawai‘i Historic Foundation
The Outdoor Circle
Tadashi Kaneko

XVI-5
1. The discussion on water quality impacts will be expanded in the FEIS to include possible techniques for erosion and sediment control. Because the type of structure selected at the Kalanui Stream crossing will have a direct bearing on which of these techniques will be needed, it is not possible to be specific at this time, but the study of the structure alternatives at the Kalanui Crossing will include the specific erosion and sediment control measures pertinent to each one.

2. Your additional comments on Section 404 Permit requirements have been noted. The Corps of Engineers has required a Section 404 permit. The concerns outlined for your evaluation will be considered.

Ref. V.L. B.A.
Water Quality Comments

The DEIS indicates that project development will conform with erosion control measures (p. VI-19). In the FEIS, this section should be expanded to discuss specific techniques. The discussion should include plans for stilling basins or other means to control sedimentation during and after construction. The proposed plan forecasts three rainy seasons, the FEIS should discuss means of controlling disturbed soils during rainy seasons, such as protecting unpaved areas with burlap. Finally, revegetation to prevent erosion should be addressed.

The DEIS states that a Section 404 permit may be required (p. VI-19). If a permit is required, EPA will review the project for compliance with Federal Guidelines for Protection of Dredged or fill Material (40 CFR 330), promulgated pursuant to Section 404(b)(1)(i) of the Clean Water Act. EPA's evaluation will focus on the maintenance of water quality, the protection of fisheries and wildlife resources, and special aquatic sites, including wetlands. These regulations require that no discharge shall be permitted which will result in unacceptable adverse impacts on the aquatic ecosystem.

SUMMARY OF RATING: DEFINITIONS AND FOLLOW-UP ACTIONS

Environmental Impact of the Action

1. Lack of Objectives

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more minor changes to the proposal.

2. Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of additional mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

3. Environmental Insufficiency

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare of the environment. EPA intends to work with the lead agency to reduce these impacts. If the potential insufficiency impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEC.

Adequacy of the Impact Statement

Category 1—Adequate

EPA believes the draft EIS adequately sets forth the environmental impacts of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2—Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3—Inadequate

EPA does not believe that the draft EIS adequately assesses potential environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside the scope of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potential significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have been included in the draft EIS. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and that should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEC.

1. When the project is in the design phase, consideration will be given to several types of stream crossings. Should a culvert crossing be selected, accommodation of Fish and Wildlife Service recommendations to allow for upstream migration of native aquatic fauna will be included.

2. The existing roadway, which has no curbs and limited drainage facilities, allows storm runoff from above the roadway to cross the corridor and continue overland toward Aala or Kailua Streams. An improved roadway and drainage system would intercept the cross-corridor storm runoff and discharge it directly into the streams. This will result in a reduction in unchanneled overland flow below the roadway and should further result in a reduction of erosion potential in that area.

Mr. Makishi Kamimoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 5026
Honolulu, Hawaii 96810

Re: Draft Environmental Impact Statement, Moanalua Highway between Pali Hoonii Street and Aala Interchange, Oahu

Dear Mr. Kamimoto:

The U.S. Fish and Wildlife Service has reviewed the referenced Draft Environmental Impact Statement (DEIS) and offers the following comments for your consideration.

The portion of the project of concern to the Service involves the replacement of a bridge over Kailua Stream with a concrete box culvert.

A culvert can impede the upstream migration of native aquatic fauna by creating wide, shallow, laminar flows. This contrasts with the deeper and turbulent flows of natural streams. The Service recommends that a bridge alternative for crossing the Kailua Stream be considered.

If a bridge over Kailua Stream cannot be constructed, the Service recommends that a low flow notch be cast into the concrete box culvert. The floor of the low flow notch should be flush with the existing upstream bed and be approximately 3 feet deep by 5 feet wide. This low flow channel would allow the upstream migration of indigenous stream fauna.

Page VI-19 states the proposed project will provide "adequate curbs and gutters which will be able to intercept storm runoff and discharge it into adjacent streams. These improvements should, therefore, reduce the amounts of sediment and debris that may be transported in the runoff and are normally found within the project area". The EIS should clarify how the improved curbs and gutters will reduce the amounts of sediment and debris carried in the runoff.
The Service believes that the improved drainage conditions will increase the amount of sediments and debris that are discharged into the receiving streams and into Allen Bay.

We appreciate the opportunity to comment.

Sincerely yours,

[Signature]

Ernest Keaba
Project Leader
Office of Environmental Services

c/c: D.H.G.
WFD-2WPO
1. When the project is in the design phase, consideration will be given to several types of stream crossings. Should a culvert crossing be selected, accommodation of Fish and Wildlife Service recommendations to allow for upstream migration of native aquatic fauna will be included.

2. The existing roadway, which has no curbs and limited drainage facilities, allows storm runoff from above the roadway to cross the corridor and continue overland towards Ala or Kaliua Streams. An improved roadway and drainage system would intercept the cross-corridor storm runoff and discharge it directly into the streams. This will result in a reduction of unchanneled overland flow below the roadway and should further result in a reduction of erosion potential in that area.

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
P.O. Box 50296
Honolulu, Hawaii 96822

August 22, 1985

Dear Mr. Kusumoto:

This is in response to the request for the Department of the Interior's comments on the Draft Environmental Impact Statement for Hoopii Road (Fall Road to Ala or interchange), Honolulu County, Hawaii.

The portion of the project that concerns the U.S. Fish and Wildlife Service involves the replacement of the bridge over Kaliua Stream with a box culvert. Culverts can impede the upstream migration of native aquatic fauna by creating wide, shallow, stagnant flows. This contrasts with deeper and turbulent flow of natural streams. The U.S. Fish and Wildlife Service recommends a bridge alternative for crossing the Kaliua Stream.

If a bridge over Kaliua Stream cannot be constructed, the U.S. Fish and Wildlife Service recommends that a low flow notch be cast into the concrete box culvert. The flow of the low flow notch should be flush with the existing upstream bed and be approximately 3 feet deep by 3 feet wide. This low flow channel would allow the upstream migration of indigenous stream fauna.

Page VI-19 states the proposed project will provide "adequate curbs and gutters which will be able to intercept storm runoff and discharge it into adjacent streams. These improvements should, therefore, reduce the amounts of sediment and debris that maybe (sic) transported in the runoff and are normally carried into streams. The EIS should clarify how the improved curbs and gutters will reduce the amounts of sediment and debris carried in the runoff. The U.S. Fish and Wildlife Service believes that improved drainage conditions will increase the amount of sediments and debris that are discharged into the receiving streams and into Ala or Stream."
Mr. H. Kurokoto, Division Administrator

Thank you for the opportunity to comment. If you have any questions regarding these comments, please contact the Field Supervisor, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 6307, Honolulu, Hawaii.

Sincerely,

[Signature]
Patricia A. Fox
Regional Environmental Officer

cc:
Mr. Russell L. Smith, Jr.,
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Director, DEPR
Regional Director, National Park Service
Regional Director, Fish and Wildlife Service
Regional Director, Geological Survey
Regional Director, Bureau of Mines
EVALUATION

State of Hawaii
Department of Health

November 6, 1985

1. Dust control measures will be fully implemented and enforced per State Regulations.

2. We refer you to Appendix B, the Noise Study for the proposed project, which describes traffic noise impacts in greater detail. The contractor will be required to conform to all applicable State regulations concerning noise.

MEMORANDUM

To: Mr. H. Kitamoto, Federal Highway Administration,
   U.S. Department of Transportation
   Ms. Leilani N. Uyehara, Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Manawai Road from Pali Highway Interchange to Alea Interchange, Aiea, Oahu

July 26, 1985

Thank you for allowing us to review and comment on the subject EIS. We submit the following comments for your consideration:

Air

Dust control measures should be fully implemented and rigorously enforced.

Noise

1. There are concerns in the proposed project toward probable noise impacts from increase in vehicular traffic volume.

2. Construction activities must comply with the provisions of Title II, Administrative Rules Chapter 43, Community Noise Control for Oahu
   a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the regulations.
   b. Construction equipment and on-site vehicles or devices requiring an exhaust of gas or air must be equipped with mufflers.
   c. The contractor must comply with the conditions on the permit as specified in the regulations and the conditions issued with the permit. This includes minimizing noise impacts on classrooms activities when operating near all schools along the project route.
3. Traffic noise from heavy vehicles traveling to and from the construction site must be minimized in residential areas and must comply with the provisions of Title II, Administrative Rules Chapter 42, Vehicular Noise Control for Oahu.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

cc: Mr. Russell L. Smith

[Signature]
Erosion-sedimentation control measures will be implemented during construction, and will conform to Federal, State and City requirements as stated in the DEIS. Although no particular mitigation methods have yet been chosen, the methods of control will be determined during final design of the selected alternative, and will also depend upon the type of stream crossing selected.

Ms. Letitia H. Uehara
Office of Environmental Quality Control
550 Halekauila St., Room 301
Honolulu, Hawaii 96813

Dear Ms. Uehara:

We have reviewed the draft environmental impact statement (EIS) for Maunaloa Road.

Because the road crosses Atea and Kalaua streams, adequate erosion-sedimentation control measures should be implemented to protect the quality of these stream waters.

Sincerely,

[Signature]

Chairperson

cc: Mr. H. Kusumoto
USDOT, FHWA
Mr. R. L. Smith, Jr.
C&C Honolulu, DPW
EVALUATION

State of Hawaii
Office of Environmental Quality Control

All residents whose property might be affected by this project were notified about the public hearing which was held on August 15, 1985 and were also advised of the availability of the subject EIS.

Mr. Russell L. Smith, Jr.
Director & Chief Engineer
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

July 17, 1985

Dear Mr. Smith:

Subject: Comments to Moanalua Road From Pali Hono Street to Aina Interchange EIS

We suggest that the Department of Public Works notify residents along Moanalua Road whose property will be acquired by condemnation and that an environmental impact statement is available for review.

Sincerely,

LETITIA L. UYEHARA
Director

CC: Hawai'i
August 25, 1985

RE:0423

Mr. H. Kumamoto
Federal Highway Administration
U.S. Department of Transportation
Box 52196
Honolulu, Hawaii 96859

Ms. Letitia M. Uyehara
Office of Environmental Quality Control
519 Haleiwa Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Kumamoto and Ms. Uyehara:

Draft Environmental Impact Statement
Moonahus Road
(Between Pali Molii Street to Alea Interchange)
Ala Moana

The above cited Draft Environmental Impact Statement (DEIS) addresses the potential environmental impacts related to the proposed improvements to Moonahus Road between Pali Molii Street and Alea Interchange within the City and County of Honolulu. Under this plan a range of alternatives are presented from a "no action" case in the construction of additional lanes. The Environmental Center review has been prepared with the assistance of James Parrish, Hawaii Cooperative Fisheries Research Unit; Paul Ikeda, Agronomy and Soil Sciences; and Washington Kim, Environmental Center.

