1990-02-08-MA-FEA

COUNTY OF MAUI

DEPARTMENT OF WATER SUPPLY

ENVIRONMENTAL IMPACT ASSESSMENT

AND

NEGATIVE DECLARATION

FOR

~~A~~ HAIKU-KAUHIKOA TANK & PIPELINE ~~A~~
JOB NO. PN 87-344

AT

HAIKU, MAUI
STATE OF HAWAII

This environmental document was prepared pursuant to Chapter 343, Hawaii Revised Statutes.

PROPOSING AGENCY: Department of Water Supply
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Vincent Bagoyo Jr.
Director

10-27-88
Date

PREPARED BY: Akinaka & Associates, Ltd.
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Honolulu, Hawaii 96817

NOVEMBER 1988

ENVIRONMENTAL IMPACT ASSESSMENT
AND
NEGATIVE DECLARATION
HAIKU - KAUHIKOA TANK & PIPELINE

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EXHIBITS

I. INTRODUCTION

A. Project Scope

The proposed project consists of a 250,000 gallon potable water tank and connecting pipelines for the Department of Water Supply, County of Maui. The water tank will be above ground and constructed of glass-fused-to-steel panels with appurtenant valves and support equipment. Pipelines will connect the tank to an existing water main with provisions for connection to futures mains.

The tank will replace an existing 70,000 gallon tank situated at a nearby site. This project is a planned facility for the Makawao Water System as lands were obtained specifically for water tank construction along Haiku-Kokomo Road.

B. Project Location

EXHIBIT 1: LOCATION MAP shows the general location of the project on the northwestern slope of Haleakala. The project site is adjacent to Haiku-Kokomo Road in the Kauhikoa Subdivision as shown in EXHIBIT 2: VICINITY MAP. Exhibit 2 is based on the 1"=2000' USGS "Haiku" Quad Map. The tank will be located on TMK: 2-7-33:1.

C. Project Objectives

The objectives of the proposed project are:

1. Replace an old and leaky steel water tank within the Makawao Water System. The tank was recently detached from the system due to its condition.

2. Provide a new water tank which meets the standard of planning within the "Water System Standards" of the Department of Water Supply.

3. Conform to the water objective and policies of the Maui County General Plan to provide an adequate supply of domestic and agricultural water. This project meets the objective based on the following policies:

   a. Support water supply services to an area which historically experienced critical water problems.

   b. Creates a system to provide improved fire protection.

   c. Minimizes moratoriums on water supply in areas used for residential housing.

II. DESCRIPTION OF PROPOSED PROJECT

A. Background and Existing Conditions

The new tank will replace the existing tank #275 at Elevation = 871. The tank will be part of the Makawao Water System connecting to a 8-inch pipeline in Kokomo Road with provisions for connections to a 12-inch main also in Kokomo Road. EXHIBIT 3: WATER MAP is a portion of the County of Maui Water Distribution Map - "Haiku - Pauwela, Makawao District" and further identifies the project.

Makawao Water System service area includes the communities of Makawao, Pukalani, Hailemaile, Kokomo, Kuiaha, Kaupakulua, Haiku, Ulumalu, Pauwela, and Peahi. This project will support a portion of the service area, that is, the lots along Kokomo, Pauwela, Haiku Roads and Hana Highway.

B. Proposed Improvements

The tank will be constructed on lands owned by the County of Maui. The tank site is approximately 1.00 acre with average ground elevation of 830' feet. The 0.25 MG tank will be about 25 feet high and 50 feet in diameter. The sides will be colored green to blend into the surroundings. An aluminum domed roof will provide environmental protection.

Site work will require minimal grading due to previous agricultural land use. A 10-ft wide asphalt concrete road will be constructed to service the tank. Remainder of the site work will consist of perimeter security fencing and grassing. The site work will be developed with consideration for installing another water tank on the site. EXHIBIT 4: SCHEMATIC PLAN is a preliminary plan of work within this project.

Piping to connect the tank to the existing water main will include combined influent/effluent lines with valving to control or isolate the system. Control valves will be regulated by tank water level and include rate-of-flow regulating capability.

Demolition of the existing tank and appurtenant facilities will be performed by Department of Water Supply forces.

C. Project Funding

Funding for this project will be provided mainly by the Department of Water Supply, County of Maui. Storage assessments for a proposed private subdivision will assist in funding the project. The preliminary construction cost estimates for this project is $430,000.00

III. RELATIONSHIP TO EXISTING LAND USE PLANS AND CONTROLS

A. State Land Use Plans

The State Land Use Commission designates properties in four categories: Agricultural, Rural, Urban, and Conservation. The proposed project lies within lands designated as Agriculture. (See EXHIBIT 5: STATE LAND USE MAP). The water tank is permissable under the rules of practice and procedure, State Land Use District Regulations, Part III, Section 3-3, paragraph 7, which provides for the following:

"Public, private, and quasi-public utility lines, and roadways, transformer stations, solid waste transfer station, etc., and appurtenant small buildings such as booster pumping stations, but not including offices or yards for equipment, material, vehicle storage, repair or maintenance, treatment plants and major storage tanks not ancillary to agricultural practices, or corporation yards or other like structures."

B. County of Maui General Plan

The General Plan for the County of Maui, adopted June 24, 1988 mandated the formulation of the Paia-Haiku Community Plan. This community plan provides a relatively detailed scheme for implementing the objective and policies of the County General Plan relative to the Paia-Haiku region.

The proposed project lies within lands designated for agricultural land use as shown in EXHIBIT 6: PAIA - HAIKU COMMUNITY PLAN. Land use policies within the community plan promotes the maintenance of the current State Agricultural District Boundary.

IV. ENVIRONMENTAL SETTING

A. Topography

The project is located 2.7 miles above Maliko Bay on the northern coastlines of Maui. Maliko Gulch is adjacent to the project site. Topographic information is available on the Haiku Quadrangle Map published by the U.S. Geological Survey (See EXHIBIT 2).

