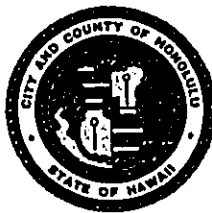


DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4427 • FAX: (808) 527-5498

JEREMY HARRIS
MAYOR



GAIL M. KAITO
Acting Director
RONALD S. LIM
Acting Deputy
Director

August 29, 1994

Mr. Bruce S. Anderson, Ph.D
Office of Environmental
Quality Control
220 So. King Street, 4th Floor
Honolulu, Hawaii 96813

OFFICE OF
QUALITY CONTROL

'94 SEP -1 P 1:54

RECEIVED

Dear Mr. Anderson:

Subject: Final Environmental Assessment (EA) for
Ewa Development Projects Drilling,
Casing & Testing - Kunia III Exploratory Wells
TMK: 9-4-137:138, Honolulu, Oahu, Hawaii

The Department of Housing and Community Development, City and County of Honolulu, has reviewed the draft EA for the subject project and has determined that there is no adverse impact to the environment; and therefore, anticipates a negative declaration determination. Please publish notice of availability for this project in the September 23, 1994, OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four (4) copies of the final EA.

Please contact Mr. John Reid at 527-5317 if there are any questions.

Sincerely,

A handwritten signature in cursive script that reads "Gail Kaito".

GAIL M. KAITO
Acting Director

Enclosures

1994-09-23-DA-FEA-Kunia III Exploratory
Wells

SEP 23 1994

Chapter 343, Hawaii Revised Statutes (HRS)

Final Environmental Assessment

EWA DEVELOPMENT PROJECTS
DRILLING, CASING & TESTING
KUNIA III EXPLORATORY WELLS

TMK: 9-4-137: 138

Prepared for:

Department of Housing and Community
Development
City & County of Honolulu

Prepared by:

Engineers Surveyors Hawaii, Inc.
and
Parametrix, Inc.

September, 1994

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I. SUMMARY

**Chapter 343, Hawaii Revised Statutes (HRS)
Environmental Assessment
For
Department of Housing & Community Development
City & County of Honolulu**

April, 1994

APPLICANT: Department of Housing & Community
Development, City & County of Honolulu

APPROVING AGENCY: Department of Housing & Community
Development, City & County of Honolulu

PROJECT NAME: Ewa Development Projects: Water Facilities

PROJECT LOCATION: Ewa, Oahu, Hawaii
Tax Map Key: 9-4-137: 138

**STATE LAND USE
DESIGNATION:** Urban

**COUNTY DEVELOPMENT
PLAN DESIGNATION:** Land Use Map: Parks & Recreation
Public Facilities Map: Park (Private Funding)
No time schedule

COUNTY ZONING: P-2, General Preservation

LANDOWNER: City & County of Honolulu
Department of Parks & Recreation

LIST OF PERMITS REQUIRED: Well Construction - State DLNR
Water Use - State DLNR
County Grading - City DPW
Noise Variance - SDOH/City -DPW
Dev. Plan Pub. Fac. Map
(Well Symbol 6 years) - Planning Dept.

II. GENERAL DESCRIPTION OF THE ACTION'S CHARACTERISTICS

A. INTRODUCTION

The Department of Housing & Community Development, City & County of Honolulu ("Department") is conducting exploratory potable water source development in the Ewa-Waipahu area. (See Location Map, Figure 1). The site is located in a City park site in the Royal Kunia Subdivision and is identified as TMK: 9-4-137: 138.

The source development will consist of drilling three exploratory wells to determine if adequate yield is available for future potable water requirements. (See Project Site Plan, Figure 2). A sustainable capacity of 3.87 million gallons per day (MGD) will be the objective of the exploratory drilling. If the exploratory well provides the desired volume of water, the next phase will be the planning and design for the source facility, storage reservoirs, and transmission lines. The production well project will also comply with Chapter 343, EIS rules.

B. TECHNICAL CHARACTERISTICS

The "Department" will be drilling three exploratory wells for potable water required for future planned residential developments in the Ewa Plains. The wells will be drilled to an average depth of 460 feet, with varying differences in depth based on terrain features and underground geological strata. The drilling phase will be put out to bid and the successful drilling contractor will employ a drilling method acceptable for the project. This exploratory drilling will provide data on well capacity and draw down and an initial chemical analysis of the water samples to determine compliance with applicable potable water quality standards.

The well site will be improved to the final design standards after yield and quality has been determined. The drilling site is at the 318' elevation and the well casings will be 14 inches interior diameter x 3/8-inch steel casing including well cover and painting, 360 linear feet of 14-inch interior diameter x 3/8-inch louvered casing, grout, gravel pack, and sand pack. Anticipated depth of drilling is expected to be approximately 460 feet including 100' of open hole. (See Figure 3, Well Detail and Figure 4, Cover Detail). The well drilling site is approximately 30 feet x 200 feet and will require a minimum of clearing and grubbing. Upon confirmation of successful yield and water quality from the exploratory drilling, a source facility will be designed and developed such that the production wells will be contained in underground vaults, and will be pumped with submersible pumps.

C. SOCIO-ECONOMIC CHARACTERISTICS

The need to provide approximately 3.87 MG is the primary purpose of complying with this section. The early disclosure nature of the E.A. is due to the fact that the project involves only the drilling of exploratory wells to determine adequate sustainable yield and potable quality. Upon final determination of acceptable quality and yield, the next phase of source facility design, storage, and transmission can more accurately state the relationship to those appropriate sections of the Ewa Community Development Plan.

D. ENVIRONMENTAL CHARACTERISTICS

The proposed drilling site is presently in vacant City owned lands. For this initial phase of exploratory work, the sites will be temporarily disturbed in the actual pre-drilling construction site preparation process. Short-term adverse impacts to the existing or ambient Air and Noise standards may be experienced. The actual work will take place in a site specific area of approximately 30' x 200', with drilling to take place with a minimum of clearing and grubbing. The drilling for the actual wells will be to depths of approximately 460 feet. Access to the three well sites is available from existing residential streets, thus eliminating the need to cut in access roads. At the conclusion of the exploratory drilling, the Department will determine whether the well sites need to be further developed.

