

1992-01-08-DA-~~DA~~-FEA-Sand Island Wastewater  
Treatment

ENVIRONMENTAL ASSESSMENT FOR THE **FILE COPY**

SAND ISLAND WASTEWATER TREATMENT  
PLANT MODIFICATIONS - UNIT 1, PHASE 2A  
30% BOD REMOVAL FACILITIES  
Honolulu, Hawaii

DECEMBER 1991

PREPARED FOR:

Division of Wastewater Management  
Department of Public Works  
City and County of Honolulu

**RMTC**

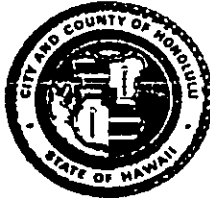
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DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK F. FASI  
MAYOR



SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER

C. MICHAEL STREET  
DEPUTY DIRECTOR

WPP 91-577

December 11, 1991

Mr. Brian J.J. Choy, Director  
Office of Environmental Quality Control  
State of Hawaii  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Choy:

**SUBJECT: Sand Island Wastewater Treatment Plant  
Modification, Unit 1, Phase 2A  
Pretreatment Facilities for 30% BOD Removal  
Honolulu, Hawaii, TMK: 1:5-41:5**

This letter is a Notice of Negative Declaration for the Sand Island Wastewater Treatment Plant Modification, Unit 1, Phase 2A, Pretreatment Facilities for 30% BOD Removal, Honolulu, Hawaii, pursuant to Chapter 343, HRS. The construction of the proposed project at Sand Island will involve the use of public funds and City lands. This notice of determination was based on an environmental assessment prepared by the Division of Wastewater Management and after consulting with other agencies and individuals. Four (4) copies of the Notice of Negative Declaration/Environmental Assessment are attached. The pertinent data for this notice are as follows:

1. Proposing Agency: Department of Public Works, City and County of Honolulu.
2. Proposed Action: The proposed action consists of constructing pretreatment facilities to improve the overall treatment performance of the Sand Island Wastewater Treatment Plant such that a minimum of 30 percent of the organics, as measured by the 5-day BOD test, is consistently removed.

Environmental impacts are primarily economic and long-term in nature. The City and County of Honolulu and State of Hawaii is expected to participate in providing funds for construction. The operation and maintenance cost is

December 11, 1991

to be borne solely by the City. These costs may have an impact on the City sewer user charge program.

The Contractor will be required to mitigate the impacts during construction by following State and County regulations to controlling dust and noise, posting warning signs and covering or barricading trenches when required for safety.

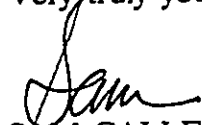
3. Determination: After preparing an environmental assessment and consulting with other agencies and individuals, we have determined that the proposed project will not have a significant impact on the environment, and an Environmental Impact Statement is not required.

4. Reasons Supporting Determination: Reasons and conclusion supporting the determination are based on the following criteria. The proposed project will not:

- destroy any archaeological, historical or cultural resources;
- directly affect any rare or endangered species, flora or fauna;
- conflict with the State's environmental policies and goals expressed in Chapter 344, HRS;
- affect the economic or social welfare of the community or State;
- involve an environmentally sensitive area;
- degrade environmental quality.

5. Contact Person: Charles Yoshimoto  
Division of Wastewater Management  
Department of Public Works  
Honolulu Municipal Building, 14th Floor  
650 South King Street  
Honolulu, Hawaii 96813  
Telephone No.: 527-5388

Very truly yours,

  
SAM CALLEJO  
Director and Chief Engineer

Attachment 4 copies

cc: Dept. of General Planning  
Dept. of Land Utilization

ENVIRONMENTAL ASSESSMENT

SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS  
UNIT 1, PHASE 2A, 30% BOD REMOVAL FACILITIES  
OAHU, HAWAII


TMK: 1-5-41:5

This document is prepared pursuant to Chapter 343, H.R.S.

PROPOSING AGENCY:

Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

RESPONSIBLE OFFICIAL: \_\_\_\_\_

  
SAM CALLEJO  
Director and Chief Engineer

12-11-91  
Date

PREPARED BY:

R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817

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SECTION 1  
PROJECT DESCRIPTION

1.1 BACKGROUND AND PURPOSE OF THE PROJECT

The Sand Island Wastewater Treatment Plant (WWTP) is a primary wastewater treatment facility owned and operated by the City and County of Honolulu. The City applied for and was issued a 301(h) modified National Pollutant Discharge Elimination System (NPDES) permit by the Environmental Protection Agency (EPA) effective February 20, 1990. This modified permit allowed the Sand Island WWTP to discharge primary treated sewage and waive secondary treatment.

Subsequent to EPA issuing the City a modified permit, evidentiary hearing requests were filed by the City and a citizen group thereby staying all provisions in the permit. This action caused the Sand Island WWTP to revert back to the previously issued NPDES permit.

In January of 1991 EPA published proposed revisions to Section 301(h) regulations (Part 125, Subpart G) governing 301(h) permits. These regulations were prepared to implement statutory changes imposed by the Water Quality Act of 1987.

Since Sand Island WWTP is currently operating under the previously issued NPDES permit, these proposed 301(h) regulations do not apply to the plant at this time. However, in anticipation of resolving the modified permit, the City must be prepared to meet all 301(h) laws and regulations.

One of the proposed regulations, which affects Sand Island WWTP, states that the primary treatment process must achieve 30 percent biochemical oxygen demand (BOD)<sup>1</sup> and 30 percent suspended solids (SS)<sup>2</sup> removal. The Sand Island WWTP has a history of not

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<sup>1</sup>Biochemical Oxygen Demand (BOD) - A measure of the organic strength of the sewage as determined by a standard test that measures oxygen consumptions.

<sup>2</sup>Suspended Solids (SS) - Solids that either float on the surface or are suspended in the wastewater. By definition these solids are removed by filtration.

consistently meeting the 30 percent BOD removal efficiency limit set by the proposed new Federal law. The SS removal rate has typically met the 30 percent removal rate comfortably. The purpose of this project is to upgrade the WWTP such that the facility will consistently meet the 30 percent BOD removal requirement.

This Environmental Assessment (EA) is a requirement to obtain a Shoreline Management Area (SMA) permit for the modification of the existing Sand Island WWTP. This EA has been prepared pursuant to Chapter 343 of the Hawaii Revised Statutes and is a supplement to the following Environmental Impact Statements:

- \* Environmental Impact Statement for Sand Island Sewage Treatment Plant and Outfall Sewer, Department of Public Works, City and County of Honolulu, June 1972.

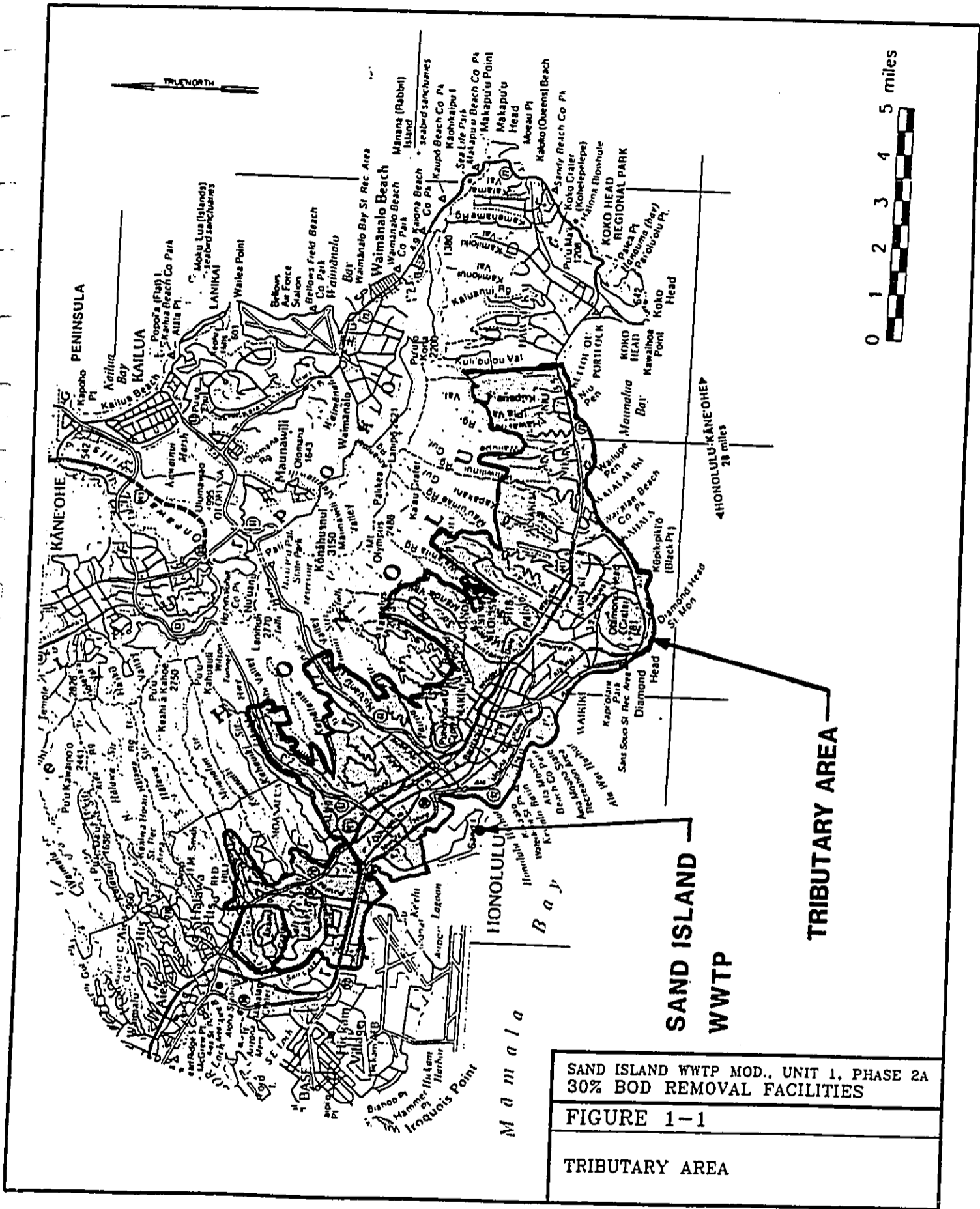
## 1.2 PROJECT DESCRIPTION

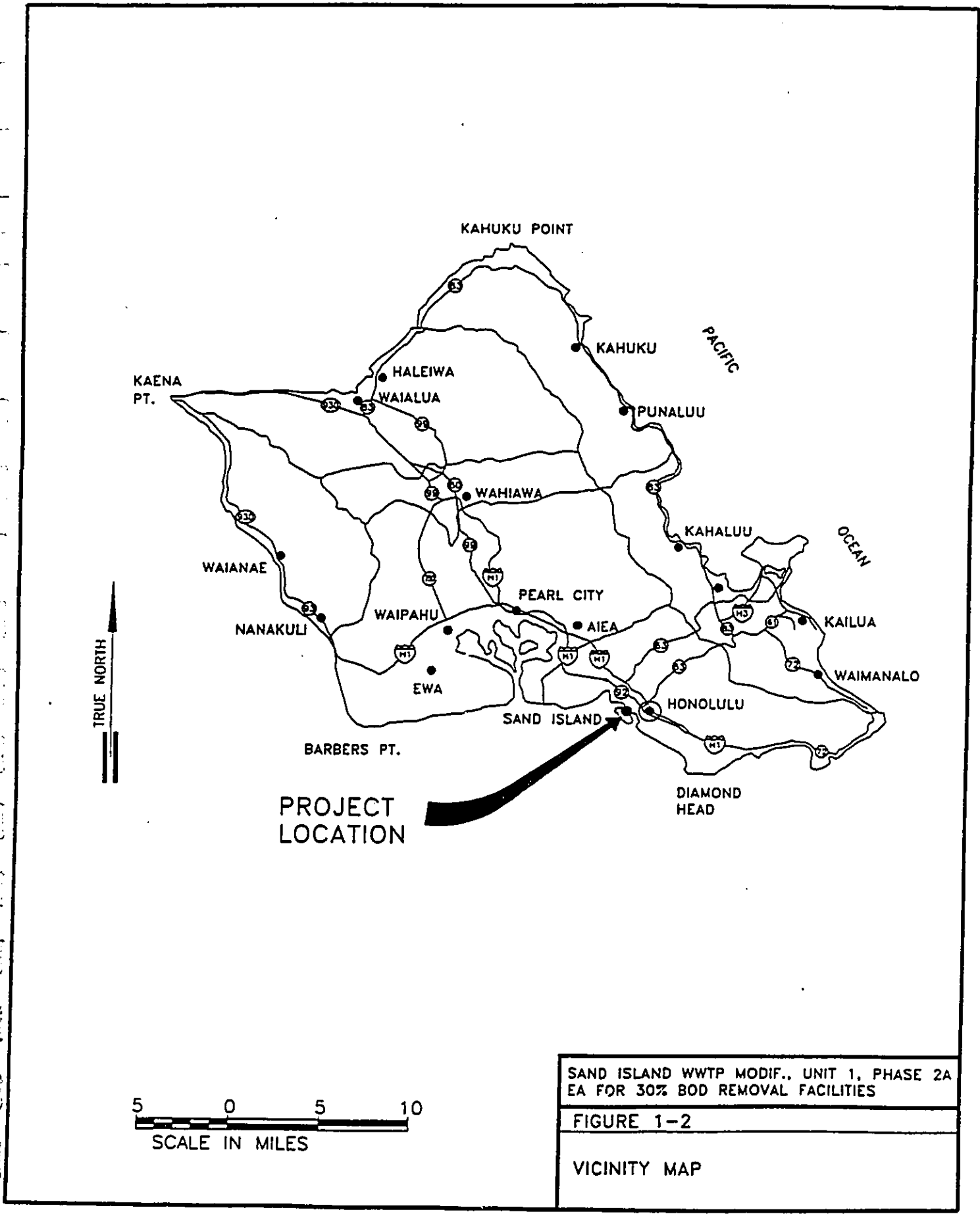
The Sand Island WWTP is an 82 mgd (average design flow) primary treatment plant serving the Honolulu metropolitan area extending from Moanalua-Aliamanu to Niu Valley-Paiko Peninsula (see Figure 1-1). The plant was placed in operation in 1974. Effluent is discharged through a 12,350 ft. long ocean outfall through a multiport diffuser located at a depth of 240 ft. The plant is located at Sand Island, Honolulu as shown in Figure 1-2.

