

Permit No.: AK-002321-3

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act,"

The City and Borough of Juneau
Juneau-Douglas Wastewater Treatment Plant

is authorized to discharge from a municipal wastewater treatment facility located at 1540 Thane Road, Juneau, Alaska, to receiving waters named the Gastineau Channel, at the following location:

<u>Outfall Serial Number</u>	<u>Latitude</u>	<u>Longitude</u>
001	58° 17' 2" N	134° 23' 13" W

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective **27 December 2001**.

This permit and the authorization to discharge shall expire at midnight,
26 December 2006.

Signed this **13th** day of **December 2001**.

/S/
Randall F. Smith
Director, Office of Water, Region 10
U.S. Environmental Protection Agency

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APPENDIX A - Surface Water Monitoring Location for Juneau-Douglas Wastewater Treatment Plant

I. LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls specified herein to the Gastineau Channel, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

A. Effluent Limitations and Monitoring

1. The permittee must limit and monitor discharges from outfall 001 as specified in Table 1, below. All figures represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits in the tables at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table I.A.1 - Outfall 001 Effluent Limitations and Monitoring Requirements						
PARAMETER	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS ¹		
	Average Monthly Limit	Average Weekly Limit	Daily Maximum Limit	Sample Location ²	Sample Frequency	Sample Type
Flow, MGD	2.76	---	6.0	Effluent	Continuou s	Recording
Biochemical Oxygen Demand (BOD ₅)	30 mg/L	45 mg/L	60 mg/L	Influent and Effluent	monthly	24-hour composite
	690 lbs/day	1,035 lbs/day	1,380 lbs/day			
Total Suspended Solids (TSS)	30 mg/l	45 mg/l	60 mg/L	Influent and Effluent	monthly	24-hour composite
	690 lbs/day	1,035 lbs/day	1,380 lbs/day			
Fecal Coliform Bacteria ³	400 #/100 ml	800 #/100 ml	1200 #/100 ml	Effluent	1/week	grab
Total Ammonia as N, mg/L	Report	---	Report	Effluent	2/year ⁴	24-hour composite
pH, standard Units	see Part I.A.2			Effluent	5/week	grab
Dissolved Oxygen, mg/L	2.0 ⁵	---	17.0	Effluent	weekly	grab
Copper, ug/L	Report	---	Report	Effluent	1/quarter ⁶	24-hr composite
Temperature, °C	---	---	Report	Effluent	5/week	grab

Table I.A.1 - Outfall 001 Effluent Limitations and Monitoring Requirements						
PARAMETER	EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS ¹		
	Average Monthly Limit	Average Weekly Limit	Daily Maximum Limit	Sample Location ²	Sample Frequency	Sample Type
Whole Effluent Toxicity ⁷ , TU _c	---	---	---	Effluent		24-hour composite
Footnotes:						
1 Effluent samples must be collected after the last treatment unit prior to discharge.						
2 Influent and effluent samples must be collected during the same 24-hour period.						
3 Reporting is required within 24 hours of a maximum daily limit violation. See Part III.G.						
4 Sampling must occur once during the period January 1 - June 30 and once during the period July 1 - December 31.						
5 This is a daily minimum.						
6 After 2 years, if no sample results exceed 75 ug/L, this monitoring may be discontinued.						
7 See Part I.B. for whole effluent toxicity testing requirements.						

2. The pH must not be less than 6.0 nor greater than 8.5.
3. There must be no discharge of floating solids or visible foam, or oily wastes which produce a sheen on the surface of the receiving water.
4. Collected screenings, grit, solid sludge, filtered backwash or other pollutants removed in the course of treatment or control of wastewater must be disposed of in a manner such as to prevent any pollution from such material from entering surface water or wetlands.
5. Percent removal requirements for BOD₅ and TSS are as follows:

BOD₅: For any month, the monthly average effluent load must not exceed 15 percent of the monthly average influent load.

TSS: For any month, the monthly average effluent load must not exceed 15 percent of the monthly average influent load.

Percent removal of BOD₅ and TSS must be reported on the discharge monitoring reports (DMRs). The monthly average percent removal must be calculated from the arithmetic mean of the influent and effluent values for that month.

- B. Whole Effluent Toxicity (WET) Testing Requirements. Beginning January 2, 2004 and continuing until April 30, 2005, the permittee must conduct toxicity tests once per quarter, on 24-hour composite effluent samples as described below.