E. FUNDING AND PHASING

This well exploratory drilling project is planned in one phase. Pending the successful ability to develop a source with the required sustainable yield, future increments will consist of Final Source development, storage (reservoir design and construction), and transmission lines. Government costs will be primarily for the overall potable water development program and will be funded by County DHCD funds.

III. THE AFFECTED ENVIRONMENT

A. GEOGRAPHICAL CHARACTERISTICS

The project site is located in the Ewa Judicial District. The major population center nearest the well drilling site is the town of Waipahu. The intersection of Kunia Road North and Interstate Highway H-1 are the closest physical landmarks to identify the subject well drilling parcel. The actual site is on City & County Parks Department lands in the Royal Kunia residential subdivision on Heahea Street and Le'ia Street. (See Figure 2).

The soils underlying the site are from lava flows from the Koolau volcanic shield. These soils are classified as Molokai Silty Clay Loam, 7 to 15 percent slopes (MuC) according to the *"Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii"* produced in 1972 by the U.S. Department of Agriculture, Soil Conservation Service. These soils occur on knolls and sharp slope breaks. Runoff is medium, and the erosion hazard is moderate. Primary use is for sugar cane, pineapple, pasture, wildlife habitats, and homesites. Annual rainfall amounts to 20 to 25 inches, most of which occurs between November and April. Natural vegetation consists of kiawe, ilima, uhaloa, feather fingergrass, and buffel grass.

The area's primary economic activity is agriculture, predominantly sugar cane production and some pineapple production. The area surrounding the drilling sites are experiencing a major transition from Agriculture to Urban-Residential, which in turn is creating the need for utilities such as potable water, etc.

B. HYDROLOGICAL CHARACTERISTICS

The project site is entirely in the Urban District and Residential R-5 zoned lands. The Flood Hazard Zone designation is "D", area of undetermined flood hazards. The proposed drilling site will be approximately 30' x 200' and should not generate on-site flooding. The balance of the area is in active urban residential use and as such, employs designed, constructed, and operating drainage systems that comply with County drainage standards.

C. BIOLOGICAL CHARACTERISTICS

There are no indigenous species of flora or fauna on the site; this is due to the historic use of the lands for agriculture, and the present urban residential land use. Any flora or fauna species found on the property are exotic or introduced species.

D. SERVICE FACILITIES

At the present time, due to the use of the lands for urban residential purposes, the demand for urban services, i.e. water, sewer, police, fire protection, electrical and telephone services has been met.

E. ARCHAEOLOGICAL SITES

According to the State Historic Preservation Division, there are no known historical or archaeological sites on the project drilling site. Because the proposed well sites are located in or adjacent to established urban residential development, it is unlikely that historic sites are present. In the event that the minimal site clearing required reveal any sites, the Historic Preservation Division of the Department of Land and Natural Resources will be notified and all construction work will be halted until a determination has been made of the site's value.

F. AESTHETICS AND VISUAL CHARACTERISTICS

There will be no adverse long term visual or aesthetic impacts since the well drilling will be done below grade; however, the Control Building will be developed adjacent to the well sites, and will be designed to conform with the Parks & Recreation department policies on aesthetics.

G. RELATIONSHIP TO EXISTING LAND USE, POLICIES, PLANS, AND CONTROLS

1. All drilling is taking place within the Urban District as indicated on the State Land Use District Boundary maps.
2. The County Zoning is P-2, General Preservation.
3. The Public Facilities Land Use Map designation is for Parks & Recreation, while the Public Facilities Land Use Map is for Park (Private Funding). No time schedule.

IV. SUMMARY OF MAJOR IMPACTS AND MITIGATION MEASURES

The proposed action is not expected to result in significant adverse environmental impacts. Any impacts resulting from the subject action will be temporary and related to the actual drilling practices. The proposed action is to explore the availability of adequate sources of potable quality water and the initial phase of well drilling will not create adverse environmental impacts on the respective site or surrounding area. The following impacts will be mitigated as follows:

1. Stream flow and environment: The well site is within an established urban residential area (Proposed park site) and as such, is not adjacent to a stream. The closest stream is the Waikele Stream, and impacts to the stream flow will not be a factor since the water level in the cased well is expected to be significantly below the streams' elevation.
2. Noise: There will be noticeable levels of noise during the 24 hour 5 day sustained pumping test. This noise will be mitigated with baffling, and will be a temporary intrusion on the residential community noise standards established by the Department of Health.
3. Dust and Erosion Control: In view of the limited clearing, grubbing, and grading of the well site, adequate mitigation of the fugitive dust can be accomplished with a water wagon. Erosion control should not be a problem since the well site will be limited in size; erosion control measures can be implemented if considered necessary.
4. Test Pump Water Discharge points: The park site has an established drainage system contained in the park's perimeter walls. (See Figure 2, Site Plan). These are the 18" and 24" RCP drains and will adequately provide discharge release points for the test pump water. Energy dissipators will not be necessary since the release points can be made directly into the RCP drains.
5. The Contractor will also employ Best Management Practices (BMP) to prevent suspended solids from entering the drainage system. This will be determined in the final drawings for implementation by the well drilling contractor. This is to insure that the State Water Quality standards are maintained.
6. Disruption of Park activities will be limited to construction duration. Although the usable park area is being reduced, the site was chosen in coordination with the Department of Parks and Recreation to not conflict with long-term park plans.

V. ALTERNATIVES CONSIDERED

A. DO-NOTHING ALTERNATIVE

The City & County of Honolulu has experienced phenomenal urban growth in the past decade and consequently, the demands for potable quality water will soon exceed the ability to provide potable water. This project is to determine availability of potable water in terms of yield and quality only; as such, it is designed to provide needed data to make decisions on future water availability.

B. ALTERNATIVE SITES

At the present time, the Department will determine the need for alternative well exploratory development if this site does not provide the well capacity and draw down anticipated.

