

FHWA-HI-EIS-75-02-F

Office Of Environmental Quality Control
Office Of The Governor
650 Halekauwila Street
Tani Office Building, Third Floor
Honolulu, Hawaii 96813

Haleakala Highway, Pukalani Section
Project No. F-037-1 (2)

FAP ROUTE 37 from Hallimale Road to FAS 377,
Maui, Hawaii

**ADMINISTRATIVE ACTION
FINAL
ENVIRONMENTAL IMPACT STATEMENT**

**U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration**

and

**STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
Highways Division**

*Submitted pursuant to 42 U.S.C. 4332 (2)(C),
and 23 U.S.C. 128(a).*

NOV 9 1976

Date

Robert W. Gray
Regional Administrator
Federal Highway Administration

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SUMMARY

SUMMARY

A. ADMINISTRATIVE ACTION
FEDERAL HIGHWAY ADMINISTRATION

- () Draft (X) Final
- (X) Environmental Statement
- () Combined Environmental/Section 4(f) Statement

B. PERSONS TO CONTACT FOR ADDITIONAL INFORMATION

1. Mr. Ralph T. Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
677 Ala Moana Boulevard, Suite 613
Honolulu, Hawaii 96813
Telephone No. 546-5150
2. Mr. Tetsuo Harano, Chief
Hawaii Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813
Telephone No. 548-5710

C. PROJECT DESCRIPTION

The proposed project involves construction of a new bypass highway in the Makawao District on the Island of Maui, Hawaii. The highway will begin near the intersection of FAP 37 and Haliimaile Road and will extend approximately 3 miles southeasterly to terminate on FAP 37 near FAS 377. The project will be a primary class, two-lane highway with partial access control, 12-foot wide lanes and 10-foot shoulders. The alignment will pass north of the Pukalani area. It will include a truck climbing lane in the southeasterly-bound direction. (See Exhibits 1 and 2, "Alt A-1").

D. SUMMARY OF ENVIRONMENTAL IMPACTS

1. Grading operations during construction will alter the existing landform and will temporarily expose the soil to wind and water erosion. Mitigation measures such as watering and landscape planting will be part of the project.
2. The roadway will intersect several small water courses, and will require that drainage structures be provided.
3. Water quality contaminants will be present during construction and use of the highway. State construction specifications will be enforced to avoid or minimize any water quality degradation of surface or ground waters.

4. Infiltration of rainfall will be reduced over the roadway width due to paving, compaction and drainage controls. The redistribution of recharge is not expected to adversely affect water supply or ground water levels.

5. The proposed project will have an insignificant impact on vegetation and wildlife since it is primarily located on commercial agricultural pineapple fields.

6. Air pollutant emissions will occur from motor vehicles using the highway, but the concentrations of pollutants for which Federal and State standards are established are not expected to exceed the standards as a result of the proposed project.

7. Noise levels associated with traffic using the highway will be within noise level standards. The diversion of truck traffic to FAP 37 will contribute to reduced noise levels in the urban area which is bypassed.

8. The highway will facilitate community growth and may influence the form of the community.

9. Construction of the bypass highway will necessitate limited utility adjustments, and may require some modifications to existing irrigation and drainage systems of Maui Land and Pineapple Company.

10. Pedestrian safety will be improved by the separation of local and through traffic.

11. No community facilities such as schools, parks, churches, etc will be adversely impacted by the project.

12. No businesses or residences will be displaced.

13. The aesthetic quality of the area is not expected to be reduced by implementation of the proposed project.

14. Right-of-way acquisition for the highway (47 acres) is expected to result in an annual production loss of 983 tons of pineapple valued at \$49,000 gross. Lost revenues of commercial business in the area are not expected to occur.

15. Section 4(f) lands such as publicly owned parks, recreation areas, wildlife refuges, or lands of cultural or historical significance will not be affected by the proposed highway.

16. The project is in conformance with the proposed General Plan for the Makawao-Pukalani-Kula areas (1974).

E. ALTERNATIVES CONSIDERED

1. No Project. The no project or no action alternative was considered pursuant to Federal and State EIS guidelines.

2. Legislative Restrictions. Land use control, car pooling, limited operating hours, and other legislative restrictions were considered as a project alternative to reduce projected transportation demands.

3. Mass Transit. Public transit was considered as an alternative to the proposed highway.

4. Highway Improvement. Four alternative highway related actions were considered based on design, economic, and environmental criteria. Three of the four alternatives would involve construction of a new highway, and the fourth would involve minor improvements to existing facilities.

a. Alternative A - The Bypass Route (Recommended Alternative)
Alternative A was developed pursuant to a comparative analysis of two subalternates (A-1 and A-2), and a public information meeting on February 25, 1974. This alternative involves construction of a new highway around the Pukalani urban area to the north. Basic provisions include a two lane highway with a truck climbing lane and a design speed of 50 mph. Alternative A would cost \$2,980,000 and have a benefit/cost ratio of 3.62.

b. Alternative B - Town Route. This alternative would widen and modify the existing highway alignment through the Pukalani community. The design provides for a two lane highway with a truck climbing lane and a design speed of 40 mph. Alternative B would cost \$4,480,000 and have a benefit/cost ratio of 1.53.

c. Alternative C - South Bypass. A new bypass highway alignment south of the community was considered based on a slight engineering advantage. A preliminary screening of the alternative indicated that the South Bypass would have major adverse social and economic impacts and further study was not made.

d. Alternative D - Improvements. Minor safety and operating improvements to the existing FAP 37 were considered as a project alternative.

F. ORGANIZATIONS AND PERSONS CONSULTED

Appendix A includes a comprehensive listing of organizations and persons consulted during preparation of the EIS.

G. DATE THE DRAFT EIS WAS MAILED TO THE COUNCIL ON ENVIRONMENTAL QUALITY

April 14, 1975.

CHAPTER I
PROJECT DESCRIPTION

CHAPTER I

PROJECT DESCRIPTION

A. LOCATION AND BOUNDARIES OF THE PROPOSED ACTION

1. Location. The proposed project is located in the Makawao District on the Island of Maui, Hawaii (see Exhibit 1).

2. Boundaries.

a. Primary. The project encompasses an approximately 3 mile segment of the Haleakala Highway (FAP Route 37) which serves as a primary access route to Central Maui. Beginning at Haliimaile Road, the activity area extends southeasterly, bypassing the residential community of Pukalani, and terminates at the Kula Highway junction (see Exhibit 2).

b. Secondary. The particular segment of the Haleakala Highway encompassed by the proposed action serves as a central point of linkage within the overall transportation network. Primary access from the central area to the northern coastal area, the southern coastal area, and to Haleakala National Park is provided via Routes 40, 377, and 378, all of which intersect the Haleakala Highway within the segment encompassed by the project. As a result, the proposed action will secondarily affect the regional system as well as the primary 3-mile segment upon which implementation of the project is proposed. (See Exhibit 1)

B. NEED FOR IMPROVEMENT

1. Authorization and Purpose. In 1967, the Hawaii State Legislature allotted funds for a study to determine the need to improve the existing Haleakala Highway (Act 217/67, Section I, Item C-97). In 1972, the Legislature allotted additional funds to continue the preliminary engineering study (Act 176/72, Section 2-II, Item C-6).

Carried out as authorized, these studies have resulted in the identification of various problems and deficiencies which warrant correction. With the need to correct these deficiencies established, the Hawaii Division of Highways has undertaken an incremental program of actions designed to improve the total transportation network of Central Maui. This program has already resulted in the improvement of that section of the Haleakala Highway extending from the Hana Highway to Haliimaile Road (see Exhibit 1).

As the next sequential increment of this program, the purpose of the proposed action under consideration is to improve that section of the Haleakala Highway extending from Haliimaile Road to the Kula Highway junction, and,

in a broader sense, to facilitate continued improvement of the total circulation system serving Central Maui.

The resultant preliminary engineering study in the form of a Route Report will be finalized subsequent to the design public hearing and the State's request to the Federal Highway Administration for route location approval.

2. Physical Characteristics of the Existing Facility.

a. Design Characteristics. The existing facility is a two lane section of roadway extending from Haliimaile Road through the Community of Pukalani to the Kula Highway junction (see Exhibits 1 and 2). The design of the existing road in terms of horizontal and vertical alignment provides curve radii of 400 feet and grades ranging between 6% and 7%. The predominant right-of-way width is 60 feet. Traffic flow is restricted to moderately low speeds as a result of these alignment standards. The traffic lanes are paved with asphalt concrete surfacing and vary from 11 feet (which is below the optimum design standard) to 12 feet in width. Shoulders lining the paved roadway vary from zero to 14 feet in width and consist of both grass and dirt surfaces. Since the optimum standard is for paved shoulders at least 10 feet wide lining both sides of the paved roadway, the present facility is below standards in terms of shoulder width and surfacing. Drainage of the existing sections is accommodated by a limited ditch and culvert system located between Makani Road and Makawao Avenue, and by sheet flow run off from the normal cross slopes of the paved roadway surface. Because of the lack of full drainage facilities, localized flooding is occasionally experienced in the vicinity of Makani Road resulting in delays to traffic flow.

b. Operational Characteristics. The existing road section is characterized by several features which detract from overall operational efficiency and safety. Among these deficiencies are a lack of access control; a lack of adequate lighting; a lack of reflectorized road markers; reflectorized guideposts and guardrails; the existence of power poles and other obstacles located in the right-of-way dangerously close to the lanes of travel; and the existence of limited sightline distances, particularly in the vicinity of the Kula Highway junction. The effects of these deficiencies upon the operational characteristics of the existing roadway are particularly well reflected by the rate and nature of accidents occurring along this section.

Accident statistics compiled for the project area from 1971 through August, 1975 indicate a relatively high accident rate (4.4 to 4.9 accidents per million vehicle miles) in comparison with other similar highway segments.¹ Broken

¹ State of Hawaii, Traffic Accidents and Rates for the State and County Highway System, 1971 through August, 1975.

down in terms of causitive factors, a major portion (31%) of all accidents reported can be attributed to the many access points to the highway segment from intersecting roads and driveways. In addition to the high number of uncontrolled access points, the existence of acute angles of intersection and sharp radius returns also contribute to the poor safety record. Another apparent contributor to the high accident rate is the general lack of adequate road lighting and reflectorized guideposts and guardrails. Approximately 47% of all accidents occur at night, and 31% involve a vehicle that has left the roadway.

3. Traffic Characteristics of the Existing Facility.

a. Capacity. Based on the various design and operational characteristics identified above (e.g., 3 mile average continuous grade of 6.9%, 400 foot curve radii, 22 to 24 foot paved travelway, and numerous uncontrolled access points), the theoretical capacity of the existing facility is computed at 300 vehicles per hour.¹

b. Existing Traffic Conditions. Present traffic volumes currently number about 5,670 vehicles per day, or about 570 vehicles during the peak hour.² Thus, the existing peak hour traffic of 570 vehicles per hour already exceeds the computed highway capacity of 300. Approximately 9% of the total peak hour volume is comprised of truck traffic. This high percentage of truck volume combined with the constraints imposed by the 6% to 7% grade of the existing two-lane road is the primary cause for the capacity deficiency that currently exists.

c. Projected Traffic Conditions. 1995 traffic forecasts have been prepared by the Highways Division of the Hawaii Department of Transportation in a report labeled TA-72-23. Based on the land uses and corresponding population increases indicated for the Pukalani and surrounding areas by the Maui County Department of Planning (see Exhibit 3A and Exhibit 3B), the peak hour traffic demand that may be expected to occur in the project area by 1995 is approximately 1,000 vehicles per hour. This projected level of demand will far exceed the capacity of the existing road to accommodate peak hour traffic flow at an acceptable level of service, and will result in increased congestion above existing over-capacity conditions (refer to Exhibit 4).

¹Hawaii Department of Transportation calculation utilizing method prescribed in the Highway Capacity Manual, Highway Research Board Special Report No. 87, 1965.

²1973 Average Daily Traffic Counts, Makawao-Pukalani-Kula General Plan, County of Maui, 1974.

C. PROJECT FEATURES

The primary objective of the project is to provide improvements which will relieve existing congestion, and will avoid future widening of the disparity between traffic demand and highway capacity. Secondly, the project is intended to improve the overall operational safety and efficiency of the highway segment, which is presently restricted by design deficiencies in the existing roadway.

In order to meet these objectives, a number of alignment and design alternatives were considered in the formulation of the project (see Chapter IV). Detailed analysis of these alternatives including evaluation and comments by the general public have resulted in the selection of a "Bypass Route" (Alternative A) as the action proposed for implementation. The proposed project will involve construction of a new two lane, primary class highway segment with a truck climbing lane along an alignment passing just to the north of the urban boundary of the Pukalani Community. The existing roadway through Pukalani will be left in service to accommodate local traffic. The following description presents the pertinent features of the proposed project.

1. Alignment Plan. The proposed bypass route will extend easterly from Haliimaile Road, pass to the north of the Pukalani urban area, and tie back into the existing highway at the Kula Highway junction located east of Pukalani (see Exhibit 2). In selecting the alignment, two variations (A-1 and A-2) of the bypass concept have been considered. The A-1 alignment emerged as the specific route alignment causing the least environmental impact and having the greatest public acceptance. This alignment provides for maximum grades of 7% and minimum curve radii of 2,000 feet. The total length of the route along the A-1 alignment is 3.06 miles.

2. Physical Characteristics of the Proposed Facility.

a. Design Characteristics. (Exhibit 5, Sheets 7 and 8)
The proposed facility will consist of a 24-foot to 36-foot wide paved road incorporating the following design features:

- o A truck climbing lane along selected sections of the road.
- o Standard 12-foot wide paved travel lanes.
- o Standard 10-foot wide paved shoulders.
- o 106-foot rights-of-way for the 3 lane sections and 94-foot rights-of-way for the 2 lane sections.

- o A series of lined ditches, culverts and drop intakes to accommodate water runoff and drainage.
- b. Operational Characteristics. The proposed facility will incorporate a number of features designed to increase operational safety and efficiency. Among these features are included:
 - o A design speed of 50 miles per hour (mph) with a probable posted speed limit of 45 mph.
 - o Partially controlled access.
 - o Clear areas 30 feet wide lining both sides of the road.
 - o Reflectorized road markers and guardrails.

3. Projected Traffic Characteristics of the Proposed Facility. A significant portion of the 1995 traffic will continue to use the existing highway even though a bypass is built since Pukalani is a major destination of the highway users. However, almost all of the truck traffic is expected to use Alternative A to bypass Pukalani thus relieving the existing highway of its major capacity restraint. As a result, the capacity of the existing highway will be increased from 300 vph to 930 vph with an improvement in service level (relative degree of traffic freedom). This increased capacity will more than accommodate the expected traffic using the existing highway.

The critical traffic and capacity figures are listed below (refer to Exhibit 5, Sheet 9 for more detail).

	<u>Capacity</u>	<u>1995 DHV¹</u>
Alternative A, Bypass	1210 vph	460 vph
Existing Highway	<u>930 vph</u>	<u>530 vph</u>
1995 Total	2140 vph	990 vph

4. Implementation of the Proposed Action.

a. Right-of-Way Acquisition. Right-of-way requirements for the proposed facility will require the acquisition of 9 parcels totaling approximately 46.9 acres of land. All of this land is agriculturally zoned. No residences, businesses or other urban lands will be affected by acquisition of the required right-of-way.

¹DHV: Design Hourly Volume. In this case the A.M. Peak Hour Traffic.

b. Costs. The total projected cost for implementation of the proposed project is \$2,980,000 broken down as follows:

o Construction	\$2,296,000
o Engineering (10%)	\$ 229,500
o Contingencies (10%)	\$ 229,500
o Right-of-Way Acquisition	<u>\$ 225,000</u>
TOTAL	\$2,980,000

c. Benefit/Cost Ratio. Amortized over the effective life of the project and compared to the annual road user costs incurred by use of the existing highway facility, the total projected cost of the project represents a substantial cost saving resulting in a favorable benefit/cost ratio of 3.62 (See Exhibit 5, Sheet 10).

d. Phasing. The project is currently in the preliminary engineering and corridor selection phase of development. The detailed engineering and right-of-way acquisition phases of the project are expected to be completed in 1977. Actual construction of the proposed facility is planned for completion in 1979.

CHAPTER II
DESCRIPTION OF
ENVIRONMENTAL SETTING

CHAPTER II

DESCRIPTION OF THE ENVIRONMENTAL SETTING

A. TOPOGRAPHY

The project area is located on the foothills of the Halaekala Crater. The terrain rises at a near uniform grade of 6-7% from Haliimaile Road, climbing from an elevation of 850+ feet to an elevation of 1740+ feet over the project length of 3+ miles (see Exhibit 2 for general topographic features).

The Kailua Gulch to the north, and the Kaluapulani and Kalialinui Gulches to the south form natural topographic boundaries for the project area. Within these boundaries, the area is essentially free of other natural barriers such as major streams, other gulches and/or mountains.

B. GEOLOGY AND SOILS

Soils in the vicinity of the project are of the Waiakoa-Keahua-Molokai Association consisting of moderately deep (10 to 20 feet) silty clay overlying dense unweathered bedrock. The soil is moderately well drained and suitable for agricultural production.

C. HYDROLOGY

The project area is characterized by light variable precipitation averaging approximately 20 inches of rainfall per year. Surface drainage is primarily accommodated by natural stream courses and gullies.

Drought conditions occur relatively frequently resulting in competing demands between the predominant agricultural users and growing urban development. Water is supplied to the users in the area by the diversion of runoff from the northwest slope of Haleakala into a distribution system comprised of dams, reservoirs, storage tanks and gravity flow transmission lines.

D. VEGETATION AND WILDLIFE

Vegetation within the project area consists of agricultural crops (primarily pineapple production), various weedy plant species commonly associated with agriculture, and landscaping.

The extensive agricultural and residential land uses in the area have long removed the project area as a natural wildlife habitat. The wildlife remaining in the area are primarily of the common rodent (mongooses, mice and rats) and bird (sparrows, mynahs, pigeons and doves) variety and do not warrant significant consideration in terms of species preservation. No endangered species are known to exist within the project corridor.

E. AIR QUALITY

Air quality related to pollutants emitted by automobiles (i.e., carbon monoxide, nitrogen dioxide, and hydrocarbons) in the vicinity of the project is good. Although special studies have shown that applicable standards have been exceeded in some select areas (Kahului and Wailuku) in recent years, these violations have been directly attributable to stationary direct sources such as power generation stations. The effects of these violations have been confined to small, localized geographic areas in the immediate vicinity of the source. State Department of Health data for 1974 indicate that auto-related pollution standards have not been exceeded.

Data for particulates indicate that the standards are occasionally exceeded on the Island of Maui. Wind blown dust generated by agricultural operations constitutes the bulk of particulates in the air. Because of the prevalence of agricultural land uses in the vicinity of the project, particulates in the form of dust detract from the overall air quality of the area.

F. NOISE

Field measurements conducted along the route of the existing highway section within the Community of Pukalani indicate current ambient noise levels ranging from approximately 55 dBA to 67 dBA.¹ Comments received from residents of Pukalani indicate that noise caused by traffic (particularly truck traffic) along the existing roadway results in some community disturbance.

G. SOCIAL ENVIRONMENT

1. Community Characteristics. The major concentration of population within the immediate vicinity of the project area is the community of Pukalani. In recent years, the character of the community has been undergoing relatively rapid transition from that of a small rural town to that of a growing suburban residential area. This transition has been precipitated primarily by new residential development and corresponding influxes of young middle income families moving into the community from other areas of the county and State.

The following data gathered from the Community Profiles for Hawaii prepared by the Hawaii State Department of Planning and Economic Development in 1972, and from the Maui Community Profile prepared by the Hawaii State Office of Economic Opportunity in 1970 indicates the general population characteristics of the community. Both publications contain data based on the 1970 census.

¹Noise field survey conducted in January, 1975 (see Appendix C). Survey locations are shown on Exhibits 5 and 6. Noise measurements were recorded utilizing a General Radio Noise Meter and Calibrator.

- o Population: 1,629
- o Median Age: 27.3 years
- o Persons per household: 3.76
- o Ethnic Groups: Primarily Caucasian, Japanese and Filipino (89% of the population)
- o Median Household Income: \$9,281/year
- o Unemployment Rate: 0% male, 17% female, 7% aggregate.

2. Utilities and Public Services Infrastructure. The community of Pukalani is served by water, power and telephone delivery lines located in or along the existing street system. No sewer or gas line services are presently available.

3. Social, Recreational, and Cultural Facilities. Community facilities include a fire station, several churches, a 5-acre County Park, and a site for the proposed Pukalani elementary school and park facility to be ready for opening in the fall of 1976. At present, there are no existing school, health, and police facilities within the area.

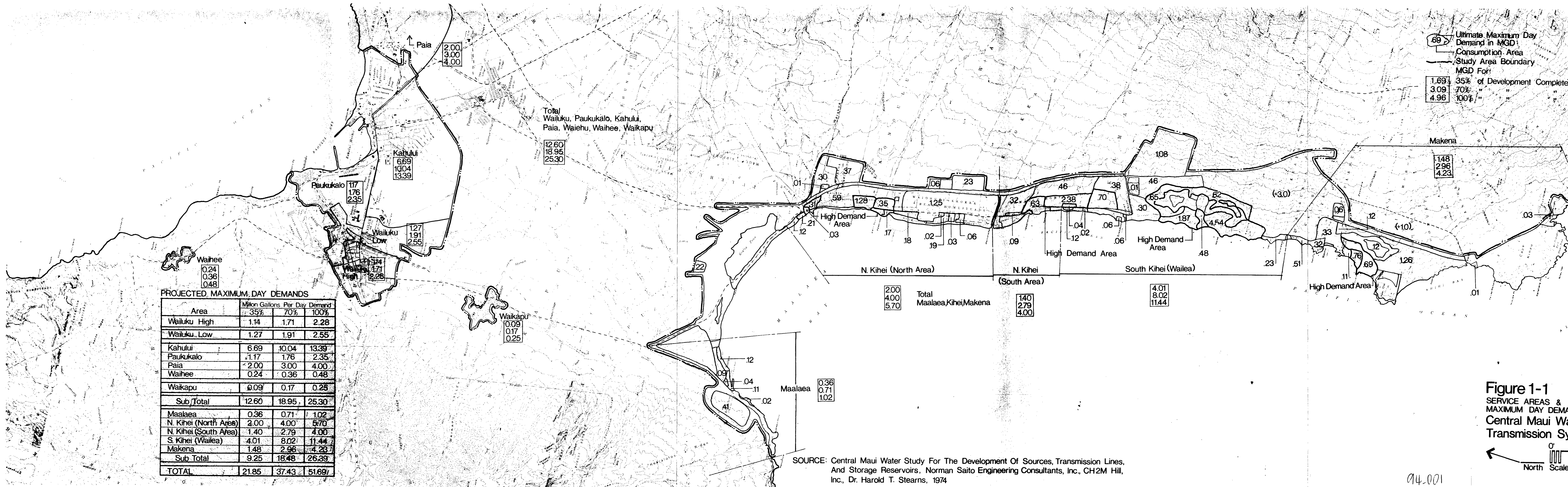
4. Community Attitudes. Data from a random sample survey conducted as part of the Makawao-Pukalani-Kula General Plan Study indicate the general attitude of residents toward the Pukalani Community. Of those interviewed, most had moved into the community in recent years. Their reasons for having moved to the community centered around the reasonable price of housing available in the area, and the favorability of the climate and rural atmosphere as a pleasant living environment. The major concerns of the respondents involved the general insufficiency of the existing water supply, personal economic considerations including rising housing costs, and rising taxes. In terms of the respondents' attitudes towards continued growth of the community, 22% expressed the attitude that growth would benefit the area, while 17% felt that growth would damage the area. The remaining respondents expressed neutrality on the issue.

5. Archaeological and Historical Sites. The Hawaii Department of Land and Natural Resources reports that the project area does not contain any archaeological or historical sites listed in or being considered for the State or National Register of Historic Places (Refer to Appendix D).

6. Aesthetic Environment. The aesthetic environment of the project area is characterized by its rural/agricultural setting situated in close proximity to the expanding urbanized area of Pukalani. The view towards Kahului Bay rates high in terms of scenic value and aesthetic quality.

H. ECONOMIC ENVIRONMENT

1. Commerce and Industry. Commercial establishments within the vicinity of the project corridor are limited to two food stores (one market



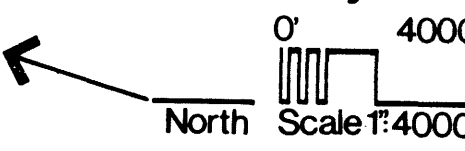
PROJECTED MAXIMUM DAY DEMANDS

Area	Million Gallons Per Day Demand		
	35%	70%	100%
Wailuku High	1.14	1.71	2.28
Wailuku Low	1.27	1.91	2.55
Kahului	6.69	10.04	13.39
Paukukalo	1.17	1.76	2.35
Paia	2.00	3.00	4.00
Waiehe	0.24	0.36	0.48
Waikapu	0.09	0.17	0.25
Sub Total	12.60	18.95	25.30
Maalaea	0.36	0.71	1.02
N. Kihei (North Area)	2.00	4.00	5.70
N. Kihei (South Area)	1.40	2.79	4.00
S. Kihei (Wailea)	4.01	8.02	11.44
Makena	1.48	2.96	4.23
Sub Total	9.25	18.48	26.39
TOTAL	21.85	37.43	51.69

69 Ultimate Maximum Day Demand in MGD
 Consumption Area
 Study Area Boundary
 MGD For:
 1.69 35% of Development Completed
 3.09 70% " " "
 4.96 100% " " "

SOURCE: Central Maui Water Study For The Development Of Sources, Transmission Lines, And Storage Reservoirs, Norman Saito Engineering Consultants, Inc., CH2M Hill, Inc., Dr. Harold T. Stearns, 1974

Figure 1-1
 SERVICE AREAS &
 MAXIMUM DAY DEMANDS
 Central Maui Water
 Transmission System



94-001

2. General Plan.

a. Objectives and Policies. The objectives of the proposed General Plan for the Makawao-Pukalani-Kula area of Maui are generally as follows:

- o To guide future residential and commercial development to existing "country towns" in order to preserve and enhance the existing rural atmosphere and prevent the random sprawl of development.
- o To maintain the separate identities of Pukalani and Makawao by guiding land use so as to buffer the two communities from growing together.
- o To guide future development to locations which maximize the efficient use of existing and planned capital improvements such as roads, parks, schools, sewers, water supply facilities, etc.
- o To maintain land that has traditionally been used and is ecologically well-suited for agriculture.
- o To bring about greater housing opportunities for the low and moderate income residents of Maui.

b. Programs for Implementation. The proposed Plan includes a number of implementation programs designed to achieve the stated objectives. The programs pertinent to the project may be briefly summarized as follows:

- o New residential development and population growth is to be primarily concentrated in Pukalani and to a lesser extent in Makawao through appropriate land use controls.
- o Detailed plans for water supply, sewerage and drainage facilities that have been prepared by the County are to be implemented.
- o The circulation system is to be improved through support of the Haleakala Highway realignment bypassing Pukalani, selective widening of certain streets, and the eventual provision of an improved arterial connecting Makawao with the Haleakala Highway bypass in the vicinity of Pukalani.

3. Relationship of the Proposed Project to the Proposed General Plan. Implementation of the proposed project will involve the acquisition and conversion of approximately 46.9 acres of agricultural land to highway use. This acreage represents approximately 6% of the total agricultural land in the Pukalani area and only 0.1% of the total 35,940 acres of agricultural land contained within the overall Makawao-Pukalani-Kula General Plan Area. It should be noted that this highway use cannot be categorized strictly as an urban or rural land use. Instead, it is a vital infrastructure element that provides transportation facilities to service traffic generated by both urban and rural land uses. As such, the proposed project is an integral element of the capital improvements program designated by the proposed General Plan as being necessary for implementation of its stated objectives and policies.

4. Relationship of the Proposed Project to the Proposed Statewide Master Plan for Bikeways, 1976. The proposed Bikeway Master Plan provides for a Haleakala Highway Bikeway "beginning at the Kula Highway intersection near Pukalani and terminates at the intersection with Hana Highway." The bikeway would probably run along the old existing highway between Haliimaile Road and the Kula Junction and not be affected by the proposed highway bypass.

CHAPTER III
ENVIRONMENTAL IMPACTS
AND MITIGATION MEASURES

CHAPTER III

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. INTRODUCTION

The "corridor location stage" of project planning is concerned with selecting the optimum corridor from among the available alternatives based upon a balanced evaluation of the broad social, environmental, economic and engineering factors associated with each alternative. The opportunity for governmental agencies and the general public to provide input to the evaluation of the alternatives is an integral part of the selection process and has been actively encouraged throughout this stage of project planning. A public informational meeting was held in Makawao, Maui on February 25, 1974. The draft environmental impact statement was circulated on March 3, 1975, and a public hearing was held on June 12, 1975, in Makawao, Maui.

For purposes of evaluation, preliminary data delineating the basic characteristics of each alternative with respect to the above factors has been developed for each alternative. As the positive and negative factors associated with each alternative have been identified, and as the impressions and preferences of the commenting public have been made known, the range of possible alternatives has been increasingly narrowed to the present point of planning wherein selection of a corridor and recommendations for a proposed course of action are now possible.

The following discussion outlines the basic environmental impacts and mitigation measures associated with the proposed action (Alternative A). Information on project alternatives is detailed in Chapter V. The information presented below is based on data developed during the "corridor location stage" of project planning. It should be noted that this information, particularly with respect to impact mitigation, will be further developed and refined in the "design stage" of project planning, wherein detailed engineering and design studies relative to the selected corridor will be performed.

B. TOPOGRAPHY, GEOLOGY AND SOILS

Alterations to the land surface in the form of cut and fill grading will occur as a result of the construction of the roadway and the installation of required drainage facilities. Preliminary engineering studies indicate that the height of required cuts and fills may vary up to a maximum of 25 feet (see Exhibit 5, sheets 1 through 8). The extent and nature of necessary topographic modifications will be determined during the detailed engineering design phase of the project. In terms of slope stability, all fills under 10 feet in height will be designed with slope ratios varying up to a maximum of 4:1 while fills over 10 feet in height will be designed with slope ratios varying up to a maximum of 2:1.

Preliminary investigation indicates that allowable soil pressures and the bearing capabilities of the underlying geologic structure are adequate to support conventional construction. Slopes designed to the preceding horizontal to vertical ratios will be stable, and no special foundation treatments such as piling or sand-drains are anticipated. Should any adverse geologic or soils conditions be discovered during the detailed design stage of the project, appropriate engineering measures to mitigate the problem will be incorporated into the final design.

Grading operations and the removal of vegetative cover during the construction phase of the project will result in the short-term exposure of the soil to the erosive forces of wind and water. The Central Maui Soil and Water Conservation District reports that the silty clay soils in the vicinity of Pukalani are erodible, particularly when disturbed by grading or tillage. Wind erosion is currently a problem on agricultural fields in the vicinity of the project.

In order to mitigate the impacts of construction activities in relation to soil erosion, the State Division of Highways will institute appropriate control measures as specified in Section 639 of the State of Hawaii Standard Specifications for Road and Bridge Construction, 1976. Included among the control measures available for use on this project are:

- o mulching of slopes during construction.
- o installation of temporary and permanent drainage facilities.
- o application of limits to the amount of erodible surface area exposed at any one time as a result of grading, excavation, grubbing of vegetation, etc.
- o application of water to graded surfaces during construction.

Detailed erosion control measures will be determined and incorporated into the final project design. In addition, the Contractor will be required to submit an erosion control plan prior to construction. Unforeseen erosion problems which may arise in the course of construction will be dealt with through the design and incorporation of appropriate construction plan modifications.

On completion of construction, all erodible surfaces will be stabilized through landscaping. This activity is for permanent erosion control, and should be differentiated from the temporary measures identified above. The State Division of Highways has allocated funds in the amount of \$50,000 to \$100,000 for permanent roadside landscaping. These funds are included in the projected construction costs for the proposed project.

C. HYDROLOGY AND WATER QUALITY

The proposed project lies within a natural drainage basin bounded by Kailua Gulch on the north and the Kaluapulani and Kaliialinui Gulches on the south (see Exhibit 2).

Although the alignment of the proposed roadway does not affect these major drainage features, several of the local water courses which feed into the system are crossed by the alignment. Flow within these local gullies is intermittent, occurring primarily as storm water runoff. During peak periods of runoff, flooding caused by sheet flow off of newly planted pineapple fields in the area occurs at the existing Makani Road - Haleakala Highway and Makawao Avenue - Haleakala Highway intersections.

Construction of the proposed bypass road will not significantly alter existing drainage patterns or the natural drainage features serving the area. However, some local improvements to the minor intermittent gullies crossed by the alignment will be required in order to provide adequate drainage of the roadway. These proposed improvements will consist of the installation of a series of lined ditches, culverts, drop intakes and other drainage facilities as appropriate during the detailed design and engineering stage of project planning.

In order to maintain the integrity of the area-wide drainage system and avoid possible conflicts with other proposed drainage plans affecting the area, the State Division of Highways will continue to coordinate its planning efforts regarding erosion control and drainage with the planning efforts of the Maui Land and Pineapple Company and of the County of Maui.¹

Implementation of the proposed action will provide an impermeable, paved road surface covering approximately 20 acres of land. This surfaced area will reduce the amount of precipitation infiltrating into the ground over the roadway alignment. However, because of low rainfall and the depth of the groundwater table, the project area does not presently serve as a significant water recharge area. The slight reduction in infiltration caused by paving of the new roadway will not adversely affect the groundwater resource. In addition, much of the runoff that does occur from the paved roadway will be returned to the natural gully channels and other land surfaces located downstream of the alignment.

Possible sources of water quality degradation resulting from construction and use of the proposed bypass road include:

¹Note: The 1971 Maui County Drainage Master Plan proposes eventual construction of a diversion ditch above Pukalani to catch runoff and channel the flow south to Kaluapulani Gultch. The drainage facilities proposed in connection with the bypass road must be designed to be compatible with this proposed County facility.

- o exposed soil on graded slopes cleared of ground cover and susceptible to the erosional effects of storm water runoff.
- o oil, gasoline and other chemical residues gradually deposited or accidentally spilled on the roadway surface by construction equipment or motor vehicles.

The potential effects of these pollutant sources on water quality will be minimized through the application of appropriate construction techniques and design features. The general provisions contained in the State of Hawaii Standard Specifications for Road and Bridge Construction, 1976 (Section 107.17 - "Protection of rivers, streams, impoundments, forests, and archaeological and paleontological findings", Section 639 - "Temporary project water pollution control" and Section 641 - "Hydromulch Seeding") are applicable to the proposed project.

Design measures necessary to provide adequate water quality protection for this project will be determined and incorporated into the project plan during the detailed design and engineering stage of the project. However, the State Division of Highways anticipates the installation of improved drainage facilities, the planting of roadside landscaping, and the application of various slope stabilization techniques during construction, as basic erosion control measures to be implemented as part of the project.

D. VEGETATION AND WILDLIFE

The impact of the project upon vegetation and wildlife is not expected to be significant. The project area has long been subject to cultivation and development. As a result, there is a conspicuous absence of natural vegetation within the corridor. The existing habitat consists primarily of man-modified agricultural land which affords limited life support to birds and small mammals adaptable to and tolerant of man's activities. The Hawaii Department of Land and Natural Resources reports that the proposed project does not affect forest lands or wildlife habitat (Appendix E, page E-44 State DLNR letter dated May 14, 1975).

Grading operations and the clearance of vegetation from the construction site will remove approximately 46.9 acres of land vegetated primarily with agricultural crops (pineapple). Wildlife inhabiting these crop lands will consequently be displaced from the corridor as construction progresses.¹ Upon completion of construction activities, the right-of-way lining the paved roadway will be revegetated with landscaping. Partial reoccupation of these landscaped areas by previously displaced animals may occur.

¹It is noted that the existing wildlife in the area undergoes periodic displacement as a result of cyclical field cultivation and crop rotation.

E. AIR QUALITY

Airborne dust from construction activities may contribute to a temporary increase in particulate concentrations in the vicinity of Pukalani. Chapter 43 of the State Public Health Regulations specifies that emissions of fugitive dust from any source shall not cause ground level dust concentrations to exceed $150 \mu\text{g}/\text{m}^3$ above upwind concentrations for a 12-hour period; or a fallout of $3.0 \text{ mg}/\text{m}^2$ above upwind concentrations for any 14-day period. To ensure compliance with these standards, various erosion control measures including the watering of graded areas will be implemented during construction. These mitigation measures are expected to minimize the generation of dust from roadway construction. In addition, no burning of solid waste or debris generated during construction will be permitted. All such waste will be hauled to approved disposal sites.

For auto related pollutants, the State of Hawaii is classified as a Priority III Region for carbon monoxide (CO), nitrogen oxides (NO_x), and hydrocarbons (HC) control. According to Environmental Protection Agency regulations, it need only be demonstrated that air quality levels will be maintained below national secondary ambient air quality standards. Department of Health monitoring data for the year 1974 have shown that these standards have not been exceeded (see DOH letter of May 19, 1975 in Appendix E, page E-36). As such, the air quality analysis need only demonstrate that air quality will not deteriorate because of the proposed action.

Estimates of CO concentrations along the bypass and along the town road were made using the methodology described in Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources (EPA, January 1975). Owing to the generally poor understanding of chemical reaction mechanisms and rates associated with dispersion of HC and NO_x these species were not modelled. Projected 1995 traffic volumes and 1975 emission factors were used in the analysis. Table 2 is a summary of the CO concentration estimates. (Calculations are given in Appendix B).

TABLE 2

ESTIMATED CARBON MONOXIDE CONCENTRATIONS

<u>Roadway</u>	<u>1-Hour CO Concentration (mg/m^3)</u>	<u>8-Hour CO Concentration (mg/m^3)</u>
Alternative A		
a. Bypass Road	7.7	4.6
b. Town Road	3.1	2.9

Source: State Department of Health letter of January 22, 1976
(Appendix E, page E-39).

As indicated by the above figures, the CO concentrations expected to occur as a result of the proposed project are below the Federal 1-hour secondary standard of 40 mg/m³, and are below the State of Hawaii 1-hour standard of 10 mg/m³. It should also be noted that the modelling methodology used to project these figures was based on 1975 pollutant emission factors. Thus, the estimates shown do not reflect emission reductions expected to occur as a result of Federally mandated emission controls. As these controls are implemented and become effective, the impacts of the project on ambient air quality are expected to be less than the above estimates, and it is indicated by the Department of Health that the project is consistent with the control strategy specified in the State Implementation Plan (see DOH letter of January 22, 1976, Appendix E, page E-39).

The most significant effect of the proposed project is that the Alternative A bypass will divert motor vehicles from the existing town road resulting in redistribution of traffic flow. Reduced traffic congestion and improved operating conditions (e.g., higher average operating speeds and fewer starts and stops) will contribute to a reduction in the carbon monoxide and hydrocarbon concentrations near both roadways.

F. NOISE

Short-term noise increases in the immediate vicinity of the bypass roadway will occur from the operation of construction equipment. However, because of the physical separation of the corridor from urban development, noise associated with construction activities will have an insignificant impact upon human populations or sensitive land uses.

Noise generated by traffic along the bypass road will not adversely impact any noise sensitive areas of human occupation. The diversion of through traffic (particularly truck traffic which constitutes the major existing source of noise impacting the community) around the urban area of Pukalani will alleviate the noise impact that would otherwise occur from projected traffic increases on the existing highway.

A noise study report (Appendix C) for the proposed roadway was prepared pursuant to Federal Aid Highway Program 7-7-3, February 20, 1974, PPM 90-2 and Federal Transmittal 279, February 8, 1973. Noise levels were computed by the method prescribed in the National Cooperative Highway Research Program Report 117. Noise computations show that projected noise levels will fall within acceptable ranges with respect to residences and other noise sensitive land uses. The L₁₀ noise levels generated from the projected 1995 Bypass traffic have been estimated to be 63-67 dBA at the residences closest to the bypass (e.g., Station 305 + 00, 400' Right and Station 346 + 00, 440' Right). The L₁₀ level of 67 dBA is below the acceptable residential noise level of 70 dBA stated in PPM 90-2. Projected noise levels along the existing highway are estimated to be approximately 70-75 dBA for about 12 residences located 50 feet from the highway (e.g., to the right of the existing highway between Aeloa Road and Pahoa Place and left and right of the existing highway between Mohala and Makawao Avenue). These noise levels exceed the Federal Standard of 70 dBA. However, when compared to the 80-85 dBA levels projected for the No-Build Alternative it can be stated that Alternative A will improve noise conditions along the existing highway. The diversion of truck traffic (the major noise source) from the existing highway onto the new bypass is a main reason for the improvement.

G. SOCIAL IMPACTS

1. Community Size, Structure and Form. Right-of-way acquisition for the bypass road will involve the taking of approximately 46.9 acres of agricultural land. No urban land, residences or businesses will be affected by right-of-way acquisition. Thus, the proposed action will not adversely disrupt the existing structure of Pukalani, nor impair future development within the urban boundaries of the community as provided for by the land use and zoning provisions of the Pukalani General Plan.

The proposed action will have no direct effect on the population residing in the community. However, by providing improved transportation facilities necessary to support additional development of the community, the project will secondarily facilitate expected growth in population. In addition, as residences are developed and occupied by families moving into the area, the characteristics of the community in terms of family size, income, age and other demographic factors could experience change.

2. Support Service Infrastructure. Construction of the bypass road will require limited utility adjustments in the vicinity of both of its terminals and at the intersection with Makawao Avenue. The projected cost of these adjustments (\$96,000) has been accounted for as part of total construction cost. In addition, some modifications with respect to the irrigation and drainage systems of the Maui Land and Pineapple Company may also be required during construction. Detailed engineering and design plans for the proposed facility will be closely coordinated with the Maui Land and Pineapple Company to minimize any potentially disruptive effects of the project upon their facilities.

Implementation of the proposed action will not significantly disrupt the existing highway system during construction since the proposed bypass road will be located on a new right-of-way. With the exception of some minor disruptions at the connecting points between the new roadway and the existing highway, traffic flow will not be appreciably affected by construction activities.

In terms of operational efficiency and safety, the proposed action will beneficially serve to:

- o provide adequate capacity to meet expected local and regional service demands.
- o provide separation of local and through traffic.
- o provide a dual route network possessing increased reliability.
- o provide for improved safety through partial access control, adequate sight distances, guardrails, and adequate right-of-way clearances.
- o provide for pedestrian safety.

3. Community Facilities. The proposed action will not adversely affect any community facilities. Right-of-way acquisition for the proposed bypass road will be confined to non-urban, agricultural lands and interruptions to emergency

vehicle travel are not expected to occur. The proposed project will reduce the noise impact upon the community as well as increase pedestrian safety. This impact will be particularly beneficial in relation to such facilities as the proposed Pukalani Elementary School, the adjoining park, and the Puakalani Baptist Church.

4. Aesthetics. The aesthetic quality of the project area will not be significantly impacted by the proposed project. Topographic modification, site clearance, and the installation of a paved roadway and appurtenant highway structures will alter the existing visual appearance of the area. However, no significant scenic resources will be affected. The profile of the highway will not constitute an imposing or dominant feature of the landscape. Landscaping along the roadway and on exposed cut and fill slopes should serve to enhance the aesthetic quality of the highway.

H. ECONOMIC IMPACTS

1. Commerce and Industry. Right-of-way acquisition for the proposed bypass road will involve the taking of approximately 46.9 acres of agricultural land primarily owned by the Maui Land and Pineapple Company. Figures supplied by the company indicate that the actual acreage in pineapple production may be reduced by as much as 57 acres.¹ This translates into an annual production loss of 983 tons valued at \$49,000 gross. The labor requirements of the company may be reduced by approximately 3750 man-hours per year (the equivalent of two employees) as a result of the proposed action. This reduction in labor requirements could effectuate layoffs, but at present this is a possibility rather than a certainty.

These economic impacts are theoretically reflected² and compensated for in the right-of-way costs (page I-6), and do not significantly threaten the economic stability of the agriculture industry in general or of Maui Land and Pineapple Company. In order to minimize the loss of agriculturally productive land to as great an extent as possible, specific measures for providing roadway access and pipeline connections to agricultural fields cutoff and isolated by the proposed bypass road will be formulated during the detailed engineering stage of project planning.

The proposed action will not displace any commercial business establishments serving the Pukalani community. Right-of-way acquisition will not encroach on urban land, and access to the business district of Pukalani will be maintained along the existing roadway. Although the businesses in the area are oriented toward serving local needs, they may realize some negative impacts in terms of potential losses in retail sales, services and business exposure, resulting from the diversion of regional through traffic away from the Pukalani business district. Such losses in terms of dollars are difficult, if not impossible, to determine at this time.

¹Letter from Maui Land and Pineapple Company dated September 18, 1974.

²Income method of real property appraisal.

2. Land and Property Values. Implementation of the proposed action is not expected to directly impact land and property values in the area. The bypass will pass through agricultural lands and will be physically separated from urban development. Enforcement of the land use controls recommended by the proposed General Plan is expected to restrain any pressure to develop the agricultural and land adjacent to the bypass road with urban uses. Thus, the induced increases in land value normally associated with such development pressure are not expected to occur.

Property tax revenues lost as a result of the conversion of privately owned agricultural land to public highway use will be minimal (approximately \$587.50 for 47 acres) and will not adversely affect the areawide property tax base.

I. LAND USE

Right-of-way acquisition for the bypass road will involve the taking of approximately 47 acres of agricultural land. Section 4(f) lands will not be affected by the proposed project.

The State of Hawaii Department of Land and Natural Resources is responsible for ensuring that archaeologically, historically or culturally significant resources are preserved and maintained. The Department reports (see DLNR letter of October 6, 1975 in Appendix D, page D-2) that no such resources are known to exist in or around the project area and that any sites which may have existed have probably been destroyed by agricultural activities over a period of many years.

The Department concludes that an archaeological survey is not warranted because of the high degree of disturbance in the area, and that the probability is high that no archaeological sites exist in the area. Based on these findings, the State Historic Preservation Officer (SHPO) has certified that the project is not expected to impact any sites of historical or archaeological significance.

CHAPTER IV
ALTERNATIVES TO
THE PROPOSED PROJECT

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ALTERNATIVES TO THE PROPOSED PROJECT

A. INTRODUCTION

Several alternatives have been identified that satisfy the existing and projected transportation needs of the area. The relationship of these alternatives to existing and proposed General and Community Plans, economic feasibility, and adaptability to local and regional environmental conditions were considered. Evaluation has been based on preliminary design studies and public input obtained through public hearings and the EIS review process. The following discussion outlines the alternatives from which the proposed project was selected.

B. ACTIONS CONSIDERED

1. General Actions. Four major courses of action were considered as alternatives to the project:

- o Do Nothing - No Improvement.
- o Stringent Controls - Legislative restrictions.
- o Mass Transit - Bus or rail transportation.
- o Highways - Improvements to the existing Haleakala Highway.

A Do Nothing alternative can be justified on the basis of 1) the lack of a legitimate need for the project or 2) the unacceptable adverse environmental impacts caused by the project. In the case of the Haleakala Highway Project, a legitimate need has been established (see Section I-B), and unavoidable adverse impacts outweighing the need for the project are not anticipated.

Legislative restrictions such as land use controls or moratoriums on building activity could be imposed to stop development in the project area. Such restrictions would revise existing zoning ordinances and would constrain free market demand for housing to prevent continued population growth and consequent increases in transportation needs. Legislative controls such as restrictive driver licensing, car pools, limiting vehicle size and specifying permissible operating hours, could also be implemented. Although these legislative restrictions are possible, they are subject to social acceptability and possible legal action. This alternative is not a practical solution in terms of the Statewide scope of the action and the time involved for project implementation. In addition, restrictive zoning is in direct conflict with the proposed general plan.

Several factors limit the applicability of mass transit as a means of satisfying the objectives and needs of the project. Implementation of regular public transit service would not remove the primary cause of the existing capacity problem (i.e., truck traffic), nor would it have a substantial effect on correcting existing design and operational problems (i.e., uncontrolled access, substandard roadway sections, inadequate safety features, etc.). The population residing in the essentially rural project area is not sufficiently

large or concentrated enough to warrant the establishment of transit service at the present time. An approximate 80-20 modal split (80% of the population using mass transit) would be required to support the economical operation of a conventional transit system. For mass transit to become practical, considerable population growth will have to occur in the area. While waiting for population growth to approach the requisite size and density necessary to support public transit, the existing highway will be adversely impacted by the increasing demands placed upon it. Thus, although establishment of mass transit may eventually be a viable proposal, it does not represent a feasible solution to the present problem. An alternative course of action appears to be warranted until such time as public transit can effectively serve the transportation needs of the area.