Facilities

Statements concerning the minimization of sedimentation during construction are well taken as excessive sediments could effect the natural resources downstream, such as the Nuuanu fishery in Pearl Harbor.

The DEIS does not mention the present conditions of the streams and channels that will be affected by this project. The inclusion of this information would be helpful in assessing impacts to stream flora associated with construction as well as the longer term impacts due to the stream channel modifications. Cemented channels, such as the box culverts proposed, in lieu of bridges, create an artificial substrate which may interfere with the passage of the stream flora. Expansion of the bridges, rather than culverts, would be the environmentally preferred alternative. The DEIS statement does not

1.

Mr. H. Kumamoto
Ms. Letitia M. Uyehara

August 25, 1985

mention if the stream water will be diverted during construction. If it will be necessary to divert water from the construction area then only partial diversion of the stream is preferred. Total diversion of the water by pumping around the construction site is generally not satisfactory since it inhibits the passage of fauna within the stream.

Page 69 of the wrong page number (IV-20).

1. Threatened or endangered species

The DEIS (page 68-20) states that, "The Fish and Wildlife Service, U.S. Department of Interior based on their surveys, have indicated that only native and exotic species of stream biota were found within the Kalanow and Aka streams, respectively." Are only native species in Kalanow Stream and only exotic species in Aka Stream?

2. Air quality

The discussion of ambient air quality (page 67-7, V-10) indicates that during the past seven years, levels of particulates, carbon monoxide, and ozone have sometimes exceeded the allowable State air quality standards (AQS). Based on this statement and the supporting information (Tables 5 and 6) the conclusions drawn in the basis of the modeling studies (page 67-9) are not supported: "maximum peak and eight hour CO concentrations at these locations are expected to be well within allowable federal and state AQS even under worst case of traffic and meteorological conditions considered for both the maximum improvement and the do-nothing alternative."

A re-examination of the input parameters used in the modeling studies seems warranted.

3. Floodplain impact

On page 68-6, a reference to "Moonahus Road Hydraulic Study" is cited as justification for the base flood elevation below 1 foot maximum. Furthermore, the topographic data and the relationship of the project to floodways, etc. are cited as being submitted, in the future, to the City and County of Honolulu. Some of the data are available as published reports, it is not possible to verify or evaluate the adequacy of the figures presented. A summary of these studies, or pertinent findings, should be provided in the final EIS.

4. No reference is cited (page 69-3) for the basis of the estimated mean annual rainfall of approximately 30 inches for Moonahus and the reference indicated for the hydrometric section in an EIS document prepared in 1975. A recently published report, "Rainfall Frequency Study for Oahu, DLNR R87, 1984" should be consulted in determining flood peaks, frequencies and heights for Oahu.

AN EQUAL OPPORTUNITY EMPLOYER
We appreciate the opportunity to comment on this DEIS and hope you will find our comments useful in completing the final document.

Yours truly,

[Signature]
Jacquelin M. Miller
Acting Associate Director

cc Russell L. Smith, Jr., Dept. of Public Works
James Parrish
Paul Shern
Wallington Yee

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EVALUATION

Environmental Center
University of Hawaii at Manoa

November 6, 1985

1. A description of the present conditions of the streams and channels affected will be provided in the final Environmental Impact Statement (FEIS). We recognize that culverts can impact upstream migration of native aquatic fauna. During the design phase, several types of bridge or culvert crossings will be examined. If a box culvert solution is selected, accommodation to allow for upstream migration of aquatic fauna will be coordinated with the U.S. Fish and Wildlife Service. Mitigation of construction impacts will depend greatly upon the type of stream crossing selected. Mitigation measures and impacts will be considered in the investigation of stream crossing alternatives.

2. Native and exotic species of stream biota were found in both Kaimana and Aiea streams. This will be clarified in the FEIS, Page VI-20.

3. The statement on page V-7 of the DEIS indicating that during the past seven years, levels of particulates, carbon monoxide and ozone have sometimes exceeded allowable AQI, refer to monitoring stations located at the Department of Health in downtown Honolulu. This information is provided for a comparative standard against the monitoring stations located
within the project area. This is explained in greater detail in the Air Quality Assessment located in Appendix A.

4. Pertinent findings from the "Maunalua Road Hydraulic Study" will be included in the Final EIS, along with additional references. Rainfall information will be updated in accordance with the DLIR R73, 1984 report, if appropriate.

Ref. V.A.5
VI.B.9
EVALUATION

City and County of Honolulu
Department of General Planning

November 5, 1985

1. The definition of Level B Service is included in the Final EIS.

2. Funding for Federal Aid Urban system projects is comprised of 75 percent Federal and 25 percent State matching funds. In this project, the City and County of Honolulu and the State will divide the 25% share equally.

3. The corrected elevations are shown in the Final EIS.

4. The construction timetable for the selected alternative is noted in the Final EIS.

Ref. Tables 1 and 3

V.A.1

Ms. Letitia N. Uyehara, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauila Street, Room 301
Honolulu, Hawaii 96813

July 15, 1985

Dear Ms. Uyehara:

Draft Environmental Impact Statement (DEIS)
for the Moanalua Road Project (Pali Holo Street to Alea Interchange)—Your Letter Dated June 28, 1985

We have the following comments for your consideration.

1. Implementation of the Moanalua Road improvements from Pali Holo Street to the Alea Interchange is in accord with the Development Plan Public Facilities Map for the Primary Urban Center.

2. Table 3 on page IV-15 of the DEIS appears to have omitted the definition of Level B services.

3. What proportion of the project cost, by percentage or in dollar amount, will each of the Federal/State/City governments absorb?

Table 4 (page IV-17) of the document might be expanded to include this information.

4. Page V-1 of the DEIS states:

"The project terrain varies from flat to rolling, creating steep slopes and sharp curves at several locations. Elevations range from 35 to 150 feet above sea level."
Examination of an aerial topo map (Scale: 1" = 200') for the Anea area, however, reveals the high point along Moanalua Road within the project site is between 80' to 85' above sea level, near the Kaamilo Street intersection.

The 150' contour, on the other hand, crosses over Kaamilo Street about 1,850 feet or 0.35 miles mauka of Moanalua Road.

5. The duration of the construction period for this project, not noted in the DEIS, might be indicated.

Thank you for the opportunity to comment.

Sincerely,

DONALD A. CHING
Chief Planning Officer

cc: Federal Highway Administration
(Mr. H. Kaukomo)  
Department of Public Works
EVALUATION
City and County of Honolulu Fire Department
November 5, 1985

The project engineers will be in coordination with your department for fire apparatus accessibility and fire hydrant placement. A Notice of Construction will also be submitted to the Fire Alarm Bureau for response route planning.

July 9, 1985

Mr. H. Kusumoto, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50204
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Draft EIS Statement, FHWA-HI-EIS-88-02-D
Honnolulu Highway, Pali Hool Street to Ala Interchange, County of Honolulu,
State of Hawaii

We have reviewed the application submitted for the above subject and have no objections to the proposed project.

Consideration, however, should be given for fire apparatus accessibility to residence and fire hydrants in the proposed construction area.

A Notice of Construction should also be submitted to our Fire Alarm Bureau within sufficient time so we may prepare a new response route for our responding units.

Should you require further assistance, please do not hesitate to contact Battalion Chief Julio Agooili of Our Fire Prevention Bureau at 943-3165.

Sincerely,

FRANK K. KICHIGANDHAN
Fire Chief

cc: Mr. Letitia Uyehara,
Office of Environmental Quality Control
Mr. Russell L. Smith, Jr.,
Dept. of Public Works
EVALUATION

Hawaiian Electric Company, Inc.

November 6, 1985

1. The PEIS will be modified to delete reference to concrete poles.

2. During the final design, the project engineers will coordinate with Hawaiian Electric Company on plans for future powerlines crossing the project area, as well as for relocation of existing H.E.I. facilities.

Ref. V.D.6

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Mr. H. Kusumoto
U.S. Department of Transportation
Federal Highway Administration
Box 50296
Honolulu, Hawaii 96850

July 25, 1985

Dear Mr. Kusumoto:

Subject: Draft Environmental Impact Statement for Manoa Road from Pali Highway to Alea Interchange

We have reviewed the subject Draft EIS and have the following comments:

1. On page V-10, reference is made to permanent concrete poles. To our knowledge, we did not install concrete poles in this area.

2. Future 138 kv lines will be required out of Waiau Power Plant and they may be required to traverse the project area.

Thank you for letting us comment on this project.

Sincerely,

[Signature]

Brenner Menger, Ph.D., P.E.
Manager, Environmental Department

SLC:caI

cc: Ms. Letitia N. Uyehara
State, UEQC
Mr. Russell S. Smith, Jr.
C&G, Dept. of Public Works
Hawaiian Telephone Company

November 6, 1985

During the design phase the project engineers will continue to coordinate with Hawaiian Telephone Company on relocation of existing service lines.

Mr. B. Kanemoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50106
Honolulu, Hawaii 96850

Dear Mr. Kanemoto,

Draft EIS, FHWA-HI-EIS-84-02-0
Manoa Road, Alea, Hawaii

We have reviewed the Draft Environmental Impact Statement for the proposed widening of Manoa Road between Pali Hula Street and Alea interchange and would like to offer our comments at this time.

There are existing underground and overhead telephone lines within the project site which will probably require relocation to accommodate the roadway widening. The method and scope of construction work, if any, to be performed by Hawaiian Telephone Company will depend upon which of the five design alternatives being considered to improve traffic operations along Manoa Road is selected.

Thank you for the opportunity to comment on this proposed project. If there are any questions, please call Nelson Yvimesery at 836-4723.

Sincerely,

[Signature]

O. Kaneko
Oahu Engineering & Construction Manager

Hawaiian Telephone Company - PO Box 2200 - Honolulu, Hawaii 96817 - Phone (808) 537-2221
EVALUATION

Oceanic Cablevision

November 6, 1985

During the design phase the project engineers will coordinate
with Oceanic Cablevision on the relocation of existing cable
television facilities.

Oceanic Cablevision

July 31, 1985

U. S. Department of Transportation
Federal Highway Administration
REGION SIX
Hawaii Division
Box 50296
Honolulu, HI 96850

Attention: Mr. K. Kusumoto
Division Administrator

Subject: Draft EIS Statement, HI-REIS-84-02-D
H-1 Highway, Pearl Harbor Area to
Aiea Interchange, County of Honolulu,
State of Hawaii

Dear Mr. Kusumoto:

Reference the above proposal, Oceanic Cablevision has no major
response to offer at this time.