C. ALTERNATIVE ACTIONS

The availability of agricultural water due to the impending demise of Oahu Sugar Company will provide the State Commission of Water Resource Management, Department of Land and Natural Resources certain options to make water available to the Board of Water Supply. It is premature to consider this option, but it can be considered in long term future planning for water source development.

VI. DETERMINATION, FINDINGS AND REASONS SUPPORTING DETERMINATION

After completing an assessment of the potential environmental effects of the proposed exploratory well drilling and consulting with other governmental agencies, it has been determined that an Environmental Impact Statement (EIS) is not required. Therefore, the Department anticipates the issuance of a Negative Declaration.

1. The proposed action consists primarily of drilling an exploratory well to determine adequate yield and quality for future demand.
2. There will be no permanent degradation of existing ambient air and noise quality levels. During the actual drilling, there will be minor air pollution and noise resulting from the actual drilling, but these will not be permanent and will be within the State Department of Health Air Quality Standards.
3. There are no known endangered species of animal or plants within the project drilling sites.
4. There are no natural, historic, or archaeological sites within the project drilling sites.
5. The project is consistent with the Department's plans for water source development. Exploratory well development by the Department is a permitted use by the County's Public Facilities Land Use Maps and P-2 General Preservation zoning designations.
6. This project, if successful as planned, will provide the County with the necessary data to continue development of this potential source of potable water. Any adverse impacts of the proposed project have been determined to be insignificant. The applicant will comply with applicable statutes, ordinances, and rules of the Federal, State, and County governments during the implementation of the actual drilling phase. Exploratory drilling is consistent with County Zoning Ordinances.

**VII. LIST OF AGENCIES CONSULTED IN THE PREPARATION OF
THE ENVIRONMENTAL ASSESSMENT.**

ORGANIZATIONS AND AGENCIES:

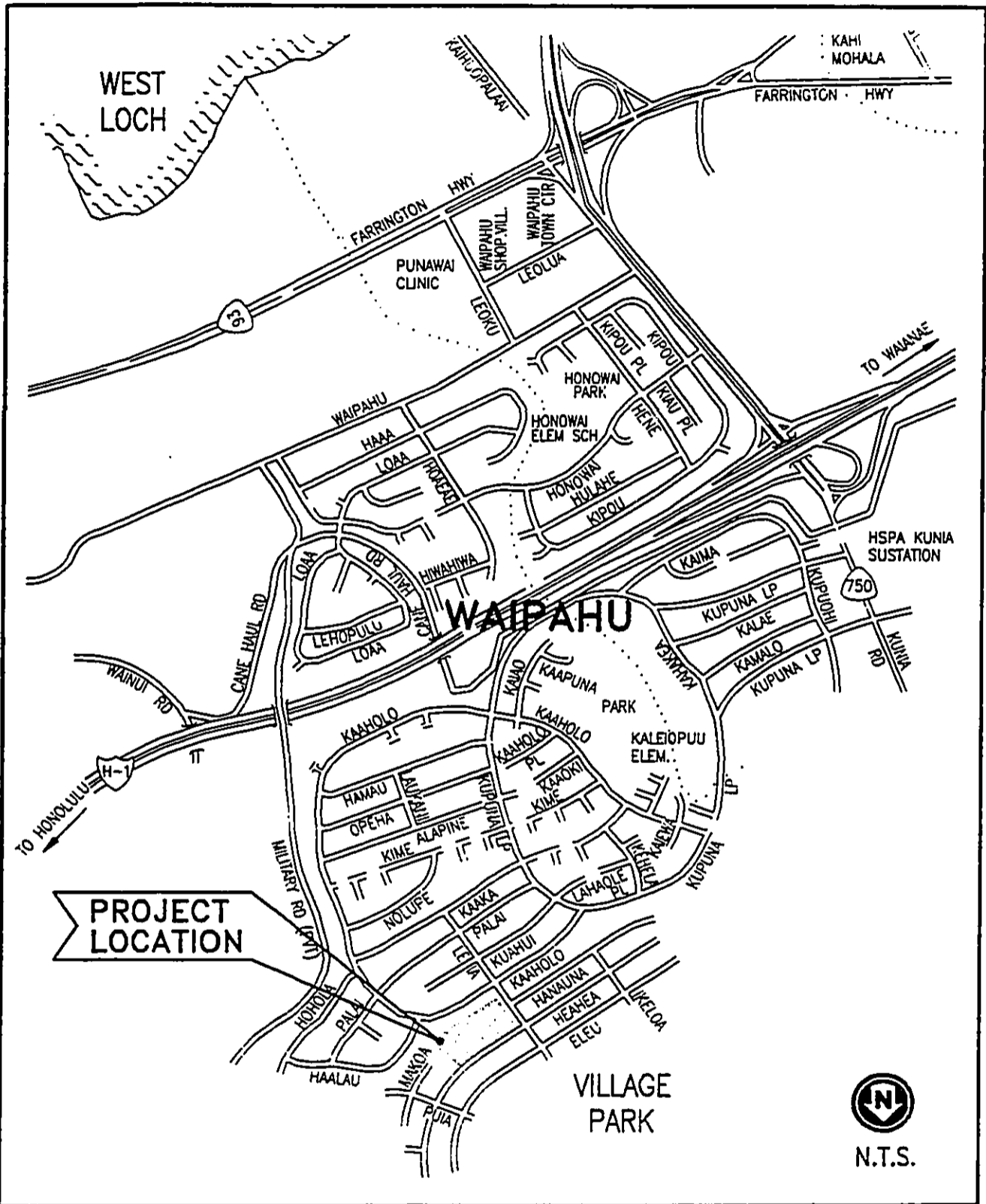
<u>Agency</u>	<u>Date of Consultation</u>	<u>Date Comment Received</u>
<u>State of Hawaii</u>		
Mr. Harold Masumoto, Director Office of State Planning		
Mr. Keith W. Ahue, Chair State Dept. of Land & Natural Resources		
Mr. John T. Harrison Environmental Center, UH-Manoa	July 7, 1994	July 11, 1994
Mr. T. Harano, Chief Highways Division State Dept. of Transportation		
Mr. Mufi Hanneman, Director Department of Business and Economic Development		
<u>City & County of Honolulu</u>		
Mr. Robin Foster Dept. of General Planning		
Mr. Donald A. Clegg, Director Dept. of Land Utilization		
Mr. Kenneth E. Sprague, Ch. Engr. Dept. of Public Works		
Mr. Joseph N. Magaldi, Director Dept. of Trans. Services		
Mr. Michael S. Nakamura, Chief Honolulu Police		
Mr. Donald S. M. Chang, Chief Honolulu Fire Department		
Mr. Kazu Hayashida, Manager Board of Water Supply		
Mr. Walter M. Ozawa, Director Dept. of Parks & Recreation		
Waipahu Neighborhood Board # 22		
Ewa Neighborhood Board No. 23		