Some form of highway improvement offers the most direct and practical means of correcting the transportation problem in the area. Several criteria were considered in identifying project alternatives.

a. Capacity (Lane) Requirements. The major deficiency of the existing highway is the restricted capacity caused by steep grades and high truck volumes. Several solutions are available, but the simplest is to provide a two-lane highway with a truck climbing lane (see Exhibit 5, Sheet 7). By providing a truck climbing lane, the slow moving uphill trucks are removed from the main traffic stream, increasing the overall highway capacity.

b. Design Speed (Engineering Parameter). A maximum design speed of 50 mph was selected consistent with the 7% grade necessitated by the terrain.

c. Other Design Features. Additional design features selected included:

- o 12-foot lane widths.
- o 10-foot shoulder widths.
- o Partial access control.
- o A parallel ditch system for highway drainage.
- o Adequate sight distances through improved geometrics.
- o Reflectorized markers, guide posts, and guardrails.
- o A 30-foot clear area free of obstacles from the edge of the pavement where space is available (based on right-of-way acquisition cost), and/or guardrails where space is not available.

d. The project must be economically justifiable (i.e., benefit/cost ratio greater than one).

2. Highway-Related Actions. Based on the above criteria, four highway alternatives were considered in the selection process:

- o Alternative A consists of construction of a new roadway along a north bypass alignment.

- o Alternative B consists of widening and improvement of the existing highway alignment through Pukalani.
- o Alternative C consists of construction of a new roadway along a south bypass alignment.
- o Alternative D consists of the installation of additional safety features and the improvement of select design deficiencies along the existing roadway.

The following discussion presents the pertinent features of each alternative. The proposed project was selected from among these alternatives based on relative cost, design features, and environmental acceptability.

C. ALTERNATIVE A

1. Plan and Profile. Exhibits 5 and 7 show the engineering features and comparative data for Alternative A.

a. General Location. North of Pukalani (see Exhibit 2). Note that two potential highway alignments were originally considered in the north bypass concept. These alignments, referred to as sub-alternates A-1 and A-2, were compared on a technical basis and were considered at a public informational meeting on February 25, 1974 on Maui.

The comparative analysis favored sub-alternate A-1 in terms of economics and social impacts, while sub-alternate A-2 was favored in terms of horizontal alignment. Other considerations were essentially equal for both variations. Sub-alternate A-1 is approximately \$240,000 less than sub-alternate A-2. The primary difference is right-of-way cost. Sub-alternate A-1 is situated almost entirely on agriculturally zoned lands whereas sub-alternate A-2 impacts urban zoned R-3 properties between Makani Road and Makawao Avenue. Exhibit 3B shows the zoning in this area.

The social impacts of sub-alternates A-1 and A-2 are directly related to economics. The higher right-of-way cost of A-2 stems from the impact on 21 parcels of land and displacement of two families. Sub-alternate A-1 only impacts nine parcels of land and does not require any displacements of families.

Besides being more damaging on an individual (property owner) basis, A-2 has the effect of reducing urban area. The intent of the proposed General Plan is to foster the development of Pukalani as an area of urban concentration, and to relieve the development pressures placed on more valuable agricultural lands.

Sub-alternate A-2 has better horizontal curvature (a 5,000' R versus a 2,000' R reverse curve), a shorter length (by several hundred feet), and a better connection (tangent versus curve tie in) to the existing highway than A-1. From an engineering viewpoint, sub-alternate A-2 is more desirable than A-1 even though both meet all design standards.

The economic and social considerations favoring A-1 were felt to outweigh the engineering preferences favoring A-2. Owing to these considerations sub-alternate A-1 was selected for the North Bypass, and is referred to as Alternative A.

b. Detailed Plan and Profile. Curve data, azimuths, right-of-way lines, intersection details, ground line, and finish grades for Alternative A are shown Exhibit 5, Sheets 1 through 6.

2. Typical Road Section. Lane, shoulder and pavement structure details and minimum right-of-way requirements and access control line are shown in Exhibit 5, Sheets 7 and 8.

3. Capacity and Traffic Projection. Traffic and capacity data for Alternative A are presented in Exhibit 5, Sheet 9.

4. Design and Operating Features.

- o Design Speed: 50 mph.
- o Probable Posted Speed: 45 mph.
- o Access Control: Partial.
- o Special Safety Features: 30-foot clear area with 4:1 slopes, guardrails, 10-foot shoulders, reflectorized markers, and guideposts.
- o Length: 3.06 miles.

5. Right-of-Way Acquisitions.

- o Parcels affected: 9
- o Residences affected: 0
- o Businesses affected: 0
- o Area required: 46.9 Acres (agriculture only)

6. Economics.

- o Project Cost: \$2,980,000
- o Benefit/Cost Ratio: 3.62 (see Exhibit 5, sheet 10)

7. Environmental Impacts. Refer to Chapter III for the impacts of Alternative A (proposed project).

D. ALTERNATIVE B

1. Plan and Profile. Exhibits 6 and 7 show the engineering features and comparative data for Alternative B.

a. General Location. Along the alignment of the existing highway (see Exhibit ?).

b. Detailed Plan and Profile. Curve data, azimuths, right-of-way lines, frontage roads, intersection details, ground line, and finish grades for Alternative B are shown in Exhibit 6, Sheets 1 through 5).

2. Typical Roadway Section. Lane, shoulder and pavement structure details and minimum right-of-way requirements are shown in Exhibit 6, Sheet 6.

- o Number of Lanes: 3 (includes a truck climbing lane).
- o Lane widths: 12 feet.
- o Shoulder widths: 10 feet.
- o Minimum Rights-of-way width: 76 feet.

3. Capacity and Traffic Projections. (See Exhibit 6, Sheet 7)

- o Capacity: 1,320 vehicles per hour.
- o 1995 A.M. peak hour traffic: 1,000 vehicles.

4. Design and Operating Features.

- o Design Speed: 40 mph
- o Probable Posted Speed: 35 mph
- o Access Control: None
- o Special Safety Features: Guardrails 10-foot shoulders, reflectorized markers and guideposts.
- o Length: 2.84 miles

5. Rights-of-Way Acquisitions.

- o Parcels affected: 86
- o Residences affected: 8
- o Businesses affected: 6
- o Area required: 24.1 Acres Agricultural
15.1 Acres Urban
39.2 Acres Total

6. Economics.

- o Project Cost

Construction	\$2,269,000
Engineering (10%)	227,000
Contingencies (10%)	227,000
Right-of-way	1,757,000
Total	\$4,480,000

- o Benefit/Cost Ratio: 1.53 (See Exhibit 6, sheet 8)

7. Environmental Impacts. As with the proposed action (Alternative A), Alternative B would satisfy the basic objectives of the project by increasing highway capacity to a point capable of accommodating projected traffic demand, would provide for improved highway safety through incorporation of such design features as 1) improved stopping sight distances through improved geometrics, 2) a truck climbing lane which reduces the need to occupy the opposing traffic

traffic lane while passing, 3) paved 10-foot shoulders for emergency stops and recovery, 4) guardrails, reflectorized guide posts, and reflectorized markers, and 5) travel lanes 12-feet wide.

Unlike the proposed action, Alternative B would be deficient in several significant safety features including 1) partial access control to reduce the number of points at which crossing traffic can occur, 2) 30-foot clear areas from the edge of the pavement to reduce the dangers of roadside hazards such as utility poles, and 3) physical separation of the roadway from residential areas. Implementation of Alternative B would cost approximately 50% more than the proposed action while generating greater adverse impacts in terms of noise, air pollution, community disruption, and residential and commercial displacement. The following discussion identifies the environmental impacts associated with Alternative B.

a. Topography, Geology and Soils. Alternative B would require cut and fill grading resulting in topographic modification of the existing terrain. Maximum fill height would vary up to 25 feet, and all slopes would be constructed to a maximum 2:1 horizontal to vertical ratio. The steeper inclines of these cut and fill slopes would be subject to erosional forces.

b. Hydrology and Water Quality. Increased quantities of surface runoff would occur as a result of the installation of additional impermeable road surface. Surface water quality would be subject to slight degradation from the transport of chemical residues from the roadway surface, and increased siltation from the highway cut and fill slopes into the drainage system. Implementation of appropriate mitigation measures including temporary and permanent slope landscaping and the installation of adequately designed catch basins, and culverts would reduce the impact upon water quality and soil erosion.

c. Vegetation and Wildlife. Alternative B would require removal of approximately 24.1 acres of agricultural land and associated vegetation. The reduction in habitat afforded by the existing crop land would be partially mitigated by the provision of landscaping on completion of construction. Birds and small mammals would be displaced in connection with the removal of habitat.

d. Air Quality. Applicable air quality standards would not be exceeded as a result of increased traffic accommodated by Alternative B. Based on the methodology outlined in Guidelines for Air Quality Maintenance, Planning and Analysis, Volume 9: Evaluating Indirect Sources (EPA, 1975), estimated carbon monoxide concentrations resulting from projected peak hour traffic conditions would approximate 8.2 mg/m³ during a one-hour averaging time at a distance of 10 meters from the roadway. This is below the 1-hour primary and secondary Federal standard of 40 mg/m³, and the State standard of 10 mg/m³. As Federal emission controls become effective, auto generated emissions are expected to decline. The proposed controls on emission could result in an estimated 52% reduction in CO emissions, a 42% reduction in hydrocarbons emissions, and a 16% reduction in nitrogen oxides emissions along the Alternative B alignment over the life of the project. (These calculations are given in Appendix B).

e. Noise. The 1995 L_{10} noise levels affecting residences along Alternative B would be approximately 70 to 80 dBA between Mohala Place (Station 313 + 50) and Makawo Avenue (Station 340 + 50), and between Aeloa Road (Station 272 + 00) and Pahaa Place (Station 286 + 00). These levels exceed the Federal noise standard of 70 dBA, and constitute a significant noise impact that would affect approximately 69 residences, 5 businesses and one church. (See Appendix C).

Noise attenuation measures appear impractical due to excessive costs, limited highway right-of-way, and the present state of noise abatement technology. The attenuation of noise levels to 70 dBA would require a barrier 20-25 feet in height above the pavement grade. This barrier would extend over two miles along Alternative B on both sides of the highway. The problem is further compounded by the openings required for access to and from the highway, and more measures would be necessary to completely attenuate the noise impact. Construction of noise barriers would require additional highway right-of-way resulting in further family displacement.

f. Community Size, Structure and Form. Alternative B would provide sufficient traffic capacity to accommodate the projected growth of the Pukalani Community anticipated by the proposed General Plan. However, because of its alignment along the existing highway through Pukalani, Alternative B would significantly disrupt existing commercial and residential land uses. An estimated seven family units (6 owner occupants and 1 tenant occupant), 2 individuals (tenant occupants) and 5 businesses would be displaced as a result of right-of-way acquisition. With the exception of one tenant family which might require special relocation assistance under Section 206 (a), Last Resort Housing, households affected by Alternative B could be adequately relocated within the community using normal relocation assistance procedures. All of the affected households could be expected to undergo some degree of inconvenience and temporary disruption during the relocation process.¹

Alternative B would virtually eliminate the existing service trade concerns serving the Pukalani Community. These commercial businesses presently occur as strip commercial uses fronting along the existing highway. The widening of right-of-way required for Alternative B would displace these businesses from their present location. Because of surrounding development and land use controls, no suitable commercial sites could be provided for these displaced businesses along the improved alignment.¹

g. Support Service Infrastructure. Alternative B would involve construction of an improved highway over the existing route. This would result in traffic flow disruptions over the 18 to 24 month construction period and would necessitate major water, telephone, and electrical utility relocations at a cost of approximately 228,000 dollars. Although special phasing and safety measures to allow continuous traffic circulation would be implemented, some impairments to the operations of emergency services (i.e., fire, police, ambulance, etc.) using the highway could be expected.

¹ Conceptual Stage Relocation Program Plan, Hawaii Highways Division, April 18, 1974.

h. Community Facilities. Alternative B would involve the acquisition of property for right-of-way from a neighborhood park and from the Pukalani Baptist Church. The Pukalani Baptist Church is an existing community facility fronting on the existing highway alignment at Loha Street (see Exhibit 6, Sheet 5).

i. Commerce and Industry. Information supplied by Maui Land and Pineapple Company indicates that implementation of Alternative B would reduce their pineapple operations by approximately 24 acres, resulting in an annual loss in production of 414 tons valued at \$20,700 (letter from Maui Land and Pineapple Company, September 18, 1974). This reduced production would decrease the Company's labor requirements by approximately 1,580 man-hours per year (the equivalent of one employee). This reduction in labor requirements could in turn effectuate a possible layoff. Within the Community of Pukalani, six businesses would be affected by right-of-way acquisition of which five would be required to relocate completely. Commercial businesses that would be affected are as follows:

- o Pukalani Service, Chevron, gas and lubrication and service station.
- o Seki's Shell Service, owner-operated gas and lubrication service station.
- o Ann's Beauty Salon, owner-operated beauty shop.
- o Rental operation (Michael Milner, owner).
- o Rental operation (Edward Ching, owner).
- o Repair shop, gas station under construction (Shirota) no relocation, only pumps to be affected.

Since no commercial relocation sites are available within the Pukalani Community, the displacement of these businesses would constitute an adverse effect on the commercial services sector of the community.

j. Land and Property Values. Land and property values are determined by a number of factors including the availability of safe and efficient transportation. Although the exact impact of Alternative B cannot be predicted, the existing trend toward rising land and property values could be enhanced by the provision of improved transportation facilities. The removal of existing prime urban land for right-of-way purposes could place additional demands on the available urban land remaining resulting in increased market prices.

k. Aesthetics. Implementation of Alternative B would modify the existing visual character of the area through construction, landform alteration, removal of vegetation, and landscaping. The aesthetic impacts of Alternative B would be more significant than for the proposed project

(Alternative A) due to the existing level of development along the town road. Construction activities along the existing town road would be subject to greater exposure than for Alternative A. Increased traffic volumes through town would contribute to a continued long-term aesthetic impact.

E. ALTERNATIVE C

A bypass alignment to the south of the existing highway was examined and found to have a slight engineering advantage over the North Bypass Alignment (Alternative A) in terms of terrain and overall length (see Exhibit 2). However, comparison of Alternative C with the proposed land uses along the route indicated that high costs in terms of right-of-way acquisition and relocation assistance as well as major social impacts would be unavoidable (See Exhibit 3B). Because of the disruptive effects on the community that would result from implementation, Alternative C was not considered economically or socially acceptable, and was disqualified from further consideration.

F. ALTERNATIVE D

Consideration was given to "dressing up" the existing highway through implementation of minor construction activities to correct deficiencies and render slight improvements to operating safety. This alternative would not increase capacity to needed levels nor would it alleviate any of the adverse conditions of noise and safety associated with the passage of high volume traffic (particularly truck traffic) through the residential and commercial sectors of the Community. As a result, this course of action was considered unacceptable and was disqualified from further consideration.

CHAPTER V
UNAVOIDABLE
ADVERSE IMPACTS

CHAPTER V

UNAVOIDABLE ADVERSE IMPACTS

Implementation of the proposed project (Alternative A) will result in only one unavoidable adverse impact, the loss of 47 acres of agricultural land.

Other impacts are either insignificant or can be mitigated to acceptable levels. The project will not result in water pollution, damage to natural life systems, threats to health, undesirable land use patterns or adverse effects on minorities. Soil erosion and dust generated during and after construction will be mitigated by immediate erosion control measures and by permanent plantings. Automobile emissions will not exceed acceptable levels. The aesthetics of cuts and fills will be improved with landscaping. Noise associated with construction will not significantly affect residences due to the distances involved. Implementation of Alternative A will cause the Federal Noise Standard (70 dBA) to be exceeded by up to 5 dB for twelve residences. However, without the proposed project, increasing traffic on the existing Haleakala Highway would cause the noise standard to be exceeded by 10-15 dB.

CHAPTER VI
SHORT TERM USES VS
LONG-TERM PRODUCTIVITY

CHAPTER VI

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

Of particular importance in describing the relationship between short-term use of the environment and long-term maintenance and enhancement of productivity, is recognition of the degree to which a particular project represents a long-term commitment of physical, social, economic, and biological resources. The resources available in an area, to a large extent, constrain the reasonable limits of productivity and should influence short-term decision-making.

Improvement of the Pukalani section at the Haleakala Highway through construction of a new roadway along the North Bypass Alignment will require labor, materials, and monetary resources in the short-term. In addition, the roadway will require the taking of relatively small amounts of land and natural resources within the selected corridor. The consumptive use of labor, materials, and monetary resources associated with construction of the project is not expected to foreclose future options or pose long-term risks to the local or regional environments of Central Maui. Displacement of vegetation and wildlife within the corridor should not pose a long-term risk to the quality of the natural environment due to the types of organisms present in the corridor, and the level to which these organisms have been exposed to development in the past.

The proposed action will also involve a long-term commitment of labor, materials, and monetary resources for maintenance of the roadway. This long-term commitment is expected to be small relative to the level of enhancement of productive use of the environment provided by improved traffic circulation in Central Maui, and a more safe and efficient transportation system.

**CHAPTER VII
COMMITMENTS
OF RESOURCES**

CHAPTER VII

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Construction of the highway would commit land, labor, and material resources. If the highway were to be abandoned in the future, the land could be put to other use.

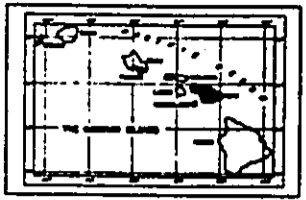
The project would preempt approximately 47 acres of agricultural land which is now devoted to pineapples. A long-range result of this preemption would be the loss of agriculturally productive land which has a potential for future pineapple production and also for crops other than pineapples. The long range and the immediate economic results would be the loss of income derived from pineapple growing, and the possible loss of employment opportunities due to decreased production.

The construction materials used for this project would be considered irretrievable for their intended use but could be reused as fill or rubble. Labor used in the project would be entirely irretrievable.

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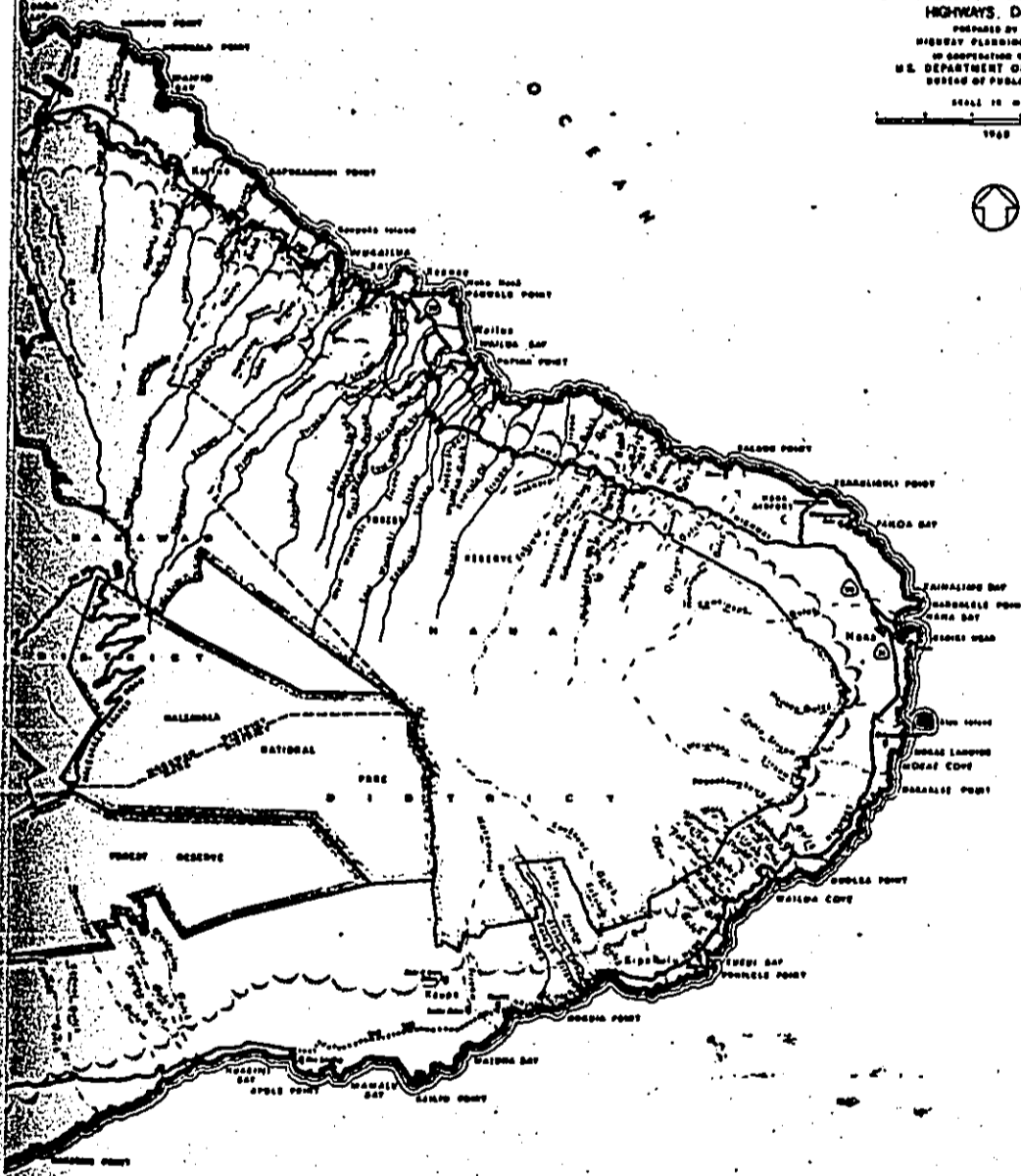
EXHIBITS

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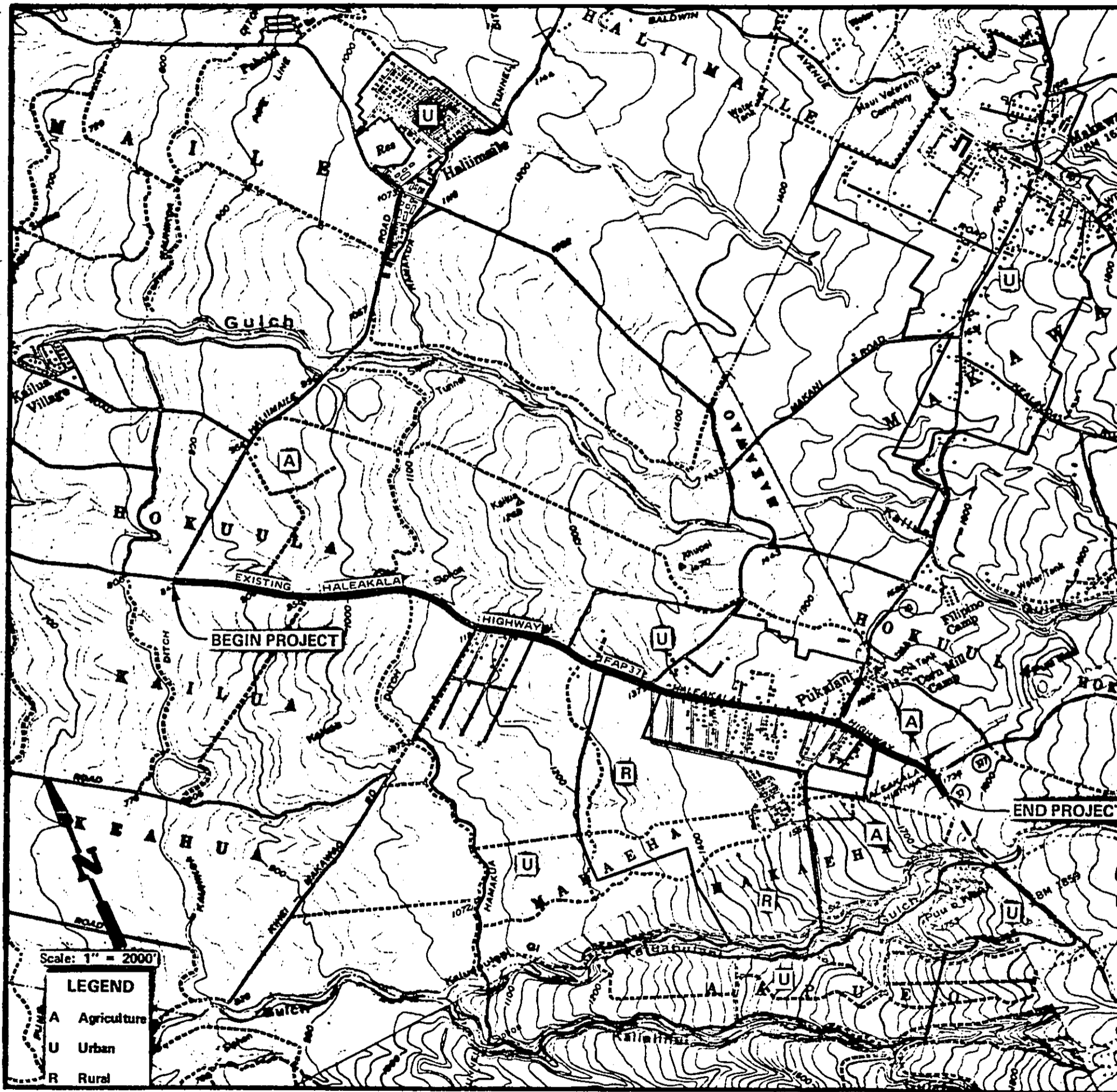


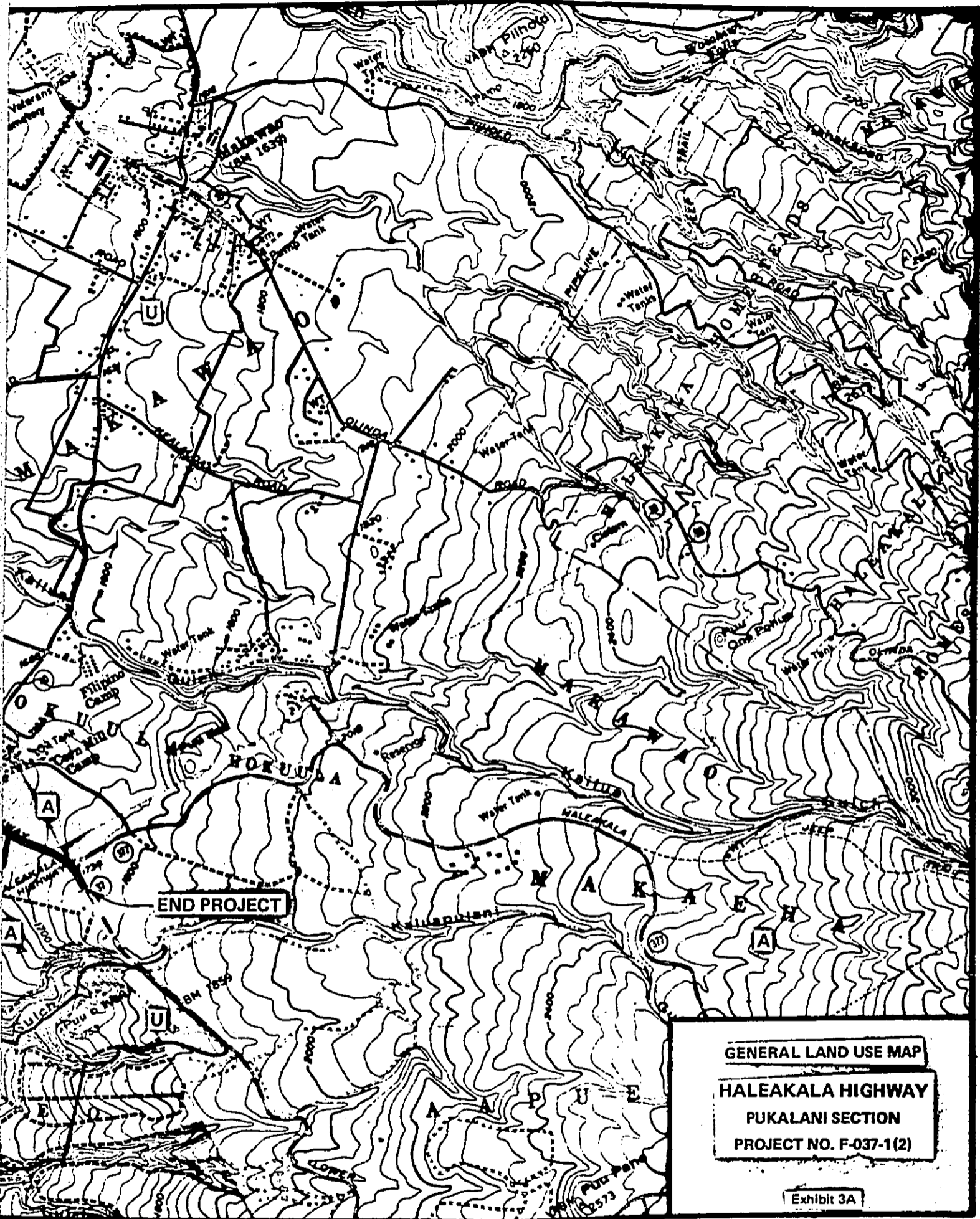
GENERAL HIGHWAY MAP
COUNTY OF MAUI
ISLAND OF MAUI
STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PREPARED BY THE
HIGHWAY PLANNING SECTION
IN COOPERATION WITH THE
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
SCALE IN MILES
1960



HALEAKALA HIGHWAY
PUKALANI SECTION
PROJECT NO. F-037-1(2)
Exhibit 1





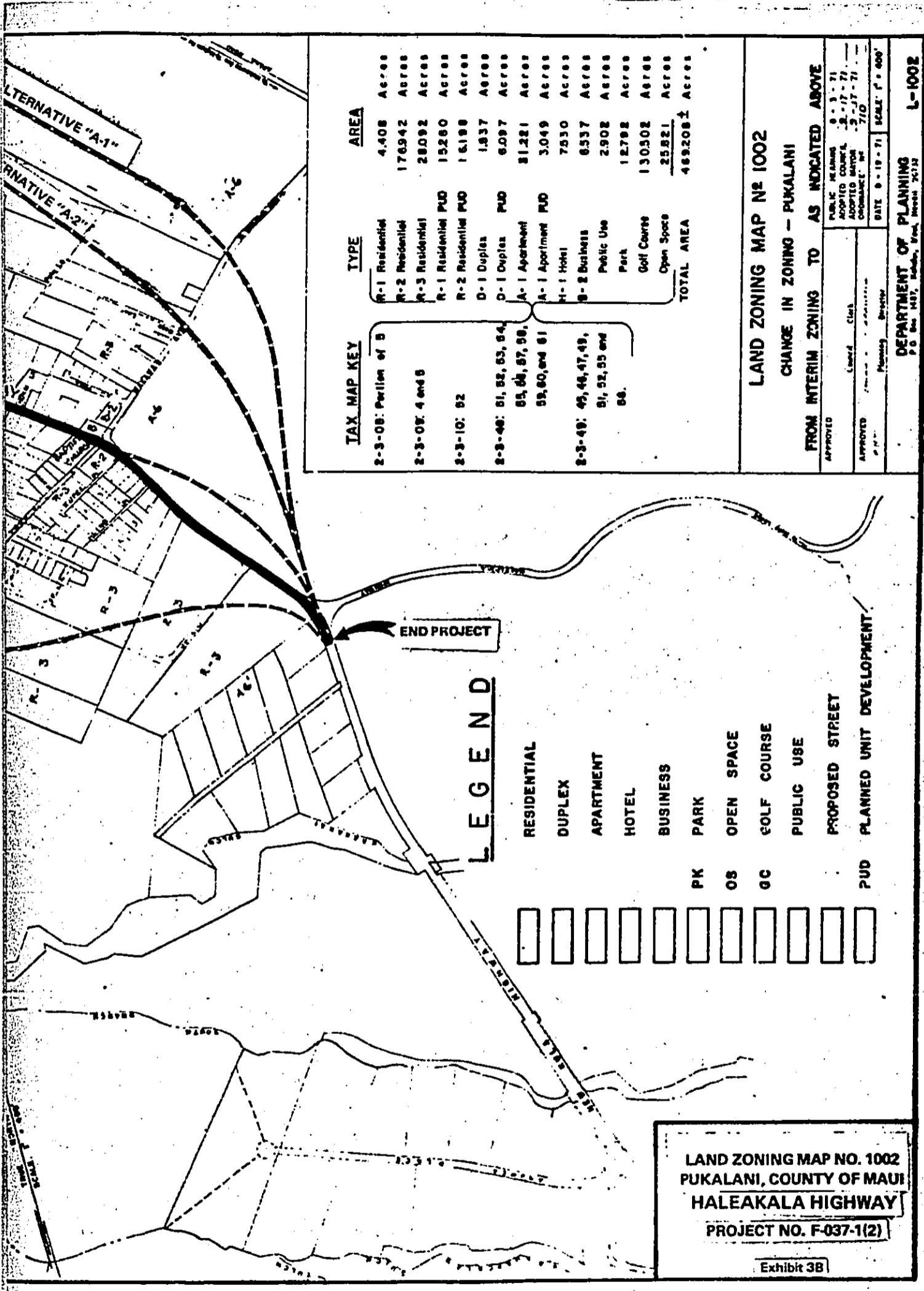
GENERAL LAND USE MAP

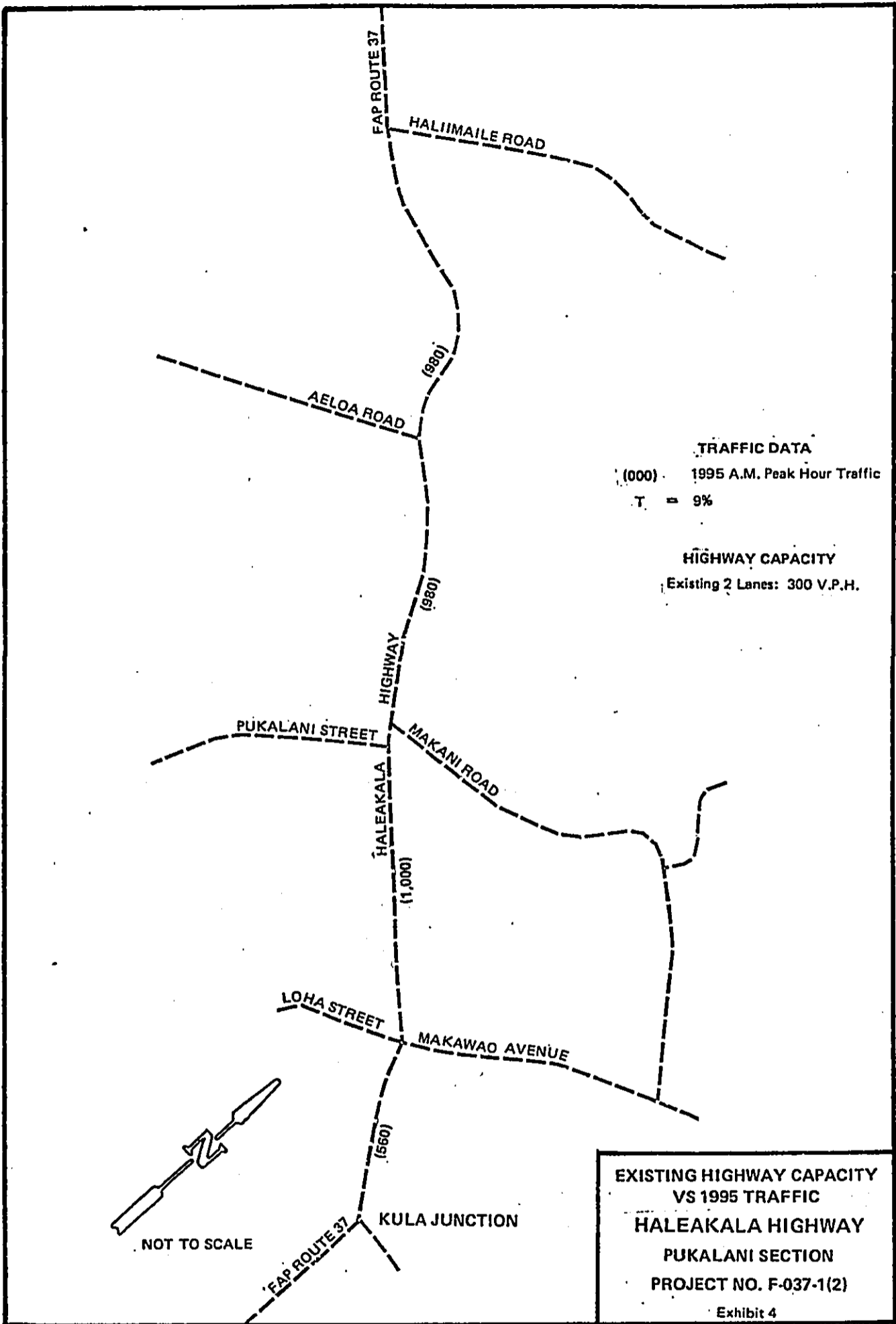
HALEAKALA HIGHWAY

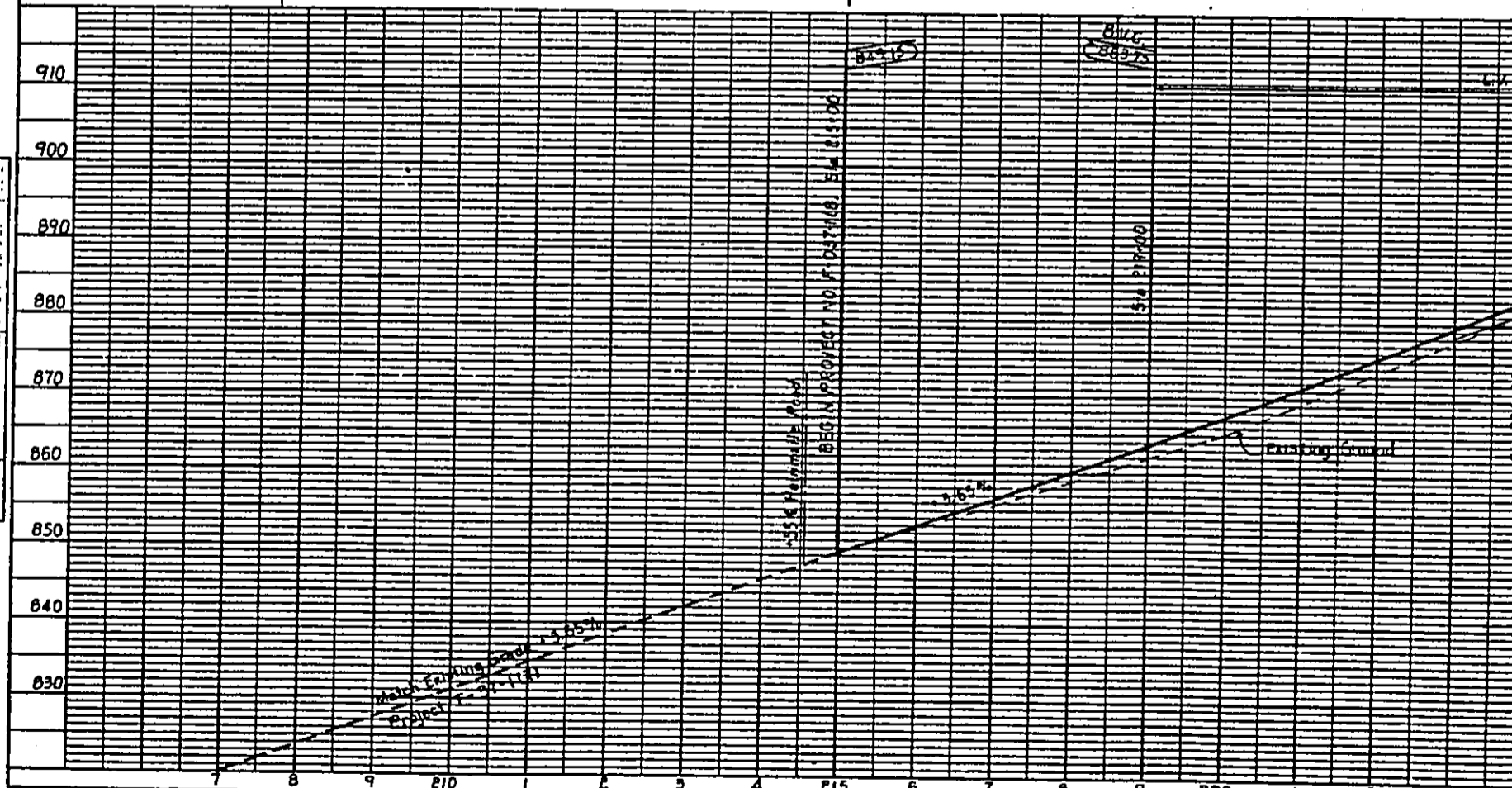
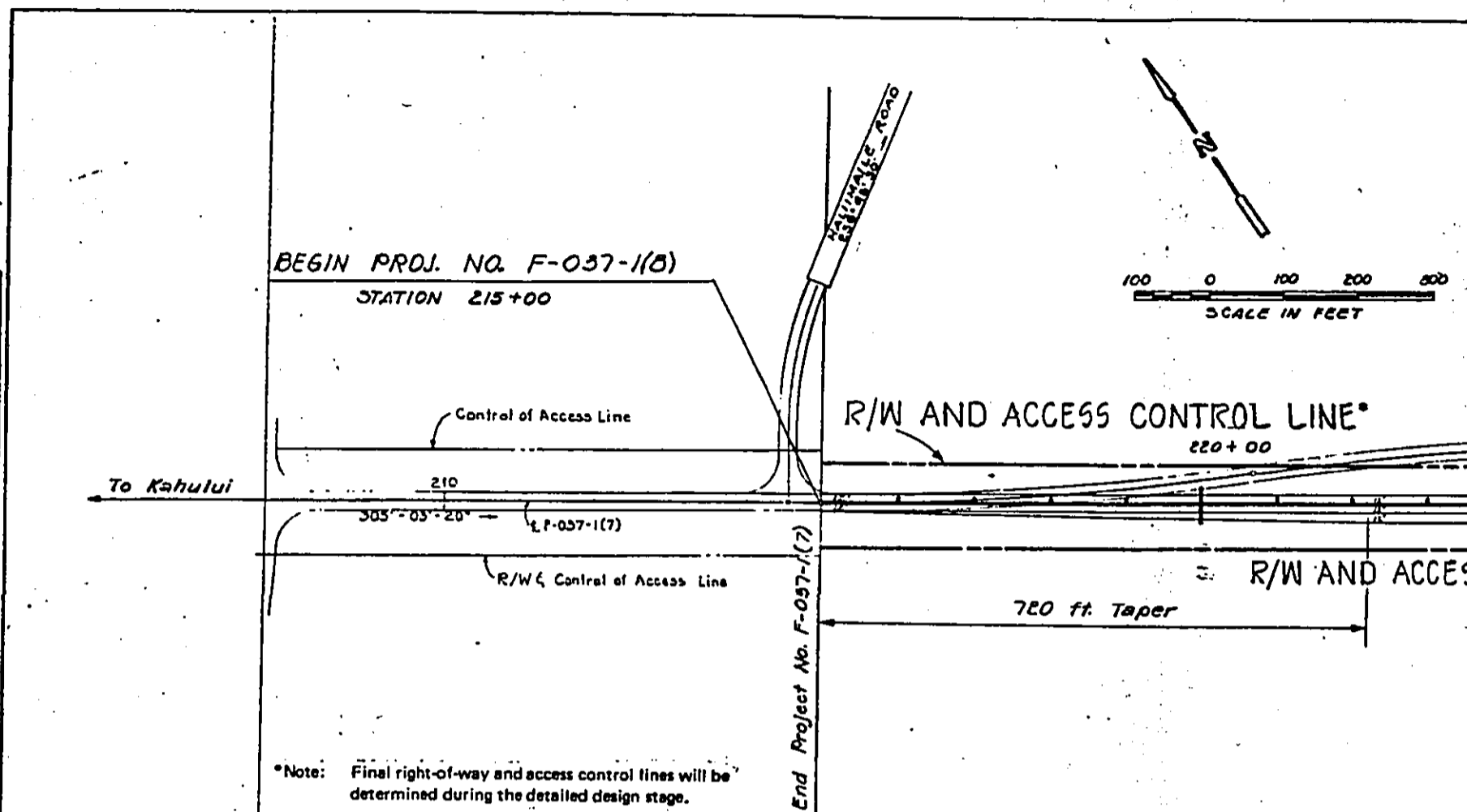
PUKALANI SECTION

PROJECT NO. F-037-1(2)