Literature research, bench scale pilot testing at the Sand Island WWTP and experiences at the Honouliuli WWTP and the Waianae STP have identified two alternative means of improving treatment at the Sand Island WWTP to achieve a minimum of 30% BOD removal. This includes implementing preaeration and/or chemical treatment of raw sewage prior to treatment by the existing primary clarifiers.

Individually and in combination, both methods have the capability to reduce BOD to a level where the 30% removal rate is consistently met. Although the effectiveness of using preaeration cannot be precisely known, the process has been shown to improve the efficiency of primary treatment plants with respect to BOD and suspended solids removal. The







addition of chemical compounds and/or polymers to wastewater has also demonstrated the capability to improve the suspended solids and BOD removal rate by coagulating particulate, colloidal and in some cases dissolved material. The increase in BOD removal is likely due to the added improvement in particulate, colloidal and dissolved BOD reduction.

In evaluating the 30 percent BOD removal requirements, it was also determined that modifications to the headworks should be included in this phase. The headworks area will also include new screenings removal and grit removal facilities as well as the proposed preaeration and/or chemical treatment. Due to the flow pattern and eventuality of plant expansion in the future, it was determined that construction of expandable headworks facilities should be included with the 30 percent BOD removal facilities.

The individual processes and the proposed facilities are presented in the following subsections.

#### 1.2.1 Preaeration (and Grit Removal)

Preaeration in wastewater treatment is used for the following reasons:

- \* Provide oxygen to the wastewater.
- \* Enhance the settling of suspended matter by improving the coagulation (adsorbing) properties of the wastewater solids resulting in improved BOD and suspended solids removal.
- \* Remove the readily oxidizable portion of BOD.
- \* Remove odorous gases from the wastewater stream by oxidation or stripping.
- \* Promote the flotation of grease and other floatables for subsequent removal in the primary clarifier.

The process is normally performed in long rectangular tanks and is typically located after the bar screens and before the primary clarifiers in the treatment process. Aeration is provided by placing air diffusers along the length of the tank.

Preaeration tanks also allow for the easy implementation of an aerated grit removal system in the liquid stream. The grit removal area is to be located in the initial one-third length of the preaeration tanks. Grit in each tank will be scraped into a hopper at the upstream end of the preaeration tank and pumped to a grit washing system. This method will be a significant improvement over the present grit removal system which removes grit in a much less efficient manner in the solids handling phase of the plant.

The preaeration process is also used to mitigate the odor problem throughout most of the plant. Preaeration results in the oxidation of a large fraction of the odor causing dissolved sulfides and strips the remaining hydrogen sulfide gas to the atmosphere. The odorous gases captured beneath the tank covers will be treated by scrubbers prior to release to the atmosphere.

#### 1.2.2 Chemical Treatment

Chemical treatment consists of the addition of compounds to the wastewater stream that will enhance coagulation (coming together) of particulate, colloidal and dissolved solids (including BOD matter). Chemicals typically used in chemical treatment include iron compounds ( $\text{FeSO}_4$ ,  $\text{FeCl}_3$ ), alum ( $\text{Al}_2\text{SO}_3\text{-H}_2\text{O}$ ), and polymers. The effectiveness of chemical treatment has been demonstrated at other facilities and by pilot testing at the Sand Island WWTP. Tests at the Sand Island WWTP have shown that high cationic and high molecular weight polymers are the most effective chemical agent. The addition of chemicals is estimated to increase the sludge output by 5% to 10%, which should be easily absorbed by the present heat treatment facility. Chemical treatment will supplement preaeration during periods when the preaeration system may not remove the required 30 percent BOD.

#### 1.2.3 Screenings Facility

As part of the overall wastewater planning process, a new bar screen facility will be added to bypass the existing screenings facility. This new facility will feed directly into the preaeration tanks. The use of the existing facility would have only complicated the flow pattern of the raw sewage, since the new preaeration tanks will be remotely located from

the existing screens. The addition of the new screenings facility will also provide allowance for future expansion not presently available at the existing screenings facility.

1.2.4 Process Flow

The process flow diagram of new facilities is shown in Figure 1-3. Preaeration is selected as the method to achieve 30% BOD removal with chemical treatment provided as a supplement. Three new valve boxes will redirect incoming sewage from the Ala Moana force main to the new facilities. Flows from both the Ala Moana and Hart Street force main will eventually terminate at the new influent receiving facility where it will continue through the screening facility and into the preaeration tanks. A connection will be made from the existing influent channel to the preaeration tanks.

1.2.5 Major Facilities

The only major new facility required is the Pretreatment Facility. This structure will consist of a new influent receiving area and sampling station, the bar screens, the preaeration tanks and grit removal area and standby chemical treatment units. A plan and section is shown in Figures 1-3A and 1-3B.

1.3 DESIGN PARAMETERS

The design of the new facilities is based on the present design flow conditions. However, as expansion of the WWTP is soon to follow, provisions in the current design must be considered to address the future expansion requirements.

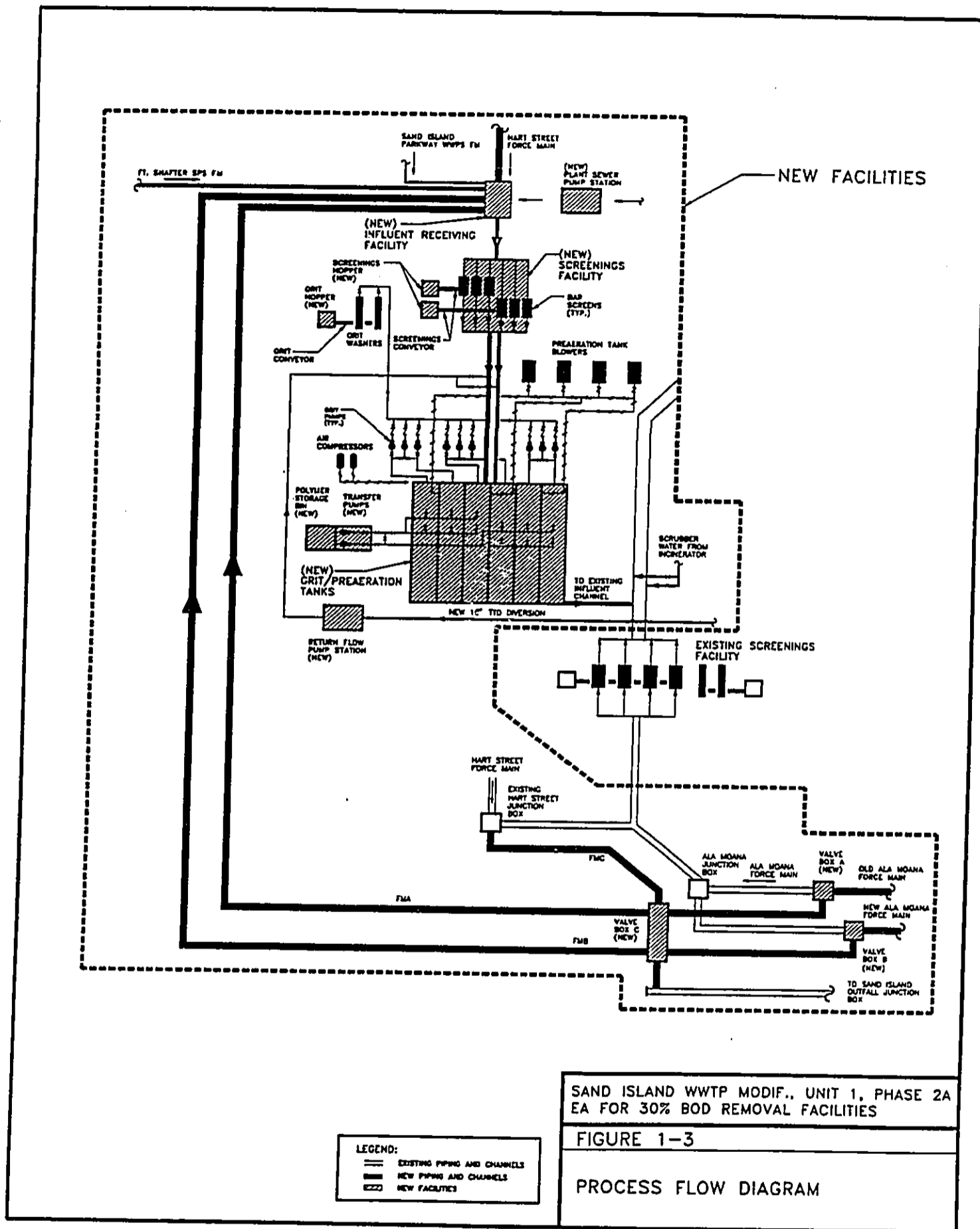
a. Flow:

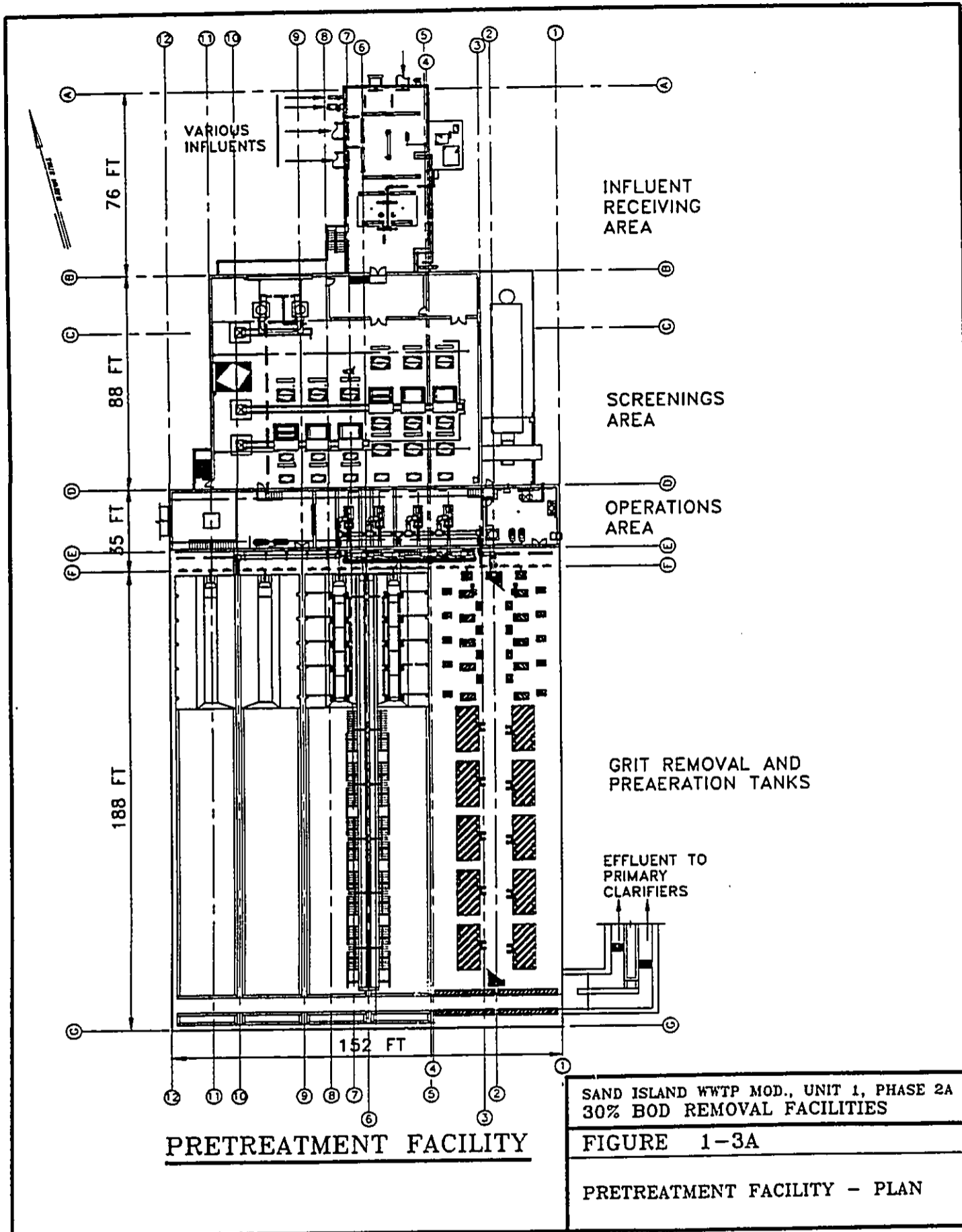
Present Design:

Average Daily Design Flow, (mgd) .....	82
Peak Wet Weather, (mgd) .....	173

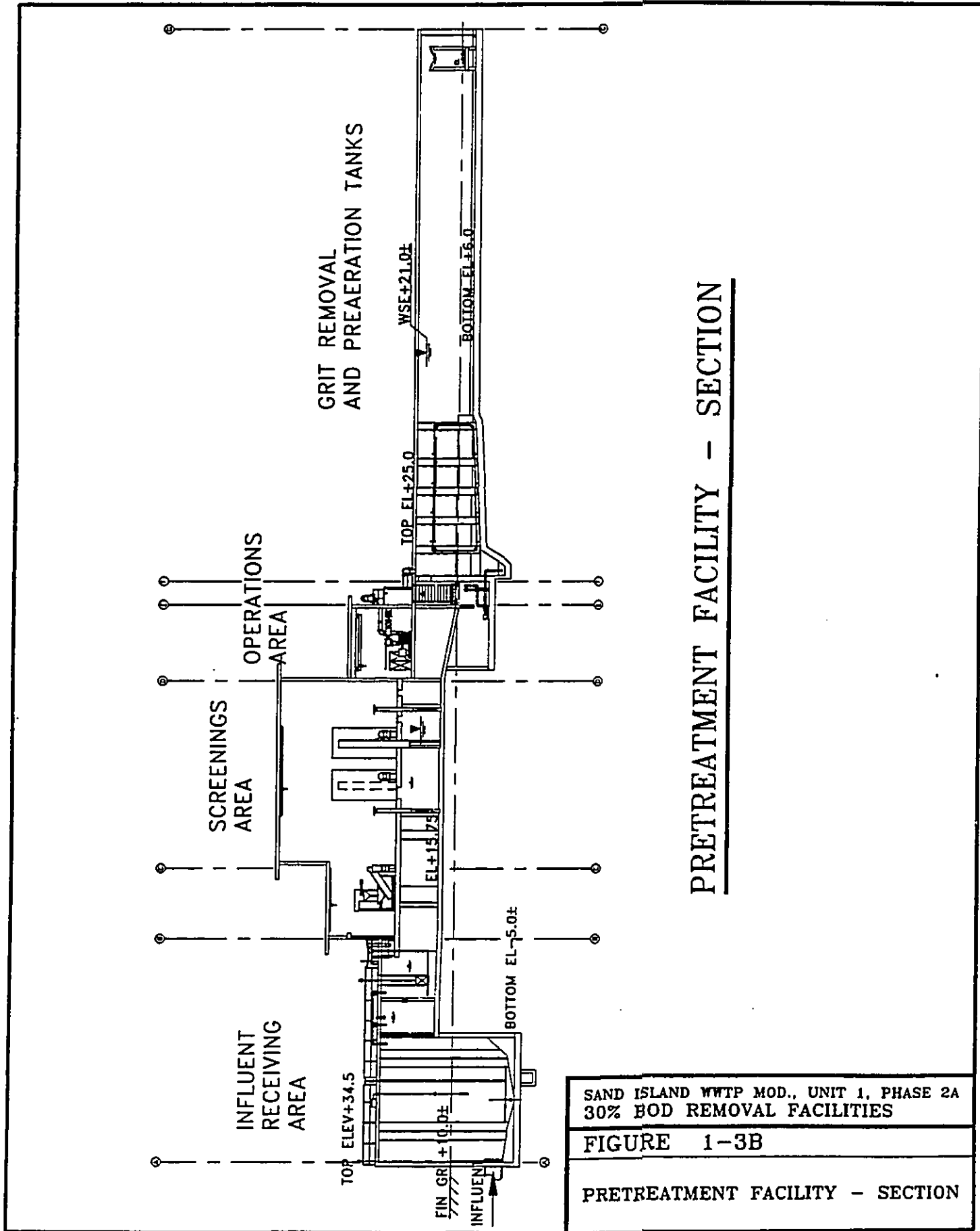
b. Influent Wastewater Characteristics:

BOD .....	184 mg/l
Suspended Solids .....	197 mg/l





SAND ISLAND WTP MOD., UNIT 1, PHASE 2A  
 30% BOD REMOVAL FACILITIES  
 FIGURE 1-3A  
 PRETREATMENT FACILITY - PLAN



**PRETREATMENT FACILITY - SECTION**

SAND ISLAND WWTP MOD., UNIT 1, PHASE 2A  
30% BOD REMOVAL FACILITIES

FIGURE 1-3B

PRETREATMENT FACILITY - SECTION



c. Treatment Requirements (Based on proposed Federal regulation)

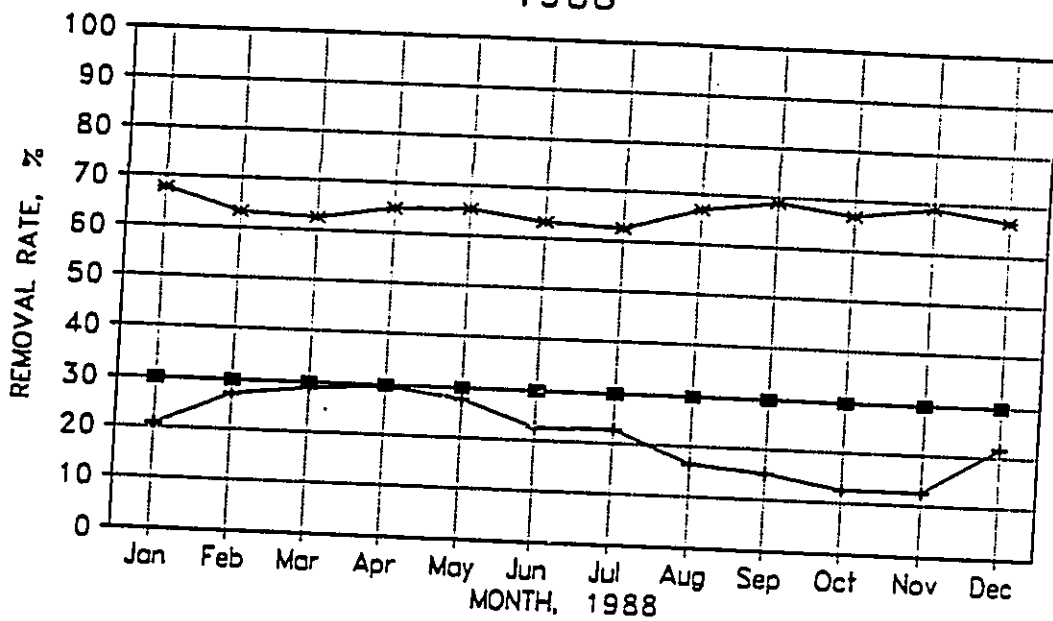
BOD Removal .....	30% minimum
Suspended Solids Removal .....	30% minimum

1.4 SAND ISLAND WWTP PERFORMANCE

The Sand Island WWTP has periodically underperformed in the past with respect to the proposed BOD removal requirement. This is illustrated in Figures 1-4, 1-5 and 1-6 for 1988, 1989 and 1990, respectively. Monthly influent and effluent BOD and SS concentration for 1988, 1989 and 1990 are shown in Figures 1-7, 1-8 and 1-9, respectively.

The preaeration system, with chemical treatment as a supplement, should improve the effluent quality to a point where BOD removal consistently exceeds 30%. Suspended solids removal are expected to increase by 5% to 10% resulting in an SS removal efficiency of 55% to 75%.

# SAND ISLAND WWTP - BOD, SS % REMOVAL 1988



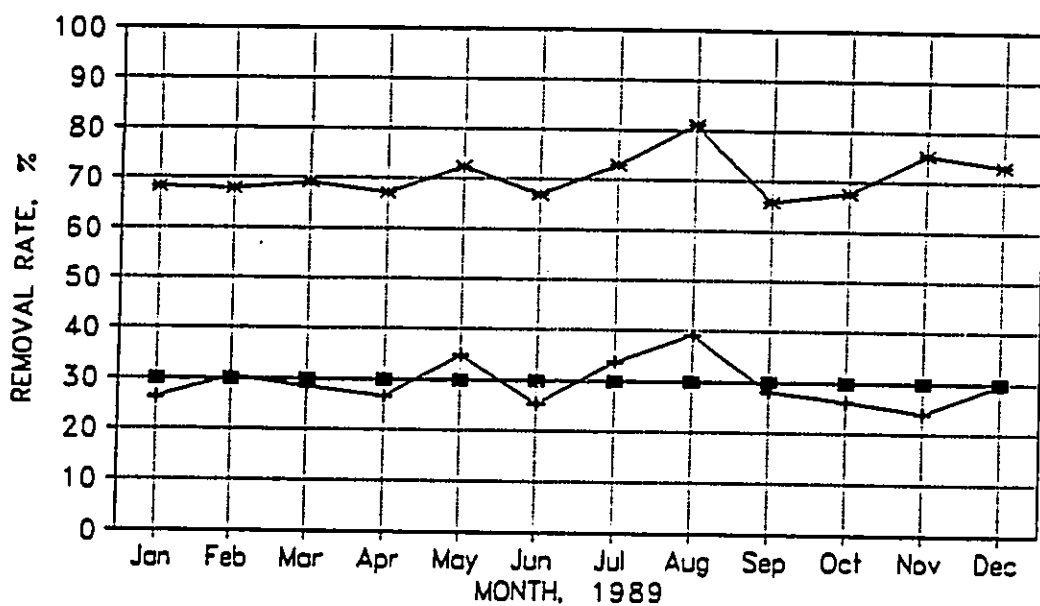
REQ. BOD /SS % REM.
  BOD % REMOVAL
  SS % REMOVAL

SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
EA FOR 30% BOD REMOVAL FACILITIES

FIGURE 1-4

1988 - BOD & SS REMOVAL RATES

SAND ISLAND WWTP - BOD, SS % REMOVAL  
1989



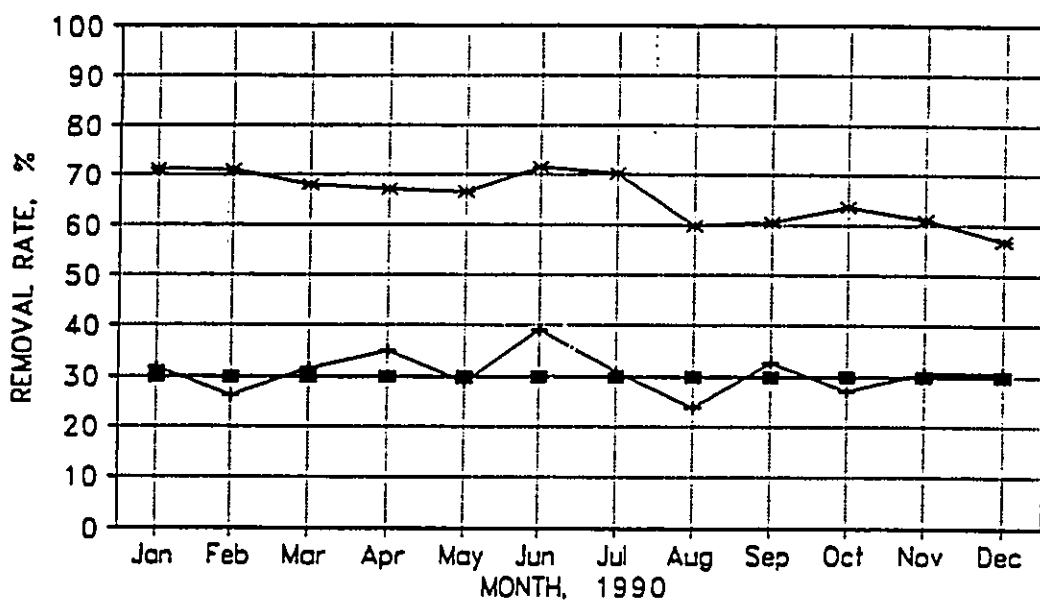
REQ. BOD /SS % REM.
  BOD % REMOVAL
  SS % REMOVAL

SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
EA FOR 30% BOD REMOVAL FACILITIES

**FIGURE 1-5**

1989 - BOD & SS REMOVAL RATES

SAND ISLAND WWTP - BOD, SS % REMOVAL  
1990



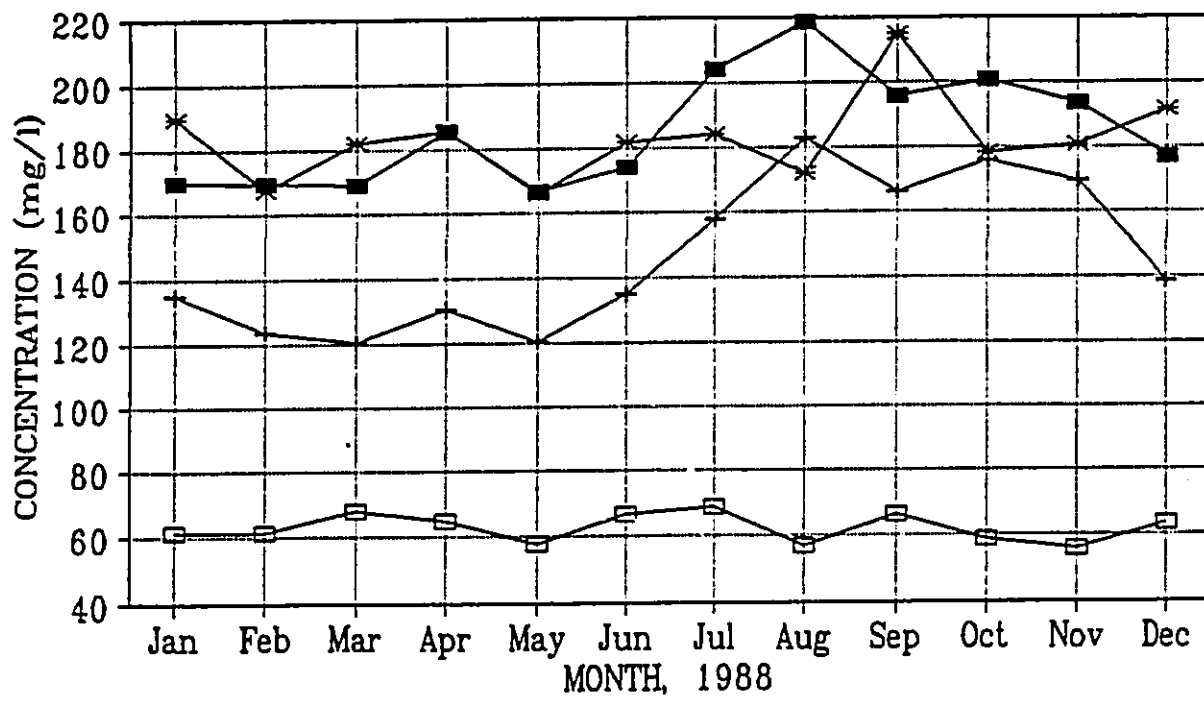
REQ. BOD/SS % REM.
  BOD % REMOVAL
  SS % REMOVAL

SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
EA FOR 30% BOD REMOVAL FACILITIES

FIGURE 1-6

1990 - BOD & SS REMOVAL RATES

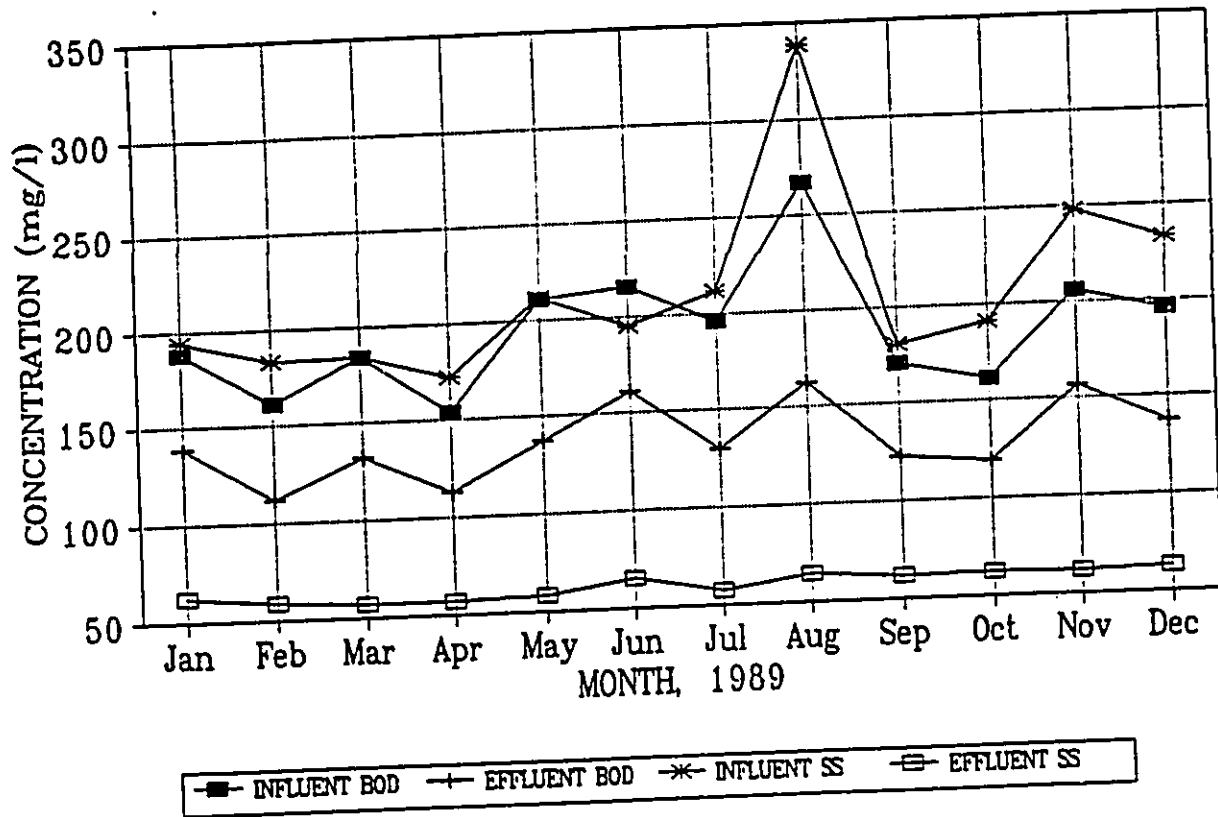
## SAND ISLAND WWTP - BOD AND SS LEVELS 1988



INFLUENT BOD  
  EFFLUENT BOD  
  INFLUENT SS  
  EFFLUENT SS

SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
 EA FOR 30% BOD REMOVAL FACILITIES  
**FIGURE 1-7**  
 1988 - BOD & SS INFLUENT  
 AND EFFLUENT CONCENTRATIONS

# SAND ISLAND WWTP - BOD AND SS LEVELS 1989



SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
 EA FOR 30% BOD REMOVAL FACILITIES  
**FIGURE 1-8**  
 1989 - BOD & SS INFLUENT  
 AND EFFLUENT CONCENTRATIONS

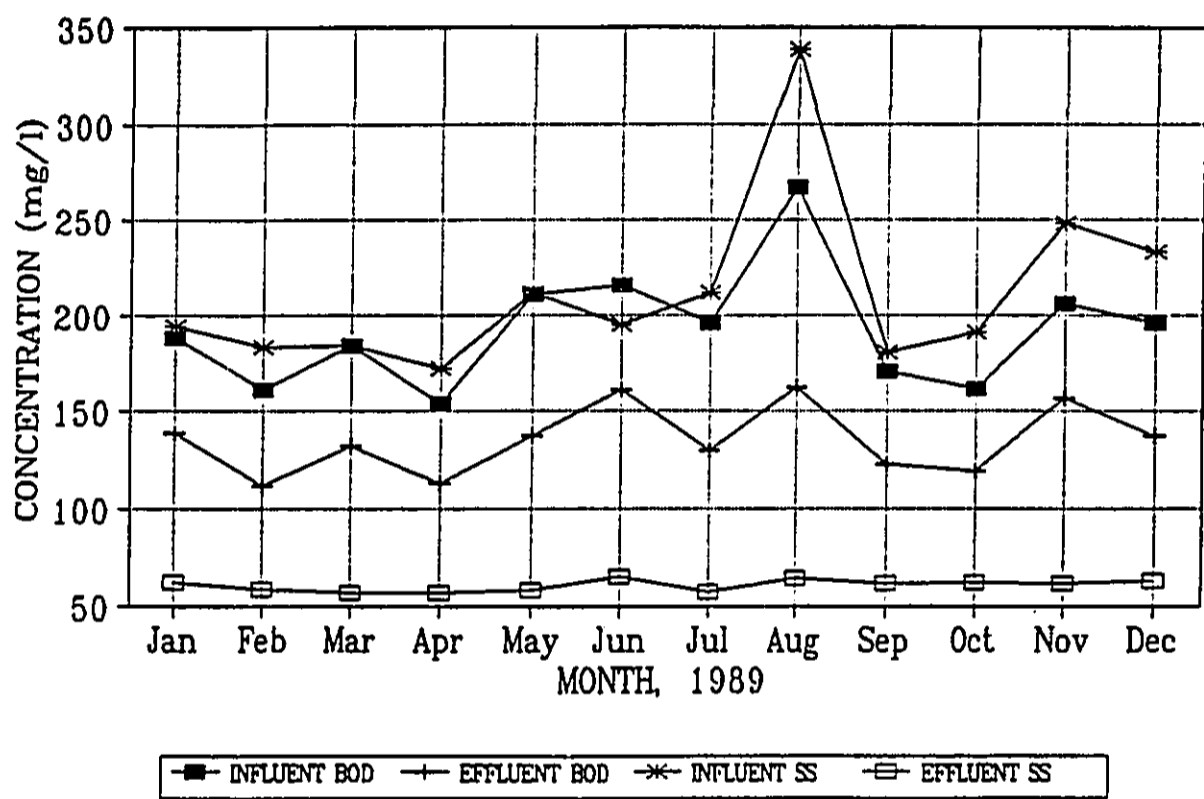
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10/01/91

# CORRECTION

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

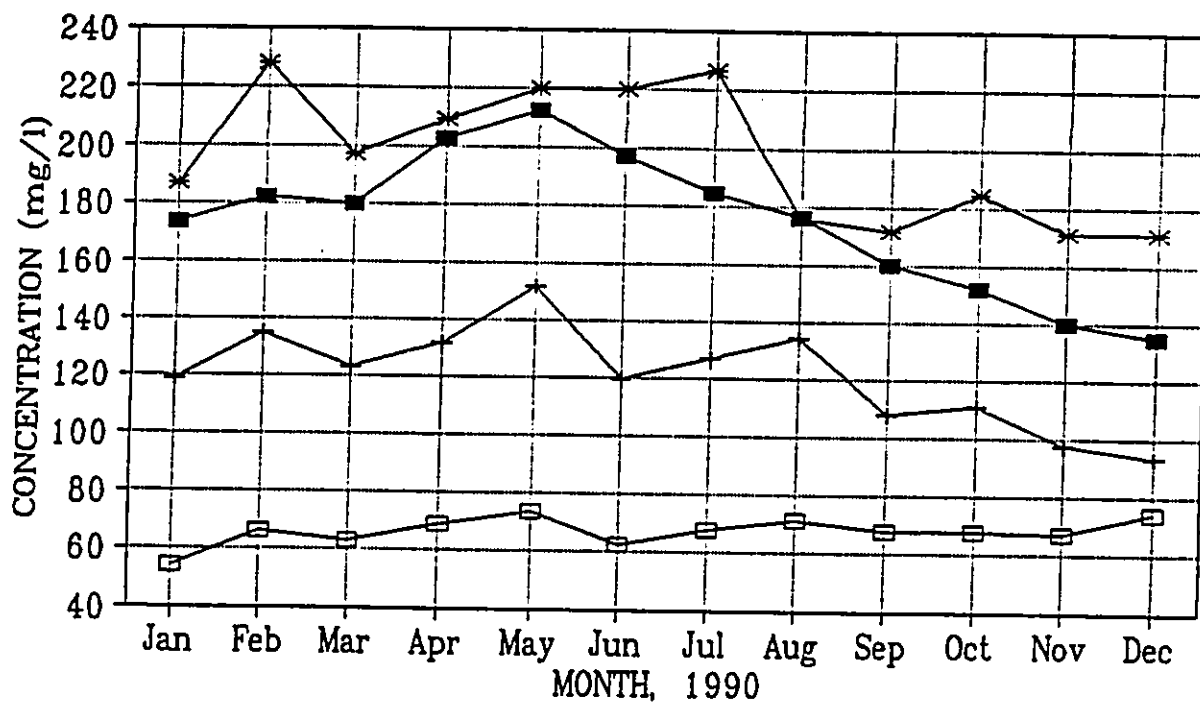
## SAND ISLAND WWTP - BOD AND SS LEVELS 1989



SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
 EA FOR 30% BOD REMOVAL FACILITIES  
**FIGURE 1-8**  
 1989 - BOD & SS INFLUENT  
 AND EFFLUENT CONCENTRATIONS



## SAND ISLAND WWTP - BOD AND SS LEVELS 1990



INFLUENT BOD   
  EFFLUENT BOD   
  INFLUENT SS   
  EFFLUENT SS

SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A  
 EA FOR 30% BOD REMOVAL FACILITIES  
**FIGURE 1-9**  
 1990 - BOD & SS INFLUENT  
 AND EFFLUENT CONCENTRATIONS

SECTION 2  
DESCRIPTION OF THE ENVIRONMENT AND POTENTIAL  
IMPACTS AND MITIGATION MEASURES

The project's impacts on both the land and ocean environments, resulting from the construction of the new facilities and the changes in the effluent characteristics are discussed in this section.

