APPENDIX J

Sand Island Wastewater Treatment Plant

Existing Permit

NPDES Permit Number: HI0020117

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

September 28, 1998

The Honorable Jeremy Harris
Mayor of Honolulu
Honolulu Hale 530 S. King Street
Honolulu, HI 96813

Dear Mayor Harris:

I am very pleased to let you know I have approved the City's application for renewal of its waiver, under Clean Water Act section 301(h), to allow the Sand Island Wastewater Treatment Plant to treat effluent to less-than-secondary standards.

Concurrent with my approval, we are issuing a new wastewater discharge permit for the facility. This permit and waiver represent the culmination of years of technical cooperation between the City and EPA to evaluate the City's wastewater operations, and to plan for the much-needed improvements to the City's collection and treatment infrastructure. The Department of Environmental Services is now on track to provide improved levels of wastewater treatment with vital additions such as continuous disinfection and a new monitoring program. We thank you for your leadership in this effort which will help build community confidence and send an important message for the vital tourist industry in assuring recreational waters are safe for bathing.

There are public health and environmental benefits which will accrue from this commitment, and I wish to pledge our partnership in working with you to obtain the results we're aiming for. I encourage you to spread the good word about this important step we've taken, as we shall do from the mainland. I look forward to meeting you when the next opportunity arises, perhaps in the context of our shared commitment to the Ala Wai watershed.

Yours,

Felicia Marcus
Regional Administrator

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OFFICE OF THE
REGIONAL ADMINISTRATOR

In Re:

CITY AND COUNTY OF HONOLULU'S SAND ISLAND WASTEWATER TREATMENT PLANT APPLICATION FOR A MODIFIED NPDES PERMIT UNDER SECTION 301(h) OF THE CLEAN WATER ACT	FINAL DECISION OF THE REGIONAL ADMINISTRATOR PURSUANT TO 40 CFR PART 125, SUBPART G

It is my final decision to grant the request by the City and County of Honolulu for renewal of a modified National Pollutant Discharge Elimination System (NPDES) permit under section 301(h) of the Clean Water Act. Section 301(h) provides for a variance from the secondary treatment requirements of the Clean Water Act. The basis for this decision is described in the NPDES permit Fact Sheet for the Sand Island Wastewater Treatment Plant.

The EPA received the City and County of Honolulu's 301(h) renewal application on August 18, 1994. Additional information was submitted to the EPA on May 4, 1998 and July 22, 1998. A tentative decision to approve the application was issued by the EPA on July 24, 1998. Concurrently, the EPA and the Hawaii State Department of Health (DOH) jointly proposed re-issuance of a draft 301(h)-modified NPDES permit incorporating both federal 301(h) requirements and State Zone of Mixing requirements. A joint public workshop on the tentative decision and draft permit was held on August 25, 1998, and a joint public hearing was conducted on August 25, 1998 at which time verbal and written testimony was presented by the public. The EPA and the DOH revised the draft permit based in part on public comments.

The permit shall be issued upon the date of signature by the EPA (September 30, 1998) and shall become effective on November 2, 1998, unless there is a written request for an evidentiary hearing under 40 CFR Part 124.74. Any request for an evidentiary hearing must be submitted within 33 days of the date of this letter. All written requests for an evidentiary hearing should be addressed to: Regional Administrator, U. S. Environmental Protection Agency, Region IX; ATTN: Permits Record Coordinator, WTR-5; 75 Hawthorne Street; San Francisco, CA 94105-3901.

Dated: September 30, 1998

FELICIA MARCUS
Regional Administrator

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Reply to:
WTR-5

September 30, 1998

Kenneth E. Sprague, Director
City and County of Honolulu
Department of Environmental Services
650 South King Street, 3rd Floor
Honolulu, HI 96813

Dear Mr. Sprague:

A final National Pollutant Discharge Elimination System (NPDES) permit, incorporating federal requirements pursuant to Section 301(h) of the Clean Water Act and State Zone of Mixing requirements in accordance with the Hawaii Revised Statutes (HRS), has been jointly issued by the U. S. Environmental Protection Agency (EPA) and the Hawaii State Department of Health (DOH) for the following discharge:

Sand Island Wastewater Treatment Plant
NPDES Permit No. HI 0020117

A draft NPDES permit was jointly public noticed by the EPA and the DOH on July 24, 1998. A workshop and public hearing was held in Honolulu, Hawaii, on August 25, 1998. After considering the expressed views of all interested persons and agencies, and pertinent federal and State statutes and regulations, the EPA and the DOH have prepared a final NPDES permit which does not differ significantly from that previously proposed.

Enclosed are copies of the final 301(h)-modified NPDES permit, response to comments and public noticed fact sheet, and the Regional Administrator's final 301(h) decision letter. The final NPDES permit shall become effective 33 days from date of signature by the Regional Administrator (November 2, 1998). If you have any questions, please call Ms. Robyn Stuber, of my staff, at 415/744-1921, or Mr. Alec Wong, of the DOH, at 808/586-4309.

Sincerely,

Alexis Strauss, Acting Director
Water Division

Enclosure

cc: DOH, Clean Water Branch
Sand Island WWTP 301(h) mailing list [only final 301(h) decision letter]

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AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 *et seq.*; the Act) and Chapter 342D, Hawaii Revised Statutes, and Chapters 11-54 and 11-55, Administrative Rules, Department of Health, State of Hawaii,

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF ENVIRONMENTAL SERVICES
(Sand Island Wastewater Treatment Plant)

(hereinafter "Permittee"),

is authorized to discharge treated wastewater from its Sand Island Wastewater Treatment Plant (WWTP),

located at 1150 Sand Island Parkway Road, Honolulu, Hawaii,

to receiving waters named Mamala Bay of the Pacific Ocean, through Discharge Serial Number 001 at Latitude 21°17'01" N, Longitude 157°54'24" W,

in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein, and in the attached Department of Health "Standard NPDES Permit Conditions," dated October 1, 1997.

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 1997, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit shall become effective on November 2, 1998.

This permit and the authorization to discharge shall expire at midnight, November 3, 2003.

Lawrence Miike, Director
Department of Health
State of Hawaii

Date: SEP 30 1998

Alexis Strauss, Acting Director
Water Division
U. S. Environmental Protection Agency
Region IX

for the Regional Administrator

Date: SEP 30 1998

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STANDARD NPDES PERMIT CONDITIONS (Attached)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (based upon an average daily design flow of 3.59 m^3/sec, or 82 MGD)

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the Permittee is authorized to discharge treated wastewater from Discharge Serial No. 001. The discharge shall be limited and monitored by the Permittee as specified below:

Discharge Limitations					Monitoring Requirements	
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units	Minimum Frequency	Sample Type
Flow	report	report	report	MGD	continuous	recorder or totalizer
Biochemical Oxygen Demand (5-day)	116 79,330	160 109,421	report	mg/l[1] lbs/day[2]	daily	24 hr composite
	As a monthly average, not less than 30% removal efficiency from influent stream[3]					
Total Suspended Solids	69 47,187	104 71,124	report	mg/l[1] lbs/day[2]	daily	24 hr composite
	As a monthly average, not less than 60% removal efficiency from influent stream[3]					

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1 The average monthly discharge limitation (in mg/l) is that value associated with the 95th percentile of January 1993 through December 1997 daily effluent concentration data for all months achieving ≥30% removal of influent BOD_5, as provided by the Permittee on May 4, 1998. For BOD_5, the average weekly discharge limitation (in mg/l) approximates the maximum value associated with daily effluent concentration data. For TSS, the average weekly discharge limitation (in mg/l) is 1.5 times the average monthly discharge limitation (in mg/l).

2 The average monthly discharge limitation (in lbs/day) is the average monthly discharge limitation (in mg/l) times the average daily design flow of 3.59 m^3/s (82 MGD) and the constant, 8.34. The average weekly discharge limitation (in lbs/day) is the average weekly discharge limitation (in mg/l) times the average daily design flow of 3.59 m^3/s (82 MGD) and the constant, 8.34. The Permittee's 2000 and 2005 projected average daily flows are 3.58 m^3/s and 3.70 m^3/s, respectively.

3 For BOD_5, the average monthly influent percent removal efficiency limitation is based on 40 CFR 125.57(a)(9). For TSS, the average monthly influent percent removal efficiency limitation is based on information provided by the Permittee on May 4, 1998.

Discharge Limitations					Monitoring Requirements	
Discharge Parameter	Average Annual[4]	Average Monthly[4]	Average Daily[4]	Units	Minimum Frequency	Sample Type
Enterococci	report[5]	report[4]	report	CFU/100 ml	daily	grab[4]
Total Oil and grease	n/a[6]	report	report	mg/l lbs/day	3 days/ calendar week	grab[7]
Total Petroleum Hydrocarbons	n/a	report	report	mg/l lbs/day	3 days/ calendar week	grab[7]
Fats, oils and grease	n/a	report	report	mg/l lbs/day	n/a	calculate[8]
Temperature	n/a	report	report	°C	once/calendar week	grab
Total Nitrogen	report	report	n/a	mg/l lbs/day	once/calendar month	24 hr composite
Total Phosphorus	report	report	n/a	mg/l lbs/day	once/calendar month	24 hr composite
pH[9]	Not less than 6.0 nor greater than 9.0			standard units	5 days/ calendar week	grab

4 The average daily discharge limitation (in ug/l) is the saltwater chronic criterion times the initial dilution value of 94:1. The average monthly discharge limitation (in ug/l) is the fish consumption (non-carcinogen) criterion times the initial dilution value of 94:1. The average annual discharge limitation (in ug/l) is the fish consumption (carcinogen) criterion times the long-term dilution value of 476:1. The discharge limitation (in lbs/day) is the corresponding discharge limitation (in mg/l) times the average daily design flow of 3.59 m^3/s (82 MGD) and the constant, 8.34.

5 Report as geometric mean. Effluent monitoring shall consist of one grab sample collected between 12 noon and 3:00 p.m. Enterococci samples shall be analyzed using Method 1600, *Membrane Filter Test Method for Enterococci in Water* (EPA 821-R-97-004, May 1997).

6 Not applicable.

7 Influent and effluent monitoring shall consist of a minimum of three grab samples collected over a 24 hour period at approximately equal intervals. One grab sample shall be collected during peak flow. Grab samples shall be analyzed individually, as specified in EPA Method 1664. Individual analytical results shall be mathematically flow proportioned to derive a single value for reporting.

8 Fats, oils and grease = Total oil and grease – Total petroleum hydrocarbons.

9 Discharge limitation is based on federal secondary treatment standards in accordance with 40 CFR 133.102(c).

Discharge Limitations					Monitoring Requirements	
Discharge Parameter	Average Annual[8]	Average Monthly[5]	Average Daily[7]	Units	Minimum Frequency	Sample Type
Chronic Toxicity	n/a	n/a	94	TUc	once/calendar month	24 hr composite
Chlordane	0.0076 0.0052	n/a	0.38 0.26	ug/l lbs/day	once/calendar month	24 hr composite
Dieldrin	0.012 0.0082	n/a	0.18 0.12	ug/l lbs/day	once/calendar month	24 hr composite
Remaining Pollutants[10]	report	report	n/a	ug/l lbs/day	once/6 calendar months	24 hr composite or grab[10]

2. Schedules of Compliance for Sand Island WWTP Upgrade and Discharge Limitations for Enterococcus

The purpose of the following requirements is to improve Sand Island WWTP performance and reliability, and to select and implement an effluent disinfection treatment option that will reduce the risk of human exposure to pathogenic organisms in marine recreational waters of Mamala Bay by decreasing bacterial indicator loadings from the Sand Island ocean outfall. These requirements are consistent with the Mamala Bay Study Commission recommendation "that appropriate disinfection be provided for the ocean outfall discharge at the Sand Island WWTP." (Mamala Bay Study Commission, April 1996). The Permittee shall comply with the following schedules[11]:

a. **Ala Moana Wastewater Pump Station Modification:** This project is required to accommodate higher collection system flows and the higher head of the new Sand Island WWTP headworks. The Permittee shall modify the pump station to upgrade/improve station reliability, accommodate higher collection flows, and accommodate higher heads of downstream facilities. Modifications shall include replacing/rehabilitating existing pumps, generator facility, electrical works, and associated appurternances, as appropriate. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	October 22, 2000

10 *Remaining Pollutants* and their *Sample Type* are listed in Part I of this permit.

11 *Italicized* dates are not enforceable under the terms of this permit.

Activity Description	Finish
Design	July 24, 2002
Advertise	September 22, 2002
Bid Opening	September 22, 2002
Award	October 22, 2002
Construction	*February 18, 2005*

b. **Hart Street Wastewater Pump Station (New/Alternative):** This project is required to accommodate higher collection system flows and the higher head of the new Sand Island WWTP headworks. The Permittee shall modify the pump station to upgrade/improve station reliability, accommodate higher collection flows, and accommodate higher heads of downstream facilities. Modifications shall include replacing/rehabilitating existing pumps, generator facility, electrical works, and associated appurtenances, as appropriate. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	June 4, 2000
Design	July 24, 2002
Advertise	September 22, 2002
Bid Opening	September 22, 2002
Award	October 22, 2002
Construction	February 18, 2005

c. **Hart Street Wastewater Pump Station Force Main Replacement:** The Permittee shall install a new force main extending from Hart Street pump station to Sand Island WWTP to replace the existing 47-year old force main. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	*May 5, 1998*
Design	May 4, 2000
Advertise	July 3, 2000
Bid Opening	July 3, 2000

Activity Description	Finish
Award	August 2, 2000
Construction	November 30, 2002

d. **Sand Island Parkway Wastewater Pump Station Modification:** This project is required to accommodate the higher head of the new Sand Island WWTP headworks. The Permittee shall modify the pump station to upgrade/improve station reliability, accommodate higher collection flows, and accommodate higher heads of downstream facilities. Modifications shall include replacing/ rehabilitating existing pumps, electrical works, and associated appurtenances, as appropriate. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	April 30, 2001
Design	January 10, 2003
Advertise	February 9, 2003
Bid Opening	February 9, 2003
Award	March 11, 2003
Construction	*February 18, 2005*

e. **Sand Island Wastewater Treatment Plant Unit 1 Phase 2A:** The Permittee shall construct facilities to satisfy 301(h) requirements to consistently remove ≥30% of influent BOD_5 and improve WWTP performance. Facilities shall include replacing/expanding headworks and associated facilities, as appropriate. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	October 4, 1999
Design	July 15, 2001
Advertise	September 13, 2001
Bid Opening	September 13, 2001
Award	October 13, 2001
Construction	*February 10, 2004*

Activity Description	Finish
Finish Milestone	*February 18, 2005*

f. **Sand Island Wastewater Treatment Plant Primary Treatment Expansion:** The Permittee shall construct additional primary treatment facilities, including pretreatment facilities, to expand treatment plant capacity from 82 MGD to 90 MGD (average daily design flow) and improve plant hydraulic capacity, and increase solids handling capacity. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Design	July 14, 2002
Advertise	September 12, 2002
Bid Opening	September 12, 2002
Award	October 12, 2002
Construction	*February 18, 2005*

g. **Sand Island Wastewater Treatment Plant Disinfection Facility:** The Permittee shall investigate and determine appropriate disinfection technology, and design, construct, and operate continuously for one year, an effluent disinfection facility which achieves effective effluent disinfection. Effective disinfection is defined as compliance with a maximum daily discharge limitation of 18,000 CFU/100 ml for enterococci. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Start (no later than)	Finish
Planning		June 30, 1999
Design		June 30, 2000
Advertise		August 29, 2000
Bid Opening		August 29, 2000
Award		September 28, 2000
Construction		July 20, 2002
Continuous Operation	July 21, 2002	

During the period beginning with July 21, 2002 and lasting through the expiration

date of this permit, the authorized discharge of treated wastewater from Discharge Serial No. 001 shall be limited and monitored by the Permittee as specified below:

Discharge Limitations					Monitoring Requirements	
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Units	Minimum Frequency	Sample Type
Enterococci	report[12]	report[12]	18,000	CFU/100 ml	daily	grab[12]
Total Chlorine Residual[13]	report	report	64	ug/l	daily	grab[12]

h. **Sand Island Wastewater Treatment Plant Interim Chemical Treatment Facility Improvements:** The Permittee shall improve the ability of Sand Island WWTP to remove BOD_5 by upgrading the Chemical Treatment (polymer) Facility. This shall include the installation of aging tanks and new polymer injection equipment, as required. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Design	January 12, 2000
Advertise	March 12, 2000
Bid Opening	March 12, 2000
Award	April 11, 2000
Construction	February 10, 2002

i. **Sand Island Wastewater Treatment Plant Chlorination Study:** The Permittee shall monitor Mamala Bay to obtain background data for receiving water bacterial indicator levels, oceanic currents, and Sand Island WWTP plume characteristics. This project shall be conducted in accordance with the DOH/EPA-approved *Sand Island Wastewater Treatment Plant Chlorination Study Plan*, as modified by the DOH on February 23, 1998. The Permittee shall conduct this project in

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12 Report enterococci as geometric mean. Effluent monitoring shall consist of one grab sample collected between 12 noon and 3:00 p.m. Enterococci samples shall be analyzed using Method 1600, *Membrane Filter Test Method for Enterococci in Water* (EPA 821-R-97-004, May 1997).