Testing must continue for one year, until a total of four tests per organism has occurred.

1. The permittee must conduct tests with a bivalve species, *Crassostrea gigas* (larval development test), or *Mytilus galloprovincialis* and an echinoderm, purple sea urchin, *Strongylocentrotus purpuratus* or sand dollar, *Dendraster excentricus* (fertilization test), depending upon the availability of the echinoderm.
2. The presence of chronic toxicity must be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA/600/R-95/136, August 1995.
3. Results must be reported in TUC, where $TUC = 100/NOEC$ or $100/IC25$ (in percent effluent). The no observed effect concentration (NOEC) is the highest concentration of toxicant 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 significant different from the controls)¹. The inhibition concentration, IC, is a point estimate of the toxicant concentration that causes a given percent reduction (25) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method).
4. Both the NOEC and the IC25 must be reported. The NOEC must be used for compliance with the WET testing conditions.
5. Chronic toxicity testing requirements are triggered when the NOEC exceeds 26 TUC (3.8 percent effluent concentration). When chronic toxicity testing requirements are triggered, the permittee must comply with the requirements set out in paragraphs 13 a.-d. below.
6. A series of five dilutions and a control will be tested. The series must include the instream waste concentration (IWC) , two dilutions above the

¹ If in the calculation of a NOEC, two tested concentrations cause statistically adverse effects, but an intermediate concentration did not cause statistically significant effects, the test should be repeated or the lowest concentration must be used. For example: 6.25, 12.5, 25, 50 and 100% effluent concentrations are tested. The 12.5 and 50% concentrations are statistically significant, but 25% is not significant. If the test is not repeated, then the NOEC is 6.25%.

IWC, and two dilutions below the IWC. The IWC is the concentration of effluent at the edge of the mixing zone. The IWC for this discharge is estimated at 3.8 percent.

7. A minimum of four replicates is required per concentration.
8. All reference toxicant and effluent tests must meet all test acceptability criteria as specified in the chronic manuals. If the test acceptability criteria are not achieved, then the permittee must re-test as soon as possible.
9. Concurrent testing with reference toxicants must be conducted if the laboratory does not culture test organisms in-house. If the laboratory cultures test organisms in-house, reference toxicant tests may be run monthly.
10. Control and dilution water should be as described in the manuals. If the dilution water used is different from the culture water, a second control, using culture water must also be used. In no case must water that has failed test acceptability criteria be used as dilution or control water.
11. Chemical testing for the parameters for which effluent limitations exist must be performed on a split of each sample collected for WET testing. To the extent that the timing of sample collection coincides with that of the sampling required in Part II of this permit, chemical analysis of the split sample will fulfill the requirements of that Part as well.
12. The permittee must submit to EPA a copy of the permittee's toxicity reduction evaluation (TRE) workplan [1-2 pages] by March 27, 2002. This plan must describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a 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; and
 - c. who will conduct a toxicity identification evaluation (TIE) (i.e., in-house or other) if one is necessary.
13. Accelerated Testing

- a. If chronic toxicity testing requirements as defined in paragraph 5 are triggered, then the permittee must conduct six more tests, bi-weekly (every two weeks), over a twelve-week period. Testing must commence within two weeks of receipt of the sample results of the exceedance.
- b. If implementation of the generic TRE workplan indicates the source of toxicity (for instance, a temporary plant upset), then only one additional test is necessary. If toxicity is detected in this test, then Part 13a. must apply.
- c. If chronic toxicity testing requirements as defined in paragraph c. are triggered in any of the six additional tests, then, in accordance with the permittee's TRE workplan and, at a minimum, EPA manual EPA 833 B-99-002 (Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants), the permittee must initiate a TRE within fifteen (15) days of receipt of the sample results of the exceedance.
- d. If none of the six tests indicates toxicity, then the permittee may return to the normal testing frequency.

14. Toxicity Identification Evaluation (TIE)

- a. If a TIE is triggered prior to completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TIE.
- b. If chronic toxicity is detected in any two of the six bi-weekly tests, then the permittee must, in accordance with EPA acute and chronic manuals EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), initiate a TIE within 15 days.

15. Reporting

- a. The permittee must submit the results of the toxicity tests, including any accelerated testing conducted during the month, in TUs with the discharge monitoring reports (DMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and that accelerated testing is unnecessary, pursuant to paragraph 13 b., then the results of the follow-up test must also be

submitted with the DMR for the quarter in which the investigation occurred.