2.1 PHYSICAL ENVIRONMENT

2.1.1 Ownership and Existing Land Uses

The area designated for the construction of the additional facilities is located within the boundaries of the existing Sand Island WWTP (See Figure 2-1). This property is presently being leased from the State to the City and County of Honolulu.

Surrounding land uses include the Sand Island State Recreational Area, industrial areas and a Coast Guard station.

2.1.2 Geography and Topography

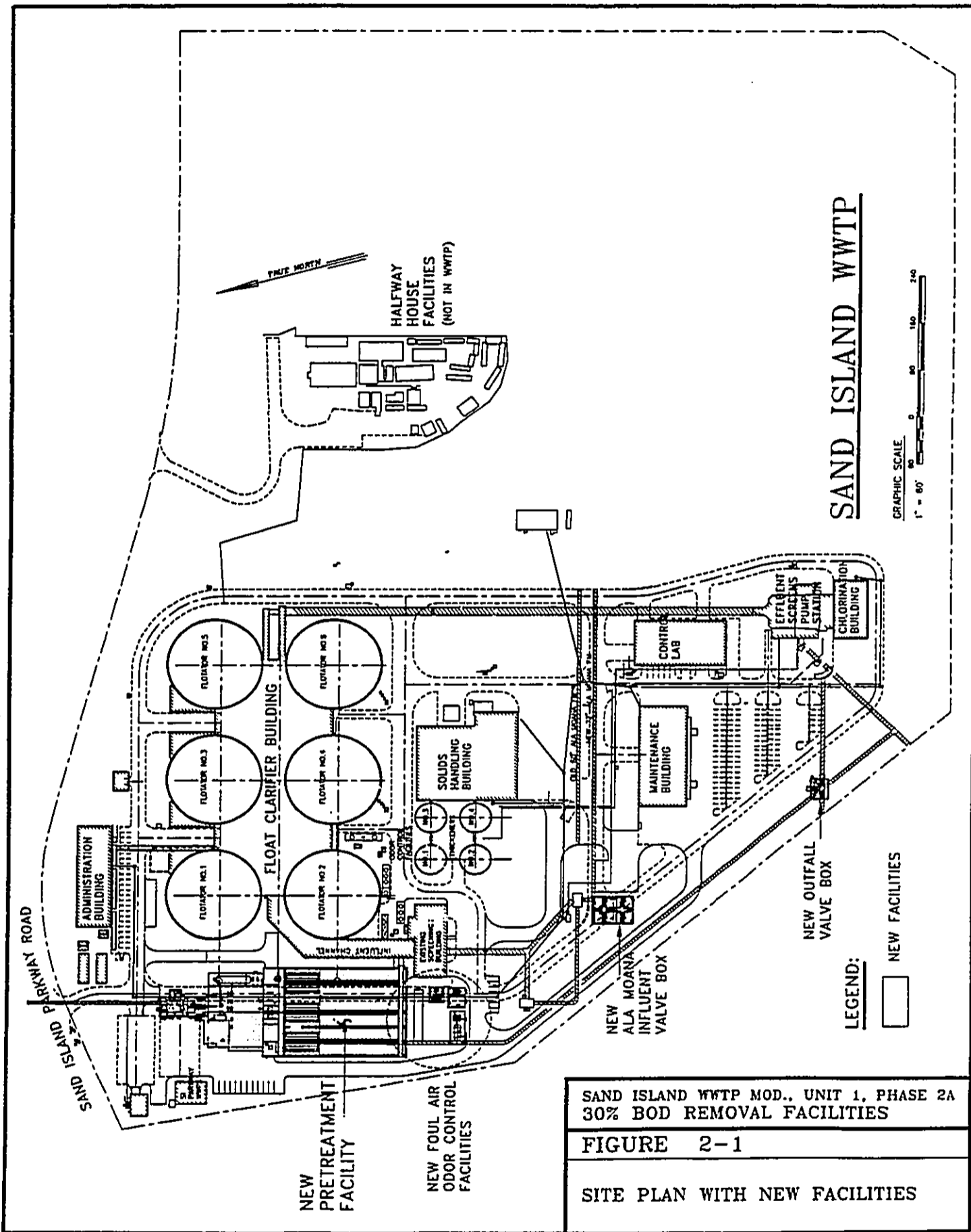
The area considered for the new facilities is located on the existing property. This area is graded and landscaped. The addition of the new facilities will have only minor impacts on the topographic condition of the area.

2.1.3 Flora and Fauna

No endangered flora or fauna exist on site. The area consists of roadways, landscaping and grassed areas.

2.1.4 Archaeology

There are no known archaeological sites in the area of the proposed expansion as the site has already been fully developed. Therefore, no negative archaeological impacts are expected. During construction, however, if unexpected subsurface cultural features are encountered, archaeological consultation will be sought.



#### 2.1.5 Air Quality

Air pollution permits will be obtained from the proper regulatory agency(s) prior to construction. The addition of preaeration to the treatment system together with additional odor control design features of the project should eventually have a positive long term impact on the quality of the air surrounding the treatment plant.

#### 2.1.6 Noise

Long term noise impact on the area surrounding the new facility would generally be caused by the machinery such as blowers, fans and pumps in the various buildings and tanks. Mitigative measures include the enclosure of noise generating machinery and use of acoustical walls. Noise levels will be maintained below allowable limits.

Short term noise impacts are primarily related to construction. Construction related noise is generated from the use of heavy equipment. Generally the heavy construction equipment will exceed allowable noise levels. To mitigate short term impacts associated with construction, the equipment and vehicles will utilize mufflers and other accepted noise reduction technology. Specific start and curfew times will be established for construction activities. A permit issued by the State Dept. of Health will contain the necessary construction noise conditions.

#### 2.1.7 Solid Waste

The additional 5% to 10% of solids will be disposed of in the same manner as the existing solids which are currently being disposed of at sanitary landfills.

#### 2.1.8 Ocean Ecosystem

The facilities to be constructed at the Sand Island WWTP will result in an improvement to the effluent quality. The project should therefore have no negative impact and/or result in a net improvement to the ocean environment.

#### 2.1.9 Hazardous Material

The proposed process is a typical wastewater treatment plant unit process and will not generate any hazardous materials.

## 2.2 POPULATION AND ECONOMIC CHARACTERISTICS

### 2.2.1 Population

The Sand Island WWTP serves all developments from Moanalua-Aliamanu to Niu Valley-Paiko Peninsula in the Honolulu Metropolitan Area plus a few isolated spots which includes the Army facility at Fort Shafter and Tripler Hospital. The present tributary populations of South and North Honolulu are 325,000 people and 132,000 people, respectively.

The impact of the additional treatment is not expected to affect the serviceable population in the areas mentioned above.

### 2.2.2 Economy

The City and County of Honolulu and State of Hawaii is expected to participate in providing funds for construction. The operational and maintenance cost is to be borne solely by the City. These costs may have an impact on the City sewer user charge program.

The new facilities construction cost is estimated at \$30 to \$35 million in 1992 dollars for the new facilities. Operation and maintenance costs for the preaeration facilities are expected to be in the range of \$1.0 to \$1.3 million annually in 1992 dollars.

## 2.3 SUMMARY OF IMPACTS AND MITIGATIVE MEASURES

There appears to be very little environmental impact of the subject project. There is also a possibility of a net improvement to the ecosystem of the discharge area as the net amount of BOD and SS discharged will be reduced.

The primary negative impact is an economic one. There may be a rise in the City's sewer use charge as a result of this project. Value engineering and design approaches will seek to minimize both capital and operation and maintenance costs such that sewer use charges are minimized.

SECTION 3  
DETERMINATION

The results of this assessment are that the project will have no significant impact on the environment and an Environmental Impact Statement (EIS) is not required. Therefore, in accordance with the provisions of Chapter 343, Hawaii Revised Statutes, a Negative Declaration is determined to be in order.

SECTION 4  
CONSULTING AGENCIES LIST

The following is a list of the agencies to be consulted for this Environmental Assessment:

**Federal**

Environmental Protection Agency  
P. O. Box 50003  
Honolulu, Hawaii 96850

Mr. Warren M. Lee, State Conservationist  
Soil Conservation Service  
U. S. Department of Agriculture  
P. O. Box 50004  
Honolulu, Hawaii 96850

LTC Donald Wynn  
U. S. Army Engineer District, Honolulu  
Building 230  
Fort Shafter, Hawaii 96858

Mr. Ernest R. Kosaka, Field Office Supervisor  
Pacific Islands Office  
Fish and Wildlife Service  
U. S. Department of the Interior  
P. O. Box 50167  
Honolulu, Hawaii 96850

Department of the Navy  
Navy Public Works Center  
Pearl Harbor, Hawaii 96860-5470

**STATE**

Dr. John C. Lewin, Director  
Department of Health  
State of Hawaii  
P. O. Box 3378  
Honolulu, Hawaii 96801

Mr. Harold S. Matsumoto, Director  
Office of State Planning  
Officer of the Governor  
State of Hawaii  
State Capitol, Room 410  
Honolulu, Hawaii 96813

Mr. William W. Paty, Chairman  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Mr. Murray Towill, Director  
Department of Business and Economic Development  
State of Hawaii  
P. O. Box 2359  
Honolulu, Hawaii 96804

Mr. Edward Y. Hirata, Director  
Department of Transportation  
State of Hawaii  
869 Punchbowl St.  
Honolulu, Hawaii 96813-5097

Ms. Jacqueline Miller  
Associate Environmental Coordinator  
Environmental Center  
University of Hawaii  
Crawford 317  
2250 Campus Road  
Honolulu, Hawaii 96822

Mr. Brian J. J. Choy, Director  
Office of Environmental Quality Control  
State of Hawaii  
225 South King St., 4th Floor  
Honolulu, Hawaii 96813



## CITY

Mr. Kazu Hayashida, Manager and Chief Engineer  
Board of Water Supply

Mr. Benjamin B. Lee, Chief Planning Officer  
Department of General Planning

Mr. Donald A. Clegg, Director  
Department of Land Utilization

Mr. Joseph Magaldi, Director  
Department of Transportation Services

Mr. Walter M. Ozawa, Director  
Department of Parks and Recreation

## GOVERNMENT OFFICIALS

Honorable Milton Holt  
State Senate  
State Capitol, Room 502  
Honolulu, Hawaii 96813

Honorable Emilio Alcon  
House of Representatives  
235 S. Beretania Street, Room 1303  
Honolulu, Hawaii 96813

Honorable Dennis Arakaki  
House of Representatives  
235 S. Beretania Street, Room 1110  
Honolulu, Hawaii 96813

Honorable Donna Mercado Kim  
City Council  
530 S. King Street, 2nd Floor  
Honolulu, Hawaii 96813

## UTILITY COMPANIES

Mr. William Bonnet, Manager  
Environmental Department  
Hawaiian Electric Company, Inc.  
P. O. Box 2750  
Honolulu, Hawaii 96840

Mr. Walter M. Matsumoto, Operations Manager  
OSP Engineering  
Hawaiian Telephone Co.  
P. O. Box 2200  
Honolulu, Hawaii 96841

Mr. Edwin N. Sawa, Manager, Engineering  
GASCO, Inc.  
P. O. Box 3379  
Honolulu, Hawaii 96842

#### ORGANIZATIONS AND INDIVIDUALS

Chairman Victor Mon  
Kalihi Palama Neighborhood Board No. 15  
1260 Richard Lane, #B-607  
Honolulu, Hawaii 96819

Life of the Land  
2500 Pali Highway  
Honolulu, Hawaii 96817

Sierra Club, Hawaii Chapter  
212 Merchant St., Room 201  
Honolulu, Hawaii 96813

Mr. Phillip Chun, President  
Kalihi Business Association  
P.O. Box 17729  
Honolulu, Hawaii 96817

Mr. Geoffrey Pang, President  
Kalihi Palama Community Council  
1117 Kaili Street  
Honolulu, Hawaii 96819

APPENDIX

APPENDIX  
CONSULTATION PHASE COMMENTS AND RESPONSES

The following agencies, organizations, and individuals provided comments on the environmental impact assessment during the consultation period.