Be advised, however, we do have existing aerial cable
facilities along this route which is our major traffic to Aiea and
Haleiwa Heights areas. Accordingly, relocation of CATV
facilities will be required along with other utilities within
the area. Relocation costs resulting from this conversion will
be furnished upon request.

Should there be any questions regarding actual requirements for
relocation of our facilities, please contact Mr. Connie Souza
(834-4154) or myself at 834-4145.

Respectfully,

Don Camacho
Director, Plant/Facilities

Oceanic Cablevision

24th Floor
2600 North King Street
Honolulu, Hawaii 96814

DCibs
24th Floor
EVALUATION

Aiea Neighborhood Board No. 20

November 6, 1985

1. Elimination of left turn pockets will result in increased congestion at intersections when drivers attempting left turns block the through traffic lanes.

2. The recommended alternative in the section from Laulima Street to Aiea Interchange includes a left turn lane which is necessary to reduce congestion. The overall right-of-way needed will be minimized by reducing lane widths to 10 feet.

AIEA NEIGHBORHOOD BOARD NO. 20

August 20, 1985


FROM: Alice Takehara, Chairman

SUBJECT: Manawai Road Widening Draft Environmental Impact Statement

On August 19, 1985, the Aiea Neighborhood Board members recommended Alternate III with modification for the Manawai Road Draft Environmental Impact Statement with the following recommendations:

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Eliminate all left turn pockets on Manawai Road between Hommanu St. and Kauhale St.</td>
<td>This would reduce right-of-way taking.</td>
</tr>
<tr>
<td>2. Eliminate widening of roadway but improve the curb and sidewalk between Laulima St. and Aiea Interchange.</td>
<td>4-lane exist in this section. Right-of-way taking may not be necessary.</td>
</tr>
<tr>
<td>3. Reduce the roadway width to 11 feet.</td>
<td>To deter speeding.</td>
</tr>
</tbody>
</table>

Your support would be much appreciated.
EVALUATION

Alexa Seventh-Day Adventist Church  November 6, 1985

1. The recommended alternative in the section of Moanalua Road near the Alexa Seventh-Day Adventist Church is Alternative II which consists of five, 12-foot wide lanes and an 8-foot sidewalk area on each side of the roadway. Curb lanes would be 14 feet wide, and the total width of right-of-way is 80 feet. The five lanes will consist of two through lanes in each direction with a middle, two-way continuous left turn lane. During peak traffic periods all lanes will be utilized for through traffic. However, during off-peak traffic hours, including Saturdays and Sundays, parking will be allowed in the curb lane. This will provide some additional parking for church goers and will separate the church from traffic by one additional lane width.

2. The Noise Study in the Draft EIS (Appendix B) indicates that noise increases in the vicinity of the church are expected to be about 4dB but should not exceed levels above the FHWA exterior noise criteria. In order to meet interior noise criteria of the FHWA and the Department of Health a 6-foot high sound attenuation wall may be constructed along the roadway right-of-way which will reduce interior noise levels within the church from approximately 57 Leq(h) to approximately 50 Leq(h), providing that the upper level clear glass jalousie windows which face Moanalua Road are closed. The ground level windows and doors along the front and sides of the church may be opened for ventilation since they will be partially or completely shielded from the roadway by the wall or other intervening structures.
aeia seventh-day adventist church

69-005 moanalu road
auka, hawaii 96701
(808) 488-9050

office of the pastor

august 25, 1985

mr. heloshi kumamoto
division administrator
federal highway administration
u.s. department of transportation
box 5028
honolulu, hawaii 96850

dear mr. kumamoto,

i was privileged to give testimony at the public hearing held at the aloa a. scott school cafeteria on august 15 concerning the impact the noanalu road changes will have on our 300 plus member church congregation. this letter is intended to summarize the concerns of our thinking at the aeia seventh-day adventist church.

i have sketched on the attached sheet an expanded draft of alternative ii that has been proposed by the city and county of honolulu. you will notice that the sketch calls for a sixth lane to be included in the area right-of-way for use as a parking lane only on the street side closest to our church. this sixth lane will serve several useful purposes as shown: 1) push the traffic flow one lane farther away from our church, 2) provide additional parking on the street side of the street, and 3) the narrowing of these thru-lanes to 11' will tend to slow the speed of traffic.

an example of the above suggested alternative already exists on noanalu road from kamehameha street, all the way past the pearl ridge shopping center, nearly to kamehameha street. we also feel that a sixth parking lane could be beneficial to other churches who will be losing parking space on the road widened, to other residents who have multiple vehicles or visiting guests and perhaps even some of the business places in the aeia shopping center.

another very important impact upon our church and its purposes will be the increased noise levels produced by increased traffic that our church, as indicated in the draft environmental impact statement. even now there are times when our services are interrupted by especially noisy traffic. tape recordings taken during services verify this difficulty.

because of the expected increase in noise level, we therefore have the following requests to submit for your consideration and implementation:

1. that a wall of reasonable height be constructed all along the frontage of our church property except for ingress and egress to the parking area. you will note this designation on the enclosed sketch. the height of this wall will vary as it fronts our property, but should be perhaps from 2.5 feet to 3.5 feet above the sidewalk level. this, of course, should be planned architecturally to provide the best appearance.

2. that funds from this project be allocated to provide for the installation of an adequate air-conditioning system for our church sanctuary, along with the running of an additional power line to our premises to carry sufficient electrical power for the operation of the air-conditioning system. if we are to get the greatest benefit from gathering in god's presence, it is essential that the noise be quieted to a level that insures quietness and provides an atmosphere of reverence.

as an indication that the members of our congregation are in agreement with the above requests, i have enclosed several sheets listing the names of members who have been heard the explanations and indicate their agreement by signature.

thank you for affording us opportunity to express our concerns and requests, and we progress is made on noanalu road's development, we trust that you will honor our requests.

please send us a copy of the final environmental impact statement also.

sincerely yours,

john sharp
pastor
We, the undersigned, are members of the Ahea Seventh-day Adventist Church, and have reviewed the Revised Version of Alternatives II and IV as shown on the attached sheet, and agree with the request of our church board as outlined in the accompanying letter written by our Pastor.

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name

Name
We, the undersigned, are members of the Alle Seventh-day Adventist Church, and have reviewed the Revised Versions of Alternatives II and IV as shown on the attached sheet, and agree with the request of our church board as outlined in the accompanying letter written by our Pastor.

(Signatures)

(Signatures)
Evaluation

No. Nancy Chan

November 8, 1985

1. The existing roadway section near the residence is already four lanes wide, but one additional lane will be needed to accommodate left turn movements. This will help to reduce traffic congestion in this area. To minimize impacts to yours and other residents, the traffic lanes will be 10 feet wide instead of 12 feet wide. No easement area will be taken from your property.

2. The projected exterior noise level at your residence is only 1 log above the ANSI criteria, and this value is within the accuracy tolerance of the predictive noise model. However, a planting screen of dense shrubs will be provided along the roadway of your residence.

The road widening improvement will reduce congestion which will reduce air pollution.

---

Dear Mr. Russell Smith Jr.

I am writing to you in regards to the Manahau Road Improvement. I suggest that you do not widen the road in front of my house at the corner of Manahau Road and Pukalii Street. (99-100 Pukalii St.) Widening of the road there is unnecessary because it is already a four lane divided highway. Widening of the road will cause environmental problems for the occupants living there. The side of my house, next to the road, is only a narrow pathway. If the pathway is made smaller, the occupants will have difficulty moving their furniture in and out of the side entrance.

The fences and noises that come from the street are bad enough as it is and bringing the street closer to my house will only make it worse. So please reconsider my point of view. The only improvement needed in my section is a level concrete sidewalk and a street lamp.

Installing a traffic light on Pukalii St. and Manahau Rd. would be beneficial.

I will appreciate it if you will keep me informed of the progress of the Manahau Road Improvement plan.

Sincerely,

Nancy Chan
Mr. Russell L. Smith Jr.
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Sir,

This letter is in regards to the proposed widening of Moanalua Road in Aiea. Our residence is located at 98-556 Kaimu Loop, PHK: 198-090-047. The back of our property is above Moanalua Road. We will be affected by all the alternatives presented to us at the public hearing held on August 19, 1985, except Alternative I.

We request the following:

1. That Alternative II be completely eliminated. We don’t need another H-I or Han Highway running through our community. We don’t need more noise, pollution and speedsters in our environment.

2. That concrete sidewalks be laid the full length of the project.

3. The widening of Moanalua Road will create a bottleneck for the Honolulu bound traffic at the Ala Interchange entering the H-I Freeway. We request that this problem be remedied.

4. Our property sits about 35 feet above Moanalua Road on unstable filled land. We know that this project will present an unsafe condition for our home, family, pets and guests. Our water runs off also flows towards Moanalua Road. We want to be assured that these problems will be taken care of during progress of the project.

5. We request a stone wall extend about 35 feet above our property level instead of a chain link fence on top of a stone wall.

6. We request that all telephone and hi-tension poles, remain on the makai side of the road in the area of our property, instead of hanging in our faces.

7. We request compensation not only for the loss of property, but also for the loss of property value.

We recommend that an exit from the H-I east bound to the Pearlridge Center be considered.

We want Moanalua Road to be improved and feel that Alternative IV would be the most suitable for our community.

Sincerely,

Edward Wilson
Marilyn M. Wilson

(2)
EVALUATION

Mr. Edward Wilcox

November 6, 1985

1. The recommended alternative is a combination of Alternatives II and IV. These were selected because they most closely adhere to the four basic criteria for development of the project. This is defined in greater detail in the final EIS.

2. Concrete sidewalks will be used for the entire length of the project.

3. It is not anticipated that implementation of this project will create congestion at the Ainslie Interchange entrance to the I-40 freeway. Although traffic flow on General M. will be improved, this traffic is "metered" by the traffic signals along the proposed improvement. Further, since traffic is beyond the signal at Ainslie Interchange there are no restrictions to traffic flow in the interchange itself.

4. All possible design safety precautions will be considered in any adjustments to your property required by this project. At this time there is no reason to believe that a safe design of your property adjustments cannot be achieved. However, if normal design practices do not satisfy recognized safety standards for these property adjustments, other measures will have to be considered.

5. Chain link fencing is currently proposed as the standard enclosure feature for property improvements along the project length.

6. Removal and/or relocation of utility lines will be handled during the design phase. Relocations of the lines may be required to be underground. However, if lines are placed above ground, consideration will be given to their location in regard to residences and other structures.