Once cultivated for pineapple production, the site slopes at 6 percent and is approximately 830 feet above mean sea level. A small (18'X12') residential structure and appurtenant facilities will be relocated from the northwest corner of the project site. An existing well (capped) is located on the project site and will be developed in the future. Planned improvements will be sited in consideration of the existing well.

B. Geology/Soils

The water tank site is located on the northwest flank of Haleakala, which is a dormant volcano. Haleakala and West Maui were the two major volcanos that formed the island of Maui.

Rock formations belonging to the original Haleakala Volcanic shield are part of the Honomanu Volcanic series which was subsequently overlain by the Kula Volcanic Series. The Kula series is composed mostly of hawaiite with lesser amounts of alkalie olivine basalt and ankaramite

Soils at the site are classified in the Haiku series (HbC) which are well-drained soils found on uplands on the island of Maui. These soils developed in material weathered from basic igneous rock. HbC soils are clayey with moderately rapid permeability (2.0-6.3 in/hr). These soils are used for pineapple, pasture, and homesites.

C. Climate

The climate of Maui is comfortably uniform and is characterized by the northeast tradewinds generated by regions of high pressure to the north. Uniform temperatures result from the tempering affect of the surrounding ocean. The average monthly temperatures in Makawao are within the range of 66°F in August and 61°F in December. The mean temperature decreases about 3°F for every 1,000 foot increase in elevation.

The consistent approach of the tradewinds from the northeast distinguishes the island into windward and leeward sides. Windward Maui receives larger amounts of rainfall as

the result of the condensation of water vapor as it is forced up into the atmosphere by the mountain mass. The Haiku - Kauhikoa Tank site, located in the windward side of the island at an elevation of approximately 830', receives an average of 40 inches of rainfall per year.

D. Biology

The site was once cultivated for pineapple production. Natural vegetation at the site was replaced by pineapple and later by pasture grass. The surrounding area consists of introduced flora species such as eucalyptus, guava, christmas berry and kikuyu grass.

No threatened or endangered birds are known to inhabit the area. Common urban birds, such as mynahs, doves, ricebirds and sparrows were observed in the project area. Wildlife inhabiting the area include stray cats, mongoose, and rats which are common in open agricultural areas.

E. Air Quality

Although no information on air quality at the project site was obtained, it is generally assumed that the air is relatively clear and low in pollution. This is because of the elevation and distance from the major urban centers.

F. Noise

Noise levels were not measured at the project site. The noise levels are basically normal agricultural activities of the adjacent areas. Highway noises from passing trucks may add to noise levels.

G. Archaeology

There are no identified historic or archeologically significant locations at the site or immediate vicinity. However, should any unanticipated sites, artifacts or remains, such as shell, bone or charcoal deposits, be discovered during construction, the work will be halted and the State Historic Preservation Office will be contacted.

H. Flood Hazard

Flood hazard data was not obtained for the project site. As the site is on high grounds flooding is not expected. Base flood elevation and flood hazard factors are undetermined on the Flood Insurance Rate Map prepared by the Federal Insurance Administration.

V. SOCIO-ECONOMIC SETTING

The residential population of the island of Maui as of 1980 was 71,191. The population of the Haiku-Pauwela census tract (#302) was 3,567 at the same time. Forecasts within the County of Maui Community Plans combines census tract #302 with #305 (Paia) with year 2000 projected at 6,800 people. If the population ratio between the census tracts remain constant, there will be 4,709 people in the Haiku-Pauwela tract in year 2000.

Agriculture is the primary economic activity of the area, particularly sugar cane and pineapple production. Other primary industries for the residential population are service and retail. Household incomes in the northeast Maui area ranged from $2,000 to $25,000 or more, with half falling in the $12,000 to $25,000 or more category.

The project's service area (See EXHIBIT 3) includes other land uses as well as agriculture. Residential lots are located along Hana Highway and surround the business and light industrial zoned parcels associated with the defunct pineapple cannery. Small business remain servicing the area's population and tourist activity.

VI. PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

A. Short Term Impacts

Short term impacts of the proposed project will be minimal. Daily traffic of the tank crew through the area and the noise of the construction equipment will be the extent of construction impacts. As the traffic routes consists of asphalt concrete roads, and considering the small size of the crew, residents should not notice any increase in traffic.

Noise from the project site will be generated by internal combustion engine vehicles. The work will be restricted to daylight hours and the noise should blend in with the normal activities. Exhaust emissions will be blown away by the prevailing winds.

Dust and erosion from the construction efforts will be insignificant considering the volume of earth manipulated. Conformance to the County's Soil Erosion and Sedimentation Control ordinance should mitigate any adverse effects. Water discharged from the tank during the testing period will be directed to the existing roadway swale flowing to normal drainage courses.

Construction of the water tank is expected to take about 6 months. The construction activity will result in the generation of jobs and income during the period of construction. This construction income in turn, will result in increased government revenues via gross excise, income, and other taxes generated by construction spending.

B. Long Term Impacts

There are no long term impacts from this water tank project other than visual impacts. Motorists on Kokomo Road cannot observe the tank due to the grade difference and site layout. The tank may be noticeable to scenic observers due to its shape and dome. The green colored walls will mitigate the contrast.

The project's goal is to replace an existing tank in the Makawao Water System. It will provide storage to meet fire flow demands and water system pressure controls. Use of storage assessments to increase the tank size is economical in financing and technology.

VII. ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

The noise level will increase during the construction period. This effect will be of short duration, lasting only for the construction phase. The noise level can be reduced by the contractor by ensuring proper functioning of mufflers on all equipment, and conducting construction activity only during daylight hours, between 7:30 a.m. to 5:00 p.m.

Traffic along Kokomo Road will be disrupted for short periods during installation of the connecting pipelines. The disruptions will be short as the work within Kokomo Road right-of-way is limited to pipeline connections, driveway and valve manhole construction.

The project will require displacement of residents utilizing the existing structure at the northwest corner of the project site. As the structure and appurtenant facilities (bath house, cesspool, and at-grade water line) were constructed without authorization, their removal from the site is justified.

VIII. ALTERNATIVES TO THE PROPOSED ACTION

A. Alternative Site

Consideration of an alternative site would be an inefficient use of existing resources. The project site was obtained specifically to house the water tank.