VIII. LIST OF PREPARERS

Engineers Surveyors Hawaii, Inc.
Project Management

Board of Water Supply
Hydrology, Geology

Parametrix, Inc.
Environmental Assessment Preparer

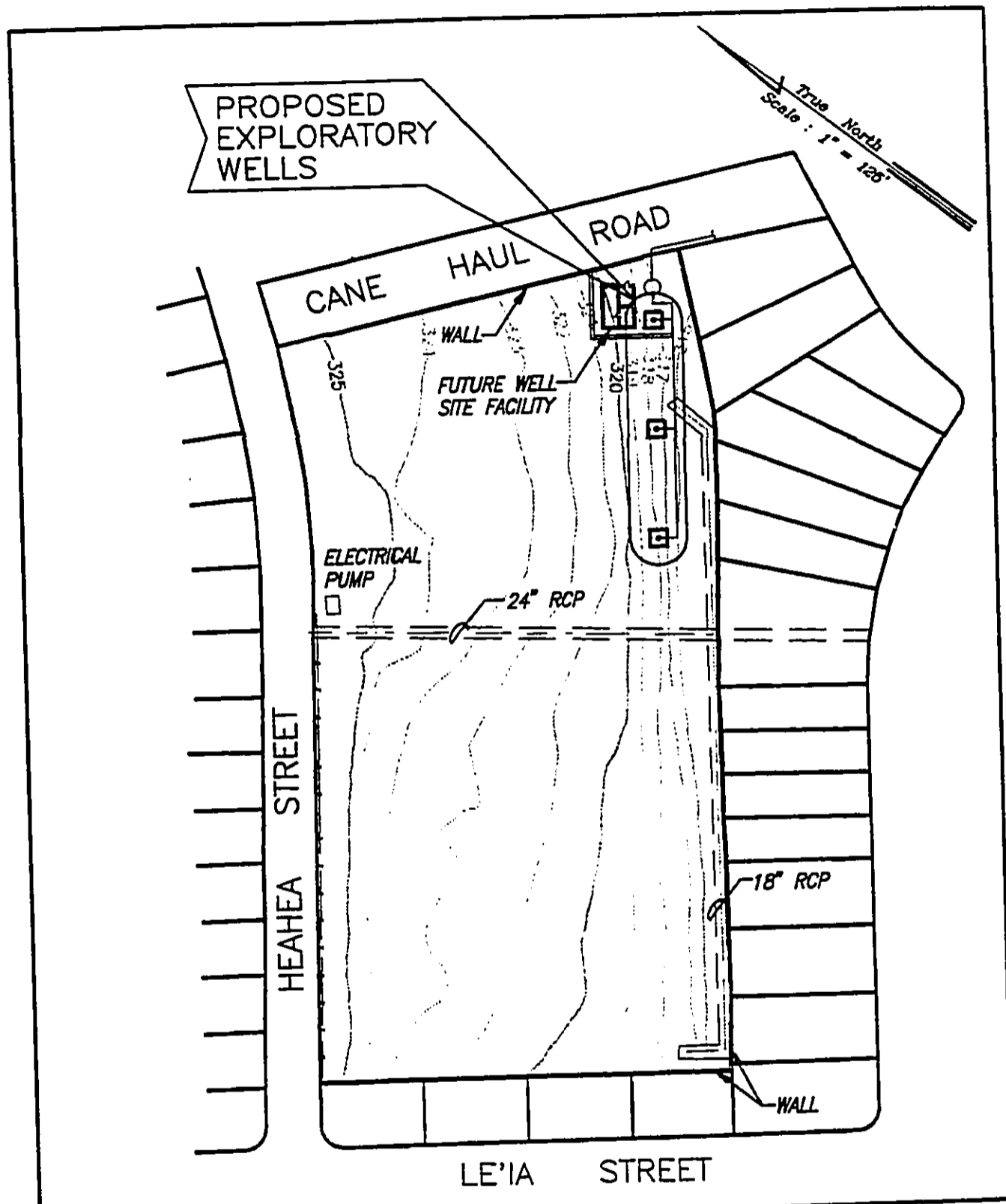


LOCATION MAP

FIGURE 1

JOB
 KUNIA III EXPLORATORY WELLS:
 DRILLING, CASING, AND TESTING ONE WELL
 EWA, OAHU, HAWAII

SHEET 1 OF 5 SHEETS



PROPOSED
EXPLORATORY
WELLS

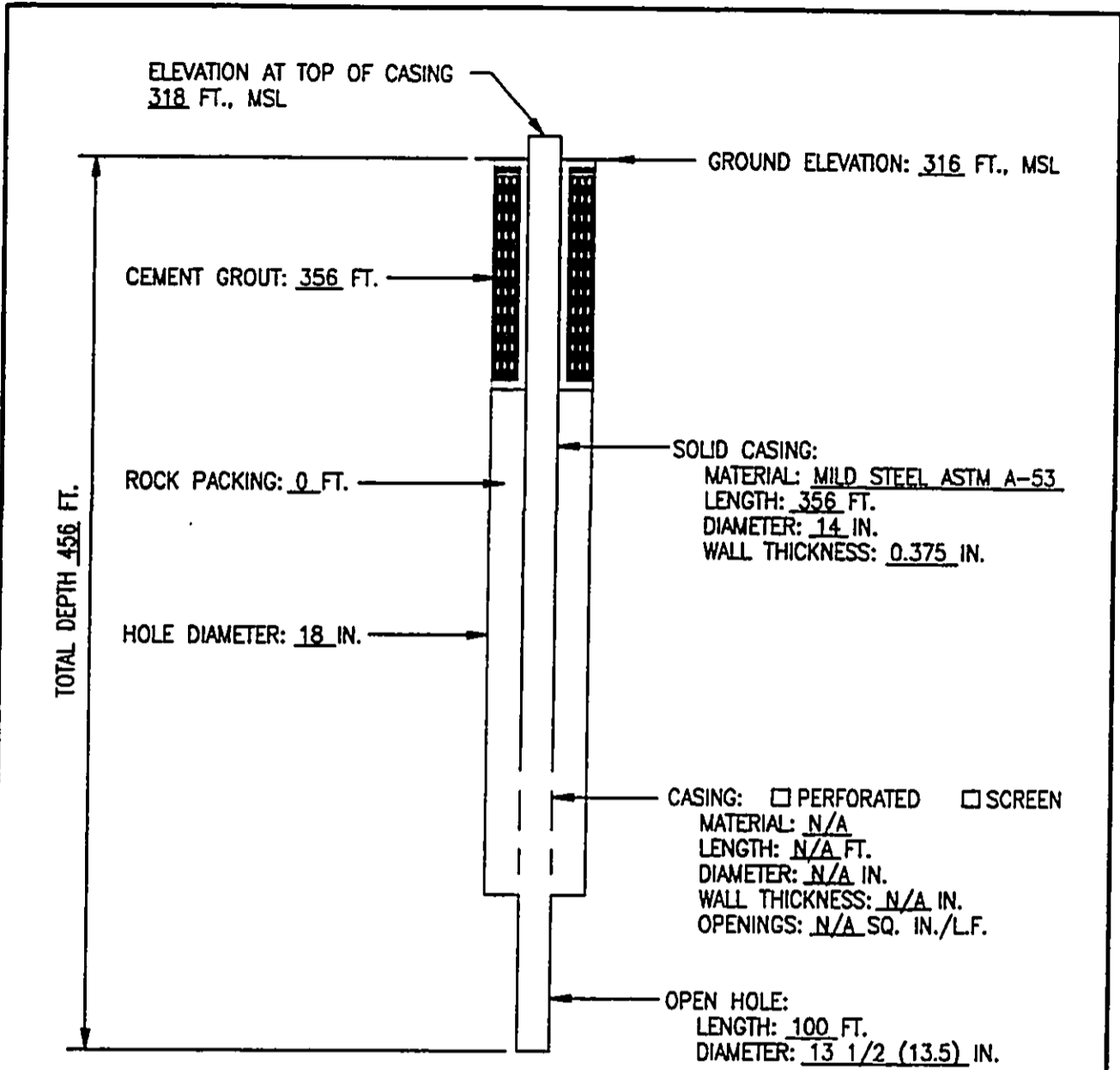
True North
Scale : 1" = 125'