7. Details of compensation for property acquired for roadway right-of-way will be handled during the design phase by right-of-way agents and other authorized government representatives.

8. The City and County has discussed with the State DOT an additional exit from I-40 to Pontiac Rd. It has been determined that such a connection is not under consideration.
EVALUATION

Our Savior Lutheran Church & School

November 6, 1985

The recommended alternative for this project includes a sidewalk area 8 feet wide on each side of the roadway for the full length of the project. This feature, combined with improvements to traffic flow such as a continuous two-way left turn lane, should greatly improve safety along this section of roadway.

Mr. Russell Smith, Director
City and County of Honolulu
Dept. of Public Works
650 South King St.
Honolulu, HI 96813

Dear Mr. Smith:

Aloha na u lea ka Alan Isaia!

The Church Council, the governing board of Our Savior Lutheran Church, and I am very concerned about the safety of traffic, pedestrians and cyclists on the narrow portion of Moanalua Road, especially near Kalihi Stream, which borders our church property. On Tuesday afternoon there was yet another traffic accident. This time a cyclist was struck by a vehicle coming over the rise on the Kalihi Stream bridge. The cyclist received a severe arm injury.

We wholeheartedly support the proposed widening project now being given much attention. The earlier this much needed project is completed, the safer will be the traffic flow.

Since there are no sidewalks along this narrow portion of Moanalua Rd., pedestrians are in jeopardy. Of special concern are the students who walk to school along the road. Often they are inches away from the cars and trucks whizzing past in both directions in the morning and afternoon. It is a wonder that no students have been struck in recent years.

We support your project! Let's get started and finished.

Sincerely yours,

James R. Russow
Pastor

Philip Kohler
Chairman
EVALUATION

Gerald M. Tokuno, AIA
November 6, 1985

1. Unlike the freeway which has restricted access for both vehicles and pedestrians, Moanalua Road will have virtually unrestricted access. Cross corridor movements will continue per the existing but will be enhanced by intersection improvements. Access to driveways and residences along the corridor will be direct, and pedestrian access to churches, schools, libraries and stores will be vastly improved by the sidewalks that will be provided.

2. The condition of the existing roadway is contributing greatly to the congestion you have noted. This project will improve the through traffic flow and will also facilitate travel within the community by improving access.

August 19, 1985

Mr. Meloshi Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
Bldg 90506
Honolulu, HI 96815

Gentlemen,

Subject: Proposed Improvements to Moanalua Road Between Pali Hwy St. & Aiea Interchange

I would like to take this opportunity to make the following comments on the subject project:

1. Aiea Town is already bisected by the H-1 Freeway and Kamehameha Highway. The freeway is a major barrier to muna-maika‘i access within Aiea.

2. Many local residents still do a lot of their neighborhood business (banking, service roads & etc.) by walking to the small stores located in the vicinity of Moanalua Road and Aiea Heights drive.

3. The proposed widening of Moanalua Road to a 70 or 80 foot wide roadway will cut across the very heart of Aiea. This will further limit muna-maika‘i access and isolate portions of the community.

4. I believe that improvements are badly needed, but not at the cost of destroying the economic and social life of Aiea.

5. During commuting hours (especially in the afternoon) Moanalua Road is clogged with traffic making it almost impossible to travel within Aiea. The widening of Moanalua Rd. will further encourage people to use this route instead of the freeway.

Mr. Meloshi Kusumoto
Division Administrator
Federal Highway Administration
August 19, 1985

In conclusion I would like to see improvements along Moanalua Road, but not to the extent that it will further cut Aiea into small isolated neighborhoods surrounded on two or three sides by major highways. Please keep at least one street in Aiea for local traffic and encourage through traffic commuters to take either the H-1 Freeway or Kamehameha Highway. Thank you for this opportunity to express my thoughts on this matter.

Very Truly Yours,

Gerald M. Tokuno, AIA
August 26, 1985

Mr. H. Kusumoto
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
P.O. Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Draft EIS Statement, FHWA-EIS-HI-84-02-D

Moomalu Highway, Pali Highway to
Aiea Interchange, County of Honolulu,
State of Hawaii

We reviewed the subject statement and have no comments to make, but thank you for the opportunity to review this document.

Sincerely,

Stratford L. Whiting
District Conservationist
DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
FT. SHAFFER, HAWAI'I 96819-2345

August 7, 1985

Mr. H. Kusumoto, Division Administrator  
Federal Highway Administration  
Region Nine, Hawaii Division  
P.O. Box 52206  
Honolulu, Hawaii 96806

Dear Mr. Kusumoto:

Thank you for the opportunity to review and comment on the Draft EIS for Moanalua Highway, Pali H(ali Street to Ali`i Interchange, County of Honolulu, State of Hawaii. In relation to flood hazards, we have included for your information, Flood Insurance Rate Maps for Kealakekua and Alex Streams taken from an addendum (draft) to the Flood Insurance Study for the City and County of Honolulu. This study, which is presently in draft form, was prepared in April 1985. It provides more detailed information with respect to Zone A designated sections. At the crossing of Moanalua Road and Kealakekua Stream, the area is designated Zone A, with 100-year flood elevation of 20-25 feet mean sea level (MSL) (Encl 1 and 2). At the limit of the detailed study for Alex Creek, Moanalua Road is shown within an area of Zone A7 designation with 100-year flood elevation of 30-35 feet MSL (Encl 3 and 4).

Sincerely,

[Signature]

Maik Cheung  
Chief, Engineering Division

Enclosures
Mr. H. Kusumoto  
Division Administrator  
U. S. Department of Transportation  
Federal Highway Administration  
Box 50206  
Honolulu, Hawaii  96850

RE: Draft EIS, FHWA-HI-EIS-84-02-D

Dear Mr. Kusumoto:

After giving the Draft EIS Statement for this project a brief review, I have no substantive comments to present. This project will facilitate traffic flow and cut down on congestion, thereby contributing to a decrease in fuel consumption. This should result in a net savings in energy.

I am returning this draft statement and have no desire to receive a copy of the Final Environmental Impact Statement.

Best wishes with the project.

Sincerely,

John W. Shupe, Director  
Pacific Site Office
July 11, 1985

Mr. H. Kusumoto, Division Administrator
U.S. Department of Transportation
Federal Highways Division
Region Nine, Hawaii Division
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

SUBJECT: Draft EIS Statement, FHWA-HI-EIS-84-02-D
Moanalua Highway, Pearl Harbor Street to
Alea Interchange, County of Honolulu,
State of Hawaii

We reviewed the Draft Statement that assesses the impact of
improving a 3.0 mile section of Moanalua Road for potential
impacts on HUD assisted projects in the area.

We find that the proposed action will not impact any HUD
assisted projects in the area and that we will not need a copy of the
Final EIS.

Sincerely,

Calvin Law
Director
Community Planning and
Development Division, 9.2C

cc:
D. James

Mr. H. Kusumoto
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

DRAFT EIS STATEMENT, FHWA-HI-EIS-84-02-D
MOANAULU HIGHWAY, PEARL HARBOR STREET TO ALEA INTERCHANGE
COUNTY OF HONOLULU, STATE OF HAWAI'I

The subject Draft EIS forwarded by your letter of June 24, 1985 has been
reviewed and we have no additional comments to offer at this time.

Please provide us with a copy of the Final Environmental Impact Statement.
Thank you for the opportunity to review the Draft EIS.

Sincerely,

R. F. Mckee
Chairman, U.S. Navy
Admiral, Committee
OCT 23 1985

Mr. H. Kusumoto
U. S. Dept. of Transportation
Federal Highway Administration
Box 58206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Ho'omaluhia Road from Pali Hwy Street
to Aliolani Interchange

We have reviewed the subject document and have no comments to offer.

Very truly yours,

Tetsu Tominaga
State Public Works Engineer

cc: Ms. Lestlia H. Uyehara
Mr. Russell L. Smith, Jr.

MEMORANDUM

To: Mr. H. Kusumoto
U. S. Department of Transportation
Federal Highway Administration

Subject: Draft Environmental Impact Statement (EIS) for Ho'omaluhia Road from Pali Hwy Street to
Aliolani Interchange

Department of Public Works
City and County of Honolulu
THK: 9-1-82: 15, 25, 29, 30

The Department of Agriculture has reviewed the subject
Draft EIS and does not have any comments to offer.

Thank you for the opportunity to comment.

Jack K. S uda
Chairman, Board of Agriculture

OCC: Department of Public Works, CAC of Honolulu
HIDMG

JUL 3 1985

Mr. H. Kusumoto
U. S. Dept. of Transportation
Federal Highway Administration
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Ko'olau Road from Pali Hioi Street to Aiea Interchange
Aiea, Oahu

Thank you for providing us the opportunity to review the above subject development.

We have completed our review and have no comments to offer at this time.

Yours truly,

[Signature]

Jerry T. Nakama
NAPA, Naval Air
National Guard
State & Region Office

Enclosure

c: Office of Environmental Quality Control

U.S. Department of Transportation
Federal Highway Administration
Region Nine
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Sir:

Reference your letter dated June 24, 1985. Subject: Draft EIS Statement, EIS-NP-HI-
EIS-84-02-00 Ko'olau Highway, Pali Hioi Street to Aiea Interchange, County of Honolulu, State of Hawaii.

In response to your letter, we submit a negative reply.

Sincerely,

[Signature]

H.N.P. Kook
Principal

NMPL:vt
Mr. H. Kusumoto
U.S. Dept. of Transportation
Federal Highway Administration
P.O. Box 50306
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

SUBJECT: Environmental Impact Statement
Hawaii Interchange
Pali Highway from Kamehameha Highway to

We have no further comments to add to our earlier response
on the subject EIS. We note that our comments and the response
from the Department of Public Works, City and County of Honolulu,
are incorporated into the EIS.

Should there be any questions, please contact Mr. Howard
Lau at 737-4743.

Sincerely,

Francis H. Hataoka
Superintendent

cc: V. Honda, OBS
    C. Kuwada, Central Dist.
    R. Smith, CEC of Honolulu

AN EQUAL OPPORTUNITY EMPLOYER
Mr. Heloshi Kusumoto  
Division Administrator  
Federal Highway Administration  
P.O. Box 50206  
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Moanalua Road Draft EIS

We have reviewed the draft EIS for the Moanalua Road project from Pali Hana Street to Aiea Interchange and concur with the subject project. As stated in the draft EIS, improvement of Moanalua Road within the study limits is assumed in OMPO's proposed long-range transportation plan update for Oahu.

Thank you for the opportunity to review the draft EIS.

