JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT
P. O. BOX 373
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QUALITY

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

KEITH W. AHUE
MANABU TAGOMORI
DAN T. KOCHI

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER RESOURCE MANAGEMENT

Dr. Bruce Anderson
Acting Director
Office of Environmental
Quality Control
220 S. King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Dr. Anderson:

Job No. 4-OW-22, Drilling Kapakahi Well (1746-03)
Honolulu, Oahu, Hawaii

Pursuant to Section 11 of Environmental Impact Statement Rules, transmitted for processing are four (4) copies of the Environmental Assessment and Notice of Determination (Negative Declaration) for the subject project. Also, attached is a completed OEQC Bulletin Publication Form.

If there are any questions on this matter, please have your staff contact Mr. Edward Lau of the Planning Branch at 548-7496.

Sincerely,

KAZUO G. AKITA
Manager-Chief Engineer

AM:lc

Enc.

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1991-04-08-OA-FEA

FILE COPY

ENVIRONMENTAL ASSESSMENT

AND

NEGATIVE DECLARATION

Job No. 4-OW-22

* Drilling Kapakahi Well (1746-03)

Honolulu, Oahu, Hawaii *

State of Hawaii
Department of Land and Natural Resources
Division of Water Resource Management
March 1991

NOTICE OF DETERMINATION: Negative Declaration

FOR: Job No. 4-OW-22
Drilling Kapakahi Well (1746-03)
Honolulu, Oahu, Hawaii

BY: Division of Water Resource Management
Department of Land and Natural Resources

The proposed action will have no significant effect on the environment and therefore does not require the preparation of an Environmental Impact Statement. This Notice of Determination and Environmental Assessment are being filed as a Negative Declaration.

ENVIRONMENTAL ASSESSMENT

For

Job No. 4-OW-22
Drilling Kapakahi Well (1746-03)
Honolulu, Oahu, Hawaii

I. Proposing Agency

Division of Water Resource Management
Department of Land and Natural Resources

II. Parties Consulted

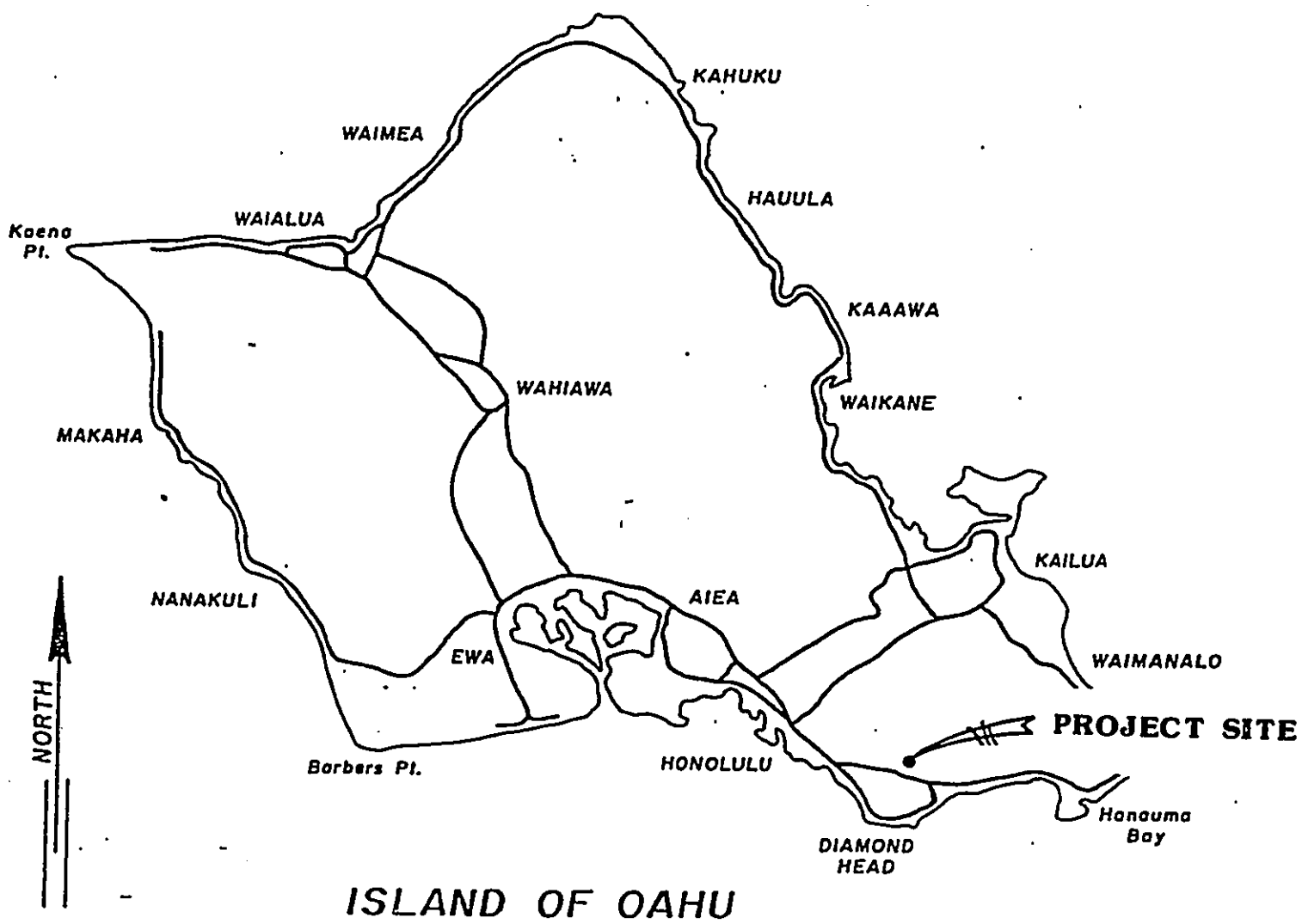
Honolulu Board of Water Supply
Bernice P. Bishop Estate
Historic Preservation Program, DLNR
Division of Forestry, DLNR