Exhibit 3A





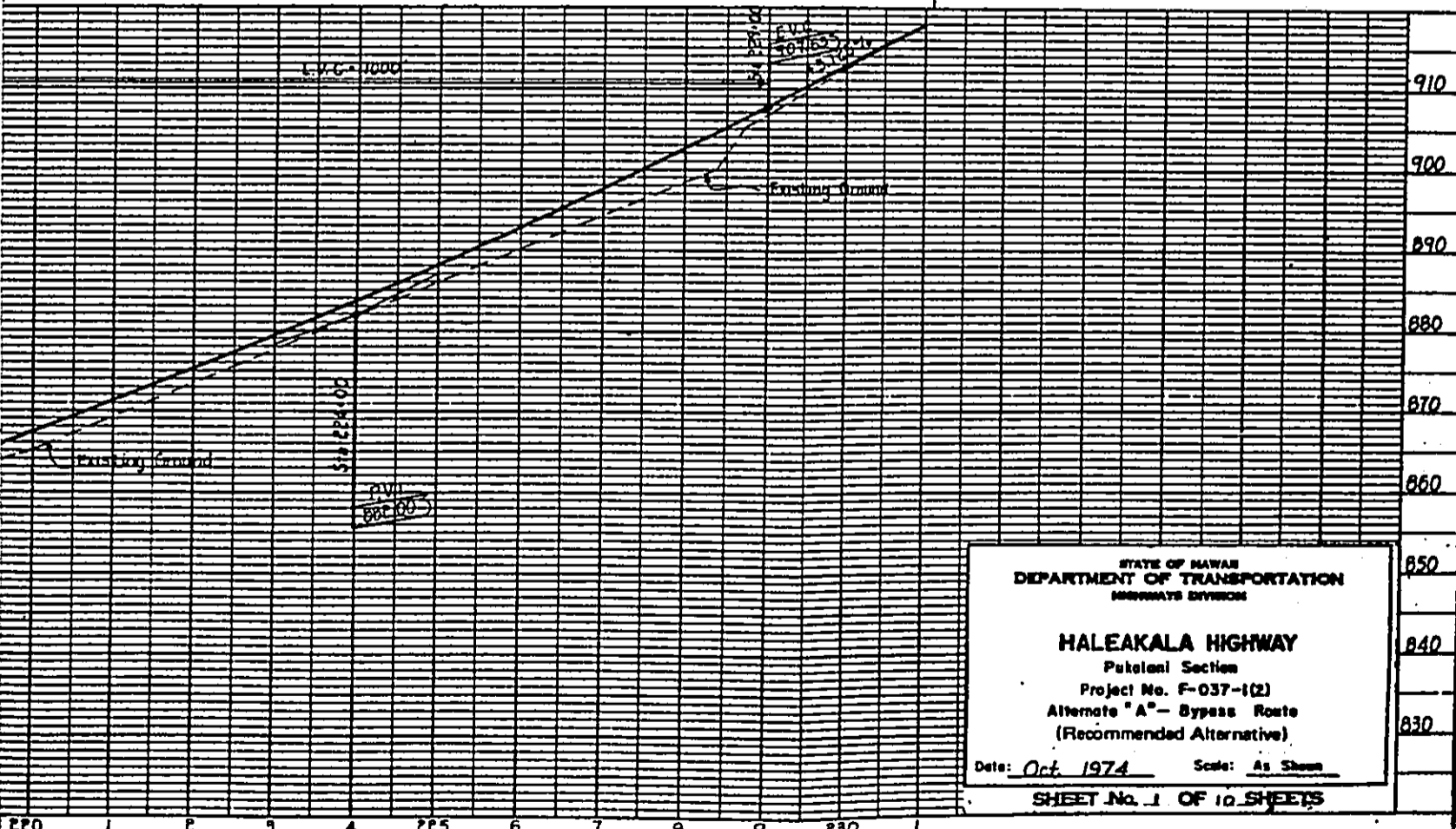
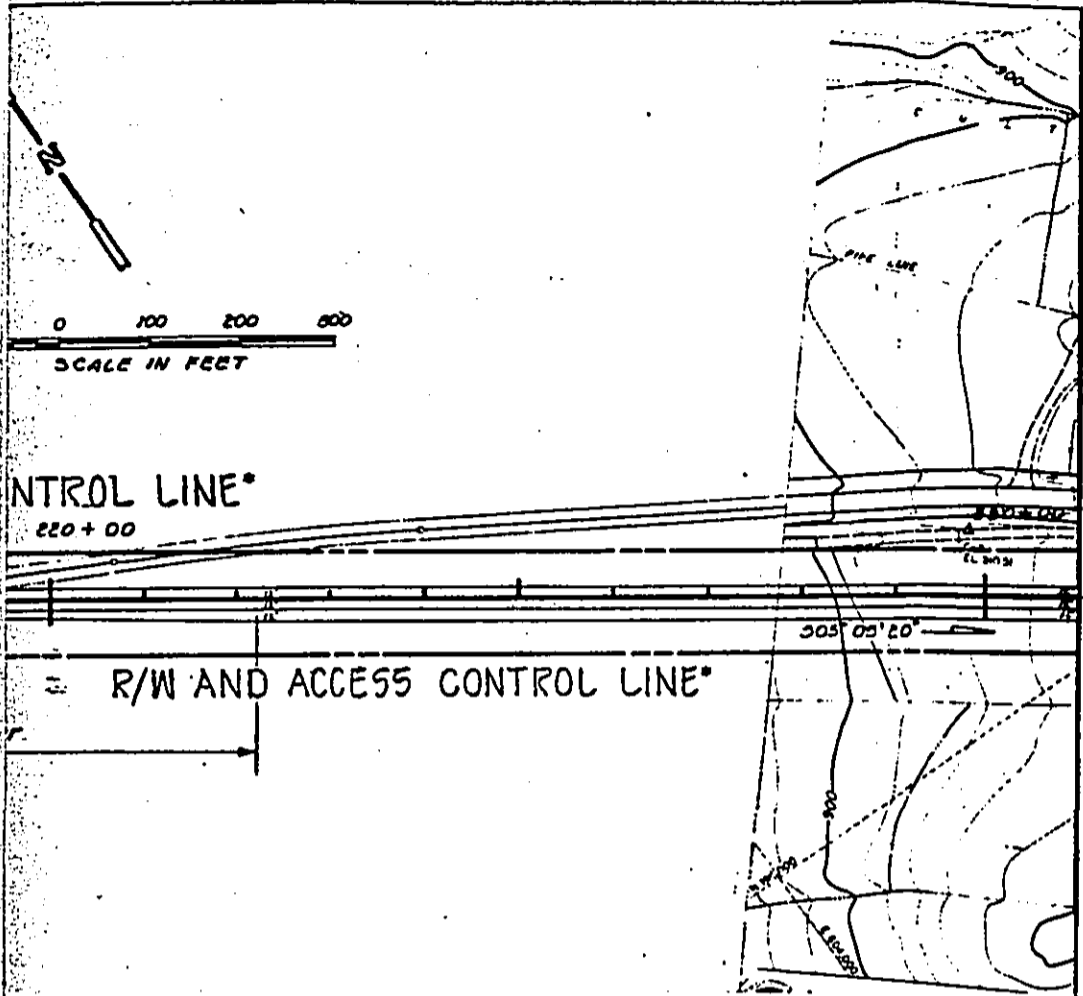


PLAN

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DATE	

PROFILE

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DATE	



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

HALEAKALA HIGHWAY
 Palani Section
 Project No. F-037-1(2)
 Alternate "A" - Bypass Route
 (Recommended Alternative)

Date: Oct. 1974 Scale: As Shown

SHEET No. 1 OF 10 SHEETS

PLATE 1 - PLAN, PROFILE, & A&E
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 02 0004

Exhibit 5

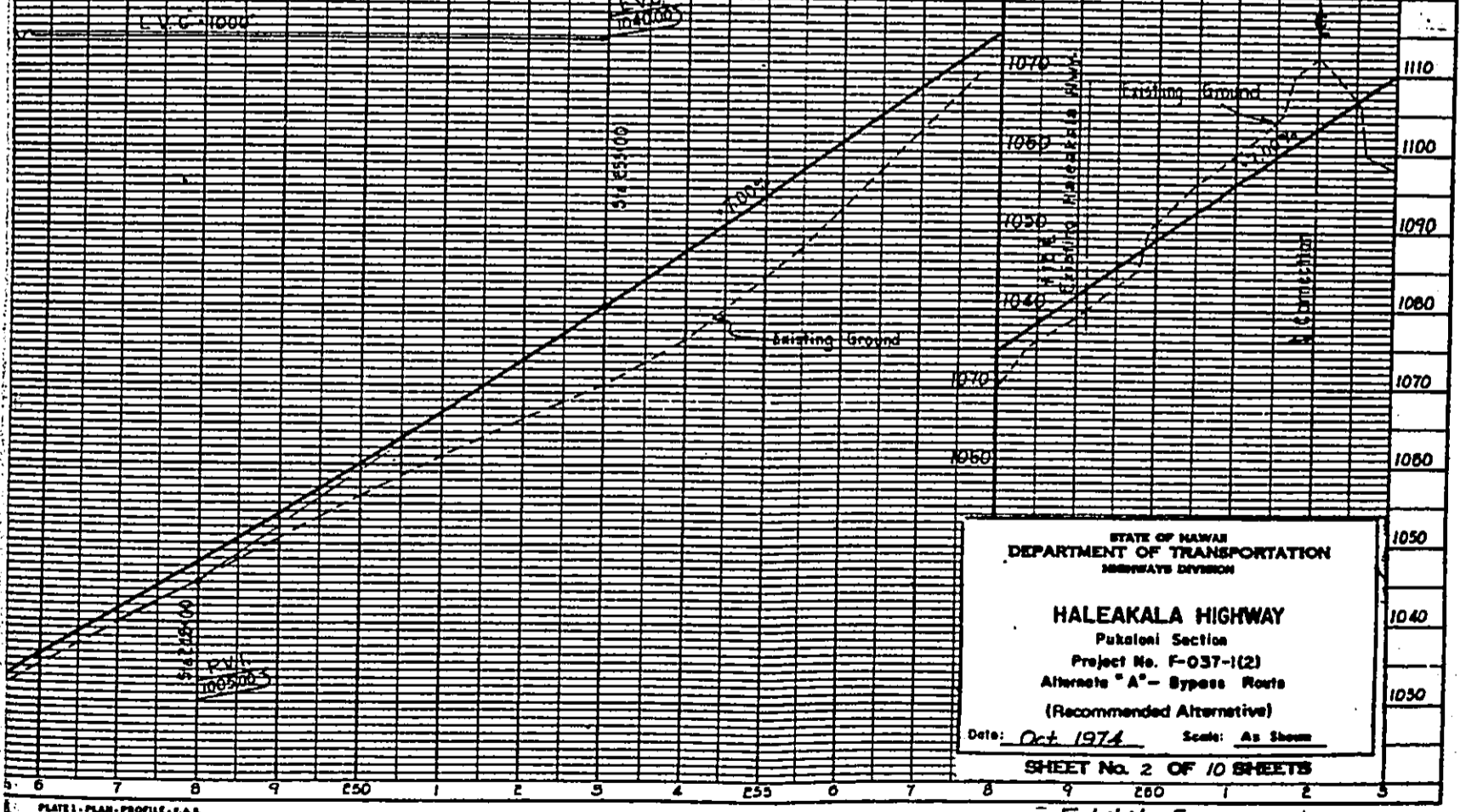
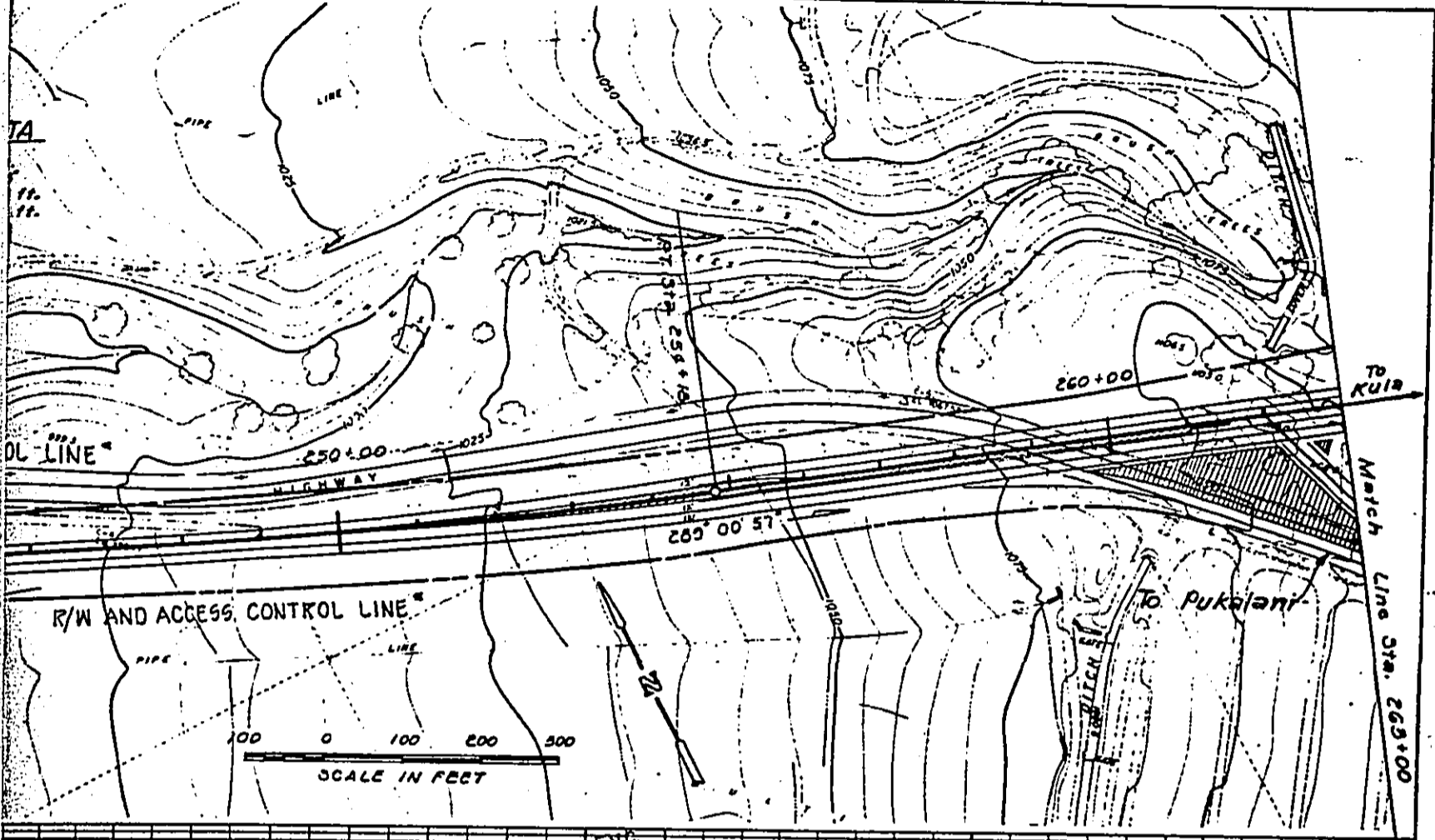
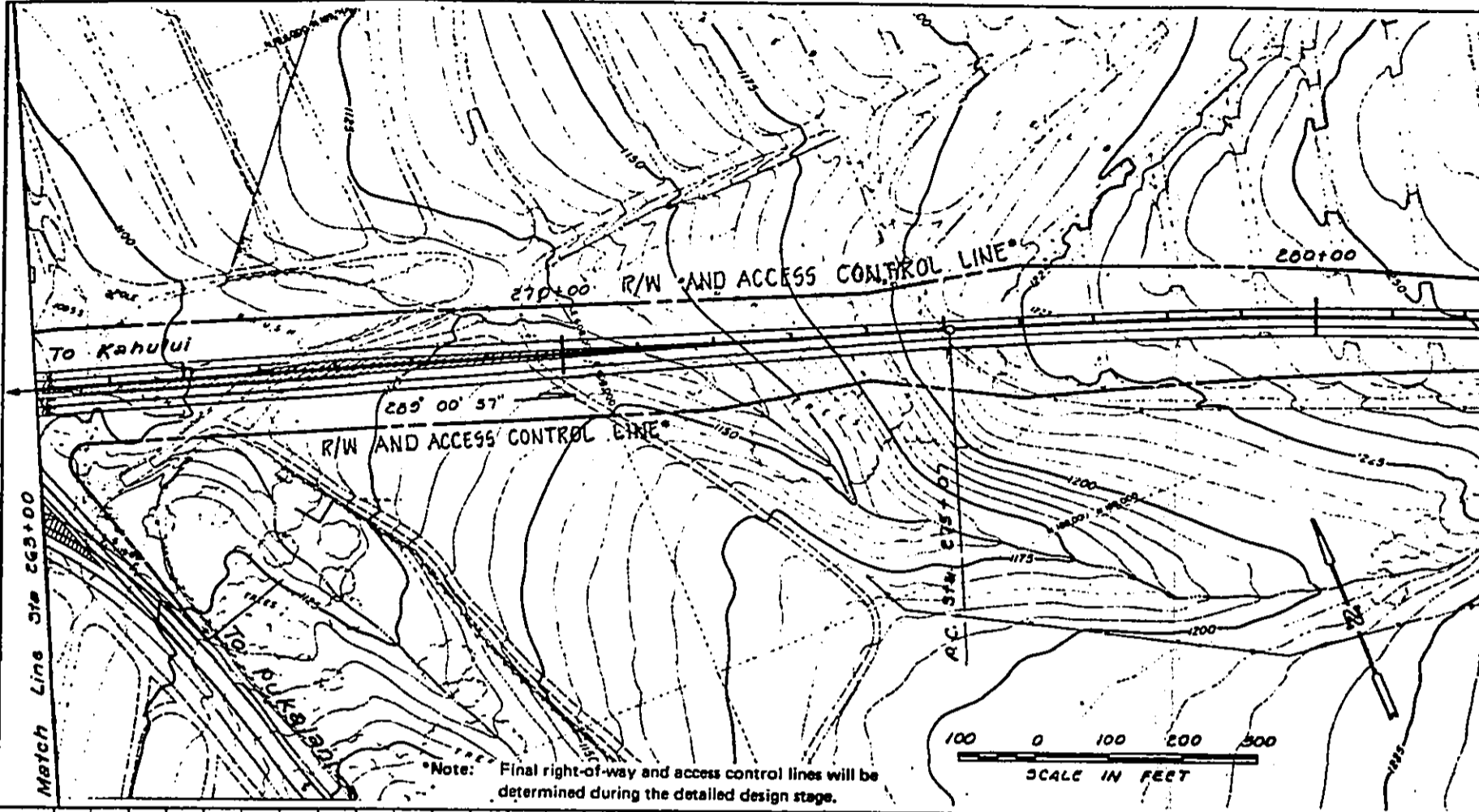


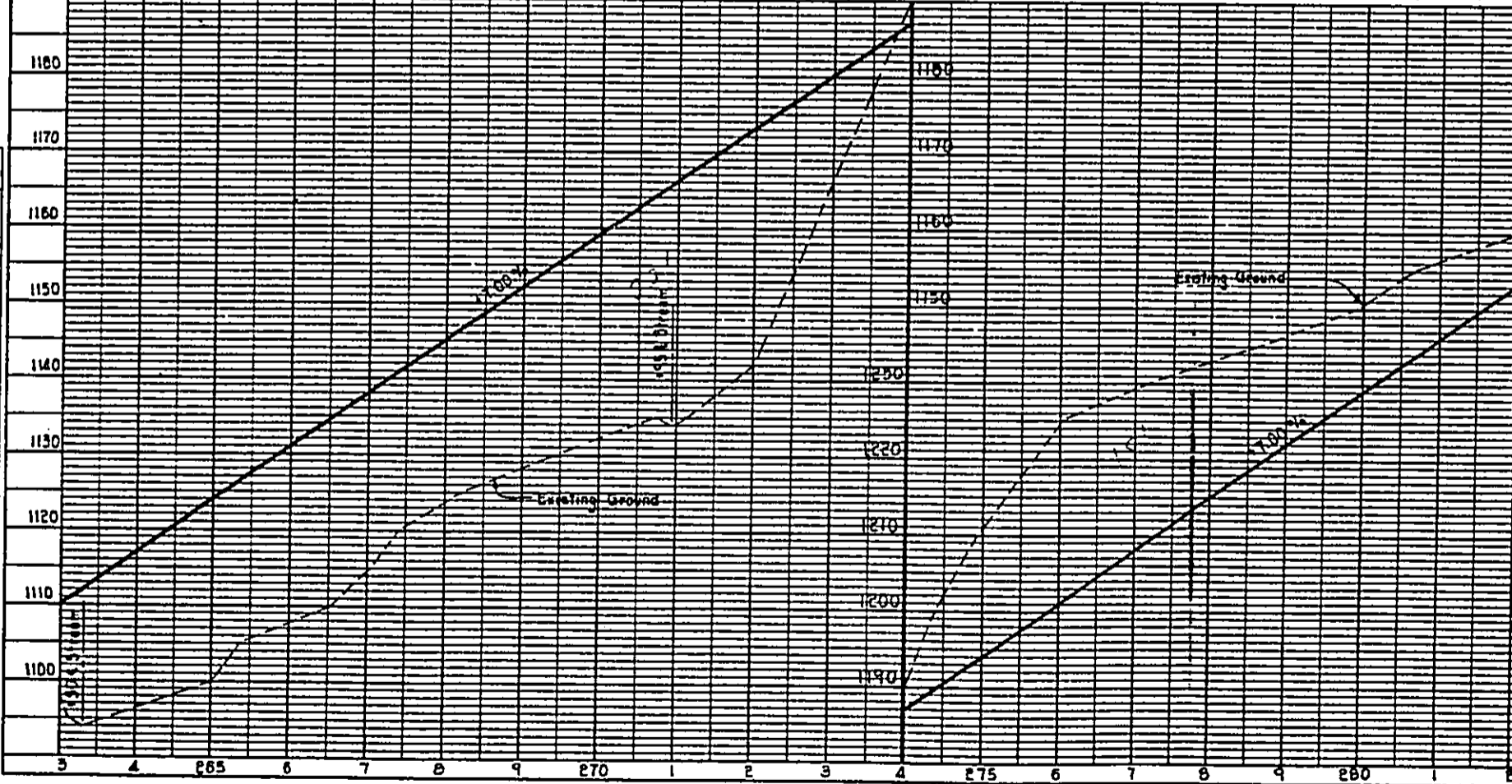
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Exhibit 5

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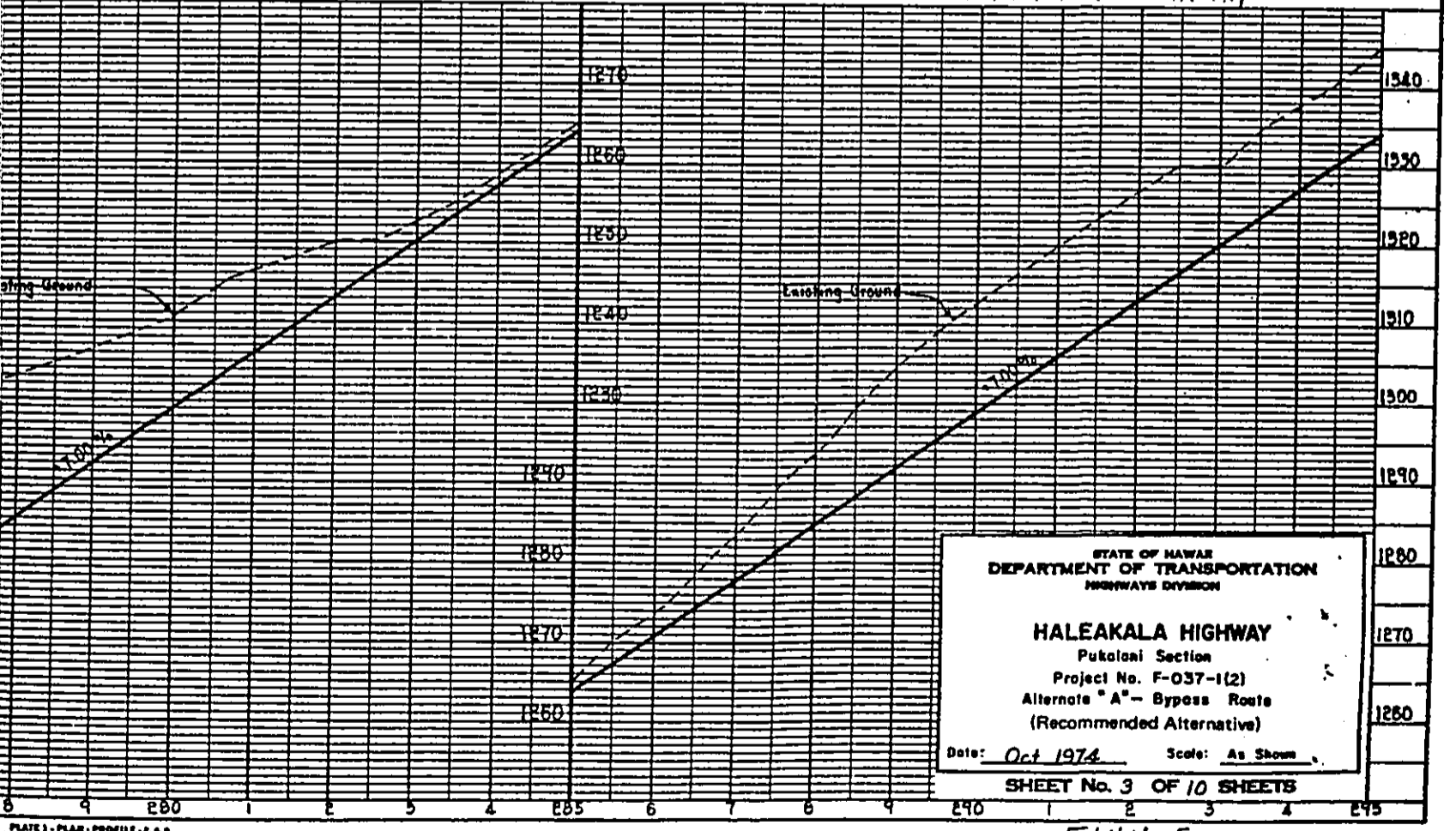
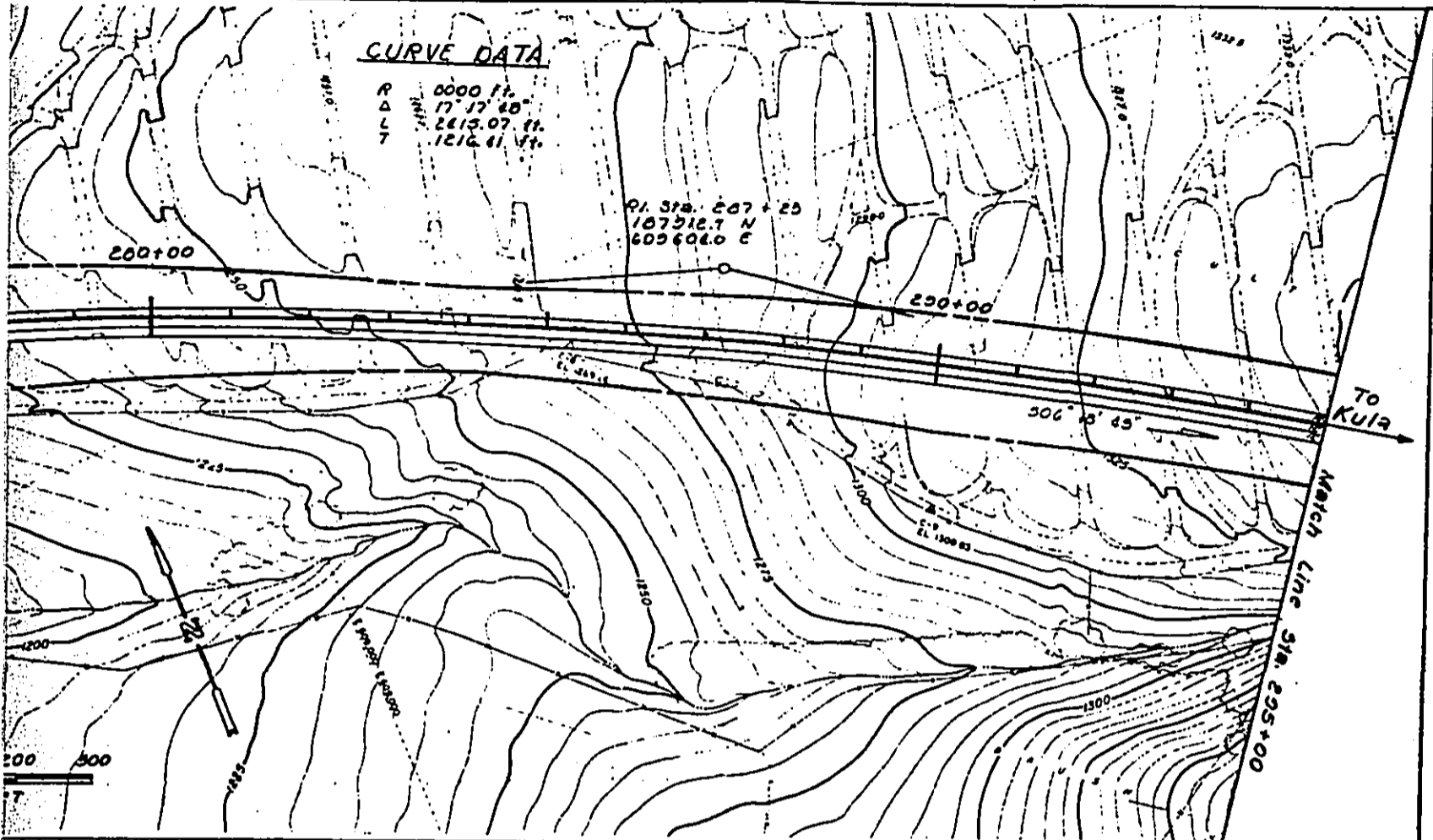
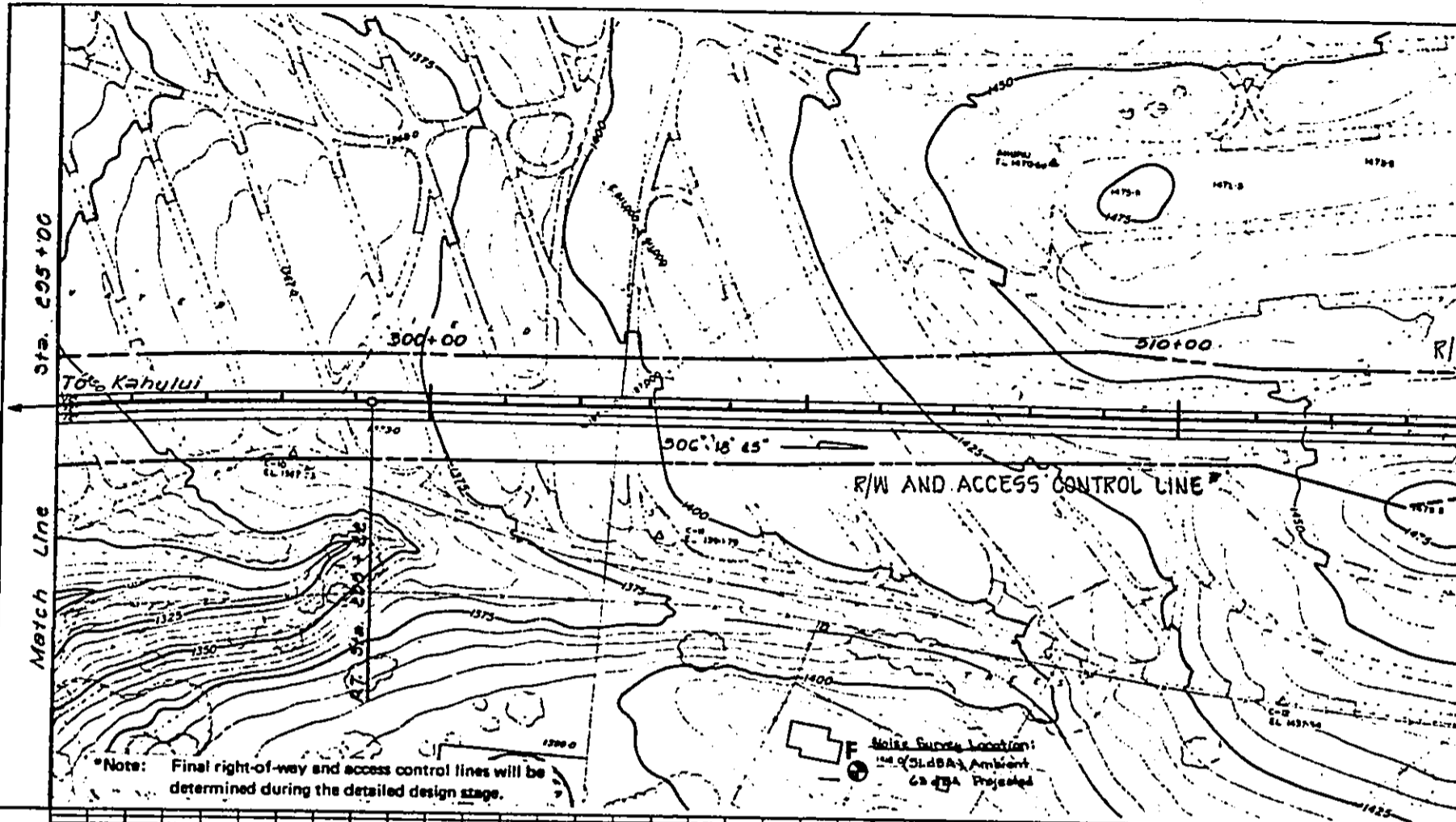


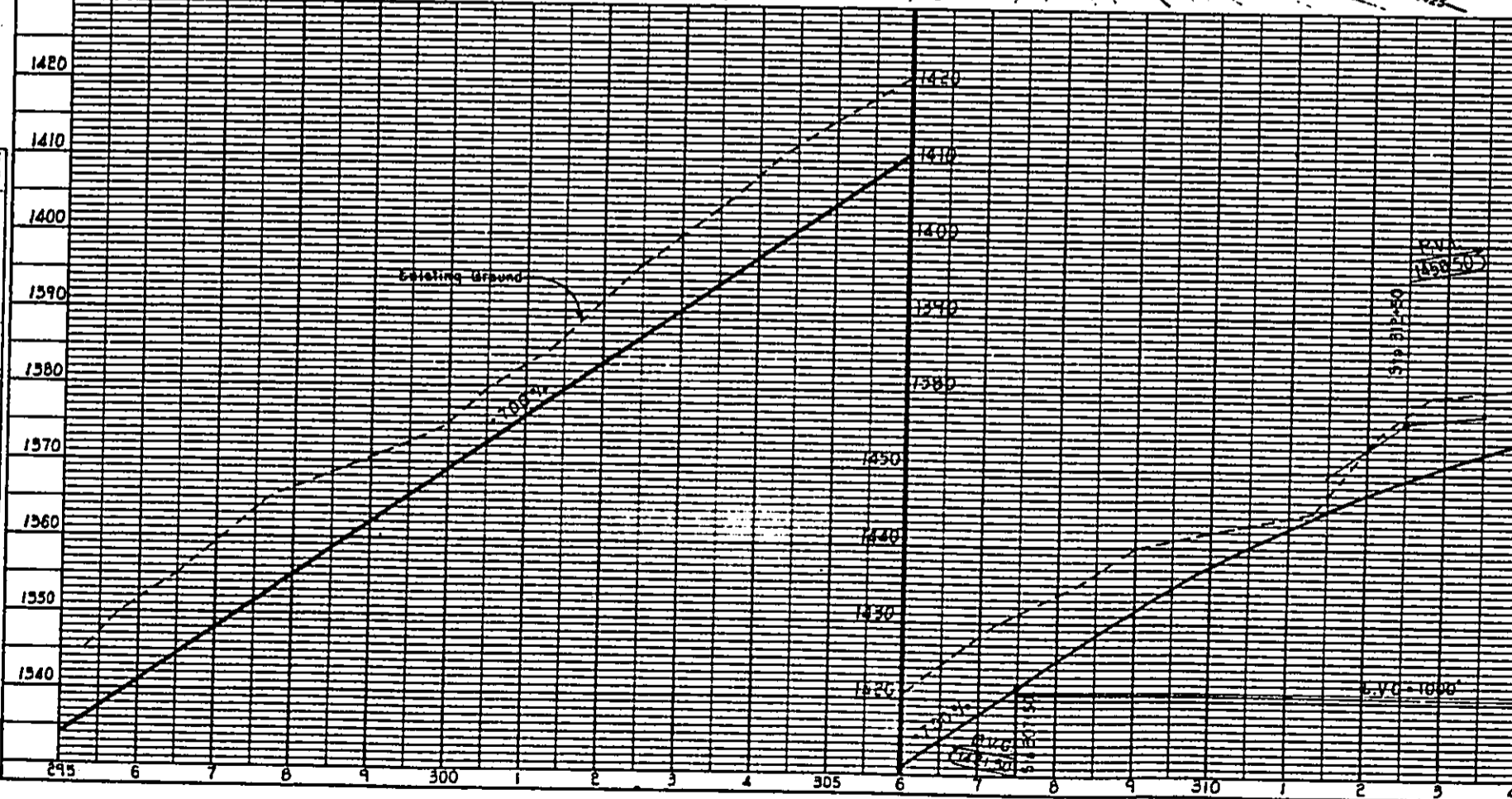
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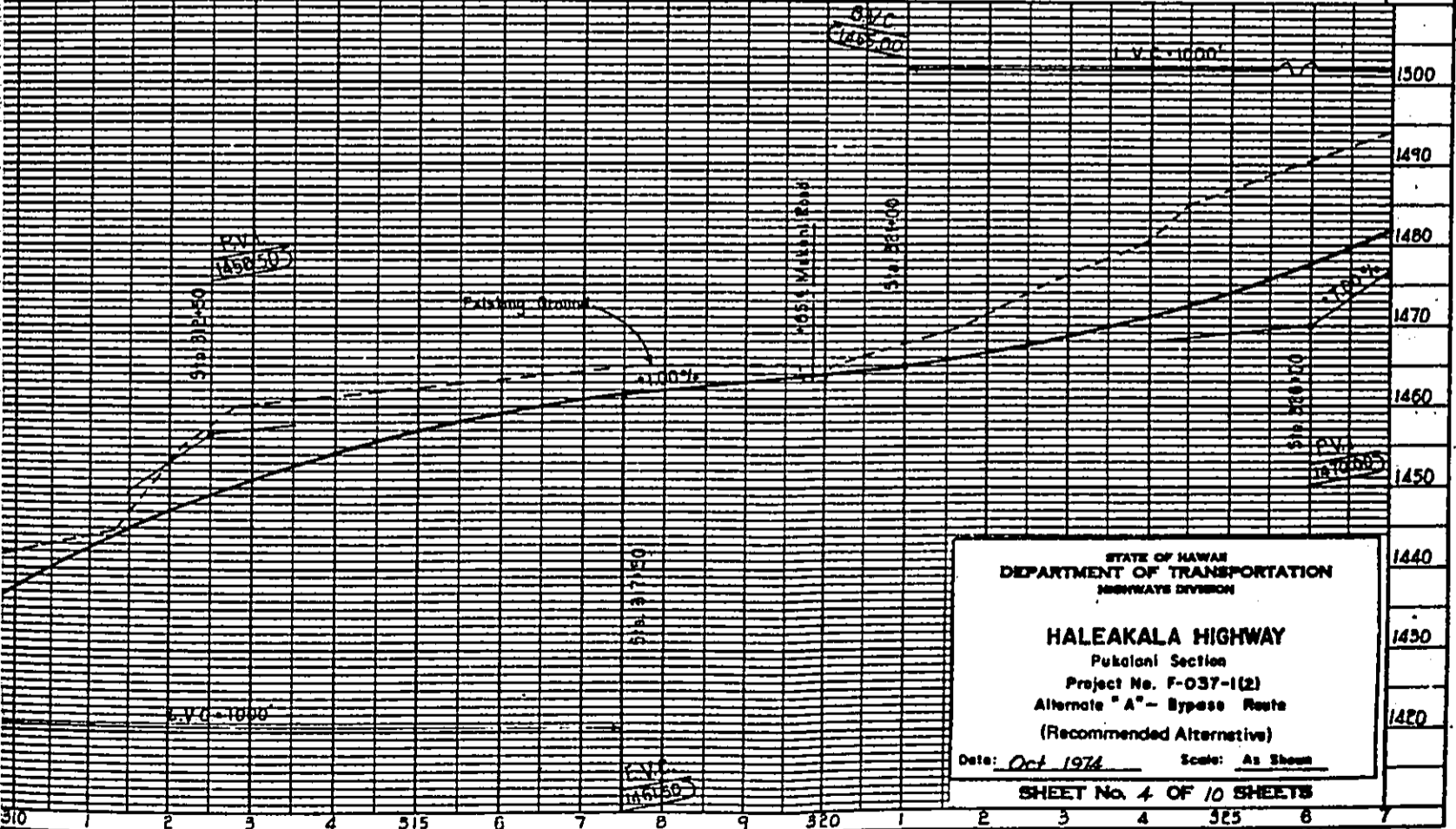
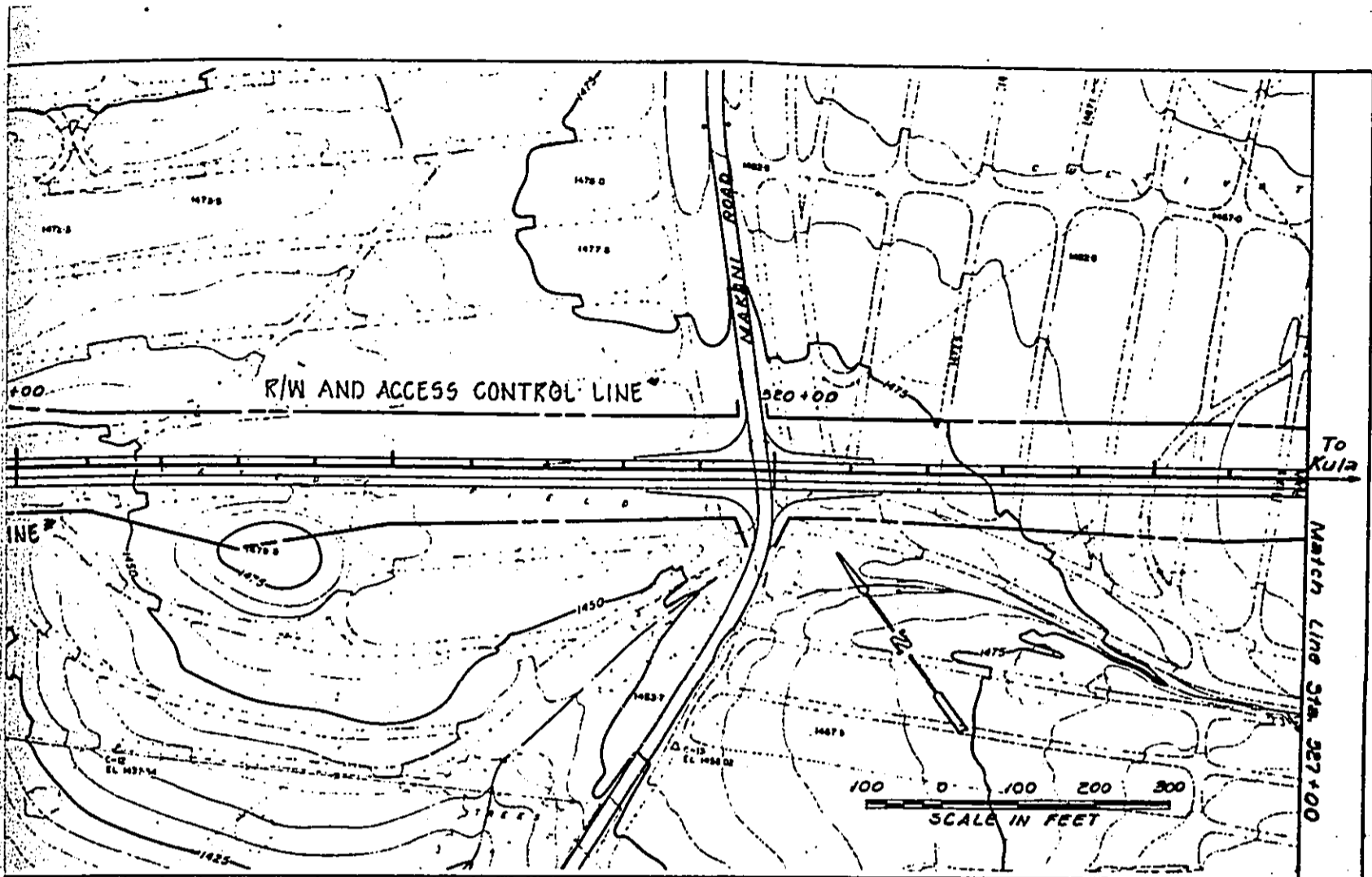
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PROFILE
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

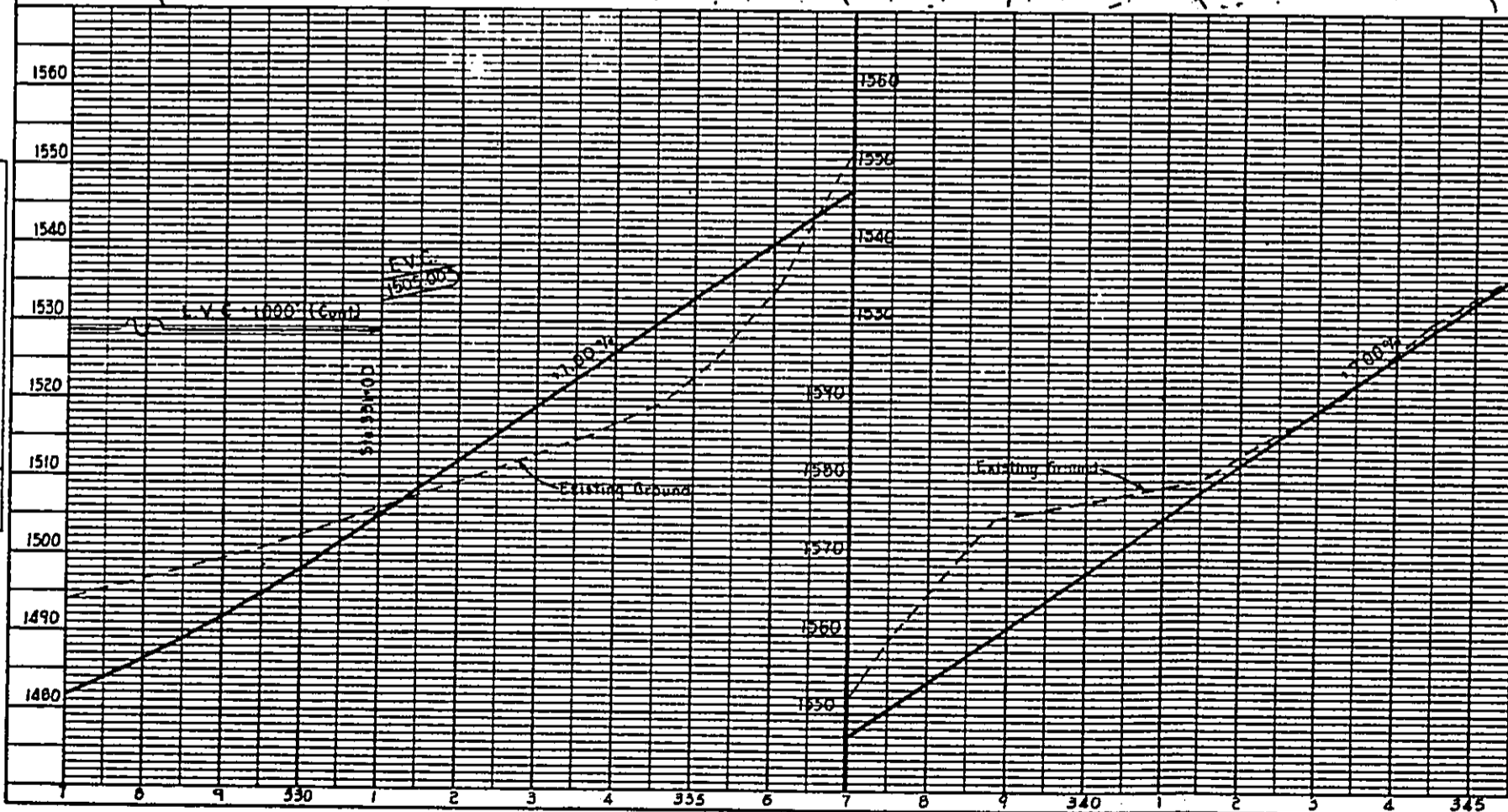
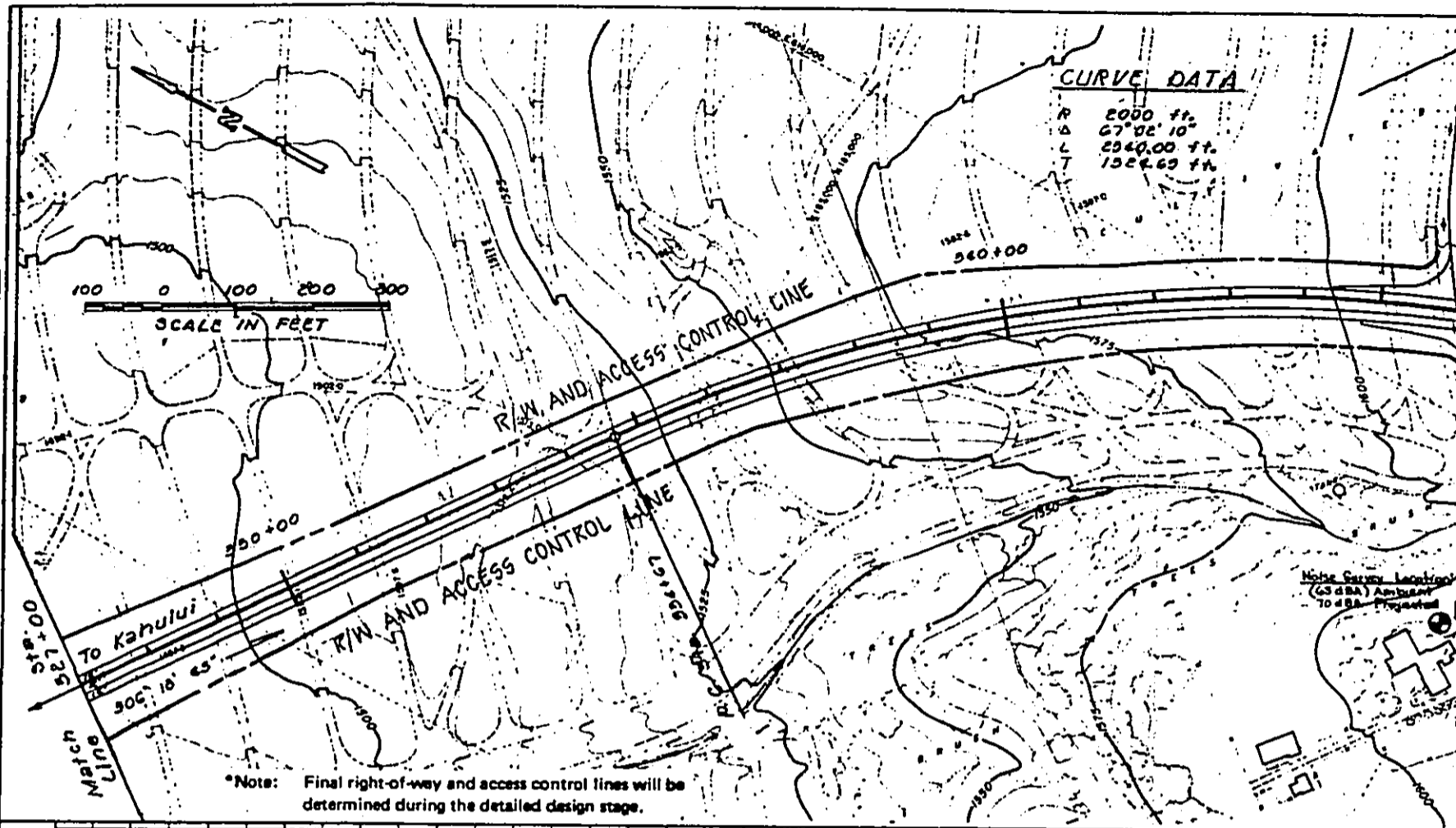
HALEAKALA HIGHWAY
 Pukalani Section
 Project No. F-037-1(2)
 Alternate "A" - Bypass Route
 (Recommended Alternative)