13 If the Permittee determines that the appropriate disinfection technology to achieve effective disinfection is chlorination, then the Permittee shall monitor total chlorine residual upon initiation of chlorination. Contact time following chlorination and prior to effluent discharge shall not be less than 15 minutes.

accordance with the following schedule of activities:

Activity Schedule	Finish
Data Collection	*December 30, 1998*
Interim Report	*April 15, 1998*
Final Report	March 31, 1999

In accordance with 40 CFR 122.41(l)(5), written reports of compliance or noncompliance with, or any progress reports on, requirements contained in these schedules of compliance for the Sand Island WWTP Upgrade shall be submitted by the Permittee no later than 14 days following each scheduled date. In addition, beginning March 31, 1998, written progress reports shall be submitted quarterly to the EPA and DOH detailing the status of project activities described in Part A.2 of this permit. Reports shall also include a discussion of the status of project activities in relation to project activity description "early" and "late" start dates provided in the Permittee's August 25, 1998 letter to the EPA (WMC 98-736).

3. a. All *Discharge Parameters* in Part A of this permit shall be monitored in the influent and effluent, except for enterococci, temperature, total nitrogen, total phosphorous, chronic toxicity, dioxin, and total chlorine residual, which shall be monitored only in the effluent. For individual discharge parameters monitored in the influent and effluent, monitoring shall be conducted on the same day. All influent and effluent monitoring shall be arranged so that each day of the calendar week is represented once per month (i.e., for discharge parameters monitored 5 days/calendar week, or 3 days/calendar week), or once per two months (i.e., for discharge parameters monitored once/calendar week). Effluent monitoring for total nitrogen and total phosphorous shall be conducted on the same day that receiving water monitoring for total nitrogen and total phosphorous is conducted.

b. Samples taken in compliance with the monitoring requirements in Part A of this permit shall be taken at the following locations:

(1) All influent samples shall be taken downstream of any additions to the trunk sewer, and upstream of any in-plant return flows, and prior to treatment where representative samples of the influent can be obtained.

(2) All effluent samples shall be taken downstream from any additions to the treatment plant and any in-plant return flows or disinfection units, and prior to mixing with the receiving waters where representative samples of the effluent can be obtained.

(3) Monitoring locations shall not be changed without notification to and the approval from the Director of Health and the Regional Administrator.

c. *Composite sample* means a combination of at least eight sample aliquots, collected at periodic intervals during the operating hours of the facility over a 24 hour period. The composite sample must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Grab sample means an individual sample collected at a randomly-selected time over a period not exceeding 15 minutes.

B. WHOLE EFFLUENT TOXICITY REQUIREMENTS

1. Chronic Toxicity

The Permittee shall conduct monthly chronic toxicity tests on flow-weighted 24-hour composite effluent samples.

a. Test Species and Methods

The Permittee shall conduct monthly tests with the following invertebrate species.

(1) Invertebrate: Water flea, *Ceriodaphnia dubia.*

(2) Invertebrate: Hawaiian sea urchin, *Trypneustes gratilla.*

For *Ceriodaphnia dubia*, the presence of chronic toxicity shall be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (EPA-600-4-91-002, 1994). For *Trypneustes gratilla*, the presence of chronic toxicity shall be estimated as specified in *Hawaiian Collector Urchin, Trypneustes gratilla (hawa'e) Fertilization Test Method*[14].

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[14] Adapted by Amy Wagner, U. S. EPA, Region 9 Laboratory, Richmond, CA from a method developed by George Morrison, U. S. EPA, ORD Narragansett, RI and Diane Nacci, Science Applications International Corporation, ORD Narragansett, RI.

b. Definition of Chronic Toxicity

Chronic toxicity measures a sublethal effect (e.g., reduced growth) to experimental test organisms exposed to an effluent compared to that of the control organisms. The no observed effect concentration (NOEC) is the highest effluent concentration to which organisms are exposed in a chronic test, that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are <u>not</u> statistically significantly different from the controls). Test results shall be reported in TUc, where TUc = 100/NOEC. For this discharge, chronic toxicity for *Ceriodaphnia dubia* is defined by an exceedance of a chronic toxicity discharge limitation specified in Part A.1 of this permit.

The chronic toxicity discharge limitation in Part A.1 of this permit does not apply to monitoring results for toxicity tests using *Trypneustes gratilla*. Chronic toxicity for *Trypneustes gratilla* is defined by an exceedance of an average daily chronic toxicity discharge value of 94 TUc.

2. Quality Assurance

a. A series of five dilutions and a control shall be tested. The series shall include the instream waste concentration (IWC), two dilutions below the IWC, and two dilutions above the IWC (e.g., 12.5, 25, 50, 75, and 100 percent effluent, where IWC = 50). The chronic IWC for this discharge is 1.1 percent effluent.

b. Concurrent testing with reference toxicants shall be conducted.

c. Reference toxicant tests shall be conducted using the same test conditions as effluent toxicity tests (i.e., same test duration, etc.).

d. If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, then the Permittee must re-sample and re-test within approximately 14 days.

e. Control and dilution water should be receiving water or lab water, as described in the test methods manual. If dilution water is different from culture water, then a second control using culture water shall also be tested.

3. Preparation of Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan

The Permittee shall submit to the DOH and EPA an initial investigation toxicity reduction evaluation (TRE) workplan [approximately 1-2 pages] within 90 days of the effective date of this permit. This workplan shall describe steps which the Permittee intends to

follow in the event that toxicity (as defined) is detected, and should include at minimum:

a. A description of the investigation and evaluation techniques that would be used to identify potential causes/sources of toxicity, effluent variability, treatment system efficiency;

b. A description of the facility's method of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in operation of the facility;

c. If a toxicity identification evaluation (TIE) is necessary, who (e.g., contract laboratory, etc.) will conduct the TIE.

4. Additional (Accelerated) Toxicity Testing

a. If toxicity (as defined) is detected, then the Permittee shall conduct six additional tests, one approximately every 14 days, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within approximately 24 hours of receipt of the test results exceeding a chronic toxicity discharge limitation (or value);

b. However, *if implementation of the initial investigation TRE workplan indicates the source of toxicity* (e.g., a temporary plant upset, etc.), then the Permittee shall conduct only the first test of the six additional tests required above. If toxicity (as defined) is not detected in this first test, the Permittee may return to the normal sampling frequency required in Part B.1 of this permit. If toxicity (as defined) is detected in this first test, then Part B.5 of this permit shall apply.

c. If toxicity (as defined) is not detected in any of the six additional tests required above, then the Permittee may return to the normal sampling frequency required in Part B.1 of this permit.

5. Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE)

a. If toxicity (as defined) is detected in any of the six additional tests, then, based on an evaluation of the test results and additional available information, the Director of Health and the EPA may determine that the Permittee shall initiate a TRE, in accordance with the Permittee's initial investigation TRE workplan and *Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatment Plants* (EPA/600/2-88/062, 1989). Moreover, the Permittee shall develop a detailed TRE workplan which includes:

(1) Further actions to investigate/identify the cause(s) of toxicity;

(2) Actions the Permittee has taken/will take to mitigate the impact of the discharge, to correct the noncompliance, and to prevent the recurrence of toxicity;

(3) A schedule under which these actions will be implemented;

and shall submit this workplan to the Director of Health and EPA for approval.

b. As part of this TRE process, the Permittee may initiate a TIE using the test methods manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA/600/R-92/081 (Phase III), to identify the cause(s) of toxicity.

c. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required by Part B.4 of this permit, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE.

6. Reporting

a. The Permittee shall submit a full report of toxicity test results, including any toxicity testing required by Parts B.4 and B.5 of this permit, with the DMR for the month in which the toxicity tests are conducted. A full report shall consist of: (1) toxicity test results; (2) dates of sample collection and initiation of each toxicity test; and (3) acute and/or chronic toxicity discharge limitations (or value). Toxicity test results shall be reported according to the test methods manual chapter on Report Preparation. The Permittee shall submit the data on an electronic disk in the Toxicity Standardized Electronic Reporting Form (TSERF) (*Standardized Electronic Reporting Format for Monitoring Effluent Toxicity: October 1994 Format*, State Water Resources Control Board, 1995).

If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the DMR for the month in which investigations conducted under the TRE workplan occurred.

b. Within 14 days of receipt of test results exceeding a chronic toxicity discharge limitation (or value), the Permittee shall provide written notification to the DOH and EPA of:

(1) Findings of the TRE or other investigation to identify the cause(s) of toxicity;

(2) Actions the Permittee has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity;

(3) When corrective actions, including a TRE, have not been *completed*, a schedule under which corrective actions will be implemented; or

(4) The reason for not taking corrective action, if no action has been taken.

C. SPECIFIC WATER QUALITY CRITERIA FOR RECREATIONAL AREAS

1. The discharge of treated wastewater through Discharge Serial Number 001 shall not cause the following water quality criteria to be violated in marine recreational waters:

a. Within 300 meters (1,000 feet) of the shoreline, including natural public bathing or wading areas, enterococci content shall not exceed a geometric mean of seven per one hundred milliliters in not less than five samples which shall be equally spaced at six day intervals or unequally spaced at five, six, seven or eight day intervals, provided that the total period covered is between 25 and 30 days. Consecutive samples shall not be collected on the same day of the week. Marine recreational waters along sections of coastline where enterococci content does not exceed the standard, as shown by the geometric mean test described above, shall not be lowered in quality.

b. At locations where sampling is less frequent than five samples per 25-30 days, if one sample exceeds the standard by a factor of 10 or more, sampling should be repeated on the schedule described in Part C.1.a of this permit, and geometric means calculated until it is possible to determine the cause of the high bacterial counts. The nature of the cause will determine if warning signs may be posted.

c. Raw or inadequately treated sewage, sewage for which the level of treatment is unknown, or other pollutants of public health significance, as determined by the Director of Health, shall not be present in natural public swimming, bathing or wading areas.

D. ZONE OF INITIAL DILUTION LIMITATIONS, ZONE OF MIXING LIMITATIONS, AND MONITORING REQUIREMENTS

1. The discharge of treated wastewater through Discharge Serial Number 001 shall not cause the following water quality criteria to be violated in Class A wet open coastal waters[15] beyond the Zone of Initial Dilution[16] (ZID):

ZID Limitations					Monitoring Requirements	
Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten percent of the time	Not to exceed the given value more than two percent of the time	Units	Minimum Frequency	Sample Type
Light Extinction Coefficient	0.20	0.50	0.85	k units	See Parts E.1.b and E.1.c of this permit.	
Turbidity	0.50	1.25	2.00	N.T.U.		
Dissolved Oxygen	Not less than seventy-five percent saturation, determined as a function of ambient water temperature and salinity.			mg/l		

15 *Open coastal waters* means marine waters bounded by the 183 meter or 600 foot (100 fathom) depth contour and the shoreline, excluding bays named in HAR §11-54-06 (a). *Class A* means all other open coastal waters not otherwise specified as Class AA in HAR section 11-54-06 (b)(2)(A). *Wet* means open coastal waters receiving more than three million gallons per day of fresh water discharge per shoreline mile.

16 *Zone of Initial Dilution* means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards (see 40 CFR 125.58(dd)).

2. The discharge of treated wastewater through Discharge Serial Number 001 shall not cause the following water quality criteria to be violated in Class A wet open coastal waters beyond the Zone of Mixing[17] (ZOM):

ZOM Limitations					Monitoring Requirements	
Parameter	Geometric mean not to exceed the given value	Not to exceed the given value more than ten percent of the time	Not to exceed the given value more than two percent of the time	Units	Minimum Frequency	Sample Type
Total Nitrogen	150.00	250.00	350.00	ug N/l	See Parts E.1.b and E.1.c of this permit.	
Ammonia Nitrogen	3.50	8.50	15.00	ug NH_4-N/l		
Nitrate + Nitrite Nitrogen	5.00	14.00	25.00	ug $[NO_3+NO_2]$-N/l		
Total Phosphorous	20.00	40.00	60.00	ug P/l		
Chlorophyll a	0.30	0.90	1.75	ug/l		
pH	Shall not deviate more than 0.5 units from a value of 8.1, except at coastal locations where and when freshwater from stream, stormdrain or groundwater discharge may depress the pH to a minimum level of 7.0.			standard units		
Temperature	Shall not vary more than one degree Celsius from ambient conditions.			°C		
Salinity	Shall not vary more than ten percent from natural or seasonal changes considering hydrologic input and oceanographic factors.			ppt		

17 *Zones of Mixing* means limited areas around outfalls and other facilities to allow for the initial dilution of waste discharges. The ZOM for the Sand Island WWTP discharge was granted by the DOH with the concurrence of the EPA. The ZOM area is 427 meters (1,400 feet) wide and 1,463 meters (4,800 feet) along the centerline of the diffuser, and extends vertically downward to the ocean floor. The center of the ZOM is at Latitude 21°16'58"N, Longitude 157°54'21"W, with the major axis located on an azimuth of 80°01'40" from the south.

E. RECEIVING WATER MONITORING PROGRAM REQUIREMENTS

Revisions to this monitoring program by the EPA and DOH may be necessary to confirm that the Permittee is in compliance with the conditions of this permit. Revisions may be made at any time during the permit term and may include increases or decreases in monitoring frequency, number of parameters monitored, number and size of samples collected, or changes to protocols and methods for sampling and analysis.

The following two activities shall constitute the receiving water monitoring program: *Core Monitoring Activities* and *Regional Monitoring Activities*. The Permittee shall conduct Core Monitoring Activities during years one, two, and four of this permit. The Permittee shall conduct Regional Monitoring Activities during years three and five of this permit.

1. Core Monitoring Activities (Figure 3)

The Permittee shall verify all station locations (latitude and longitude) and depths with GPS or DGPS during the first sampling survey, and shall submit this information in the annual report for year one of this permit.

a. Shoreline Water Quality Monitoring

Shoreline monitoring for enterococci is used to determine the compliance of marine recreational waters with specific water quality criteria for recreational areas (see Part C of this permit).

