

CITY AND COUNTY OF HONOLULU

BOARD OF WATER SUPPLY

ENVIRONMENTAL ASSESSMENT

FOR

GRANULAR ACTIVATED CARBON WATER TREATMENT SYSTEM

AT

WAIPAHA WELLS

WAIPAHA, EWA, OAHU, HAWAII

TAX MAP KEY: 9-4-07:16

This Environmental Document
is Prepared Pursuant to Chapter 343, HRS

by

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ENVIRONMENTAL ASSESSMENT

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I. Description of the Proposed Project

A. Location

The Board of Water Supply of the City and County of Honolulu (BWS) proposes to construct a granular activated carbon (GAC) water treatment system in Waipahu, Ewa, Oahu, Hawaii (Figure 1). It will be located at the Waipahu Wells site on Mahoe Road north of the H-1 Freeway and west of Kamehameha Highway.

B. Need for the Project

The pesticides ethylenedibromide (EDB) and trichloro-propane (TCP) have been detected in the BWS Waipahu Wells. Concentrations of EDB and TCP are on the order of 90 parts-per-trillion (ppt) and 0.25 parts-per-billion (ppb) respectively. Although no maximum contaminant levels have been established yet for either of these compounds, the U. S. Environmental Protection Agency (EPA) and the State Department of Health have expressed concern and the BWS has suspended operation of the four wells at the site.

The BWS has conducted tests using activated carbon to remove contaminants from the water from Waipahu wells and from other well sites on Oahu. Results of the tests indicate that activated carbon can remove EDB and TCP from the groundwater to the point where they are non-detectable and the water is safe to drink.

C. Technical Characteristics

Figure 2 shows the layout of the proposed GAC system at the Waipahu Wells site which consists of twelve activated carbon contactors, six on each of two concrete pads. The 12-foot diameter contactors are arranged into pairs. The two paired contactors operate together with water passing in succession through each contactor. Each contactor alone is sufficient to achieve treatment objectives for an extended period. As such, when one contactor of the pair is removed from service for either maintenance or carbon replacement, the other contactor may continue in service to maintain the treatment system's capacity.

The access road on the well site will be redesigned to accommodate a 55 foot semi-trailer truck for carbon delivery and disposal. Spent carbon is to be disposed of by the future activated carbon supplier in accordance with the EPA's Resource Conservation and Recovery Act (RCRA).

The carbon beds must be periodically backwashed during normal operations to remove carbon fines and to remove any particles that may collect on the surface on the surface of the bed and to "refluff" the carbon bed. To prevent the release of carbon particles into the environment, the backwash water is collected in a holding tank then pumped through a basket strainer and then a cartridge filter before being discharged into the storm drain system. Disposal of any carbon collected in the strainer and of the spent cartridge filters will be in accordance with RCRA.

D. Future Expansion of the Project

Design considerations have been made for an additional pair of contactors on the west contactor pad. This will increase the GAC treatment system peak capacity from 9.0 million gallons-per-day (mgd) to 10.5 mgd.

In order to expand the GAC treatment system, the BWS will have to acquire approximately 3,200 square feet of land outside the south-west corner of the well site. The present owner of this parcel, Amfac Corporation, has indicated that it will turn it over to the BWS for the future expansion.

II. Effected Environment

The proposed GAC water treatment system will be located on the BWS Waipahu Wells property, TMK 9-4-07:16. This property and surrounding land are zoned agricultural.

A. Flora

Flora within the fenced-in well site consists of mowed grass. The surrounding area is cultivated in sugar cane.

B. Fauna

No fauna were observed within or around the well site. However, faunas common to the area are mice, mongooses, rats sparrows, mynahs, white-eyes, finches, and cardinals.

C. Land Use

The existing well site is a permitted use within agricultural lands. The proposed project will be on department land and there are adequate roadways providing access to the well site.

Land required for future expansion of the project will be turned over to the BWS. These lands, also zoned agricultural, are presently owned by Amfac Corporation.

D. Archaeological/Historical Findings

There are no known archaeological or historical sites within the project areas or areas of future expansion. Should any archaeological site be encountered, all work will be suspended and the Historic Preservation Office of the Department of Land and Natural Resources will be notified.

III. Assessment Process

This environmental assessment is required due to the fact the proposed GAC water treatment system is scheduled for construction using BWS land and funds.

IV. Environmental Impacts and Mitigative Measures

Anticipated short term environmental impacts are increases in dust and noise associated with construction. These are unavoidable impacts, however, they can be kept to a minimum. The contractor will be required to take measures to keep dust and noise levels within allowable limits.

