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
R. M. Towle Corporation
420 Wainiha St., Suite 411 Honolulu, Hawaii 96817-4941 (808) 842-1333 • Fax (808) 842-1937
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
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 CALLEIJO
Director and Chief Engineer

PREPARED BY:

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

12-11-91 Date
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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)\(^1\) and 30 percent suspended solids (SS)\(^2\) removal. The Sand Island WWTP has a history of not

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

\(^2\)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 Honolulu 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 (FeSO₄, FeCl₂), alum (Al₂SO₄·H₂O), 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

-5-
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

1989

![Graph showing BOD and SS % removal rates for 1989.]

- Red: BOD / SS % Rem.
- Blue: BOD % Removal
- Green: 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

REMOVAL RATE, %

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
MONTH, 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

\sitp\pt

10/01/91
SAND ISLAND WWTP - BOD AND SS LEVELS
1989

CONCENTRATION (mg/L)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
MONTH, 1989

\[\text{SAND ISLAND WWTP MODIF., UNIT 1, PHASE 2A EA FOR 30% BOD REMOVAL FACILITIES}
\]

\[\text{FIGURE 1-8}
\]

\[1989 - BOD & SS INFLUENT AND EFFLUENT CONCENTRATIONS}\]
CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S) IMMEDIATELY FOLLOWING
SAND ISLAND WWTP - BOD AND SS LEVELS
1990

CONCENTRATION (mg/L)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
MONTH, 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

\site\rpt 10/01/91
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
Office 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 Kalihi Street
Honolulu, Hawaii 96819
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
MEMORANDUM

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

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER
   DEPARTMENT OF WATER SUPPLY

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED
SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS,
UNIT 1, PHASE 2A - 2003-600 ENROVAL 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 527-3388.

Sincerely,

[Signature]

SAM CALLEJO
Director and Chief Engineer

CC: R. M. Towill Corporation
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 -- SIA WETLAND FACILITIES, OAHU, HAWAII

November 8, 1991

In response to your memorandum of October 10, 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.

Benjamin B. Lee
Chief Planning Officer

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 MODIFICATIONS, UNIT 1,
            PHASE 2A -- SIA WETLAND FACILITIES

November 19, 1991

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 527-5308.

Sam Callejo
Director and Chief Engineer

R.N. Towill Corporation
Mr. S. Callejo

The applicant should ensure that if chemical treatment is used, no potentially hazardous 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 587-0373 should you have any questions.

Very truly yours,

WILLIAM M. PATY

Attachments

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 (WTP) 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.
Mr. William W. 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 II & III GOP Ground 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 spilled soils, detergents, 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 Stewart
Director and Chief Engineer

cc: R.M. Towill Corporation
November 12, 1991

MEMORANDUM

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

FROM: DONALD A. CLEGG, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR SANDBURG WATER TREATMENT PLANT, HONOLULU, OAHU

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 ecosystems 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 523-4543.

[Signature]

DONALD A. CLEGG
Director of Land Utilization
MEMORANDUM

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

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

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND
         WASTEWATER TREATMENT PLANT MODIFICATIONS, UNIT 1,
         PHASE 2A - 103 DU REMOVAL FACILITIES

November 22, 1991

Mr. Donald A. Clegg

A copy of your memorandum will be appended to the Environmental
Assessment. If there are any questions, please contact
Mr. Charles Toshimoto at 527-5518.

cc: R. M. Towill Corporation

November 22, 1991

Director and Chief Engineer

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.
TO: SAN 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 91-463g; 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
MEMORANDUM

TO: W. W. J. STREET, ACTING DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: JOSEPH M. MAGALDI, JR., DIRECTOR

November 1, 1991

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

MEMORANDUM

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

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

November 27, 1991

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

SUBJECT: SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS, UNIT I, PHASE 2A
DRAFT ENVIRONMENTAL ASSESSMENT

THK: 1-5-91 06

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.

JOSEPH M. MAGALDI, JR.

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND WASTEWATER TREATMENT MODIFICATIONS, UNIT I, PHASE 2A - 381 ECO 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 Tashima at 523-5308.

SAM CALLEJO
Director and Chief Engineer

cc: R. M. Towill Corporation
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 I, 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. Hatsumoto
Operations Manager – OSP Engineering

MKT/kr (8562.1tr)
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 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,

[Signature]

An MEI Company
October 29, 1991

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

Dear Mr. Calirio:

SUBJECT: Comments on Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications - Unit 1, Phase 2A, 30% ROD 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 ensure 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 Keahi 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 Keahi 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 DHED 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

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 ensure the timely implementation of other waterfront projects. As a result we recommend that you consider the possibility of shifting 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 966-2322.

Sincerely,

Murray E. Towill  
Director
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 - Jet DPO Removal Facilities

Thank you for your October 29, 1991 comments on the subject assessment. Subsequent to receiving your letter, several meetings (including 11/31/91 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 jet DPO 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 reapproval every five years. Thus, if the reapproval for Sand Island WWTP is denied, the city will be required to construct secondary treatment facilities.

November 27, 1991

cc: R. M. Towill Corporation
November 1, 1991

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

Dear Mr. Collela:

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

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 of performing 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 586-4194.

Very truly yours,

[Signature]

JOHN C. LEVIN, M.D.
Director of Health

November 22, 1991

Dr. John C. Levin
Director of Health
State Department of Health
P.O. Box 2378
Honolulu, Hawaii 96801

Attention: Dennis Tulang

Dear Dr. Levin:

Subject: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modification, Unit I, 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 Wellman 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,

[Signature]

SAM CALLEA
Director and Chief Engineer

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

October 29, 1991

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  
Director
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,

[Signature]

Harold S. Makumoto  
Director

cc: Mr. Douglas Tae, CZM
Mr.ロー Calajo
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Deer Mr. Calajo:

Subject: Draft Environmental Assessment (EA) for Sand Island Wastewater Treatment Plant Modifications - Unit 1, Phase 7A, IOC Wastewater Remediaion Facility, Oahu, Hawaii

We have reviewed the subject EA and have no comments on the proposed Wastewater Treatment Plant modifications. We wish, however, 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,

[Signature]

WARREN M. LEE
State Conservationist

Mr. Warren M. Lee
State Conservationist
Soil Conservation Service
P. O. Box 50024
Honolulu, Hawaii 96850

Deer Mr. Lee:

Subject: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 7A - IOC Wastewater Remediation Facility

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. Nonland 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 527-5368.

Very truly yours,

[Signature]

JOHN CALAZIO
Director and Chief Engineer

cc: R.M. Towlill Corporation
Planning Division

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

Dear Mr. Callego:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for Leeward Island Wastewater Treatment Plant Modifications - Unit 1, Phase 2A, 38% 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 Sanitation Act.

a. A DA permit is not required.

b. According to the Federal Emergency Management Agency's Flood Insurance Rate Map, Panel 1960B1-0114-C, dated September 29, 1999 (copy enclosed), the project site is located in Zone X - unshaded areas determined to be outside the 100-year flood plain.

Sincerely,

Enclosure

[Signature]
Director of Engineering
November 18, 1991

Mr. Keauk Cheung
Director of Engineering
Department of the Army
W. S. Army Engineering District, Honolulu
Fort Shafter, Hawaii 96856-5440

Attention: Planning Division

Dear Mr. Cheung:

Subject: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2A - 101 RDM Renewal 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,

[Signature]

C. Michael Street
Deputy Callejo
Director and Chief Engineer

cc: R. M. Towill Corporation