Date: Oct 1974 Scale: As Shown

SHEET No. 4 OF 10 SHEETS

PLATE 1 - PLAN - PROFILE - P.A.S.
 REPRODUCED FROM ORIGINAL DRAWING
 NO. 1000-1

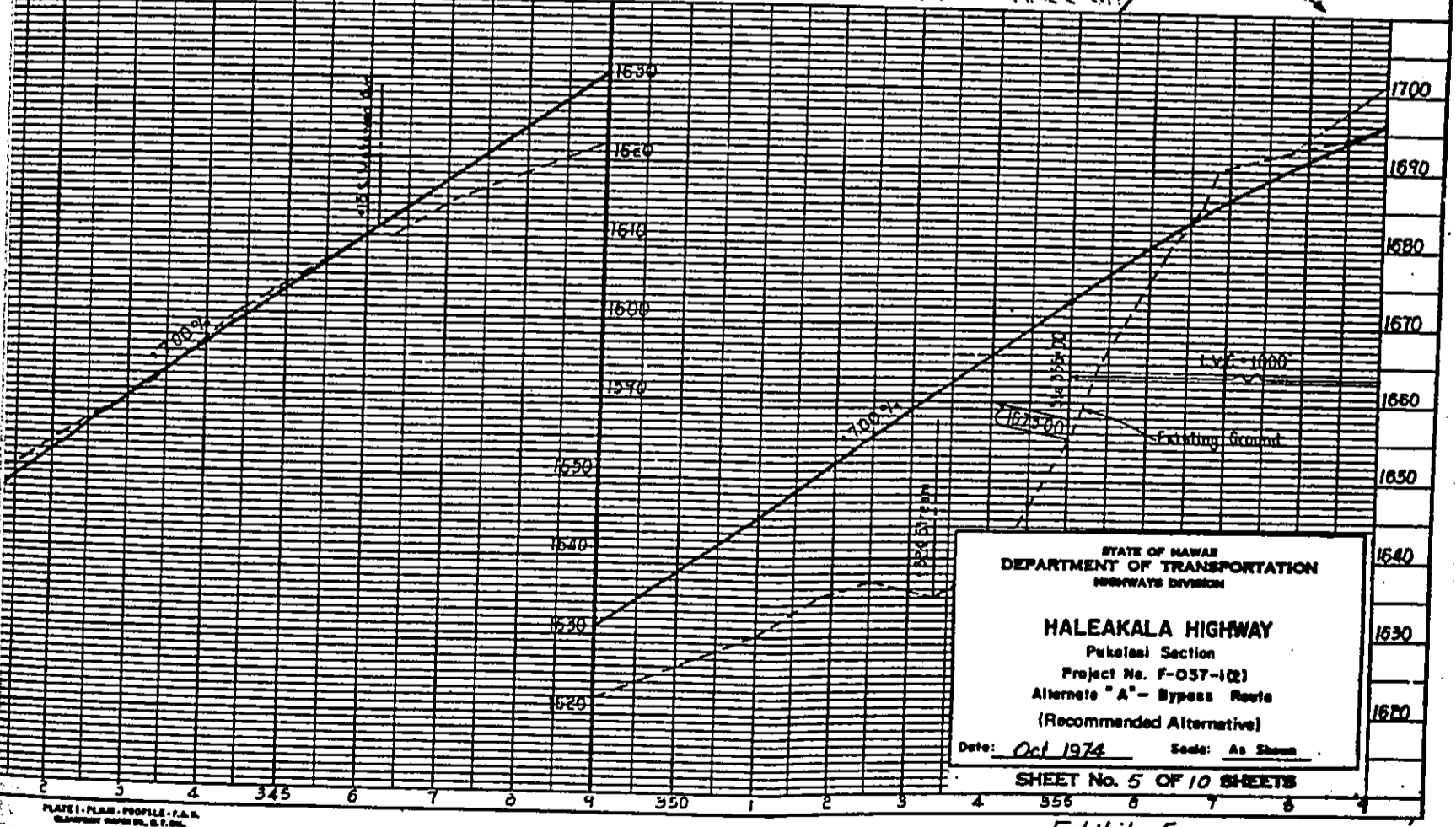
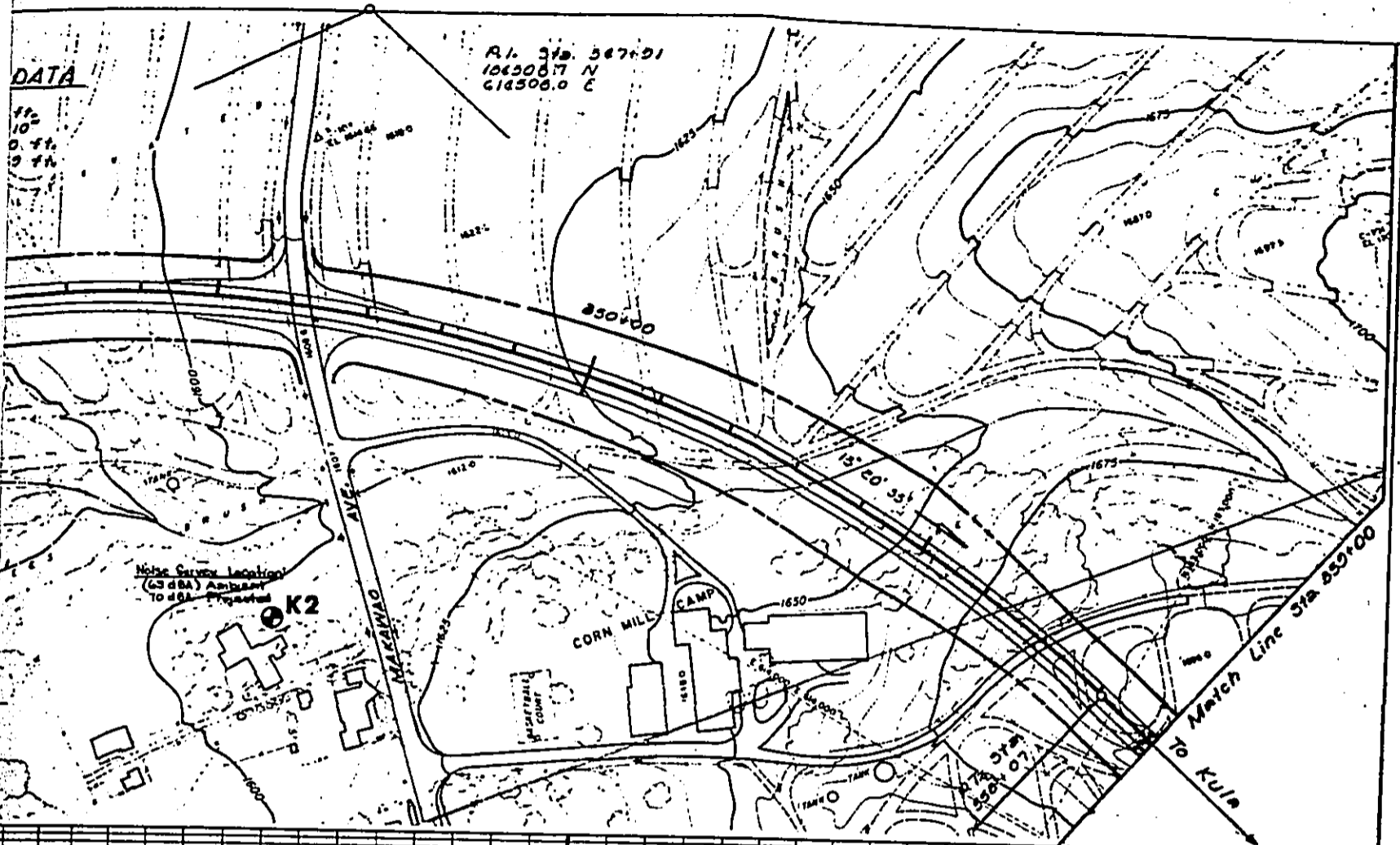
Exhibit 5



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R.L. Sta. 587+51
106506.7 N
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

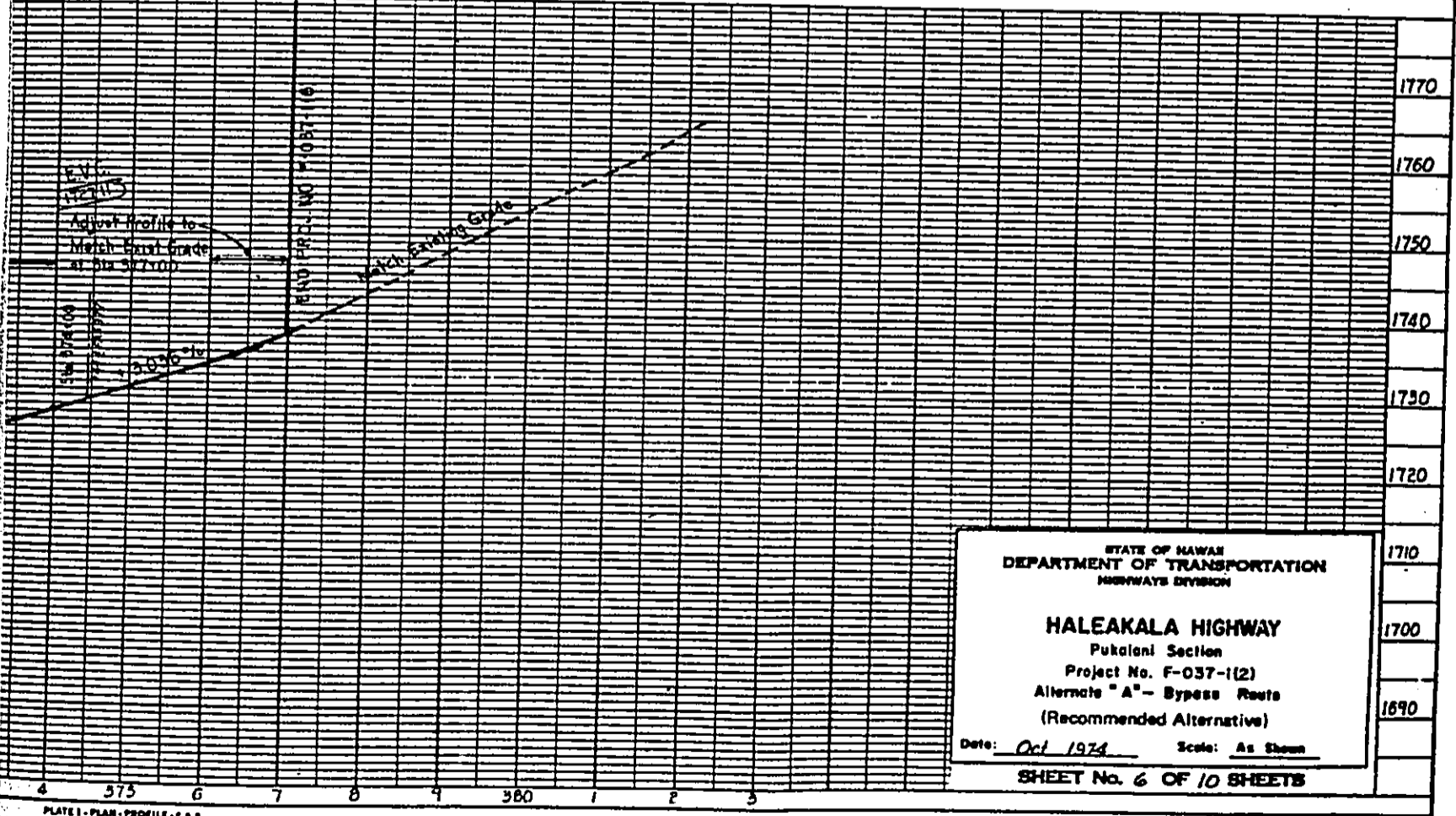
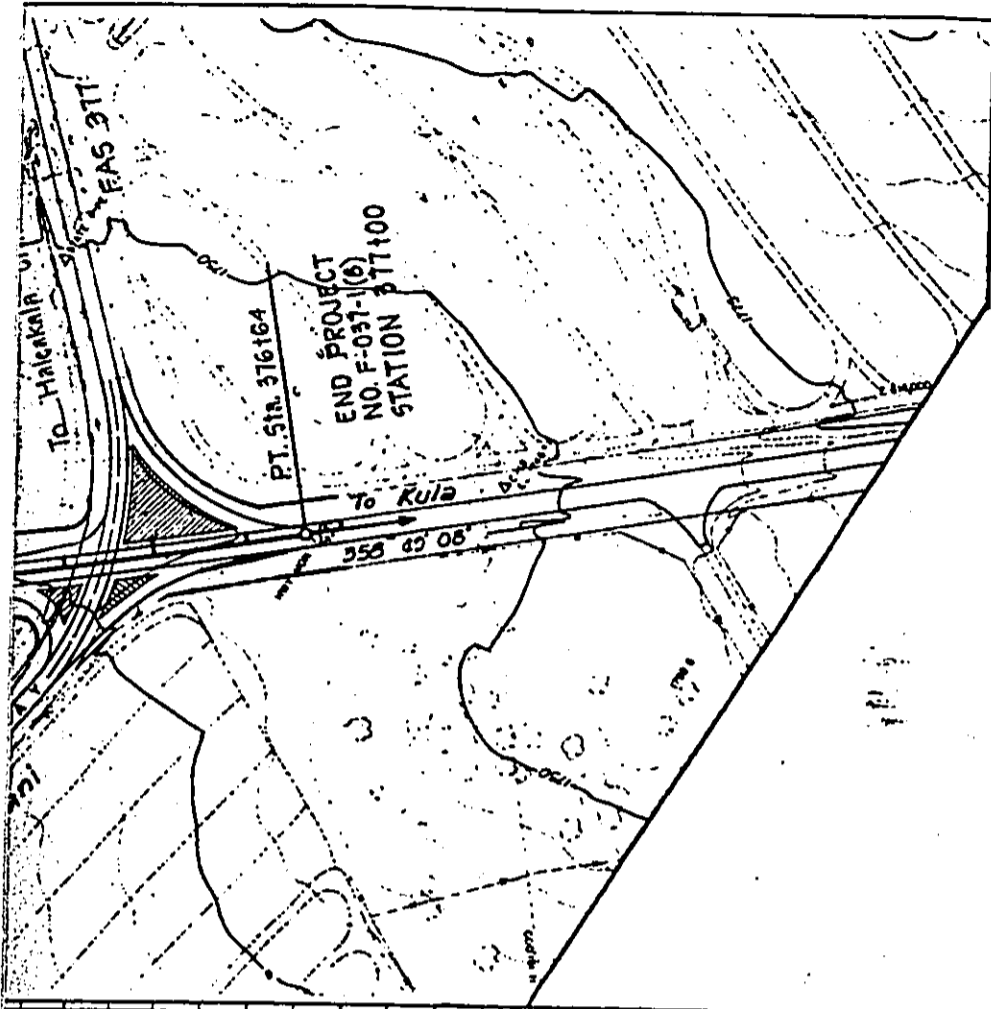
HALEKALA HIGHWAY
Pukalani Section
Project No. F-037-102
Alternate "A" - Bypass Route
(Recommended Alternative)

Date: Oct 1974 Scale: As Shown

SHEET No. 5 OF 10 SHEETS

Exhibit 5

PLATE I - PLAN - PROFILE - P.A.A.
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

HALEAKALA HIGHWAY
 Pukalani Section
 Project No. F-037-1(2)
 Alternate "A" - Bypass Route
 (Recommended Alternative)

Date: Oct 1974 Scale: As Shown

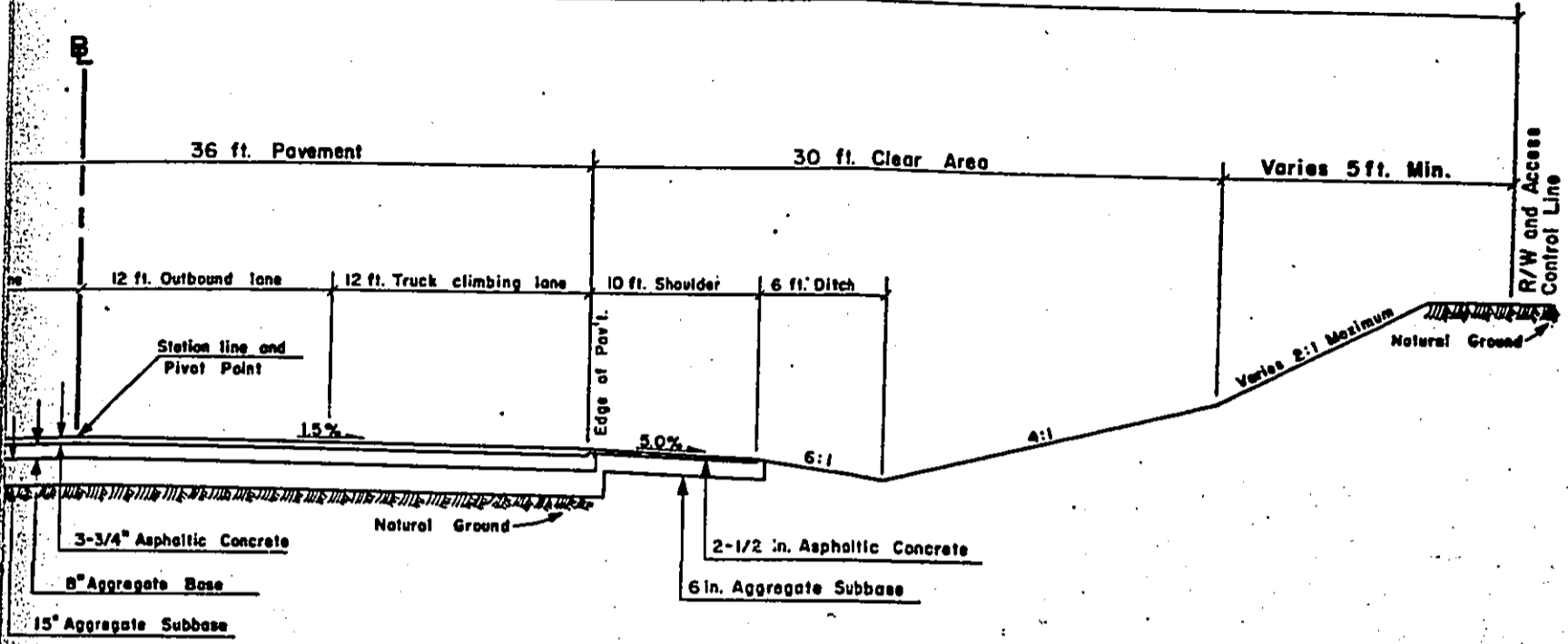
SHEET No. 6 OF 10 SHEETS

PLATE 1 - PLAN - PROFILE - P.A.S.
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Exhibit 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	F-037-1(2)			

of -Way 106 feet



TANGENT SECTION
 5+00 TO STA. 359+00

(Recommended Alternative)

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

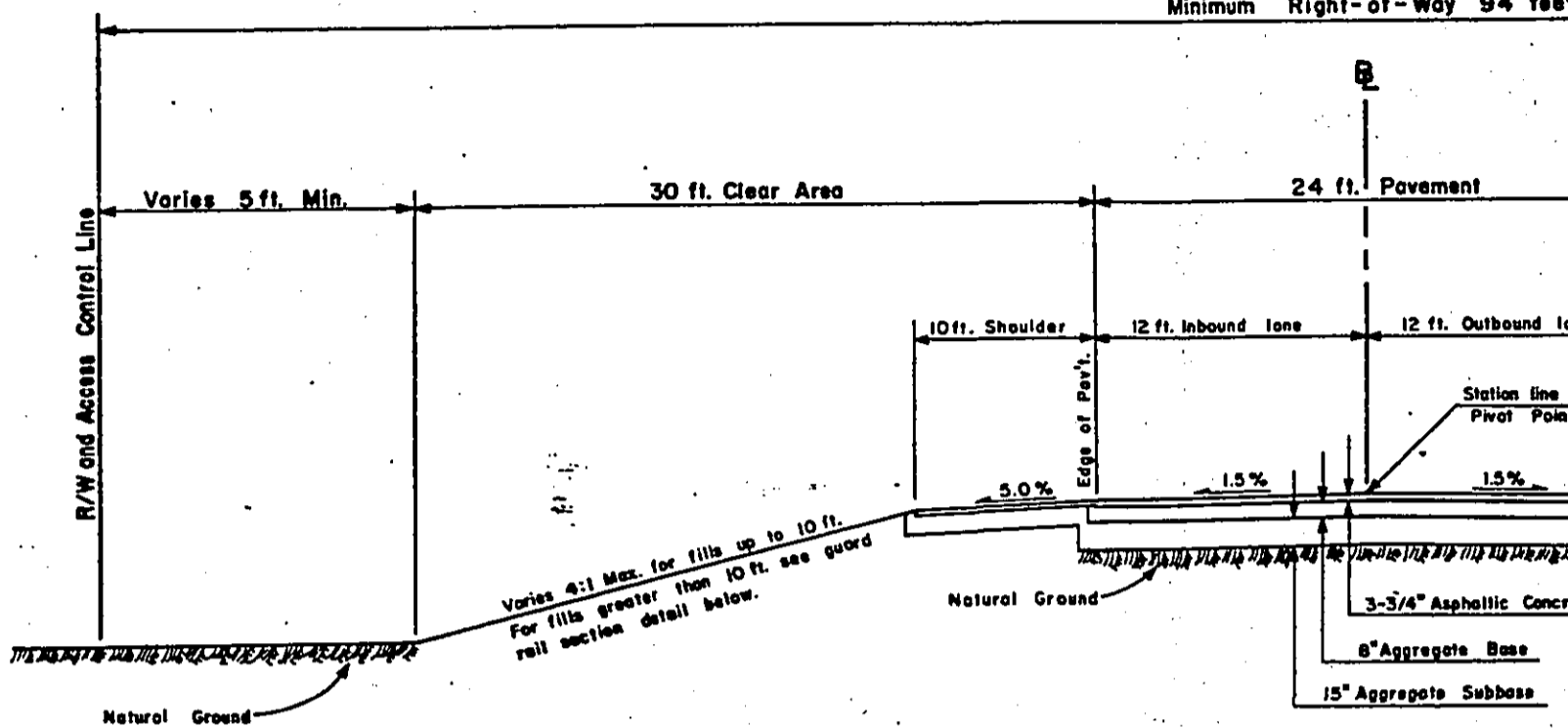
TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY
 Pukalani Section - By Pass Route
 Project No. F-037-1(2)
 Date: Oct. 1974 Scale: No Scale

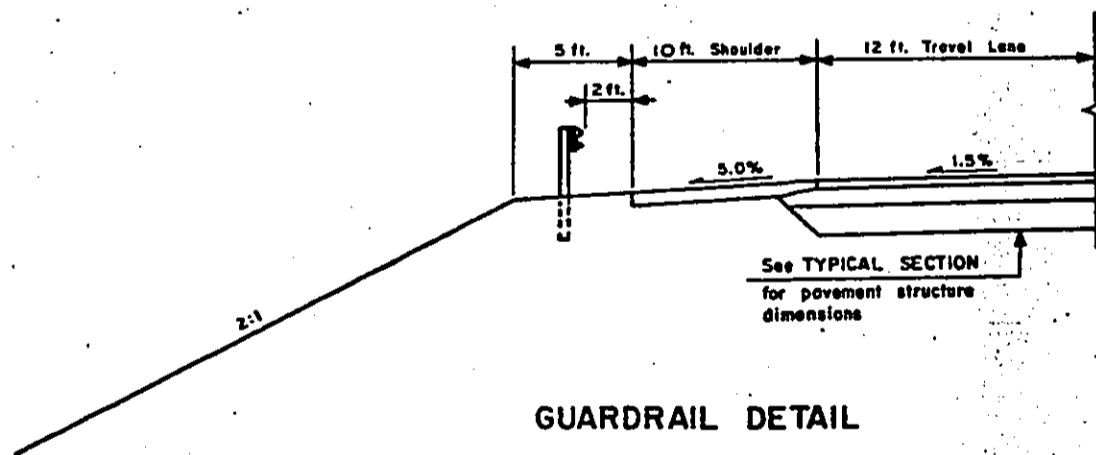
SHEET No. 7 OF 10 SHEETS

Exhibit 5

Minimum Right-of-Way 94 feet



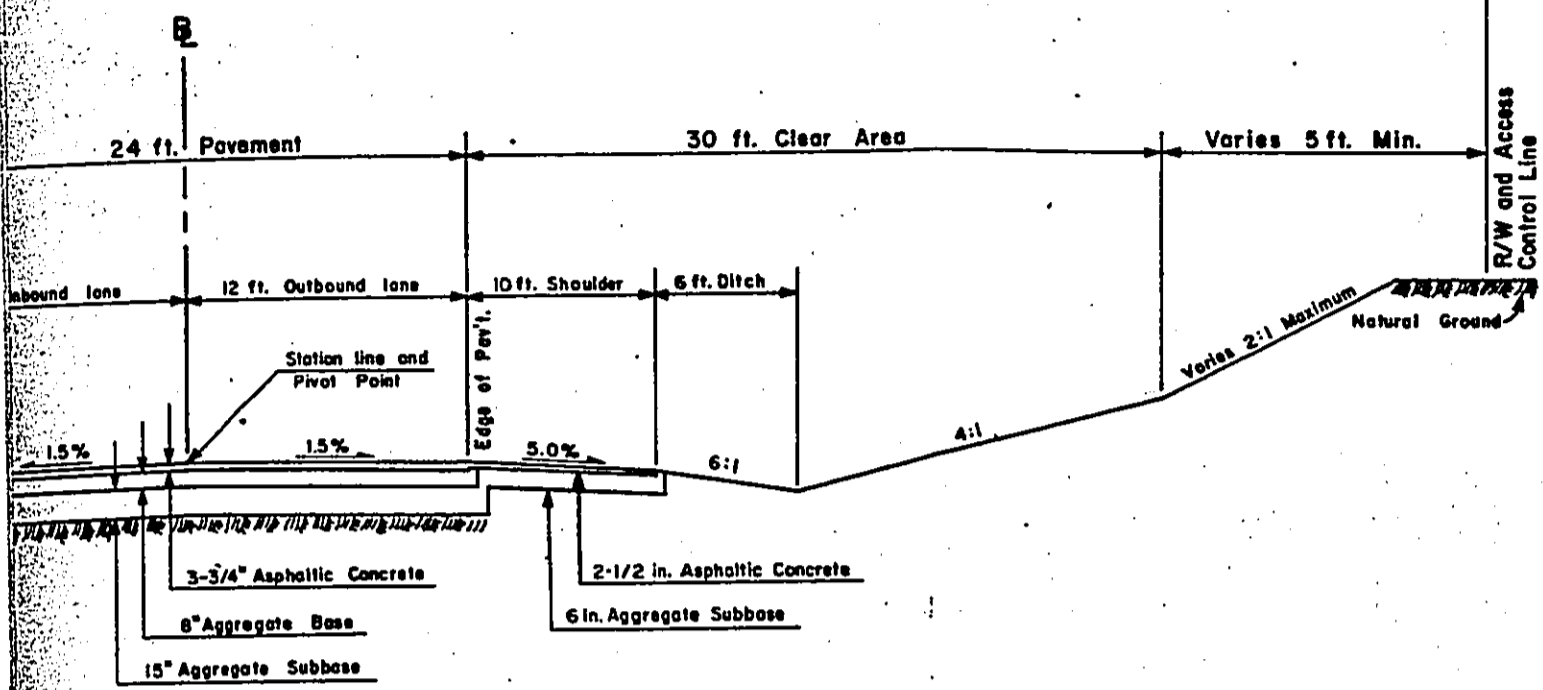
TYPICAL TANGENT SECTION STA. 359+00 TO STA. 377+00



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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-037-1(8)			

Minimum Right-of-Way 94 feet



L TANGENT SECTION
 STA. 359+00 TO STA. 377+00

(Recommended Alternative)

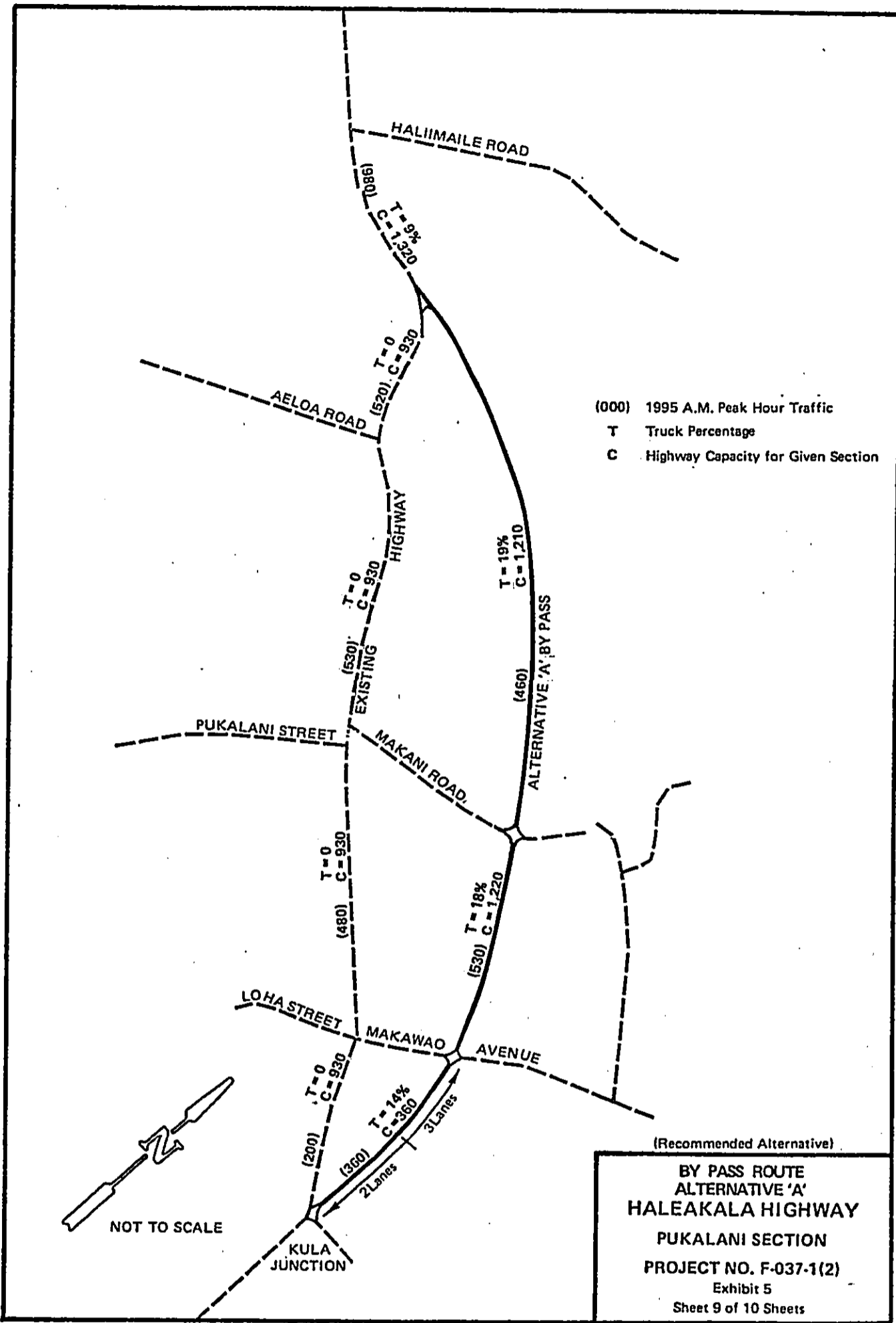
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY
 Puhiwai Section-By Pass Route
 Project No. F-037-1(2)
 Date: Oct. 1974 Scale: No. Scale

SHEET No. 8 OF 10 SHEETS

Exhibit 5



			Annual Cost
Pavement & 10% Contingencies	\$1,041,000	<u>20 yr. life 7%</u>	\$ 98,260
Other Construction & 10% Contingencies	\$1,714,000	<u>40 yr. life 7%</u>	\$128,570
Right-of-Way	\$ 225,000	<u>100 yr. life 7%</u>	\$ 15,770

Total Project Cost	\$2,980,000		\$242,600
Maintenance Cost 3.06 miles x (7350/mile/year) =			\$ 22,490

Total Project & Maintenance Cost/Year \$265,090

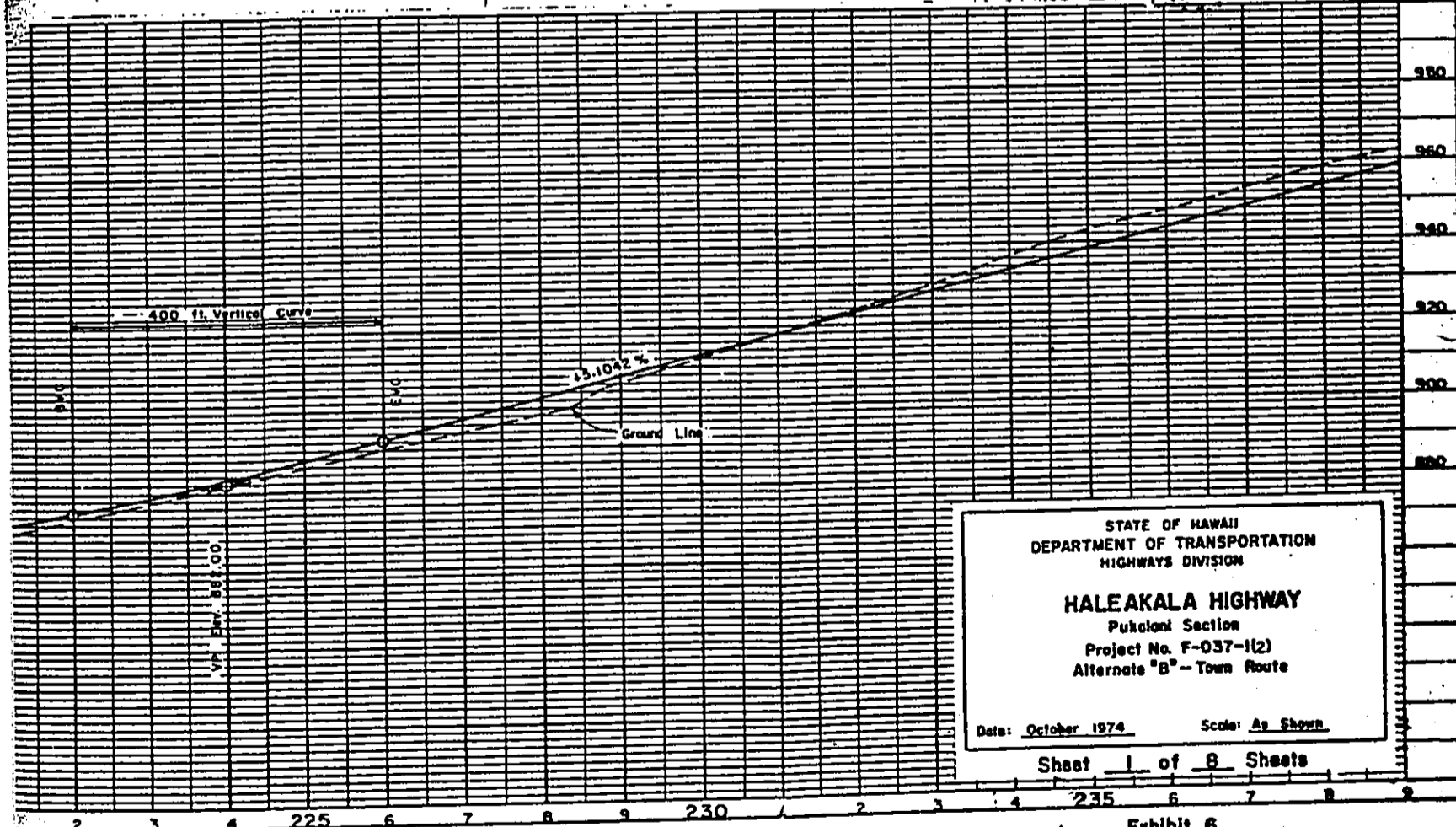
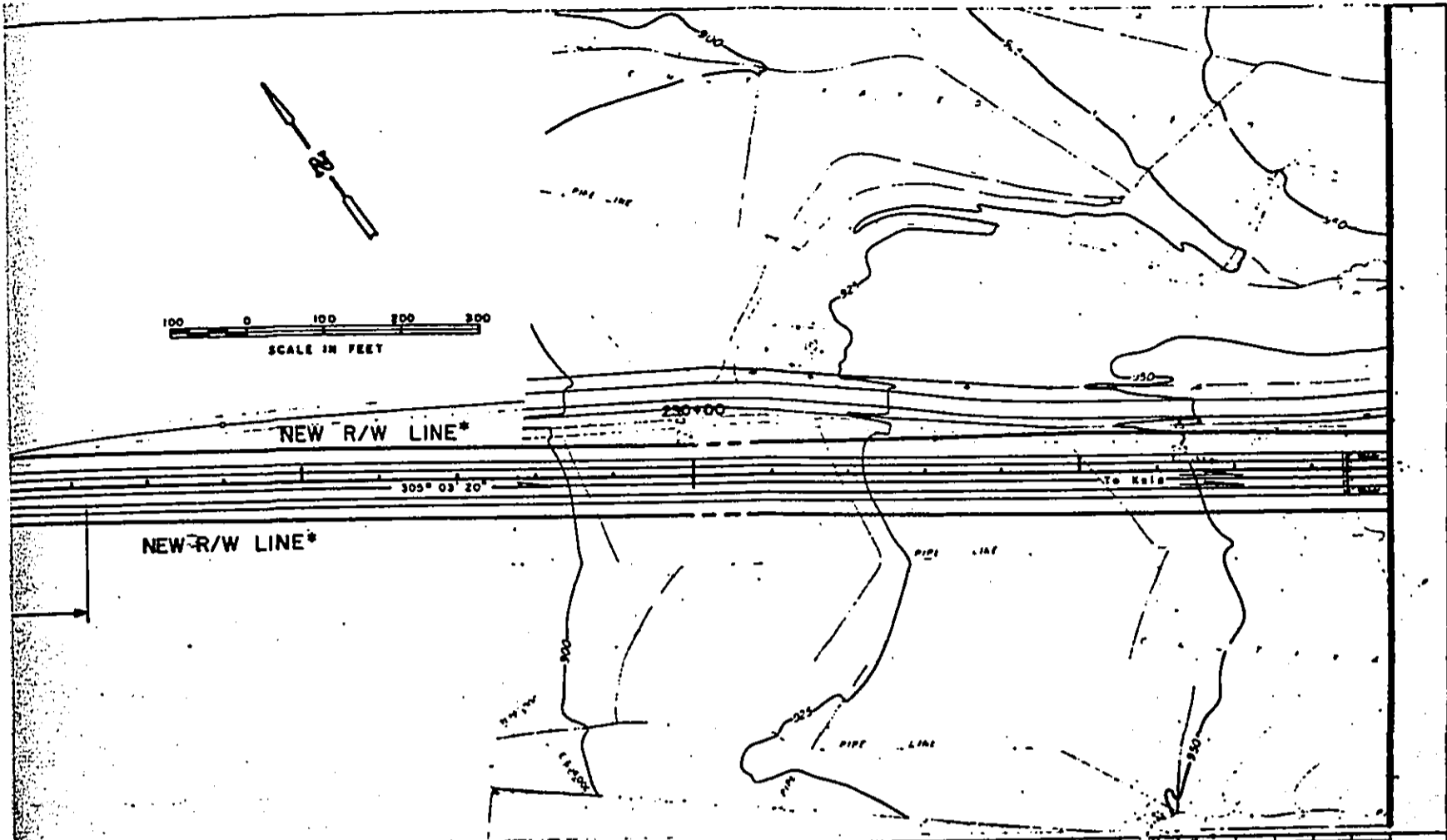
Annual Road User Cost-Existing Highway	\$2,352,390
Annual Road User Cost-Alternative A	\$1,391,740

Annual Road User Savings if
Alternative A is Implemented \$ 960,650

Benefit/Cost = $960,650 / 265,090 = 3.62$

Haleakala Highway
Pukalani Section
Project No. F-037-1(2)

Benefit/Cost Ratio
Alternative "A"
(Recommended Alternative)



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

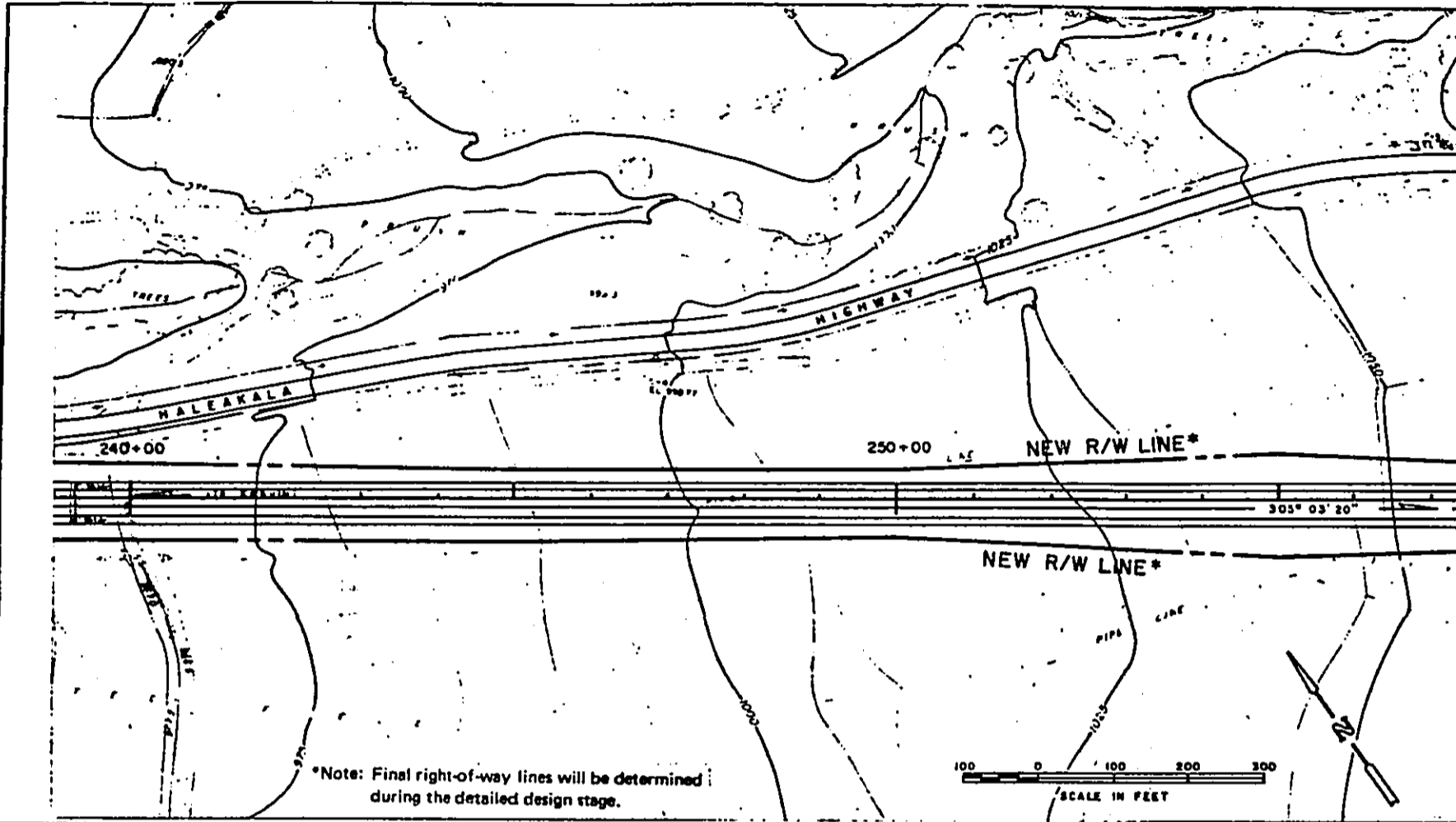
HALEAKALA HIGHWAY
 Pukalani Section
 Project No. F-037-1(2)
 Alternate "B" - Town Route

Date: October 1974 Scale: As Shown

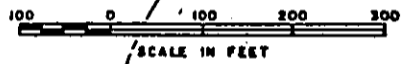
Sheet 1 of 8 Sheets

Exhibit 6

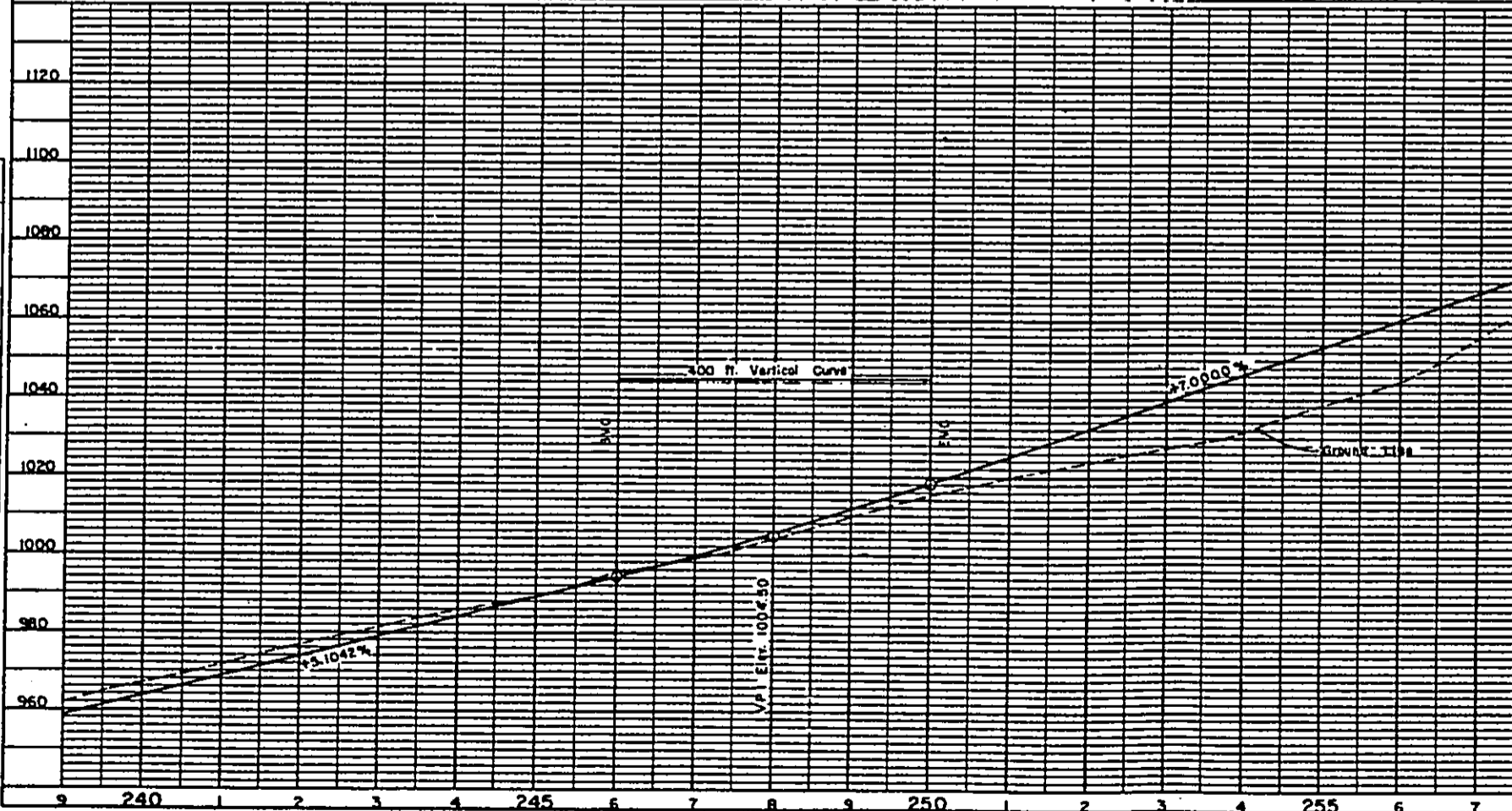
PLAN	DATE
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APPROVED BY	
DATE	