Disposal of spent carbon shall be in accordance with EPA's RCRA. Spent carbon will be shipped to a secure landfill on the west coast or, subject to EPA's approval, will be burned in cement kilns on Oahu for fuel.

Backwash water, which may contain carbon fines contaminated with EDB and TCP, will be filtered to remove carbon as described in Part 1, Paragraph C, before being discharged into the storm drain system. Any carbon collected in the filtering system will be disposed of in accordance with RCRA.

V. Alternatives

A. No Action

The Waipahu Wells have been closed by a State Department of Health directive because of their pesticide contamination levels. Without the proposed project, the wells will remain closed.

B. Relocate the Project

Relocation of the project is not a viable alternative.

C. Alternative method of treatment

The BWS conducted pilot scale tests of air stripping to remove EDB and TCP for the water from the Waipahu Wells. Results of the tests indicate that the proposed GAC water treatment system is superior to air stripping in quality of treatment and ease of operation.

VI. Recommendation

It is recommended that the assessment be filed as a Negative Declaration with the Office of Environmental Quality Control since there are no significant impacts associated with the installation of the treatment system.

Construction work is not expected to have any significant effects on endangered flora or fauna and archaeological or historical sites. Also, mitigative measures will be implemented to keep grading or noise disturbances to a minimum.