B. No Action

This alternative will not allow the Department of Water Supply to meet planning standards for water storage relating to fire protection and consumption reserves.

C. Alternate Sizes

This alternative includes construction of a larger water tank sufficient for the future requirements as envisioned by the 500,000 gallon tank shown on EXHIBIT 4. Funding limitations and lack of sufficient warrants preclude construction of a tank larger than that proposed.

The 250,000 tank size confirms to the maximum day and fire flow requirements. Another accounting of tank size could be:

DWS tank replacement:	100,000 gallons
Developer Storage assessment:	100,000 gallons
Benefits due to combination:	50,000 gallons
TOTAL:	250,000 gallons

Construction of a 100,000 gallon tank would require a future separate tank of identical size. This may result in additional maintenance costs. Also, the benefits due to combination will not be realized.

IX. RELATIONSHIP BETWEEN LOCAL SHORT TERM USES AND MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

The short term use of the project site is the same as its intended long term use - storage of water for domestic consumption and fire protection. The proposed action, if implemented, will enable the Department of Water Supply to meet its planning standards for water storage as described within the Water System Standards.

The proposed action will not involve trade-offs between short-term uses, foreclose future options, narrow the range of beneficial use of the environment, nor pose long-term risks to health and safety. The water tank will provide improved fire protection over what is presently available.

X. MITIGATING MEASURES TO MINIMIZE ADVERSE IMPACTS

The short term impacts occuring during the construction work will be minimized by applying current techniques and methods. In addition, restrictions of operational hours will minimize noise impacts to the adjoining area.

Dust generated during grading activities will be controlled by water sprinkling and compliance with the Air Pollution Control Regulations of the Department of Health and applicable portions of the County ordinances relating to grading, excavation, and material handling operations.

The impact of construction activities increasing downstream sedimentation can be mitigated by conforming to strict erosion control measures as specified in the County grading ordinances and the State Department of Health's Water Quality Standards.

To minimize pollutant emissions from internal construction engines, the contractor will be responsible for proper maintenance of all construction equipment and vehicles.

XI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The construction of the proposed project would involve the commitment of certain natural and fiscal resources. The commitment of construction materials, manpower, and energy are mostly unrenewable and irretrievable. The impacts of using these resources should, however, be weighed against the benefits to the residents of the County when fire protection services are required. There will be no loss of any natural or cultural resources.

XII. DETERMINATION

Based on the preceding paragraphs, it is anticipated that the proposed action will result in no significant adverse impacts other than those described in this assessment. Consequently, a Negative Declaration is recommended and therefore, an Environmental Impact Statement would not be required.

XIII. REASONS SUPPORTING RECOMMENDED DETERMINATION

In considering the significant of potential environmental effects, the applicant has considered the sum of effects on the quality of the environment and evaluated the overall cumulative effects of the proposed action. The applicant has considered every phase of the proposed action, the expected consequences, both primary and secondary and the cumulative as well as the short- and long-term effects of the proposed action. As a result of these considerations, the applicant has determined that:

A. The proposed action does not involve an irrevocable commitment or loss of or destruction of any natural cultural resource:

There are no natural or cultural resources associated with the project site. The site was once cultivated for pineapple production.

B. The proposed action does not curtail the range of beneficial uses of the environment:

The proposed project is consistent with the County's General Plan and the Department of Water Supply planning standards and would not curtail beneficial uses of the environment in the area. The proposed project will be compatible with the uses of the surrounding area.

Displacement of residents due to relocation of the unauthorized structure is justified to construct the project. Relocation of the unauthorized structure will occur even without this project construction.

C. The proposed action is in concert with the State's long-term environmental policies, goals and guidelines as expressed in Chapter 343, HIS, and any revisions and amendments thereto, court decisions and executive orders:

The proposed project is consistent with the State Land Use Plan which is in concert with all applicable policies, goals and guidelines. No long-term environmental conflicts are foreseen.

D. The proposed action does not substantially affect the economic or social welfare of the community or state:

The economic impact will be affected by the short-term, construction related activities. Upon completion of the project, economic conditions should return to the existing situation.

E. The proposed action does not involve substantial secondary impacts, such as population changes or effects on public facilities:

The proposed project will not directly result in an increase of population in the area as construction is limited to the water storage tank. This project will utilize storage assessment funds for development of lands in conformance with existing zoning.

F. The proposed action does not substantially affect public health:

Construction activities will be regulated to minimize noise, dust and erosion concerns.

G. The proposed action does not involve a substantial degradation of environmental quality:

The existing physical aspects of the surrounding area will be preserved

H. The proposed action is individually limited and cumulatively, does not have a considerable effect upon the environment or involve a commitment for larger actions:

The proposed project is replacement of an existing water tank within the Makawao water system. Use of the system is regulated by the County of Maui, Department of Water Supply. Approval of the project does not involve a commitment for any larger action.

I. The proposed action does not substantially affect rare, threatened or endangered species or habitats:

There are no known rare, threatened or endangered species or habitat associated with the project site.

J. The proposed action does not detrimentally affect air or water quality or ambient noise levels:

Development of the site will not increase ambient noise levels as the facility does not include any noise producing equipment. Short-term impacts on air and water quality, as well as noise, will occur during the construction period, but will be mitigated by normal construction practices and will be regulated by the project plans and specifications.

K. The proposed action does not affect an environmentally sensitive area such as a flood plan, tsunami zone, erosion-prone area, geologically hazardous land, estuary or coastal waters.

The proposed project is not located adjacent to the shoreline and is outside of the tsunami inundation line.

Flooding or erosion problems are not anticipated.

XIV. LIST OF NECESSARY REVIEW/APPROVALS

A. County of Maui

1. Department of Public Works

   a. Building Permit via Land Use and Codes Administration

   b. Grading and Grubbing Permit per Ordinance 639

   c. Work in County Roads Permit per Ordinance 639

B. State of Hawaii

1. Department of Health

   a. "Potable Water Systems" Chapter 20 of Title 11

XV. ORGANIZATIONS AND PERSONS CONTACTED

The following agencies provided information in the preparation of the Environmental Impact Assessment on the subject project.