Sincerely,

Gordon G.W. Lum  
Executive Director

---

Mr. H. Kusumoto  
Division Administrator  
U.S. Department of Transportation  
Federal Highway Administration  
Region Nine, Hawaii Division  
Box 50206  
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Draft EIS Statement, FHWA-HI-EIS-84-02-9  
Moanalua Highway, Pali Hana Street to Aiea Interchange, County of Honolulu, State of Hawaii

In reply to your letter to Dr. Lawrence Plette of June 24, 1985, we see no clear health risks related to cancer associated with this proposed work.

Sincerely,

Laurence N. Nolan, Ph.D., M.D.  
Acting Executive Director

LNM:abb
Mr. H. Kusumoto
U.S. Dept. of Transportation
Federal Highway Administration
950 North Capitol Street, Room 200
Washington, DC 20590

Dear Mr. Kusumoto:

SUBJECT: Draft Environmental Impact Statement (EIS) for the Maunaloa Road Improvements from Pali Highway to Alea Interchange, County of Honolulu, State of Hawaii, June 1985.

We have reviewed the subject draft EIS and have no comments to offer. Thank you for the opportunity to comment. This material was reviewed by NHC personnel.

Sincerely,

Edwin T. Murabayashi
EIS Coordinator

cc: Russell L. Smith

Mr. Letitia N. Uyehara
Office of Env. Quality Control
550 Nahekuwai St., Room 201
Honolulu, Hawaii 96813

Mr. Kusumoto:

Subject: Your Letter of June 24, 1985 on the Draft Environmental
Impact Statement (EIS) for the Maunaloa Road Improvements
from Pali Highway to Alea Interchange.

Thank you for allowing us to review the environmental document
for the proposed roadway improvements. We have no objections to
the project.

As noted in the report, we plan to install a 36-inch main within
a short section of the roadway which is being coordinated with
the Department of Public Works.

If you have any questions, please contact Lawrence Khang at
527-8138.

Very truly yours,

for EAU HAYASHI
Manager and Chief Engineer

cc: Russ Smith, Jr.
Department of Public Works

AN EQUAL OPPORTUNITY EMPLOYER
July 10, 1985

Mr. H. Kusumoto
U. S. Department of Transportation
Federal Highway Administration
Box 5026
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Draft EIS, FHWA-HI-EIS-84-02-D
Moanalua Road from Pali Hono Street to Aiea Interchange
Aiea, Oahu

We have reviewed the subject draft EIS for the Moanalua Road (Pali Hono Street to Aiea Interchange) project and have no comments.

Thank you for the opportunity to review the draft EIS.

Very truly yours,

HERBERT K. HIRAOKA
Director and Building Superintendent

cc: J. Hacada
Public Works Dept.

July 25, 1985

Mr. H. Kusumoto
U.S. Dept. of Transportation
Federal Highway Administration
Box 5026
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

RE: Draft EIS Statement, FHWA-HI-EIS-84-02-D
Moanalua Highway, Pali Hono Street to Aiea Interchange,
County of Honolulu, State of Hawaii.

We have reviewed the draft EIS. The proposed highway improvement is on the Primary Urban Center Development Plan Public Facility Map. This essentially means that the City and County of Honolulu has formally recognized the need for this highway improvement in its land use policy planning.

Thank you for the opportunity to comment.

Yours truly,

GEORGE AKAMANE
CHAIRMAN
CITY COUNCIL

cc: Lelitia W. Uehara, OEQC with enclosure
Russell Smith, DPW
August 13, 1985

Mr. H. Kusumoto
U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Environmental Impact Statement
Mamala Road from Pali Hilo Street to Aina Interchange
Ala, Oahu

Thank you for your letter of June 24, 1985 requesting our comments regarding the EIS.

As you are aware, we had previously (October 3, 1983) submitted our response to the preparation notice for the subject proposal and we have no comments to offer but do appreciate the opportunity to review.

We will retain the EIS for our files.

Sincerely,

Alvin K. Pang

cc: Mr. Russell L. Smith, Jr.
Department of Public Works

July 5, 1985

Mr. H. Kusumoto
U.S. Department of Transportation
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Ms. Letitia A. Uyehara
Office of Environmental Quality Control
State of Hawaii
340 Kamehameha Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Kusumoto and Ms. Uyehara:

Mamala Road Draft Environmental Impact Statement (EIS)
Mamala Road from Pali Hilo Street to Aina Interchange

We have reviewed the above Draft EIS and find that it adequately addresses our concerns. We are returning the document herewith.

Very truly yours,

John P. Whalen
Director of Land Utilization

cc: DPW
Mr. M. Kusumoto  
U.S. Department of Transportation  
Federal Highway Administration  
P.O. Box 50206  
Honolulu, Hawaii 96806

Dear Mr. Kusumoto:

Subject: Environmental Impact Statement for Improvements to Moanalua Road

The proposed improvements to Moanalua Road will not have any impact on recreational facilities in proximity to the project route.

Thank you for the opportunity to review the completed Environmental Impact Statement.

Sincerely yours,

Tom Nakata, Director

cc: Ms. Letitia N. Uyehara  
Office of Environmental Quality Control  
Mr. Russell L. Smith Jr.  
Director & Chief Engineer City & County of Honolulu, Department of Public Works

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Mr. H. Kusumoto  
U.S. Department of Transportation  
Federal Highway Administration  
P.O. Box 50206  
Honolulu, Hawaii 96806

Dear Mr. Kusumoto:

Subject: Environmental Impact Statement Preparation Notice for Moanalua Road from Pali Highway Street to Ala Interchange

Thank you for the opportunity to review and comment on the subject document.

We have no objection to the proposed project and have no further comment at this time.

Sincerely,

[Signature]

Terrell L. Kawa  
Deputy Director Designate

cc: Ms. Russell L. Smith, Jr.
July 9, 1983

Mr. H. Kusumoto
U. S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Subject: Hoonalua Road From Pali Hoii Street to Aiea Interchange, City and County of Honolulu, State of Hawaii

We have completed our review of the draft EIS for the proposed Hoonalua Road from Pali Hoii Street to Aiea Interchange project and have concluded that we do not have any objections to the project at this time.

Thank you for giving us the opportunity to respond.

Sincerely,

DOUGLAS G. GIBB
Chief of Police

Mr. Heleshi Kusumoto
Administrator, Hawaii Division
Federal Highway Administration
U. S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Dear Heleshi:

Thank you for providing me a copy of the Draft Environmental Impact Statement for the proposed construction of Hoonalua Highway between Pali Hoii Street and Aiea Interchange on Oahu. Upon review, however, I have no comments to offer in its regard.

Aloha and best wishes.

Sincerely,

SPARK M. MATSUHAGA
Chief

United States Senate
WASHINGTON, DC 20510
July 16, 1983
July 1, 1985

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
Box 30206, Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

Thank you for asking us to comment on the Moanalua Highway improvements.

We have no comments to offer other than agreeing that improvements are needed and those proposed seem highly appropriate.

Very truly yours,

[Signature]

William A. Grant
Executive Director

July 12, 1985

Mr. H. Kusumoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
Box 30206, Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Draft EIS Statement, FHWA-HI-913-84-02-D
Moanalua Highway, Pali Momi Street to Alii Interchange, County of Honolulu, State of Hawaii

Thank you for the opportunity to review the above document.

Because there are no historic or archaeological sites within the project, we have no comment to make.

However, if any unknown sites should be uncovered, the contractor should halt work and notify the State Historic Preservation Office.

With all best wishes on the project which will enhance transportation along the Moanalua Highway.

Sincerely yours,

[Signature]

William Grant
Executive Director

Phyllis O'Keefe
President

P.O. Box 30206, Honolulu, HI 96823
July 16, 1985

Mr. Hiroshi Kusunoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
M.O. Box 50206
Honolulu, Hawaii 96850

Re: EIS-Moanalua Road Project

Dear Mr. Kusunoto:

Upon review of the draft EIS of the above mentioned project and as affected property owner, identified by PMG 9-001-05-11, I favor Alternative II.

Having waited this long period, I believe the highway should be built to adequately accommodate the heavy flow of auto traffic passing through this road.

Please place me on the list of individuals desiring a copy of the final EIS.

Sincerely,

[Signature]

Mrs. Theodore Crocker
President

July 25, 1985

Mr. Hiroshi Kusunoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
M.O. Box 50206
Honolulu, Hawaii 96850

Mr. Hiroshi Kusunoto
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
M.O. Box 50206
Honolulu, Hawaii 96850

Re: EIS-Moanalua Road Project

Upon review of the draft EIS of the above mentioned project and as affected property owner, identified by PMG 9-001-05-11, I favor Alternative II.

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Sincerely,

[Signature]

Mrs. Theodore Crocker
President

[Signature]

Tadashi Kaneko
90-1175 Aliue Street
Aiea, HI 96701
As stated earlier in Section VI, there are no known historic or archaeological sites within the project area. The State Historic Preservation Officer has indicated that the project does not affect any historic properties which are listed on the Hawaii Register or the National Register of Historic Places, however, a few plantation homes along the project alignment are eligible for inclusion on the National Register of Historic Places.

The State Historic Preservation Officer has determined, in concurrence with the Federal Highway Administration, that the proposed project will not have any effect on the historic character of those buildings.

Documentation of this agreement is provided in the following pages.
April 4, 1986

Mr. Kee Kim
Environmental Communications, Inc.
P.O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Kim:

It has come to our historic preservation program's attention that several houses of possible historic significance appear to be within the project area of the proposed Moanalua Road widening. These houses are not currently listed in the National Register of Historic Places, and therefore we recommend that a survey be undertaken to identify and evaluate the houses in the vicinity of 99-028 through 99-104 Moanalua Road. This survey should include sufficient historical information pertaining to the houses so our agency and the Federal Highway Administration might be able to place the houses within their historical context and ascertain if any significant properties exist within the project area.

Sincerely yours,

[Signature]

SUSUKU ONO
Chairperson and State Historic Preservation Officer
Mr. Susumu Ono  
Chairperson and State Historic  
Preservation Officer  
State of Hawaii  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, HI 96809

Dear Mr. Ono:

Subject: Moanalua Road Project Survey of Homes for Historical Significance

In accordance with your letter dated April 4, 1986, concerning the possible historical significance of several homes within the Moanalua Road project area, we have conducted a survey to identify and evaluate the houses in the vicinity of 99-028 through 99-104 Moanalua Road. The locations of the homes surveyed are shown on the attached copy of the TKK 9-9-38.

A survey of the records by the City and County Department of Public Works, Division of Land Survey and Acquisition (copy attached) revealed that the properties and improvements thereon, were sold by the Oahu Sugar Company between 1952 and 1954. The records also show that in 1961 through 1963 some of the homes were reported to be from 23 to 34 years old, therefore, currently, some of these homes could be from 48 to 58 years old.

