

**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 \_\_\_\_\_ .

This permit and the authorization to discharge shall expire at midnight,  
\_\_\_\_\_ .

\_\_\_\_\_  
Lawrence Miike, Director  
Department of Health  
State of Hawaii

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

for the Regional Administrator

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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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<sup>3</sup>/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 <sup>1</sup> lbs/day <sup>2</sup>	daily	24 hr composite
	As a monthly average, not less than 30% removal efficiency from influent stream <sup>3</sup>					
Total Suspended Solids	69 47,187	104 71,124	report	mg/l <sup>1</sup> lbs/day <sup>2</sup>	daily	24 hr composite
	As a monthly average, not less than 60% removal efficiency from influent stream <sup>3</sup>					

Discharge Limitations	Monitoring Requirements
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- <sup>1</sup> 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<sub>5</sub>, as provided by the Permittee on May 4, 1998. For BOD<sub>5</sub>, 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).
- <sup>2</sup> 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<sup>3</sup>/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<sup>3</sup>/s (82 MGD) and the constant, 8.34. The Permittee's 2000 and 2005 projected average daily flows are 3.58 m<sup>3</sup>/s and 3.70 m<sup>3</sup>/s, respectively.
- <sup>3</sup> For BOD<sub>5</sub>, 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 Parameter	Average Annual <sup>4</sup>	Average Monthly <sup>5</sup>	Average Daily <sup>5</sup>	Units	Minimum Frequency	Sample Type
Enterococci	report <sup>5</sup>	report <sup>4</sup>	report	CFU/100 ml	daily	grab <sup>4</sup>
Total Oil and grease	n/a <sup>6</sup>	report	report	mg/l lbs/day	3 days/ calendar week	grab <sup>7</sup>
Total Petroleum Hydrocarbons	n/a	report	report	mg/l lbs/day	3 days/ calendar week	grab <sup>7</sup>
Fats, oils and grease	n/a	report	report	mg/l lbs/day	n/a	calculate <sup>8</sup>
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 <sup>9</sup>	Not less than 6.0 nor greater than 9.0			standard units	5 days/ calendar week	grab
Discharge Limitations					Monitoring Requirements	

<sup>4</sup> 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<sup>3</sup>/s (82 MGD) and the constant, 8.34.

<sup>5</sup> 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).

<sup>6</sup> Not applicable.

<sup>7</sup> 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.

<sup>8</sup> Fats, oils and grease = Total oil and grease – Total petroleum hydrocarbons.

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

Discharge Parameter	Average Annual <sup>4</sup>	Average Monthly <sup>5</sup>	Average Daily <sup>5</sup>	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 <sup>10</sup>	report	report	n/a	ug/l lbs/day	once/6 calendar months	24 hr composite or grab <sup>10</sup>

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<sup>11</sup>:

- 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 appurtenances, as appropriate. The Permittee shall conduct this project in accordance with the following schedule of activities:

Activity Description	Finish
Planning	October 22, 2000
Activity Description	Finish

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

<sup>11</sup> *Italicized* dates are not enforceable under the terms of this permit.

Design	July 24, 2002
Advertise	September 22, 2002
Bid Opening	September 22, 2002
Award	October 22, 2002
Construction	<i>February 18, 2005</i>

- 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	<i>May 5, 1998</i>
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	<i>February 18, 2005</i>

- e. **Sand Island Wastewater Treatment Plant Unit 1 Phase 2A:** The Permittee shall construct facilities to satisfy 301(h) requirements to consistently remove  $\geq 30\%$  of influent BOD<sub>5</sub> 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	<i>February 10, 2004</i>
Activity Description	Finish
Finish Milestone	<i>February 18, 2005</i>



- 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	<i>February 18, 2005</i>

- 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 <sup>12</sup>	report <sup>12</sup>	18,000	CFU/100 ml	daily	grab <sup>12</sup>
Total Chlorine Residual <sup>13</sup>	report	report	64	ug/l	daily	grab <sup>12</sup>

- h. **Sand Island Wastewater Treatment Plant Interim Chemical Treatment Facility Improvements:** The Permittee shall improve the ability of Sand Island WWTP to remove BOD<sub>5</sub> 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 accordance with the following schedule of activities:

Activity Schedule	Finish
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<sup>12</sup> 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).

<sup>13</sup> 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.

Data Collection	<i>December 30, 1998</i>
Interim Report	<i>April 15, 1998</i>
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*<sup>14</sup>.

#### **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

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<sup>14</sup> 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.

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 not 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<sup>15</sup> beyond the Zone of Initial Dilution<sup>16</sup> (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		

<sup>15</sup> *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.