A. Department of Planning
County of Maui
200 South High Street
Wailuku, Maui

B. Department of Public Works
County of Maui
200 South High Street
Wailuku, Maui

C. Office of Environmental Quality Control
State of Hawaii
465 South King Street, Room 4
Honolulu, Hawaii 96813

D. Department of Business and Economic Development
State of Hawaii
250 South King Street
Honolulu, Hawaii 96813

XVI. BIBLIOGRAPHY

1. County of Maui, Department of Water Supply, Water System Standards, Vol. I, 1985.

2. MacDonald, Gordon A., Volcanoes in the Sea, University of Hawaii Press, 1983.

3. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, 1972.

4. State of Hawaii, Department of Planning and Economic Development, State of Hawaii Data Book, 1987: A Statistical Abstract, 1987.

5. County of Maui, Paia-Haiku Community Plan, 1983.

6. County of Maui, Department of Water Supply, Environmental Impact Statement: Makawao - Kula Water Treatment Plants, 1982.

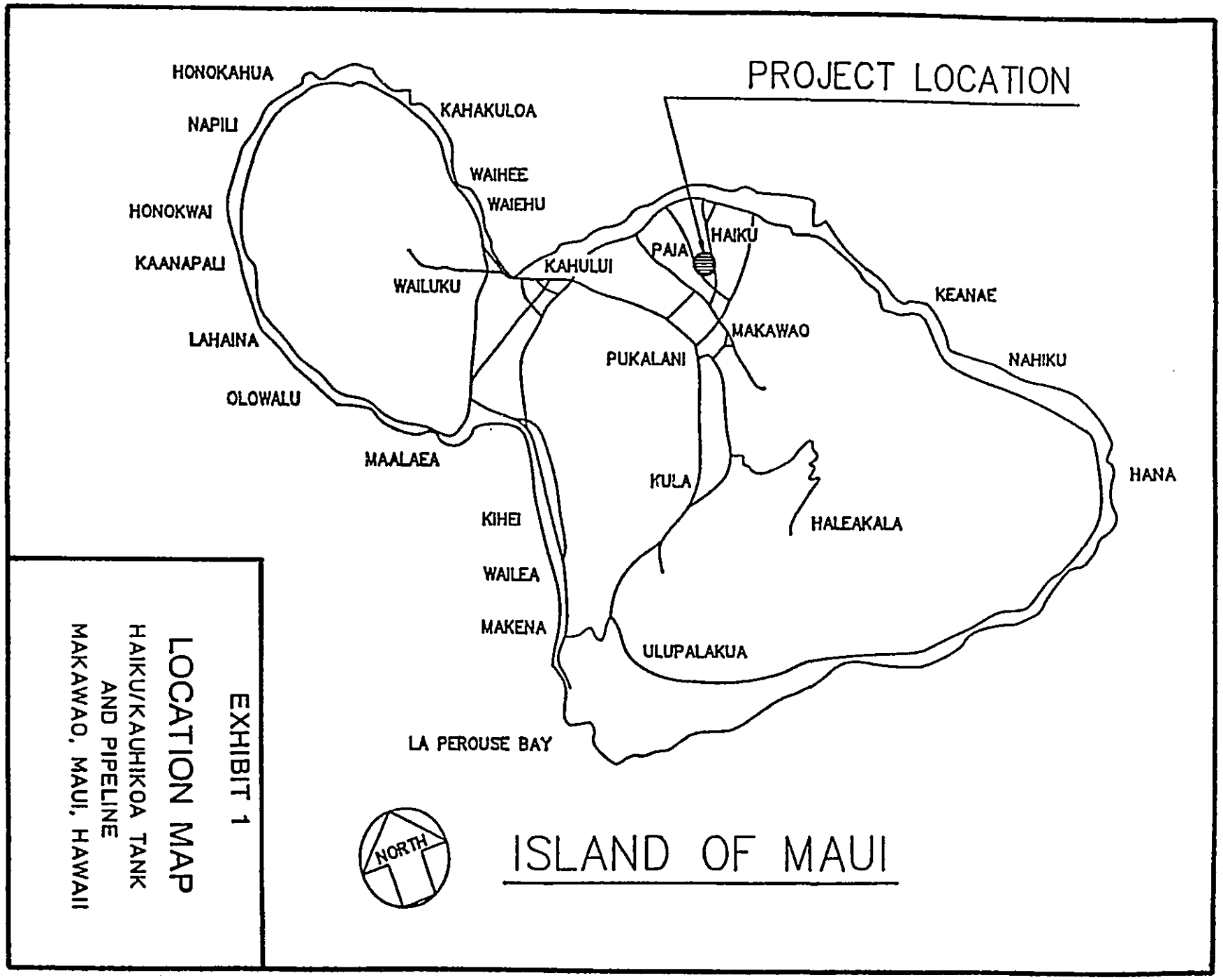


EXHIBIT 1

LOCATION MAP

HAIKU/KAUHIKOA TANK
AND PIPELINE
MAKAWAO, MAUI, HAWAII

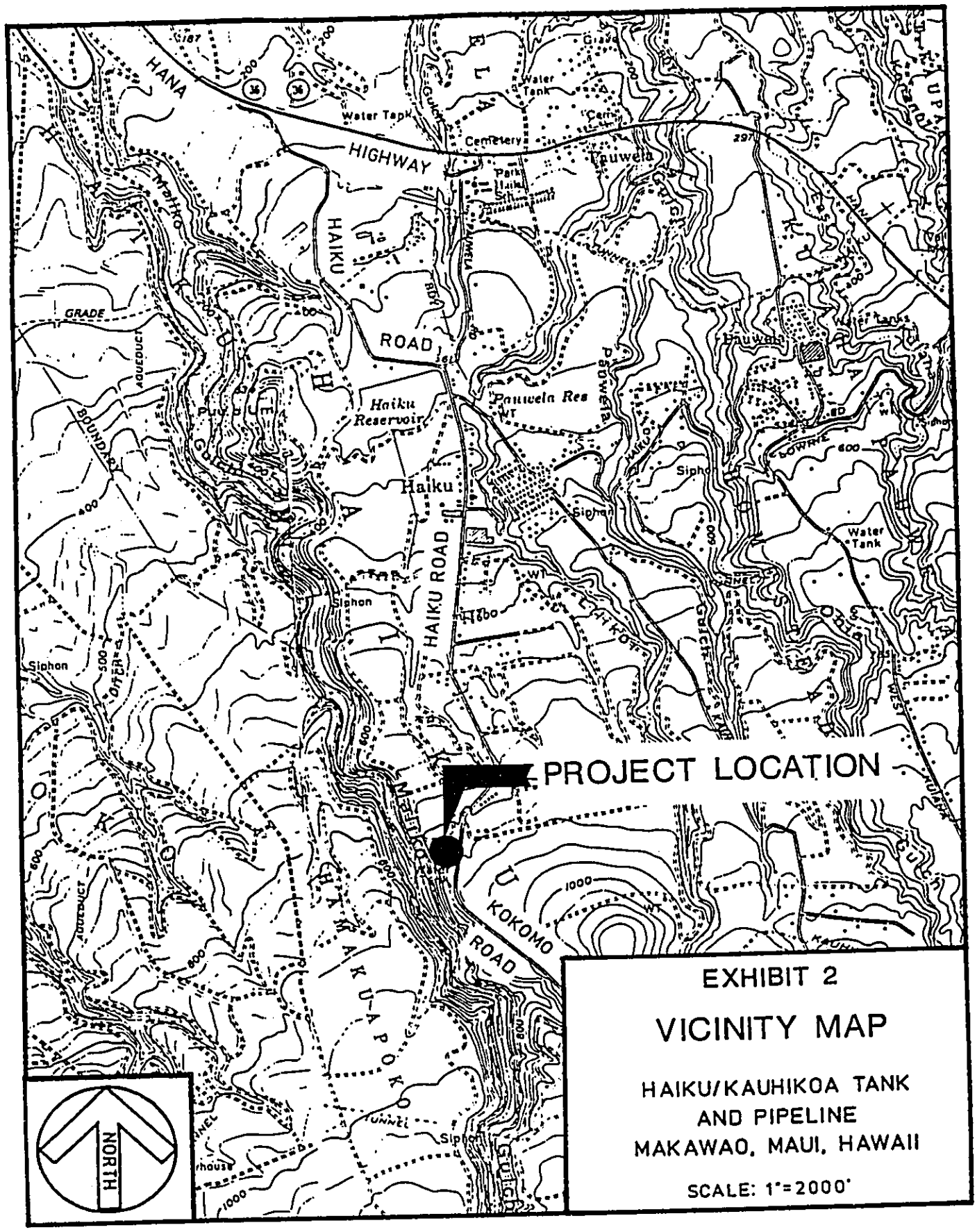
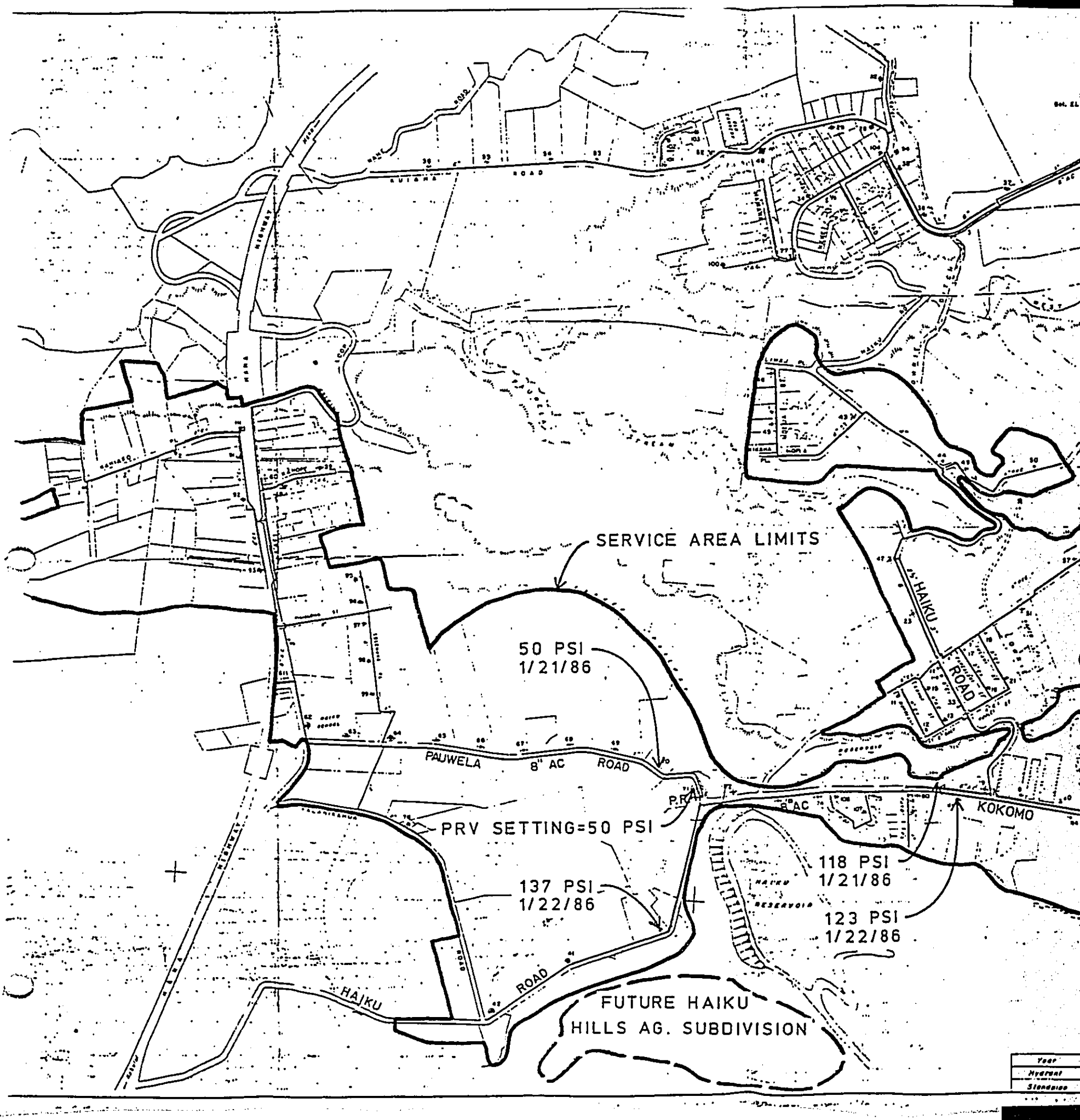