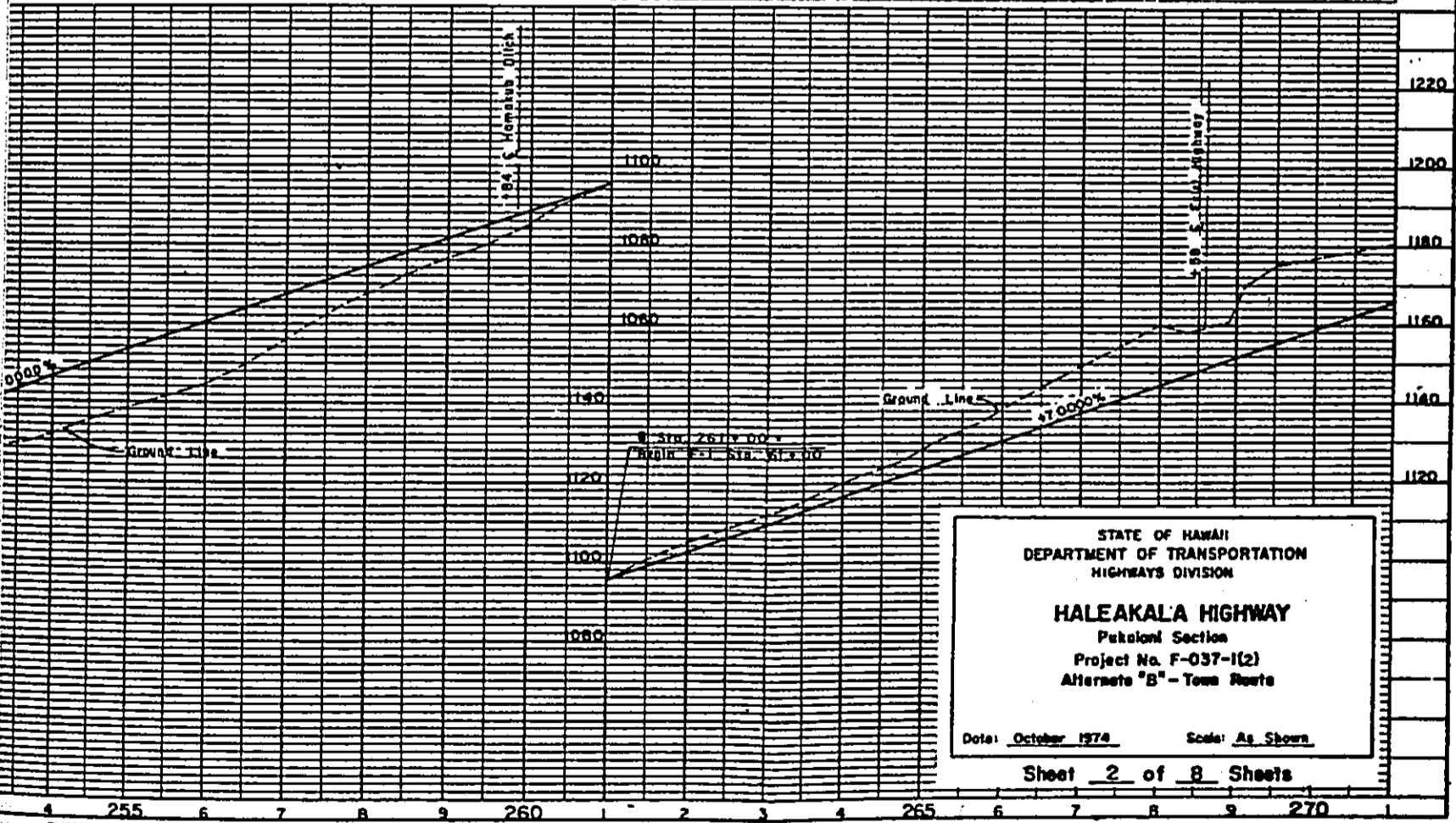
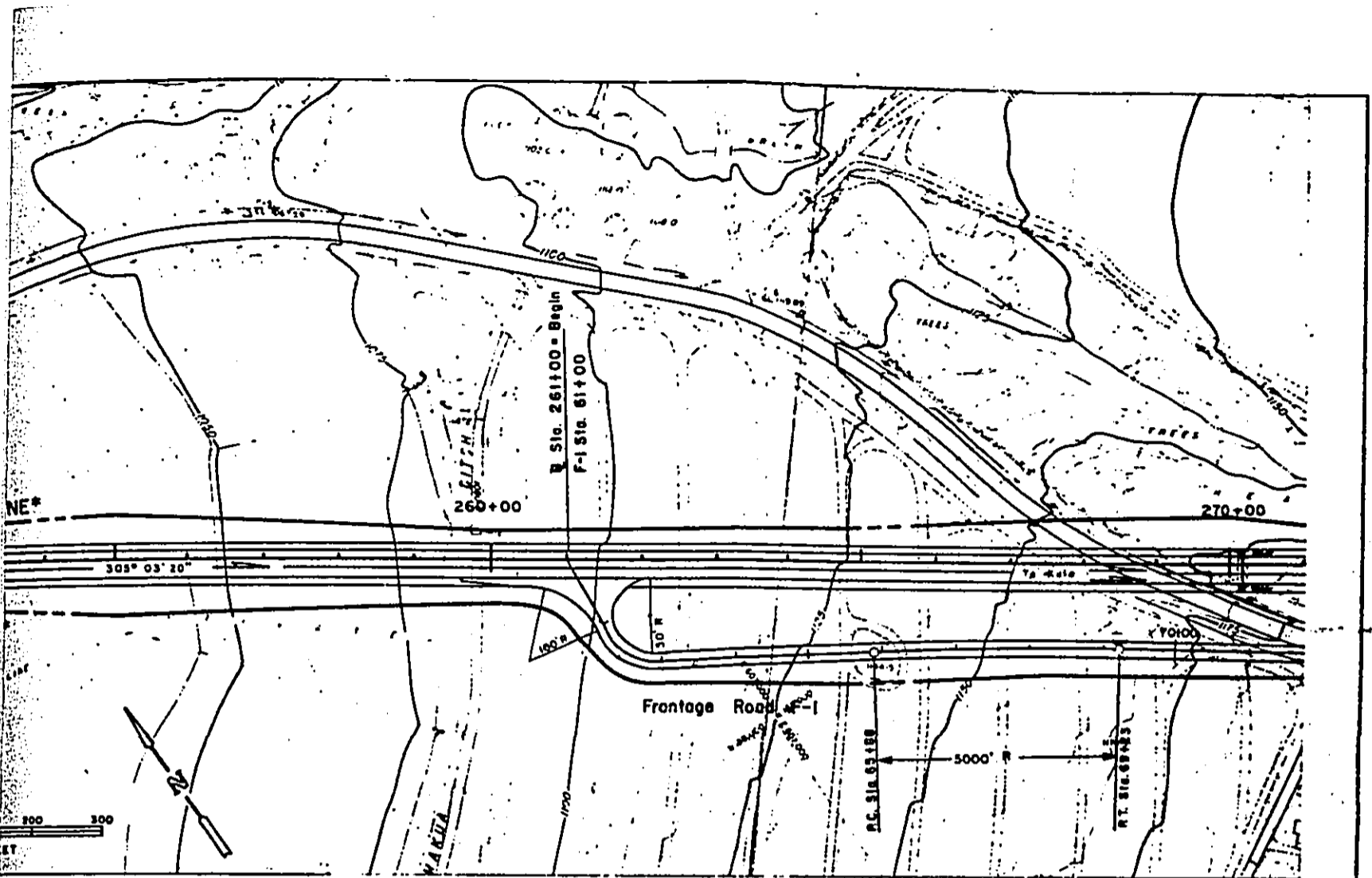


*Note: Final right-of-way lines will be determined during the detailed design stage.



PROFILE	DATE
DESIGNED BY	
CHECKED BY	
APPROVED BY	
DATE	





STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

HALEAKALA HIGHWAY
 Pukalani Section
 Project No. F-037-1(2)
 Alternate "B" - Town Route

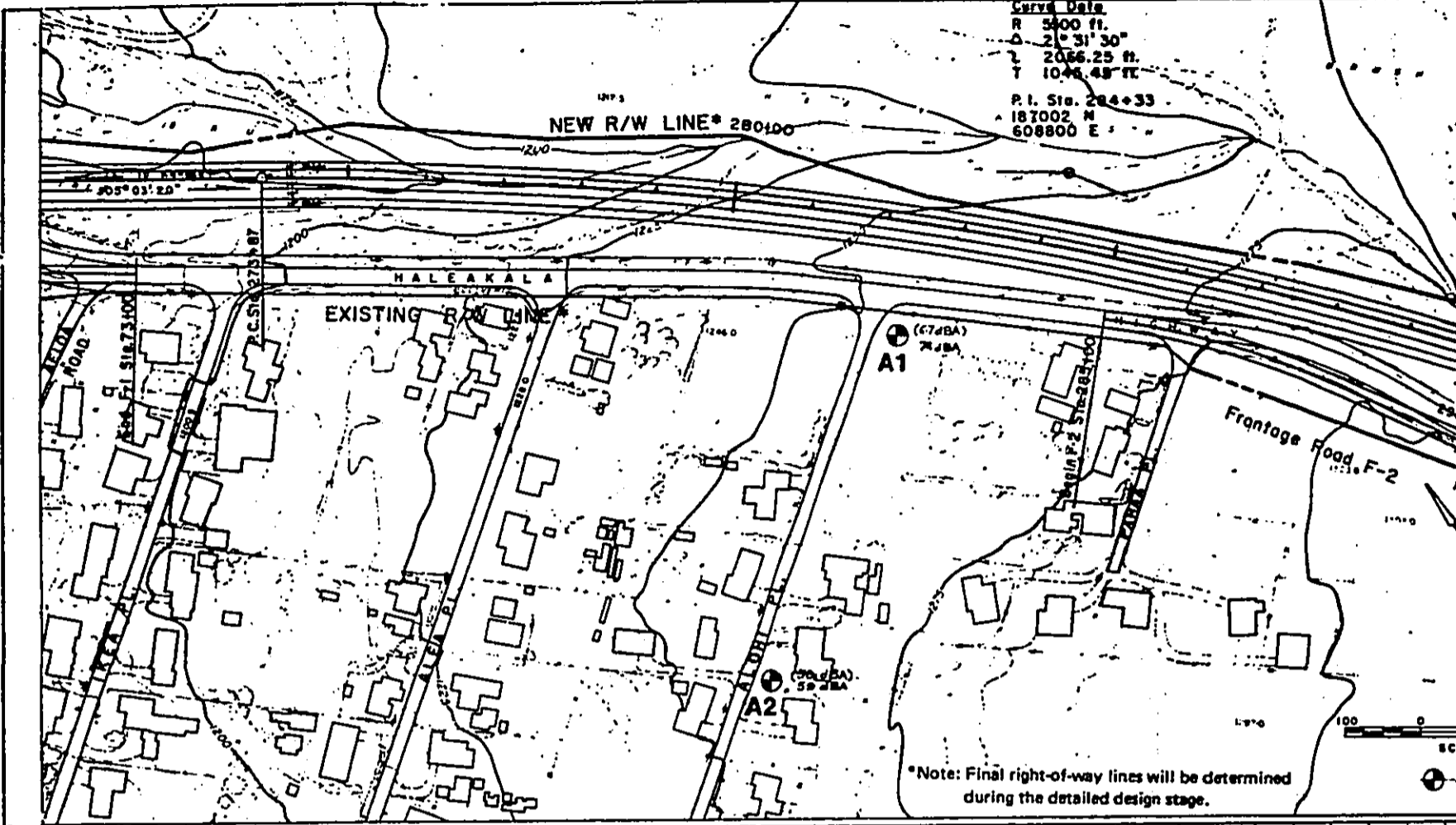
Date: October 1974 Scale: As Shown

Sheet 2 of 8 Sheets

PLATE I - PLAN, PROFILE - P.A.S.
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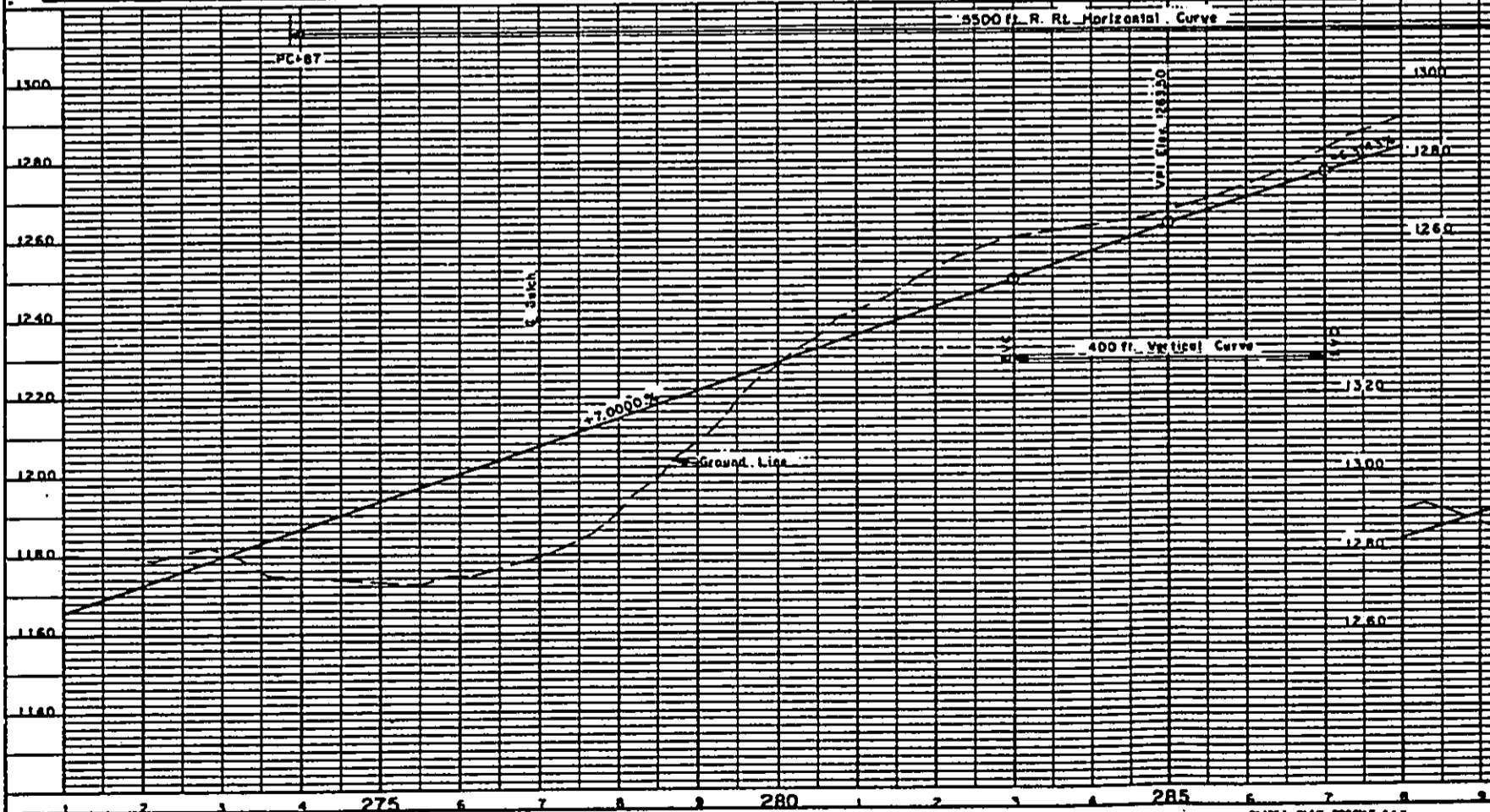
Exhibit 6

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 Δ 21° 31' 30"
 L 2056.25 ft.
 T 1046.48 ft.
 P.I. Sta. 284+33
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 608800 E

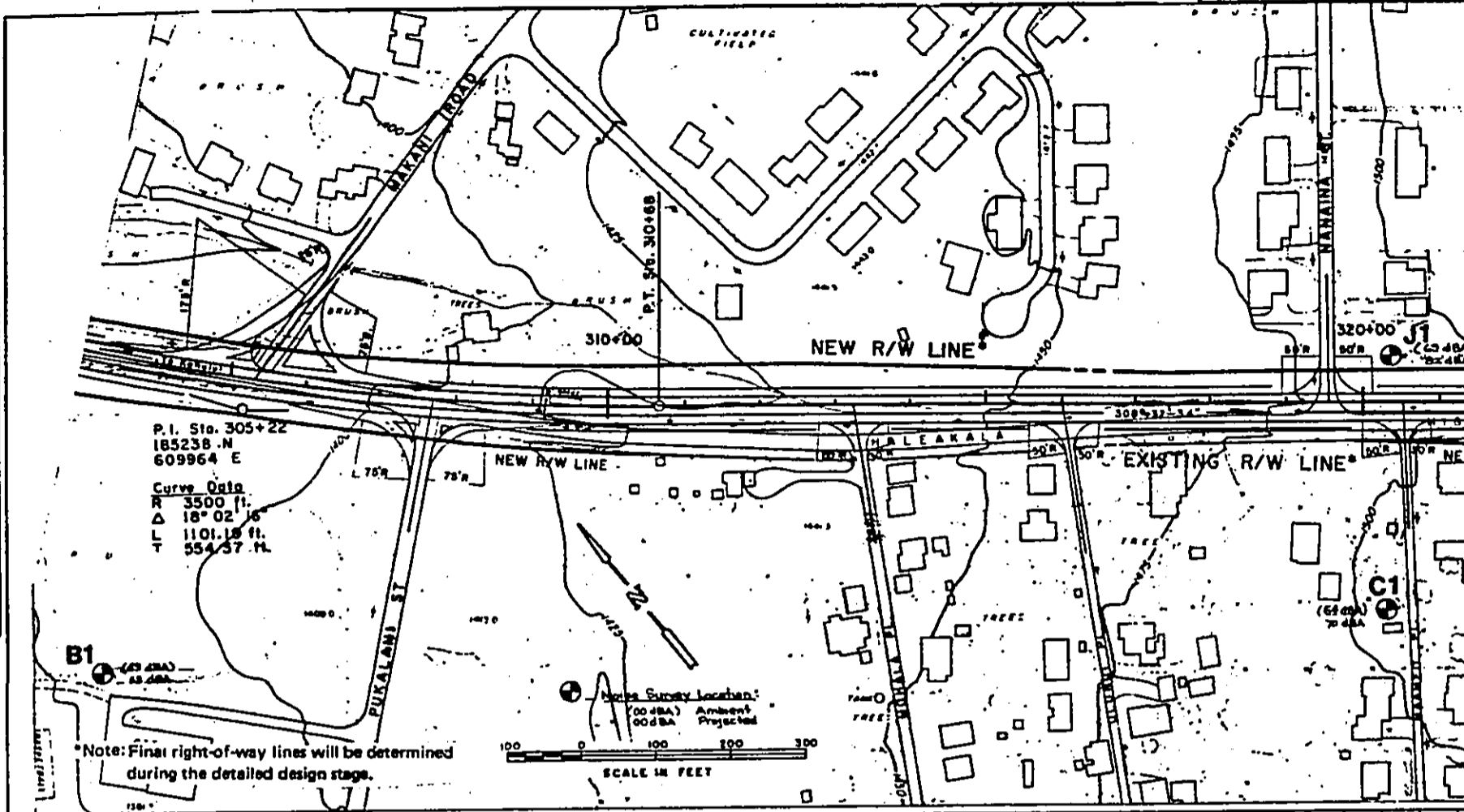


PLAN	
DATE	10/1/84
PROJECT	HALEAKALA
DESIGNER	...
CHECKER	...
SCALE	AS SHOWN
BY	...

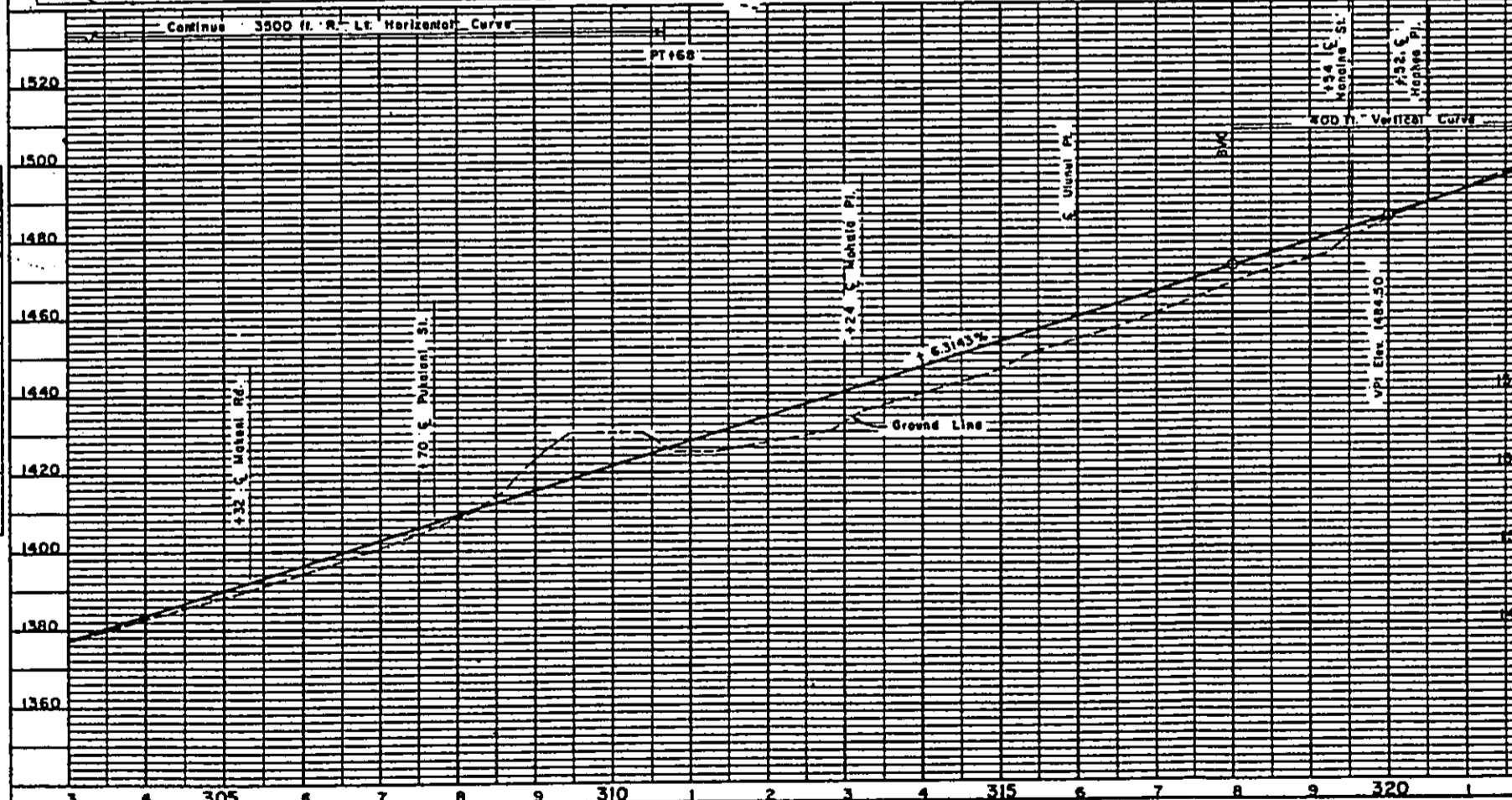
PROFILE	
DATE	10/1/84
PROJECT	HALEAKALA
DESIGNER	...
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SCALE	AS SHOWN
BY	...



PLAN	
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PROFILE	
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IN CHARGE	...
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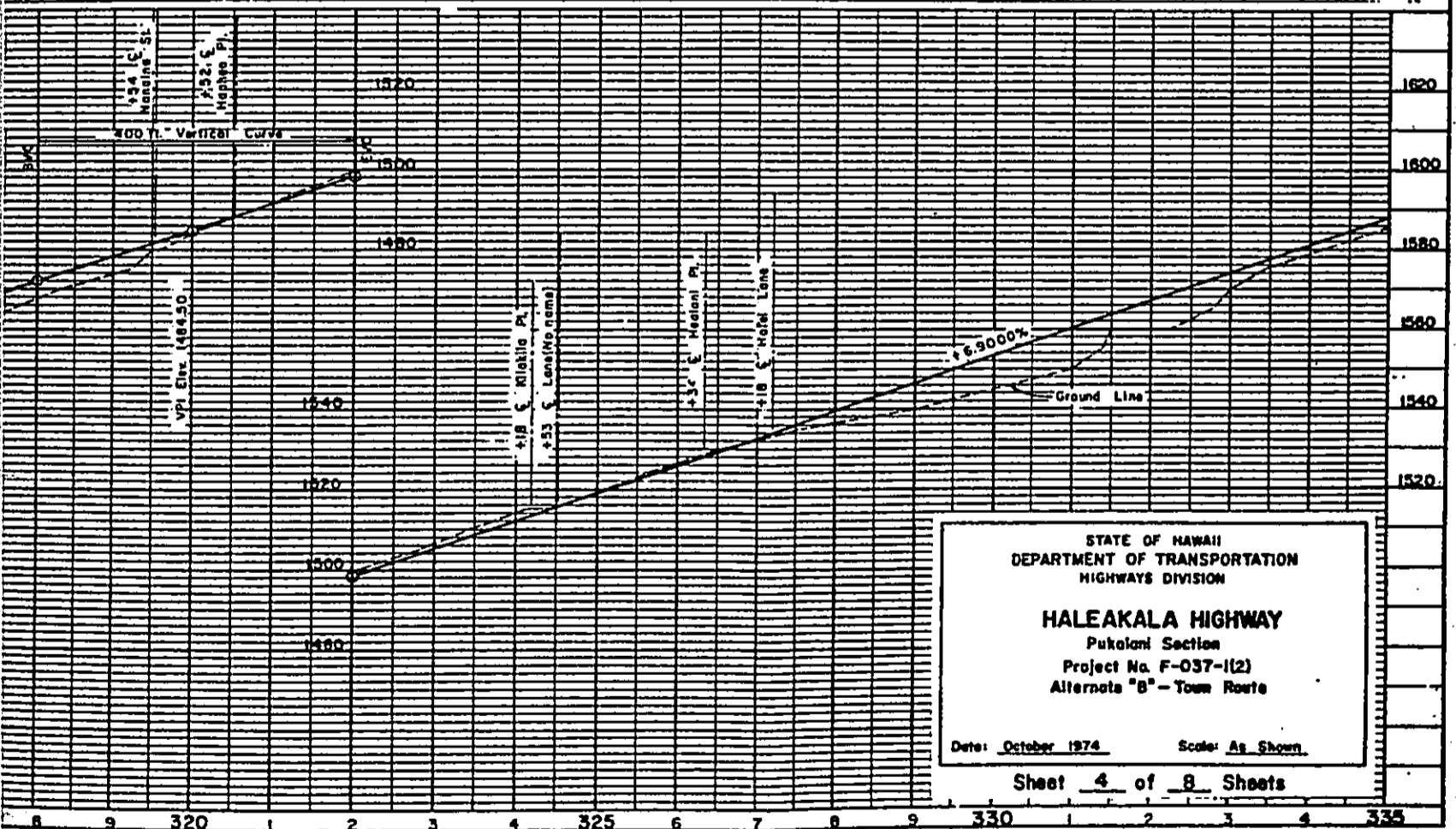
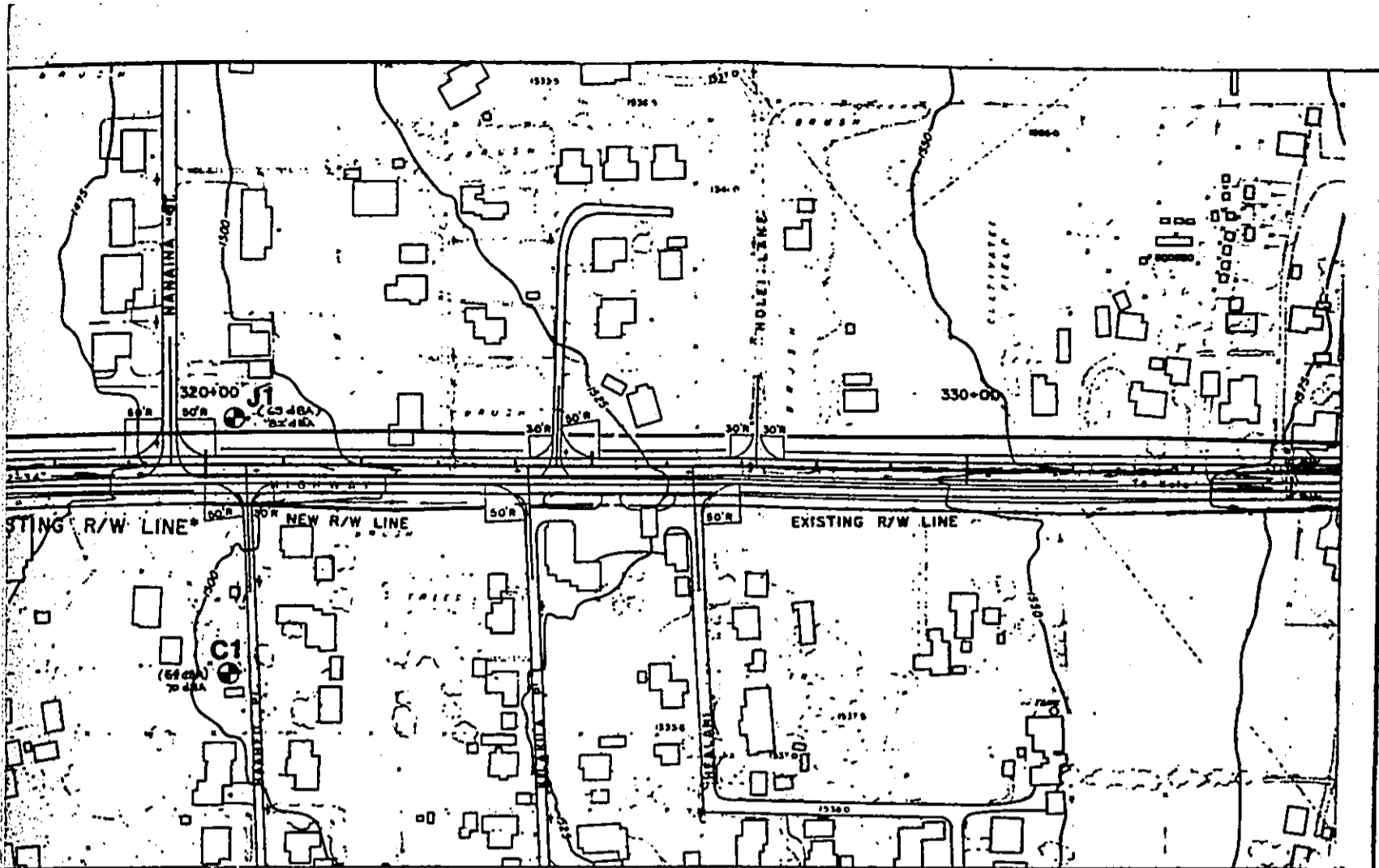


PLATE 1 - PLAN - PROFILE - S.A.S.
DRAWING PAPER NO. G.S. 011
10 1974

Exhibit 6

PLAN	DATE	BY
REVISION		
APPROVED		
DATE		
BY		
BY		
BY		

PROFILE	DATE	BY
REVISION		
APPROVED		
DATE		
BY		
BY		
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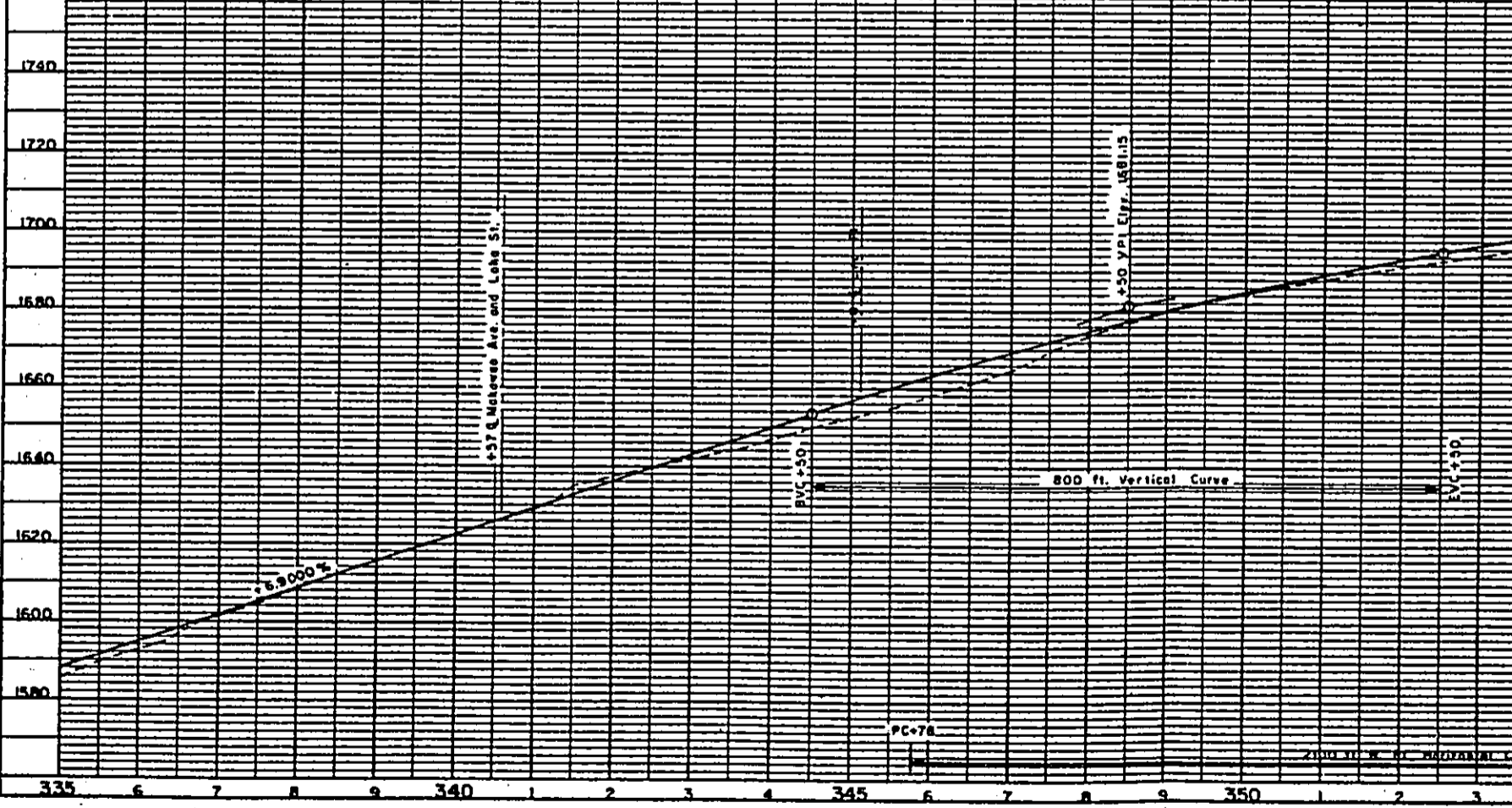
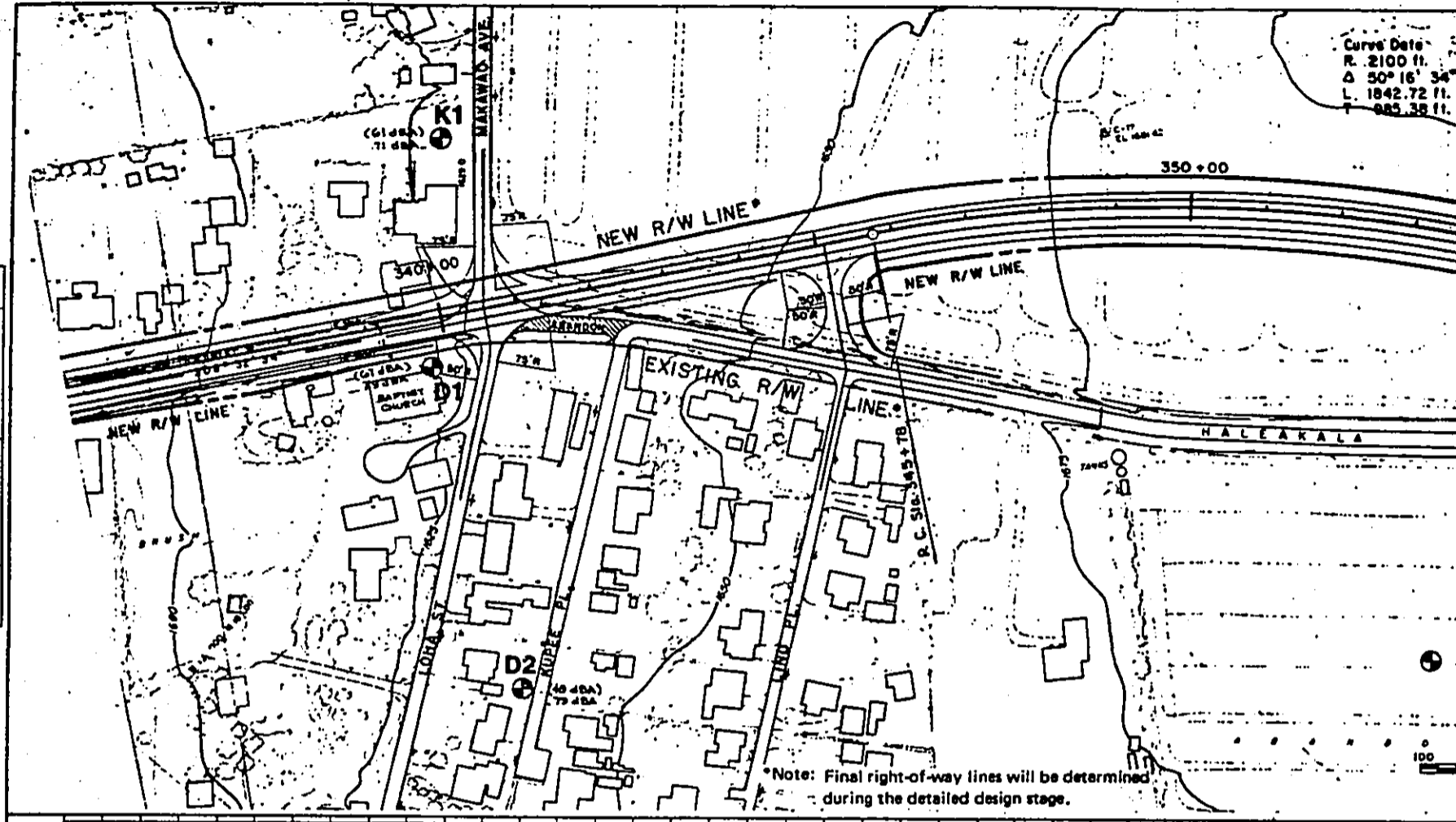


PLATE 1 - PLAN, PROFILE, & GRADES
 HAILEAKALA ROAD, HAWAII

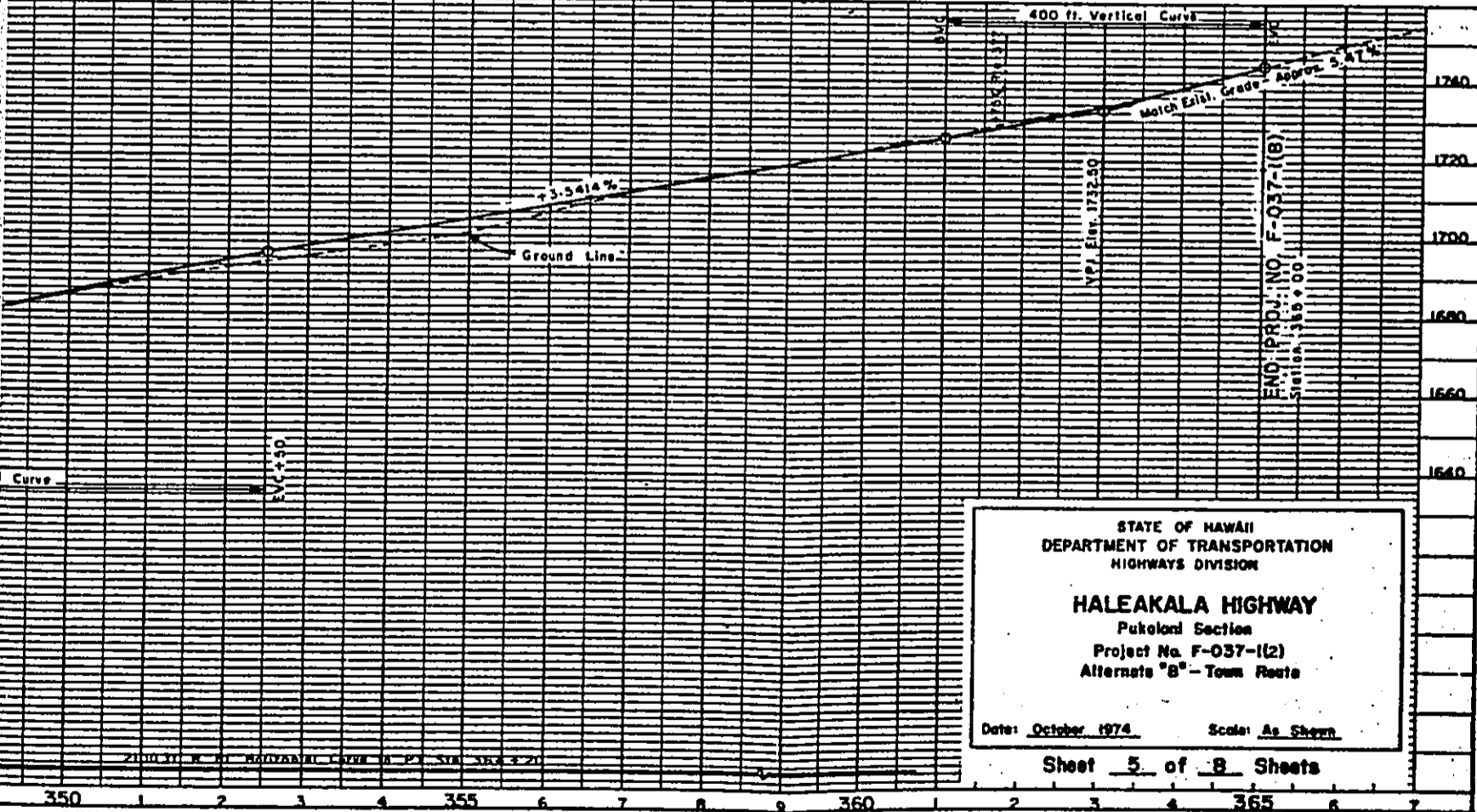
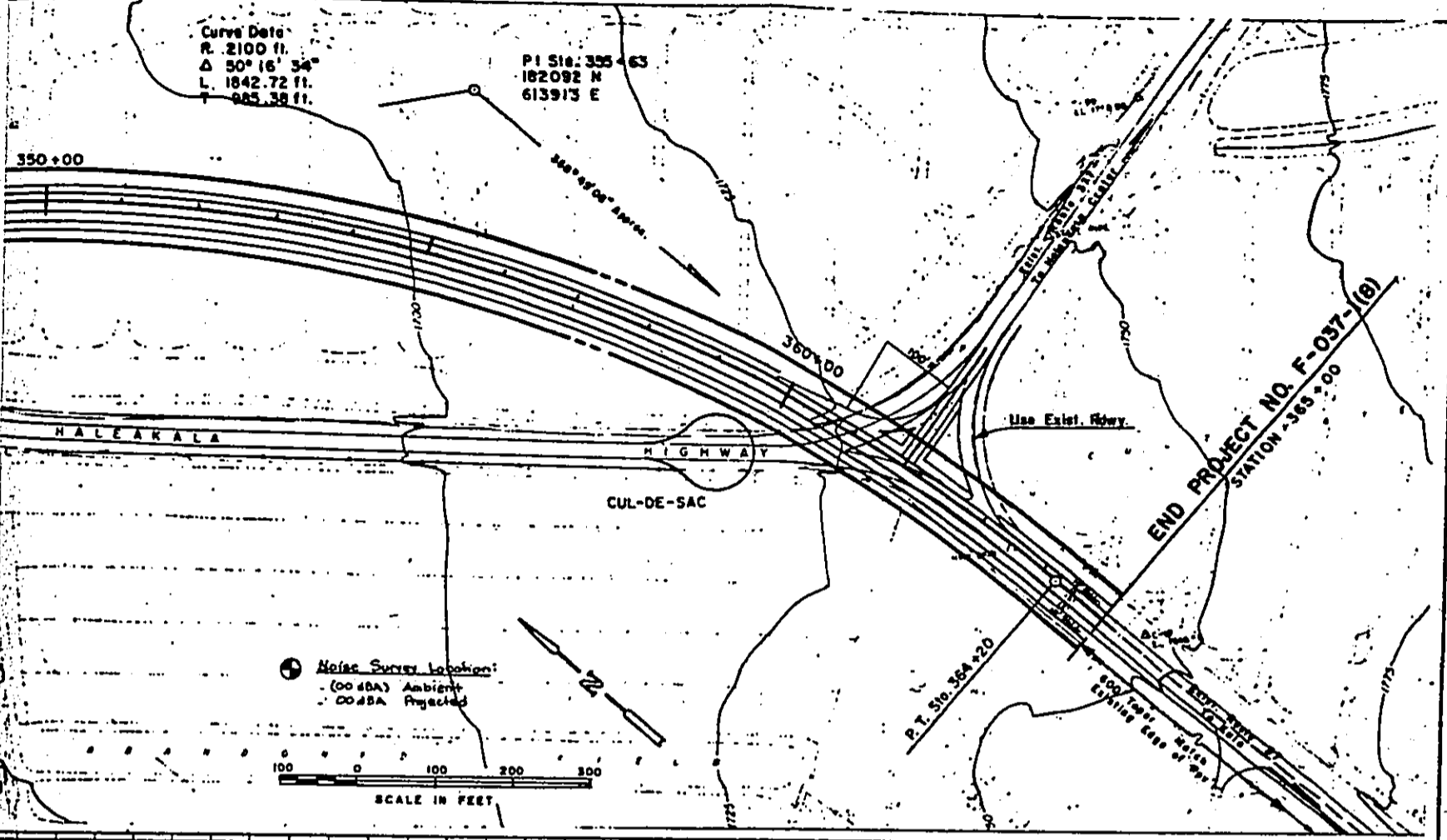
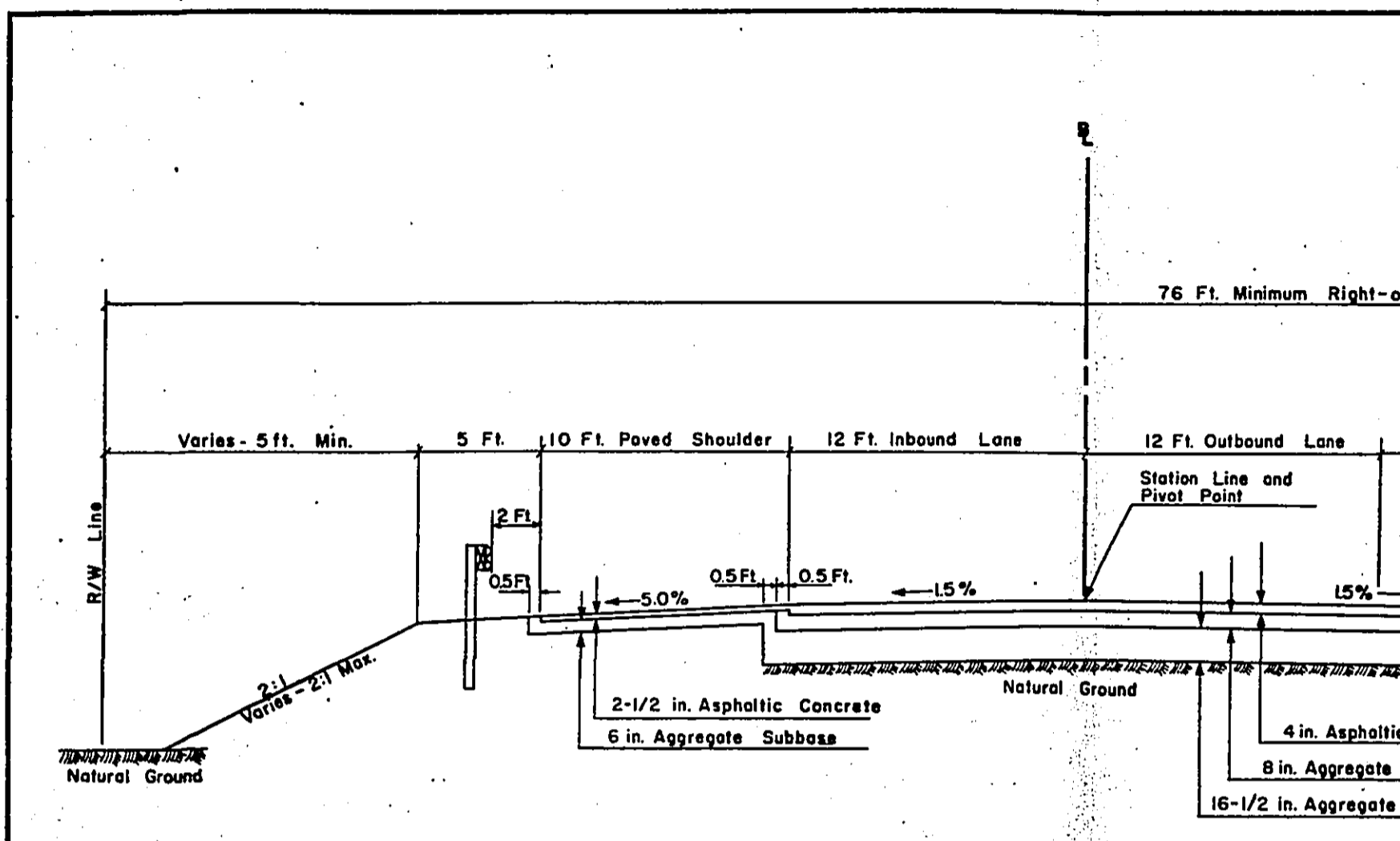