We contacted the Oahu Sugar Company to determine if records on these dwellings were available and spoke to a Mr. Yoshioka, an old timer who is soon to retire. Mr. Yoshioka can recall when the houses were constructed and resides in a similar dwelling outside the project area. According to Yoshioka, the houses were constructed by the Honolulu Plantation Company for their employees. The Oahu Sugar Company took over Honolulu Plantation Company in 1947 and at that time Yoshioka recalls that the records were "plenty" damaged by termites. Yoshioka volunteered to search for records on the homes and later reported that he was unable to locate anything. It is concluded that the records of these dwellings were either lost in the transfer from Honolulu Plantation to Oahu Sugar, damaged by termites, or destroyed by Oahu Sugar upon sale of the properties to the various owners.

On April 28, 1986, a visual survey of the homes was conducted by Mr. John Yoders, an architect licensed in the State of Hawaii. Mr. Yoders' report on these structures is as follows:

The homes were originally built as Plantation Housing; however, their visual appearance for historical significance should not be based wholly on building "style" but on the siting as a small village-like group as well.
What remains of the original siting are a random lot of homes, mostly remodeled, in bad state of repair or having been replaced with a number of newer "builder-type homes" of a fairly recent era. The four plantation examples remaining have vertical single board or narrow horizontal siding, hip roofs, boxed framed double-hung and casement windows and shaped roof rafter ends and are very insignificant to the total neighborhood appearance. Further, these houses are not unique architectural examples of their era and better examples of their era and better examples exist elsewhere on Oahu.

It can be concluded from the above that records of the dwelling structures are no longer in existence and that the structures are not architecturally significant. Further, although these dwellings are adjacent to the project, the highway plans show that they will not be affected by the project.

Very truly yours,

F. J. Rodriguez

FJRils

enclosure

cc: Tony D'Alessio
Mr. Susumu Ono  
Chairperson and State Historic  
Preservation Officer  
State of Hawaii  
Department of Land and  
Natural Resources  
P. O. Box 821  
Honolulu, Hawaii 96809

Dear Mr. Ono:

Subject: Hawaii Project K-7200(1), Moanalua Road Widening,  
Pali Homi Street to Aiea Interchange

As a result of comments received on the project Draft  
Environmental Impact Statement, we requested that the City and  
County of Honolulu complete a reconnaissance survey to identify  
potentially historic structures along the proposed widening of  
Moanalua Road between Pali Homi Street and the Aiea Interchange.  

By letter dated April 4, 1986, a similar request was made by you  
to the City's consultant, Mr. Keo Kim of Environmental  
Communications, Inc.

Mr. F. J. Rodriguez of Environmental Communications, Inc.  
responded to your April 4, 1986 letter by transmitting field data  
gathered by Mr. John Yoders, who is a licensed architect with  
the consultant firm of Parsons, Brinckerhoff, Quade & Douglas.  
Mr. Yoders reported that the plantation-type dwelling structures  
which are located along the proposed roadway widening are not  
unique architectural examples of their era and that better  
examples of their era exist elsewhere on Oahu. In addition,  
although these dwellings are adjacent to the project, the  
currently proposed highway widening plans show that new  
additional rights-of-way will not be required from any portion of  
these properties.

Copies of your letter of April 4, 1986 and Mr. Rodriguez's letter  
of May 1, 1986 are enclosed for your ready reference.
Based on our review of Mr. Johnson's report and the City's project design report, we have determined that the plantation-type dwellings along the proposed roadway widening are outside the area of the project's environmental impact as defined in 36 CFR 800.2(b); therefore, historic property eligibility determinations and protective provisions of 36 CFR Part 60 and Part 800, respectively, do not apply.

We request your concurrence in our determination.

Sincerely yours,

[Signature]

E. Kusumoto
Division Administrator

Enclosure
October 6, 1986

Mr. H. Kusumoto, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Kusumoto:

As you and Ralston Nagata discussed on October 1, 1986, our office believes the plantation houses located along the proposed Moanalua Road widening meet the criteria for listing in the National Register of Historic Places. Please inform us, if FHWA disagrees with this determination. Assuming FHWA agrees, this is to inform you that we concur with FHWA's determination that the proposed project will have no effect upon the historic character of these buildings.

Sincerely yours,

SUSUMU ONO
Chairperson and State
Historic Preservation Officer

State of Hawaii
Department of Land and Natural Resources
EDK-HI Division Administrator

I agree the Plantation houses meet the criteria for listing. I appreciate your concurring that there is no effect upon the historic character of the plantation houses.
<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-9-38-38</td>
<td>D 12/1/52 for Dahu Sugar 2648/164 12/18/52 to Matsuioka, Shigeru &amp; Wakako TE</td>
<td>New dwelling Permit #9370</td>
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<td>9-9-38-40</td>
<td>D 8/1/52 for Dahu Sugar 2622-179 9/19/52 to Kawaichi, Benjamin &amp; Laura TE</td>
<td>Built approx. 1953 No Permit #</td>
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<td>9-9-38-46</td>
<td>D 12/15/53 for Dahu Sugar 2776-82 12/30/53 to Miyasato, Morris &amp; Helen TE</td>
<td>9 dwellings</td>
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<td></td>
<td>1. 1962 - approx. 34-years old. No Permit #</td>
<td></td>
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<tr>
<td></td>
<td>2. Permit #135560 5/23/57</td>
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<td>3. 1962 - approx. 24-years old</td>
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<td></td>
<td>4. 1962 - approx. 34-years old No Permit #</td>
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<td>5. 1962 - approx. 23-years old</td>
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<td>6. 1962 - approx. 34-years old</td>
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<td>7. 1962 - approx. 24-years old</td>
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<td></td>
<td>8. Permit #150136 10/31/58</td>
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<td>9. Permit #200047 10/1/62</td>
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<td>9-9-38-51</td>
<td>D 11/1/53 for Dahu Sugar 2773-101 12/22/53</td>
<td>Permit #100440 4/16/71 to Gibo, Kennyse</td>
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<tr>
<td>9-9-38-52</td>
<td>D 3/15/54 for Dahu Sugar 2813-340 4/20/54</td>
<td>No Permit #</td>
</tr>
</tbody>
</table>

1961, approx. 33-years old
XVII. REFERENCES


4. Final EIS for Kalauao Stream Flood Control Project; Department of Public Works, City & County of Honolulu; May, 1975.


7. Conversation with C&H Refinery regarding effluent discharge into Aiea Stream; Chemistry Section; November 2, 1983.

8. Revised EIS for the Aiea Stream Flood Control Project; Department of Public Works, City & County of Honolulu; July, 1977.


12. General Plan; City & County of Honolulu; November, 1982.

13. Development Plan, Primary Urban Center, Ordinance 82-32; City & County of Honolulu; July, 1982.


16. 23 USC 109 (n); Highways.


19. Ordinance No. 80-62, Relating to Flood Hazard Districts; City & County of Honolulu.


ADDITIONAL REFERENCES


An Analysis of the Magnitude and Frequency of Floods on Oahu, Hawaii, USGS, WR 80-45, June 1980.

Storm Drainage Standards, City and County of Honolulu, March 1969.


XVIII. INDEX

-A-
Air Quality
Alternatives
V-6, V-7, VI-8, VI-9
I-1, I-3, I-4, IV-1, IV-2, IV-4,
IV-5, IV-6, IV-7, IV-8, IV-9,
IV-10, IV-11, IV-12
XIII-1

-B-
Approvals/Permits

-C-
Bicycle
VI-4, VI-6, VI-7

-D-
Coastal Water Quality
Coastal Zone
Community and Culture
VI-19
VI-19
V-13, V-14, VI-1, VI-2

-D-
Description of the Existing Corridor
III-1, III-2, III-3, III-4, III-5,
III-6
I-1
V-15, VI-21, VI-22

-E-
Description of the Proposed Action
Drainage

-E-
Economic Setting
Electrical Systems
Endangered Species
Energy Consumption
III-8, V-13, VI-1, VI-2
V-16, V-17
V-5, VI-23
VI-12, VI-13, VI-14

-F-
Fauna
Fire Protection
Flood Plains
Flora
V-5
V-11
VI-14, VI-20
V-5

-G-
Gas Systems
Geology
V-16
V-1

-H-
Historical/Archaeological Sites
V-6, VI-28, VI-29, XVII-1

-I-
Irreversible and Irretrievable Commitments of Resources
X-1

XVIII-1
Landscaping
Land Use
- L -
I-1
VI-3, VI-4

Noise Quality
- N -
V-6, V-7, V-9, VI-10, VI-11, VI-12

Physical Setting
Police Protection
Population
Preparers of the EIS
Public Education
- P -
V-1, V-15
V-11
V-9, V-10
XI-1
V-11, V-12, V-13

Rainfall
Regulatory Characteristics
Relationship Between the Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity
Right-of-Way
- R -
V-3
XIII-1
VI-26, VI-27

Scenic View
Section 404
Sewer Systems
Soils
Surface Water Hazard
Surface Water Quality
- S -
VI-8
I-4, XIII-1
V-15
V-1, V-2
VI-21, VI-22, VI-23
VI-21, VI-22, VI-23

Telephone
Temperature
Topography
Traffic
- T -
V-16
V-3
V-1
III-2, III-3, III-4, III-7

Unresolved Issues
- U -
I-4, XII-1

Water Systems
Wetlands
Wild and Scenic Rivers
Wind
- W -
V-15
VI-20
VI-14
V-3

XVIII-2
MOANALUA ROAD PROJECT

PALI MOMI STREET TO AIEA INTERCHANGE

ALTERNATIVE EVALUATION AND RECOMMENDATION

INTRODUCTION

The purpose of this report is to evaluate the Moanalua Road alternatives which were presented in the project Draft Environmental Impact Statement (DEIS) and at the Public Informational Meeting and Public Hearing held on August 8, 1985 and August 15, 1985, respectively.

The evaluation includes consideration of public input and environmental impacts.

DESCRIPTION OF ALTERNATIVES

During the preliminary stage of this project, eight alternatives were developed. After comments were received on the Preparation Notice for the DEIS, these were narrowed down to four build alternatives, plus no-build. Development of these alternatives were based on four basic criteria:

1. Be consistent with the Long Range Transportation Plan.
2. Avoid major relocation of businesses and residences.
3. Maintain access to properties along Moanalua Road.
4. Provide reasonable operational characteristics.