- b. The full report must be submitted by the end of the second month in which the DMR is submitted.
- c. The full report must consist of the results, the dates of sample collection and initiation of each toxicity test, the triggers as defined in paragraph 5 above, the type of activity occurring, the flow rate at the time of sample collection, and the chemical parameter monitoring required for the outfall(s) as defined in the permit.
- d. Test results for chronic tests must be reported according to the chronic manual chapter on Report Preparation, and must be attached to the DMR.

C. Receiving Water Monitoring.

- 1. Sampling and analysis of the Juneau-Douglas Wastewater Treatment Facility effluent must be conducted on the same days as the receiving water sampling for the same parameters that are sampled in the receiving water.
- 2. The following receiving water parameters must be sampled:

TABLE I.C.1.: RECEIVING WATER MONITORING REQUIREMENTS			
Parameter	Receiving Water Sampling Frequency	Sample Type	Effluent Sampling Frequency
Fecal Coliform Bacteria, #/100/ml	1/month ¹	grab	1 day/week
1 See paragraphs 5a. and 5b. below for monitoring frequency.			

- 3. Receiving water reports summarizing each sampling event must be submitted to EPA and ADEC annually for the reporting period July 1 - June 30 by September 15. Each report must include results from the receiving water sampling as well as the daily effluent flow from the treatment plant on the day of sampling.
- 4. Sample Type and Location.
 - a. Fecal coliform grab samples must be analyzed separately and the results reported as the geometric mean.

- b. Ambient fecal coliform must be monitored just outside the boundary of the mixing zone (a circle of 90 meters radius centered on the outfall).
5. Sampling Frequency.
 - a. Beginning December 27, 2001, fecal coliform must be monitored once per month during May, June, July, August, September and October and twice [two more times] during November through April. The winter samples must be obtained as long as it is safe to do so. Based upon the results and approval of EPA and ADEC, after two years, the ambient fecal coliform monitoring may be reduced to twice per year. If the sampling frequency has been reduced, and the method of disinfection changes, monitoring must recommence as stated above.
6. Receiving Water Monitoring Stations. Receiving water monitoring station 1 as shown in Appendix A of this permit must be established outside the down current edge of the 90 meter mixing zone.
7. Outfall Location Signs. By March 27, 2002, the permittee must place a sign, or signs on the shoreline near the mixing zone and outfall line. The sign, or signs, must:
 - a. state that treated domestic wastewater is being discharged, the name and owner of the facility, and the approximate location and size of the mixing zone;
 - b. inform the public that certain activities, such as the harvesting of shellfish for raw consumption and contact recreation should not take place in the mixing zone; and
 - c. give a contact number for additional information.
8. Mixing Zone.
 - a. The mixing zone for this discharge for fecal coliform bacteria is a circle of 90 meters radius, centered on the outfall line and extending from the marine bottom to the surface.
 - b. The zone of initial dilution for this discharge is defined as an oval 27.4 m (90 ft) long (perpendicular to shore) by 20.0 m (65.6 ft)

wide, centered on the diffuser and located perpendicular to the shoreline. The ZID applies to ammonia, copper, arsenic, pH, dissolved oxygen (DO) and whole effluent toxicity.

- c. The allowable minimum dilution based on this ZID is 26:1, based upon a dry weather design flow of 2.76 MGD.

D. Combined Sewer Overflow Monitoring Requirements. The following is a list of combined sewer overflow outfalls which are occasional point sources of pollutants as a result of the addition of high tide and precipitation events. These occasional combined sewer overflows are permitted as a result of a precipitation event under the terms and conditions of this section.

TABLE I.D.1: Permitted CSOs	
Diversion Structure	Location
N-11	Sta "AE" 2+82 1' Rt. Near intersection of Glacier Avenue and Highland Drive, High School Diversion
N11.2	Sta "C" Intersection of Marine Way and South Seward Street, Sealaska Diversion
N-15.1 (formerly MH#T-4)	Water's edge, approx. at the intersection of Front and Dock Sts. in Douglas

- 1. The permittee must comply with the following minimum controls.
 - a. No dry weather CSOs are permitted.
 - b. The permittee must use all available and reasonable measures to prevent or moderate such discharges through proper operation and regular maintenance programs.
 - c. The permittee must maximize use of the collection system for storage.
 - d. The permittee must maximize flow to the WWTP for treatment.
 - e. The permittee must control solid and floatable materials in combined sewer overflows.
 - f. The permittee must implement a pollution prevention program.

