

**DRAFT**

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Permit No. WA0020401



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

Issuance Date: \_\_\_\_\_  
Effective Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
WASTE DISCHARGE PERMIT NO. WA0020401**

State of Washington  
DEPARTMENT OF ECOLOGY  
Olympia, Washington 98504-7775

In compliance with the provisions of  
The State of Washington Water Pollution Control Law  
Chapter 90.48 Revised Code of Washington  
and  
The Federal Water Pollution Control Act  
(The Clean Water Act)  
Title 33 United States Code, Section 1342 et seq.

**City of Woodland  
P.O. Box 9  
Woodland, WA 98674**

is authorized to discharge in accordance with the Special and General Conditions that follow.

Plant Location:  
100 Treatment Plant Road  
Woodland, WA 98674

Receiving Water: Lewis River

Waterbody I.D. No.:

Discharge Location:  
Latitude: 45.90350  
Longitude: -122.73741

Plant Type: Sequencing Batch Reactor, Activated Sludge with UV disinfection

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Robert W. Bergquist, LEED® AP  
Southwest Section Manager  
Water Quality Program  
Washington State Department of Ecology

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## SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3	Discharge Monitoring Report	Monthly	<i>Reserved for Issuance</i>
S3.E	Reporting Permit Violations	As necessary	
S3.F	Other Reporting	As necessary	
S4.B	Plans for Maintaining Adequate Capacity	As necessary	Within 6 months after meeting plan criteria
S4.D	Notification of New or Altered Sources	As necessary	
S4.E	Infiltration and Inflow Evaluation	Annually	June 15, 2012
S4.F	Wasteload Assessment	Annually	February 15, 2012
S5.G.	Operations and Maintenance Manual Update or Review Confirmation Letter	Annually	February 15, 2012
S6.E.1	Industrial User Survey	1/permit cycle	March 1, 2013
S6.E.2	Industrial User Survey Update	Annually	March 1, 2014
S6.F	Pretreatment Monitoring (see S2)	Quarterly	<i>Reserved for Issuance</i>
S6.G.1	Local Limits Analysis & Proposal	1/permit cycle	March 1, 2014
S6.G.2	Local Limits Codified in Ordinance	1/permit cycle	March 1, 2015
S8	Application for Permit Renewal	1/permit cycle	<i>Reserved for Issuance</i>
S9.A	Effluent Mixing Plan of Study	90 days before any MZ study	
S9.B	Effluent Mixing Report	As necessary	
S10	Outfall Evaluation	1/permit cycle	March 1, 2012
S11.A	Acute Toxicity Effluent Test Results with Permit Renewal Application	Twice - January & June of 2015	<i>Reserved for Issuance</i>
S12.A	Chronic Toxicity Effluent Test Results with Permit Renewal Application	Twice - January & June of 2015	<i>Reserved for Issuance</i>
G1.C	Notice of Change in Authorization	as necessary	
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	
G7	Notice of Permit Transfer	As necessary	
G10	Duty to Provide Information	As necessary	
G23	Contract Submittal	As necessary	

## SPECIAL CONDITIONS

In this permit, the word “must” denotes an action that is mandatory and is equivalent to the word “shall” used in previous permits.

### S1. DISCHARGE LIMITS

#### A. Effluent Limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee may discharge municipal wastewater at the permitted location subject to compliance with the following limits:

<b>EFFLUENT LIMITS: OUTFALL # 1</b>		
<b>Parameter</b>	<b>Average Monthly <sup>a</sup></b>	<b>Average Weekly <sup>b</sup></b>
Biochemical Oxygen Demand (5-day)	30 mg/L, 466 lbs/day 85% removal of influent BOD <sup>c</sup>	45 mg/L, 700 lbs/day
Total Suspended Solids	30 mg/L, 475 lbs/day 85% removal of influent TSS <sup>c</sup>	45 mg/L, 711 lbs/day
Fecal Coliform Bacteria <sup>c</sup>	200/100 mL	400/100 mL
pH <sup>d</sup>	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 9.0.	
<b>Parameter</b>	<b>Average Monthly</b>	<b>Maximum Daily <sup>e</sup></b>
Total Ammonia (as NH <sub>3</sub> -N)	The Permittee must operate the facility to reduce ammonia to the maximum extent practicable with existing equipment. <sup>f</sup>	
<sup>a</sup> Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.		
<sup>b</sup> 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. See footnote <sup>c</sup> for fecal coliform calculations.		
<sup>c</sup> To calculate the average monthly and average weekly values for fecal coliforms you must use the geometric mean. The Department of Ecology (Ecology) gives directions to calculate this value and 85 percent removal in publication No. 04-10-020, <i>Information Manual for Treatment Plant Operators</i> available at: <a href="http://www.ecy.wa.gov/pubs/0410020.pdf">http://www.ecy.wa.gov/pubs/0410020.pdf</a>		
<sup>d</sup> Indicates the range of permitted values. The Permittee must report the instantaneous maximum and minimum pH for each sampling day monthly. Do not average pH values.		