The four build alternatives are described in greater detail in the Draft E.I.S., therefore the reader is referred to Chapter IV of that document, however they are summarized as follows:
a. No-Action (no-build) but maintenance activities would be necessary.
b. Alternative I - Transportation Systems Management actions (TSM).
c. Alternative II - Eighty foot right-of-way with 64 feet curb to curb - five 12 foot wide lanes with middle two-way left turn lane.
d. Alternative III - Seventy foot right-of-way, 54 feet curb to curb - 4 lanes, 12 foot through lane and 13 foot curb lane.
e. Alternative IV - Seventy foot right-of-way, 54 feet curb to curb, five 10-foot wide lanes with middle two-way left turn lane.

PUBLIC INPUT ON ALTERNATIVES

Meetings with the following organizations were held to provide information, receive input and discuss concerns about the project:

Aiea Town Meeting - February 23, 1983
Aiea Neighborhood Board - September 19, 1983
Aiea Nutritional Site - September 29, 1983
Aiea Seventh-Day Adventist Church - October 4, 1983
Aiea Town Meeting - February 24, 1984

In accordance with 23 CFR Part 790, a Public Informational Meeting and a Public Hearing were conducted on August 8 and August 15, 1985, respectively.

The project Draft Environmental Impact Statement was released on July 8, 1985 to the State Environmental Quality
Commission (EQC) and notices of availability of the DEIS appeared in the EQC Bulletin on July 8. Legal notices also appeared in the Sun Press, the Star Bulletin and the Advertiser on July 11, 1985. The commenting period for both the DEIS and the Public Hearing expired on August 26, 1985.

**EVALUATION OF PUBLIC INPUT**

The concerns, questions, comments and issues which were received during the DEIS and Public Hearing process have been summarized and are attached hereto. Major concerns which could involve the selection of an alternative or design of the selected alternative are summarized as follows:

**Concerns:**

- Erosion Control and Sedimentation control.
- Upstream migration of aquatic fauna.
- Community noise.

**Evaluation**

Concerns for erosion and sediment control could affect the design or selection of the Kalauao Stream crossing but have little or no bearing on the selection of the alternative. Erosion control measures may be used to mitigate any potential sedimentation hazards, and the selection of the crossing type could also have a bearing on the erosion potential. Crossing type will be determined during the design stage and will require a structure evaluation and cost study.

Upstream migration of aquatic fauna may be accommodated by providing a low-flow notch in a culvert crossing, as recommended by the U. S. Fish and Wildlife Service, or by
providing a bridge crossing which would have very little impact on the existing streambed. This concern does not affect the selection of the alternative but would also have some bearing on the type of stream crossing provided for the selected alternative.

Community noise concerns may be mitigated by various techniques (walls, air conditioning, insulation, etc.) and so should not influence selection of the alternative. Alternatives II, III and IV will increase noise impacts, but noise levels at sensitive receptors will not exceed federal criteria west of Aiea Heights Drive, and east of Aiea Heights Drive federal criteria may be exceeded by 1 dB, which is so small that it may not require mitigation. If mitigation is required, barrier walls or air conditioning may be used.

Comment

Aiea Neighborhood Board recommends Alternative III except eliminate turn pockets between Honomanu Street and Kauhale Street. Between Laulima Street and Aiea Interchange improve curbs and sidewalks but leave roadway as is. Reduce lane widths to 11 feet.

Evaluation

Elimination of turn pockets will not provide an adequate level of service at the intersections, because vehicles making left turns will be stopped in the left lane and will thus reduce capacity of the lane.

In the section from Laulima Street to Aiea I/C, leaving the existing roadway configuration as is could be a
consideration. The homes on the makai side would be impacted by any widening in this area and would lose their carports and/or parking areas. Reduction of lane widths to 11 feet in this area could also help to mitigate impacts.

Comment

Rep. Tom Okamura recommends Alternative IV except from Laulima Street to Aiea Interchange the existing roadway should remain at four lanes to avoid impact to residents.

Also recommends that consideration be given to a connection from Puakala Street to Kaimakani Street because of the problem with the Puakala/Moanalua Road intersection (sight distance restricted due to roadway curvature).

Also recommends further study of the Hale Momi/Moanalua Road intersection to improve left turns onto Moanalua Road.

Evaluation

Rep. Okamura's recommendation to maintain the existing section from Laulima Street to Aiea I/C coincides with that of the Neighborhood Board and, therefore the evaluation is the same. This comment also seems to reflect a community attitude or perception that this particular section does not significantly contribute to the traffic problems in the study area, and/or that there are possibly TSM solutions in this section which could improve existing conditions without major impact on adjacent residences. However, the recommendation to leave this section basically intact limits the possible solutions to the problem at the Puakala Street intersection. A possible solution at Puakala Street would be to eliminate
left turns from Puakala to Moanalua Road, however this should be reviewed with regard to impacts to Puakala residents.

The remaining large majority of the comments were mostly comments on environmental issues, impacts to existing residences and utilities, and editorial type comments on the Draft Environmental Impact Statement which have no bearing on the alternative selection or the design. Appropriate responses to comments will be provided in the Final EIS. No comments received on the DEIS could be classified as cause for major study or re-evaluation, and none of the Public Hearing comments rejected all of the build alternatives or recommended "No-Build".

Only one individual recommended Alternative I, although for the section from Kauhale Street to Aiea Interchange several individuals, Representative Okamura and the Aiea Neighborhood Board seem to favor some TSM type improvements to avoid impacts to adjacent residences.

Several individuals (4), one business association and one church favor Alternative II.

The Aiea Neighborhood Board favors Alternative III with modifications as discussed above.

Representative Okamura and the Wilcoxes favor Alternative IV, also with modifications mentioned above.
EVALUATION OF ALTERNATIVES

This project is needed to improve this 0.8 mile gap section of Moanalua Road between Pali Momi Street and Aiea Interchange, which is the last remaining section of an overall 3.3 mile improvement program. The project would then help to alleviate problems related to traffic capacity and volumes while increasing safety for all users of the roadway, vehicular and pedestrian alike. Future traffic volumes for the year 2005, which form the basis of the capacity evaluation, are expected to increase about 11 percent from current demands, and the existing section, which is currently inadequate, will be even more so in the future if improvements are not made.

The development of the alternatives was based on four basic criteria, as follows:

1. Be consistent with the Long Range Transportation Plan and complement the other transportation facilities in the surrounding area.

2. Avoid major relocation of businesses and residences.

3. Maintain access to properties along Moanalua Road.

4. Provide reasonable operational characteristics.

From DEIS comments and Public Hearing testimony, it appears that the majority of roadway users and area residents favor some type of improvement. Therefore, the Do-Nothing alternative is not a consideration. Furthermore it does not satisfy Criteria 1 and 4.

Alternative I, the TSM improvements, was recommended by only one individual. However, several persons recommended
reduced widening or no widening in the section from Laulima Street to Aiea Interchange, and TSM improvements would therefore be appropriate in this section, under those conditions. For the section from Pali Momi Street to Laulima Street this alternative does not satisfy Criteria 1, and will not satisfy Criteria 4 for the future year 2005 traffic demands.

Alternative II is a widening to full 80-foot wide right-of-way with 64 feet curb to curb and five lanes, with a center left turn lane. This alternative was recommended by more people who provided public hearing input than any other alternative, although the Public Hearing format is not an opinion survey. This alternative satisfies all four criteria, however, with regard to relocations, one residence would be taken and one business may be taken. These relocations, however, cannot be considered major. The resident owner of the impacted parcel will be compensated and aided by the City and County in locating a new home in or near Aiea, and it may be possible to shift the business (Pete's Taxi) from its present location at little cost, thereby maintaining its location and clientele. However, only moving costs for businesses are reimbursed, so some difficulty may be encountered in this regard. Other factors favoring this alternative are:

1. Existing right-of-way is already 80 feet for most of the improvement section, although some additional r.o.w. is required.

2. This cross-section is consistent with the existing improved section Ewa of Pali Momi Street.
Alternative III is a widening to a 70 foot right-of-way with 54 feet curb to curb and four lanes. This alternative was recommended by the Aiea Neighborhood Board with modifications such as: elimination of left turn lanes between Honomanu Street and Kauhale Street; leaving the roadway as is between Laulima Street and Aiea Interchange; and, reducing the lane width to 11 feet to reduce speeding. This alternative also satisfies all four of the basic criteria.

Factors favoring Alternative III include reduced right-of-way impacts, improved traffic service and safety, and no residential relocations, however Pete's Taxi would be impacted.

Factors which detract from this alternative include lack of a left turn lane thereby making access to residences more difficult while somewhat reducing safety. Also, the through traffic movement in the townbound direction is restricted to one lane where the median lane becomes a left turn only lane (at Kaamilo Street and Alvah Scott Elementary School).

Alternative IV is also a widening to a 70 foot right-of-way and 54 feet curb to curb, however five 10-foot wide lanes are provided with a middle two-way left turn lane. This alternative was recommended by Representative Tom Okamura and one other family, and also satisfies the four basic criteria. Rep. Okamura's recommendation had exceptions concerning the section from Laulima Street to Aiea Interchange where he recommended keeping that section at four lanes to reduce impact on residences.

Factors which favor Alternative IV include reduced right-
of-way impacts, improved traffic service including a middle left turn lane for improved safety and access to adjacent residences, no residential relocations and impact only on Pete's Taxi.

Factors detracting from Alternative IV include reduced lane width (10 feet, with 2-foot gutters on curb lanes).

RECOMMENDATION

Alternative I does not satisfy two of the four basic criteria and therefore it is recommended that it be dropped from further consideration. The three remaining widening alternatives improve capacity and operational characteristics to relatively similar levels and vary only in cost, overall width and laneage configuration. As the difference in cost is less than $700,000, ($5,529,000 to $6,223,000) this factor should not affect the decision. The five lane configuration must be given preference over a four lane configuration from an operational and safety standpoint, and it also provides the greatest degree of flexibility for future adjustments, if required. Further, the five lane configuration with its middle left turn lane provides better access to Moanalua Road properties than the four lane configuration, and therefore satisfies Criteria 3 better than the four lane alternative.

The recommendation then focuses on Alternatives II or IV, both of which are 5 lanes. The difference between these two is a total of 10 feet in the width of right-of-way, and a difference in lane widths of 2 feet (12 feet versus 10 feet). From the operational and safety perspective, taking into consideration the horizontal and vertical curvature of the road, the 12 foot wide
lane is preferable because it provides a wider margin for driver error.

Between Alvah Scott Elementary School driveway to Aiea Heights Drive, the 80 foot right-of-way has already been acquired. Between Pali Momi Street and Alvah Scott the alignment of all alternatives was adjusted to minimize impacts on the Bethany Assembly of God Church and other residences, and this resulted in additional right-of-way acquisition requirements. Whether the right-of-way width is 70 feet or 80 feet, the same driveways and front yards will be impacted, although to different degrees, and the owners and residents will be equally inconvenienced during construction.