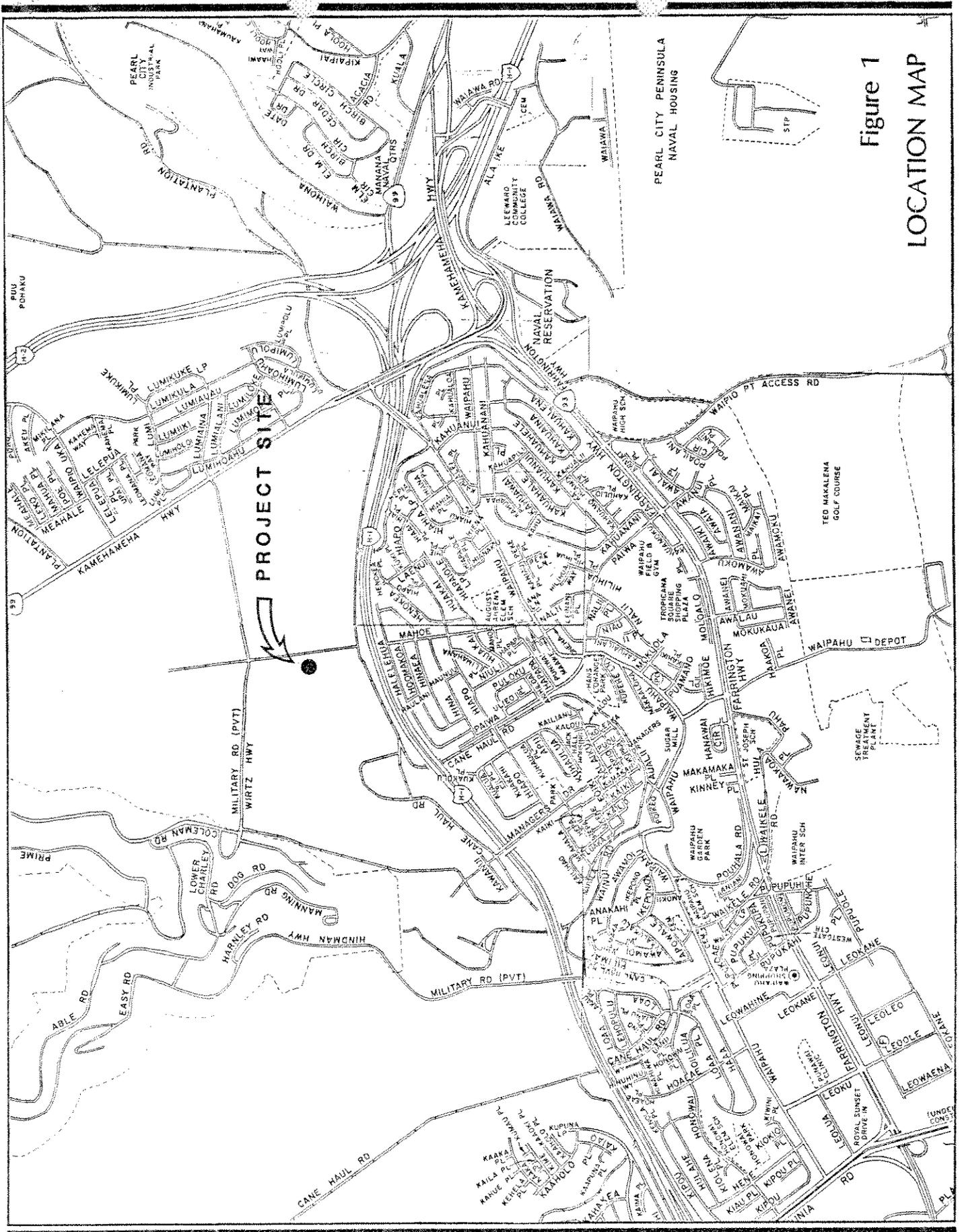


Figure 1
LOCATION MAP

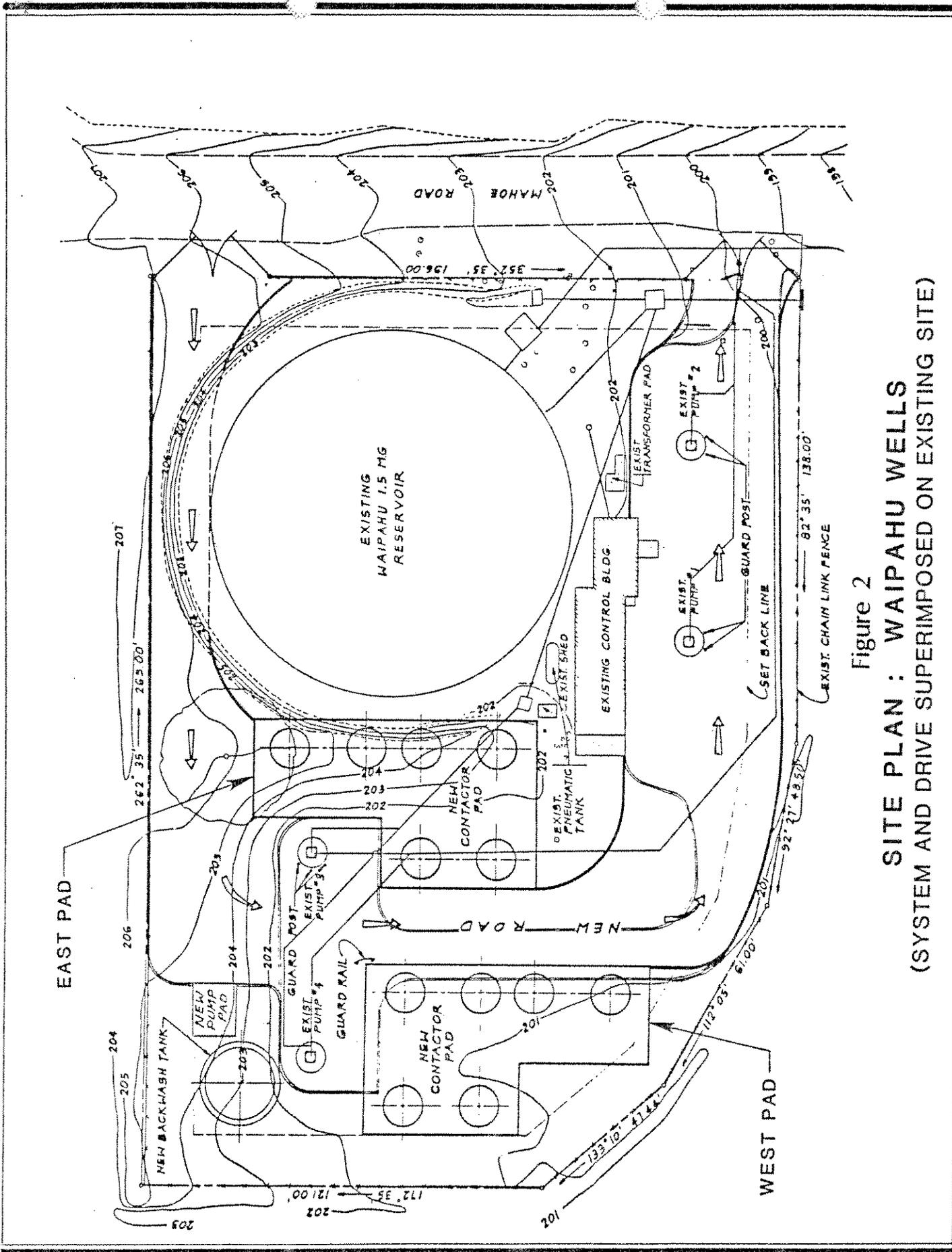


Figure 2
 SITE PLAN : WAIPAHA WELLS
 (SYSTEM AND DRIVE SUPERIMPOSED ON EXISTING SITE)