- g. The permittee must ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
- h. For each diversion structure listed in Tables I.D.1 above, the permittee must continue the CSO monitoring program it developed under the previous permit as follows. This information must be reported on the monthly DMR when a discharge occurs.

TABLE I.D.2:CSO Diversion Monitoring Requirements			
Parameter	Sample Location	Sampling Frequency	Type of Sample
Flow, MGD	Effluent	Each opening	Recording
BOD ₅ ,mg/L & lbs/day	Effluent	Each opening	grab
TSS, mg/L & lbs/day	Effluent	Each opening	grab
Fecal Coliform	Effluent	Each opening	grab
Duration of opening	Effluent	Each opening	recorded
Reason for discharge	—	Each opening	—
Volume of discharge	Effluent	Each opening	---

- i. Beginning February 1, 2003, the permittee must submit annual reports summarizing the information from each discharge from the previous year and demonstrating compliance with the minimum controls outlined above.
2. By December 27, 2002, in accordance with EPA's 1994 CSO Control Policy, the permittee must develop a long term control plan (LTCP) for addressing CSO discharges. The text of the policy is available online at <http://www.epa.gov/npdes/regulations/csopol.htm>. The LTCP must address the following elements:
- a. characterization, monitoring, and modeling of the combined sewer system;
 - b. public participation;
 - c. consideration of sensitive areas;

- d. evaluation of alternatives to meet Clean Water Act requirements using either the “presumption approach” or the “demonstration approach;”
- e. cost/performance considerations;
- f. operational plan;
- g. maximization of treatment at the existing POTW;
- h. implementation schedule; and
- i. post-construction compliance monitoring program.

Guidance on developing the LTCP can be found on EPA’s website at <http://www.epa.gov/npdes/cso>.

E. Quality Assurance Project Plan.

1. The permittee review and update a Quality Assurance Plan by March 27, 2002. The primary purpose of the Quality Assurance Plan must be to assist in planning for the collection and analysis of samples in support of the permit and in explaining data anomalies when they occur. The permittee must certify to EPA completion of the plan by April 27, 2002. If a Quality Assurance Plan has previously developed, then it only needs to be updated and certified to EPA of the update.
2. Throughout all sample collection and analysis activities, the permittee must use the EPA approved quality assurance, quality control, and chain-of-custody procedures described in EPA QA/G-5 *Guidance on Quality Assurance Project Plans*. This document is available as an Adobe Acrobat file at <http://www.epa.gov/r10earth/offices/oea/qaindex.htm>.
3. The Permittee must maintain this plan for a period of five years, and must make this plan available to the EPA upon request.
4. At a minimum the plan must include the following: sampling techniques (field blanks, replicates, duplicates, control samples, etc); sampling preservation methods; sampling shipment procedures; instrument calibration procedures and preventive maintenance (frequency, standard, spare parts); qualification and training of personnel.

5. Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittee, must be specified in the Quality Assurance Plan.
6. The permittee may obtain copies of all references cited in this part of the permit from the following address:

Quality and Data Management Program
Office of Environmental Assessment
U.S. EPA, Region 10
1200 6th Avenue, OEA-095
Seattle, Washington 98101.

F. Facility Planning.

The design criteria for the permitted facility are as follows:

TABLE I.F.1.: Design Criteria		
Criteria	Value	Units
Average Monthly Flow	2.76	MGD
Influent BOD ₅ loading	5000	lbs
Influent TSS loading	4000	lbs

1. Each month, the permittee must compute an annual average value for flow entering the facility based on the previous twelve months data or all data available, whichever is less. If the facility performs plant upgrades that affect design criteria listed in the table, only data collected after the upgrade should be used in determining the annual average value. When the average annual values exceed 85% of the design criteria values listed in the table for three months in a row, the permittee must develop a facility plan and schedule within 18 months from the date of the third consecutive exceedance of 85 percent of the design criteria values listed above. The plan must include the permittee's strategy for continuing to maintain compliance with effluent limits and will be made available to the Director or authorized representative upon request.
2. The permittee must notify ADEC whenever there is an increase of more than 10 percent of annual average flow based on the previous twelve months of data.