The 80-foot right-of-way will also require taking of one residence. This residence would also be impacted by the 70-foot right-of-way, but a portion of one wall of the home could be reconstructed under this alternative and the home salvaged. It is felt that the negative impacts of the 70-foot right-of-way on this residence could also be enough to justify a taking.

In view of the above discussion, it is recommended that Alternative II be selected for the section from Pali Momi Street to Aiea Heights Drive.

From Aiea Heights Drive to Aiea Interchange there were sufficient Public Hearing comments on the impacts of right-of-way taking to register concern. Under Alternative II, there would be impact to properties on the makai side, between Uahi Street and Aiea Interchange, and on the mauka side at the intersection of Puakala Street. Also affected would be St. Elizabeth's Church.
and school property and the service stations on both sides, between Laulima Street and Uahi Street. Impacts on all of these could be reduced by going with the 70-foot right-of-way, Alternative IV in this section. Impacts could be further reduced between Uahi Street and Aiea Interchange by eliminating the left turn pocket into Uahi Street and the median separation at Aiea Interchange. It is therefore recommended that between Aiea Heights Drive and Aiea Interchange, Alternative IV be adopted with modifications as discussed above.

The Puakala Street intersection as discussed by Rep. Okamura, continues to be a problem which is not easily solved unless Moanalua Road is widened to five lanes in this area. However, the overall right-of-way width required by five lanes creates impacts to properties on the makai side. To improve safety, it is recommended that turning movements at the Puakala-Moanalua Road intersection be limited to right in, right out. There is no solution to the limited sight distance at this intersection other than property acquisition from St. Elizabeth's or a complete shift in the location of the Aiea Interchange towards Pearl Harbor. However, this would also involve impacts to properties on the makai side of Moanalua between Uahi Street and Aiea Interchange.
I. DEIS COMMENTS

1. City and County Fire Department.
   Consideration should be given for fire apparatus
   accessibility, notice of construction to Fire Alarm
   Bureau.

2. Historic Hawaii Foundation.
   Notify the State Historic Preservation Officer if
   unknown sites should be uncovered (during construction).

3. City and County Dept. of General Planning.
   a. Omitted definition of Level B service (pg. IV-15).
   b. Percentage of project cost funded by Federal, State
      and City should be included in Table 4, page IV-17.
   c. Page V-1, project contour elevations incorrectly
      stated.
   d. Duration of construction period should be indicated.

4. State of Hawaii Office of Environmental Quality Control
   Notify residents whose property will be acquired along
   Moanalua Road, that an EIS is available for review.

5. State of Hawaii Dept. of Land and Natural Resources.
   Adequate erosion control/sedimentation control measures
   should be implemented to protect the quality of stream
   waters.

6. City and County Board of Water Supply.
   The plan to install a 36-inch water main within a short
   section of the roadway is being coordinated with D.P.W.

7. Tadashi Kaneko
   Favor Alternative II, to accommodate heavy flow of
   traffic.
8. **U. S. Dept. of the Interior - Fish and Wildlife Service.**
   
a. Culverts can impede upstream migration of native aquatic fauna, therefore a bridge crossing of Kalauao stream is recommended.

b. If a bridge structure cannot be constructed, a low flow notch should be built to allow upstream migration.

c. The EIS should clarify how improved curbs and gutters will reduce sediment and debris in the runoff.

9. **Hawaiian Electric Co.**
   
a. On page V-16, the reference to concrete poles is incorrect.

b. Future 138 kv lines will be required out of Waiau and those may "traverse the project area".

10. **Hawaiian Telephone Co.**

Existing underground and overhead telephone lines may require relocation.

11. **State of Hawaii Dept. of Health**

   a. Dust control measures should be fully implemented and rigorously enforced.

   b. There are concerns for noise impacts from increased vehicular volumes.

   c. Construction activities must comply with rules with regard to community noise.

12. **Oceanic Cablevision**

Relocation of CATV facilities will be required.

13. **U. S. Environmental Protection Agency**

   a. Recommend more detail in discussion of erosion control and water quality.

   b. E.P.A. classified DEIS category LO.

   c. If a Section 404 permit is required, EPA will review the project for compliance with 40CFR230.
14. **Dept. of the Army - U. S. Army Engineer District, Honolulu.**

Flood insurance Rate Maps for Kalauao and Aiea streams are provided by the Corps.

15. **Aiea Neighborhood Board No. 20.**

Recommends Alternative III with some modifications, such as: Eliminate left turn pockets between Honomanu Street and Kauhale Street; between Laulima and Aiea I/C improve curbs and sidewalk but leave roadway as is; reduce lane widths to 11 feet.

16. **Nancy Chun.**

Do not widen road at corner of Puakala Street and Moanalua Road (in front of 99-104 Puakala). Locating the roadway nearer towards house will create difficulty in moving furniture at side entrance, and will bring fumes and noise closer.

17. **Our Savior Lutheran Church and School.**

Concerned about safety and "wholeheartedly" supports the project.

18. **Department of Interior-Office of Secretary.**

Same concerns discussed in item 8.

19. **University of Hawaii at Manoa-Environmental Center.**

a. The DEIS does not discuss the present conditions of streams and channels. Same concerns as discussed in item no. 8.

b. The DEIS does not mention if stream waters will be diverted during construction. Only partial diversion is preferred.

c. Native and exotic species of fish in which streams?

d. Conclusions based on Air Quality modeling studies are not supported (page V-7, V-10, V1-19) and input parameters used in study should be re-examined.

e. Recent report by DLNR (R73, 1984) should be consulted in determining flood peaks, frequencies and heights for Oahu.

f. A summary of the Moanalua Road Hydraulic study should be provided in the FEIS.
20. **Edward, Marlene and Damon Wilcox.**

Eliminate Alternative II. Lay full-length sidewalks. The widening will create a bottleneck at Aiea I/C which should be remedied. Project will present an unsafe condition for our home, etc. Request a 3-1/2 foot high stone wall above their property, in lieu of a chain-link fence. Keep all utility lines on the makai side, (away from them). Request compensation for lost value as well as lost property. Recommend an exit from H-1 to Pearlridge Center be considered. Want Alternative IV.

**II. PUBLIC HEARING COMMENTS**

1. **Reverend McNicoll – St. Elizabeth’s Church and School.**

   Noise impacts on St. Elizabeth's Church and School have not been considered.

2. **Anonymous:** Will sidewalks be concrete?

3. **Harvey H. Meeker.**

   Adopt Alternative II.

4. **Councilman George Akahane:** Discuss ramp connections to H-1 Freeway with the State and Feds.

5. **Jerry Souza**

   a. Only Alternative II is valid and conforms to the County General Plan.

   b. Compensate Bethany Assembly of God for loss of parking stalls. Construct a walkway from the church to Pearlridge parking lot as a temporary pedestrian walkway.

   c. Provide adequate police protection for traffic control to enhance pedestrian (school) safety.

   d. Compensate certain businesses for financial losses during construction and provide adequate parking for their customers.

   e. Install sound-proofing and air-conditioners in school classrooms and working areas (schools) and for businesses, too.

   f. Assure concurrent construction of 36-inch main and roadway.

   g. Accidents due to contractor's "negligence" shall not be contested by the City.
h. D.P.W. should perform a survey on the use of a contra-flow lane on Kam Highway to ease the traffic burden on Moanalua Road.

i. Add an on-ramp to the H-1 Freeway at the Kaahumanu Street overpass. Study an exit ramp westbound on H-1 onto Kaahumanu overpass.

j. Make proper modifications to Kalauao Stream crossing to avoid accumulation of debris.

k. Purchase residence at 98-203 Hali Momi Place at a fair market value.

l. Requests that Elizabeth Dole, Secretary of Transportation not disburse funds to the City and that Section XII-1 be corrected to reflect his comments.

6. Bob Siarot, Chairperson, Transportation Committee, Aiea Neighborhood Board.

a. Moanalua Road improvement is necessary, but benefits others (outside Aiea) since the thru traffic will benefit the most.

b. Must not "overkill". Alternative II is too much. Maximum design capacity will not insure full use of the facility unless the extremities have capabilities.

c. Recommend Alternative III, except eliminate all left turn pockets between Honomanu Street and Kauhale Street.

d. Eliminate widening between Laulima Street and Aiea Interchange.

e. Reduce roadway width (lanes) to 11 feet to deter speeding.

f. Requests an informational meeting during several phases of the design to keep the community abreast of the project.

g. No mention of Pete's taxi stand in the E.I.S.

7. Col. Nicholas Zunic: Recommends Alternative I. Feels that other alternatives are too much like a "super highway".

8. Rep. Tom Okamura:

a. Recommends Alternative IV (Five 10-foot wide lanes) except from Laulima Street to Aiea Interchange it
should remain at four lanes to avoid impact on residents in that area.

b. Insists that certain steps be taken to ease disruptions as follows:

1. Minimal displacement of residences and businesses.

2. City to provide maximum assistance on a timely basis to those inconvenienced.

3. Utilize curb lanes for on-street parking during the off-peak hours. Limit restricted parking to A.M. peak hours, working days only.

4. Insure that construction proceeds in expeditious manner least disruptive to Aiea residents and businesses.

c. Three specific problem areas must be resolved:

1. Junction of Puakala Street and Moanalua Road is a congestion problem during certain times of the day. Serious consideration should be given to a second outlet that would connect Puakala Street with Kaimakani Street.

2. The two Ewa-bound lanes approaching Aiea Heights Drive. Left turns to the Speedy Supermarket area (shopping area) block the through traffic movement and this problem should be addressed.

3. The intersection of Hale Momi Place needs study to improve left turns onto Moanalua Road, compounded by extreme narrowness of Moanalua Road in this area.

9. Bill Sullivan, Aiea-Pearl City Business Association
Supports Alternative II.

10. John Sharp, Pastor, Aiea Seventh-Day Adventist Church
Approves Alternative II, but recommends widening of curb lane by an additional 4 feet in church area to allow for parking (take 4 feet from sidewalk area).

11. Mary Booth
Favors Alternative II.
12. **Nancy Chun**

a. Does not want roadway widened in front of her house on corner of Puakala Street. Street would be closer to her home causing additional noise and air quality impacts.

b. The only improvement needed is a level concrete sidewalk and street light.

c. Recommends utilization of Ulune Street in lieu of Moanalua Road because it is already a wide street.

d. Recommends Alternative IV because it would not affect residents.

13. **Glenn Ako**

Questions if speed limit will be posted at 35 m.p.h. and is concerned that a wide roadway will induce speeding. Also feels that a wider roadway will be equally congested as two existing lanes.
CERTIFICATION

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