III. Project Description

This project involves the drilling, casing and testing of a 14-inch diameter well approximately 300 feet deep located in Kapakahi Gulch between Waialae Nui Ridge and Waialae Iki Ridge at approximately the 270-foot elevation (Exhibits A and B). The well site is situated approximately 0.8 miles north-easterly of the intersection of Kalanianaole Highway and Ainakoa Avenue within parcel 1 of Tax Map Key: 3-5-24 (Exhibit C). The proposed parcel is owned by B. P. Bishop Estate.

Funds for this project are available under Act 214, SLH 1979, Item A-24; and Act 1, First Special Session of 1981, Item A-8, Water Resources Investigation and Development, Oahu.

The objective of this project is to confirm and explore the full potential of a defined sector of basal water having a head of about 10 feet and extending between Kaimuki and Waialae Iki Ridge.



ISLAND OF OAHU

EXHIBIT A

DOCUMENT CAPTURED AS RECEIVED

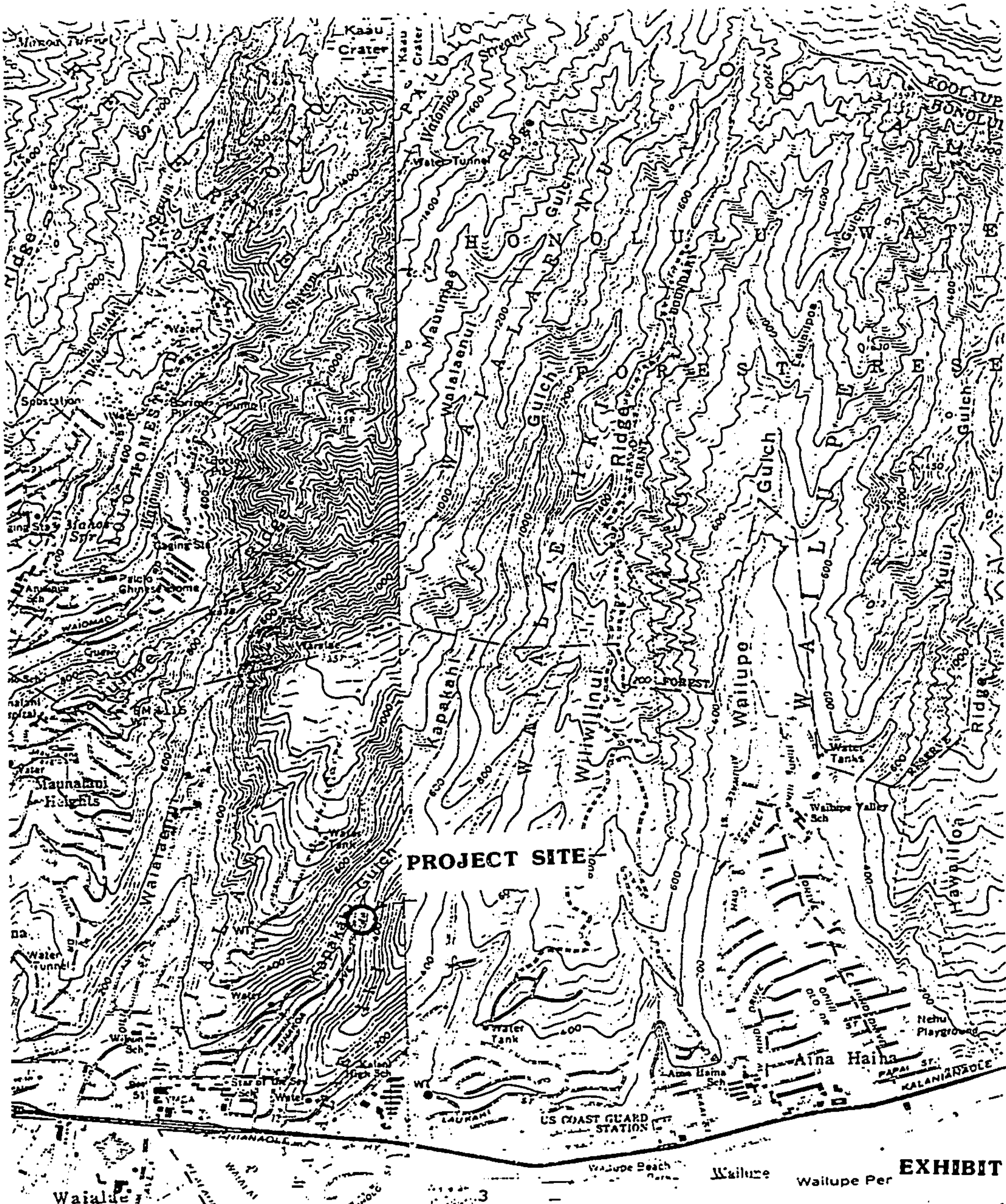
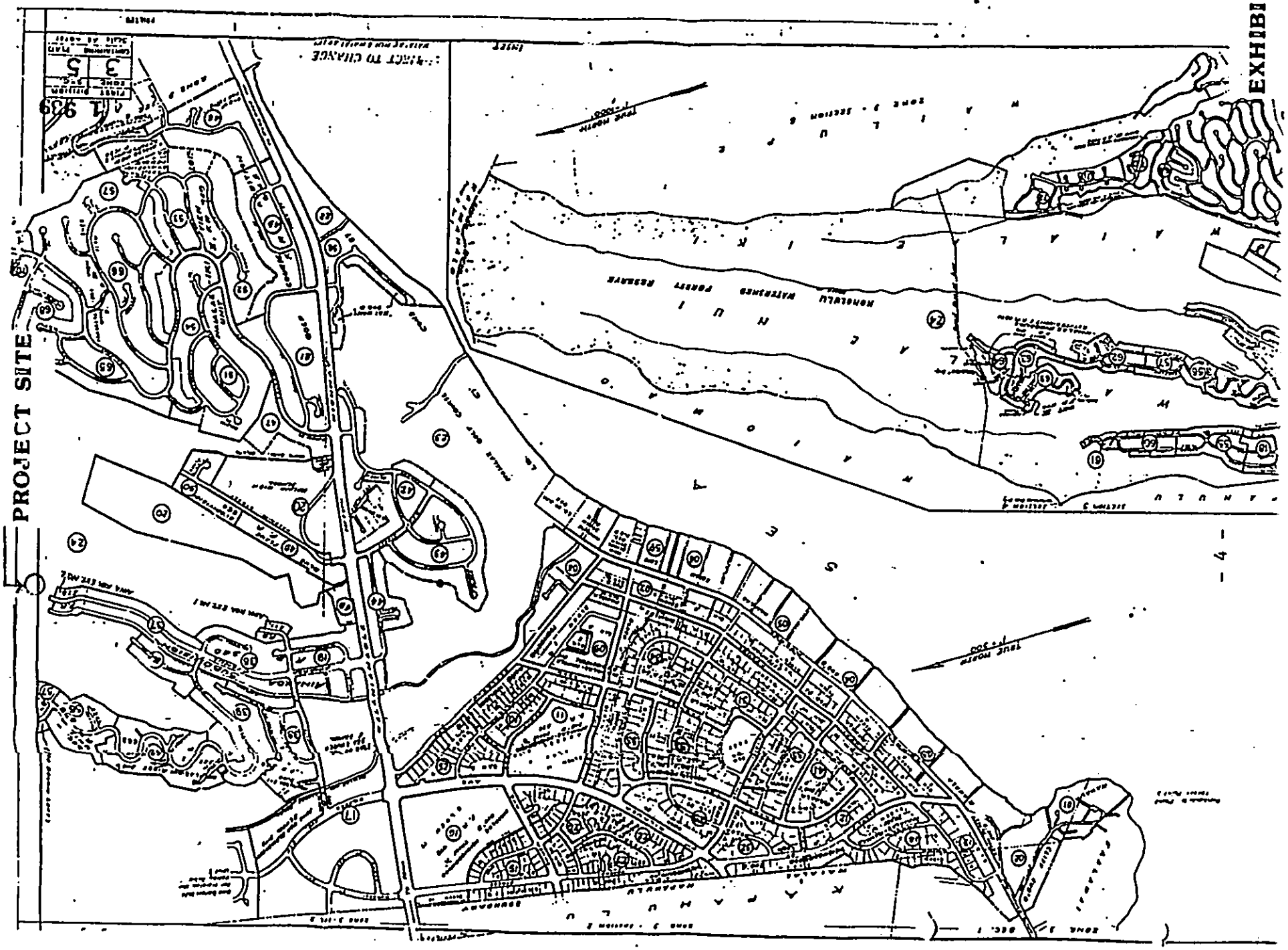