SITE PLAN

JOB
KUNIA III EXPLORATORY WELLS:
DRILLING, CASING, AND TESTING ONE WELL
EWA, OAHU, HAWAII

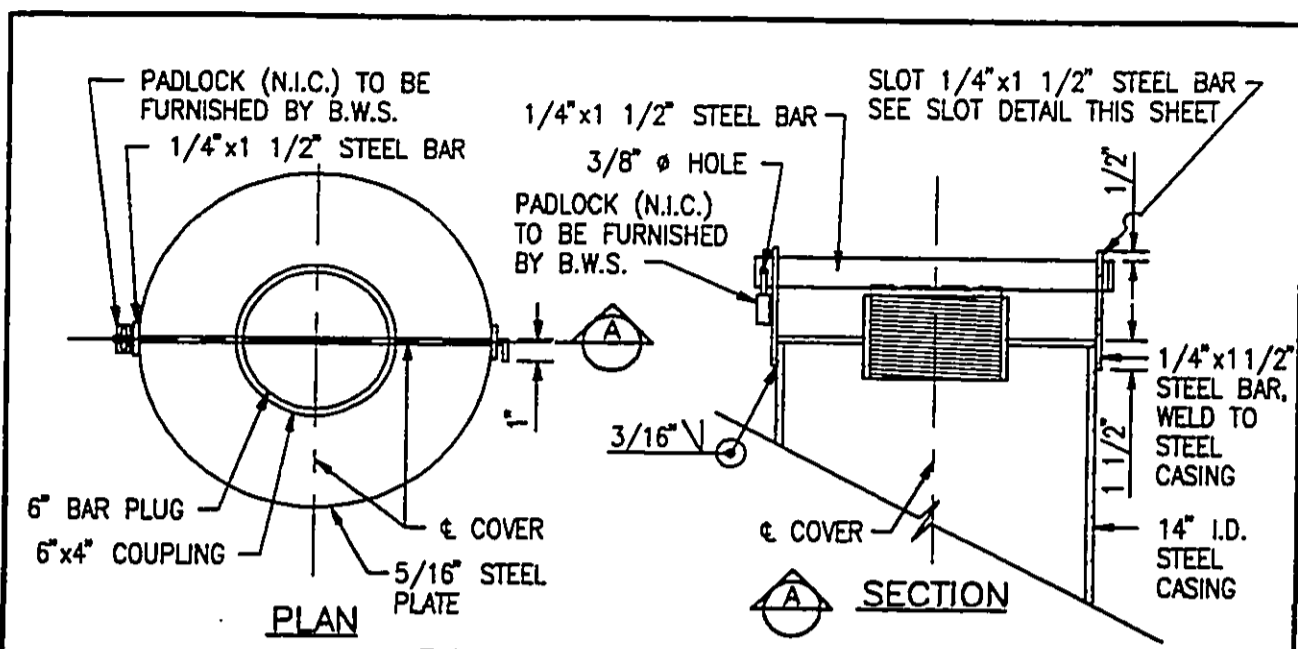
FIGURE 2

SHEET 2 OF 5 SHEETS

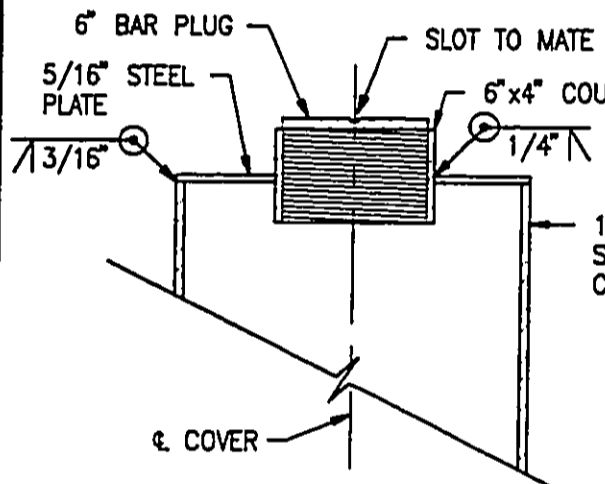


PROPOSED WELL SECTION
NOT TO SCALE

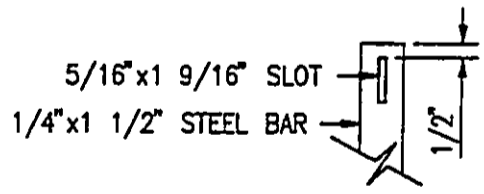
WELL DETAIL	JOB KUNIA III EXPLORATORY WELLS:
FIGURE 3	DRILLING, CASING, AND TESTING ONE WELL EWA, OAHU, HAWAII



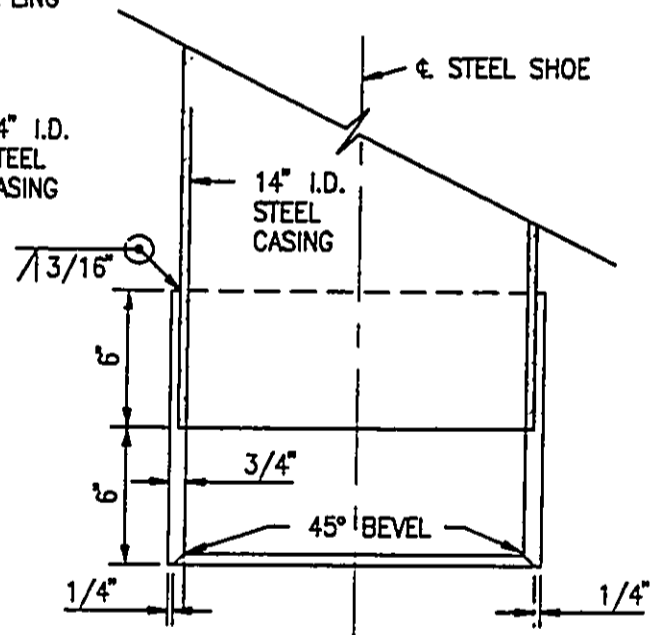
BAR CAP LOCK DETAIL
NOT TO SCALE



COVER DETAIL
NOT TO SCALE



SLOT DETAIL
NOT TO SCALE



STEEL SHOE DETAIL
NOT TO SCALE

COVER DETAIL	JOB KUNIA III EXPLORATORY WELLS: DRILLING, CASING, AND TESTING ONE WELL EWA, OAHU, HAWAII
FIGURE 4	SHEET 4 OF 5 SHEETS

NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATUTES, ORDINANCES, RULES AND REGULATIONS OF THE FEDERAL, STATE AND COUNTY GOVERNMENTS, AND APPLICABLE PARTS OF SECTION 13-2-21, ADMINISTRATIVE RULES, AS AMENDED.
2. THE CONTRACTOR, ITS SUCCESSORS AND ASSIGNS, SHALL INDEMNIFY AND HOLD THE STATE OF HAWAII AND IT'S LESSEES HARMLESS FROM AND AGAINST ANY LOSS, LIABILITY, CLAIM OR DEMAND FOR PROPERTY DAMAGE, PERSONAL INJURY AND DEATH ARISING OUT OF ANY ACT OR ACTIVITY OF THE CONTRACTOR, ITS SUCCESSORS AND ASSIGNS.
3. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE DEPARTMENT OF HEALTH ADMINISTRATIVE RULES.
4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT CONSTRUCTION MATERIALS, DEBRIS, PETROLEUM DERIVATIVES AND OTHER POTENTIAL CONTAMINANTS FROM ENTERING NEARBY STREAMS, DITCHES, WATERWAYS, OR POLLUTING THE SURROUNDING AREA.
5. THE CONTRACTOR SHALL RESTORE, WITHIN NINETY (90) DAYS FROM COMPLETION, ALL GROUND EXPOSED OR DISTURBED DURING THE PROJECT.
6. THE CONTRACTOR SHALL RE-VEGETATE ALL EXPOSED AND DISTURBED GROUND WITHIN THIRTY (30) DAYS AFTER COMPLETION OF THE RESTORATION IN NOTE 5.
7. ACCESS TO THE WELL SITE SHALL BE COORDINATED WITH THE BOARD OF WATER SUPPLY AND DEPARTMENT OF PARKS AND RECREATION, CITY AND COUNTY OF HONOLULU. THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS WITH OAHU SUGAR COMPANY FOR ACCESS VIA THE GATED EASEMENT ADJACENT TO THE PARK SITE, IF SO DESIRED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING ROADWAYS AND ABUTTING PROPERTIES AND SHALL TAKE WHATEVER PRECAUTIONS NECESSARY.