A single asterisk (\*) indicates those which submitted written comments not requiring substantive responses. The comment letters are reproduced in this appendix.

A double asterisk (\*\*) indicates those which submitted written comments requiring substantive responses. The comment and response letters are also reproduced in this appendix.

- \* City & County of Honolulu, Board of Water Supply
- \* City & County of Honolulu, Dept. of General Planning
- \*\* City & County of Honolulu, Dept. of Land and Natural Resources
- \*\* City & County of Honolulu, Dept. of Land Utilization
- \* City & County of Honolulu, Dept. of Parks and Recreation
- \* City & County of Honolulu, Dept. of Transportation
- \* Hawaiian Electric Company, Inc.
- \* Hawaiian Telephone Company, Inc.
- \*\* State of Hawaii, Dept. of Business, Economic Development & Tourism
- \*\* State of Hawaii, Dept. of Health
- \* State of Hawaii, Office of Environmental Quality Control
- \* State of Hawaii, Office of State Planning
- \* State of Hawaii, Dept. of Transportation
- \*\* U.S. Dept. of Agriculture, Soil Conservation Service
- \* U.S. Dept. of Defense, Dept. of the Army

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU HAWAII 96813



November 7, 1991

91-4505

FRANK F. TASH, Mayor  
WALTER WILSON, JR., Chairman  
MALCOLM H. YAMASATO, Vice-Chairman  
JOHN W. ANDERSON, Jr.  
SAM CALLEJO  
EDWARD Y. IBERATA  
MELISSA V. J. LUI  
KAZU HAYASHIDA  
Manager and Chief Engineer

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU  
630 SOUTH KING STREET  
HONOLULU HAWAII 96813



FRANK F. TASH, Mayor

SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
310 MICHAEL STREET  
HONOLULU HAWAII 96813

MPP 91-529

November 19, 1991

TO: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

FROM: FOR KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER  
BOARD OF WATER SUPPLY *Kaz Hayashida*

SUBJECT: YOUR MEMORANDUM DATED OCTOBER 10, 1991 REGARDING  
THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED  
SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS,  
UNIT 1, PHASE 2A, IMK 1-5-41: 5

Thank you for the opportunity to review and comment on the Sand Island Wastewater Treatment Plant's proposed biochemical oxygen demand removal facilities. We have no objections to the proposed project.

The availability of additional water will be confirmed when the building permit is submitted for our review and approval. When water is made available, the applicant will be required to pay any applicable Water System Facilities Charges.

If you have any questions, please contact Bert Kuiuoka at 527-5235.

MEMORANDUM

TO: MR. KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER  
BOARD OF WATER SUPPLY

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND  
WASTEWATER TREATMENT MODIFICATIONS, UNIT 1, PHASE 2A -  
30% BOD REMOVAL FACILITIES

Thank you for your November 7, 1991 comments on the subject assessment. The project will attempt to minimize potable water use through the use of treated effluent. Any applicable water system facilities charges will be paid.

A copy of your memorandum will be appended to the Environmental Assessment. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5388.

cc: R. H. Towill Corporation

*S. Callejo*  
SAM CALLEJO  
Director and Chief Engineer

DEPARTMENT OF GENERAL PLANNING  
CITY AND COUNTY OF HONOLULU

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MEMORANDUM

BENJAMIN B. LEE  
DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS



TH 10/91-3242

November 8, 1991

MEMORANDUM

TO: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

FROM: BENJAMIN B. LEE, CHIEF PLANNING OFFICER  
DEPARTMENT OF GENERAL PLANNING

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND  
WASTEWATER TREATMENT PLANT MODIFICATIONS, UNIT 1,  
PHASE 2A, 301 BOD REMOVAL FACILITIES, OAHU, HAWAII

In response to your memorandum of October 20, 1991, we have reviewed the subject Environmental Assessment and have the following comments:

We concur with your decision to file a Negative Declaration for this project. However, the project site is in the Special Management Area (SMA) and will require a Special Management Area Use Permit.

Thank you for the opportunity to comment on this project. Should you have any questions, please contact Tim Hata of our staff at 527-6070.

*B. Lee*  
BENJAMIN B. LEE  
Chief Planning Officer

BBL:ft

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU



November 19, 1991

MPP 91-530

MEMORANDUM

TO: MR. BENJAMIN B. LEE, CHIEF PLANNING OFFICER  
DEPARTMENT OF GENERAL PLANNING

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND  
WASTEWATER TREATMENT PLANT MODIFICATION, UNIT 1,  
PHASE 2A - 303 BOD REMOVAL FACILITIES

Thank you for your November 8, 1991 comments on the subject assessment. We will be applying for the Special Management Area Use Permit upon completion of the Environmental Assessment (EA).

A copy of your memorandum will be appended to the EA. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5388.

*S. Callejo*  
SAM CALLEJO  
Director and Chief Engineer

CC: R. M. Towill Corporation

Mr. S. Callejo -2- File No.: 92-243

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NOV 26 2 11 PM '91



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 511  
HONOLULU, HAWAII 96813

REF:OCEA:SNK  
NOV 23 1991

FILE NO.: 92-243  
DOC. NO.: 2044E

The Honorable Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Callejo

Subject: Draft Environmental Assessment for Sand Island Wastewater Treatment Plant Modifications - Unit 1, Phase 2A

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the materials you submitted and have the following comments.

Brief Description:

The applicant proposes modifications to improve wastewater treatment at the Sand Island Wastewater Treatment Plant (WWTP) facility on Sand Island to achieve at least 30% biochemical oxygen demand (BOD) and suspended solids (SS) removal.

Included in the modification plans are a new pump station, transfer and return pump stations, and a screening facility to improve the flow pattern. This would include construction for connecting the old and modified facilities.

DIVISION OF AQUATIC RESOURCES:

This proposed project is not expected to adversely impact aquatic resources, since standard mitigation measures will be implemented during construction to prevent short term impacts.

7/15/91

91-0736

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

MEMBER  
SIRINA W. JUNG  
MURRAY TACHIBANA  
DAN T. KOCHI

ADMINISTRATIVE ASSISTANT  
SANDRA L. HARRIS

CHIEF OF DIVISION  
CHRISTOPHER W. HARRIS

CONSTRUCTION AND  
RECONSTRUCTION DIVISION  
COMPLIANCE AND PERMITTING  
SECTION

PERMITTING AND  
REGISTRATION SECTION

STATE PLANS  
SECTION

STATE AND LAND DEVELOPMENT  
SECTION

*W. Paty*  
*11/21/91*  
*awm*

The applicant should ensure that if chemical treatment is used, no potentially harmful residual chemicals remain in the effluent that would be discharged into the marine environment. This would include compounds added in the treatment process as well as any compounds that may form in the process.

Finally, precautions should be taken during the construction to prevent eroded soils, debris, chemicals, petroleum products, and other potential contaminants from entering the aquatic environment.

HISTORIC PRESERVATION DIVISION COMMENTS:

This parcel is fill land. Construction of new facilities at the parcel will have "no effect" on historic sites.

Thank you for your cooperation in this matter. Please feel free to contact the Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

WILLIAM W. PATY

Attachments

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU

540 SOUTH KING STREET  
HONOLULU HAWAII 96813



FRANK P. ZARO  
MAILING

SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C. MICHAEL STANT  
DEPUTY DIRECTOR

MPP 91-571

December 9, 1991

Mr. William M. Paty, Director  
State of Hawaii  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Paty:

Subject: Draft Environmental Assessment for the Sand Island  
Wastewater Treatment Plant Modifications, Unit 1,  
Phase 2A - 301 BOD Removal Facilities

Thank you for your November 22, 1991 comments on the subject  
assessment. We have the following responses to the comments by  
the Division of Aquatic Resources:

1. The chemical treatment facilities will be utilizing  
organic polymers. These synthetic organic chemicals  
and their byproducts are harmless to the environment.  
These polymers are of the same class that is typically  
used in water treatment for drinking waters.
2. Precautions will be taken during construction to  
prevent eroded soils, debris, chemicals, petroleum  
products, and other potential contaminants from  
entering the aquatic environment. Construction  
Management personnel will be monitoring these items.

A copy of your letter will be appended to the Environmental  
Assessment. If there are any questions, please contact  
Mr. Charles Yoshimoto at 527-5388.

Very truly yours,

*C. Michael Stant*  
SAM CALLEJO  
Director and Chief Engineer

cc: R.M. Towill Corporation



DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

91-4542

81511411  
DEPT OF PUBLIC UTILITIES  
150 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • PHONE 523-6433

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WAM  
DONALD A. CLEGG  
DIRECTOR  
LJ10/91-8398 (DJR)

November 12, 1991

**MEMORANDUM**

**TO:** SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

**FROM:** DONALD A. CLEGG, DIRECTOR

**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR SAND ISLAND  
WASTEWATER TREATMENT PLANT, HONOLULU, OAHU  
TAX MAP KEY: 1-5-41: 05

We have reviewed the DEA for the above project and offer the following questions and comments:

1. Page 8 of the DEA states that the effluent quality in the ocean ecosystem will be improved. The Environmental Assessment (EA) should provide documentation to substantiate this statement.
2. A site plan or plans should be included for the entire parcel showing the new and existing structures.
3. What is the time frame for construction of the new facilities?
4. The EA should include elevation drawings for the new facilities.
5. Describe existing landscaping which will be removed when the proposed structures are built.

Thank you for the opportunity to comment. If you have any questions regarding this letter, please call Dana Kohama of our Environmental Affairs Branch at 523-4648.

*Donald Clegg*

DONALD A. CLEGG  
Director of Land Utilization

DAC:cct  
sundale.djk

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU

150 SOUTH KOWALEWICZ STREET  
HONOLULU, HAWAII 96813



PHONE 538-5000  
TELEFAX 538-5000


SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C. MICHAEL STREET  
HONOLULU, HAWAII

November 22, 1991

WPP 91-532

Mr. Donald A. Clegg - 2 - November 22, 1991

A copy of your memorandum will be appended to the Environmental Assessment. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5398.

  
SAM CALLEJO  
Director and Chief Engineer

cc: R. M. Towill Corporation

MEMORANDUM

TO: MR. DONALD A. CLEGG, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND  
WASTEWATER TREATMENT PLANT MODIFICATIONS, UNIT 1,  
PHASE 2A - 30% BOD REMOVAL FACILITIES

Thank you for your November 12, 1991 comments on the subject assessment. We have the following responses to the five (5) comments listed in your memorandum:

1. The purpose of the project is to elevate the treatment level such that the removal of organics (as measured by Biochemical Oxygen Demand (BOD)) is increased. The net reduction of organics discharged to the ocean environment would therefore result in a neutral, at worst, or a beneficial impact on the environment by reducing the oxygen demand load.
2. The final Environmental Assessment will include a site plan for the entire parcel.
3. The Notice to Proceed to begin on construction is expected in March 1992 with completion of construction by September 1993.
4. Elevation drawings on the major facilities will be included in the final Environmental Assessment.
5. There are several major trees which will be relocated. A landscaping beltway within the treatment plant boundaries bordering the Sand Island Parkway will be implemented. The largest trees will be relocated along this beltway. The smaller trees and plantings will be relocated at appropriate locations within the plant.

DEPARTMENT OF PARKS AND RECREATION  
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET  
HONOLULU HAWAII 96813 DEPT. OF PUBLIC WORKS



OCT 23 9 43 AM '91

91-2322

WWM

WALTER M. OZAWA  
DIRECTOR

ALVIN K. AU  
DEPUTY DIRECTOR

FRANK F. FASI  
MAYOR

October 25, 1991

TO: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR SAND ISLAND  
WASTEWATER TREATMENT PLANT MODIFICATIONS,  
UNIT 1, PHASE 2A, 30% BOD REMOVAL FACILITIES;  
WPP 91-463q; TAX MAP KEY 1-5-41: 5

Thank you for the opportunity to review the subject  
Environmental Assessment. Proposed plant modifications  
will not affect any facilities or services provided by  
the Department of Parks and Recreation.

  
WALTER M. OZAWA, Director

WMO:ei

DEPARTMENT OF TRANSPORTATION SERVICES  
**CITY AND COUNTY OF HONOLULU**  
150 SOUTH KING STREET  
HONOLULU, HAWAII 96813

91-4394

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FRANK FEAR  
WATER

TE-5402  
PL91.1.353

November 1, 1991

**MEMORANDUM**

**TO:** *WMB* STREET, ACTING DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

**FROM:** JOSEPH M. MAGALDI, JR., DIRECTOR

**SUBJECT:** SAND ISLAND WASTEWATER TREATMENT PLANT  
MODIFICATIONS, UNIT 1, PHASE 2A  
DRAFT ENVIRONMENTAL ASSESSMENT  
TRK: 1-5-41: 05

This is in response to your memorandum of October 10, 1991 requesting our comments on the subject environmental assessment. Based on our review, we have no objections to the proposed modifications at this time. However, construction plans for work within the City's road right-of-way should be submitted to us for review.