The Permittee shall sample enterococci at five shoreline stations. At each station, samples shall be collected seven days per month. Sampling shall be scheduled to ensure that not more than five consecutive days occur between sampling events. In conjunction with enterococci sampling, visual observations shall be made at all shoreline stations. Monitoring results that exceed water quality criteria for recreational areas shall be reported as exceedances of State water quality standards with the most probable source of contamination noted and explained.

Shoreline stations shall be identified as follows:

Station	Location	Latitude	Longitude
S1	Western corner of Sand Island Beach Park (old S1)	21°18' 56"	157°53' 32"
S2	Center of Sand Island Beach Park (old S2)	21°18' 11"	157°53' 12"
S7	Off Kewalo Basin County Park		
S5	East end of Ala Moana Beach Park (old S5)	21°17' 26"	157°50' 56"

Station	Location	Latitude	Longitude
S8	Off of Waikiki Beach, past Ala Wai Canal		

Shoreline water quality parameters shall be sampled as follows:

Parameter (Units)	Sample Type	Monitoring Frequency
Enterococci (CFU/100 ml)	Surface grab	7 days/month
Visual Observations	Visual	7 days/month

Wind direction and speed, weather, and sea condition shall be recorded for each day of sampling. At each station, unusual water color, turbidity, odor, or other physical evidence of sewage shall be noted on the log sheet.

b. Recreational Waters and Nearshore Water Quality Monitoring

Recreational waters and nearshore water quality monitoring data are used to determine compliance with State water quality standards and 301(h) decision criteria. Sampling of recreational waters (R) and nearshore © stations shall be coordinated with shoreline sampling. Monitoring results for R and C stations that exceed applicable State water quality standards shall be reported as exceedances of the standards with the most probable source of contamination noted and explained.

The Permittee shall monitor water quality at three R stations and five C stations. Each R and C station shall be sampled once per quarter (i.e., February/March; May/June; August/September; November/December) for the water quality parameters indicated below, except for enterococci and visual observations which shall be sampled seven days each month, and water clarity which shall be determined monthly.

R and C stations shall be located using a land based microwave positioning system which affords a high degree of accuracy and precision (e.g., mini-ranger), or other means that allow reoccupation of the station within ±6 m (e.g., GPS or DGPS). R and C stations shall be identified as follows:

Station	Location	Latitude	Longitude
Recreational Waters (R) Stations			
R1	Keehi Lagoon, off northeast corner of reef runway		
R2	Keehi Lagoon, off south east corner of reef runway		

Station	Location	Latitude	Longitude
R3	Keehi Lagoon, in boat channel in line with edge of reef runway		
Nearshore Stations [between 10 m (33 ft) and/or on the 20 m (66 ft) depth contour]			
C1	Near the Honolulu Airport surfing area (west of old N1)		
C2	At entrance to Keehi Lagoon boat channel		
C3	Near Sand Island Beach Park surfing area west (old N2)	21°17' 38"	157°53' 39"
C4	Near the State Waterfront Park surfing area (old N4)	21°17' 32"	157°52' 12"
C5	Near the Ala Moana Beach County Park (old N5)	21°17' 13"	157°51' 33"

At each R and C station, a secchi disk shall be used to assess transparency, and visual observations of the water surface shall be noted. Dissolved oxygen, pH, temperature, and salinity shall be measured on a continuous depth profile (CDP) basis, from 1 m below the surface to 2 m above the bottom at 2 m intervals. At each R and C station, grab samples for total nitrogen, total phosphorus, chlorophyll a, and enterococci shall be collected at 1 m below the surface, mid-depth, and 2 m above the bottom. At each C station, grab samples for turbidity, ammonia nitrogen, and nitrate + nitrite nitrogen shall be collected at 1 m below the surface, mid-depth, and 2 m above the bottom.

Parameter (Units)	Sample Type	Station	Monitoring Frequency
Transparency (m)	secchi disc	R, C	*Monthly*
Visual Observations	visual	R, C	*7 days/month*
Dissolved Oxygen (mg/l)	CDP[18]	R, C	Quarterly
pH (pH units)	CDP	R, C	Quarterly
Temperature (°C)	CDP	R, C	Quarterly
Salinity (ppt)	CDP	R, C	Quarterly
Light Extinction Coefficient (k units)	secchi disc	R, C	Quarterly
Turbidity (N.T.U.)	surface, mid-depth, bottom grab	C	Quarterly
Total Nitrogen (ug N/l)	surface, mid-depth, bottom grab	C	Quarterly

[18] Continuous depth profile (CDP) is a plot of depth versus a water quality parameter. The maximum interval between points on the curve shall be 2 m.

Parameter (Units)	Sample Type	Station	Monitoring Frequency
Ammonia Nitrogen (ug NH_4-N/l)	surface, mid-depth, bottom grab	R, C	Quarterly
Nitrate+Nitrite Nitrogen (ug [NO_3+NO_2]-N/l)	surface, mid-depth, bottom grab	C	Quarterly
Total Phosphorus (ug P/l)	surface, mid-depth, bottom grab	R, C	Quarterly
Chlorophyll a (ug/l)	surface, mid-depth, bottom grab	R, C	Quarterly
Enterococci (CFU/100 ml)	surface, mid-depth, bottom grab	R, C	*7 days/month*

c. Offshore Water Quality Monitoring

Offshore water quality monitoring data are used to determine compliance with State water quality standards and 301(h) decision criteria.

The Permittee shall monitor offshore water quality at 10 stations. Each station shall be sampled once per quarter (i.e., February/March; May/June; August/September; November/December) for the water quality parameters indicated below, except for enterococci and visual observations which shall be sampled once per month.

Offshore stations shall be located using a land based microwave positioning system which affords a high degree of accuracy and precision (e.g., mini-ranger), or other means that allow reoccupation of the station within ±6 m (e.g., GPS or DGPS). Offshore stations shall be identified as follows:

Station	Location	Latitude	Longitude
At the 50 m (165 ft) depth contour			
D1	Near center of the Honolulu International Airport surfing area		
D2	Near the eastern edge of the Honolulu International Airport surfing		
D3	Near Sand Island Beach Park surfing area		
D4	Off of Kewalo Basin County Park		
D5	Center of Ala Moana Beach Park surfing area		
At the 100 m (328 ft) depth contour			
E1	Near center of the Honolulu International Airport surfing area		

Station	Location	Latitude	Longitude
E2	Near the eastern edge of the Honolulu International Airport surfing		
E3	Near Sand Island Beach Park surfing area		
E4	Off of Kewalo Basin County Park		
E5	Center of Ala Moana Beach Park surfing area		

At each offshore station, a secchi disk shall be used to assess transparency, and visual observations of the water surface shall be noted. Dissolved oxygen, pH, temperature, and salinity shall be measured on a CDP basis, from 1 m below the surface to 2 m above the bottom at 2 m intervals. For turbidity, total nitrogen, ammonia nitrogen, nitrate + nitrite nitrogen, total phosphorus, chlorophyll a, and enterococci, grab samples shall be collected at 1 m below the surface, mid-depth, and 2 m above the bottom.

Offshore water quality parameters shall be sampled as follows:

Parameter (Units)	Sample Type	Monitoring Frequency
Transparency (m)	secchi disc	*Monthly*
Visual Observations	visual	*Monthly*
Dissolved Oxygen (mg/l)	CDP[18]	Quarterly
pH (pH units)	CDP	Quarterly
Temperature (°C)	CDP	Quarterly
Salinity (ppt)	CDP	Quarterly
Light Extinction Coefficient (k units)	secchi disc	Quarterly
Turbidity (N.T.U.)	surface, mid-depth, bottom grab	Quarterly
Total Nitrogen (ug N/l)	surface, mid-depth, bottom grab	Quarterly
Ammonia Nitrogen (ug NH_4-N/l)	surface, mid-depth, bottom grab	Quarterly
Nitrate+Nitrite Nitrogen (ug [NO_3+NO_2]-N/l)	surface, mid-depth, bottom grab	Quarterly
Total Phosphorus (ug P/l)	surface, mid-depth, bottom grab	Quarterly
Chlorophyll a (ug/l)	surface, mid-depth, bottom grab	Quarterly
Enterococci (CFU/100 ml)	surface, mid-depth, bottom grab	*Monthly*

d. Nearshore and Offshore Sediment Monitoring (for Chemistry and Benthic Organisms)

Sediment monitoring is conducted to detect spatial and temporal trends in sediment pollutants and benthic organisms, and to evaluate compliance with 301(h) decision criteria.

The Permittee shall monitor offshore sediments for chemistry and benthic organisms at the ten stations identified in Part E.1.c of this permit. The Permittee shall also monitor nearshore sediments for chemistry and benthic organisms at the five nearshore stations identified in Part E.1.b of this permit. Each station shall be sampled annually (i.e., August/September) for the parameters indicated below. Sediment and biological samples shall be collected and processed in accordance with protocols found in *Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004 1987).

The Permittee shall include replicates for sediment chemistry and benthic monitoring. The number of samples required at each station is as follows:

Number of Samples at Each Station (including Replicates)		
Station	Chemistry	Benthic Organisms
Nearshore (C) stations	2	3
Offshore (D) stations	2	3
Offshore (E) stations	1	3
In addition to the sediment samples collected for chemistry and benthic analysis, two subsamples shall be collected at each station for grain size analysis.		

(1) Sediment Chemistry

Sediment shall be collected using a 0.16 m^2 modified van Veen grab sampler. Sediment samples for chemical analyses shall be taken from the top 2 cm of the grab and analyzed for the parameters listed below, using methods developed by NOAA's National Status and Trends Program for Marine Environmental Quality. For metals, the Permittee shall attempt to achieve target detection limits 5 times lower than the Effects Range Low (ERL), or the concentration at which 10% of the studies show effects. Analytical results shall be reported on a dry weight basis.

Sediment chemistry testing shall be conducted during years one and two of

this permit. These test results will be reviewed by the EPA and DOH to determine the adequacy of sampling frequency.

Sediment Chemistry Parameter (Units)	
Grain size (phi)	
Total organic carbon (%)	
Oxidation-reduction potential (EH; mv)	
Total nitrogen (mg/kg)	
Acid volatile sulfides (mg/kg)	
Metals (mg/kg)	
Aluminum	
Beryllium	
Cadmium	
Chromium	
Copper	
Iron	
Lead	
Nickel	
Selenium	
Silver	
Zinc	
Sediment Chemistry and Fish Tissue Parameter (Units)	
Metals (mg/kg)	
Arsenic	
Mercury	
DDTs (ug/kg)	
4,4'-DDT	2,4'-DDD
2,4'-DDT	4,4'-DDE
4,4'-DDD	2,4'-DDE
Chlorinated pesticides other than DDT (ug/kg)	
Aldrin	Heptachlor epoxide
Alpha-Chlordane	Hexachlorobenzene

Sediment Chemistry and Fish Tissue Parameter (Units)	
Chlorinated pesticides other than DDT (ug/kg)	
Trans-Nonachlor	Lindane (gamma-BHC)
Dieldrin	Mirex
Heptachlor	Endrin
PCB Congeners (*PCB* No.) (ug/kg)	
8	128
18	138
28	149
37	151
44	153
49	156
52	157
66	158
70	167
74	168
77	169
81	170
87	177
99	180
101	183
105	187
110	189
114	194
118	195
119	201
123	206
126	209
Polycyclic Aromatic Hydrocarbons (*PAHs*) (ug/kg)	
Acenaphthene	Naphthalene

Sediment Chemistry and Fish Tissue Parameter (Units)	
Polycyclic Aromatic Hydrocarbons (PAHs) (ug/kg)	
Anthracene	Perylene
Benz(a)anthracene	Phenanthrene
Benzo(e)pyrene	Pyrene
Biphenyl	Benzo(a)pyrene
Chrysene	Benzo(b)fluroanthene
Dibenzo(a,h)anthracene	Acenaphthlene
2,6-dimethylnaphthalene	Benzo(k)fluoranthene
Fluoranthene	Benzo(g,h,i)perylene
C_1-Fluoranthene	Indeno(1,2,3-c,d)pyrene
Fluorene	2,3,5-trimethylnaphthalene
2-methylphenanthrene	
Fish Tissue Parameter (Units)	
Total lipid (%)	

(2) Benthic Infauna Analyses

Sediment shall be collected using a 0.16 m^2 modified van Veen grab sampler. A 7.6 cm diameter subsample, to a depth of 5 cm, shall be taken from each grab and sieved for benthic organisms, using a 0.5 mm mesh screen. Organisms retained on the sieve shall be fixed in 15% buffered formalin, and transferred to 70% ethanol within two to seven days for storage.

All organisms retained on the sieve shall be counted and identified to the lowest taxon possible. Analyses of community parameters shall include, but not be limited to, the following: number of species, number of individuals per species, # species/0.1 m^2, total # species/station, total numerical abundance, and biomass. Biomass shall be estimated from wet weight measurements for the following taxa: molluscs, echinoderms, polychaetes, crustaceans, and other taxa.

Community parameters and statistical analyses shall be presented, along with the data and graphical displays, to illustrate benthic community changes. Statistical analyses should include, but not be limited to, mean,

standard deviation, and 95% confidence interval; multivariate analyses, including cluster analysis, ordination, and regression, may also be conducted. Additional analyses shall be conducted, as appropriate, to elucidate spatial and temporal trends in the data.

e. Fish Monitoring

The Permittee shall conduct chemical analyses of fish tissue at three offshore stations identified as follows. Each station shall be sampled annually (i.e., August/September) by hook-and-line, or by setting baited lines or traps.

Station	Location	Latitude	Longitude
At the 100 m (328 ft) depth contour			
FR1	Maunalua Bay Reference Station	21°15'00"	157°45'00"
Outfall	In the immediate vicinity of the outfall, centered on the given coordinates	21°16'58"	157°54'21"
FR2	Maunalua Bay Reference Station 2[19]		

Fish shall be identified to the lowest taxon possible. Analyses of fish parameters shall include: number of individuals per species, standard length, and wet weight (g). Abnormalities and disease symptoms shall be recorded and itemized (e.g., fin erosion, internal and external lesions, tumors); color photographs showing abnormalities of affected fish may be taken and submitted as part of the annual report. Until more appropriate and precise means become available, fish catch statistics from the State of Hawaii, Division of Fish and Game, shall be reviewed on an annual basis to detect changes in fish abundance and distribution in the vicinity of the Sand Island ocean outfall. A summary and findings of this review shall be reported in the annual report.

During year one of this permit, the Permittee shall select two target fish species for chemical analyses of muscle tissue; these species shall continue to be analyzed in years two through five of this permit. The two fish species shall be somewhat sedentary (e.g., bridled triggerfish, taape, opelu, akule) and representative of fish caught by recreational and commercial fishermen near the Sand Island ocean outfall. To minimize multiple source uncertainties, migratory pelagic species which feed over large areas (e.g., many kilometers) shall not be selected. For selected species, chemical analyses shall be performed annually on a composite sample of standardized muscle tissue collected from at least three individuals.

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19 Within 90 days of the effective date of this permit, the Permittee shall submit to EPA and DOH for approval an appropriate second reference station in Maunalua Bay.