NOTES	JOB KUNIA III EXPLORATORY WELLS: DRILLING, CASING, AND TESTING ONE WELL EWA, OAHU, HAWAII SHEET 5 OF 5 SHEETS
FIGURE 5	



RECEIVED
JUL 11 1994

University of Hawai'i at Mānoa

PARAMETRIX, INC.
HONOLULU

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

July 7, 1994
EA:0069

Mr. Michael Shiroma
City and County of Honolulu
Department of Housing and Community Development
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Shiroma:

Draft Environmental Assessment (EA)
Kunia III Exploratory Wells
Waipahu, Oahu

The referenced document addresses a proposal to drill three exploratory wells in Kunia with an anticipated yield of 3.87 million gallons per day (MGD) of potable water for future residential developments in the Ewa Plains.

We have reviewed the draft EA with the assistance of Henry Gee, Water Resource Research Center; Yu-Si Fok, Civil Engineering; David Penn, Geography; and Malia Akutagawa of the Environmental Center.

Our reviewers have some reservations as to whether the document adequately complies with Section 11-200-12 of the Hawaii Administrative Rules (HAR). Section 11-200-12 (a) requires that:

agencies shall consider the sum of effects on the quality of the environment ... and cumulative effects of an action.

Section 11-200-12 (b) clearly states that agencies must consider:

every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short and long-term effects ...

The following comments focus on particular areas in which we are concerned that the document fails to address significant impacts of the project on the environment:

Mr. Michael Shiroma
July 7, 1994
Page 2

Section 11-200-12 (b) (8). Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.

Splitting Environmental Review Process

In similar draft EAs for other exploratory wells, government agencies have specified that additional draft EAs would be prepared for subsequent production from the well. The statement that "the production well project will also comply with Chapter 343, EIS rules" should be more explicit to this effect.

Such an approach raises the question of whether submitting two separate EAs for a single well (exploratory and production phases) violates Section 11-200-12 (b), HAR provisions against splitting environmental review of what is actually a single project into multiple reviews of a series of smaller component projects.

Sustainable Yield Capacity

The draft EA should identify the subject aquifer system and map the occurrence of nearby surface water, drainage systems, and wells. The impact of the proposed project on the groundwater aquifer must be assessed in conjunction with all other existing wells, current usage levels, and sustainable yield figures.

If regional water demand exceeds sustainable yields, salt water intrusion is likely to make the water brackish and nonpotable.

Sugar production will be phased out as of 1995. Will there be a surplus of water that could be dedicated to urban residential use, or, in actuality, will there be a loss of recharge of the Ewa Caprock Aquifer from irrigation?

The following information was given by the Commission on Water Resource Management. There are two well fields on Kunia Road (Kunia I and II), two well fields in Waipahu, two owned by Oahu Sugar Co., one owned by the Navy, and one Mililani well upstream of the proposed Kunia III project. Current urban domestic use is 60 MGD from the Pearl Harbor Aquifer and 50 MGD is extracted by Oahu Sugar. The sustainable yield figure for the Pearl Harbor Aquifer is 164 MGD.

Moratorium on Groundwater

Pearl Harbor Basin's groundwater was declared under moratorium for further development by the Department of Land and Natural Resources (DLNR). The Kunia III

Mr. Michael Shiroma
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Page 3

project site is within this control boundary. Under these circumstances, this project is impermissible at present.

Section 11-200-12 (b) (4). Substantially affects the economic and social welfare of the community or State.

Socio-Economic Concerns

The need to provide approximately 3.87 MGD of potable water (regardless of the source it may eventually come from) is an important socio-economic characteristic with potential impacts that should be addressed at this stage of the review process. The proposed project requires substantial financial investment; thus, its "relationship to those appropriate sections of the Ewa Community Development Plan," as well as the Hawaii Water Plan, and other instruments of public policy should not be postponed but carefully considered.

Section 11-200-12 (b) (1). Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.

Stream Flow

The draft EA states that Waikele Stream is the closest stream to the project site and that stream flow will not be impacted. The document should be more specific as to the location of Waikele Stream in relation to the work site; this has not been shown in any of the accompanying maps.

Impacts to stream flow cannot be dismissed merely because "the water level in the cased well is expected to be significantly below the stream's elevation," since this groundwater could be discharging to the stream at lower elevations (p. 6). Physical relationships between groundwater and stream flow in the project vicinity should be explained in detail. The Board of Water Supply informed us that the lower section of Waikele Stream is fed by spring flow; therefore, the direct source is the water table. If the proposed wells pump from this basal water, stream flow will be affected directly. In determining whether this project will significantly affect stream flow, this question must be asked within the context of what is the current usage level from already existing wells.

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Page 4

Stream Fauna

Assuming that stream flow and stream level may be directly impacted by the proposed project, the draft EA should consider whether these parameters are important to certain aquatic species common in Waikele Stream.

The Commission on Water Resource Management has noted that a survey conducted on Waikele Stream revealed that, despite the influx of introduced species to the lower regions, there is a large population of the goby, o'opu nakea (*Awaous stamineus*), present upstream of the proposed project in the Kunia tributary. This species is not listed as endangered; however, it is native to Hawaii. The o'opu is amphidromous, with adults spawning near the mouth of the estuary, and day old hatchlings emigrating to the sea and later migrating upstream as post-larviids. During the survey, several post-larviids were found at the mouth of Pearl Harbor as they attempted a return journey upstream. How will this project, taken together with all the existing well structures and modifications (damming and channelization) done to Waikele Stream, affect the migration of the o'opu? Are stream levels critical to the upward and downward migration of this species?

Sources of evidence (e.g., botanical surveys, stream surveys of aquatic species, etc.) supporting the statement that there "are no indigenous species of flora or fauna on (or near) the site" must be cited (p. 4). Observations of "kiawe, ilima, uhaloa, feather fingergrass, and buffel grass" as dominant composites of the natural vegetation occurring at the site are indicative of a dry area (p. 4). Is there, realistically, enough water to support further development in the Ewa region? What are the chances that there is enough water to support an uptake of 3.87 MGD in addition to current uptake by surrounding wells?