**EFFLUENT LIMITS: OUTFALL # 1**

- <sup>e</sup> Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH.
- <sup>f</sup> Performance to date (sufficient sludge age and hydraulic detention time) has resulted in low effluent ammonia levels and no reasonable potential to violate water quality standards at the edge of the authorized mixing zone. A change in performance could trigger the reopening of this permit to include numerical effluent limits for ammonia, copper and zinc.

**B. Mixing Zone Authorization**

The following paragraphs define the maximum boundaries and flow volume restrictions of the mixing zones:

**MIXING ZONE FOR OUTFALL No. 1**

**Chronic Mixing Zone**

The maximum size of the chronic mixing zone as described in Washington Administrative Code (WAC) 173-201A-400(7)(a). From the outfall port, the authorized chronic mixing zone extends downstream 303 feet, upstream 100 feet, and 35 feet towards either bank of the river. The mixing zone extends from the river bottom to the top of the water surface within this rectangle. The outfall port at average river flows is some 100 feet from the shore. The Permittee must meet chronic aquatic life criteria and human health criteria at the edge of the chronic zone.

**Acute Mixing Zone**

WAC 173-201A-400(8)(a) specifies that in rivers a zone where acute criteria may be exceeded must not: A.) extend from the discharge port beyond ten percent of the distance towards the upstream and downstream boundaries of the chronic mixing zone, B.) utilize more than two and one-half percent of the flow; or C.) occupy greater than twenty-five percent of the width of the water body. This allows the acute mixing zone to extend downstream 30.3 feet, upstream 10 feet, and 35 feet towards each bank from the discharge port. The Permittee must meet acute aquatic life criteria at the edge of the acute zone.

<b>Available Dilution (dilution factor)</b>	
Acute Aquatic Life Criteria	5.26
Chronic Aquatic Life Criteria	74
Human Health Criteria - Carcinogen	74
Human Health Criteria - Non-carcinogen	140

**S2. MONITORING REQUIREMENTS**

A. Monitoring Schedule

The Permittee must monitor in accordance with the following schedule and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A.

Parameter	Units	Minimum Sampling Frequency	Sample Type
<b>(1) Wastewater Influent<sup>9</sup> Monitoring (See Note 9)</b>			
BOD <sub>5</sub>	mg/L	2/week <sup>6</sup>	24- hour Composite <sup>2</sup>
BOD <sub>5</sub>	lbs/day	Calculation <sup>7</sup>	N/A
TSS	mg/L	2/week <sup>6</sup>	24- hour Composite <sup>2</sup>
TSS	lbs/day	Calculation <sup>7</sup>	N/A
Ammonia	mg/L	1/week <sup>6</sup>	24- hour Composite <sup>2</sup>
<b>(2) Final Wastewater Effluent<sup>10</sup> Monitoring (See Note 10)</b>			
Flow	MGD	Continuous <sup>1</sup>	Measurement
BOD <sub>5</sub>	mg/L	2/week	24-hour Composite <sup>2</sup>
BOD <sub>5</sub>	lbs/day	Calculation <sup>7</sup>	N/A
BOD <sub>5</sub>	% removal	Calculation <sup>3</sup>	N/A
TSS	mg/L	2/week <sup>6</sup>	24- hour Composite <sup>2</sup>
TSS	lbs/day	Calculation <sup>7</sup>	N/A
TSS	% removal	Calculation <sup>3</sup>	N/A
Fecal Coliform	Organisms /100 ml	2/week <sup>4,6</sup>	Grab <sup>5</sup>
Ammonia (NH <sub>3</sub> -N)	mg/L	2/week <sup>6</sup>	Composite
pH	Standard Units	Daily	Grab <sup>5</sup>
Temperature – max	°C	Daily	Grab <sup>5</sup>
Nitrate+Nitrite (as N)	mg/L	Monthly <sup>8</sup>	24-hour Composite <sup>2</sup>

Parameter	Units	Minimum Sampling Frequency	Sample Type
Ortho-Phosphate (PO <sub>4</sub> )	mg/L	Monthly <sup>8</sup>	24-hour Composite <sup>2</sup>
Total Phosphorus	mg/L	Monthly <sup>8</sup>	24-hour Composite <sup>2</sup>
Hardness (as CaCO <sub>3</sub> )	mg/L	Monthly <sup>8</sup>	24-hour Composite <sup>2</sup>
<p>Take temperature grab sample or measure in the effluent stream when the effluent is presumed likely to be at or near its daily maximum temperature. If temperature is measured continuously, determine and report a daily maximum from half-hour measurements over a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.</p>			
<b>(3) Whole Effluent Toxicity Testing – Monitor Final Wastewater Effluent<sup>10</sup></b>			
Acute Toxicity Testing	See Section S.11 for sampling and reporting details. Test twice by the dates specified in that section (approximately year 4 of this permit).		
Chronic Toxicity Testing	See Section S.12 for sampling and reporting details. Test twice by the dates specified in that section (approximately year 4 of this permit).		
<b>(4) Pretreatment – Monitor the Influent<sup>9</sup>, Final Effluent<sup>10</sup>, and Sludge for all parameters</b>			
Oil and Grease (both total and hydrocarbon based)	mg/L	Quarterly <sup>12</sup>	Grab – analyze using EPA method 1664 HEM and SGT-HEM
Cyanide and total phenols	µg/L <sup>11</sup>	Quarterly <sup>12</sup>	Composite of 4-grab samples
Priority Pollutant Metals (appendix A)	µg/L <sup>11</sup>	Quarterly <sup>12</sup>	24-hour Composite <sup>2</sup>
PP – Volatile Organic Compounds, phenol	µg/L <sup>11</sup>	Annually <sup>13</sup>	Composite of 4 grab samples
PP – Acid-extractable compounds	µg/L <sup>11</sup>	Annually <sup>13</sup>	24- hour Composite <sup>2</sup>
PP – Base-neutral compounds	µg/L <sup>11</sup>	Annually <sup>13</sup>	24- hour Composite <sup>2</sup>
<p>See appendix A of this permit for list of priority pollutants (PP), sample method, and detection limit requirements. See also section S6 for additional details.</p>			