Should you have any questions, please contact Lance Watanabe of my staff at local 4199.

*JM*  
JOSEPH M. MAGALDI, JR.

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**  
150 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK FEAR  
WATER

SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C. MICHAEL STREET  
DEPUTY DIRECTOR

November 27, 1991

MPP 91-546

**MEMORANDUM**

**TO:** MR. JOSEPH MAGALDI, DIRECTOR  
DEPARTMENT OF TRANSPORTATION SERVICES

**FROM:** SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND  
WASTEWATER TREATMENT MODIFICATIONS, UNIT 1, PHASE 2A -  
201 BOD REMOVAL FACILITIES

Thank you for your November 1, 1991 comments on the subject assessment. Construction plans will be submitted to your Department if any work occurs within the City's road right-of-way.

A copy of your memorandum will be appended to the Environmental Assessment. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5388.

*SC*  
SAM CALLEJO  
Director and Chief Engineer

cc: R. M. Towill Corporation

**GTE Hawaiian Tel**

*Beyond the call*

GTE Hawaiian Telephone Company Incorporated  
PO Box 2200 · Honolulu, HI 96841 · (808) 546-4511

91-4272

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WWM  
10/20/91  
MP

October 21, 1991

City and County of Honolulu  
Department of Public Works  
650 South King Street  
Honolulu, Hawaii 96813

Attention: Mr. Sam Callejo

Dear Mr. Callejo:

Draft Environmental Assessment for Sand Island  
Wastewater Treatment Plant Modifications -  
Unit 1, Phase 2A, 30% BOD Removal Facilities,  
Oahu, Hawaii

Thank you for the opportunity to review and comment on the subject project. The proposed project will not affect our facilities in the area of your project, and no service interruption to our customers is expected as a result of this project.

If you should require additional information or assistance, please do not hesitate to call me at 546-3464.



Walter M. Matsumoto  
Operations Manager -  
OSP Engineering

MKT/kr (8562.1tr)



William A Bonnet  
Manager  
Environmental Department

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91-4436

WWM

November 1, 1991

Mr. Sam Callejo  
Department of Public Works City & County of Honolulu  
650 South King Street, 5th Floor  
Honolulu, HI 96813

Dear Mr. Callejo:

Subject: Draft Environmental Assessment for  
Sand Island Wastewater Treatment Plant  
Modifications - Unit 1, Phase 2A  
30% BOD Removal Facilities, Oahu, Hawaii

We have reviewed the subject DEA, and have no comments at this time on the the proposed project in the subject area. The existing service in the area should provide adequate power to the treatment plant and its proposed modifications.

Sincerely,



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

Central Pacific Plaza, 278 South King Street, 11th Floor, Honolulu, Hawaii  
Building Address: P.O. Box 1219, Honolulu, Hawaii 96804 Telephone: (808) 586-1200 Fax: (808) 586-5177

Ref. No. W-1050

91-4578  
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OCT 29 1991

cc: DIR DEP WWT  
10/24/91  
BWM

October 29, 1991

Honorable Sam Callejo, Director  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Callejo

**SUBJECT: Comments on Draft Environmental Assessment for the Sand Island  
Wastewater Treatment Plant Modifications - Unit 1, Phase 2A, 30%  
BOD Removal Facilities**

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (EA) for the Sand Island Wastewater Treatment Plant (WWTP) Modifications. As described in the Draft EA, the proposed project involves the development of facilities to insure that the Sand Island WWTP's primary treatment process meets new regulations being proposed by the Environmental Protection Agency (EPA).

We are in support of your efforts to improve the primary treatment process for Sand Island WWTP. The Honolulu Waterfront Master Plan calls for the development of Keehi Lagoon and the surrounding shoreline as a major marine recreation area. Improvements to water quality resulting from the proposed project can be expected to enhance recreational use of Keehi Lagoon and surrounding waters.

The siting of the proposed WWTP modifications immediately adjacent to the northwest boundary of the WWTP parcel limits options for the future development of the Sand Island Parkway and the siting of facilities for the proposed City and County of Honolulu Corporation Yard. As described in the Honolulu Waterfront Master Plan, the Sand Island Parkway is planned to proceed along an at-grade alignment passing between the Sand Island WWTP and the proposed corporation yard and along a boundary adjacent to the Sand Island State Park. The exact location of the right-of-way between the WWTP and the corporation yard has been the subject of recent informal discussions between DBED and the City's consultant for the project, Wilson Okamoto and Associates. At these discussions, the concept of shifting a major portion of the required right-of-way from the corporation yard parcel to the WWTP parcel was advanced as an option for minimizing modifications to the May 1989 Sand

Sam Callejo  
Page 2

Island Corporation Yard Master Plan. The location of the proposed WWTP modifications would appear to foreclose this option.

As you are aware the State and City have been pursuing plans for the development of the Sand Island Corporation Yard in accordance with the 1987 corporation yard agreement. Development of this facility is becoming increasingly important to insure the timely implementation of other waterfront projects. As a result we recommend that you consider the possibility of siting the proposed WWTP modifications, specifically the force mains and valve box, farther inland to accommodate the Sand Island Parkway right-of-way.

We look forward to the opportunity of working with you to realize the successful implementation of the Sand Island Corporation Yard and the proposed WWTP modifications. If you should have any questions, please contact Ed Marcus, Waterfront Project Manager, at 586-2532.

Murray E. Towill  
Director

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**  
90 SOUTH KING STREET  
HONOLULU HAWAII 96813

FRANK P. KAO  
DIRECTOR



SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
3 MICHAEL STREET  
SENIOR DESIGNER

WPP 91-522

November 27, 1991

Mr. Murray E. Towill, Director  
Department of Business,  
Economic Development & Tourism  
P. O. Box 2359  
Honolulu, Hawaii 96804

Dear Mr. Towill:

Subject: Draft Environmental Assessment for the Sand Island  
Wastewater Treatment Plant Modifications, Unit 1,  
Phase 2A - 30% BOD Removal Facilities

Thank you for your October 29, 1991 comments on the subject assessment. Subsequent to receiving your letter, several meetings (including 11/21/91 meeting) were held with your staff and other State agencies to discuss the Sand Island Parkway passing between the Sand Island Wastewater Treatment Plant (WWTP) site and the proposed corporation yard and along a boundary adjacent to the Sand Island State Park.

It is now our understanding that the Parkway road alignment will not conflict with the 30% BOD Removal Facilities on the Ewa (west) side, but still would conflict with possible future design requirements (secondary treatment) along the south eastern portion of the site.

As indicated at the meeting, any encroachment into the WWTP site will impact on future plant expansion because the present land area is less than the normal required for a secondary treatment facility. Therefore, we will require a land exchange of an equivalent area on the north or east side of the existing WWTP site if we lose the southeastern portion.

For your information, the Sand Island WWTP, presently a primary treatment facility, received a waiver from secondary treatment by the Environmental Protection Agency (EPA) which will expire February 1995. Although the waiver permit is currently not effective due to evidentiary hearing requests, the expiration date (2/95) is still effective. Waiver permits require reapplication every five years. Thus, if the reapplication for Sand Island WWTP is denied, the City will be required to construct secondary treatment facilities.

Mr. Murray E. Towill

- 2 -

November 27, 1991

A copy of your letter will be appended to the Environmental Assessment. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5888.

Very truly yours,

SAM CALLEJO  
Director and Chief Engineer

cc: R. M. Towill Corporation



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STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 2789  
HONOLULU, HAWAII 96813

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91-4502

JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

6/2/91

In reply, please refer to  
File: ENDCWB

November 1, 1991

PI152SC

Mr. Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, HI 96813

Dear Mr. Callejo:

Subject: Draft Environmental Assessment for Sand Island Wastewater Treatment Plant Modifications - Unit 1, Phase 2A 30% BOD Removal Facilities, Oahu, Hawaii

In response to your letter dated October 10, 1991, we have the following comments:

1. Although the present design flow data was presented in section 1.3 Design Parameters, it is not clear in the presentation why this design is not reflecting future flow capacity.
2. The analysis of the proposed design does not address whether it is capable to perform as expected nor does it provide a sensitivity analysis.
3. There is no comparative analysis, either addressing performance or economics, provided for this design.

Should there be any questions regarding this matter, please contact Mr. Dennis Tulang, Chief of the Wastewater Branch, at 586-4294.

Very truly yours,

*John C. Lewin*  
JOHN C. LEWIN, M.D.  
Director of Health

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU  
300 SOUTH KING STREET  
HONOLULU, HAWAII 96813



NOV 29 1991

SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C. MICHAEL STREET  
HONOLULU, HAWAII 96813

November 22, 1991

WPP 91-540

Dr. John C. Lewin  
Director of Health  
State Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

Attention: Dennis Tulang

Dear Dr. Lewin:

Subject: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2a - 30% BOD Removal Facilities

Thank you for your November 1, 1991 comments on the subject assessment. The three comments in your letter are partially addressed in the Preliminary Engineering and Engineering Design Report (PEED) recently submitted (October 1991) to your agency. The submittal identified as Submittal Package #5) is the second submittal presented to your agency. The following are our responses to your comments:

1. The development of design criteria, design flows and planning for the future design flows are presented in the PEED report.
2. The capability of the facility to perform as expected and contingency measures are discussed in the PEED report. Similar benefits have been recognized at the Honolulu WWTP and Waianae WWTP. The literature also supports this analysis.
3. The comparative analysis addressing performance and economic analysis is presented in the PEED report.

A copy of your letter will be appended to the Environmental Assessment. If there are any questions, please contact Mr. Charles Yoshimoto at 527-5388.

Very truly yours,

*Sam Callejo*  
SAM CALLEJO  
Director and Chief Engineer

cc: R. M. Towill Corporation

JOHN WARREN  
GOVERNOR



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813

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91-4382

BRIAN J. JOY  
Director

TO \_\_\_\_\_

WJM

October 29, 1991

Mr. Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Callejo:

Subject: Draft Environmental Assessment for Sand Island  
Wastewater Treatment Plant Modifications - Unit 1, Phase 2A 30% BOD  
Removal Facilities, Oahu, Hawaii

Thank you for the opportunity to review the subject document. We  
have no comments to offer.

Sincerely,

*Brian J. J. Choy*

Brian J. J. Choy  
Director



**OFFICE OF STATE PLANNING**

Office of the Governor

MAILING ADDRESS: P.O. BOX 3840, HONOLULU, HAWAII 96811-3840  
STREET ADDRESS: 380 SOUTH HOTEL STREET, 4TH FLOOR  
TELEPHONE: (808) 587-3848, 587-3800

91-4453

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FAX: Governor's Office 587-3848  
Planning Division 587-3824

October 31, 1991

*WWM*

Mr. Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Callejo:

Subject: Draft Environmental Assessment for  
Sand Island Wastewater Treatment Plant  
Modification - Unit 1, Phase 2A  
30% BOD Removal Facilities, Oahu, Hawaii

We have reviewed the Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications. It is our understanding that the modifications are necessary in order for the plant to consistently meet the 30 percent biochemical oxygen demand (BOD) removal requirement.

We have no comments to offer at this time. Thank you for the opportunity to review the project.

Sincerely,

*Harold S. Masumoto*  
for Harold S. Masumoto  
Director

cc: Mr. Douglas Tom, CZM

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

P. O. BOX 50004  
HONOLULU, HAWAII  
96850

91-4433

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Mr. Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**  
300 SOUTH KING STREET  
HONOLULU, HAWAII 96813



SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C. MICHAEL STREET  
HONOLULU, HAWAII

MPP 91-524

November 18, 1991

Dear Mr. Callejo:

Subject: Draft Environmental Assessment (EA) for Sand Island  
Wastewater Treatment Plant Modifications - Unit 1; Phase 2A,  
30% BOD Removal Facilities, Oahu, Hawaii

We have reviewed the subject Draft EA and have no comments on the  
proposed Waste Treatment Plant modifications. We would, however, like  
to comment on Section 2.1.7 regarding the disposal of the resulting  
solid waste.

With Oahu's limited sanitary landfill capacity, has your department  
considered alternative disposal methods for this material? The  
alternatives, which include composting and use as fertilizer, could  
reduce the need for landfill disposal while perhaps generating revenue  
to cover part of the operating costs of the treatment facility.

Thank you for the opportunity to review this document.