PLATE 1 - PLAN - PROFILE - P.A.S.
 DRAWING NO. 100-10-100
 04 1974

Exhibit 6



TYPICAL TANGENT SE

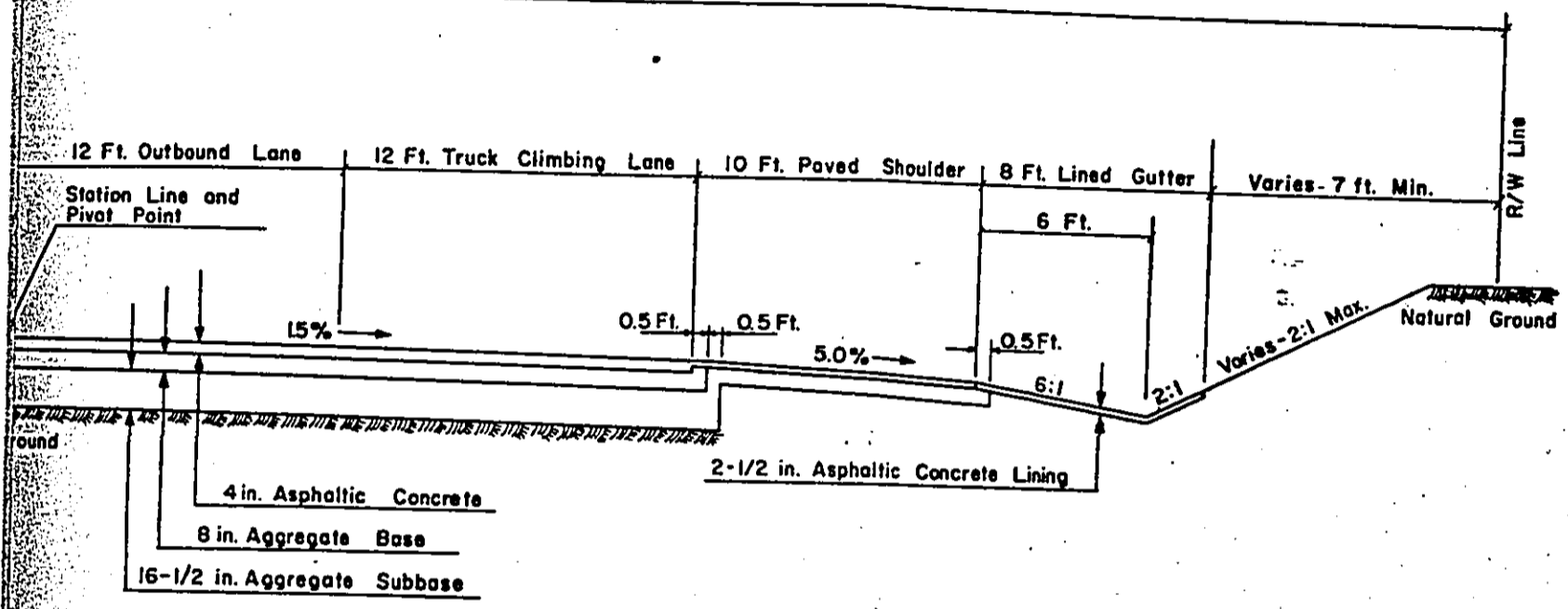
STA. 215 + 00 TO STA. 365 + 00

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PROJECT NO.	
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-037-1(2)			

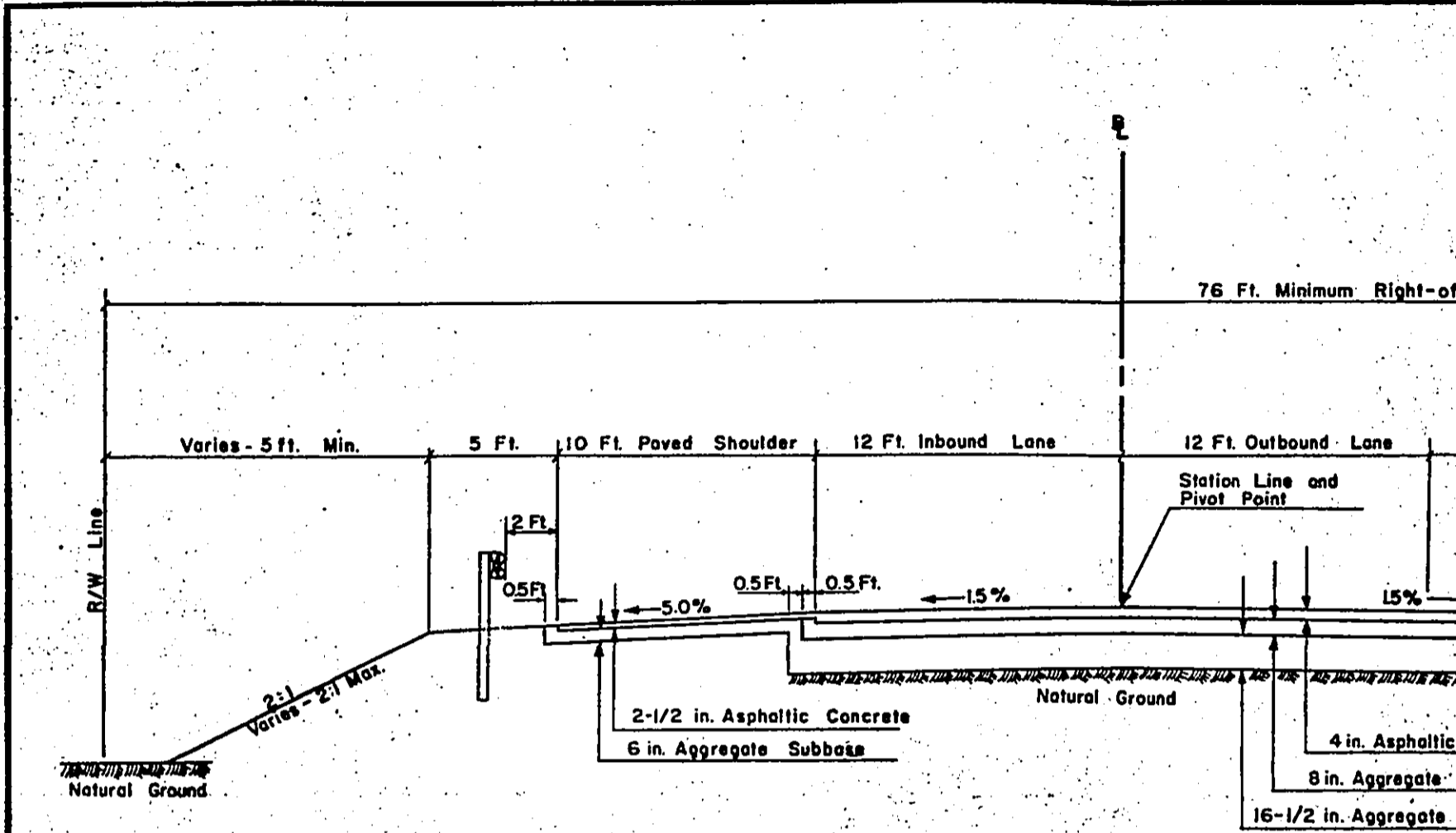
76 Ft. Minimum Right-of-Way



TANGENT SECTION

STA. 215+00 TO STA. 365+00

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TYPICAL ROADWAY SECTION
 HALEAKALA HIGHWAY
 Pukalani Section Town Route
 Project No. F-037-1(2)
 Date: Oct 1974 Scale: No. Scale
SHEET No. 6 OF 8 SHEETS
Exhibit 6

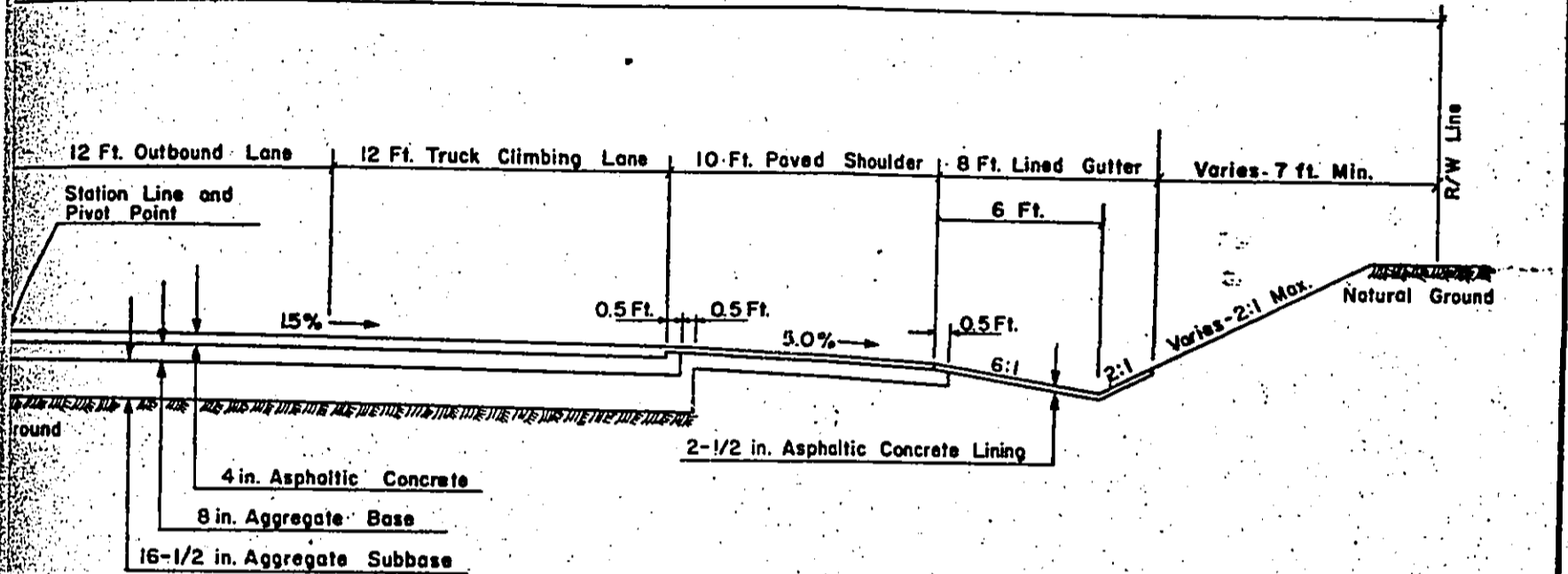


TYPICAL TANGENT SECTION
 STA. 215 +00 TO STA. 365 +00

Checked by	
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Reviewed by	
Approved by	
Contract No.	
Sheet No.	
Scale	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-037-1(2)			

76 Ft. Minimum Right-of-Way

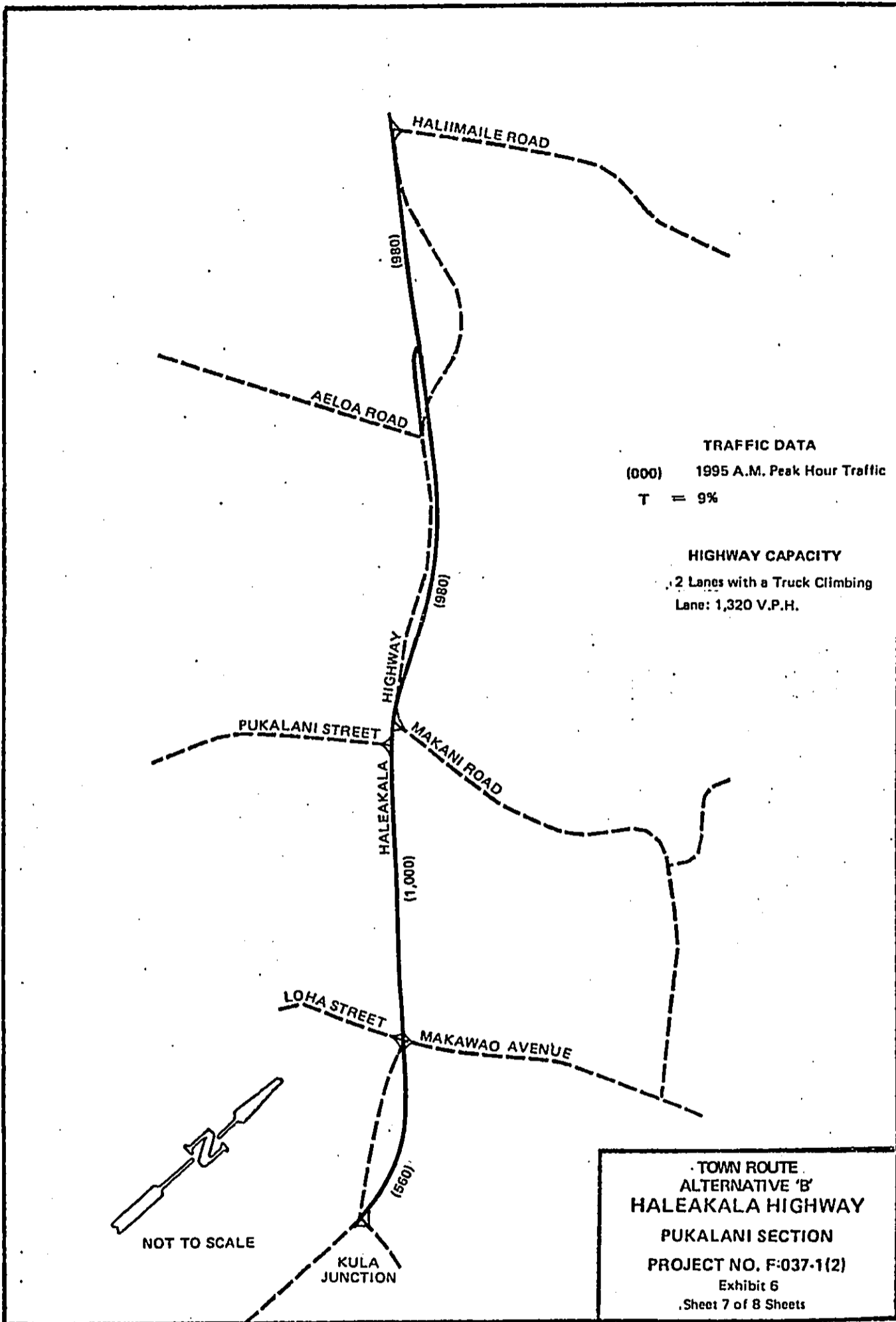


TANGENT SECTION

TA 215+00 TO STA. 365+00

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TYPICAL ROADWAY SECTION
 HALEAKALA HIGHWAY
 Pukalani Section Town Route
 Project No. F-037-1(2)
 Date: Oct 1974 Scale: No Scale
 SHEET No. 6 OF 8 SHEETS

Exhibit 6



TOWN ROUTE
 ALTERNATIVE 'B'
 HALEAKALA HIGHWAY
 PUKALANI SECTION
 PROJECT NO. F:037-1(2)
 Exhibit 6
 Sheet 7 of 8 Sheets

			Annual Cost
Pavement & 10% Contingencies	\$1,313,000	<u>20 yr. life 7%</u>	\$123,940
Other Cost & 10% Contingencies	\$1,410,000	<u>40 yr. life 7%</u>	\$105,770
Right-of-Way	\$1,757,000	<u>100 yr. life 7%</u>	\$123,130
<hr/>			
Total Project Cost	\$4,480,000		\$352,840
Maintenance Cost (284 miles x 7350/mile/year) =			\$ 20,880
Maintenance Cost - Existing Highway =			-(\$ 13,920)
<hr/>			
Net Project & Maintenance Cost/Year Alt. B over Existing			\$359,800

Annual Road User Cost Existing Highway	\$2,352,390
Annual Road User Cost Alternate B	\$1,802,700
<hr/>	
Annual Road User Savings if Alternate B is Implemented	\$ 549,690

Benefit/Cost = $549,690 / 359,800 = 1.53$

Haleakala Highway
Pukalani Section
Project No. F-037-1(2)

Benefit/Cost Ratio
Alternate B

Exhibit 6, Sheet 8 of 8

EXHIBIT 7

COMPARATIVE DATA

	(RECOMMENDED) ALTERNATIVE A Bypass	ALTERNATIVE B Town Route
A. Plan and Profile		
1. Minimum Radius	2000 ft.	2100 ft.
2. Maximum Grade	7%	7%
B. Typical Section		
1. No. of Lanes	Varies 3 to 2	3
2. Lane Width	12 ft.	12 ft.
3. Shoulder Width	10 ft.	10 ft.
4. Minimum ROW	Varies 106 ft. to 94 ft.	76 ft.
C. Capacity/Traffic (VPH)	2140/1000*	1320/1000
D. Design and Operating Features		
1. Design Speed/Posted Speed (MPH)	50/45	40/35
2. Access Control	Partial	None
3. Safety Features	- 30 ft. clear area - guardrails - 10' shoulders - reflectorized markers - reflectorized guide post	- guardrails - 10' shoulders - reflectorized markers - reflectorized guide post
4. Length	3.06 miles	2.84 miles
E. ROW Acquisitions		
1. Parcels Affected	9	86
2. Residences Affected	0	8
3. Businesses Affected	0	6
4. Area Required -		
Agricultural	46.9 Acres	24.1 Acres
Urban	0	15.1 Acres
	<u>46.9 Acres</u>	<u>39.2 Acres</u>
F. Project Cost	\$2,980,000	\$4,480,000
G. Benefits to Cost Ratio	3.62	1.53

*Combined network capacity and traffic

Halaekala Highway
Pukalani Section
Project No. F-037-1(2)
COMPARATIVE DATA

APPENDIX A
ORGANIZATIONS AND
PERSONS CONSULTED

APPENDIX A

ORGANIZATIONS AND PERSONS CONSULTED

1. FEDERAL AGENCIES

Agricultural Stabilization and Conservation Service U.S. Department of Agriculture	1833 Kalakaua Avenue Honolulu 96815
*Soil Conservation Service U.S. Department of Agriculture	Alexander Young Building Room 440 Honolulu 96813
*Federal Aviation Administration Department of Transportation	1833 Kalakaua Avenue Honolulu 96815
Forest Service U.S. Department of Agriculture	530 South Hotel Street Honolulu 96813
*Assistant Secretary - Program Policy Director Environmental Project Review	Department of Interior Washington, D.C. 20240
*Council on Environmental Quality	722 Jackson Place, NW Washington, D.C. 20006
*Department of Housing and Urban Development	P.O. Box 3377 Honolulu 96801
Department of Housing and Urban Development	450 Golden Gate Avenue P.O. Box 36003 San Francisco, CA 94102
*Department of Health, Education and Welfare	Federal Office Building 50 Fulton Street San Francisco, CA 94102
U.S. Department of Agriculture	Office of the Secretary Washington, D.C. 20250
National Oceanic and Atmospheric Administration U.S. Department of Commerce National Ocean Survey Honolulu Field Office	2525 Correa Road HIG 436 Honolulu 96822
National Bureau of Standards U.S. Department of Commerce	Administration Building Washington, D.C. 20234
Director National Marine Fisheries Service	2570 Dole Street Honolulu 96822

* Indicates Persons and Organizations from which comments were received.

*Environmental Protection Agency

Bishop Trust Building
1000 Bishop Street, Rm. 601
Honolulu 96813

*Environmental Protection Agency
Region IX

100 California Street
San Francisco, CA 94111

*Department of the Army
Corps of Engineers
Attn: Elroy Chinn

U.S. Army Engineer District,
Honolulu
Bldg. 230, Fort Shafter
APO San Francisco 96558

*Advisory Council on Historic Preservation
Attn: Mr. Robert Garvey
Executive Director

1522 K Street, NW
Suite 430
Washington, D.C. 20006

*Department of Commerce
Attn: Dr. Sydney R. Galler
Deputy Assistant

Secretary for Environmental
Affairs
Washington, D.C. 20230

2. CONGRESSIONAL

*The Honorable Hiram L. Fong

1313 New Senate Ofc. Bldg.
Washington, D.C. 20515

*The Honorable Daniel K. Inouye

442 Richard Russel Bldg.
Washington, D.C. 20510

The Honorable Patsy Mink

2338 Rayburn House
Office Building
Washington, D.C. 20515

The Honorable Spark M. Matsunaga

442 Cannon Ofc. Building
Washington, D.C. 20515

3. STATE

*Department of Hawaiian Home Lands

Attn: Billie Beamer

*Department of Agriculture

Attn: John Farias, Jr.

*Department of Accounting and General Services

Attn: Hideo Murakami

*Department of Defense

Attn: Maj. Gen. Valentine
A. Siefertmann

*Department of Education

Attn: James Eddington

*Department of Health

Attn: Shinji Soneda

* Indicates Persons and Organizations from which comments were received.

*Department of Land and Natural Resources	Attn: Christopher Cobb
*Department of Planning and Economic Development	Attn: Hideto Kono
Department of Social Services and Housing	Attn: Ronald Lin
*Office of Environmental Quality Control	Attn: Dr. Richard Marland

4. STATE SENATORS

The Honorable Henry Takitani
 Senator, 2nd District
 262 Ekoa Place
 Wailuku, Maui 96793

The Honorable Mamoru Yamasaki
 Senator, 2nd District
 P.O. Box 1516
 Kahului, Maui, Hawaii 96732

5. STATE REPRESENTATIVES

The Honorable Gerald K. Machida
 Representative, 5th District
 State Capitol, Room 432
 Honolulu, Hawaii 96813

The Honorable Alvin T. Amaral
 Representative, 5th District
 State Capitol, Room 401
 Honolulu, Hawaii 96813

6. MAUI COUNTY

*Department of Planning Attn: Howard K. Nakamura	Kalana O'Maui (County Bldg.) 200 South High Street Wailuku, Hawaii 96793
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Department of Water Supply	Kalana O'Maui 200 South High Street Wailuku, Hawaii 96793
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Economic Development Agency Attn: Mr. Ricki Yasui	County Building Wailuku, Hawaii 96793
--	--

*Department of Public Works Attn: Mr. Wayne Uemae	County Building Wailuku, Hawaii 96793
--	--

Department of Parks & Recreation Attn: Ichiro Maehara	Kalana O'Maui 200 South High Street Wailuku, Hawaii 96793
--	---

*Indicates Persons and Organizations from which comments were received.

The Honorable Elmer Cravalho
Mayor

Chairman, County Council of Maui

County of Maui
Wailuku, Hawaii 96793

Kalani O'Maui
200 S. High Street
Wailuku, Hawaii 96793

7. UNIVERSITY OF HAWAII

*Environmental Center

Water Resources Research Center

Dr. Doak Cox

Dr. Stephen Lau

8. NEWS MEDIA

Honolulu Star Bulletin

Attn: Mr. Hobart Duncan
605 Kapiolani Blvd.
Honolulu 96813

Honolulu Advertiser

Attn: Mr. George Chaplin
605 Kapiolani Blvd.
Honolulu 96813

Maui News

Wailuku Office
Wailuku, Maui, Hawaii 96793

9. PUBLIC UTILITIES

*Maui Electric Co.

210 Kam Avenue
Kahului, Hawaii 96732

Hawaiian Telephone Co.

Attn: Mr. E.L. Halford
P.O. Box 370
Wailuku, Hawaii 96793

10. ORGANIZATIONS AND BUSINESSES

*Mr. Colin C. Cameron
Maui Land & Pineapple Co.

P.O. Box 187
Kahului, Hawaii 96732

*Pukalani Community Assoc.
c/o Mr. Toshio Endo, President

40 Ibea Place
Pukalani, Hawaii 96788

*American Lung Association
Attn: James W. Morrow

245 North Kukui Street
Honolulu, Hawaii 96817

*Central Maui Soil and Water Conservation
District
Attn: Carl A. Carlson

P.O. Box 713
Wailuku, Hawaii 96793

* Indicates Persons and Organizations from which comments were received.

*Standard Oil Company of California
Western Operations, Inc.
Attn: R.G. Keehn

P.O. Box 3260
Honolulu, Hawaii 96801

*Alexander and Baldwin, Inc.
Attn: G.H. Ivey, Jr.

P.O. Box 156
Kahului, Maui, Hawaii 96732

*Pukalani Baptist Church
Attn: The Reverend Stanley Shiroma

P.O. Box 233
Pukalani, Maui, Hawaii 96788

11. THE GENERAL PUBLIC

The general public was also invited to comment. The following excerpt is part of a Public Notice published in the Honolulu Advertiser, Honolulu Star Bulletin and the Maui News on May 6, 1975 and June 3, 1975.

The Draft Environmental Impact Statement was circulated on behalf of the Federal Highway Administration and is available for public review and copying at:

*Department of Transportation
Highways Division, Planning Branch
600 Kapiolani Boulevard, Room 301
Honolulu, Hawaii 96813*

*Dept. of Transportation
Highways Division
Maui District Office
650 Palapala Drive
Kahului, Maui 96732*

*Department of Planning & Economic Development
1010 Richards Street
Honolulu, Hawaii 96813*

*Hawaii State Library
Main Branch, Oahu
Wailuku Branch, Maui*

*Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813*

*Federal Highway Admin.
Division Office
677 Ala Moana Blvd.,
Suite 613
Honolulu, Hawaii 96813*

Instructions were provided with the EIS stating that comments were to be submitted by June 26, 1975 to the Department of Transportation, Highways Division, 859 Punchbowl Street, Honolulu, Hawaii 96813. A provision for late submittals was also included in the instructions. Individuals who responded to the Public Notice are as follows:

Mr. and Mrs. Albert Salvida
47 Aheahe Place
Pukalani, Maui, Hawaii 96788

Sgt. Evan M. Asato
Box 762
330th ASA AVN CO
APO New York 09130

William E. Phelps
P.O. Box 242
Pukalani, Hawaii 96788

Mrs. Agnes R. Asue and
Mr. Wayne M. Asue
c/o Anita Tanaka
98-1178 Kaamilo Street
Aiea, Hawaii 96701

*Indicates Persons and Organizations from which comments were received.

APPENDIX B

AIR QUALITY REPORT

APPENDIX B AIR QUALITY REPORT

Representative Automobile Emissions Calculations

The following are sample calculations that demonstrate the methodology employed by the State of Hawaii, Department of Health in their assessment of the impact of the proposed project on local air quality. (See DOH letter dated January 22, 1976, Appendix E, page E-39.) The source of this methodology is the EPA publication Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources, January, 1975.

The parameters used are: 1995 traffic projections (see Exhibit 5, sheet 9), 1975 emission factors highway Volume (V and V_2), highway capacity (c), and a receptor 10 meters from the traffic lane.

The roadway segments referred to below are: Segment 1, Haliimaile Road to Aeloa Road; Segment 2, Aeloa Road to Pukalani Street and Makani Road; Segment 3, Pukalani Street and Makani Road to Loha Street and Makawao Avenue; and Segment 4, Loha Street and Makawao Avenue to Kula Junction. These calculations are for carbon monoxide emissions only; concentrations of hydrocarbons and nitrous oxides were not estimated owing to the generally poor understanding of the reaction mechanisms and rates associated with these pollutant species. The following tables show 1-hour carbon monoxide emissions for the existing highway, Alternative A (Bypass Road and Town Road) and for Alternative B.

Table 1 CO Emission Projections for the Existing Haleakala Highway

Segment	V/C	C	1-Hr CO (ppm)	1-Hr CO (mg/m ³)
1	1.00	300	$3.4 \times V_2/C \times 1.15$	= 12.8
2	1.00	300	3.4	" = 12.8
3	1.00	300	3.4	" = 13.0
4	1.00	300	3.4	" = 7.3

Table 2 CO Emission Projections for Alternative A

a. Bypass Road				
Segment	V/C	C	1-Hr CO (ppm)	1-Hr CO (mg/m ³)
1	.74	1320	6.7	$\times 1.15 = 7.7$
2	.38	1210	2.3	" = 2.6
3	.43	1220	2.6	" = 3.0
4	1.00	360	3.9	" = 4.5
b. Town Road				
Segment	V/C	C	1-Hr CO (ppm)	1-Hr CO (mg/m ³)
1	.56	930	2.6	$\times 1.15 = 3.0$
2	.57	930	2.7	" = 3.1
3	.52	930	2.4	" = 2.8
4	.22	930	1.3	" = 1.5

Table 3 CO Emission Projections for Alternative B

Segment	V/C	C	1-Hr CO (ppm)		1-Hr CO (mg/m ³)
1	.74	1320	6.6	x 1.15 =	7.6
2	.74	1320	6.6	"	7.6
3	.76	1320	7.1	"	8.2
4	.42	1320	2.8	"	3.2

APPENDIX C
NOISE LEVEL REPORT

Noise Level Report

Prepared by
State of Hawaii, Department of Transportation

GENERAL:

Noise studies were conducted to compare the relative impact expected of the three alternate highway routes being considered through the populated portions of Pukalani, Maui. The study compares predicted 1995 values with present (ambient) noise levels which were measured during a recent survey. A summary is tabulated in Table 2 (Test Report No. 3170-75).

The prediction method used in this study is based on mathematical models designated as NCHRP 117 and as revised by NCHRP 144. Comparative analyses are based on the criteria of acceptable noise levels mandated by U.S. DOT (FHWA) FHMP 7-7-3 (PPM 90-2). Although it is known that computed values "overpredict" noise levels for low volume roads, especially with low truck volumes, no adjustments were made. The expected traffic volume on Haleakala Highway of Alternative A, the recommended alternative, is very low and the predicted noise level is probably "overpredicted". Traffic volumes expected of Alternative B and the No-Build Alternative are considerably higher and the computed values should more closely approximate the linear line source models used in this study.

Note: No detailed study was made to validate the models in this study. Noise specialists have reported that a prominent nationally recognized consultant has been commissioned to research and to develop low traffic volume prediction models.

This study was conducted based on current traffic forecasts for 1995. It is expected that the traffic volume between Haliimaile Road and Makawao Avenue to be 1100 vehicles per hour of which one percent will be trucks (GVW 10,000 lbs or eight passenger bus). The traffic from Makawao to Kula is forecast to be 360 vehicles per

hour with 2% truck traffic. The traffic volume on Makawao Avenue is expected to be 350 vehicles per hour of which 1% will be trucks. The basic traffic flow was considered as follows:

ALTERNATIVE 1 (No-Build Alternative): By retaining the present Haleakala Highway, it can be expected that all of the traffic forecast for 1995 will be carried by its present 2 lanes.

ALTERNATIVE A (Bypass Route): It is expected that the new alignment will attract 600 vehicles per hour and all of the expected truck traffic in a third (truck climbing) lane. The balance would be carried by the present Haleakala Highway.

ALTERNATIVE B (Town Route): It is expected that all of the traffic forecast for 1995 will move through the town on a realigned Haleakala Highway with a third lane.

NOISE SURVEY:

Noise studies were conducted by the Materials Testing and Research Laboratory during the month of January, 1975 to determine the ambient noise levels within the populated areas of Pukalani. Tests were conducted according to procedures for Environmental Noise Measurements developed by Bolt, Beranek and Newman and U.S. DOT. Statistically, the L₁₀ noise levels determined by this method is within the 95% confidence limits.

During the study period, it was noted that areas removed from the immediate vicinity of Haleakala Highway (farther than 50'), were greatly influenced and dominated by locally generated noises usually associated with rural activities. These sounds were generated by farm animals (roosters, horses, dogs), children and youth activities, gardening activities (lawn mowers, tractors), home shop activities (auto repairs, saws, hammer) and loud audio equipment (stereo and radio). It is interesting to note that birds and the rustling of leaves contributed significantly to ambient readings.

These sources can be considered typical of rural communities. There were no other major sources that may be considered foreign or uncommon to the area. The only mechanical source other than traffic noise was the intermittent operation of a compressor at a service station.

ANALYSIS:

1. NO-BUILD ALTERNATIVE: The no-build study is an analysis of what would happen if the traffic volume doubled on the present Haleakala Highway. Doubling the auto volume in itself will not increase the noise levels drastically over present levels but the increased truck traffic would be the major source of noise. Considerable number of homes along the highway would be affected by traffic noises.

The zone of noise levels in excess of 70 dBA would extend 200 feet on both sides of the highway. The closest home is only 30 feet from the highway and the exterior noise level would be 83 dBA. Judging from the type of construction (single wall) and assuming the windows to be typically opened, the interior noise levels would be about 70-75 dBA. This indicates that interferences to normal conversations and audio enjoyment would be experienced.

Every commercial property along the route would also be affected. The noise levels of 80 dBA at 50 feet from the highway would exceed the noise standards for Class C category land use. In all, 68 residential dwelling and commercial properties and one church would fall in a zone which exceeds present noise standards.

2. ALTERNATIVE A (BYPASS ROUTE): The most desirable feature from the standpoint of noise environment is the removability of all truck traffic from passing through the populated residential portion of Pukalani. Secondly, the bypass is expected to attract all of the through traffic. Thus, the projected vehicular traffic on Haleakala Highway will approximate current traffic volumes.

These are significant factors. Rerouting trucks will eliminate a major source of traffic noise from the residential areas. Although the expected traffic volume on Haleakala Highway will approximate present volumes, the future traffic mix will be substantially different in that there will be no trucks. Consequently, the predicted noise levels show no increase of noise being currently experienced along Haleakala Highway.

There are presently 12 dwellings within 50 feet from the edge of Haleakala Highway and they are subjected to L_{10} noise levels between 70 to 75 dBA. The noise level at the closest dwelling to the highway would be 73 dBA. The interior noise level is not expected to exceed 60-65 dBA even with the windows and doors opened. The exterior noise levels exceed the Federal standards of 70 dBA. However, when compared to the No-Build alternative, expected to produce noise levels between 80 and 85 dBA at the same locations, it can be stated that ALTERNATIVE A will improve noise conditions along Haleakala Highway.

The only other consideration to noise sensitive activity within the affected area is a Baptist Church at the intersection of Haleakala Highway and Loha Street. This church is 40 feet from Haleakala Highway and the L_{10} noise level is not expected to exceed 71 dBA.

All commercial properties along Haleakala Highway will not be subjected to noise levels above the max 75 dBA limits established for Category C land use.

The noise generated by traffic on the new Bypass Route is not expected to adversely affect any homes. A dwelling located at the end of Ihea Place is 400 feet from the Bypass. This is the closest residence and the L_{10} noise levels are not expected to exceed 63 dBA.

A residence on Makawao Avenue is 440 feet from the Bypass and the expected L_{10} noise levels are expected to be 67 dBA. The major contributor to this noise level will be the normal truck traffic on Makawao Avenue and not the traffic on the Bypass.

There are 5 dwellings within 600 feet of the Bypass. Two of these are along Makawao Avenue and the noise will be influenced by local traffic rather than the Bypass traffic. The expected noise levels at these 2 dwellings are expected to be 65-70 dBA. The three dwellings removed from the influence of Makawao Avenue will experience L_{10} noise levels of 60 dBA.

In all cases, there will be no adverse noise impact.

3. ALTERNATIVE B (TOWN ROUTE): Basically, this alternative is similar to the No-Build Alternative. The impact zone would extend 200 feet on both sides of the highway but would shift with the new alignment.

When compared to the No-Build Alternative, homes along Haleakala Highway especially between Aeloa Road and Ahoa Road and between Loha Street and Lino Place would benefit from the shift in alignment. However, homes across the highway (north) along its entire length would experience increased noises. This new alignment would affect 74 residences and commercial properties and one church. This is 6 more residences than the No-Build Alternative.

In order to conform to Federal Noise Standards, abatement measures must be able to attenuate noise from 83 dBA to 70 dBA. Based on present technologies, the success of achieving a 13 dBA reduction would be very difficult. As an example, based on the Nomograph Design Method, a continuous uninterrupted structure of excellent acoustical characteristics, 20-25 feet high above the pavement grade and

over 2 miles long must be constructed at the right of way line on both sides of the highway. This problem is compounded by the numerous openings which is a necessity at all intersections and driveways. To compensate for these openings, properties adjacent to these openings will have to be virtually encircled by a high structure. Contributing to the height necessary for adequate attenuation is the relatively steep highway grade and the elevation of properties above the roadway.

SUMMARY:

Based on the number of homes that would be exposed to noise levels above 70 dBA, it can be concluded that only Alternative A (Bypass Route) would not create any noise impact to the community. Another benefit relating to the Bypass Route would be the substantial reduction of noise along Haleakala Highway by rerouting all truck and through traffic away from the populated areas.

The relative impact of the three alternatives are tabulated below.

TABLE 1

		Number of Homes > 70 dBA	Number of Business > 75 dBA	Number of Churches > 70 dBA
ALT A	Bypass Route	0	0	0
ALT B	Town Route	69	5	1
ALT 1	No Build	63	5	1
*	Haleakala Hwy.	12	0	0

*Shown to compare reduction of noise along Haleakala Highway by rerouting truck and through traffic.

There are no schools, playgrounds, other churches or other noise sensitive public facilities affected by traffic noise.

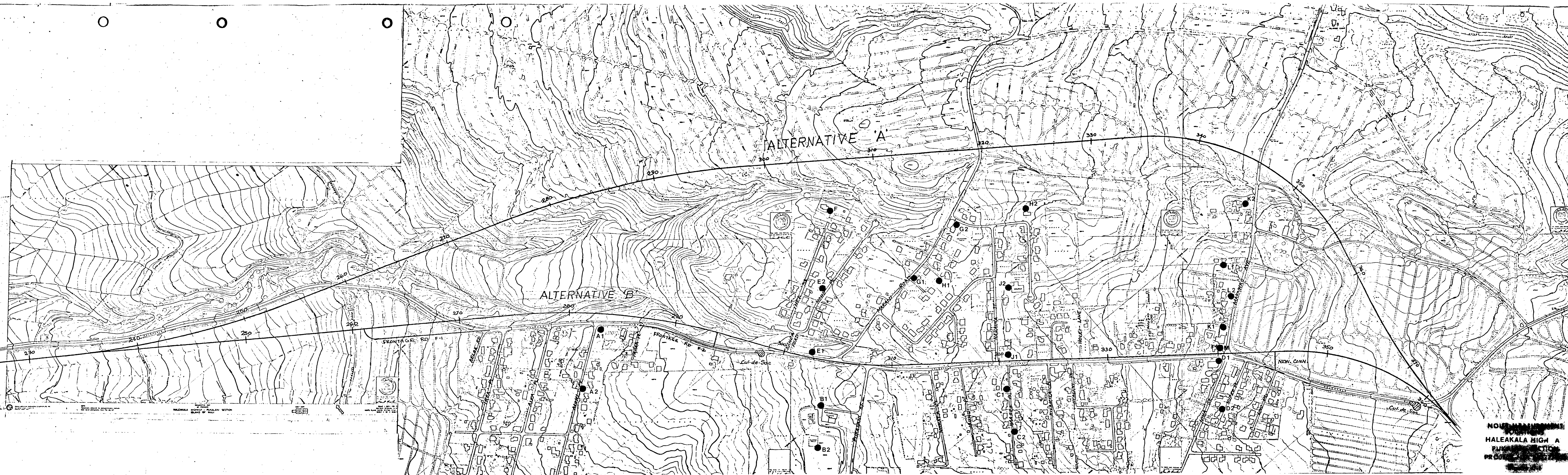
TABLE 2

TEST REPORT NO. 3170-75

HALEAKALA HIGHWAY IMPROVEMENT
 PUKALANI SECTION, MAUI, HAWAII
 PROJECT NO. F-037-1(8)

TEST SITE	TEST LOCATION	AMBIENT NOISE LEVELS (AVERAGE) dBA	PREDICTED 1995 L ₁₀ NOISE LEVELS (dBA)		
			ALT A BYPASS	ALT B TOWN	ALT 1 NO-BUILD
A ₁	Empty Lot	67	70	74	80
A ₂	Res: F Corpuz	50	52	59	60
B ₁	Playground: Parking Lot	49	54	63	63
B ₂	Playground: Ball Field	44	51	57	57
C ₁	Res: Schmiddlin	54	58	70	70
C ₂	Res: Shishido	49	52	60	60
D ₁	Church: Baptist	67	70	79	80
D ₂	Res: 54 Kupee Pl.	49	53	62	62
E ₁	Haleakala Hwy. Btwn Kahoa and Makani	67	70	79	80
E ₂	Res: 138 Noho Pl.	56	56	60	60
F	Res: End of Ihea Pl.	51	63	51	51
G ₁	Res: Enriques	53	53	57	57
G ₂	Res: 907 B Makani	53	53	57	57
H ₁	Res: M Jio	58	59	58	58
H ₂	Res: Danley	47	60	51	51
J ₁	Res: R. Seki	63	70	82	80
J ₂	Church: Mormon	52	54	59	59
K ₁	Kii Place	63	70	72	71
K ₂	Res: Makawao Ave.	60	70	71	70
L ₁	Res: Aguiar	59	62	62	62
L ₂	Dicks Gift Shop	59	67	66	66
M	Shirota Service Station	61	62	71	70

SEE FIGURE C-1 FOR TEST LOCATIONS



APPENDIX D
CLEARANCES

APPENDIX D
STATE OF HAWAII


TO: Department of Transportation
FROM: Department of Land and Natural Resources

CLEARANCE FORM
COORDINATION OF HIGHWAY PROJECTS
WITH
LAND AND NATURAL RESOURCES INTERESTS

This is to certify that Project No. F-037-1(8), Haleakala Highway,
Pukalani Section

has been reviewed by this Department and insofar as economically practicable,
has been coordinated in terms of land and natural resources interests in
accordance with Section 109, Title 23, United States Code.

There are no known historical sites along this alignment and
no survey will be necessary.


Chairman and Member
Board of Land and Natural Resources
Department of Land Natural Resources

8-13-73
Date

2635

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



RECEIVED
OCT 20 1975

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
P. O. BOX 521
HONOLULU, HAWAII 96809

October 6, 1975

FILE NO. _____

DIRECTOR'S OFFICE
OCT 9 12 45 PM '75
DEPT. OF
TRANSPORTATION

Admiral E. Alvey Wright
Director, Department of
Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
Attn: Richard Chung

Dear Admiral Wright:

Subject: Halcahala Highway, Project No. F-057-1
(2) DEIS 75-02 Archaeological and
Historic Sites

The project area contains no archaeological or historical sites listed on or being considered for the State or National Registers of Historic Places. There are no known archaeological or historical values in or near the project area and since the project lies in an area that has been cultivated for cane for many years, any values which did exist have probably been destroyed.

The probability of such lack of archaeological or historical value is so high that no archaeological survey is required or recommended. Thank you for your concern for historic preservation.

Sincerely yours,

Jane L. Silverman
Historic Preservation Officer
State of Hawaii

APPENDIX E
COMMENTS
AND RESPONSES

APPENDIX E COMMENTS AND RESPONSES

Introduction

Appendix E includes the letters and comments that were received from persons and agencies reviewing the Draft EIS. These letters are arranged in two Sections: I Respondents with comments not requiring reply; and II Respondents with comments requiring replies. Section I contains letters acknowledging receipt of the Draft EIS and either a "no comment" or agreement with the selected Alternative A. The letters in Section II contain questions regarding statements in the Draft EIS. These letters are followed by a summary of each comment and a reply to that comment. In most cases, the replies to a comment are referenced to the Final EIS text.

Section III of this Appendix contains a summary of the June 12, 1975 public hearing on the proposed highway.