<sup>16</sup> *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<sup>17</sup> (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 <sub>4</sub> -N/l		
Nitrate + Nitrite Nitrogen	5.00	14.00	25.00	ug [NO <sub>3</sub> +NO <sub>2</sub> ]-N/l		
Total Phosphorous	20.00	40.00	60.00	ug P/l		
Chlorophyll <u>a</u>	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		

<sup>17</sup> *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
<i>Recreational Waters (R) Stations</i>			
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		
<i>Nearshore Stations [between 10 m (33 ft) and/or on the 20 m (66 ft) depth contour]</i>			
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	<i>Monthly</i>
Visual Observations	visual	R, C	<i>7 days/month</i>
Dissolved Oxygen (mg/l)	CDP <sup>18</sup>	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

<sup>18</sup> 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 <sub>4</sub> -N/l)	surface, mid-depth, bottom grab	R, C	Quarterly
Nitrate+Nitrite Nitrogen (ug [NO <sub>3</sub> +NO <sub>2</sub> ]-N/l)	surface, mid-depth, bottom grab	C	Quarterly
Total Phosphorus (ug P/l)	surface, mid-depth, bottom grab	R, C	Quarterly
Chlorophyll <i>a</i> (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
<i>At the 50 m (165 ft) depth contour</i>			
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		
<i>At the 100 m (328 ft) depth contour</i>			
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	<i>Monthly</i>
Visual Observations	visual	<i>Monthly</i>
Dissolved Oxygen (mg/l)	CDP <sup>18</sup>	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 <sub>4</sub> -N/l)	surface, mid-depth, bottom grab	Quarterly
Nitrate+Nitrite Nitrogen (ug [NO <sub>3</sub> +NO <sub>2</sub> ]-N/l)	surface, mid-depth, bottom grab	Quarterly
Total Phosphorus (ug P/l)	surface, mid-depth, bottom grab	Quarterly
Chlorophyll <i>a</i> (ug/l)	surface, mid-depth, bottom grab	Quarterly
Enterococci (CFU/100 ml)	surface, mid-depth, bottom grab	<i>Monthly</i>

- 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<sup>2</sup> 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)	
<i>Metals</i> (mg/kg)	
Aluminum	
Beryllium	
Cadmium	
Chromium	
Copper	
Iron	
Lead	
Nickel	
Selenium	
Silver	
Zinc	
Sediment Chemistry and Fish Tissue Parameter (Units)	
<i>Metals</i> (mg/kg)	
Arsenic	
Mercury	
<i>DDTs</i> (ug/kg)	
4,4'-DDT	2,4'-DDD
2,4'-DDT	4,4'-DDE
4,4'-DDD	2,4'-DDE
<i>Chlorinated pesticides other than DDT</i> (ug/kg)	
Aldrin	Heptachlor epoxide
Alpha-Chlordane	Hexachlorobenzene
Sediment Chemistry and Fish Tissue Parameter (Units)	

<i>Chlorinated pesticides other than DDT (ug/kg)</i>	
Trans-Nonachlor	Lindane (gamma-BHC)
Dieldrin	Mirex
Heptachlor	Endrin
<i>PCB Congeners (PCB No.) (ug/kg)</i>	
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
<i>Polycyclic Aromatic Hydrocarbons (PAHs) (ug/kg)</i>	
Acenaphthene	Naphthalene
Sediment Chemistry and Fish Tissue Parameter (Units)	
<i>Polycyclic Aromatic Hydrocarbons (PAHs) (ug/kg)</i>	

Anthracene	Perylene
Benz(a)anthracene	Phenanthrene
Benzo(e)pyrene	Pyrene
Biphenyl	Benzo(a)pyrene
Chrysene	Benzo(b)fluoranthene
Dibenzo(a,h)anthracene	Acenaphthlene
2,6-dimethylnaphthalene	Benzo(k)fluoranthene
Fluoranthene	Benzo(g,h,i)perylene
C <sub>1</sub> -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<sup>2</sup> 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<sup>2</sup>, 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
<i>At the 100 m (328 ft) depth contour</i>			
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 <sup>19</sup>		

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. 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.

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<sup>19</sup> 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.

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

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<sup>20</sup> 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 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

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<sup>20</sup> Biosolids means stabilized, non-hazardous sewage sludge.

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	Annually (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  $\geq 80\%$ .
- 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<sup>21</sup> (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<sup>22</sup> (ML):

Discharge Parameter	Sample Type	Analytical Method
<i>Metals</i>		
Antimony	24 hr composite	GF/AA ICP-MS
Arsenic	24 hr composite	GF/AA ICP-MS
Beryllium	24 hr composite	GF/AA ICP-MS

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<sup>21</sup> 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.

<sup>22</sup> 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.

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
<i>Pesticides</i>		
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
<b>Discharge Parameter</b>	<b>Sample Type</b>	<b>Analytical Method</b>
<i>Pesticides</i>		
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
<i>Base/Neutral Extractables</i>		
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
<b>Discharge Parameter</b>	<b>Sample Type</b>	<b>Analytical Method</b>
<i>Base/Neutral Extractables</i>		
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
<b>Discharge Parameter</b>	<b>Sample Type</b>	<b>Analytical Method</b>
<i>Base/Neutral Extractables</i>		
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
<i>Acid Extractables</i>		
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
<i>Volatile Organics</i>		
Acrolein	grab	603
Acrylonitrile	grab	603
<b>Discharge Parameter</b>		
	<b>Sample Type</b>	<b>Analytical Method</b>
<i>Volatile Organics</i>		
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
<i>Miscellaneous</i>		
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
<i>301(h) Pesticides</i>		

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 ( $\sigma$ ) 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(1)(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(1)(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