EXHIBIT B

KAPAKAHI EXPLORATORY WELL

EXHIBIT C

PROJECT SITE



DOCUMENT CAPTURED AS RECEIVED

This exploratory well drilling is part of the "Statewide Exploratory Well Drilling Program" to locate new groundwater sources and to gather geo-hydrologic data on the quality and quantity of groundwater resources. Should test results of the well prove successful, it will be turned over to the Honolulu Board of Water Supply as a water source for the Honolulu Water System. A separate environmental assessment for the development of the well will be prepared at that time.

In the event that the exploration is not successful, the well will be sealed and the area stored, as much as practical to its natural condition.

The technical characteristics of the proposed exploratory well are as follows:

Ground Elevation: 270 feet
Casing Diameter: 14 inches
Length of Solid Casing: To be determined in the field
Length of Full Flo Shutter Screen: 60 inches
Length of Open Hole: To be determined in the field
Total Depth: To be determined in the field
Duration of Pump Test: 72 to 150 hours
Proposed Pump Test Range: 300 to 1400 gpm
Length of Project: 8 months
Estimated Construction Cost: $350,000.00

IV. The Assessment Process

A geo-hydrologic study of the area was conducted to identify the potential areas for groundwater exploration. This was followed by engineering analysis to determine the improvement requirements and costs of various alternate well sites and associated environmental and social impacts. The selection of the final site was coordinated with the Honolulu Board of Water Supply. A field reconnaissance of the project area was also conducted to investigate the physical environment and confirm the earlier conclusions made from researching reference materials.