Chemical analyses shall be performed for the "fish tissue parameters" specified in Part E.1.d.1 of this permit. After the third year of testing, the EPA and DOH may reduce the number of congeners tested to include only those congeners detected in samples tested during years one through three of this permit.

f. Protocols and Methods

Protocols and methods for sample collection and analyses are given below:

Protocols and Methods for Sample Collection and Analyses	
Water quality samples (collection and process); sediment and biological samples	*Quality Assurance and Quality Control (QA/QC) for 301(h) Monitoring Programs: Guidance on Field and Laboratory Methods* (EPA 430/9-86-004, 1987)
Sediment samples handling	*Procedures for Handling and Chemical Analysis of Sediment and Water Samples* (EPA/CE-81-1, 1981)
Sediment Analysis	*NOAA's National Status and Trends Program for Marine Environmental Quality* *Methods for the Determination of Metals in Environmental Samples* *Test Methods for Evaluating Solid Waste, SW-846, Method 8270*
Benthic community structure analysis	*Recommended Biological Indices for 301(h) Monitoring Programs* (EPA 430/9-86-002, 1987)
Fish tissue analysis	*Bioaccumulation Monitoring Guidance: (4) Analytical Methods for US EPA Priority Pollutants and 301(h) Pesticides in Tissues from Estuarine and Marine Organisms* (Tetra Tech, Inc., 1986) *NOAA's National Status and Trends Program for Marine Environmental Quality* *Methods for the Determination of Metals in Environmental Samples* *Test Methods for Evaluating Solid Waste, SW-846*

2. Regional Monitoring Activities

The Permittee shall participate in a regional monitoring effort in Mamala Bay to evaluate the effects of wastewater discharged from the Sand Island WWTP and the Honouliuli WWTP, and their effects relative to other sources of contaminants flowing into Mamala Bay. The primary objective of the regional monitoring program is to assess the spatial extent and magnitude of ecological disturbances within the Mamala Bay, and to describe the relative conditions among different regions within the Bay. Monitoring stations shall

be selected randomly to ensure they are representative of conditions in the study area.

The concept of the regional monitoring program for the Permittee is to use a comparable level of effort, as required under the core monitoring program, to sample more broadly in Mamala Bay. Some activities required under the core monitoring program will be replaced with activities of comparable value under the regional monitoring program. The regional monitoring plan will be designed to investigate Mamala Bay between Diamond Head on the east and Barber's Point on the west. The Permittee shall design a detailed plan for regional monitoring in Mamala Bay in conjunction with the EPA and as much as possible other participating agencies, various levels of government and private entities. The Permittee, the EPA and other participating monitoring agencies and entities shall constitute the coordinating committee for the Mamala Bay Regional Monitoring Program. In the event that such a committee is non-functional, the Permittee shall work cooperatively on the regional monitoring plan with the EPA. The Permittee with the EPA shall determine its portion of the regional plan. The final monitoring plan must be approved by the EPA prior to its implementation. The exact shoreline, recreational water, nearshore and offshore station locations required under regional monitoring and to be completed under the Sand Island WWTP permit, will be designated by either a coordinating committee or, if no committee is functional, the EPA in coordination with the Permittee. The regional monitoring plan will also be included and supported in a similar manner in the Honouliuli WWTP's NPDES permit.

The shoreline regional monitoring design is based on 20 to 30 shoreline stations randomly stratified between Diamond Head on the east and Barber's Point on the west. The offshore regional monitoring design is based on 80 offshore stations randomly stratified over a hexagonal gridline between Diamond Head on the east and Barber's Point on the west. Exact station locations for shoreline, recreational waters, nearshore, and offshore regional monitoring activities conducted for the Sand Island WWTP will be determined by the EPA, in coordination with the Permittee or the Coordinating Committee identified in the paragraph above. Some existing shoreline and offshore stations will be retained in the regional monitoring design to assess trends. The Permittee shall conduct regional monitoring activities during the months designated in the EPA-approved plan.

a. Shoreline Water Quality Monitoring

The Permittee shall sample enterococci at 20 to 30 shoreline stations during years three and five of this permit. At each station, samples shall be collected seven days per month. Sampling shall be scheduled to ensure that not more than five consecutive days occur between sampling events. In conjunction with enterococci sampling, visual observations shall be made at all stations.

b. Nearshore and Offshore Water Quality Monitoring

The Permittee shall monitor offshore water quality at the ten stations identified in Part E.1.c of this permit and at the three recreational waters stations and five nearshore stations in Part E.1.b of this permit. Each station shall be sampled semi-annually during years three and five of this permit for the parameters indicated in Part E.1.c of this permit. In addition, the Permittee shall monitor nearshore and offshore water quality at 60 to 80 stations (a combined effort for the Sand Island WWTP and Honouliuli WWTP and to be specified in the regional monitoring plan required under Part E.2 of this permit). Each station shall be sampled once during years three and five of this permit for the parameters indicated in Part E.1.c of this permit.

c. Sediment Monitoring (for Chemistry and Benthic Organisms)

The Permittee shall monitor nearshore and offshore sediment for chemistry and benthic organisms at the five nearshore and ten offshore stations identified in Parts E.1.b and E.1.c of this permit, respectively. In addition, the Permittee shall monitor sediment chemistry and benthic organisms, identified in Part E.1.d of this permit, at 60 to 80 nearshore and offshore stations (a combined effort for Sand Island WWTP and Honouliuli WWTP and to be specified in the regional monitoring plan required under Part E.2 of this permit) as part of the regional monitoring effort, in accordance with the plan to be developed under this section. Each station shall be sampled once during years three and five of this permit for the parameters indicated in Part E.1.d of this permit.

d. Fish Monitoring

The Permittee shall monitor fish in accordance with Part E.1.e of this permit.

F. WASTEWATER POLLUTION PREVENTION PROGRAM

1. Annual Report

The Permittee shall submit an annual report summarizing the critical parameters which impact the operations of the subject facility to the DOH by March 31 of each year, unless otherwise instructed by the DOH. The report shall include, at a minimum, an evaluation of critical parameters, including the following:

a. Flow;

b. Biochemical oxygen demand loading;

c. Suspended solids loading;

d. Toxic pollutants or impacts of septic wastes;

e. Growth potential of the service area;

f. Impact of new regulations;

g. Bypasses and overflows;

h. Effectiveness and condition of the collection system;

i. Reported design capacity in permit; and

j. Treatment capacity based on additional information.

G. PRETREATMENT REQUIREMENTS

1. The Permittee shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR 403, including any subsequent regulatory revisions. Where 40 CFR 403 or subsequent revisions place mandatory actions upon the Permittee as Control Authority but do not specify a timetable for completion of the actions, the Permittee shall complete the required actions within six months from the issuance date of this permit or the effective date of the 40 CFR 403 revisions, whichever comes later. For violations of pretreatment requirements, the Permittee shall be subject to enforcement actions, penalties, fines and other remedies by the EPA or other appropriate parties, as provided in the CWA. The DOH and EPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements, as provided in the CWA.

2. The Permittee shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d) and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The Permittee shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

3. The Permittee shall perform the pretreatment functions as required in 40 CFR 403 including, but not limited to:

   a. Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);

   b. Enforce the pretreatment requirements in 40 CFR 403.5 and 403.6;

c. Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and

d. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).

4. The Permittee shall comply with the urban area pretreatment requirements under section 301(h) of the CWA and the implementing requirements in 40 CFR 125. The Permittee's actions to comply shall include the following:

a. During each calendar year, maintaining a rate of significant noncompliance, as defined at 40 CFR 403.8(f)(2)(vii), for significant industrial users (SIUs) of no more than 15 percent of the total number of significant industrial users.

The 15 percent noncompliance criteria includes only significant industrial users that are in significant noncompliance (SNC) and which have not received at least a second level formal enforcement action from the Permittee, in accordance with the Permittee's Enforcement Response Plan. A second level enforcement action is an Administrative Notice and Order to achieve timely compliance.

Part G.4.d of this permit contains a schedule for evaluating local limits. As a consequence of any new local limits, some significant industrial users may need time to come into compliance with these new limits. In any such cases, the Permittee shall issue a Compliance Findings of Violation and Order. The Order shall contain a schedule for achieving compliance with the new local limits. Significant industrial users receiving such Orders will not be included in the 15 percent noncompliance criteria.

b. Providing the annual analysis regarding local limits required in 40 CFR 125.65(c)(1)(iii); and

c. Evaluating local limits and developing any needed local limits as applicable pretreatment requirements, in accordance with 40 CFR 125.65. The local limits evaluation shall include, but is not limited to:

(1) Identifying pollutants of concern. This evaluation shall address each toxic pollutant introduced by an industrial discharger as required under 40 CFR 125.65;

(2) Characterizing industrial, commercial, and residential toxic pollutant loadings to the treatment plant;

(3) Developing allowable headworks loadings and an allocation strategy for pollutants requiring local limits; and

(4) Developing narrative or numeric local limits when technically justified.

d. The Permittee shall comply with Part G.4.c of this permit according to the following schedule:

(1) Submit an interim progress report to the DOH and EPA six months after the permit effective date;

(2) Submit a final local limits development report to the DOH and EPA 12 months after the permit effective date; and

(3) Complete the reissuance of any SIU permits necessary to implement local limits within six months after local limits approval by the DOH and EPA.

e. The Permittee shall develop local limits for animal and vegetable oil and grease that consist of a BMP-based program which requires the installation and servicing of grease traps and interceptors. The design and scope of this program shall reflect the following factors:

(1) The development of an objective procedure to identify, remedy, and prevent obstructions in the wastewater collection system involving animal and vegetable oil and grease;

(2) The installation and use of adequately sized grease traps and interceptors. The Permittee shall address the applicability of the Uniform Plumbing Code in this program;

(3) Maintenance requirements for grease traps and interceptors;

(4) The frequency and character of inspection and oversight by the Permittee's personnel;

(5) Implementation of an Enforcement Response Plan for BMP violations; and

(6) Possible locations of future obstructions and sewage spills.

f. This BMP-based program for controlling animal and vegetable oil and grease shall be developed according to the following schedule:

(1) Submit an interim progress report to the DOH and EPA six months after the permit effective date;

(2) Submit the final local limits development report to the DOH and EPA 12 months after the permit effective date; and

(3) Implement the BMP-based program including ordinance changes and issuance of Orders or Permits requiring the installation of oil and grease traps and interceptors within six months after program approval by the DOH and EPA.

5. The Permittee shall submit annually to the DOH and EPA a report describing its pretreatment activities over the previous year. In the event that the Permittee is not in compliance with any conditions or requirements of this permit, then the Permittee shall also include the reasons for noncompliance and state how and when the Permittee shall comply with such conditions and requirements. This annual report shall cover operations from January 1 through December 31, and is due on March 31 of each year. The report shall contain, but not be limited to, the following information:

a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the POTW's influent and effluent for those pollutants the EPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by nondomestic users. This will consist of wastewater sampling and analysis in accordance with the minimum frequency of analysis stated in Part A of this permit. The Permittee is not required to sample and analyze for asbestos. Sludge monitoring is covered in Part H of this permit. The Permittee shall also provide any influent or effluent monitoring data for nonpriority pollutants which the Permittee believes may be causing or contributing to Interference or Pass Through. Sampling and analysis shall be performed with the techniques prescribed in 40 CFR 136;

b. A discussion of Upset, Interference, or Pass Through incidents, if any, at the treatment plant which the Permittee knows or suspects were caused by nondomestic users of the collection system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Interference or Pass Through;

c. An updated list of the Permittee's SIUs including their names and addresses, and a list of deletions, additions and SIU name changes keyed to the previously submitted list. The Permittee shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations;

d. The Permittee shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

(1) Name of the SIU;

(2) Category, if subject to federal categorical standards;

(3) The type of wastewater treatment or control processes in place;

(4) The number of samples taken by the Permittee during the year;

(5) The number of samples taken by the SIU during the year;

(6) For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

(7) A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;

(8) Whether the facility is in SNC as defined at 40 CFR 403.8(f)(2)(vii) at any time during the year; and

(9) A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action, final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance;

e. A brief description of any programs the Permittee implements to reduce pollutants from nondomestic users that are not classified as SIUs;

f. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

h. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required in 40 CFR 403.8(f)(2)(vii).

6. The Permittee shall submit a semi-annual SIU compliance status report to the DOH and EPA. This report shall cover the period of January 1 through June 30, and shall be submitted by July 31. The report shall contain:

   a. The name and address of all SIUs which violated any discharge or reporting requirements during the report period;

   b. A description of the violations including whether any discharge violations were for categorical standards or local limits;

   c. A description of the enforcement or other actions that were taken to remedy the noncompliance;

   d. The status of active enforcement and other actions taken in response to SIU noncompliance identified in previous reports; and

   e. The implementation and compliance status of the BMP-based animal and vegetable oil and grease control program.

H. SLUDGE/BIOSOLIDS REQUIREMENTS

1. All biosolids[20] generated by the Permittee shall be reused or disposed of in compliance with applicable portions of:

   a. 40 CFR 503: For biosolids that are land applied, placed on a surface disposal site (dedicated land disposal site or monofill), or incinerated; 40 CFR 503, Subpart B (land application) applies to biosolids applied for the purpose of providing nutrients or conditioning the soil for crops or vegetation. 40 CFR 503 Subpart C (surface disposal) applies to biosolids placed on the land for the purpose of disposal;

   b. 40 CFR 258: For biosolids disposed in municipal solid waste landfills;

   c. 40 CFR 257: For all biosolids use and disposal practices not covered in 40 CFR 258 or 503.

2. The Permittee is responsible for assuring that all biosolids produced at the treatment plant are used or disposed of in accordance with 40 CFR 257, 258, and 503, whether the Permittee reuses or disposes of the biosolids directly or transfers the biosolids to another entity for further treatment, reuse, or disposal. The Permittee is responsible for informing

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[20] Biosolids means stabilized, non-hazardous sewage sludge.

subsequent preparers, appliers, and disposers of the requirements which these entities must meet under 40 CFR 257, 258, and 503.

3. No biosolids shall be allowed to enter wetlands or other waters of the United States.

4. Biosolids treatment, storage, reuse, or disposal shall not contaminate groundwater.

5. Biosolids treatment, storage, reuse, or disposal shall be performed in a manner as to minimize nuisances such as objectionable odors or flies.

6. The Permittee shall assure that haulers transporting biosolids for off-site treatment, reuse, or disposal take all necessary measures to keep the biosolids contained.

7. If biosolids are stored for over two years from the time it was generated, the Permittee must ensure compliance with all requirements for surface disposal in 40 CFR 503 Subpart C, or must submit a written request for longer temporary storage, including information required in 40 CFR 503.20(b), to the EPA.

8. Sludge containing PCBs equal to or greater than 50 mg/kg of total solids (100% dry weight basis) shall be disposed of in accordance with 40 CFR 761.

9. Any biosolids treatment, storage, or disposal site shall have adequate facilities which divert surface runoff from adjacent areas, protect site boundaries from erosion, and prevent any conditions that would cause drainage to escape from the site. Adequate protection is defined as protection from at least a 100-year storm and from the highest tidal stage that may occur.

10. Monitoring shall be conducted as follows:

    a. Biosolids shall be tested semi-annually for all pollutants listed under section 307(a) of the CWA. Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

    b. Once during this permit term, biosolids shall be tested for dioxin/dibenzofurans using a detection limit of < 1 pg/g. Test results shall be reported on a 100% dry weight basis.

    c. Biosolids shall be tested annually, or more frequently if necessary, to determine hazardousness using the Toxicity Characterization Leachate Procedure (see Method 1311 in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846). Contaminants and regulatory levels are found in Table 1 in 40 CFR 261.24(b).

d. Biosolids which are land applied or placed in a surface disposal site shall be tested for metals as required in 40 CFR 503.16 and 40 CFR 503.26 using *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (see 40 CFR 503.8(b)(4)), and for organic-N, ammonium-N, and nitrate-N using *Standard Methods for the Examination of Water and Wastewater* (1989). The appropriate monitoring frequency for these tests shall be determined by the biosolids volume land applied or placed in a surface disposal site. Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

Biosolids Volume (dry metric tons/year)	Monitoring Frequency
0 - 290	Anmually (Nov)
290 - 1500	Quarterly (Feb/May/Aug/Nov)
1500 - 15,000	Bi-Monthly (Feb/Apr/Jun/Aug/Oct/Dec)
> 15,000	Monthly

e. For biosolids which are land applied, the Permittee shall demonstrate that biosolids meet Class A or Class B pathogen requirements by one of the methods listed in 40 CFR 503.32. The Permittee shall track and keep records of the operational parameters used to achieve the vector attraction reduction requirements in 40 CFR 503.33(b).

f. Biosolids that are placed on a surface disposal site shall be monitored as follows:

(1) Biosolids shall be tested for metals as required in 40 CFR 503.26 using *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (see 40 CFR 503.8(b)(4)), at the appropriate frequency required by Part H.10.d of this permit. Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

(2) Prior to placement on a surface disposal site, the Permittee shall demonstrate that biosolids meet Class B pathogen requirements, or shall ensure that the site is covered at the end of each operating day.