Archaeological and Cultural Significance

More effort needs to be exerted in determining whether the site has particular cultural significance apart from the actual presence of natural, historic, or archaeological sites. The finding that historic sites are probably not present since "the well sites are located in or adjacent to established urban residential development" is an assumption unsupported by any hard evidence (p. 5). Archaeological and cultural reconnaissance surveys and information-gatherings should be conducted before any project construction work begins so that potential adverse impacts to cultural features, remains, and integrity can be identified and completely avoided. Even "minimal site clearing" can be highly destructive and should not proceed until ground-based studies are completed (p. 5). The proposed action of halting work and notifying the Historic Preservation Division, DLNR should any cultural site be revealed is inadequate. The purpose of Chapter 343, HRS is to identify potential environmental and cultural impacts before damage is done and becomes irreversible.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

Mr. Michael Shiroma
July 7, 1994
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Stream Fauna

Assuming that stream flow and stream level may be directly impacted by the proposed project, the draft EA should consider whether these parameters are important to certain aquatic species common in Waikele Stream.

The Commission on Water Resource Management has noted that a survey conducted on Waikele Stream revealed that, despite the influx of introduced species to the lower regions, there is a large population of the goby, o'opu nakea (*Awaous stamineus*), present upstream of the proposed project in the Kunia tributary. This species is not listed as endangered; however, it is native to Hawaii. The o'opu is amphidromous, with adults spawning near the mouth of the estuary, and day old hatchlings emigrating to the sea and later migrating upstream as post-larviids. During the survey, several post-larviids were found at the mouth of Pearl Harbor as they attempted a return journey upstream. How will this project, taken together with all the existing well structures and modifications (damming and channelization) done to Waikele Stream, affect the migration of the o'opu? Are stream levels critical to the upward and downward migration of this species?

Sources of evidence (e.g., botanical surveys, stream surveys of aquatic species, etc.) supporting the statement that there "are no indigenous species of flora or fauna on (or near) the site" must be cited (p. 4). Observations of "kiawe, ilima, uhaloa, feather fingergrass, and buffel grass" as dominant composites of the natural vegetation occurring at the site are indicative of a dry area (p. 4). Is there, realistically, enough water to support further development in the Ewa region? What are the chances that there is enough water to support an uptake of 3.87 MGD in addition to current uptake by surrounding wells?

Archaeological and Cultural Significance

More effort needs to be exerted in determining whether the site has particular cultural significance apart from the actual presence of natural, historic, or archaeological sites. The finding that historic sites are probably not present since "the well sites are located in or adjacent to established urban residential development" is an assumption unsupported by any hard evidence (p. 5). Archaeological and cultural reconnaissance surveys and information-gathering should be conducted before any project construction work begins so that potential adverse impacts to cultural features, remains, and integrity can be identified and completely avoided. Even "minimal site clearing" can be highly destructive and should not proceed until ground-based studies are completed (p. 5). The proposed action of halting work and notifying the Historic Preservation Division, DLNR should any cultural site be revealed is inadequate. The purpose of Chapter 343, HRS is to identify potential environmental and cultural impacts before damage is done and becomes irreversible.

Mr. Michael Shiroma
July 7, 1994
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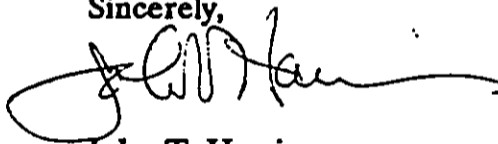
requiring greater detail and specificity are: history of water usage in the Waipahu, Ewa-Plains area; Waikele Stream, modifications done to it, and aquatic species composition as they relate to the proposed project; current water use from all wells and sustainable yield figures; soil characteristics and how its permeability and slope affect water retention or runoff; actual survey studies on archaeological and cultural sites on or in the vicinity of the well area; and potential socio-economic impacts.

Figure 1, Location Map needs a map scale.

For the reasons enumerated above, we conclude that the Draft EA on the proposed Kunia III, Exploratory Wells project is deficient in meeting all the requirements of Section 11-200-12 of the Hawaii Administrative Rules.

Thank you for the opportunity to review this Draft EA.

Sincerely,



John T. Harrison
Environmental Coordinator

cc: OEQC
Parametrix, Inc.
Roger Fujioka
Yu-Si Fok
Henry Gee
David Penn
Malia Akutagawa

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JEREMY HARRIS
MAYOR

GAIL M. KAITO
Acting Director

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Acting Deputy
Director

August 8, 1994

Mr. John T. Harrison
Environmental Center
2550 Campus Road
Honolulu, Hawaii 96822

Dear Mr. Harrison:

Subject: Comments dated July 7, 1994 on Proposed Wells
Kunia Exploratory Wells III

We have received your office's comments dated July 7, 1994 on the above project and we respond as follows:

With all due respect, we do not concur with your position that the subject Environmental Assessment prepared by our office does not adequately comply with the provisions of Section 11-200-12 of the Hawaii Administrative Rules. We are maintaining the basic position that the three exploratory wells described in the subject document are exactly that, exploratory wells, and not production wells.

Regarding the splitting of the environmental review process, it is the intent of the engineering consultant under our supervision to prepare and process a full Environmental Impact Statement that will discuss the total impacts alluded to in your agency's comments. At the present time, the subject Environmental Assessment clearly describes the anticipated impacts and is in the process of establishing a clearly defined Environmental Assessment document that will describe in a timely manner, the concerns you have made.

In conclusion, it should be clear the environmental assessments are disclosure documents and that all efforts should be made to protect the integrity of the subject parcel and its adjacent environs. Please don't hesitate to contact our office and we will be glad to meet with you and your staff.

Sincerely,
Original signed by
Gail M. Kaito

GAIL M. KAITO
Acting Director

cc: Bob Watari, Engineers Surveyors Hawaii
Fred Rodrigues, Parametrix ,