V. Description of the Environment

The proposed well site will be located in Kapakahi Gulch on the western slope of Waialae Iki Ridge approximately 200 feet beyond the end of the Ainakoa Avenue. The nearest house will be approximately 200 feet from the well site.

Kapakahi Gulch is located between Waialae Nui Ridge and Waialae Iki Ridge and extends in a northeasterly direction from the Ainakoa to the base of the Koolau Mountain. The median annual rainfall in the upper reaches of the valley is in excess of the 100 inches but diminishes

to 25 inches in the vicinity of the proposed well site. Vegetation in the vicinity of the well site is predominantly haole koa, kiawe trees and scrub brush. No endangered species of fauna or flora is expected to be in this project site.

Kapakahi Stream, located approximately 200 feet from the proposed well site, is normally dry and flows only during heavy rains.

The soil type at the proposed site is described as extremely stony clay of the Lualualei Series (LPE). This soil occurs on the talus slopes on Oahu and Kauai with slope ranging from 3 to 35 percent. Runoff is medium to rapid and the erosion hazard is moderate to severe.

The land on which the well will be located is owned by the Bernice P. Bishop Estate and is within the State Land Use designated Conservation District, General Subzone (G).

Field reconnaissance of the project site did not reveal any apparent traces of historical or archeological features. However, if any unanticipated sites or artifacts are discovered during construction, the work will be halted and the State Preservation Office will be contacted.

VI. Probable Impacts and Mitigative Measures

The anticipated impacts of the project will be from the construction work involved in site preparation, drilling and pump testing of the exploratory well.

A 20-foot wide access road approximately 250 feet long will be graded from the end of Ainakoa Avenue to the well site. An area approximately 100 feet by 200 feet will be cleared of vegetation and leveled to accommodate the drilling equipment and materials storage. The impacts of dust from clearing and grading work can be minimized by conscientious efforts of the Contractor and by strict adherence to the erosion and sediment control provisions included as part of the contract specifications.

Drilling equipment to be used include a drilling rig, drilling bits and rods, generators, and pipe racks. The Contractor is allowed 270 days to complete the work.

Noise generated during the drilling work may at times be in excess of 95 decibels. Therefore, drilling work will be restricted to the hours between 9:00 a.m. and 5:30 p.m. of the same day and as specified in Chapter 44B, Public Health Regulations. No work will be permitted during weekends and holidays without the prior consent of the Department.

After the well has been drilled to the specified depth and cased, a temporary pump will be installed to test the groundwater aquifer for yield and water quality. The pump test will be conducted over a continuous 72 to 150 hour period. The pump motor will generate a droning sound and the noise may, at times, be heard during the night. The Contractor will be required to use mufflers or other sound attenuating devices, as needed to meet applicable noise restriction regulations of the Department of Health.

During testing of the well, water will be withdrawn from the basal aquifer and discharged into natural drainage way.

Because Kapakahi Stream is normally dry and flows only during heavy rains, the withdrawal of water from the proposed well will have no effect on streamflow and aquatic biota.

VII. Alternatives

There are two possible options to the proposed project: a "no action" alternative and an alternative well site.

A "no action" alternative would preclude the investigation of groundwater sources and the possibility of adding a new water source for the area. This alternative would not meet the objectives of the project.

Alternative sites were considered for the proposed well. However, based on geo-hydrologic and topographic conditions, cost, risk and environmental and social impacts, the selected site was considered to be superior to the alternative sites.

VIII. Determination

Adverse impacts resulting from the drilling and testing of the exploratory well at Kapakahi, Oahu, Hawaii, are insignificant and temporary. Based on the findings of this environmental assessment, an Environmental Impact Statement is not required and is hereby being filed as a Negative Declaration.

References

1. Bulletin 1 - Geology and Groundwater Resource of the Island of Oahu - H. T. Stearns and K. V. Vaksvik, May, 1935.

2. Soil Survey of Island of Kauai, Oahu, Molokai, and Lanai - U. S. Soil Conservation Service, August, 1972.