(3) The Permittee shall track and keep records of the operational parameters used to achieve the vector attraction reduction requirements in 40 CFR 503.33(b).

(4) When biosolids are placed on a surface disposal site, a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

g. Biosolids disposed of in a municipal solid waste landfill unit shall be tested semi-annually using the Paint Filter Test (Method 9095 in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*) to demonstrate compliance with 40 CFR 258.28 which prohibits disposal of materials with free liquids in a municipal solid waste landfill unit.

11. The Permittee, either directly or through contractual agreements with their biosolids management contractors, shall comply with the following 40 CFR 503 notification requirements:

a. A reuse/disposal plan shall be submitted to the EPA Region IX Biosolids Coordinator. The plan shall include: results of monitoring/analyses required for use or disposal at the new or previously unreported site(s); a description and topographic map of the proposed site(s) for use or disposal; names and addresses of the applier(s) and site owner(s); and a listing of any State or local permits which must be obtained. For land application sites, the plan shall be submitted by the land applier and shall include: a description of the crops or vegetation to be grown; proposed nitrogen loading rates and determination of agronomic rates; depth to groundwater; and a groundwater monitoring plan (if one exists).

b. If the Permittee's biosolids do not meet 40 CFR 503.13 Table 3 metals concentration limitations, the Permittee must require the land applier to notify the EPA of any previous site applications of biosolids subject to cumulative loading limitations and the cumulative amounts of pollutants applied to date at the site, per 40 CFR 503.12(e) and (j).

c. For biosolids that are land applied, the Permittee shall notify the applier in writing of the nitrogen content of the biosolids, and of all the applier(s) requirements in 40 CFR 503, including the requirement that the applier certify that management practices, site restrictions, and any applicable vector attraction reduction requirements in 40 CFR 503 Subpart B have been met. The Permittee shall require the applier to certify at the end of 38 months following application of Class B biosolids that harvesting restrictions in effect have been met.

d. If bulk biosolids are shipped to another State/Tribal Lands, the Permittee must send notice prior to the initial shipment of bulk biosolids to permitting authorities in the receiving State/Tribal Land (the EPA Regional Office for that area and the State/Tribal authorities).

12. The Permittee shall submit an annual biosolids report to the EPA Region IX Biosolids Coordinator by February 19 of each year for the period covering the previous calendar year. The report shall include:

    a. The amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.

    b. Results of all monitoring required by Part H.10 of this permit.

    c. Descriptions of pathogen requirements, vector attraction reduction requirements, site and harvesting restrictions, management practices, and certifications, as required in 40 CFR 503.17 and 40 CFR 503.27.

    d. Results of any required groundwater monitoring or certification by a groundwater scientist that the application/disposal will not contaminate an aquifer.

    e. Names and addresses of land appliers, surface disposal site operators, and landfill operators; and volumes applied or disposed (dry metric tons).

    f. Names, mailing addresses, and street addresses of entities who received biosolids for further treatment, storage, disposal in a municipal solid waste landfill, or for other use or disposal methods not covered above, and volumes delivered to each.

13. The Permittee shall require any appliers contracted to manage their biosolids to submit an annual biosolids report to the EPA Region IX Biosolids Coordinator by February 19 of each year, for the period covering the previous calendar year. The report shall include: names and addresses of land appliers and surface disposal site operators, name, location (site addresses and latitude/longitude), and size (hectares) of site(s), volumes applied/disposed (dry metric tons) and for land application, biosolids loading rates (metric tons per hectare), nitrogen loading rates (kg/ha), dates of application, crops grown, dates of seeding and harvesting, and certifications that the requirements to obtain information in 40 CFR 503.12(e)(2), management practices in 40 CFR 503.14, and site restrictions in 40 CFR 503.32(b)(5) have been met.

14. The general requirements in 40 CFR 503.12 and the management practices in 40 CFR 503.14 do not apply when bulk biosolids are applied to land, if the biosolids meet the pollutant concentrations in 40 CFR 503.13(b)(3), the Class A pathogen requirements in 40 CFR 503.32(a), and one of the vector attraction reduction requirements in 40 CFR 503.33(b)(1) through (b)(8).

15. Upon approval by the EPA, the Permittee shall implement its biosolids reuse alternatives plan required under EPA Consent Decree Docket No. CIV. No. 94-00765DAE. The Permittee shall report quarterly to the EPA on the status of plan implementation.

I. REPORTING REQUIREMENTS

1. Reporting of Monitoring Results

a. All wastewater monitoring, and biosolids/sludge monitoring, sample preservation, and analyses shall be performed as described in the most recent edition of 40 CFR 136, unless otherwise specified in this permit. In accordance with 40 CFR 122.45(c), effluent analyses for metals shall measure "total recoverable metal", except for chromium (VI) which shall be measured as "dissolved metal." All receiving water monitoring, sample preservation, and analyses shall be performed as specified in this permit.

b. The Permittee shall have and implement an acceptable written quality assurance project plan for laboratory analyses. All QA/QC samples must be analyzed on the same dates that wastewater samples are analyzed. Duplicate chemical analyses must be conducted on a minimum of ten percent of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the EPA or DOH, the Permittee shall participate in the NPDES discharge monitoring report QA performance study. The Permittee must have a success rate ≥80%.

c. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this permit.

d. Influent and effluent monitoring results shall be summarized and reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1). For the purposes of reporting, the Permittee shall use the reporting threshold equivalent to the laboratory's method detection limit[21] (MDL). As such, the Permittee must conduct influent and effluent analyses in accordance with the method specified below, and must utilize a standard calibration where the lowest standard point is equal to or less than the concentration of the minimum level[22] (ML):

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21 The Method Detection Limit (MDL) is the minimum concentration of an analyte that can be detected with 99% confidence, as defined by a specific laboratory method in 40 CFR 136, Appendix B.

22 The Minimum Level (ML) is the concentration in a sample equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed. Where a promulgated ML is not available, an interim ML is calculated using a factor of 3.18 times the MDL.

Discharge Parameter	Sample Type	Analytical Method
Metals		
Antimony	24 hr composite	GF/AA ICP-MS
Arsenic	24 hr composite	GF/AA ICP-MS
Beryllium	24 hr composite	GF/AA ICP-MS
Cadmium	24 hr composite	GF/AA ICP-MS
Chromium	24 hr composite	GF/AA ICP-MS
Copper	24 hr composite	GF/AA ICP-MS
Lead	24 hr composite	GF/AA ICP-MS
Mercury	24 hr composite	CV/AA
Nickel	24 hr composite	GF/AA ICP-MS
Selenium	24 hr composite	GF/AA GF/HYDRIDE ICP-MS
Silver	24 hr composite	GF/AA ICP-MS
Thallium	24 hr composite	GF/AA ICP-MS
Zinc	24 hr composite	GF/AA ICP-MS
Pesticides		
Aldrin	24 hr composite	608
Chlordane	24 hr composite	608
Dieldrin	24 hr composite	608
4,4'-DDT	24 hr composite	608
4,4'-DDE	24 hr composite	608
4,4'-DDD	24 hr composite	608

Discharge Parameter	Sample Type	Analytical Method
Pesticides		
Alpha Endosulfan	24 hr composite	608
Beta Endosulfan	24 hr composite	608
Endosulfan Sulfate	24 hr composite	608
Endrin	24 hr composite	608
Endrin Aldehyde	24 hr composite	608
Heptachlor	24 hr composite	608
Heptachlor Epoxide	24 hr composite	608
Alpha BHC	24 hr composite	608
Beta BHC	24 hr composite	608
Delta BHC	24 hr composite	608
Gamma BHC (Lindane)	24 hr composite	608
Toxaphene	24 hr composite	608
PCB 1016	24 hr composite	608
PCB 1221	24 hr composite	608
PCB 1232	24 hr composite	608
PCB 1242	24 hr composite	608
PCB 1248	24 hr composite	608
PCB 1254	24 hr composite	608
PCB 1260	24 hr composite	608
Base/Neutral Extractables		
Acenaphthene	24 hr composite	625
Acenaphthylene	24 hr composite	625
Anthracene	24 hr composite	625
Benzidine	24 hr composite	625
Benzo(a)Anthracene	24 hr composite	625
Benzo(a)Pyrene	24 hr composite	625
Benzo(b)Fluoranthene	24 hr composite	625

Discharge Parameter	Sample Type	Analytical Method
Base/Neutral Extractables		
Benzo(g,h,i)Perylene	24 hr composite	625
Benzo(k)Fluoranthene	24 hr composite	625
Bis(2-Chloroethoxy Methane	24 hr composite	625
Bis(2-Chloroethyl)Ether	24 hr composite	625
Bis(2-Chloroisopropyl)Ether	24 hr composite	625
Bis(2-Ethylhexyl)Phthalate	24 hr composite	625
4-Bromophenyl Phenyl Ether	24 hr composite	625
Butyl Benzyl Phthalate	24 hr composite	625
2-Chloronaphthalene	24 hr composite	625
Chrysene	24 hr composite	625
Dibenzo(a,h)Anthracene	24 hr composite	625
4-Chlorophenyl Phenyl Ether	24 hr composite	625
1,2-Dichlorobenzene	24 hr composite	625
1,3-Dichlorobenzene	24 hr composite	625
1,4-Dichlorobenzene	24 hr composite	625
3,3-Dichlorobenzidine	24 hr composite	625
Diethyl Phthalate	24 hr composite	625
Dimethyl Phthalate	24 hr composite	625
Di-N-Butyl Phthalate	24 hr composite	625
2,4-Dinitrotoluene	24 hr composite	625
2,6-Dinitrotoluene	24 hr composite	625
1,2-Diphenylhydrazine (as Azobenzene)	24 hr composite	625
Di-N-Octyl Phthalate	24 hr composite	625
Fluoranthene	24 hr composite	625
Fluorene	24 hr composite	625
Hexachlorobenzene	24 hr composite	625
Hexachlorobutadiene	24 hr composite	625

Discharge Parameter	Sample Type	Analytical Method
Base/Neutral Extractables		
Hexachlorocyclopentadiene	24 hr composite	625
Hexachloroethane	24 hr composite	625
Indeno(1,2,3-cd)Pyrene	24 hr composite	625
Isophorone	24 hr composite	625
Naphthalene	24 hr composite	625
Nitrobenzene	24 hr composite	625
N-Nitrosodimethylamine	24 hr composite	625
N-Nitrosodi-N-Propylamine	24 hr composite	625
N-Nitrosodiphenylamine	24 hr composite	625
Phenanthrene	24 hr composite	625
Pyrene	24 hr composite	625
1,2,4-Trichlorobenzene	24 hr composite	625
Acid Extractables		
2-Chlorophenol	24 hr composite	625
2,4-Dichlorophenol	24 hr composite	625
2,4-Dimethylphenol	24 hr composite	625
4,6-Dinitro-O-Cresol	24 hr composite	625
2,4-Dinitrophenol	24 hr composite	625
2-Nitrophenol	24 hr composite	625
4-Nitrophenol	24 hr composite	625
P-Chloro-M-Cresol	24 hr composite	625
Pentachlorophenol	24 hr composite	625
Phenol	24 hr composite	625
2,4, 6-Trichlorophenol	24 hr composite	625
Volatile Organics		
Acrolein	grab	603
Acrylonitrile	grab	603

Discharge Parameter	Sample Type	Analytical Method
Volatile Organics		
Benzene	grab	601/602/624
Bromoform	grab	601/602/624
Carbon Tetrachloride	grab	601/602/624
Chlorobenzene	grab	601/602/624
Chlorodibromomethane	grab	601/602/624
Chloroethane	grab	601/602/624
2-Chloroethyl Vinyl Ether	grab	601/602/624
Chloroform	grab	601/602/624
Dichlorobromomethane	grab	601/602/624
1,1-Dichloroethane	grab	601/602/624
1,2-Dichloroethane	grab	601/602/624
1,1-Dichloroethylene	grab	601/602/624
1,2-Dichloropropane	grab	601/602/624
1,3-Dichloropropylene	grab	601/602/624
Ethylbenzene	grab	601/602/624
Methyl Bromide	grab	601/602/624
Methyl Chloride	grab	601/602/624
Methylene Chloride	grab	601/602/624
1,1,2,2-Tetrachloroethane	grab	601/602/624
Tetrachloroethylene	grab	601/602/624
Toluene	grab	601/602/624
1,2-Trans-Dichloroethylene	grab	601/602/624
1,1,1-Trichloroethane	grab	601/602/624
1,1,2-Trichloroethane	grab	601/602/624
Trichloroethylene	grab	601/602/624
Vinyl Chloride	grab	601/602/624

Discharge Parameter	Sample Type	Analytical Method
Miscellaneous		
Cyanide	grab	335.2/335.3
Asbestos (not required unless requested)	24 hr composite	microscopy
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)	24 hr composite	613/8280
301(h) Pesticides		
Demeton	24 hr composite	614
Guthion	24 hr composite	614
Parathion	24 hr composite	614
Malathion	24 hr composite	614
Mirex	24 hr composite	608
Methoxychlor	24 hr composite	608

Analytical results at or above the laboratory's MDL shall be reported on the DMR as the measured concentration. For analytical results between the MDL and the ML, the Permittee shall report in the comment section on the DMR the sigma (σ) value (determined by the laboratory during the MDL study). Analytical results below the laboratory's MDL shall be reported as zero (i.e., "0").

e. All influent, effluent, and receiving water data shall be submitted annually to the EPA (WTR-2) for the ODES (Ocean Data Evaluation System) in accordance with the specifications in the ODES Data Submission Guidelines Manual (or equivalent data base/submission guidelines, as directed by the EPA).

f. Annual receiving water monitoring reports shall summarize and discuss monitoring results for years one through five of this permit. Reports shall include, at minimum:

(1) A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).

(2) A description of sampling stations, including differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, and shell litter, calcareous worm tubes, etc.).

(3) A record shall be kept of the individual(s) performing sampling or measurements. A description of the sample collection and preservation procedures used in the survey shall be included in the report.

(4) A description of methods used for laboratory analyses. Variations in procedure may be acceptable, but any such changes shall be reported to the EPA and DOH, before implementation. All such variations must be reported with the analytical results.