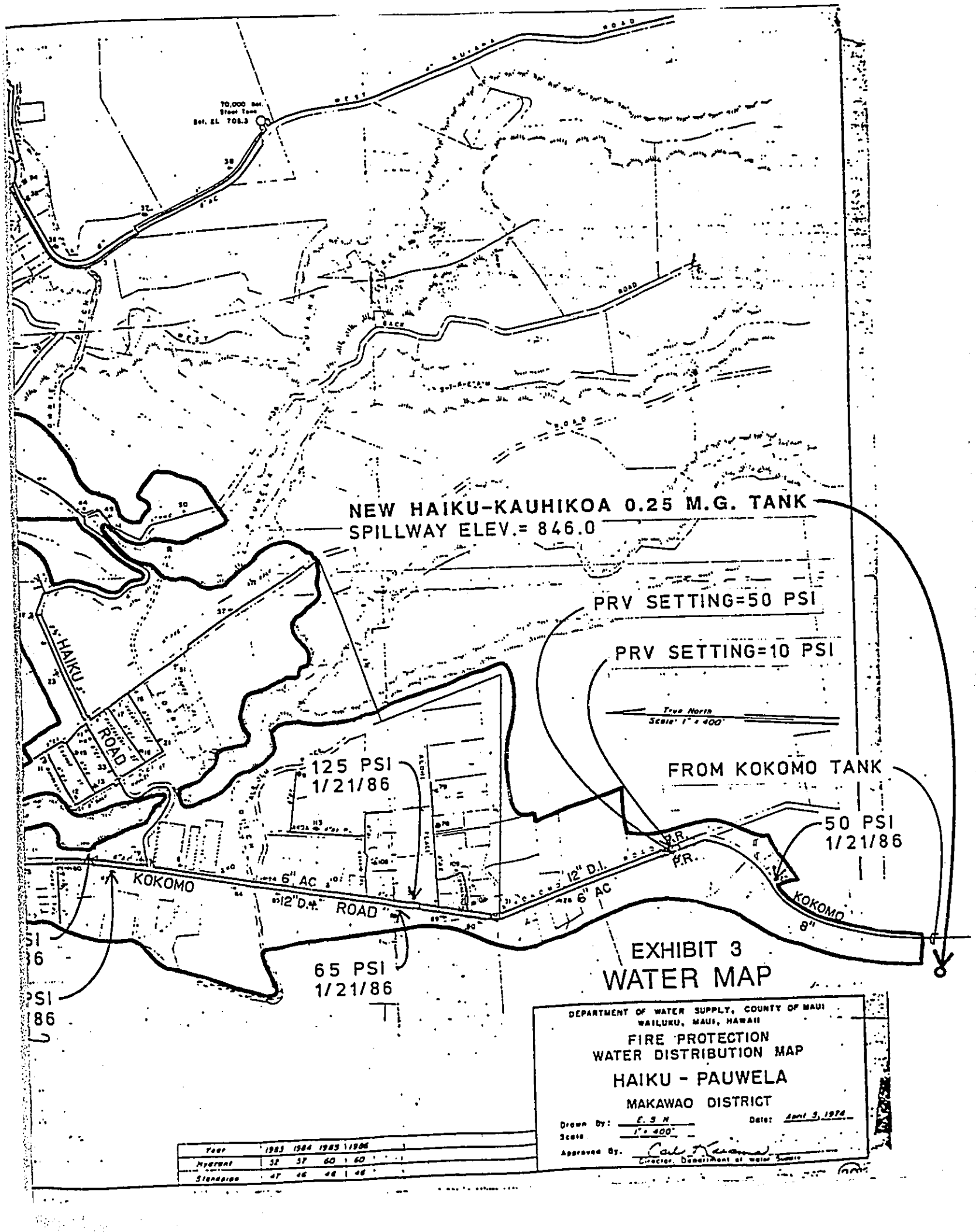
EXHIBIT 2

VICINITY MAP

HAIKU/KAUHIKOA TANK
AND PIPELINE
MAKAWAO, MAUI, HAWAII

SCALE: 1"=2000'


SERVICE AREA LIMITS
50 PSI
1/21/86
PAUWELA
8" AC
ROAD
PRV SETTING=50 PSI
137 PSI
1/22/86
HAIKU
ROAD
FUTURE HAIKU
HILLS AG. SUBDIVISION
118 PSI
1/21/86
123 PSI
1/22/86
KOKOMO
HAIKU
RESERVOIR
HANA
HIGHWAY
KUIAHA
ROAD
Year
Hydrant
Standpipe


NEW HAIKU-KAUHIKOA 0.25 M.G. TANK
SPILLWAY ELEV.= 846.0
PRV SETTING=50 PSI
PRV SETTING=10 PSI
True North
Scale: 1" = 400'
FROM KOKOMO TANK
125 PSI
1/21/86
50 PSI
1/21/86
65 PSI
1/21/86
HAIKU ROAD
KOKOMO ROAD
6" AC
12" D.I.
8"
P.R.V.
EXHIBIT 3
WATER MAP
DEPARTMENT OF WATER SUPPLY, COUNTY OF MAUI
WAILUKU, MAUI, HAWAII
FIRE PROTECTION
WATER DISTRICT MAP
HAIKU - PAUWELA
MAKAWAO DISTRICT
Drawn By: E. S. N
Date: April 3, 1974
Scale: 1" = 400'
Approved By:
Director, Department of Water Supply
Year 1983 1984 1985 1986
Hydrant 52 57 60 60
Standpipe 47 46 48 48