G. Operation and Maintenance Plan Review.

1. By December 27, 2002, the permittee must review its operation and maintenance (O&M) plan and ensure that it includes appropriate best management practices (BMPs); the plan must be reviewed annually thereafter. BMPs include measures which prevent or minimize the potential for the release of pollutants to the Gastineau Channel. By January 27, 2003, the permittee must certify to EPA completion of the O&M plan and BMPs. The Plan must be retained on site and made available to EPA and ADEC upon request.
2. The permittee must develop a description of pollution prevention measures and controls appropriate for the facility. The appropriateness and priorities of controls in the Plan must reflect identified potential sources of pollutants at the facility. The description of BMPs must address, to the extent practicable, the following minimum components: spill prevention and control; optimization of chemical usage; preventive maintenance program; minimization of pollutant inputs from industrial users; research, development and implementation of a public information and education program to control the introduction of household hazardous materials to the sewer system; and water conservation.

H. Definitions.

1. "Ambient monitoring" means receiving water monitoring.
2. "Annual Average" means the sum of all values reported in a twelve month period divided by the number of values.
3. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. For fecal coliform bacteria, the average monthly discharge must be calculated as a geometric mean.
4. "Average weekly discharge limitation" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. For fecal coliform bacteria, the average weekly discharge must be calculated as a geometric mean.

5. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.
6. “Chronic toxicity” measures a sublethal effect (e.g., reduced growth, reproduction) in an effluent or ambient waters compared to that of the control organisms.
7. “Combined sewer systems” are sewers that are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe.
8. “Combined sewer overflows” are discharges of excess wastewater directly to nearby streams, rivers, or other water bodies during periods of heavy rainfall or snowmelt precipitation, or high tide events.
9. “Daily discharge” means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
10. “Demonstration approach” is a method by which a CSO facility can demonstrate that a selected control program, although not meeting all of the nine minimum controls for CSOs, is adequate to meet the water quality-based requirements of the Clean Water Act.
11. “Dilution” is the receiving water concentration at the edge of the mixing zone.
12. “Geometric mean” is the n th root of the product of the values in a list.
Geometric mean = $\sqrt[n]{k_1 * k_2 * \dots * k_n}$, where n = the number of fecal coliform values and k = the coliform value. Where the fecal coliform value is zero, k must be set equal to 1.
13. A “grab” sample, for monitoring requirements, is a single “dip and take” sample or measurement taken at a specific time or over as short a period of time at a representative point anywhere in wastewater treatment or biosolids land application processes, as is feasible.

14. A “grab-composite” means a sample that consists of a minimum of 3 aliquots over an 8-hour period.
15. “Inhibition concentration, IC”, means a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (the EPA Interpolation Method). The effective concentration, EC, is a point estimate of the toxicant concentration that would cause a given percent reduction (p) in quantal biological measurement (e.g., larval development, survival) calculated from a continuous model (e.g., Probit).
16. “Interim Minimum Level” is calculated when a method-specified ML does not exist. It is equal to 3.18 times the method-specified method detection limit rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc.
17. “Method Detection Limit (MDL)” is the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero as determined by a specific laboratory method (40 CFR Part 136).
18. “Minimum Level (ML)” is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified weights, volumes and processing steps have been followed.
19. “Maximum daily discharge limitation” means the highest allowable “daily discharge.”
20. “No Observed Effect Concentration” (NOEC) is the highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).
21. “Pollutant” for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food-chain, could, on

the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

22. “Presumption approach” is a method which a CSO program can use to show that the program is providing an adequate level of control to meet water quality-based requirements of the Clean Water Act, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas.
23. “Receiving water concentration (RWC)” is the concentration of pollutant, including toxicity, at the edge of the mixing zone. For whole effluent toxicity, RWC, percent effluent concentration, is equal to $1/(\text{minimum dilution}) \times 100$.
24. “Sanitary sewer overflow” means an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. Sanitary sewer overflows do not include combined sewer overflows (CSOs) or other discharges from the combined portions of a combined sewer system. Sanitary sewer overflows include:
 - a. overflows or releases of wastewater that reach waters of the United States;
 - b. overflows or releases of wastewater that do not reach waters of the United States; and
 - c. wastewater backups into buildings that are caused by blockages or flow conditions in a sanitary sewer other than a building lateral. Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned is not an SSO.
25. “Sensitive areas” are areas such as outstanding national resource waters, national marine sanctuaries, waters with threatened or endangered species and their habitat, waters with primary contact recreation, public drinking water intakes or their designated protection areas and shellfish beds.
26. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can

reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

27. A “24-hour composite” sample must mean a flow-proportioned mixture of not less than 8 discrete aliquots. Each aliquot must be a grab sample of not less than 100 ml and must be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.
28. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling.