(5) An in-depth discussion of survey results. All tabulations and computations shall be explained.

g. The Permittee shall submit reports in accordance with the following dates:

Report	Reporting Period	Report Due Date
Discharge Monitoring Report	Monthly	28th day of month following completed reporting period
Compliance Schedule Reports in Part A.2 of this permit	n/a	14th day following each scheduled date
	Quarterly	As specified in Part A.2 of this permit
Initial Investigation TRE Workplan	Once/permit	90th day after permit effective date
Wastewater Pollution Prevention Program Annual Report	Annually	March 31
Pretreatment Annual Report	Annually	March 31
SIU Compliance Status Report	Semi-annually	July 31
Sludge/Biosolids Annual Report	Annually	February 19

Duplicate signed copies of these, and all other reports required herein (unless otherwise specified below), shall be submitted to the Regional Administrator and the Director of Health at the following addresses:

Regional Administrator
U. S. Environmental Protection Agency
Region IX, Water Division
CWA Compliance Office (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

Director of Health
State Department of Health
Environmental Management Division
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920

h. The Permittee shall submit reports in accordance with the following dates:

Report	Reporting Period	Report Due Date
Quality Assurance Project Plan	Annually	March 31
Shoreline water quality monitoring	Monthly	28th day of month following completed reporting period
Offshore water quality monitoring	Quarterly/ Semi-annually	90th day following completed reporting period (years 1, 2, and 4/ years 3 and 5)
Offshore sediment (chemistry and benthic organisms)	Annually	March 31 following years 1, 2, and 4
Fish Monitoring	Annually	March 31 following years 1, 2, and 4
Regional Monitoring Activities Report	Annually	March 31 following years 3 and 5
ODES (or equivalent) Data Submission Report (EPA only)	Annually	March 31

Duplicate signed copies of these reports shall be submitted to the Regional Administrator and the Director of Health at the following addresses:

Regional Administrator
U. S. Environmental Protection Agency
Region IX, Water Division
Monitoring and Assessment Office (WTR-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

Director of Health
State Department of Health
Environmental Management Division
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920

2. Reporting of Noncompliance and Other Incidents

a. Immediate Reporting

(1) Any Bypass, Upset or Sewage Spill Resulting in or Contributing to a Discharge to State Waters

Any bypass, upset or sewage spill resulting in or contributing to a discharge to State waters shall be orally reported at the time the Permittee's authorized representative becomes aware of the circumstances.

These reporting requirements replace the *twenty-four hour notice* requirements for bypasses (Standard NPDES Conditions (updated October 1, 1997) section 17(d)(2)(B) and 40 CFR 122.41(1)(6)(ii)(A)) and upsets (Standard NPDES Conditions (updated October 1, 1997) section 18(c)(3) and 40 CFR 122.41(l)(6)(ii)(B)).

(2) Any Bypass, Upset or Sewage Spill Resulting in or Contributing to a Discharge of 1,000 Gallons or More to State Waters

In addition to oral reporting under paragraph (1), immediate reporting shall be made to the Associated Press news wire services by the Permittee's authorized representative.

(3) Any Exceedance of a Maximum Daily Discharge Limitation

Any exceedance of a maximum daily discharge limitation shall be orally reported at the time the Permittee's authorized representative becomes aware of the circumstances.

b. Contact for Oral Reports

Oral reports during regular office hours (7:45 a.m. to 4:30 p.m.) shall be made to the Clean Water Branch at 808/586-4309.

Oral reports outside of regular office hours shall be made to the State-On-Scene Coordinator (SOSC) from the Office of Hazard Evaluation and Emergency Response (HEER) at 808/226-3799, or to the State Hospital Operator (24 hours) at 808/247-2191.

c. Written Submission

A written noncompliance report [submission] shall also be submitted

[provided]/postmarked or faxed within five (5) working days of the time the Permittee's authorized representative becomes aware of the [circumstances] noncompliance to the Clean Water Branch at the following address:

Director of Health
State Department of Health
Environmental Management Division
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, HI 96814-4920
(Fax No.: 808/586-4352)

The written noncompliance report [submission] shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the [anticipated] length of time the noncompliance [it] is expected to continue; public notice efforts, if any; clean-up efforts, if any; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Director of Health may waive the written report on a case-by-case basis for bypasses, upsets, sewage spills, and violations of maximum daily discharge limitations if the oral report has been received within 24 hours.

d. Other Noncompliance

The Permittee shall report all instances of noncompliance not reported under Parts I.2.a and I.2.b at the time monitoring reports are submitted as required by Part I.1 of this permit. The noncompliance reports shall contain the information listed in Part I.2.c of this permit.

3. Other Reporting Requirements

The Permittee shall comply with the reporting requirements of 40 CFR 122.41(l)(1), 122.41(1)(2), 122.41(1)(3), 122.41(1)(4), 122.41(1)(5), and 122.41(1)(8), as incorporated by Standard NPDES Permit Conditions (updated as of October 1, 1997) section 16. Parts I.1, I.2, and I.3 of this permit supersede the requirements of 40 CFR 122.41(1)(6) and 122.41(1)(7).

J. SPECIAL CONDITIONS

1. Wastewater treatment facilities subject to this permit shall be supervised and operated by persons possessing certificates of appropriate grade, as determined by the DOH. If such personnel are not available to staff the wastewater treatment facilities, a program to

promote such certification shall be developed and enacted by the Permittee. Activities of this program shall be reported in the Annual Report in Part F of this permit.

2. The Permittee shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the Permittee shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

3. The Permittee is currently conducting the *Sand Island Wastewater Treatment Plant Chlorination Study* (see Part A.2.i of this permit) and will submit a Final Report to the EPA and DOH on March 31, 1999. Based on the results of this study, the EPA and DOH may determine that further ocean current monitoring or plume tracking studies are needed to assure that marine recreational waters are not impacted by the plume. At the request of the EPA and DOH, the Permittee shall submit a study plan (by date specified in the request), including detailed scopes of work and reporting schedules, to the EPA and DOH for approval. The Permittee shall implement the approved study plan, as directed by the EPA and DOH.

4. Based on the EPA's review of the *Sand Island Wastewater Treatment Plant Chlorination Study*, or additional ocean current or plume tracking studies, the EPA may conclude that potential impacts to the coral reef community may have occurred due to the plume. Based on this conclusion, the EPA may request the Permittee to study the effect(s) of the plume on the coral reef community. At the request of the EPA, the Permittee shall submit a study plan (by date specified in the request), including detailed scopes of work and reporting schedules, to the EPA for approval. The Permittee shall implement the approved study plan, as directed by the EPA.

5. This permit may be modified by the EPA and DOH to enable the Permittee to participate in regional monitoring activities conducted in the Mamala Bay during the term of this permit. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated monitoring efforts, the Permittee's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of wastewater discharges to the Mamala Bay. Anticipated modifications to the monitoring program will be coordinated so as to provide a comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollutant sources. If predictable relationships among the biological, water quality and effluent monitoring variables can be demonstrated, it may be appropriate to decrease the Permittee's monitoring effort. Conversely, the monitoring program may be intensified if it appears that the objectives

cannot be achieved through the Permittee's existing monitoring program. These changes will improve the overall effectiveness of monitoring in the Mamala Bay. Minor changes may be made without further public notice.

6. In accordance with 40 CFR 125.66(d), the Permittee shall implement its EPA-approved public education program and Nonindustrial Source Control Program activities as scheduled. Progress shall be reported annually in the Annual Report in Part G of this permit.

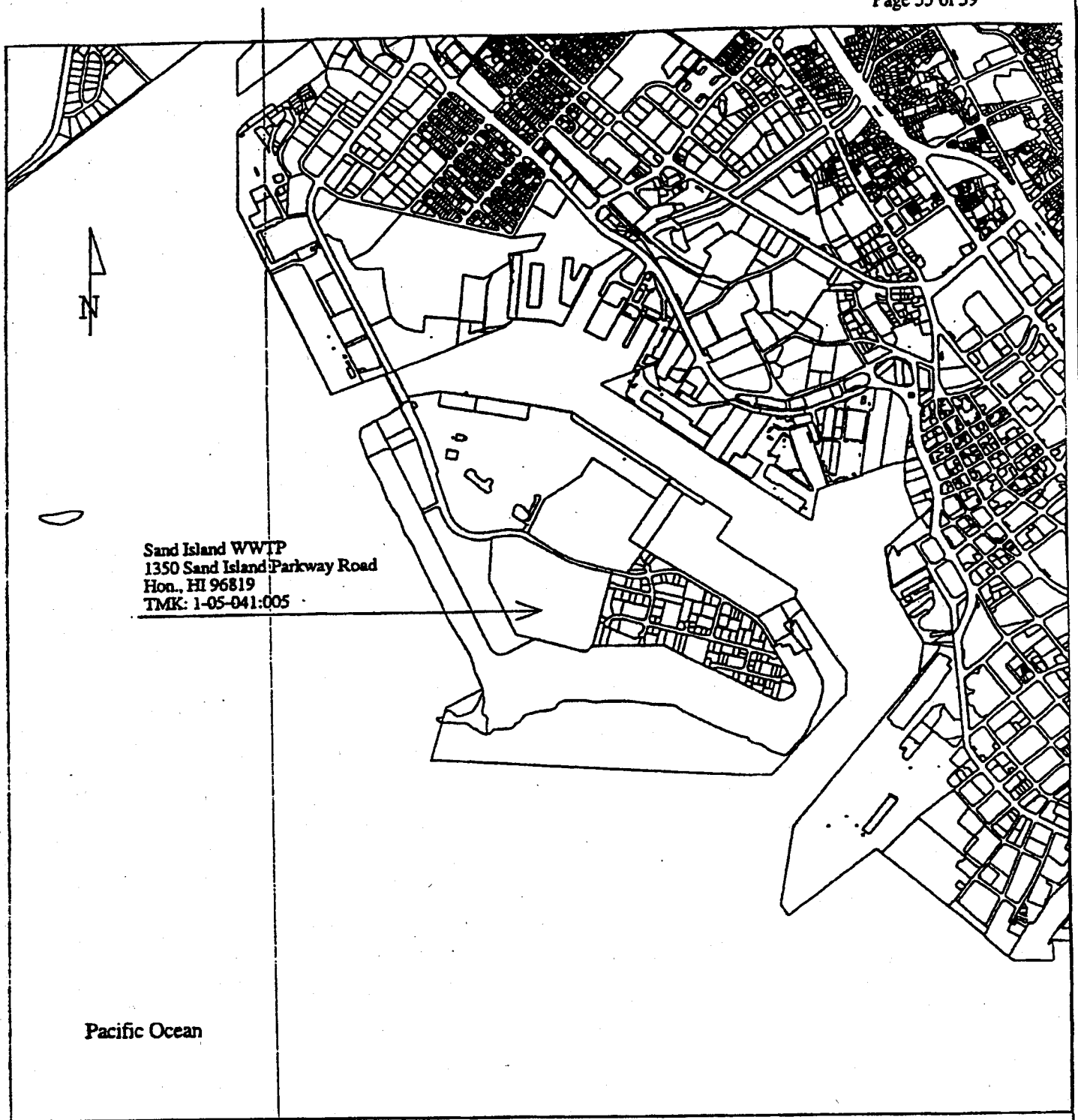
7. Following at least one year of continuous operation of the Sand Island WWTP Disinfection Facility, at the request of the Permittee, the EPA and DOH will re-evaluate the need for continuous effluent disinfection. To facilitate this process, the EPA and DOH will work with the Permittee and interested parties to evaluate all available information to assess the effects of the Sand Island WWTP discharge on nearshore and shoreline water quality without and with the operation of the Sand Island WWTP Disinfection Facility, where effective effluent disinfection is achieved (as specified in Part A.2.g of this permit). In order for the EPA and DOH to complete this assessment, the Permittee must provide all bacteriological indicator monitoring data required by this permit and other pertinent information to the EPA and DOH. The EPA and DOH will consider modifying this permit if: (1) the Permittee can demonstrate that the requested modification will not interfere with the attainment or maintenance of water quality that allows recreational activities in and on the water, consistent with federal 301(h) decision criteria, and will meet other NPDES permitting requirements; and (2) the Permittee is in compliance with the terms of this permit and all other applicable EPA requirements.