LIST OF RESPONDENTS IN APPENDIX E

	<u>LETTER DATED</u>	<u>PAGE</u>
I. <u>RESPONDENTS WITH COMMENTS NOT REQUIRING REPLY</u>		
A. <u>FEDERAL AGENCIES</u>		
1. Department of Transportation Federal Aviation Administration	5-13-75	E-1
2. Advisory Council on Historic Preservation Executive Branch	5-19-75	E-2
3. Department of Housing & Urban Development Federal Housing Administration, Region IX	6-12-75	E-3
B. <u>U.S. CONGRESSIONAL REPRESENTATIVES</u>		
1. The Honorable Hiram L. Fong	4-23-75	E-4
2. The Honorable Daniel K. Inouye	4-23-75	E-5

LIST OF RESPONDENTS IN APPENDIX E (CONT'D)

<u>C. STATE OF HAWAII AGENCIES</u>	<u>LETTER DATED</u>	<u>PAGE</u>
1. Department of Defense	4-23-75	E-6
2. Department of Hawaiian Home Lands	5-7-75	E-7
3. Department of Agriculture	5-15-75	E-8
4. Department of Education	4-22-75	E-9
5. Department of Accounting and General Services	5-7-75	E-10
6. Department of Planning and Economic Development	6-23-75	E-11
 <u>D. COUNTY OF MAUI AGENCIES</u>		
1. Planning Department	4-22-75	E-12
2. Department of Public Works	6-26-75	E-13
 <u>E. ORGANIZATIONS AND BUSINESSES</u>		
1. Alexander & Baldwin, Inc.	6-12-75	E-14
2. Maui Electric Company, Ltd.	6-10-75	E-15
3. Pukalani Baptist Church	6-25-75	E-16
4. Pukalani Community Association	7-3-75	E-17
5. Standard Oil Company of California, Western Operations, Inc.	6-5-75	E-18
 <u>II. RESPONDENTS WITH COMMENTS REQUIRING REPLIES</u>		
<u>A. FEDERAL AGENCIES</u>		
1. Department of Agriculture Soil Conservation Service	5-14-75	
Comment		E-19
Response		E-21

LIST OF RESPONDENTS IN APPENDIX E (CONT'D)

		<u>LETTER DATED</u>	<u>PAGE</u>
2.	Department of Commerce Assistant Secretary for Science and Technology	6-27-75	
	Comment		E-22
	Response		E-23
3.	Department of Defense U.S. Army Engineer District, Honolulu	6-26-75	
	Comment		E-24
	Response		E-25
4.	Department of Health, Education and Welfare Office of Environmental Affairs	7-3-75	
	Comment		E-26
	Response		E-27
5.	Department of Interior Office of the Secretary	6-16-75	
	Comment		E-28
	Response		E-30
6.	U.S. Environmental Protection Agency Region IX	7-1-75	
	Comment		E-32
	Response		E-35
B.	<u>STATE OF HAWAII AGENCIES</u>		
1.	Department of Health	5-19-75	
	Comment		E-36
	Response		E-38
		1-22-76	
	Comment		E-39
	Response		E-41
2.	Department of Land and Natural Resources	5-6-75	
	Comment		E-42
	Response		E-43
		5-14-75	
	Comment		E-44
	Response		E-45

LIST OF RESPONDENTS IN APPENDIX E (CONT'D)

	<u>LETTER DATED</u>	<u>PAGE</u>
3. Office of Environmental Quality Control	7-7-75	
Comment		E-46
Response		E-49
4. University of Hawaii at Manoa Environmental Center	6-12-75	
Comment		E-52
Response		E-54
<u>C. ORGANIZATIONS AND BUSINESSES</u>		
1. American Lung Association of Hawaii	6-26-75	
Comment		E-55
Response		E-60
2. Maui Land and Pineapple Company, Inc.	5-6-75	
Comment		E-61
Response		E-64
3. Central Maui Soil and Water Conservation District	5-13-75	
Comment		E-67
Response		E-68
<u>D. INDIVIDUALS</u>		
1. Sgt. Evan M. Asato	6-5-75	
Comment		E-69
Response		E-73
2. Mrs. Agnes R. Asue and Mr. Wayne M. Asue	6-12-75	
Comment		E-74
Response		E-75
3. Mr. William E. Phelps	6-24-75	
Comment		E-76
Response		E-78
4. Mr. and Mrs. Albert Salvida	4-28-75	
Comment		E-79
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LIST OF RESPONDENTS IN APPENDIX E (CONT'D)

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III. SUMMARY OF JUNE 12, 1975 PUBLIC HEARING	
A. SCHEDULED TESTIMONIES	E-81
B. QUESTION AND ANSWER PERIOD	E-81

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

9191

PACIFIC-ASIA REGION
P. O. BOX 4009
HONOLULU, HAWAII 96813
DIRECTOR'S OFFICE



MAY 13 1975

MAY 14 12 40 PM '75

DEPT. OF
TRANSPORTATION

Rear Admiral E. Alvey Wright, USN, Ret.
Director, Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Haleakala Highway, Pukalani Section,
Project No. F-037-1(2), DEIS 75-02

Dear Admiral Wright:

Thank you for the opportunity to review the Draft
Environmental Impact Statement (DEIS) for the subject
Haleakala Highway project.

The Pacific-Asia Region, Federal Aviation Administration,
has no comment to make concerning the DEIS. We would
like a copy of the Final EIS.

Sincerely,

Jack G. Webb
JACK G. WEBB
Director

RECEIVED
MAY 14 1 58 PM 1975
DEPT. OF TRANSPORTATION
HI. AVIATION DIVISION

1838

Advisory Council
On Historic Preservation
1522 K Street N.W. Suite 430
Washington D.C. 20005

DIRECTOR'S OFFICE

MAY 23 1 01 PM '75 MAY 19 1974

DEPT. OF
TRANSPORTATION

Mr. E. Alvery Wright
Director
Department of Transportation
State Of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

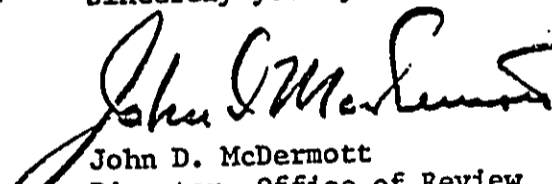
Dear Mr. Wright:

This is in response to your request of April 11, 1975 for comments on the draft environmental statement for Haleakala Highway, Pukalani Section, Maui, Hawaii. Pursuant to Section 106 of the National Historic Preservation Act of 1966, and Section 1(3) and 2(b) of Executive Order 11593, "Protection and Enhancement of the Cultural Environment" of May 13, 1971, the Advisory Council is charged with the responsibility of providing Federal agencies with comments on their undertakings which effect the cultural resources. Until the Council has been notified by a Federal agency that it has determined an undertaking will affect a property included in or eligible for inclusion in the National Register of Historic Places, the Council is unable to comment.

The Council on Environmental Quality's guidelines for compliance with the National Environmental Policy Act of 1969 directs Federal agencies to forward copies of environmental statements prepared for undertakings which will have an impact on historical resources to the Advisory Council for review and comment. Therefore, because the Council has no legislative or administrative authority to comment to State agencies, the following remarks are directed to the Federal Highway Administration (FHWA).

The Hawaii State Department of Transportation's draft environmental statement appears adequate regarding our area of expertise and we have no further comment to make at this time.

Sincerely yours,


John D. McDermott
Director, Office of Review
and Compliance

The Council is an independent unit of the Executive Branch of the Federal Government charged by the Act of October 15, 1966 to advise the President and Congress in the field of Historic Preservation.

F-037-1 (2)

9564



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL HOUSING ADMINISTRATION
HONOLULU INSURING OFFICE
P.O. BOX 3377
HONOLULU, HAWAII 96801

RECEIVED

REGION IX
450 Golden Gate Avenue
P.O. Box 36003
San Francisco, California 94102

June 12, 1975

JUN 16 2 27 PM 1975
IN REPLY REFER TO:
9.7U (Johnson/
DEPT. OF HOUSING AND URBAN DEVELOPMENT
HAWAII DIVISION

Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1(2)
DEIS 75-02

The highway improvements proposed in the Makawao District near Pukalani on the existing Haleakala Highway (rural route FAP 37) described in the above DEIS has been reviewed by this agency.

The studies and information presented in the DEIS appear to be adequately documented to justify the proposed improvement which will relieve anticipated traffic congestion in Pukalani. HUD concurs with the selection of alternate A-1 since it has less impact on the community and is less costly to build.

We also find that alternate A-1 has little impact on existing housing units and the rerouting of the through traffic away from Pukalani should benefit the community.

Sincerely,

Alvin K. H. Pang
for Alvin K. H. Pang
Director

cc:
CEQ

JAMES O. EASTLAND, MISS., CHAIRMAN
 JOHN L. MCCLELLAN, ARK.
 PHILIP A. HART, MICH.
 EDWARD M. KENNEDY, MASS.
 BIRCH BAYH, IND.
 QUENTIN N. DUNDICK, N. DAK.
 ROBERT C. BYRD, W. VA.
 JOHN V. TUNNEY, CALIF.
 NEV AHOUZEK, S. DAK.
 ROMAN L. Hruska, NEBR.
 HIRAM L. FONG, HAWAII
 HUGH SCOTT, PA.
 STROM THURMOND, S.C.
 CHARLES MCC. MATHIAS, JR., MD.
 WILLIAM L. SCOTT, VA.

PETER M. STOCKETT
 CHIEF COUNSEL AND STAFF DIRECTOR

United States Senate DIRECTOR'S OFFICE
 COMMITTEE ON THE JUDICIARY
 WASHINGTON, D.C. 20510 APR 28 7 59 AM '75

April 23, 1975

DEPT. OF TRANSPORTATION

Admiral E. Alvey Wright (Ret.)
 Director
 State of Hawaii
 Department of Transportation
 869 Punchbowl Street
 Honolulu, Hawaii 96813

Dear Alvey:

Thank you for sending me, under cover of your letter of April 11, a copy of the Notice of Public Hearing and the Draft Environmental Impact Statement for the Pukalani Section of the Haleakala Highway project.

With best wishes and aloha,

Sincerely yours,

Hiram L. Fong

Hiram L. Fong

HLF:ckh

RECEIVED
 APR 28 8 18 AM 1975
 DEPT. OF TRANSPORTATION
 HI. TRANS. DIVISION

DANIEL K. INOUE
HAWAII

United States Senate

WASHINGTON, D.C. 20510

DIRECTOR'S OFFICE

APR 28 8 04 AM '75

DEPT. OF
TRANSPORTATION

April 23, 1975

Admiral E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Admiral Wright:

Senator Inouye is currently in Hawaii and in his absence, I wish to acknowledge receipt of your communication of April 11, 1975, concerning the Haleakala Highway, Pukalani Section, Draft Environmental Impact Statement.

Your continuing efforts to keep us informed are most appreciated.

Aloha,



PATRICK H. DE LEON, Ph. D., M. P. H.
Legislative Assistant

PHD:jmpl

RECEIVED
APR 28 8 59 AM 1975
DEPT. OF TRANSPORTATION
HAWAIIAN DIVISION

8988



RECEIVED

STATE OF HAWAII APR 25 1 34 PM 1975
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL TRANSPORTATION
FORT RUGER, HONOLULU, HAWAII 96816 DIVISION

HIANG

23 April 1975

Mr. Tetsuo Hirano
Chief, Highways Division
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hirano:

HWY-PA 2.21452
Haleakala Highway, Pukalani Section
Project No. F-037-1(2), Draft
Environmental Impact Statement (EIS)

Thank you for your letter of April 11, 1975, regarding the draft Environmental Impact Statement for Haleakala Highway, Pukalani Section.

We have reviewed the draft statement in detail but do not have any additional constructive recommendations or comments to offer; and, at this time, do not require a copy of the final EIS.

We thank you for your consideration in asking this department for its review and response of the subject project.

Sincerely,

Cedric D. O. Chong
CEDRIC D. O. CHONG
Major, HANG
Acting Contr & Engr Officer

PROJECT OFFICES

WAIMEA OFFICE
P. O. BOX 125
KAMUELA, HAWAII 96743

KEAUKAHA OFFICE
P. O. BOX 833
HILO, HAWAII 96720



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

May 7, 1975

1782

PROJECT OFFICES

DIRECTOR'S OFFICE
MAUI OFFICE
P. O. BOX 22,
KAHULUI, MAUI 96732

MAY 15 12 45 PM '75
MOLOKAI OFFICE
P. O. BOX 198
HOOLEHUA, MOLOKAI 96729

DEPT. OF
TRANSPORTATION

KAUAI OFFICE
P. O. BOX 332
LIHUE, KAUAI 96766

Mr. E. Alvey Wright, Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Subject: HWY - PA
2. 21641
Haleakala Hwy., Pukalani Section

Dear Sir:

Thank you for your letter of April 24, 1975, notifying us of the scheduled public hearing for the subject project. Our research indicates that the proposed highway does not affect our property, and consequently DHHL will not offer any testimony.

We appreciate you keeping us informed of any project which may affect DHHL land holdings and operations.

Owau no meka haahaa,
(I am, humbly yours)

(Mrs.) Billie Beamer
Chairman

WB
WB:aa

RECEIVED
MAY 15 2 20 PM 1975
DEPT. OF TRANSPORTATION
HAWAIIAN DIVISION

GEORGE R. ARIYOSHI
GOVERNOR



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

May 15, 1975

MAY 20 7 58 AM '75
DEPT. OF
TRANSPORTATION

DIRECTOR'S OFFICE

1806

MEMORANDUM

To: Honorable E. Alvey Wright, Director
Department of Transportation

Subject: Draft EIS for Haleakala Highway, Pukalani Section
Project No. F-037-1 (2)

The Department of Agriculture has reviewed this impact statement for agricultural impact. Approximately 46.9 acres of agricultural land will be removed by implementing alternative Route A. Route B would remove only 24.1 acres of agricultural land.

The Department would favor choice of alternative Route A. The loss of pineapple land would not be significant when compared to the increased cost of Route B. Improved traffic flow could offset any loss in pineapple revenues for the area served by this highway.

John Farias, Jr.
Chairman, Board of Agriculture

JF:d:h

GEORGE R. ARIYOSHI
GOVERNOR



TEICHIRO HIRATA
SUPERINTENDENT

RECEIVED

APR 25 1 41 PM 1975

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

OFFICE OF THE SUPERINTENDENT

April 22, 1975

MEMO TO: Department of Transportation
Highways Division

FROM: *Teichiro Hirata*
Teichiro Hirata, Superintendent
Department of Education

SUBJECT: Haleakala Highway, Pukalani Section
Project No. F-037-1(2), DEIS 75-02

We have reviewed the subject Environmental Impact Statement and recommend that either Alternative A-1 or A-2 be adopted.

The selection of Alternative B will result in an adverse noise impact on school activities at Pukalani Elementary School scheduled to open in 1976.

A copy of the final EIS is not desired.

1128

GEORGE R. ARIYOSHI
GOVERNOR



DIRECTOR'S OFFICE

HIDEO MURAKAMI
COMPTROLLER

MAY 8 12 57 PM '75

MIKE N. TOKUNAGA
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 119, HONOLULU, HAWAII 96810

LETTER NO. (P) 1593.5

MAY 7 1975

MAY 12 9 42 AM '75

DEPT. OF TRANS.
TRANSPORTATION SYSTEMS
PLANNING OFFICE

Honorable E. Alvey Wright
Director
Department of Transportation
State of Hawaii
Honolulu, Hawaii

Dear Mr. Wright:

Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1 (2)
Draft Environmental Impact Statement

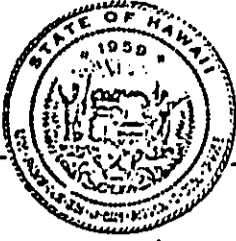
This is in response to solicitation of comments on the sub-
ject project.

We concur with the Department of Education's recommendation
for Alternative A. Additionally we would like to point out that
Alternative B may require a pedestrian overpass for the students
living on the east side of the highway.

Thank you for this opportunity to comment on your project.

Very truly yours,

HIDEO MURAKAMI
State Comptroller



DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

June 23, 1975

RECEIVED

4702
GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

JUN 25 1 39 PM 1975
DEPT. OF TRANSPORTATION
HI HIGHWAYS DIVISION

Ref. No. 4501

Mr. Tetsuo Harano, Chief
Highways Division
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Harano:

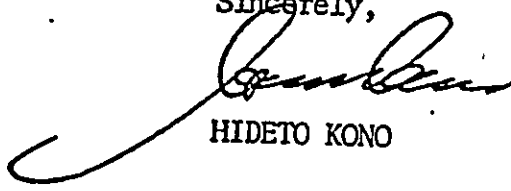
Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1(2)
DEIS 75-02

We have reviewed the subject draft statement and find that it has adequately assessed the probable environmental impacts that can be anticipated from the proposed project.

Since the bypass alternative is obviously the most economically and socially feasible solution to the forecasted traffic demand, we would like to indicate our concurrence with that alternative. Additionally, we would also like to request a copy of the final statement on the subject proposal when completed.

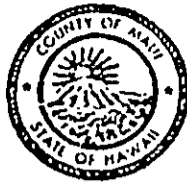
We have no further comments to offer at this time but appreciate the opportunity to review the subject statement.

Sincerely,


HIDETO KONO

1647 ✓

PLANNING COMMISSION
Yoshikazu Matsui, Chairman
G. Alan Freeland, Vice-Chairman
Louis Hao
Shiro Hokama
Kazuo Kage
George Murashige
Leo Polo, Jr.
Stanley Goshi, Ex-Officio
Carl Kalama, Ex-Officio



Elmer F. Cravzho
Mayor
BOARD OF ADJUSTMENT
& APPEALS
Young Whee Chun, Chairman
George Tamura, Vice-Chairman
William Hong
Norman Muranaka
Herbert Vierra
Howard K. Nakamura
Planning Director
Tosh Ishikawa
Deputy Planning Director

COUNTY OF MAUI
PLANNING DEPARTMENT

200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

April 22, 1975

DIRECTOR'S OFFICE
APR 24 12 43 PM '75
DEPT. OF
TRANSPORTATION

Mr. E. Alvey Wright, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

Subject: Draft Environmental Impact Statement
Haleakala Highway, Pukalani Section - Project
No. F-037-1(2)

This will acknowledge receipt of two copies of the subject
draft EIS and notice of corridor public hearing.

Comments relative to the subject EIS will be forwarded to your
Planning Branch after our review is completed.

Please forward to our office a copy of the final EIS when
available.

Should there be any questions, please contact our office at
any time.

Yours very truly,

TOSH ISHIKAWA
Deputy Planning Director

APR 25 2 22 PM '75
DEPT. OF TRANS.
TRANSPORTATION SYSTEMS
PLANNING OFFICE

4782-

ELMER F. CRAVALHO
Mayor
WAYNE UEMAE
Director of Public Works
CLARO R. CAPILI, SR.
Deputy Director of Public Works



COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

June 26, 1975

DIRECTOR'S OFFICE
RECEIVED
DIVISIONS:
Engineering
Highway Construction
and Maintenance
Land Use and
Codes Enforcement
JUL 2 12 45 PM 1975
JUL 3 9 55 AM 1975
TRANSPORTATION
DEPT. OF TRANSPORTATION
HI. TRAFFIC DIVISION

Mr. E. Alvey Wright, Director
State Dept. of Transportation
869 Punchbowl St.
Honolulu, Hi 96813

Dear Mr. Wright:

Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1 (2)
Draft Environmental Impact Statement 75-02

We have reviewed the draft environmental impact statement for the subject highway project located in the Pukalani area of Maui and offer the following comments:

In the final selection of the highway alignment we recommend that Alternate A be strongly considered over Alternate B. The selection of Alternate B, we feel, would pose adverse impacts on the Pukalani community and highway users. On the other hand, Alternate A would best serve the Pukalani community as well as the surrounding communities of Kula and Makawao.

For your information, the Maui County Planning Department has recently received the Makawao-Pukalani-Kula General Plan Study. The General Plan supports a realignment by-pass and also recommends that the by-pass route follow Alternate A.

In view of the present adverse impact of the existing highway within the Pukalani community, we respectfully request that the proposed project be constructed as soon as possible.

We thank you for the opportunity to submit our comments on the DEIS.

Please transmit the Final EIS to the County of Maui when available.

Very truly yours,

Elmer F. Cravalho
Director of Public Works

Clara R. Capili, Sr.
Director of Planning

2005



ALEXANDER & BALDWIN, INC.
P. O. BOX 156 • KAHULUI, MAUI, HAWAII 96732

RECEIVED

JUN 18 1975
PHONE 877-5523

DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

June 12, 1975

Director, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

JUN 18 12 36 PM '75
DEPT. OF TRANSPORTATION
DIRECTOR'S OFFICE

Dear Sir:

HALEAKALA HIGHWAY, PUKALANI SECTION, PROJECT NO. F-037-1(2).
We are writing to express our views on the alternative alignments of the proposed new Haleakala Highway through the Pukalani area.

Hawaiian Commercial and Sugar Company, a division of Alexander & Baldwin, Inc., is affected by the makai section of this proposed roadway and we will limit our comments to this particular section. Of the two alternative routes, A-1 and B, we are in favor of Alternate A-1. This alternate will require considerably less cane area, and, because it follows along the route of the existing highway, will cause less disruption of existing field facilities. Alternate A-1 will require approximately 7 1/2 acres of our Field 301 and 2 1/2 acres of pasture land above our Field 310. It will create no cane land remnant.

Alternate B on the other hand will consume approximately 11 acres of our Field 301 and will create a 6.5 acre remnant between the existing highway and the proposed alignment.

We feel the advantages to our plantation operations of Alternate A-1 over Alternate B are obvious. We feel Alternate A-1 will cost considerably less to construct than Alternate B, not only through our cane lands but throughout its entire route.

Should you require additional details on irrigation facility changes that may be required for either alternate, we will be happy to provide this information.

Very truly yours
PROPERTIES GROUP

G. H. Ivey, Jr.
G. H. Ivey, Jr.
MAUI MANAGER

cc: Hannibal Tavares
A&B Properties Group - Hon
HC&S

GHI:mms

E-14



MAUI ELECTRIC COMPANY, LIMITED

210 KAMEHAMEHA AVENUE • KAHULUI, MAUI, HAWAII 96732 • TELEPHONE 877-3374

June 10, 1975

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JUN 16 11 AM '75
DEPT. OF TRANSPORTATION
HI. HWYS. DIVISION

9555

DEPARTMENT OF TRANSPORTATION
Highways Division
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1(2), DEIS 75-02

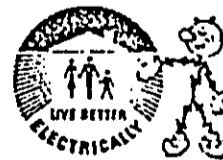
Thank you for the opportunity to review the Environmental Impact Statement draft for subject project.

We would like to recommend that highway improvement Alternate A be considered as most favorable over Alternate B because of the limited utility adjustment and relocations required.

We will not require a copy of the final EIS.

T. M. SATO
Manager, Engineering

TMS/bb



PUKALANI BAPTIST CHURCH

P. O. BOX 233

PUKALANI, MAUI, HAWAII 96788

PHONE 572-2635



June 25, 1975

Mr. Harris Suyama
Department of Transportation
Highway Division
650 Palapala Drive
Kahului, Maui, Hi. 96732

Dear Mr. Suyama:

In regards to the construction of the Haleakala Highway in Pukalani. The members of the Pukalani Baptist Church would like go on record as being in favor of Alternate Route A over the existing Haleakala Highway for these reasons:

1. The construction of the existing Haleakala Highway will be too costly.
2. Noise pollution. It is bad enough now and with the added volume of traffic it will be worse.
3. Hazardous traffic condition because of the many streets.

We are praying that the choice will be Alternate Route A.

Yours truly,

Stanley Shiroma
Pastor

RECORDED
MAIL ROOM OFFICE

JUN 26 1975

MEMBERSHIP OFFICE
Pukalani Community Association

JUL 7 8 35 P. O. BOX 116 • PUKALANI, MAUI, HAWAII 96788

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DEPT. OF
TRANSPORTATION

DEPT. OF TRANSPORTATION
HAWAII
JULY 8 1975

Dear Sir:

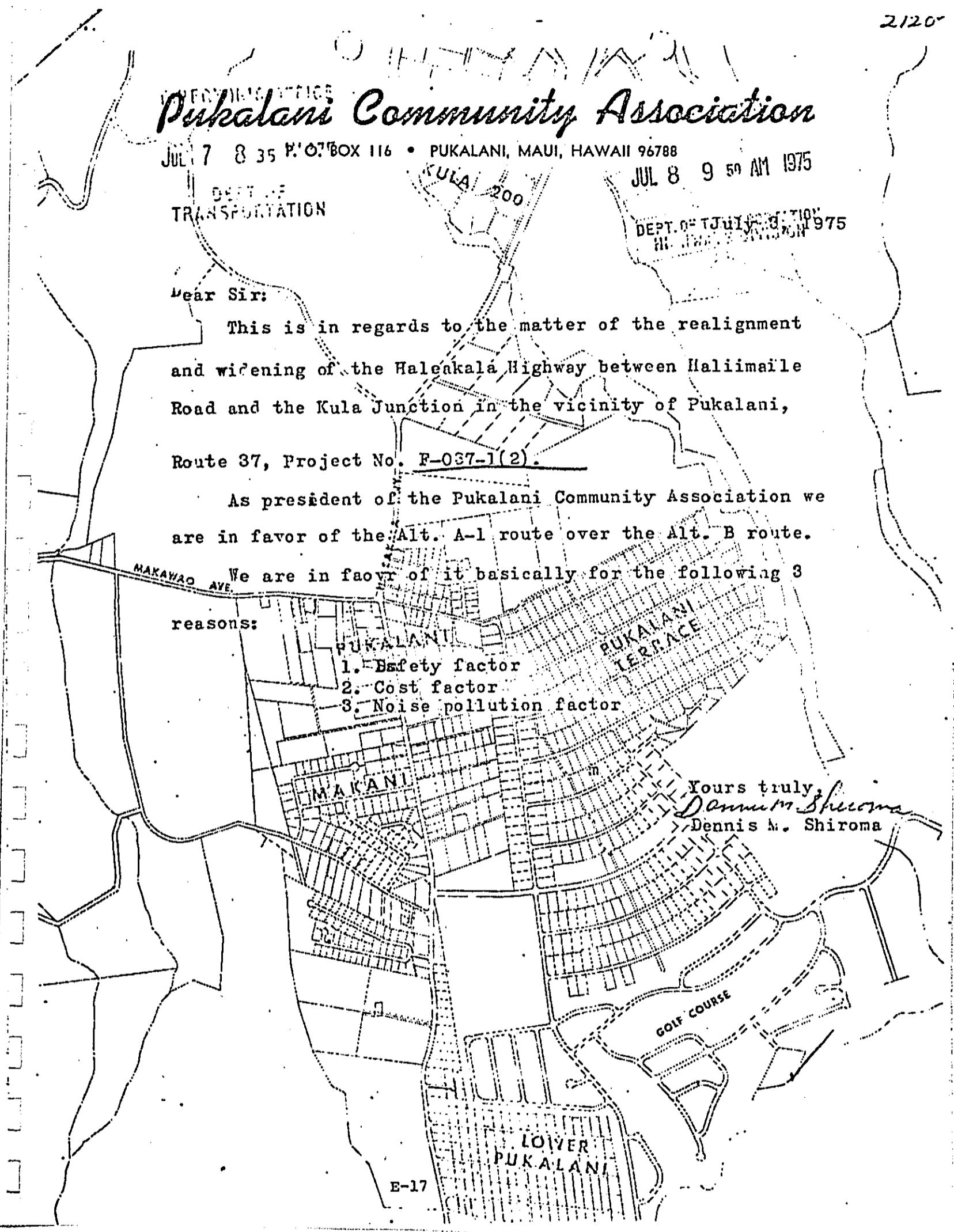
This is in regards to the matter of the realignment and widening of the Haleakala Highway between Haliimaile Road and the Kula Junction in the vicinity of Pukalani, Route 37, Project No. F-037-1(2).

As president of the Pukalani Community Association we are in favor of the Alt. A-1 route over the Alt. B route.

We are in faovr of it basically for the following 3 reasons:

1. Safety factor
2. Cost factor
3. Noise pollution factor

Yours truly,
Dennis M. Shiroma
Dennis M. Shiroma



E-17



**Standard Oil Company of California,
Western Operations, Inc.**

P.O. Box 3260, Honolulu, HI 96801 • Phone (808) 533-2911

Marketing Department
W. J. Fassler
Retail Manager

June 5, 1975

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DIRECTOR'S OFFICE RECEIVED

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JUN 9 9 55 AM 1975

DEPT. OF TRANSPORTATION
DEPT. OF TRANSPORTATION
HI HONOLULU DIVISION

Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

We wish to make our position known regarding the Haleakala Highway-Pukalani Section project.

Standard's Chevron station at Haleakala Highway and Makawao Road is operated by Mr. Clarence Cordeiro. If Alternate Plan B is adopted, it appears that we would have to abandon this station since I don't believe we would be left with enough property to continue operations.

We would like to go on record as favoring Alternate A-1 or A-2 so that we may continue to serve the community through Mr. Cordeiro's Pukalani Chevron.

Very truly yours,

W. J. FASSLER

By R. G. Keehn
R. G. Keehn
Property Representative

RGK:my

1794 ✓

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

440 Alexander Young Building, Honolulu, Hawaii 96813

May 14, 1975

Mr. E. Alvey Wright, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

DIRECTOR'S OFFICE
MAY 19 7 53 AM '75
DEPT. OF
TRANSPORTATION

Dear Mr. Wright:

Re: Haleakala Highway, Pukalani Section, Project No. F-037-1(2)
Draft Environmental Impact Statement

We have reviewed the above-mentioned draft as you requested. The following comments are offered for your consideration:

Permanent erosion control plantings have been precluded from cuts and fills on the basis of inadequate water supply, low rainfall, erosion-resistant soils, and the relatively small roadway area. At the same time, the draft calls for temporary vegetative measures or mulching during construction.

The erosion damage sustained on cuts, fills and road shoulders on the first construction phase of the Pukalani Highway clearly demonstrates the need for permanent erosion control plantings.

It is possible that water for supplemental irrigation could be obtained from Hamakua Ditch--located at about the 1,100-foot elevation at Station 260+00--by negotiating with HC&S as was done on the first phase. Another possibility for a water source might be the county water system.

A last alternative would be to establish suitable vegetative cover such as bermudagrass or buffelgrass at the lower elevations during the wet season.

Alternative A, as proposed, will disrupt the drainage patterns and erosion control measures being planned and applied on approximately 400 acres of Maui Land and Pineapple Company's land.

E. A. Wright

2

The proposed highway drainage plan should be incorporated with the erosion control and water disposal measures of Maui Land and Pineapple Company to prevent erosion and sediment damage to the road itself.

In addition, Alternative A would cause the disruption of the irrigation facilities in Maui Land and Pineapple Company's field 273. An underground pipeline across Makawao Highway would not be accessible to the south section of the field for irrigation. The movement of heavy farm machinery would also be affected.

Provisions should be considered for the extension of an irrigation pipeline across the new highway along with a field access road for the movement of farm equipment.

We thank you for the opportunity to review this draft.

Sincerely,

Wm H. Mann, Acting
Francis C. H. Lum
State Conservationist

cc:

Dr. R. E. Marland, Office of Environmental Quality Control,
Honolulu, HI 96813

K. E. Grant, Administrator, SCS, Washington, D.C.
Office of the Coordinator of Environmental Quality Activities,
Office of the Secretary, USDA, Washington, D.C. 20250

COMMENTS

REPLIES

1. Erosion Control Measures.

1. Provisions for slope control plantings have been included in the proposed project. Because the success of the plantings will be dependent on available water, candidate species will be selected on the basis of their ability to grow and reproduce under the conditions to be encountered. The success or failure of erosion control plantings for the previously improved section of Haleakala Highway will be considered in the erosion control measures for the proposed project. (See Page III-2).

2. Consider Use of Hamakua Ditch or County water system.

2. The Hamakua Ditch and the County water system will be considered as possible sources of water supply.

3. Establish bermudagrass or buffleggrass.

3. These and other species with proven success in erosion control will be evaluated for use on the proposed project.

4. Disruption of Maui Land and Pineapple Company's irrigation system.

4. A detailed drainage plan will be developed in the design stage to handle any disruptions to the existing drainage patterns as well as highway runoff. Planning has been coordinated with the Maui Land and Pineapple Company. Roadway profiles will be adjusted to insure continuity in their hauling operations. (See Page III-3).



2-118 ✓
UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

DIRECTOR

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DEPT. OF
TRANSPORTATION

DEPT. OF TRANSPORTATION
HAWAII DIVISION

June 27, 1975

Mr. E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

The draft environmental impact statement "Haleakala Highway, Pukalani Section, Project No. F-037-1(2)," which accompanied your letter of April 11, 1975, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

Geodetic control survey monuments are located in the immediate vicinity of the proposed alternate A-1 route. If there is any planned activity which will disturb or destroy these monuments, the National Ocean Survey (NOS), of which the National Geodetic Survey is a part, requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for the project includes the cost of any relocation required for these monuments.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving three copies of the final statement.

Sincerely,

Sidney R. Galler
Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs



COMMENTS

1. Disturbance of geodetic control survey monuments.

REPLIES

1. The alignments are only preliminary. If possible, plans will be adjusted during the design stage to avoid the monuments.



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

9757

PODED-P

26 June 1975

Chief, Highways Division
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sir:

We have reviewed the draft environmental impact statement for Haleakala Highway, Pukalani Section, Project No. F-037-1(2), DEIS 75-02, and have the following comments.

a. The final statement should include current documentation of compliance with the National Register of Historic Places (1975 updated listing) and with the State Historic Preservation Officer.

b. The general description of the project area should be expanded to include a discussion of the vegetation and wildlife resources, particularly in the vicinity of the highway alignment. This information would serve as the basis for the conclusionary statements given on pages 42 and 65.

c. In conjunction with the Community Growth Impacts, page 29, potential secondary project impacts such as conversion of agricultural land to urban uses in the Pukalani area and in central Maui in general might be discussed.

Thank you for the opportunity to review this statement. We would appreciate receiving a copy of the final environmental impact statement when it is available.

Sincerely yours,

Elroy Chinn
ELROY CHINN
Acting Chief, Engineering Division

Copy furnished:
Dr. Richard Marland, Director
Office of Environmental Quality Control
550 Halekauwila Street
Honolulu, Hawaii 96813

COMMENTS

1. Indicate compliance with National Register of Historic Places and State Historic Preservation Officer.
2. Expand discussion of vegetation and wildlife resources.
3. Discuss secondary growth impacts.

REPLIES

1. The Department of Land and Natural Resources has confirmed the absence of any known historic sites affected by the proposed project (See Appendix D, Clearances and Advisory Council on Historic Preservation letter of May 14, 1974, Appendix E page E-44).
2. The proposed alignments run either through cultivated fields or developed urban areas (See Page II-1). The extensive human influence in either case supports the conclusions regarding impacts to plant and animal life (See Page III-4). The possibility of an endangered plant or animal occurring in the project area is considered very remote and does not justify specific survey. The Department of Land and Natural Resources has written that the proposed project does "not affect existing forest lands nor wildlife habitat" (See letter dated May 14, 1975, Appendix E, Page E-44).
3. Regarding secondary impacts, it should be noted that the proposed Maui County General Plan endorses highway Alternative A as desirable to the development and growth objectives of central Maui (See Pages II-6 and III-9).



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
REGIONAL OFFICE
50 FULTON STREET
SAN FRANCISCO, CALIFORNIA 94102

Office of Environmental Affairs

214 ✓
DIRECTOR'S OFFICE
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OFFICE OF THE REGIONAL DIRECTOR
JUL 9 3 26 PM 1975
DEPT. OF TRANSPORTATION
HI. HWY. DIVISION

July 3, 1975

E. Alvey Wright
Director
Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

The draft Environmental Impact Statement for the Haleakala Highway, Pukalani Section, Project No. F-037-1(2) has been reviewed in accordance with the interim procedures of the Department of Health, Education and Welfare as required by Section 102(2)(c) of the National Environmental Policy Act, PL 91-190.

The statement indicates that emergency medical services may be adversely affected during the period of construction. It is suggested that the provider of ambulance services be given a daily notification of the construction status in order that alternate services may be provided should the need arise. This relates primarily to those conditions which will prevent passage for more than a two hour period in any one day.

The opportunity to review this statement was appreciated.

We will appreciate a copy of the final Environmental Impact Statement.

Sincerely,

James D. Knochenhauer
James D. Knochenhauer
Regional Environmental Officer

cc: OEA
CEQ

COMMENTS

1. Effect of construction on emergency vehicles.

REPLIES

1. Proposed construction practices will allow for the continuous passage of vehicles through construction phasings and/or detouring. As such, emergency vehicles may be slowed through the construction area but never stopped.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

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JUN 20 10 44 AM 1975

JUN 16 1975

DEPT. OF TRANSPORTATION

DEPT. OF TRANSPORTATION

JUN 19 12 46 PM '75

DIRECTOR'S OFFICE

Dear Mr. Wright:

This responds to your request for the Department of the Interior's comments on your draft environmental statement for Haleakala Highway, Pukalani Section, Maui, Hawaii.

Section 4(f) Comments

The statement indicates that the Alternative B, which utilizes the alignment of the existing highway, would require land from a proposed elementary school playground and that a Section 4(f) assessment will be prepared if this alternative is used. The alignment of Alternative A would bypass the community of Pukalani and would not require the taking of recreation lands. Your comparative analysis of the alternatives indicates that Alternative A is favored in terms of economics, social impacts, and superior alignment. Therefore, in addressing the first proviso of Section 4(f), we conclude that Alternative A is a feasible and prudent alternative to the taking of recreation lands and would oppose the selection of Alternative B for this project.

Environmental Statement Comments

The statement fails to provide substantive information regarding the project's impact upon archeological and historical resources, and thus allows neither an assessment of these aspects of the project itself nor of the alternatives described in the statement.

We disagree with the letter from the Department of Land and Natural Resources dated August 13, 1973 (Appendix E). Simply because there are no known historical sites along the alignment does not necessarily mean that it contains no cultural resources. Therefore, the entire project alignment, including both alternatives, should be surveyed by a professional archeologist prior to construction. In addition, because of the difficulties of surveying lands that have been or are being cultivated, we recommend that a professional archeologist familiar with the situation in the project area monitor the project during the initial earth-moving activities to assure that no cultural resources will be destroyed.

F-037-1(2)

If significant cultural resources are identified, they should be described and evaluated for their National Register potential. If they meet the criteria for nomination (Title 36, CFR 800.10), they should be nominated to the National Register of Historic Places and compliance with Title 36, CFR 800.4 should be documented.

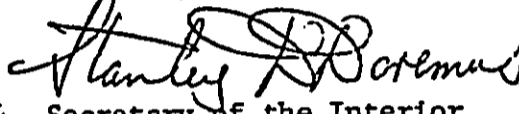
Copies of any archeological reports obtained should be made available to the Arizona Archeological Center, National Park Service, P.O. Box 49008, Tucson, Arizona, 85717, in accordance with section 3(a) of Public Law 93-291.

It appears that the three service stations located on the existing highway will be subject to negative economic impact. Many of the customers they depend upon will be shunted around the area via Alternative A. If this occurs, operators may experience economic loss. This aspect of the project and other potential commercial losses due to the redirection of traffic volumes should be thoroughly covered in the statement.

Summary Comment

We do not concur with Alternative B because of its involvement with the elementary school playground, which is Section 4(f) land. Alternative A is, in our estimation, a feasible and prudent route.

Sincerely yours,



Deputy Assistant Secretary of the Interior

Mr. E. Alvey Wright
Director
Hawaii Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

COMMENTS

REPLIES

1. Section 4(f) comments regarding Pukalani Elementary School and Playground.

1. The State Department of Transportation regarded the effects upon the school and other urban features as a primary reason for selecting Alternative A over Alternative B13 as the proposed project (See Page IV-7).

2. Need for archaeological survey before construction and presence of qualified archaeologist during construction.

2. The Department of Land and Natural Resources, Historic Preservation Officer has responded to this comment in a letter dated October 6, 1975 (See Appendix D, page D-2), and concludes: "The probability of such a lack of archaeological or historical value is so high that no archaeological survey is required or recommended." In addition, Section 107.17(D) of the 1976 "Hawaii Standard Specifications" protects any archaeological or historical finds during construction as described below:

"Archaeological and Paleontological Findings. Whenever the Contractor encounters findings deemed by the Engineer to have possible archaeological or paleontological value, the Contractor shall temporarily suspend all operations that will disturb such findings. The Engineer will contact the proper authorities to evaluate such findings and determine the course of action. Such temporary suspension of work shall not be attributable to the Contractor as provided under subsection 108.06 Temporary Suspension of Work".

COMMENTS

3. Economic impacts upon service stations from Alternative A

REPLIES

3. It is agreed that the construction of the Alternative A bypass may result in some revenue losses to the service stations and other businesses in Pukalani (See Page III-8). It should be noted that were Alternative B selected, the three service stations would have to be acquired for the highway right-of-way.

EIS CATEGORY CODES

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT

HALEAKALA HIGHWAY

Air Quality

The proposed project is not expected to result in violations of the national ambient air quality standards. We note that the Hawaii Department of Health has concurred in your conclusion of no (significant) air quality impact. We believe, however, that the air quality assessment methodology in support of your conclusion could be considerably strengthened. For example, the table shown on page 53 is not an appropriate format for air quality assessment since the baseline conditions, input data, assumptions, and calculation methodology are not presented. We suggest that this type of information be included in the final environmental statement.

Noise Considerations

From a noise perspective, alternative "A" involves considerably less impact than alternative "B". In either case, the noise assessment would be improved by the delineation of noise contours along each alternative alignment and the identification of sensitive receptors with respect to such contours.

Noise levels are given for 1995 traffic conditions, yet measurements of existing noise levels along the existing route are not presented. Such a "before" and "after" comparison would be quite useful in determining noise impacts.

Noise associated with construction operations and construction equipment can be significant. The magnitude and duration of construction noise should be discussed and any possible mitigating measures should be applied where appropriate.

COMMENTS

1. Air quality assessment methodology could be considerably strengthened. Include baseline conditions, input data, assumptions and calculation methodology.
2. Delineate noise contours and identify sensitive receptors.
3. Presentation of "before and after" noise conditions.
4. Discuss magnitude and duration of construction noise and possible mitigating measures.

REPLIES

1. The State of Hawaii Department of Health has provided projections of maximum CO concentrations for Alternative A and Alternative B (See Page III-5 and letter dated January 22, 1976 in Appendix E, page E-39). Their assessment methodology was based on "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources" (EPA, January 1975). The quantitative procedures used were supplied by the Department of Health and are contained in Appendix B.
2. Noise contours were prepared for both Alternative A and Alternative B and sensitive receptors were identified. However, the noise contour maps were deleted from the final EIS to reduce bulk (21 oversize sheets). These may be reviewed on request. Sensitive receptors are identified and discussed in the Noise Study Report, Appendix C, and on Page III-6 of the final text.
3. The noise measurement locations are shown in Appendix C, Figure C-1 and on Exhibits 5 and 6. For each location on Exhibits 5 and 6, measured and predicted sound levels are noted.
4. This is discussed on Page III-6, paragraph 3.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

DIRECTOR'S



MAY 23 8 01

DE STATE OF HAWAII
TRANSPORTATION DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801

May 19, 1975

1834 ✓
GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

In reply, please refer to:

File: EPHS - SS

MEMORANDUM

To: Mr. E. Alvey Wright, Director
Department of Transportation

From: Deputy Director for Environmental Health

Subject: Draft Environmental Impact Statement (EIS) for Haleakala Highway,
Pukalani Section Project No. F-037-1(2)

The following comments are limited to Section IV.G.2., "Environmental Impact -
Air":

1. We suggest that the following paragraphs be rewritten as follows:

Paragraph 1, page 52

For automobile related pollutants, the State of Hawaii is classified as a Priority III Region for carbon monoxide, nitrogen dioxide and hydrocarbons. According to Environmental Protection Agency regulations, it need only be demonstrated that air quality levels will be maintained below national secondary ambient air quality standards.

Paragraph 2, page 52 & 53

Department of Health monitoring data for the year 1974 have shown that these standards have not been exceeded. As such, our air quality analysis need only show that air quality will not deteriorate because of our project. The results of our study are presented below: (See Item 2 below for additional comment regarding tabulated percentage values.)

Paragraph 3, page 53

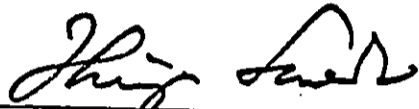
Delete the word "current" from the first sentence, just as the word "present" was deleted from Paragraph 2. Since the baseline year is 1978, neither word is applicable (this is only 1975).

Paragraph 6, page 54

Rewrite this paragraph to reflect that by virtue of the fact that because motor vehicles are subject to the federal motor vehicle control program, this project is consistent with the control strategy as specified in the State Implementation Plan.

May 19, 1975

2. A review of those percentage figures as reported on page 53 showed that some of these numbers were significantly different than those as reported in Department of Health letter dated July 10, 1974. A subsequent discussion with a member of Department of Transportation staff revealed that in addition to calculation errors found in the Department of Health analysis, that calculations were further modified by the Department of Transportation to account for changes in estimated vehicular speeds. It was pointed out by the Department of Transportation that the re-estimated vehicular speeds were applicable only to the subject highway segment. An analysis of this type requires not only evaluating vehicular speeds for the subject highway segment, but in addition must also account for vehicular speeds for all other highway segments affected by the proposed project. Hence, we suggest that the Department of Transportation review these percentage figures and consider the possibility of further corrections.


for JAMES S. KUMAGAI, Ph.D.

cc: Maui DHO

COMMENTS

REPLIES

- | | |
|---|--|
| 1. Rewrite paragrph 1, page 52.
(referring to Draft EIS) | 1. The recommended changes have been made; see page III-5, paragraph 2 in this Final EIS. |
| 2. Rewrite Paragraph 2, page 52
53. | 2. The recommended changes have been made; see page III-5, paragraph 2. |
| 3. Rewrite paragrph 3, page 53. | 3. The recommended changes have been made; see page III-6, paragraph 1. |
| 4. Rewrite paragraph 6, page 54. | 4. The recommended changes have been made; see page III-6, paragraph 1. |
| 5. Review discrepancies in figures for air pollutant emissions. | 5. The air quality assessment has been revised to reflect the projections supplied by the Department of Health (letter dated January 22, 1976, Appendix E, page E-39). |

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801

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JAN 26 12 55

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DEPT. OF TRANSPORTATION
WAYS DIVISION

DIRECTOR'S OFFICE
GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health
Henry N. Thompson, M.A.
Deputy Director of Health
James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

January 22, 1976

In reply, please refer to:
File: EPHS - SS

MEMORANDUM

To: Mr. E. Alvey Wright, Director
Department of Transportation

From: Deputy Director for Environmental Health

Subject: Comments, Haleakala Highway, Pukalani Section, Project No. F-037-1(2)
Reference: DOT Memo Dated January 6, 1976, HWY-PA 2.26530

1. The above subject project, by virtue of the fact that motor vehicles will be subject to the federal motor vehicular control program is consistent with the control strategy as specified in the State Implementation Plan.
2. A review of your subject project indicates that the magnitude of the vehicular emission rates under the assumed operating conditions for Alternate "A" and "B" will not affect the attainment or maintenance of both Federal and State Ambient Air Quality Standards for Carbon Monoxide.
3. In our evaluation, the following reference was used to calculate maximum carbon monoxide 1-hour and 8-hour concentration values.

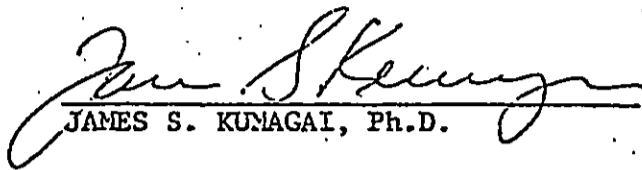
Reference: U.S. Environmental Protection Agency, "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources," January 1975.

4. The maximum carbon monoxide concentration values for each of the proposed alternative based on 1995 traffic projections and 1975 emission factors are as follows:

	<u>1-Hr</u>	<u>8-Hr</u>
Alternate "A": Bypass	7.7 mg/m ³	4.6
Town Road	3.1	2.9
Alternate "B":	8.2	4.9

The quantitative procedures used to determine the above values are contained in our file and may be reviewed by your staff on request.

5. On a project-by-project basis, methodology to evaluate effects on ambient air quality may differ. We would like to take this opportunity to express our concern in this area and emphasize that we foresee a need to discuss an available methodology used in addressing ambient air quality. Further, we propose that an informal meeting with Mr. George Shigano and one selected member of his staff to meet with two members of our Pollution Technical Review staff to discuss the implications and usefulness of the reference as noted in item (3) above.


JAMES S. KUMAGAI, Ph.D.

COMMENTS

1. Consistency with control strategy.
2. Ambient Air Quality Standards for carbon monoxide.
3. Carbon monoxide reference and calculated concentration values.

REPLIES

1. Refer to page III-6, paragraph 1.
2. Refer to paragraph 1 of page III-6.
3. Refer to page III-5 paragraph 3 and Table 2.

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GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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MAY 14 1 59 PM 1975

DIVISIONS:
CONVEYANCES
FISH AND GAME
FOREST MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

DEPT. OF
TRANSPORTATION

MAY 14 12 45 PM '75

DIRECTOR'S OFFICE

May 6, 1975

Mr. E. Alvey Wright
Director
Dept. of Transportation
State of Hawaii
Honolulu, Hawaii

Dear Mr. Wright:

Halekala Highway, Pukalani Section, Project No. F-037-1 (2)

Thank you for your letter of April 24, 1975 informing us of the public hearing on the subject project to be held on Thursday, June 12, 1975, at Makawao School Cafeteria.

We will not have a representative at the meeting; however, we would like to point out some of the problems in the area. Pukalani is subjected to sheet flow flooding. In the past, the construction of roadways with their high embankment have collected the sheet flow and diverted it into specific channels causing an increase in the peak flows, thereby aggravating the flooding conditions of those individual streams. We are calling this matter to your attention so that adequate drainage through the highway can be provided thereby precluding the increase of the flood hazard in the area.