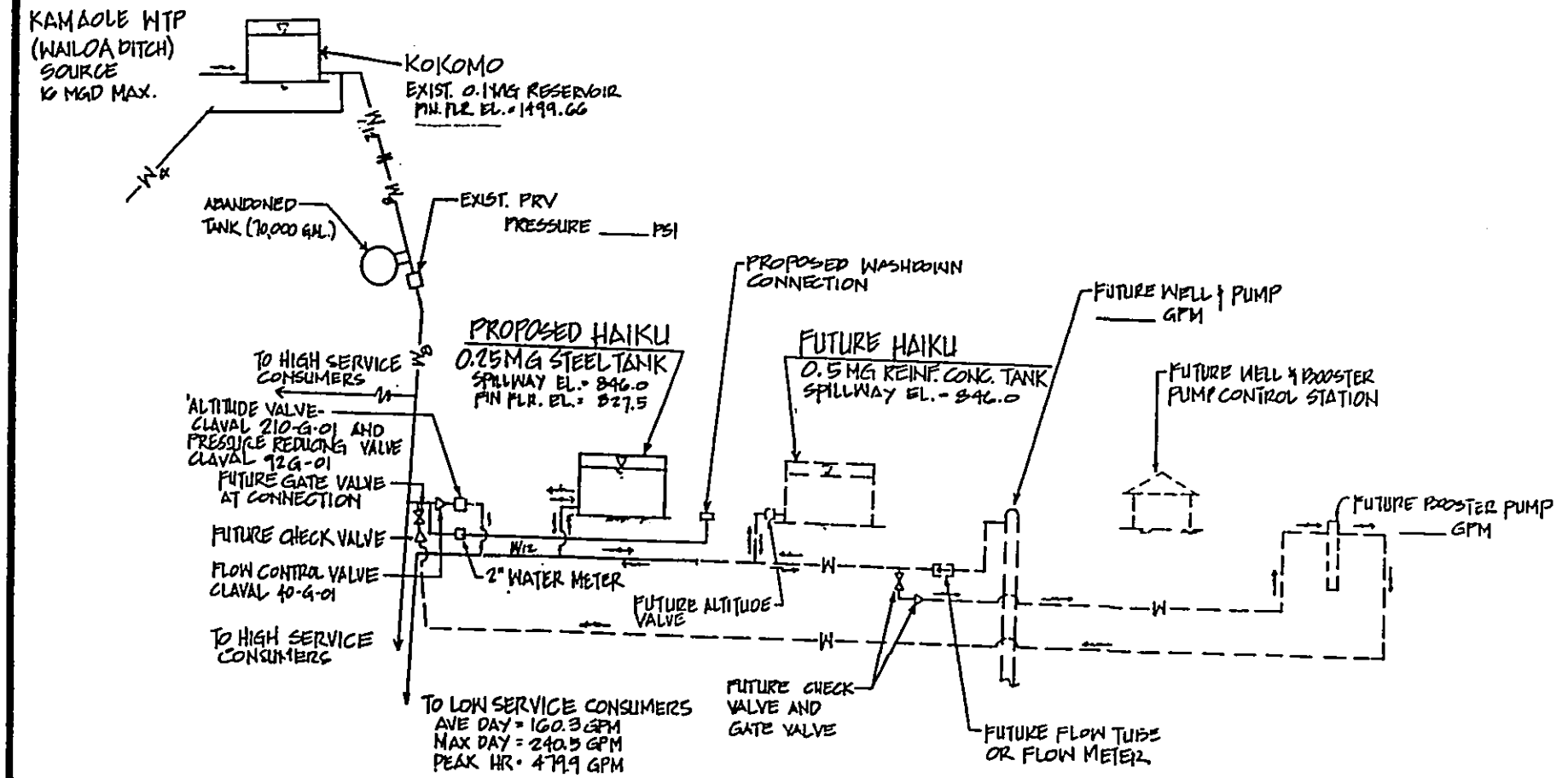


EXHIBIT 4

SCHEMATIC DIAGRAM

HAIKU TANK AND PIPELINE
HAIKU, MAUI, HAWAII

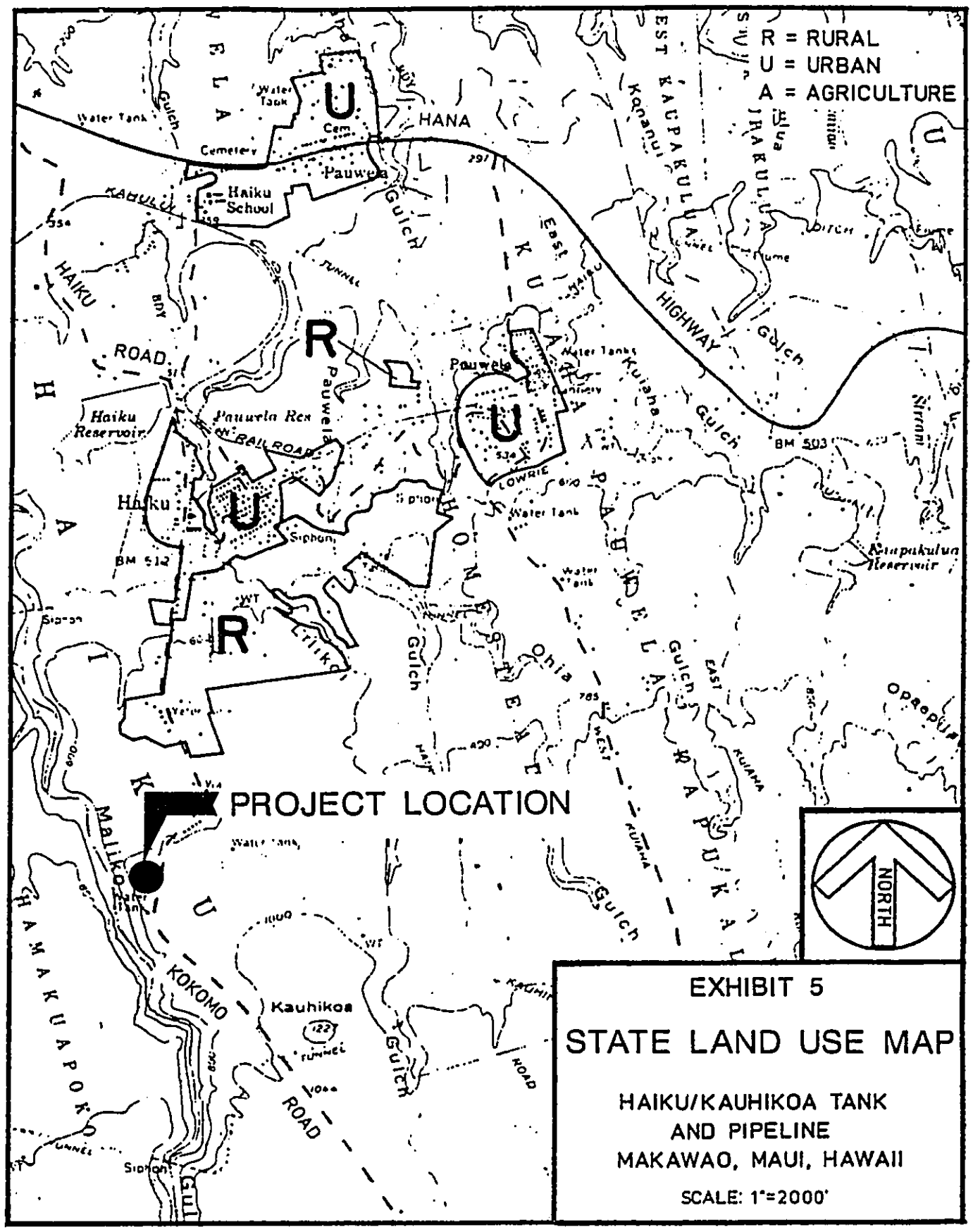


EXHIBIT 5

STATE LAND USE MAP