K. APPENDIX

1. Location Maps

2. Process Diagrams

3. Core Monitoring Stations



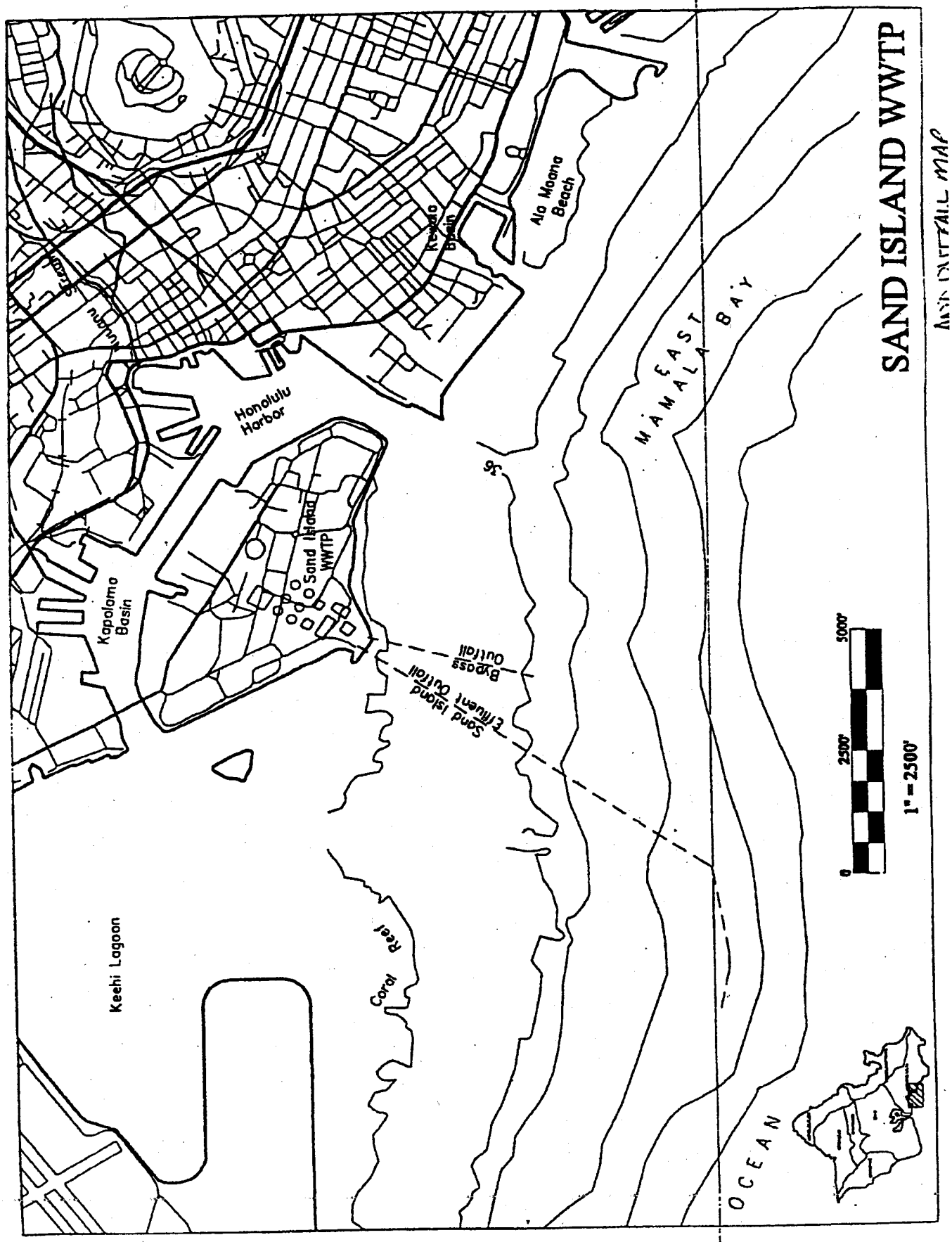
LOCATION MAP

SAND ISLAND WASTEWATER TREATMENT PLANT
SITE LOCATION

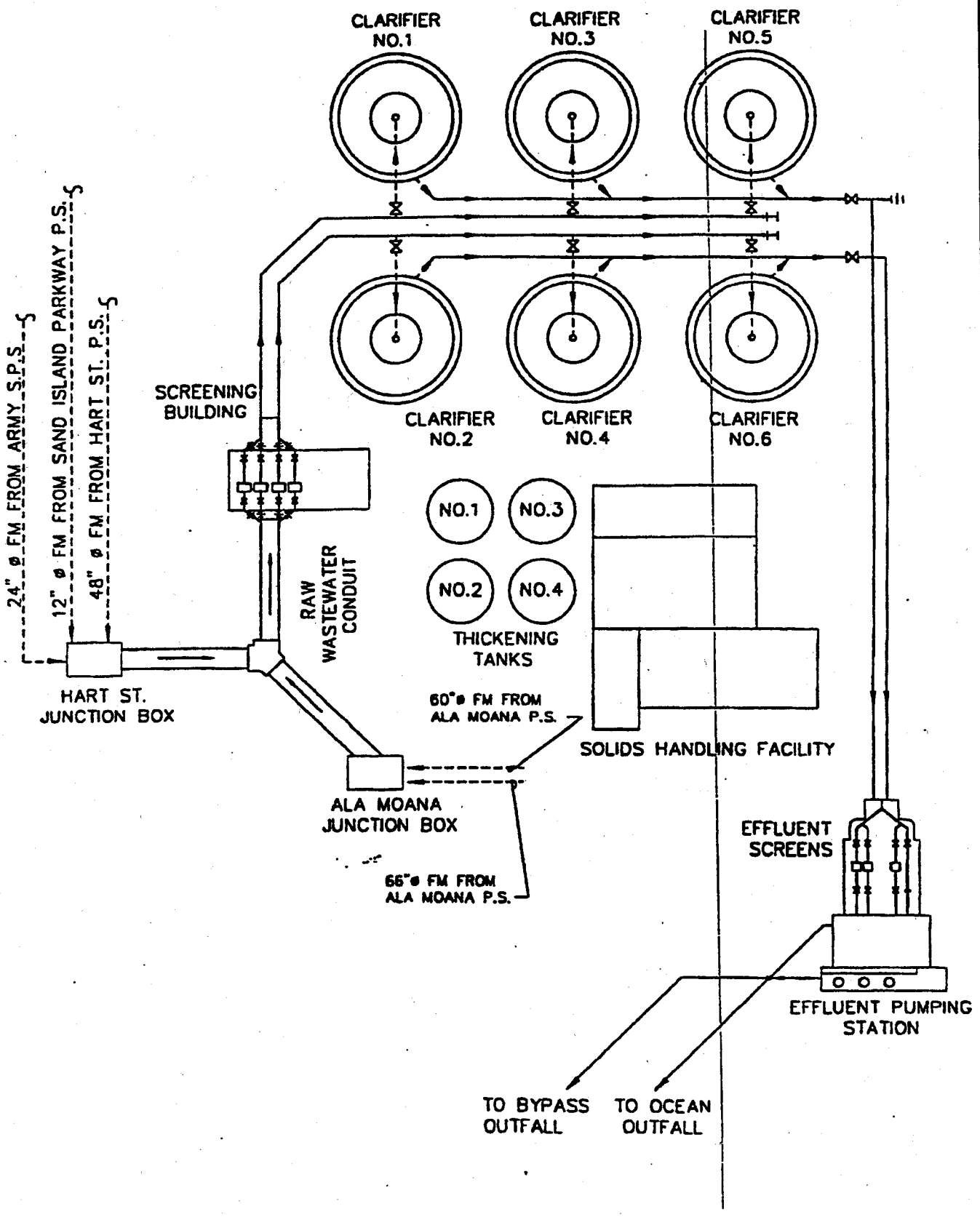
0 2021 4042

1" = 2021'

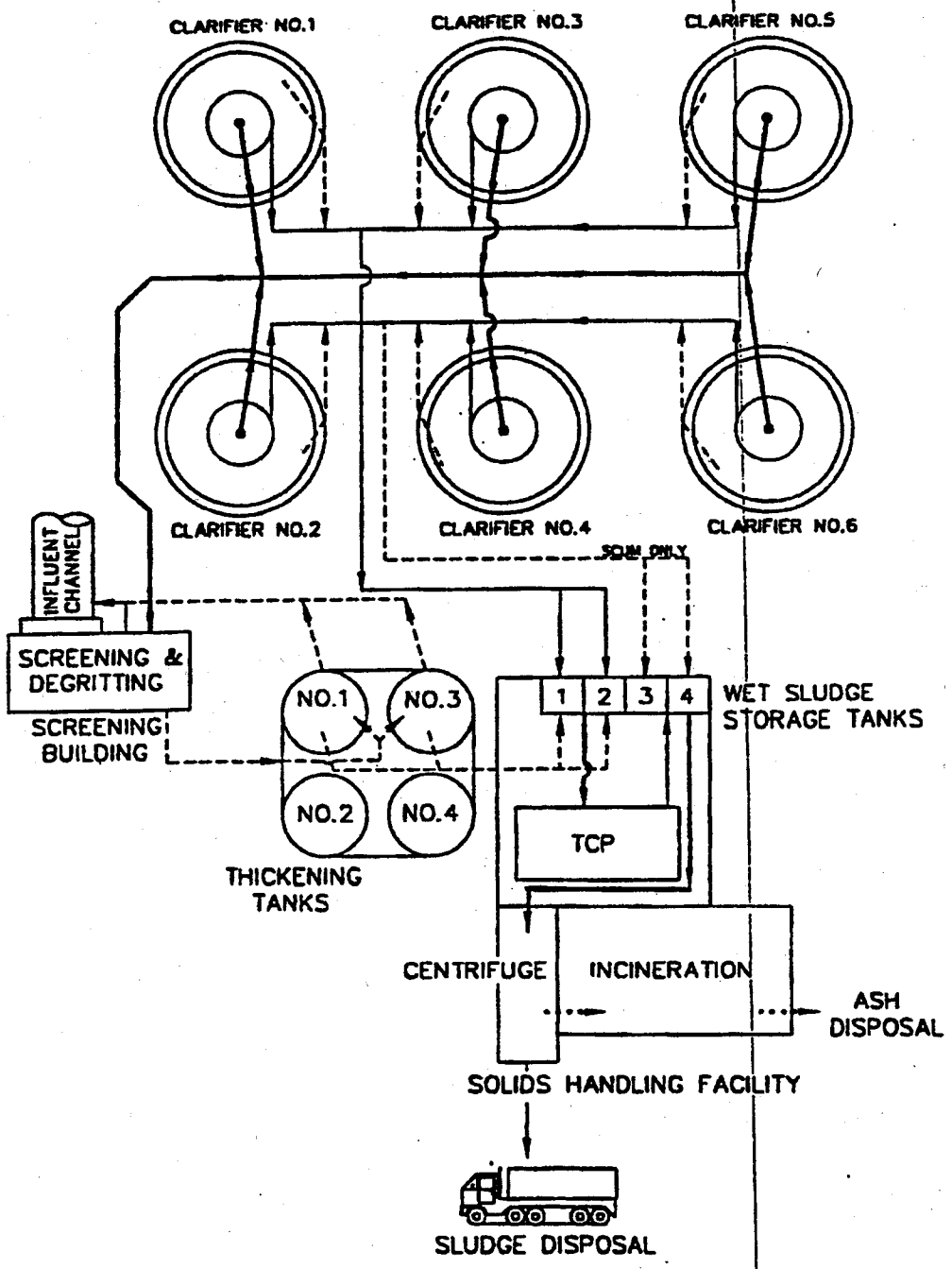
Date: 07/16/98


SAND ISLAND WWTP
Ala Moana Beach
Kewalo Basin
Honolulu Harbor
Kapalama Basin
Sand Island WWTP
Keehi Lagoon
Coral Reef
Sand Island Effluent Outfall
Bypass Outfall
36
MAMALA BAY
EAST
OCEAN
0
2500'
5000'
1" = 2500'

SIWWTP LIQUID FLOW DIAGRAM



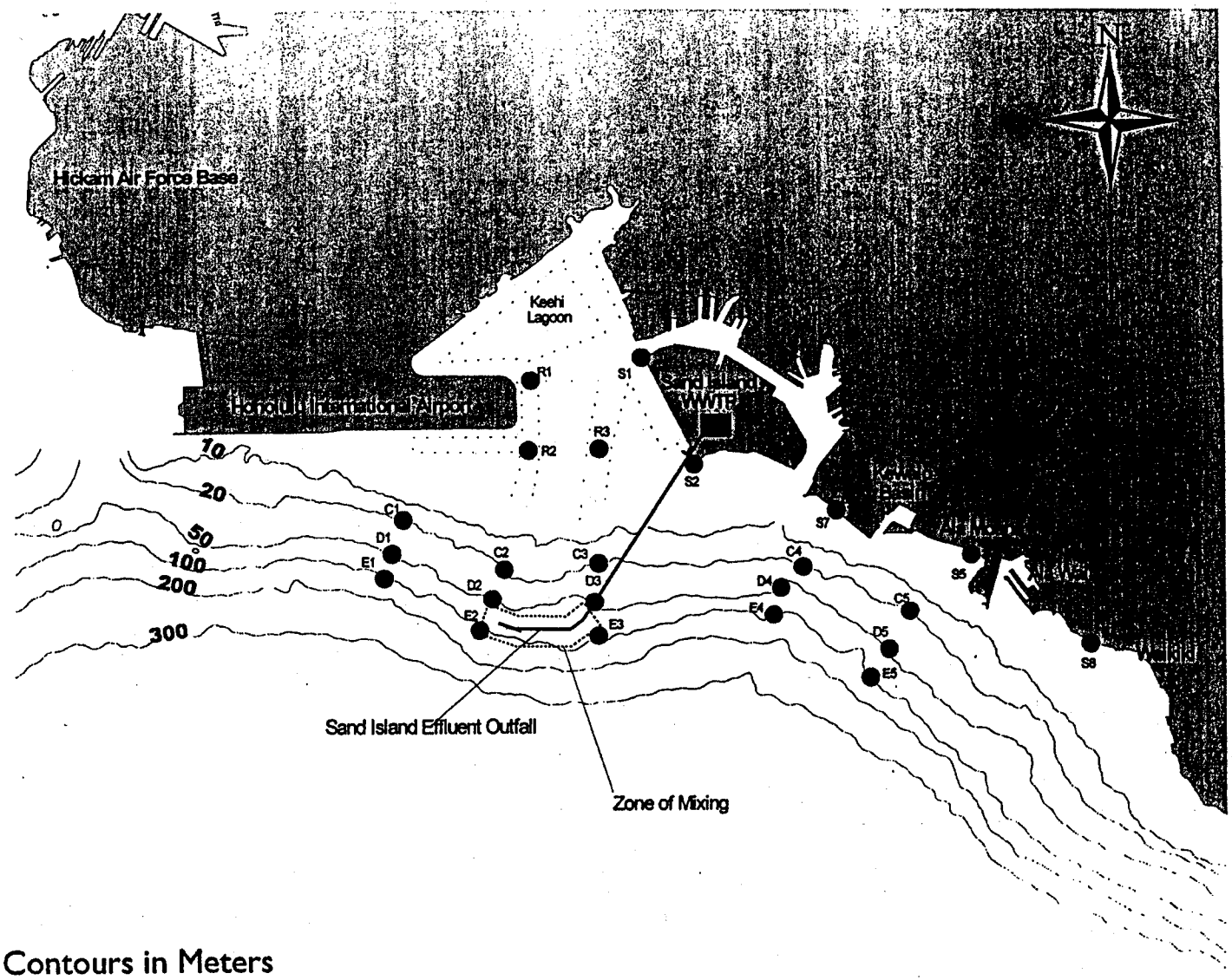
SIWWTP SOLIDS FLOW DIAGRAM



NOTES:

1. HEAVY SOLID LINES INDICATE FLOWS COMMON TO GRAVITY AND DAF CLARIFICATION
2. SOLID LINES INDICATE FLOW PATTERNS NORMAL TO DAF CLARIFICATION
3. DASHED LINES INDICTE FLOWS PATTERNS NORMAL TO GRAVITY CLARIFICATION
4. DOTTED LINES REPRESENT DEWATTERED SLUDGE TO INCINERATION, AN ALTERNATE DISPOSAL OPTION
5. THE FLOW ROUTES SHOWN INDICATE NORMAL ROUTING OF SOLIDS, AND DO NOT INDICATE ALL POSSIBLE CONFIGURATIONS.
6. HT – HEAT TREATMENT, ALSO REFERRED TO AS THE THERMAL CONDITIONING PROCESS

FIGURE 3. SAND ISLAND SHORELINE, NEARSHORE AND OFFSHORE STATIONS FOR CORE MONITORING ACTIVITIES



Depth Contours in Meters

DEPARTMENT OF HEALTH
STANDARD NPDES PERMIT CONDITIONS
UPDATED AS OF OCTOBER 1, 1997

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Note:

All references to Title 40 of the Code of Federal Regulations (40 CFR) are to regulations that are in effect on July 1, 1996, unless otherwise specified. The Clean Water Act

(Act) is also known as the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, and appears in 33 U.S.C. §§1251 to 1387.

"This permit" means the applicable individual NPDES permit to which these standard conditions apply.

STANDARD NPDES PERMIT CONDITIONS

1. **Basic water quality criteria** (comply with Hawaii Administrative Rules Section 11-54-04(a))

   a. The discharge shall not interfere with the attainment or maintenance of the receiving State water quality which assures the protection and propagation of fish, shellfish, and wildlife, and allows recreational use in and on the water. The discharge shall not cause the receiving State water to contain the following:

      (1) Materials that will settle to form objectionable sludge or bottom deposits.

      (2) Floating debris, oil, grease, scum, or other floating materials.

      (3) Substances in amounts sufficient to produce taste or odor in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity, or other conditions in the receiving State waters.

      (4) High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water.

      (5) Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life.

      (6) Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands.

   b. The discharge shall meet the basic requirements of Hawaii Administrative Rules, Section 11-54-04(b)(4).

2. **Onshore or offshore construction**

   This permit does not authorize or approve the construction

of any onshore or offshore physical structures or facilities or the undertaking of any work in any State waters.

3. **Sampling requirements and definitions**

a. Sampling Points

All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Administrator and the Director of Health. No discharge is authorized which does not totally pass through the final monitoring point.

b. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus ten (10) per cent from the true discharge rates throughout the range of expected discharge volumes. Once-through condenser cooling water flow which is monitored by pump logs or pump hour meters as specified in this permit based on the manufacturer's pump curves shall not be subject to this requirement. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

(1) "A Guide of Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421.)

(2) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

(3) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

(4) "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-77, September 1981, 135 pp. (Available from the General Services Administration (8BRC), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

c. Calibration

The Permittee shall periodically calibrate and perform maintenance on all monitoring and analytical equipment used to monitor the pollutants discharged under this permit, at intervals which will insure the accuracy of measurements, but no less than the manufacturer's recommended intervals or six (6) month intervals (whichever comes first). Records of calibration shall be kept pursuant to section 14(b).

d. pH Effluent Limitations Under Continuous Monitoring

If the Permittee continuously measures the pH of the discharge pursuant to a requirement or option in this permit, excursions from the range provided in Part A are permitted, provided:

(1) The pH limitation in Part A of this permit is based upon a requirement imposed under 40 CFR Subchapter N, Effluent Guidelines and Standards;

(2) The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month;

(3) No individual excursions from the range of pH values shall exceed 60 minutes; and

(4) For purposes of this section, an "excursion" is an unintentional and temporary incident in which the pH value of a discharge exceeds the range set forth in Part A of this permit. The number of individual excursions exceeding 60 minutes and the total accumulated excursion time in minutes occurring in any calendar month shall be reported in accordance with this permit.

e. Average

As used in this permit, unless otherwise stated, the term average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For fecal coliform, enterococcus, or *clostridium perfringens*, the "average" shall be the geometric mean. For total coliform, the "average" shall be the median.

f. Mass/Day Measurements

(1) The "daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. The daily discharge shall be determined by using the following equations:

Daily Discharge (lbs/day) = 8.34 x Q x C; or

Daily Discharge (kg/day) = 3.785 x Q x C;

where "C" (in mg/l) is the measured daily concentration of the pollutant and "Q" (in million gallons per day) is the measured effluent flow rate for the same calendar day.