We would also like to call your attention to the Hamakua ditch which provides irrigation water to Central Maui. There is always a danger that during construction the land disturbing activity leaves the area barren and susceptible to erosion. If sediments from the erosion are allowed to flow into the Hamakua ditch, the capacity of the ditch will be reduced and thereby affect the irrigation of Central Maui. We are calling this matter to the attention of your Department in order that adequate measures will be taken to prevent erosion during construction.

We would like to have the opportunity to review your construction plans at an early stage in order to comment on the solutions to the flooding and erosion problems which we foresee in that area.

Very truly yours,

CHRISTOPHER COBB
Chairman of the Board

COMMENTS

1. Sheet flow flooding in the Pukalani area.
2. Sedimentation of Hamakua Ditch from construction activities.

REPLIES

1. Refer to page III-3, paragraph 2 and page III-4, paragraph 3.
2. Refer to page III-4, paragraph 3.

COMMENTS

1. Sheet flow flooding in the Pukalani area.
2. Sedimentation of Hamakua Ditch from construction activities.

REPLIES

1. Refer to page III-3, paragraph 2 and page III-4, paragraph 3.
2. Refer to page III-4, paragraph 3.

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GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

DIRECTOR'S OFFICE

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OFFICE OF
TRANSPORTATION



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

May 14, 1975

REF: HWY-PA
2.21453

Honorable E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wright:

We have reviewed the draft EIS for the proposed improvements to the Pukalani section of the Haleakala Highway.

The alternatives considered involve Urban, Rural and Agricultural land and do not affect existing forest lands nor wildlife habitat. The project does not involve historic sites.

If alternate A-1 is selected, we recommend precaution be taken against flooding from sheet flow. We also suggest that the Hamakua ditch be protected from erosion or sedimentation problems due to highway construction.

Very truly yours,

Edgar A. Hamasu
For CHRISTOPHER COBB
Chairman of the Board

cc: DOWALD
Hawaii Register

F-037-1(2)

COMMENTS

REPLIES

1. Flooding from sheet flow.

1. Refer to page III-4, paragraph 3.

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD E. MARLAND, PH.D.
DIRECTOR

TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

July 7, 1975

RECEIVED
OFFICE OF
TRANSPORTATION

JUL 9 3 15 PM '75

DIRECTOR'S OFFICE

MEMORANDUM

TO: The Honorable E. Alvey Wright, Director
Department of Transportation

ATTN: George Shigano

FROM: Richard E. Marland, Director
Office of Environmental Quality Control

SUBJECT: Draft Environmental Impact Statement for Haleakala Highway,
Pukalani Section, Project No. F-037-1(2)

In our review of the draft Environmental Impact Statement (dEIS), we have several areas in which the discussion should be expanded. We offer the following comments:

1. Page 2. The dEIS states, "In a broader sense, this project is only an incremental part of a program to improve the total transportation network in Central Maui." Are we to assume that more improvements are to be proposed for this highway?
2. Alternatives. Many of the alternatives suggested seem to be on an "all or none basis." No sense of balanced transportation system planning is evidenced. Perhaps a mixture of some of the alternatives would seem feasible. In other words, has mass transit and car pooling been considered or, legislative restrictions and mass transit?
3. Page 16. The dEIS states, "The rural nature of the project area raises a serious question as to the practicality of mass transit." Yet on the other hand, the EIS seems to indicate that the volume of traffic warrants improvement to accommodate future increase. Thus, we question where will traffic generate from? Why does a population of 1600 people (as of 1970) justify an improved section of the Haleakala Highway only for Pukalani? A discussion is warranted.

4. Page 17. Although a truck climbing lane has been proposed, have runaway ramps been considered for the downhill side of the highway?
5. Page 39 and 40. Cutting into a slope of a hillside may present some serious environmental impacts such as mud slides, falling rocks, etc. What mitigation measures will be considered?

Also, what is meant by "relatively insignificant roadway area involved?" Will any animal habitats be destroyed?

6. Page 42. Documentation is needed for the statement, "No endangered species are affected and the project impact is considered minimal for all alternatives in terms of wildlife."
7. Page 51. The discussion should be expanded to include the effect of increased run-off.
8. Has landscaping been considered in terms of aiding erosion, absorbing air pollutants and buffering noise?
9. Although on page 59 the EIS states, "community growth is primarily a function of land zoning and not highway developments," secondary effects will result from the proposed action.

Thus, this Office recommends a discussion of the secondary impacts such as increased urbanization, population growth, use of public utilities and facilities, zoning, and etc.

10. Page 65. -What does, "Alternative B ... may be subject to a 4(f) determination" mean?
11. Since highways tend to promote the use of the automobile, gasoline consumption is increased. However, the energy crisis is not over and efforts should be directed towards conservation. How does the proposed action help in Hawaii's effort to conserve energy?
12. Are any state lands or funds involved?

RECOMMENDATIONS

We recommend that (1) written comments be sent to all commentors including this Office indicating how specific concerns were considered, evaluated, and disposed; (2) all comments and your responses be incorporated as an appendix to the final EIS; (3) a copy of the final EIS should be sent to those individuals that provided substantive comments to the draft EIS.

Page 3

We trust that these comments will be helpful to you in preparing the final EIS. Thank you for the opportunity to review the draft EIS.

Attachment-Comment from Environmental Center

July 7, 1975

COMMENTS

REPLIES

- | | |
|---|---|
| 1. Will there be more improvements to the Haleakala Highway? | 1. Planning studies indicate the proposed project will meet projected needs without additional improvements. However, traffic conditions in central Maui will be monitored so that required improvements can be undertaken as they become warranted. |
| 2. Consider mixture of alternatives such as mass transit and carpooling or legislative restrictions and mass transit. | 2. The proposed project is felt to be the most viable solution. Other options such as carpooling and mass transit have been considered, but are not able to provide the necessary service. The use of such options will depend on the desires of the public. Opportunity for these options will be enhanced by the proposed highway project which will provide safer and more efficient travel for automobiles and buses as well as for trucks. |
| 3. Where will projected traffic be generated? | 3. Traffic for the proposed project will be generated not only from Pukalani, but from Makawao, Kula, Ulupalakua and points beyond. For example, the population figures for Makawao and Kula-Ulupalakua were 1,066 and 1,407, respectively, based on the 1970 census. |

The breakdown of the 1,000 vph projected for the project in 1995 follows:

- a. 500 vph from Pukalani
- b. 250 vph from Makawao
- c. 250 vph from Kula-Ulupalakua

The cumulative total of 1,000 vph through the Pukalani area warrant additional capacity, while the 250 vph to both Makawao and Kula do not. Therefore, the highway improvements are proposed for the Pukalani area only.

COMMENTS

REPLIES

4. Have truck runaway ramps been considered for downhill direction?

4. The terrain in the area makes it unfeasible to build a runaway truck ramp but a 80-foot clear area will be provided to afford these trucks some space to slow down and/or transition onto the surrounding agricultural fields. Alternatives for truck ramps will be considered in the design stage.

5. What mitigations for slope instability have been considered? What is meant by "relatively insignificant roadway area involved"?

5. The Engineering analysis of the soil conditions indicates that stable slopes can be sustained with the side slopes as presented in Exhibit 5, sheets 7 and 8 and Exhibit 6, sheet 6. In addition, landscaping is proposed for the project, and this should minimize the erosion on the slopes.

There are approximately 2,100 acres within the Makawao District of which only 40 to 50 acres would be needed for our project. This works out to be about (50/2,100) 2+% of the total area.

Animal habitats will be affected but without serious consequence to any species. Wildlife affected are mongooses, rats, mice, sparrows, mynahs, pigeons and doves, etc. (Refer to page III-4).

6. Document statements regarding rare and endangered species.

6. Refer to Department of Land and Natural Resources letter dated May 14, 1975, Appendix E, page E-44.

7. Expand discussion of effects of increased runoff.

7. Refer to page III-4, paragraph 3.

COMMENTS

REPLIES

- | | |
|--|--|
| 8. Has landscaping been considered as a mitigation measure? | 8. Landscaping has been included as part of the project for erosion control purposes (page III-2). It is felt that landscaping will not aid in air pollution abatement. Noise pollution is not a problem for Alternative A, the recommended alignment. |
| 9. Secondary effects. | 9. Refer to page III-7. |
| 10. What is a 4(f) determination? | 10. A 4(f) determination is an abbreviated reference to 49 USC 1653 4(f) of the Department of Transportation Act of 1966, PL 89-665. Since Alternative A is the route recommended for selection, the 4(f) requirements are not applicable. |
| 11. How does the proposed action help in Hawaii's effort to conserve energy? | 11. The proposed action will help conserve energy by increasing the traveling efficiency in the area. The benefit-cost ratios reflect the savings encountered. |
| 12. Are any State lands or funds involved? | 12. State lands and funds are involved. |



University of Hawaii at Manoa

Environmental Center
Maile Bldg. 10 • 2540 Maile Way
Honolulu, Hawaii 96822
Telephone (808) 948-7361

Office of the Director

June 12, 1975

MEMORANDUM

TO: Richard E. Marland, OEQC
FROM: Doak C. Cox
RE: Review of Haleakala Highway, Pukalani Section
Project No. F-037-1(2)

The Environmental Center review of the above cited DEIS has been prepared by Peter Ho, Civil Engineering; Glenn Shepherd, Maui Community College; and Blaise Caldeira and Jacquelin Miller of the Environmental Center.

The Department of Transportation should be commended in their approach to include the public input (through Public Hearings) in their selection of alternative improvements. Such an approach bears considerable merit in that citizen inputs at an early stage of development can mitigate the potential problems associated with citizen group confrontations.

We have a few comments and questions which we present according to the pagination of the DEIS.

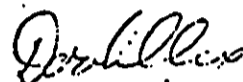
P. 9, 2. Traffic Analysis. As described in this section, present volumes of traffic are listed as 420 vehicles during peak hour traffic. Is this value an observed one or is it obtained by factoring the present traffic volumes? Similarly, the percentage of trucks (9%) of the total traffic reported in the DEIS should be clarified as to whether the peak hour traffic does indeed have this percentage or whether the percentage applies for the daily traffic. These distinctions are critical in that the reported peak hour traffic exceeds the computed theoretical value by over 30%. While the highway capacity manual is often conservative, the comparison does imply that the effect of trucks during the peak hour may not be as significant as the DEIS suggests.

P. 52, 2. Air. We would like to caution, that during construction, there could be considerable dust pollution affecting the urbanized area of Pukalani. This area will be downwind (of the prevailing wind) and could cause undue hardships upon the residents if the contractors do not adequately control the potential dust hazard especially during high winds.

P. 55, 3. Noise. Environmental impacts, as related to each alternative, suggests that Alternative A is a preferred one, particularly when noise considerations are taken into account. There is reference to estimated noise levels (L_{10}) for Alternative B in 1995 in the range of 70 to 80 dBA; yet existing levels range in the 55-60 dBA range. While the upper value (L_{10}) refers to that design noise level in which noise levels can exceed up to 10 percent of the time to an unlimited degree, there should be mentioned made of the L_{10} values for the present time. A comparison then would be more appropriate. Also, some explanation is in order for the assumption underlying the calculations based on the NCHRP Report 117. Is the increased L_{10} noise levels for 1995 dependent on increased truck traffic projections?

It is unfortunate that 57 acres of pine land will be taken out of production by alternate A-1 but compared with the other alternatives, A-1 has the least detrimental environmental impact.

We appreciate the opportunity to review this DEIS.



Doak C. Cox, Director

COMMENTS

REPLIES

1. How were traffic volumes obtained?
 1. The existing peak hour traffic volume of 420 vph was derived from a 24-hour count taken in March, 1972. The final EIS contains a volume of 570 vph to coincide with the data used in the proposed Maui General Plan (Refer to page I-3).

Under forced flow conditions, the existing demand volume may exceed the theoretical capacity volume. This would indicate overloading and operating speeds falling below 30 mph. An operating speed of approximately 30 mph is the defined speed at capacity.

The derived truck percentages for the peak hour and 24-hours are 9% and 6.5% respectively. These percentages are based on historical traffic counts.
2. Dust emissions during construction.
 2. Mitigating measures to control dust during construction include: mulching of slopes during construction; limiting of grading areas at any single time; and regular watering of graded areas. (Refer to page III-5).
3. What are the existing L₁₀ levels? What assumptions underly the noise calculations?
 3. The existing L₁₀ levels are approximately 67 dBA. Assumptions in the use of NCHRP Report 117 include an average truck speed of 25 mph, an average automobile speed of 35 mph, a smooth road surface and interrupted flow for Alternative B. The assumptions for Alternative A were the same except that the average automobile speed of 40 mph was used. (Refer to Appendix C, Noise Study Report).

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AMERICAN  LUNG ASSOCIATION of Hawaii

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DEPT. OF TRANSPORTATION
HI HIGHWAYS DIVISION

June 26, 1975

Department of Transportation
Highways Division
869 Punchbowl Street
Honolulu, Hawaii 96813

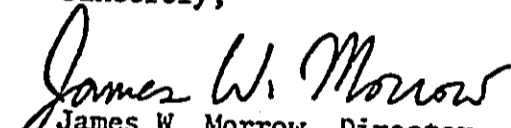
Dear Sir:

Re: Haleakala Highway, Pukalani Section
Project No. F-037-1(2)
DEIS 75-02

Attached hereto are our comments pertaining to the subject draft environmental impact statement (DEIS). As is our normal practice, we have generally restricted our review to those portions of the DEIS which relate to air quality, and comments are keyed to specific pages and sections. We hope that you find them useful.

Please do not hesitate to call us if you have any questions or wish to discuss these comments at greater length.

Sincerely,


James W. Morrow, Director
Environmental Health

JWM:ct
Att.

cc: Dr. Richard E. Marland
Office of Environmental Quality Control

E-55

Christmas Seals Fight TB, Asthma, Emphysema, Air Pollution

Halcaakala Highway, Pukalani Section
Project No. F-037-1(2)
DEIS 75-02

Comments of the American Lung Association of Hawaii

1. P. 52-53 - "These standards have not been exceeded anywhere in the State, the Pukalani area included. As such, our air quality analysis need only show that the present air quality will not deteriorate because of our project."

Comment: The initial statement is incorrect since national ambient air quality standards (NAAQS), both secondary and primary, have been violated in the State during recent years. Of significance in this case is the fact that Federal standards have most often been exceeded on the island of Maui where the subject project is located. Listed below is a summary of these violations.

a. Sulfur dioxide (SO₂) standards:

Primary, 24-hour: 365 micrograms/cubic meter (ug/m³)

Secondary, 3-hour: 1,300 ug/m³

A special study conducted by the DOH in 1974 ¹ found that ambient air quality in the vicinity of the Maui Electric Company's Kahului generating station exceeded both primary and secondary standards.

Measurements made by the Hawaiian Electric Company in 1972 ² indicated that ambient air quality in the vicinity of its Kahe generating station exceeded both primary and secondary standards.

b. Particulate standards:

Primary, 24-hour: 260 ug/m³
annual: 75 " (geometric mean)

Secondary, 24-hour: 150 ug/m³
annual: 60 " (geometric mean)

On Maui, the following violations have occurred:

<u>Loc.</u>	<u>Year</u>	<u>No. Times Viol. 24-hr Prim. Std</u>	<u>No. Times Viol. 24-hr Sec. Std</u>	<u>Viol. Annual Prim. Std</u>	<u>Viol. Annual Sec. Std</u>
Kihei	1973	00	01	no	yes
	1974	05	15	yes	yes
	1975 (Jan-Mar)	01	02	n/a	n/a
Kahului	1973	02	04	yes	yes
	1974	00	01	no	yes
	1975 (Jan-Mar)	00	00	n/a	n/a

On a number of occasions during the period 1972-1974, secondary particulate standards were also exceeded at Pearl City, Kalihi Kai and Ala Moana on Oahu and at Lihue, Kauai.

c. Carbon monoxide (CO) standards:

Primary and secondary, 1-hour: 40 mg/m³

This standard was exceeded on one occasion at the DOH in September, 1973.

Comment: The logic used by the agency was that if present ambient air quality is below federal secondary standards, then it is only necessary to show that total emissions will remain at the same level or decrease as a result of this project in order to prove little or no adverse impact on air quality. Since NAAQS have in fact been exceeded, this logic is no longer valid, and a more extensive analysis in which emissions are translated into ambient concentrations becomes necessary.

2. P. 53 - The table and the following paragraph: "These figures show that the current air quality levels will not be adversely affected by our project. In fact, the new emission controls and improved operating conditions will reduce pollution attributable to motor vehicles."

Comment: The table has been computed on the basis of emission factors from the referenced EPA publication 3 and DOT traffic projections. However, these tables do not reflect the recent (March 5, 1975) EPA decision to establish a new set of interim standards which would be in effect through 1977 and possibly through 1979. Other interim standards were recommended for 1981 and 1982 model years. Not until the 1983 model year would the original statutory standards be required. In essence, this means a significantly slower decline in emission levels over the next 7 years than reflected in the tables in EPA's Compilation 3.

Even if the current interim standards were accounted for in the agency's calculations, it would still be an inadequate method for assessing air quality impact simply because it involves only emissions. To make a valid determination of whether or not air quality will be adversely affected requires meteorological data input and the use of some form of modeling. It is the combination of emissions and meteorological conditions which determine whether an air pollution problem will occur, and both must be evaluated. A good discussion of this entitled "The Relationship of Emissions to Ambient Air Quality" is contained in a recently published report to Congress by the National Academy of Sciences ⁴.

3. P. 54 - "Consultation with our State Air Pollution Control Agency confirmed our conclusion of no air quality impact."

Comment: We would recommend revising this statement since it is virtually impossible for any highway project, regardless of size, to have no impact on air quality.

4. P. 54 - "However, our project should not be affected by the revisions (regardless of its final form) since we are well within the established ambient air quality standards and the contribution of motor vehicles to air pollution will decrease. As such, we believe that the project complies with the State Implementation Plan under applicable sections already approved."

Comment: As previously noted, there is no evidence that air quality standards will not be violated by the proposed project. This remains to be shown. Of particular importance is whether State ambient air quality standards will be violated. The draft EIS makes no mention of Hawaii standards (Chapter 42, Public Health Regulations, promulgated under Chapter 342, Hawaii Revised Statutes). These standards are significantly more stringent than the federal NAAQS and thus are more likely to be exceeded. This reinforces the need for converting emissions into ambient air quality estimates because only the latter can be compared with the statutory standards.

REFERENCES

1. Sulfur Dioxide Levels in the Vicinity of the Maui Electric Company's Kahului Generating Station. Unpublished data, Department of Health, State of Hawaii, July, 1974.
2. Environmental Assessment - Kahe Generating Station Units Five and Six. Hawaiian Electric Company, Inc., February, 1973.
3. Compilation of Air Pollutant Emission Factors, 2d Ed. with Supplements 1, 2, and 3. U.S. Environmental Protection Agency, April, 1973.
4. Air Quality and Automobile Emission Control - A report by the Coordinating Committee on Air Quality Studies, National Academy of Sciences and National Academy of Engineering, September, 1974.

COMMENTS

1. Power plant emissions are not considered. A more extensive analysis of emissions is needed.

2. Computations of emission factors do not reflect interim standards nor does the computation methodology employed take into account meteorological conditions.

3. Revise statement regarding "no air quality impact".

4. Emissions projected need to be converted to ambient air quality estimates for comparison with statutory standards.

REPLIES

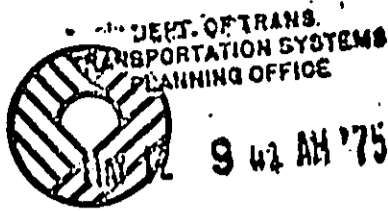
1. The contribution of power plants on existing air quality has been noted (page II-2).

The impact discussion of air quality in the Draft EIS was based on mass emissions. Since that time, the Department of Health has provided projections of emission concentrations. It is this data which supports the conclusion that the proposed project is consistent with the control strategy specified in the State Implementation Plan. (Refer to page III-6 and DOH letter dated January 22, 1976 Appendix E, page E-39).

2. Refer to above comment regarding revised computations of emissions.

3. The air quality section has been revised and this comment is no longer applicable (refer to pages III-5 and 6).

4. Emission computations provided by the Department of Health are in terms of concentration and can be compared with statutory standards (refer to Table 2, page III-5).



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DIRECTOR'S OFFICE

MAY 9 1 45 PM '75

DEPT. OF TRANSPORTATION

Maui Land & Pineapple Company, Inc.

May 6, 1975

Adm. E. Alvey Wright, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: HWY-PA 2.21452

Dear Admiral Wright:

Subject: Haleakala Highway, Pukalani Section
Project No. F-037-1(2)
Draft Environmental Impact Statement (EIS)

Your department has forwarded to us for our review and comments the above-mentioned Draft Environmental Impact Statement. I am sorry to say that we find it flawed in several aspects which have, in our opinion, led to a poor choice of alternate routes.

Basically, it is our belief that the alternative route A-2 briefly discussed on Pages 20 and 21, and the south by-pass referred to on Page 27, are dismissed without proper and adequate consideration in the EIS.

The EIS admits that Alternate A-2 is technically superior, particularly as to curve radius at the mauka end. From an economic point of view, the EIS indicates that Alternate A-1 is some \$240,000 cheaper than A-2, primarily because of the difference in the right-of-way cost. Later in the report, this cost is estimated to be \$225,000 for acquisition of approximately 47 acres of agricultural land. Based on current production and price levels, we believe that prime agricultural land is worth significantly more than the under \$5000 per acre figure quoted. Additionally, no recognition is taken of severance damages or loss to production of other lands cut off by the proposed route. If these factors are thrown in, the economic difference between the two routes in our opinion virtually vanishes.

The second paragraph on Page 20 implies that the primary reason for not selecting Alternate A-2 (beyond the, in our opinion, illusory economic saving) is the fact that two families would be displaced. Later on, in a discussion of Alternate B on Page 47, the EIS states that there should be

P. O. Box 187
Kahului, Maui, Hawaii 96732
Telephone 877-3351

Adm. E. Alvey Wright
May 6, 1975
Page 2

no major problems in relocating six families if that alternate were to be selected. It seems to us that this same reasoning would apply to the relocation of the two families which would be necessitated by the selection of Alternate A-2 and consequently that this should not be a problem for Alternate A-2.

The last paragraph on that same Page 20 contains the statement the "A-2 has the questionable effect of reducing the urban area." This statement appears curious to us as it would seem that a highway was a very suitable use within an urban area since its function is to serve such areas. Assuming there is a choice, it would seem to be more questionable to locate said highway in an agricultural area, given the desirability of preserving prime agricultural lands where possible.

Similarly, the consideration of the south by-pass is rather cavalierly dismissed in one paragraph as it would "disrupt existing and/or planned development." We consider this a very inadequate analysis of this alternative.

Additionally, we feel that wind erosion is a very real problem in this area. This EIS (Page 28) says that this is not a problem because "the land is covered with an agricultural crop." In fact, this area is open every few years between pineapple cycles, and, particularly for the A-1 location, we believe there could be severe dust problems at times along the road.

We also feel that inadequate studies have been made of drainage problems, relating to runoff from pineapple fields in particular. Rather than detail them here, we would like the opportunity to discuss them with one of your highway engineers at an appropriate time.

We are also concerned with the attitude expressed by the writer of the EIS on Page 62 as well as elsewhere in the report, where he indicates that the quantity of land (that is to say, prime agricultural land) of 40-50 acres which would be removed from production is "insignificant within the scope of this discussion." We do not regard the loss of this much land or even half of this amount as "insignificant", and although we do not wish to stand in the way of progress, we feel that there are other alternatives which should have been more closely studied. In particular, A-2 would remove significantly less agricultural land from production than A-1.

The fact is that A-2 or an alternate very close to it was the subject of an intensive study by the Highway Department, assisted by ourselves, for the purpose of locating the highway as close to the current borders of either our fields or adjacent lands as possible, and consequently disrupting both agriculture and housing as little as possible. We still feel this is the best alternative and find the EIS very unpersuasive in promoting Alternate A-1.

Adm. E. Alvey Wright
May 6, 1975
Page 3

By the way, since according to the EIS the main problem is slow trucks going mauka, would it be possible to construct a single-lane, one-way mauka truck by-pass? I realize this is unorthodox, but outside of that, why not?

Finally, according to the road profile, there is one section of Alternate A-1, around Stations 353 and 354, which necessitates a land fill of over 30 feet above grade, right by the existing Corn Mill Camp area. This area is likely in the future to become a low and moderate-cost residential area, according to the proposed General Plan revision. Such a major fill above grade appears to us very undesirable and unaesthetic in this location. Of course, the problem would be eliminated if another alternate route is chosen.

To summarize, we believe that Alternate A-2 (or a location similar to that of A-2) is superior to A-1 for a number of reasons:

- 1) technically superior,
- 2) uses less prime agricultural land,
- 3) leaves fewer remnant or severed pieces of prime land,
- 4) less subject to dust problems,
- 5) causes fewer drainage problems;

and that the stated advantages of A-1 are either minimal or illusory:

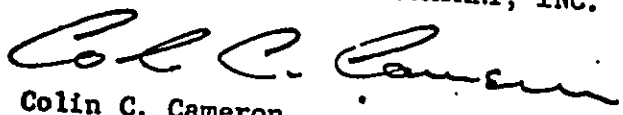
- 1) cost,
- 2) displacement of two homes,
- 3) use of less urban area.

I am sorry to be so negative since, as you know, we try to be most cooperative with the Highway Department; however, I do feel this report has been poorly drawn and, as a consequence, very possibly has led to faulty conclusions as to the most desirable highway alignment.

We definitely wish to receive a copy of the final EIS: .

Sincerely,

MAUI LAND & PINEAPPLE COMPANY, INC.


Colin C. Cameron
President

CCC
ib

cc: J. W. Hartley
L. D. MacCluer

COMMENTS

REPLIES

1. Alternatives A-2 and the South Bypass were not given adequate consideration.
 2. Agricultural land is worth more than the under \$5,000 per acre figure quoted. No recognition is given to severance damage.
 3. Relocation of families as required by Alternative A-2 should not be a problem if it is not a major problem with Alternative B.
 4. A highway seems a more suitable use for an urban area than for an agricultural area.
1. Alternative A-1 was selected over A-2 primarily due to higher right-of-way costs and the need to relocate two families. The South Bypass was rejected because of its significant impact on existing and proposed developments in the Pukalani area. (Refer to pages IV-3, IV-9, and Exhibit 3B).
 2. The right-of-way cost for Alternative A-2 is higher than that for Alternative A-1 due to the present zoning of the lands affected. Agricultural zoned lands affects. Agricultural zoned lands were valued at about \$4,000+ per acre and urban zoned lands at about \$0.75 per square foot (\$32,670 per acre). Severance damages were not considered since access will be provided to lands cut off by the proposed route.
 3. Relocation of the families affected by Alternative A-2 involves Section 206(a), Last Resort Housing. It is more difficult to relocate families when Last Resort Housing is applicable.
 4. Highways are suitable for both urban and rural areas. However, in this case, the A-2 alignment would isolate small portions of urban zoned lands. It is recognized that the A-1 alignment would likewise isolate small portions of agricultural zoned lands. It is felt that the A-1 alignment is consistent with the proposed Maui County General Plan. Furthermore, the A-1 alignment would minimize the noise impact to residences since it is located further away from the developed areas.

COMMENTS

REPLIES

- | | |
|---|--|
| 5. South Bypass is cavalierly dismissed. | 5. Refer to reply number 1 above. |
| 6. Possibility of severe dust problems for the A-1 alignment. | 6. The State DOT agrees that wind erosion is a problem in this area. Erosion control plantings will be established within the highway right-of-way to mitigate erosion from wind and rain. The dust problem would be more severe for A-1 than for A-2 since it is located closer to the pineapple fields. However, it is felt that dust blowing onto the highway will not pose a problem to drivers on either alternative. |
| 7. Wish to discuss drainage problems with engineers. | 7. Communication with the Maui Land and Pineapple Company will be maintained so that mutually acceptable solutions to drainage problems can be developed. |
| 8. Loss of 40-50 acres of agricultural land is not "insignificant". | 8. The State DOT realizes that the loss of 40-50 acres of agricultural land is significant to the Maui Land and Pineapple Company. The statement in the Draft EIS was made on a broad basis and reflected the loss of 40-50 acres as compared to the total agricultural lands involved in the project area. A judgement on the significance of these lands has been deleted from the Final EIS. |
| 9. Feel that A-2 is the best alternative. | 9. Refer to reply-number 1 above. |
| 10. Suggest single-lane, one-way Mauka truck by-pass. | 10. A single lane, one-way Mauka truck by-pass would reduce congestion on the existing highway. However, some congestion would still result since the projected volume of 953 vehicles per hour (1,000 vph, 43 trucks per hour) |

COMMENTS

REPLIES

10. (Continued)

11. The proposed 30-foot fill around stations 353 and 354 of Alternative A-1 appears undesirable and unaesthetic in light of the possibility of future residential land use.

10. would still exceed the capacity of 930 vehicles per hour. Additional congestion would also result on the existing highway due to conflicts created by left-turning vehicles into driveways and side streets.

11. The maximum height of fill of about 25 feet occurs at the gulch crossing at Station 353+32. At that location, the elevations of the proposed highway and the bottom of the gulch are about 1,661 and 1,535 feet, respectively. It is felt that the maximum height of fill visible from the Corn Mill Camp area would be about 11 to 16 feet based on elevations of 1,645-1,650 feet for this area. Landscaping and other measures will be considered to enhance the aesthetics of the proposed project.

1781

Central Maui Soil & Water Conservation District

BOX 713 • WAILUKU, HAWAII 96793

MAY 13, 1975

RECEIVED

Adm.E. Alvey Wright, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

MAY 15 2 20 PM '75
DEPT. OF TRANSPORTATION
HAWAII
Peter
JAMES H. ARMITAGE
ALAN K. CARLSON, CHAIRMAN
DOUG MACGILLIVER
ROBERT W. RICE

Dear Admiral Wright:

Re: Haleakala Highway, Pukalani Section
Project No. F-037-1 (2)
Draft Environmental Impact Statement

The Central Maui Soil and Water Conservation District finds the draft of the Environmental Impact Statement submitted to the public lacks the following conservation viewpoints:

1. There is no drainage plan presented. How will the Kula drainage water that comes through Corn Mill Camp be handled? What will happen to the agricultural drainage? What will happen to the highway run off??What is the projected soil loss from the steep side slope?
2. There is no indicated plan for wind erosion control. Your plan erroneously states that wind erosion is not a problem due to soil type and that water is not available for slope grass planting. Pukalani soils are highly erodable, and the new Makawao water line could irrigate the slope grass plantings.
3. Road alignment may not be best suited to fit the landscape. It appears that the present Plan A has large cuts and hills that not only are esthetically unsightly, but also highly erodable. We do not feel that adequate engineering time was spent exploring the proposed alignments with landowners and neighbors.

While we are not opposed to the construction of a new Pukalani Highway, we feel that this planned draft should be considered very preliminary, as the planning to date appears inadequate for approval from the Conservation District.

DIRECTOR'S OFFICE

MAY 15 12 48 PM '75

DEPT. OF TRANSPORTATION

Sincerely,

Carl A. Carlson
Carl A Carlson, Chairman

COOPERATORS

GILBERT ALEXANDER, PAUWELA
BALDWIN HIGH SCHOOL, WAILUKU
HALEAKALA DAIRY, INC., KAHULUI
HALEAKALA RANCH, MAKAWAO
HAWAIIAN COMMERCIAL & SUGAR CO., LTD.,
PUUNENE

HAWAIIAN FRUIT GROWERS EXCHANGE
KAHULUI
KAONOLOU RANCH, MAKAWAO
MAUI FACTORS, INC., KULA
MAUI HOG PRODUCERS, WAILUKU
MAUI LAND & PINEAPPLE CO., HALIMAILE

ROGER M. MELROSE, MAKAWAO
CHARLES OTA, KULA
RICHARD SYLVA, KULA
TROJAN SEED CO., KIHEI
ULUPAKUA RANCH, ULUPALAKUA
WAILUKU SUGAR CO.

COMMENTS

1. How will drainage and erosion be handled?
2. Plans for wind erosion control are not indicated. Suggest planting slopes with irrigated grass.
3. Road alignment does not fit the landscape. Do not feel that adequate time was spent exploring proposed alignment with landowners.

REPLIES

1. Specific solutions to hydraulic and erosion problems will be addressed in the design stage. Kula water and agricultural drainage can be handled by a simple culvert system where such flows are interrupted by the alignment. (Refer to page III-3).
2. Slope grass plantings will be considered for wind erosion control. The effectiveness of such plantings will depend on water availability.
3. Alternative A does have large cuts and fills, but these are necessitated by the terrain. Aesthetically, the attempt has been made to blend the highway into its surroundings as much as possible. Landscaping for beautification as well as for erosion control will be explored during the design phase.

The State Department of Transportation disagrees with the statement that inadequate time was spent exploring proposed alignments with land owners and neighbors. Development of the alternatives included consideration of the State Land Use plans, the County Land Zoning Map, and existing land use and development. Presumably, these data include public input. Further at the informational meeting held in Makawao on February 23, 1974, the participants generally supported the project. At that time, Maui Land and Pineapple Company made the only comments that required further coordination. An adjustment to Alternate A was made in response to Maui Land and Pineapple's Company's comment on the location of their water line.

COMMENTS

3. (Continued)

REPLIES

Other suggested adjustments to the alignment were considered but not adopted for various reasons. Meetings have been held with Maui Land and Pineapple Company since then to discuss our differences. Further meetings will be held with them as the details of the project are developed.

1944
DIRECTOR'S OFFICE

June 5, 1975

JUN 12 8 06 AM '75

DEPT. OF
TRANSPORTATION

JUN 12 11 02 AM 1975

SGT Evan M. Asato
Box 762
330TH ASA AVN CO
APO New York 09130

Director, Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Persons,

I am writing this letter to express my views and a suggestion concerning the widening and re-alignment of the Haleakala Highway (FAP 37) between the Haliimaile road intersection and the intersection of Haleakala Highway and FAS 377.

While respecting the merits of the proposed project plans (uniformity in design; the reduction of travel time; proper civil engineering techniques and methods) it is in my opinion that the project construction plans be altered; not entirely eliminated nor entirely altered. In this project construction alteration, I suggest that the present Haleakala Highway passing through the Pukalani community be widen, straighten, and repaved. It should be widen as much as physically possible without encroaching onto private lands in which homes are located. To clarify my suggestion, I present the following explanation. Please refer to the project location map. The highway may be straighten between points A and B as plan. It may be straighten as best as possible without encroaching onto private lands in which homes are located from point C to point D. From point E to point F, this section may be left as plan in the proposed ALT B route.

My reason for the above suggestion is due to the fact that there will be no travel time reduced in travelling from point A to point F while travelling on the proposed ALT A-1 route as compared to that of the present highway route. It is obvious that when two cars travelling at the same speeds from point A in the direction of point F, the car travelling on the present route or on my suggested construction route will arrive at point F prior to the car travelling on the proposed ALT A-1 route.

In addition to the past paragraph, consider the fact that more private land will be utilized in the construction of the ALT A-1 route as compared to that of my suggested construction route causing more funds to be spent for the purchase or lease of land. Also, more funds will be spent on the construction of the proposed ALT A-1 route (for obvious reasons) and for relocation.

(2)

The FAP 37 highway will narrow slightly and not be straight by my suggested construction route; thus, it will not be uniform in design with the rest of the project, which I'm sure is contrary to proper civil engineering. However, that fact is out weighed by the obvious advantages in the implementation of my suggested construction route (e.g. less funds spent; less interference with private land owners).

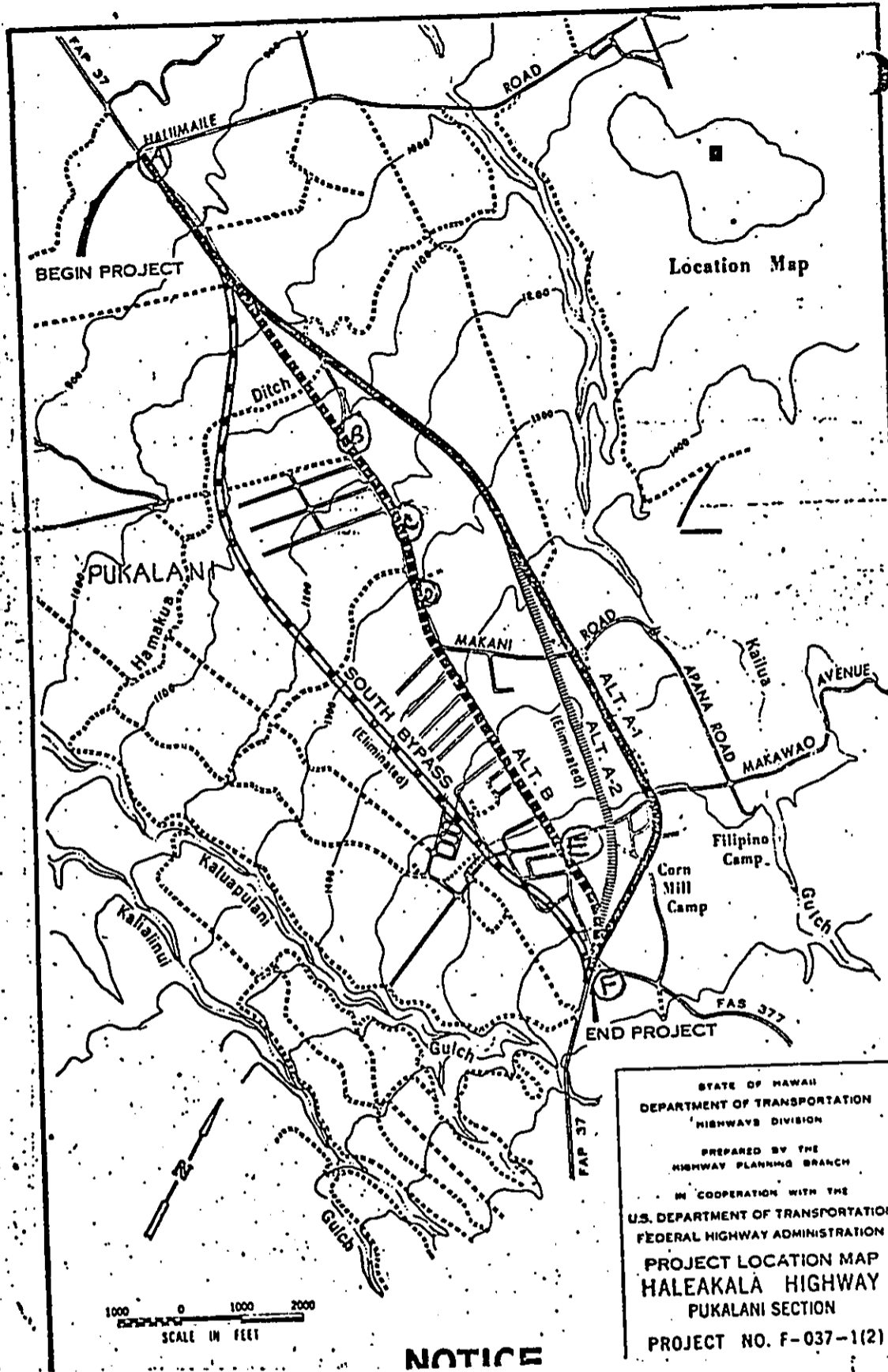
Provided the highway planners/civil engineers strongly are "needs of the people" oriented, it will not be difficult to be "flexible". Flexible in every aspect, (e.g. minor deviations from State highway construction regulations; minor deviations from the "ideal" highway, if there is such a thing; minor deviations in design that will have the least effect on an "ideal" highway safety design) in providing a highway that will meet the basic goals of the highway planners/civil engineers and at the same time meet the approval of everyone affected by this proposed highway project.

Warmest alohas,



Evan M. Asato

EMA



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 PREPARED BY THE
 HIGHWAY PLANNING BRANCH
 IN COOPERATION WITH THE
 U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
**PROJECT LOCATION MAP
 HALEAKALA HIGHWAY
 PUKALANI SECTION**
 PROJECT NO. F-037-1(2)

NOTICE

E-72

COMMENTS

REPLIES

1. Travel time would be less on Alternative B than on Alternative A.

1. Travel time would be shorter on Alternative A, in spite of its longer length, due to greater speeds. The speed limit on Route B would be 25-35 mph since it passes through a residential community. The probable speed limit on route A would be 45 mph.

2. Suggest narrowing the proposed roadway.

2. This has been considered, but it has been found that additional right-of-way is still needed since the new highway would need three lanes to reduce existing and future congestion.

3. Alternative A requires more land than Alternative B.

3. Alternate A does indeed utilize more land area than Alternate B. Alternate A affects 47 acres of agricultural land and no urban lands with a rights-of-way cost of \$225,000. Furthermore, no one will be displaced.

Alternate B, on the other hand, requires 24 acres of agricultural land and 15 acres of urban land for a total of 39 acres. The rights-of-way cost is \$1,757,000 and 86 parcels and 6 businesses would be affected including the relocation of 8 families.

As can be seen, the higher cost of urban zoned properties greatly outweighs the lesser land areas involved along route B.

RECEIVED

State District Office

JUN 19 1975

June 12, 1975

Dear Sir,

My son Wayne and me were unable to attend Thursday night's meeting on the pubalane highway improvement.

We have pasture land. ^{Tax key} 2-2-3-009-009

1- Who will be responsible for the removal and replacement of fences?

2- The property the State will take from us for this improvement is where we plan to build our home.

We could build farther in but it will take from \$8,000.00 or more for us to install water, electricity and road.

Will the State give us enough ~~for~~ for our property to cover all these expenses. The State will put us in. By taking my property for this improvement it will upset all my plans and life.

Thank you,

Mrs. Agnes R. Aase
Wayne M. Aase

41200

COMMENTS

1. Concern for loss of property resulting from Alternative B.

REPLIES

1. The effect of Alternative B on residential properties was a primary reason for its rejection. The proposed project will not affect the Asue's property.

STATE OF HAWAII
DEPT. OF TRANSPORTATION
869 Punch bowl ST.
Honolulu, Hawaii 96813

RECEIVED
JUN 25 6 25 10 PM 1975
DEPT. OF TRANSPORTATION
HI. TRANSPORTATION DIVISION

6-24-75

ATTN: E. AIVEY WRIGHT, DIRECTOR
SUBJECT: HWY - PA 2.21641

MR. WRIGHT:

I wish to state that I am against the realignment & widening of Haleakala Highway between Kaliimilo Rd. & Kula junction for the following reasons:

- 1) This is really a secondary access road & not a highway with houses & residence roads emptying onto it & is not suited for highway speeds & through traffic.
- 2) Costs involved would not be in the best interest of the Maui people.
- 3) The present condition of the Highway will serve well into the future if the highway bypasses this area.

(2)

I recommend your ALT-A-1 with
a service ramp to the present highway
at both ends.

The two stores & two gas stations
should be greatly affected since they
mainly service the nearby community.
The off-on service ramps would
affect any possible adverse effect
on these businesses.

Thank you for the opportunity to
respond.

William E. Phelps

COMMENTS

1. Favors Alternative A-1.

REPLIES

1. These comments were considered in the selection of Alternative A-1.

1669✓

DIRECTOR'S OFFICE

APR 29 1 00 PM '75

DEPT. OF
TRANSPORTATION

April 28, 1975

Dear Sir:

Re: Haleakala Highway, Pukalani Section Project No. H-037-1 (2)

We are very much opposed to Alternate B because it will take away our laundry room, patio and part of our garage. Our laundry room is at least six feet away and the patio is at least ten feet away from the existing ditch. Instead of widening the highway in the back of our home why not make improvements on the ditch which should have priority on the new highway.

We feel that Alternate A-1 is best because it's less expensive to build and no residences will be affected but property of the Pineapple Company.

If the State goes ahead on Alternate B, we will not accept compensation for right-of-way (Page 27) because just by dividing 100 (86 parcels, 8 residences and 6 businesses) into \$1,757,000, we will be compensated only \$17,570, which we feel is not just and enough. Land is not cheap and it is not going to be any cheaper four or five years from now when work is begun on the highway. We still owe 99% on our mortgage and there's no way we are going to accept peanuts for right-of-way. We are going to the courts to ask for a bigger sum if we are forced to.

We hope our views are understood and that Alternate A-1 will be your decision.

Sincerely,

Albert Salvida
Albert Salvida, Husband

Teresita Salvida
Teresita Salvida, Wife

DEPT. OF TRANSPORTATION
DIVISION
APR 30 9 49 AM 1975
RECEIVED

COMMENTS

1. Opposed to Alternative B on grounds of resulting property loss.

REPLIES

1. Alternative B has been rejected because of its adverse effects on residential properties. The Salvida's property will not be affected by the proposed project.

III. SUMMARY OF JUNE 12, 1975 PUBLIC HEARING

The Highway Corridor Public Hearing on the proposed Haleakala Highway, Pukalani Section was held on June 12, 1975 at the Makawao School in Maui. An information meeting on project scope and alternatives was held on February 25, 1974 at the Eddie Tam Memorial Center in Makawao. This summary presents the nature and disposition of substantive comments received at the Public Hearing as required by FHPM 7-7-2 par. 19.0 (5).

A. SCHEDULED TESTIMONIES

COMMENT: Mr. Dennis Shiroma of the Pukalani Community Association went on record as favoring Alternative A on the basis of cost, noise factor, and safety.

DISPOSITION: Mr. Shiroma's comment was considered in recommending Alternative A as the proposed project.

COMMENT: Mr. Tosh Ishikawa, Deputy Director of Planning for the County of Maui indicated that Alternate A-1 (which is now Alternative A) was in conformance to the Makawao-Pukalani-Kula General Plan (proposed). He also recommended that Alternate A-1 be studied to minimize the impact on pineapple lands.

DISPOSITION: Sections G, H, and I of Chapters II and III identify the impacts and factors influencing the impacts of the proposed project in relation to land use.

COMMENT: Mr. Steve Karony favored placing the highway in the country, referring to Alternative A.

DISPOSITION: Mr. Karony's comment was considered in recommending Alternative A as the proposed project.

COMMENT: Mr. Joe Gonzles, representing Mr. Alfred Souza, President of the Makawao Recreational Council favored Alternate A-1 on the basis of convenience, safety factor, and cost. Some concern was expressed for safety at the intersection of Makawao Avenue and Alternate A-1.

DISPOSITION: Signalization of the proposed highway, and design details of the project will be investigated during the "design stage" of project planning. At that time, roadway details such as the intersection with Makawao Avenue will be determined consistent with traffic and pedestrian safety and applicable standards and criteria.

B. QUESTION AND ANSWER PERIOD

QUESTION: Mr. Roger Knox, a Kula resident, asked how soon the decision would be made between Alternative A and B.

ANSWER: Chairman Sakamoto responded that the decision would be made after June 26, 1975, when all written testimony had been received.

III. SUMMARY OF JUNE 12, 1975 PUBLIC HEARING (CONT'D)

QUESTION: Mr. Roger Knox asked whether or not the highway could be completed prior to 1979 as scheduled.

ANSWER: Mr. Tetsuo Harano responded that funding, which was controlled by the Legislature, dictated the project scheduling.

COMMENT: Representative Amoral requested that the DOT give consideration to designing the shoulders of the new highway with more stability so they will not deteriorate as rapidly as the existing highway.

DISPOSITION: The new design calls for a truck climbing lane so that trucks will not have to pull onto the shoulder.

QUESTION: Mr. Joe Gonzales asked if the State planned to open any other roads up the mountain.

ANSWER: Chairman Sakamoto responded that there were no other plans.

QUESTION: Mr. Don Mizoguchi, a resident of Pukalani, asked if there was a possibility of the construction costing more than the projected \$1,900,000.

ANSWER: Mr. Harris Suyama responded that due to inflation that was a distinct possibility. (The estimated cost has been revised to \$2,980,000).

QUESTION: Mr. Darrell Asato, a resident of Pukalani, asked what measures would be designed to prevent through-traffic from using the old Haleakala Highway. Concern was expressed over fast-moving downhill traffic passing through Pukalani.

ANSWER: In summary, Chairman Sakamoto, Mr. Suyama and Mr. Fred Cheatham responded that drivers would find that the bypass would be a much faster route. Drivers insisting on using the highway through Pukalani at excess speeds would be subject to traffic fines.