HAIKU/KAUHIKOA TANK
AND PIPELINE
MAKAWAO, MAUI, HAWAII

SCALE: 1"=2000'

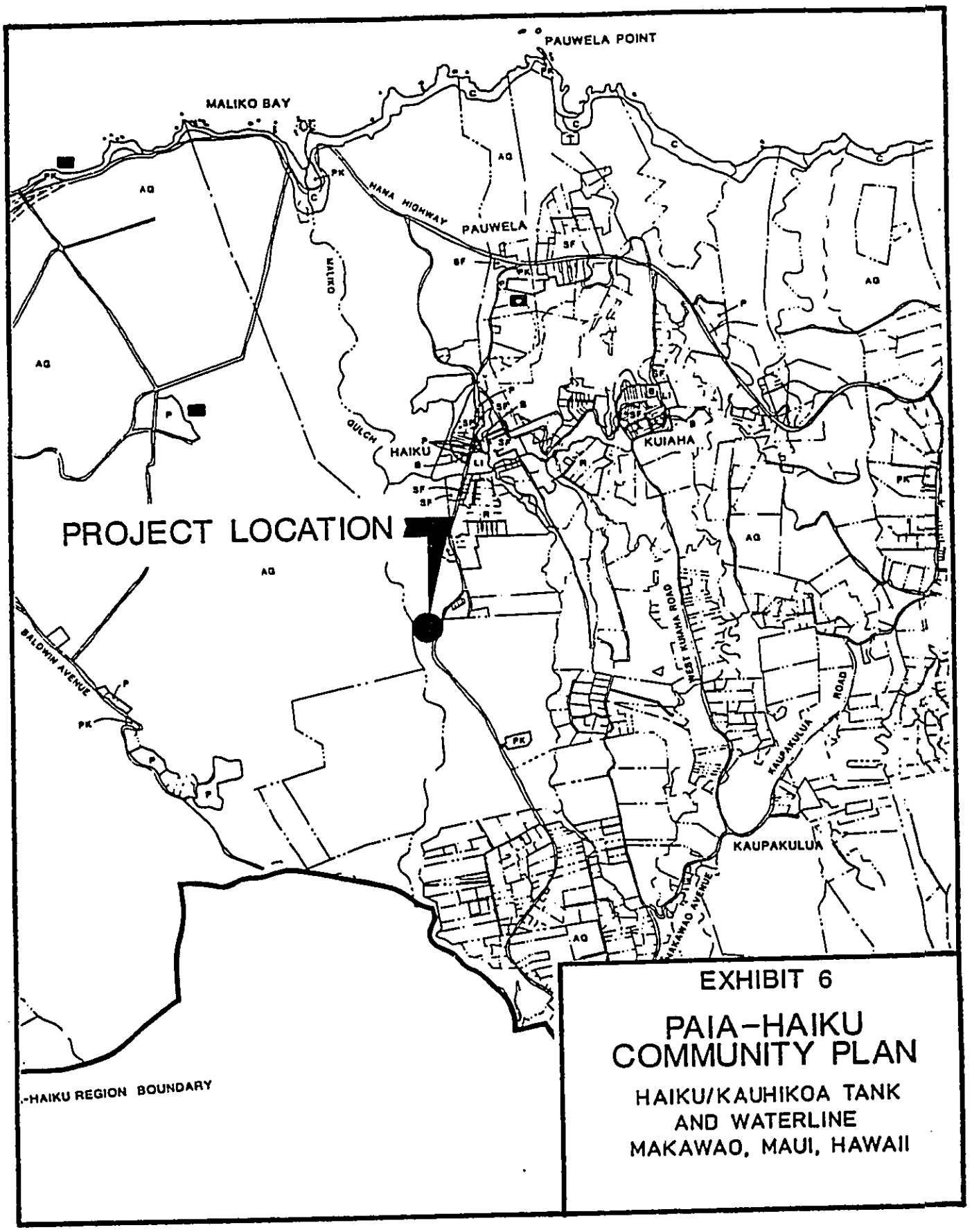


EXHIBIT 6

PAIA–HAIKU COMMUNITY PLAN

HAIKU/KAUHIKOA TANK
AND WATERLINE
MAKAWAO, MAUI, HAWAII