If only one (1) sample is taken during any calendar day, the mass (weight) of pollutant discharged that is calculated from it is the "daily discharge."

(2) The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during the month. It is, therefore, an

arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days. This limitation is identified as "Monthly Average" in Part A of this permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.

(3) The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar week in which daily discharges are sampled and/or measured. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days. This limitation is identified as "Weekly Average" in Part A of this permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

(4) The "maximum daily discharge" is the highest daily discharge value recorded during the reporting period. This limitation is identified as "Daily Maximum" in Part A of this permit and the maximum daily discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

g. Concentration Measurements

(1) The "daily concentration" is the concentration of a pollutant discharged during a calendar day. It is equal to the concentration of a composite sample or in the case of grab samples, it is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. If only one (1) sample is taken during any calendar day, it represents the "daily concentration."

(2) The "average monthly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the daily concentrations sampled and/or measured divided by the number of daily discharges sampled and/or measured during the month (arithmetic mean of the daily concentration values). The average monthly count for fecal coliform, enterococcus,

and *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar month. The average monthly count for total coliform is the median of the counts for samples collected (not less than five (5) discrete samples) during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" or "Other Limits" in Part A of this permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the Discharge Monitoring Report Form.

(3) The "average weekly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during the week (arithmetic mean of the daily concentration values). The average weekly count for fecal coliform, enterococcus, or *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar week. The average weekly count for total coliform is the median of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" or "Other Limits" in Part A of this permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.

(4) The "maximum daily concentration" is the highest daily concentration value recorded during the reporting period. This limitation identified as "Daily Maximum" or "Other Limits" in Part A of this permit and the maximum daily concentration is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.

h. The effluent flow expressed as cubic meters per day or million gallons per day (MGD), is the 24-hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in Part A of this permit, the flow rate values are reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.

(1) An "instantaneous flow measurement" is a measure of flow taken at the time of sampling, when both the sample and flow will be representative of the total discharge.

(2) Where monitoring requirements for pH; dissolved oxygen; or fecal coliform, enterococcus, or *clostridium perfringens* are specified in Part A of this permit, the values are generally reported in the "Quality or Concentration" column on the Discharge Monitoring Report Form.

i. The "arithmetic mean" of any set of values is the summation of the individual values divided by the number of individual values.

j. The "geometric mean" of any set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

k. "Weighted by flow value" means the summation of each concentration multiplied by its respective flow divided by the summation of the respective flows.

l. The "median" of any set of ordered values is the value below and above which there is an equal number of values or which is the arithmetic mean of the two (2) middle values if there is no one (1) middle number.

m. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for the purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

n. "Removal efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using the average monthly concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$\text{Removal Efficiency (per cent)} = 100 \times \left(1 - \frac{C\ \{\text{effluent}\}}{C\ \{\text{influent}\}} \right)$$

4. **Duty to reapply** (comply with 40 CFR §122.41(b) and Hawaii Administrative Rules Section 11-55-27)

   If the Permittee wishes to continue an activity regulated by this permit after the expiration of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application 180 days before the existing permit expires and as specified in the Hawaii Administrative Rules Section 11-55-27.

5. **Applications** (comply with 40 CFR §122.22)

   a. All permit applications shall be signed as follows:

      (1) For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

         (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

         (B) The manager of one (1) or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

      (2) For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

      (3) For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(A) The chief executive officer of the agency; or

(B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

b. All reports required by this permit and other information requested by the Director of Health shall be signed by a person described in section 5(a), or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in section 5(a);

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The written authorization is submitted to the Director of Health.

c. Changes to authorization. If an authorization under section 5(b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of section 5(b) must be submitted to the Director of Health prior to or together with any reports or information to be signed by a duly authorized representative.

d. Certification. Any person signing a document under section 5(a) or 5(b) shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure

that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

6. **Duty to comply** (comply with 40 CFR §122.41(a))

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

b. The Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation.

The Act provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of

violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or imprisonment of not more than two (2) years, or both.

Any person who *knowingly* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both.

Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of this Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which

the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

7. **Need to halt or reduce activity not a defense** (comply with 40 CFR §122.41(c))

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. **Duty to mitigate** (based in part on 40 CFR §122.41(d))

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit or applicable law.

9. **Proper operation and maintenance** (comply with 40 CFR §122.41(e))

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

10. **Permit actions** (comply with 40 CFR §122.41(f))

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

STANDARD NPDES PERMIT CONDITIONS

11. **Property rights** (comply with 40 CFR §122.41(g))

This permit does not convey any property rights of any sort or any exclusive privilege.

12. **Duty to provide information** (comply with 40 CFR §122.41(h))

The Permittee shall furnish to the Director of Health, within a reasonable time, any information which the Director of Health may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director of Health upon request, copies of records required to be kept by this permit.

13. **Inspection and entry** (comply with 40 CFR §122.41(i))

The Permittee shall allow the Director of Health, or a duly authorized agent (including an authorized contractor acting as a duly authorized agent of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

STANDARD NPDES PERMIT CONDITIONS

14. **Monitoring and records** (based in part on 40 CFR §122.41(j))

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

As used in this section, a representative sample means that the content of the sample shall:

(1) Be identical to the content of the substance sampled at the time of the sampling;

(2) Accurately represent the monitored item (for example, sampling to monitor final effluent quality shall accurately represent that quality, even though the sampling is done upstream of the discharge point); and

(3) Accurately represent the monitored item for the monitored time period (for example, sampling to represent monthly average effluent flows shall be taken at times and on days that cover significant flow variations). Representative sampling may mean including weekends and storm events and may mean taking more samples than the minimum number specified in this permit.

The burden of proving that sampling or monitoring is representative shall be on the Permittee.

b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR Part 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director of Health at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of the analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.

e. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both for a first conviction. For a second and subsequent conviction, the person is subject to a fine of not more than $20,000 per day of violation, or imprisonment for not more than four (4) years, or both.

15. **Signatory requirement** (comply with 40 CFR §122.41(k))

a. All applications, reports, or information submitted to the Director of Health shall be signed and certified. (See 40 CFR §122.22.)

b. The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.

16. **Reporting requirements** (based in part on 40 CFR §122.41(l))

a. Planned changes. The Permittee shall give notice to the Director of Health as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1).

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and the alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The Permittee shall give advance notice to the Director of Health of any planned changes in the permitted facility or activity which may result in noncompliance with this permit's requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director of Health. The Director of Health may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate other requirements as may be necessary under the Act or Chapter 342D, HRS. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report Form.

(2) If the Permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director of Health in this permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Other noncompliance. The Permittee shall report all instances of noncompliance not reported under section 16(d) and 16(e), at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

g. Other information. When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director of Health, the Permittee shall promptly submit the facts or information.

17. **Bypass** (based in part on 40 CFR §122.41(m))

a. Definitions.

(1) "Bypass" means the intentional diversion of any waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass. Every bypass is prohibited and the Director of Health may take enforcement action against a Permittee for bypass, except as provided in section 17(c).

c. Exceptions to bypass prohibition.

(1) Bypass not exceeding limitations. A bypass is allowable under this paragraph only if it does not cause any effluent limitation to be exceeded, and only if the bypass is necessary for essential maintenance to assure efficient operation.

(2) Bypass unavoidable to prevent specified harm. A bypass is allowable under this paragraph if,

(A) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(C) The Permittee submitted notices as required under section 17(d).

(3) Approved anticipated bypass. An anticipated

bypass is allowable if the Director of Health approves it. The Director shall approve the anticipated bypass only if he receives information sufficient to show compliance with section 17(c)(2), including information on the potential adverse effects with and without the bypass, and information on the search for and the availability of alternatives, whether the Permittee ultimately considers the alternatives feasible or not.

d. Notice.

(1) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, the Permittee shall submit prior notice, if possible at least ten (10) days before the date of the bypass.

(2) Unanticipated bypass. The Permittee shall submit reports of unanticipated bypasses.

(A) Reports required by the Reporting Requirements of this permit shall be made in accordance with that section. If the Permittee questions whether the Reporting Requirements apply, the Permittee shall follow the Reporting Requirements of this permit;

(B) For all other bypasses, reports shall be made orally within 24 hours from the time the Permittee becomes aware of the bypass. Written reports may be required on a case-by-case basis.

e. Burden of proof. In any enforcement proceeding, the party seeking to establish that any exception to the bypass prohibition applies has the burden of proof. Proof that effluent limitations were met requires effluent monitoring during the bypass.

18. **Upset** (based in part on 40 CFR §122.41(n))

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include

noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with the technology based permit effluent limitations if the requirements of section 18(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The Permittee submitted notice within 24 hours of any upset which exceeded any effluent limitation in this permit; and

(4) The Permittee complied with any remedial measures required under 40 CFR §122.41(d).

d. Burden of proof. In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

19. **Existing manufacturing, commercial, mining, and silvicultural dischargers** (comply with 40 CFR §122.42(a))

In addition to the reporting requirements under 40 CFR §122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director of Health as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent

basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 μg/l);

(2) Two hundred micrograms per liter (200 μg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 μg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

20. **Publicly owned treatment works** (comply with 40 CFR §122.42(b))

This section applies only to publicly owned treatment works as defined in 40 CFR §122.2.

a. All publicly owned treatment works must provide adequate notice to the Director of Health of the following:

(1) Any new introduction of pollutants into the publicly owned treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Act if it were directly discharging those pollutants;

(2) Any substantial change in the volume or character of pollutants being introduced into that publicly owned treatment works by a source introducing pollutants into the publicly owned treatment works at the time of issuance of the permit; and

(3) For purposes of this paragraph, adequate notice shall include information on 20(a)(1), the quality and quantity of effluent introduced into the publicly owned treatment works, and 20(a)(2), any anticipated impact of the change on the quantity or quality of effluent to be discharged from the publicly owned treatment works.

b. (The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act.) Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR Part 270. Hazardous wastes are defined in 40 CFR Part 261 and include any mixture containing any waste listed under 40 CFR §§261.31-261.33. The Domestic Sewage Exclusion (40 CFR §261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

21. **Reopener clause** (comply with 40 CFR §122.44(c) and 40 CFR §125.123(d)(4))

a. For any discharger within a primary industry category (see 40 CFR Part 122, Appendix A), requirements under Section 307(a)(2) of the Act as follows:

(1) On or before June 30, 1981:

(A) If applicable standards or limitations have not yet been promulgated, this permit shall include a condition stating that, if an applicable standard or limitation is

promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in this permit or controls a pollutant not limited in this permit, this permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

(B) If applicable standards or limitations have been promulgated or approved, this permit shall include those standards or limitations. (If EPA approves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the Federal Register that the limitations are "approved" for the purpose of this regulation.)

(2) On or after the statutory deadline set forth in Sections 301(b)(2)(A), (C), and (E) of the Act, any permit issued shall include effluent limitations to meet the requirements of Sections 301(b)(2)(A), (C), (D), (E), and (F), whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by section 21(a).

(3) The Director shall promptly modify or revoke and reissue any permit containing the clause required under section 21(a) to incorporate an applicable effluent standard or limitation under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) which is promulgated or approved after this permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in this permit, or controls a pollutant not limited in this permit.

(4) For any permit issued to a treatment works treating domestic sewage, including "sludge-only facilities," the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Act. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this

paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

b. All permits which authorize the discharge of pollutants pursuant to 40 CFR §123.125(c) shall contain the following clause: In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Director of Health determines that continued discharge may cause unreasonable degradation of the marine environment.

22. **Privately owned treatment works** (The following conditions were established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR §122.44(m).)

This section applies only to privately owned treatment works as defined in 40 CFR §122.2.

a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit. The Domestic Sewage Exclusion (40 CFR §261.4) does not apply to hazardous wastes mixed with domestic sewage in a sewer leading to a privately owned treatment works.

b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to insure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze the samples for conventional, toxic, or hazardous

pollutants when instructed by the permitting authority or by an EPA or State inspector. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.

c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the Permittee shall submit a request for permit modification and an application, pursuant to 40 CFR §122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least six (6) months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

23. **Transfers by modification** (comply with 40 CFR §122.61(a) and Hawaii Administrative Rules Section 11-55-16)

Except as provided in section 24, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR §122.62(b)(2)), or a minor modification made (under 40 CFR §122.63(d)), to identify the new Permittee and incorporate other requirements as may be necessary under the Act.

24. **Automatic transfers** (comply with 40 CFR §122.61(b) and Hawaii Administrative Rules Section 11-55-04(d))

As an alternative to transfers under section 23, any NPDES permit may be automatically transferred to a new Permittee if:

a. The current Permittee notifies the Director of Health at least 30 days in advance of the proposed transfer date in paragraph b of this section;

b. The notice includes a written agreement between the

existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director of Health does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this paragraph may also be a minor modification under 40 CFR §122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in section 24(b).

25. **Minor modification of permits** (comply with 40 CFR §122.63)

Upon the consent of the Permittee, the Director of Health may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR §122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the Permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

d. Allow for a change in ownership or operational control of a facility where the Director of Health determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Director of Health:

e. (1) Change the construction schedule for a discharger which is a new source. No change shall affect a discharger's obligation prior to discharge under 40 CFR §122.29.

(2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.

f. (Reserved.)

g. Incorporate conditions of a publicly owned treatment works pretreatment program that has been approved in accordance with the procedures in 40 CFR §403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR §403.18) as enforceable conditions of the publicly owned treatment works permit.

26. **Termination of permits** (comply with 40 CFR §122.64 and Hawaii Administrative Rules Section 11-55-18)

a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the Permittee with any condition of the permit;

(2) The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts or the Permittee's misrepresentation of any relevant facts at any time;

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

(4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a publicly owned treatment works).

b. An NPDES Permittee shall report within thirty (30) days after the permanent discontinuance or dismantlement of that treatment works or waste outlet for which the NPDES permit had been issued. The NPDES permit shall

then be surrendered to the Director within thirty (30) days of the report.

27. **Removed substances** (pursuant to Section 301 of the Act)

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner which would prevent any pollutant from the materials from entering navigable waters.

28. **Availability of reports** (pursuant to Section 308 of the Act)

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director of Health. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

29. **Civil and criminal liability** (pursuant to Section 309 of the Act)

Except as provided in permit conditions on "Bypass" (section 17) and "Upset" (section 18), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

30. **Oil and hazardous substance liability** (pursuant to Section 311 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.

31. **Federal facility construction** (pursuant to Section 313 of the Act)

Construction shall not be initiated for facilities for treatment of wastewater at any Federal property or facility if alternative methods for wastewater treatment at the

property utilizing innovative treatment processes and techniques, including, but not limited to, methods utilizing recycle and reuse techniques and land treatment are not utilized, unless the life cycle cost of the alternative treatment works exceed the life cycle cost of the most effective alternative treatment by more than 15 per cent.

32. **State law** (pursuant to Section 510 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

33. **Severability** (pursuant to Section 512 of the Act)

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, if held invalid, the application of the provision to other circumstances, and remainder of this permit, shall not be affected thereby.