Sincerely,

*Warren M. Lee*  
WARREN M. LEE

ACTING  
State Conservationist

Mr. Warren M. Lee  
State Conservationist  
Soil Conservation Service  
P. O. Box 50004  
Honolulu, Hawaii 96850

Dear Mr. Lee:

Subject: Draft Environmental Assessment for the Sand Island  
Wastewater Treatment Plant Modifications, Unit 1,  
Phase 2A - 30% BOD Removal Facilities

Thank you for your October 30, 1991 comments on the subject  
assessment. With regard to your comment on Section 2.1.7, Solid  
Waste, the City and County of Honolulu is presently studying  
alternatives to the disposal methods. A consultant has been  
contracted to develop a Sludge Management Plan (including any  
solid waste from wastewater facilities) for the island of Oahu.  
The alternatives to be evaluated include composting, land  
application, incineration, and marketing as a soil conditioner.  
Besides costs, though, sludge quality standards proposed by the  
EPA and other agencies may limit the feasibility of some  
alternatives.

A copy of your letter will be appended to the Environmental  
Assessment. If there are any questions, please contact Charles  
Yoshimoto at 527-5388.

Very truly yours,

*C. Michael Street*

SAM CALLEJO  
Director and Chief Engineer

cc: R.M. Towill Corporation



DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
FT QUARTER HAWAII 96813

October 29, 1991

91-4457

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OFFICE OF THE DISTRICT ENGINEER  
NOV 6 3 27 PM '91

Planning Division

Mr. Sam Callejo  
Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
550 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Callejo:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications - Unit 1, Phase 2A, 30% BOD Removal Facilities, Honolulu, Hawaii. The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

- a. A DA permit is not required.
- b. According to the Federal Emergency Management Agency's Flood Insurance Rate Map, Panel 150001-0115-C, dated September 28, 1990 (copy enclosed), the project site is located in Zone X - unshaded (areas determined to be outside the 500-year flood plain).

Sincerely,

*[Signature]*  
Kisuk Cheung  
Director of Engineering

Enclosure

**LEGEND**

**SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**

**ZONE A** Areas of 500-year flood, 100-year flood with average depth of less than 1 foot or with drainage area less than 1 square mile; and areas not mapped by levees from 100-year flood.

**ZONE AE** Areas determined to be special flood hazard areas.

**ZONE AH** Areas in which flood hazards are undetermined.

**ZONE AO** Areas in which flood hazards are undetermined.

**ZONE A99** Areas determined to be special flood hazard areas.

**ZONE V** Coastal flood with velocity based flood, which has been determined to be a special flood hazard area.

**ZONE VE** Coastal flood with velocity based flood, which has been determined to be a special flood hazard area.

**FLOODPLAIN AREAS IN ZONE AE**

**OTHER FLOOD AREAS**

**ZONE X** Areas of 500-year flood, 100-year flood with average depth of less than 1 foot or with drainage area less than 1 square mile; and areas not mapped by levees from 100-year flood.

**OTHER AREAS**

**ZONE X** Areas determined to be special flood hazard areas.

**ZONE D** Areas in which flood hazards are undetermined.

**Flood Boundary**

**Fluvial Boundary**

**Zone D Boundary**

**Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Zone Flood Elevation Zones, Special Flood Hazard Zones**

**Base Flood Elevation Line, Elevation in Feet**

**Cross Section Line**

**Base Flood Elevation in Feet Where Uniform Within Zone**

**Elevation Reference Mark**

**573**

**REL 9871**

**R1M7X**

Reference to the National Geodetic Vertical Datum of 1929

**NOTES**

This map is for use in administering the National Flood Insurance Program. It does not constitute a warranty of any kind, and it is not intended to be used for any purpose other than for the purposes stated herein.

Areas of special flood hazard (100 year flood) include Zones A, AE, AO, AH, VE, V, and X.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and are not intended to be used for any purpose other than for the purposes stated herein. Considerations with regard to requirements of the Federal Emergency Management Agency.

Boundary widths in some areas may be less than one foot to scale.

Boundary widths are provided in the Flood Insurance Study Report.

Special Flood Hazard Elevation apply only to buildings of the structure. Elevation reference marks are determined in the Flood Insurance Study Report.

**FIRM**  
**FLOOD INSURANCE RATE MAP**

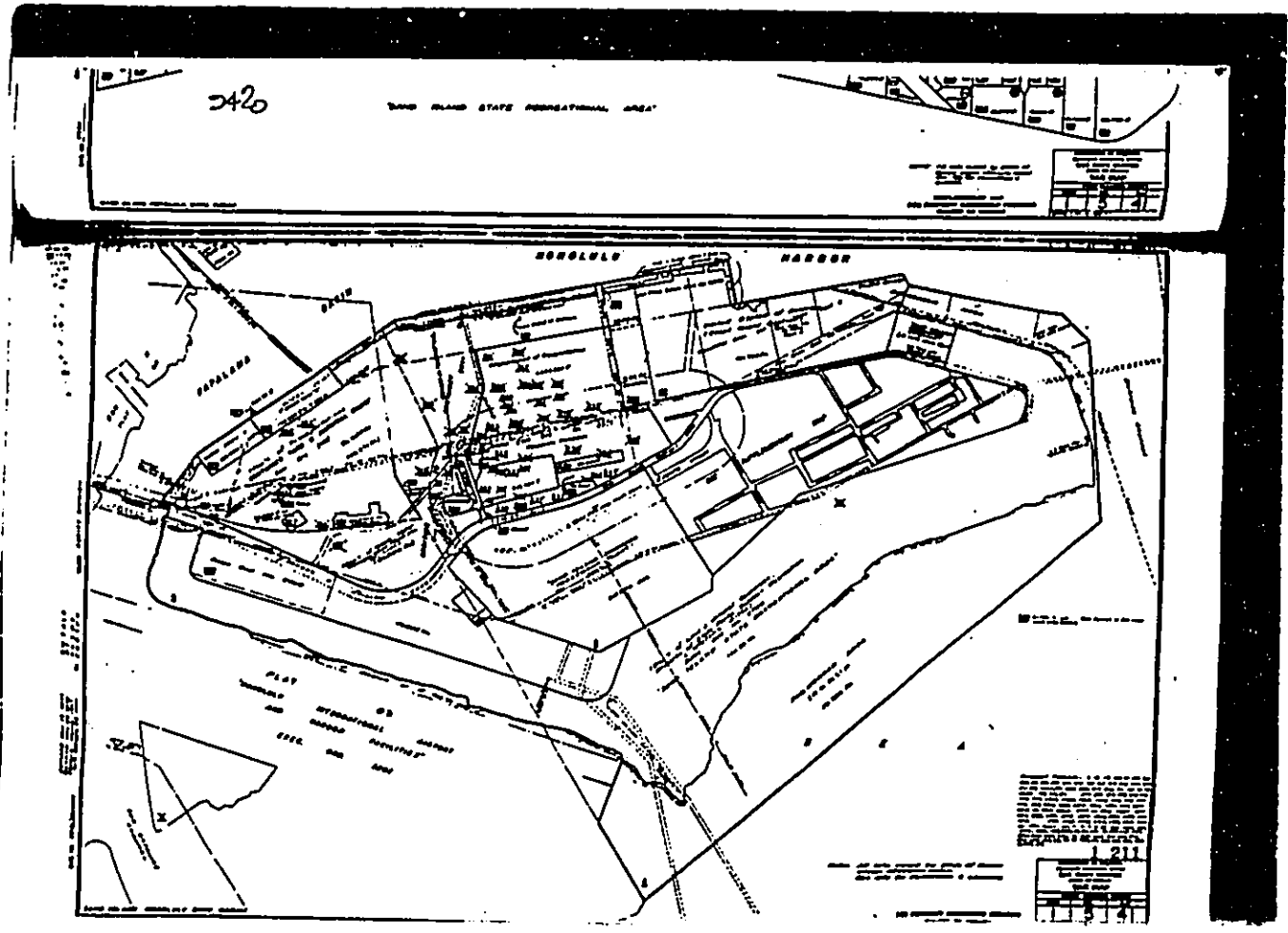
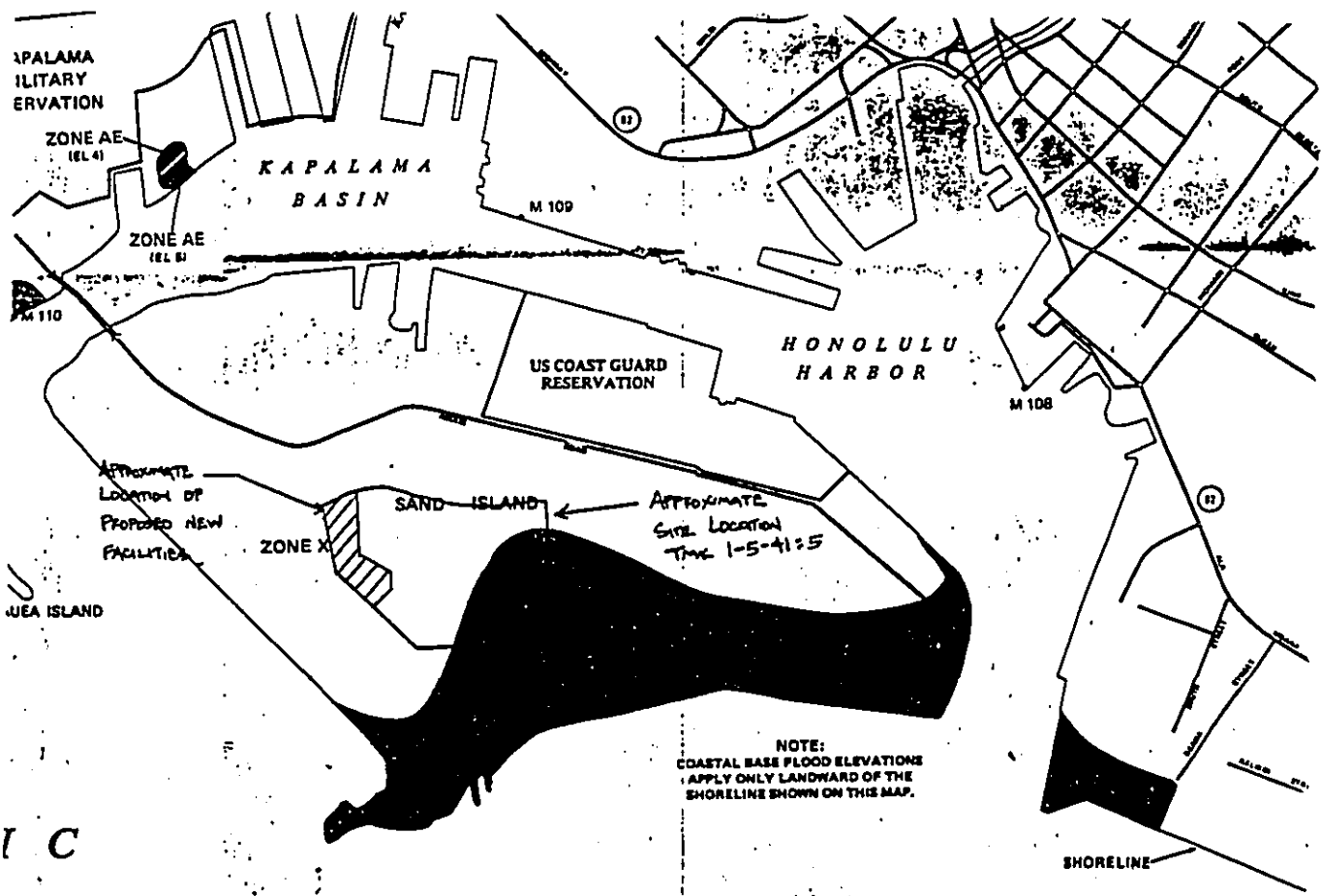
CITY AND COUNTY OF HONOLULU, HAWAII

PANEL 15 OF 15

COMMUNITY PANEL NUMBER 150001 0115C

MAP REVISION SEPTEMBER 28, 1990

United States Army Corps of Engineers  
Federal Emergency Management Agency



DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**  
430 SOUTH KING STREET  
HONOLULU HAWAII 96813



GENERAL  
ENGINEERING AND SURVEYING  
C. MICHAEL STURT  
DIRECTOR

MPP 91-523

November 18, 1991

Mr. Kisuk Cheung  
Director of Engineering  
Department of the Army  
U. S. Army Engineering District, Honolulu  
Fort Shafter, Hawaii 96858-5440

Attention: Planning Division

Dear Mr. Cheung:

Subject: Draft Environmental Assessment for the Sand Island  
Wastewater Treatment Plant Modifications, Unit 1,  
Phase 2A - 301 BOD Removal Facilities

Thank you for your October 29, 1991 comments on the subject  
assessment. We appreciate your precise definition of the flood  
hazards of the subject project.

A copy of your letter will be appended to the Environmental  
Assessment. If there are any questions, please contact  
Mr. Charles Yoshimoto at 527-5388.

Very truly yours,

*C. Michael Sturt*  
SAM CALLEJO  
Director and Chief Engineer

cc: R. M. Towill Corporation