1. Final effluent samples taken in compliance with the monitoring requirements established under Part I shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee shall collect additional samples whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee shall analyze the additional samples for those parameters limited in Part I.A. of this permit that are likely to be affected by the discharge.
2. The permittee shall collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the receiving waters. The samples shall be analyzed in accordance with paragraph II.B. (“Monitoring Procedures”). The permittee shall report all additional monitoring in accordance with paragraph II.D. (“Additional Monitoring by the Permittee”).
3. Influent samples shall be collected at the headworks of the treatment plant prior to combination with any recirculation flows.

- B. **Monitoring Procedures.** Monitoring shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- C. **Reporting of Monitoring Results.** Monitoring results conducted in compliance with Parts I.A.–C. of this permit shall be summarized each month on the DMR form (EPA No. 3320-1). The reports shall be submitted monthly and are to be postmarked by the 10th day of the following month. Legible copies of these, and all other reports, shall be signed and certified in accordance with the requirements of Part IV.J., Signatory Requirements, and submitted to the Director, Office of Water and ADEC at the following addresses:
- original to: United States Environmental Protection Agency (EPA)
Region 10
1200 Sixth Avenue, OW-133
Seattle, Washington 98101,
- copy to: Alaska Department of Environmental Conservation (ADEC)
Division of Air and Water Quality
410 Willoughby Avenue, Suite 303
Juneau, Alaska 99801
- D. **Additional Monitoring by the Permittee.** If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR, or Biosolids Report. Such increased frequency shall also be indicated.
- E. **Records Contents.** Records of monitoring information shall include the following:
- the date, exact place, and time of sampling or measurements;
 - the individual(s) who performed the sampling or measurements;
 - the date(s) analyses were performed;
 - the individual(s) who performed the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.
- F. **Retention of Records.** The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or circular chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from

the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this NPDES permit shall be maintained on-site during the duration of activity at the permitted location. Data collected on-site and copies of DMRs shall be maintained on-site for three years, after which they may be stored off-site.

G. Twenty-four Hour Notice of Noncompliance Reporting.

1. The following occurrences of noncompliance shall be reported by telephone within 24 hours from the time the permittee becomes aware of the circumstances:
 - a. any noncompliance which may endanger health or the environment;
 - b. any unanticipated bypass which exceeds any effluent limitation in the permit (See Part III.H., Bypass of Treatment Facilities.);
 - c. any upset which exceeds any effluent limitation in the permit (See Part III.H., Upset Conditions.); or
 - d. violation of a maximum daily discharge limitation for those toxic or hazardous pollutants identified in Part I. A.4. of the permit to be reported within 24 hours.
2. The permittee shall report any noncompliance, including transportation accidents and spills which may seriously endanger health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the EPA, Region 10, at (206) 553-1846 and to ADEC.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. a description of the noncompliance and its cause;
 - b. the period of noncompliance, including exact dates and times;
 - c. the estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Unit in Seattle, Washington, by phone, (206) 553-1846.
5. Reports shall be submitted to the addresses in Part II.C., Reporting of Monitoring Results.

H. Other Noncompliance Reporting.

1. Instances of noncompliance (other than sanitary sewer overflows) not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.C. are submitted. The reports shall contain the information listed in Part III.H.2.
2. Sanitary sewer overflows. The permittee shall provide the following additional reports for sanitary sewer overflows (including overflows that do not reach waters of the United States) that may imminently and substantially endanger human health:
 - a. notification of the public, health agencies and other affected entities (e.g., public water systems) of overflows that may imminently and substantially endanger human health. The notice should be in accordance with the capacity, management, operation and maintenance programs overflow emergency response plan developed by the permittee;
 - b. either an oral or electronic report as soon as practicable within 24 hours of the time the permittee becomes aware of the overflow to EPA and ADEC. The report shall identify the location, estimated volume and receiving water, if any, of the overflow; and
 - c. Within 5 days of the time the permittee becomes aware of the overflow, the permittee shall submit a written report that contains:
 - (1) the location of the overflow;
 - (2) the receiving water (if there is one);
 - (3) an estimate of the volume of the overflow;
 - (4) a description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);

- (5) the estimated date and time when the overflow began and stopped or will be stopped;
 - (6) the cause or suspected cause of the overflow;
 - (7) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps; and
 - (8) steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.
- d. The Director may waive the written report required by paragraph c. above on a case-by-case basis.

I. Inspection and Entry.

1. The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:
 - a. enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
 - b. have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
 - c. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit including, but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites; and
 - d. sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites, or biosolids, soils, or vegetation on the land application sites.

2. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, so that the Director, or authorized representative thereof, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

III. COMPLIANCE RESPONSIBILITIES

- A. **Duty to Comply.** The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- B. **Penalties for Violations of Permit Conditions.**
 1. **Civil and Administrative Penalties.** Any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil or administrative penalty, not to exceed the maximum amounts authorized by sections 309(d) and 309(g) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note).
 2. **Criminal Penalties.**
 - a. **Negligent Violations.** Any person who negligently violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall, upon conviction, be punished by a fine and/or imprisonment as specified in section 309(c)(1) of the Act.
 - b. **Knowing Violations.** Any person who knowingly violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall, upon conviction, be punished by a fine and/or imprisonment as specified in section 309(c)(2) of the Act.
 - c. **Knowing Endangerment.** Any person who knowingly violates a permit condition implementing sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine and/or imprisonment as specified in section 309(c)(3) of the Act.

- d. False Statements. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall, upon conviction, be punished by a fine and/or imprisonment as specified in section 309(c)(4) of the Act.
 - e. Except as provided in permit conditions in Part III.G., Bypass of Treatment Facilities and Part III.H., Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.
- C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.
- F. Removed Substances. Collected screenings, grit, solids, biosolids, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.
- G. Bypass of Treatment Facilities.
- 1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These

bypasses are not subject to the provisions of paragraphs 2 and 3 of this section.

2. Notice.

- a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
- b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.G., Twenty-four Hour Notice of Noncompliance Reporting.

3. Prohibition of Bypass.

- a. Bypass is prohibited and the Director may take enforcement action against a permittee for a bypass, unless:
 - (1) the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (3) the permittee submitted notices as required under paragraph 2 of this section.
- b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this section.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. No determination made during administrative review of claims that

noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. an upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. the permitted facility was at the time being properly operated;
 - c. the permittee submitted notice of the upset as required under Part II.H., Twenty-four Hour Notice of Noncompliance Reporting; and
 - d. the permittee complied with any remedial measures required under Part III.D., Duty to Mitigate.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

IV. GENERAL REQUIREMENTS

- A. Notice of New Introduction of Pollutants. The permittee shall provide adequate notice to the Director, Office of Water, of the following.
 1. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to sections 301 or 306 of the Act if it were directly discharging those pollutants; and
 2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.
 3. For the purposes of this section, adequate notice shall include the following information:
 - a. the quality and quantity of effluent to be introduced into such treatment works; and

- b. any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.
- B. **Planned Changes.** The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit.
- C. **Anticipated Noncompliance.** The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- D. **Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- E. **Duty to Reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application should be submitted at least 180 days before December 2, 2006.
- F. **Duty to Provide Information.** The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.
- G. **Other Information.** When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.
- H. **Signatory Requirements.** All applications, reports or information submitted to the Director shall be signed and certified.
 - 1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. the authorization is made in writing by a person described above and submitted to the Director, and
 - b. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
3. If an authorization under paragraph IV.H.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.H.2. shall be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Any person signing a document under this section shall make the following certification.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

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

- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Act.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new permittee if:
1. the current permittee notifies the Director at least 30 days in advance of the proposed transfer date;
 2. the notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 3. the Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part IV.L.2. above.
- N. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the Act.
- O. Reopener Provision. This permit is subject to modification, revocation and reissuance, or termination at the request of any interested person (including the permittee) or upon EPA initiative. However, permits may only be modified, revoked or reissued, or terminated for the reasons specified in 40 CFR §122.62 or 122.64, and 40 CFR §124.5. Reasons for modification include new information which was not available at the time of permit issuance and would have justified the application of different permit conditions at the time of issuance, including but not limited to future monitoring results. All requests for permit modification shall be

addressed to EPA in writing and shall contain facts or reasons supporting the request.

APPENDIX A
Surface Water Monitoring Location for Juneau-Douglas Wastewater Treatment