Parameter	Units	Minimum Sampling Frequency	Sample Type
All sludge samples shall be grab samples or a composite of grab samples if necessary to be representative.			
The Permittee must report the sample date and effluent flows with influent and effluent data.			
<b>(5) Additional Permit Application Requirements – Final Wastewater Effluent<sup>10</sup> Only</b>			
Total Residual Chlorine	mg/L	Annually <sup>13</sup>	Grab <sup>5</sup>
Dissolved Oxygen	mg/L	Annually <sup>13</sup>	Grab <sup>5</sup>
Total Kjeldahl Nitrogen	mg/L N	Annually <sup>13</sup>	24-hour composite <sup>2</sup>
Total Dissolved Solids	mg/L	Annually <sup>13</sup>	24-hour composite <sup>2</sup>
<sup>1</sup> Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. For flow, a totalizing flow meter may be used at this facility since the discharge is periodic. When this fails, the Permittee must calculate the volume discharged through recording the difference in tank height before and after each decant cycle for each batch treated.			
<sup>2</sup> 24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.			
<sup>3</sup> Calculate the Percent (%) removal of BOD and TSS using the following algorithm (concentrations in mg/L): (Average Monthly Influent Concentration - Average Monthly Effluent Concentration)/Average Monthly Influent Concentration.			
<sup>4</sup> Also sample whenever the ultraviolet light (UV) disinfection system is NOT in operation for > 10 minutes.			
<sup>5</sup> Grab means an individual sample collected over a fifteen (15) minute, or less, period.			
<sup>6</sup> 2/week means two (2) times during each calendar week (Sunday – Saturday) on a rotational basis that occasionally includes weekends and holidays.			
<sup>7</sup> Calculation means figured concurrently with the respective sample, using the following formula: Concentration (in mg/L) X Flow (in MGD) X Conversion Factor (8.34) = lbs/day			
<sup>8</sup> Monthly means once every calendar month during alternate weeks.			
<sup>9</sup> Wastewater Influent means the total raw sewage flow to the POTW sampled at the headworks of the treatment plant exclusive of any return flows from inside the plant. Influent samples should be representative and include representative fractions of any septage or hauled wastes received, but exclude biosolids from another POTW.			

Parameter	Units	Minimum Sampling Frequency	Sample Type
<sup>10</sup> Final Effluent means wastewater has exited the last treatment process or operation. Typically, this is after or at the exit from the disinfection process.			
<sup>11</sup> Sampling must meet Appendix A required detection (DL) or quantitation (QL) levels, sections S3.A reporting requirements, and G1 signature and certification requirements. Report single analytical values below detection as “less than (DL)” where (DL) is the numeric value specified in attachment A. Report single analytical values between the agency-required detection and quantitation levels with qualifier code of j following the value. To calculate the average value (monthly average): <ul style="list-style-type: none"> <li>• Use the reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.</li> <li>• For values reported below detection, use one-half the detection value if the lab detected the parameter in another sample for the reporting period.</li> <li>• For values reported below detection, use zero if the lab did not detect the parameter in another sample for the reporting period. If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix specific MDL and a QL to Ecology with appropriate laboratory documentation.</li> </ul>			
<sup>12</sup> Quarterly means once every calendar quarter (January-March, April-June, July-September, October-December).			
<sup>13</sup> Annually means once every calendar year.			

**B. Sampling and Analytical Procedures**

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters. The Permittee must conduct representative effluent sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

The Permittee must also sample any unusual influent condition, collecting sufficient volume to perform the multiple analyses needed to determine the unusual substance and hold an additional sample for collaboration with Ecology.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 Code of Federal Regulations (CFR) Part 136.

**C. Flow Measurement**

The Permittee must:

1. Select and use appropriate flow measurement devices and methods consistent with accepted scientific practices.
2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard and the manufacturer's recommendation for that type of device.
3. Calibrate flow monitoring devices at a minimum frequency of at least one calibration per year.
4. Maintain calibration records for at least three years.

D. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by Ecology is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

E. Request for Reduction in Monitoring

The Permittee may request a reduction of the sampling frequency after 12 months of monitoring. Ecology will review each request and at its discretion grant the request through a permit modification or when it reissues the permit.

The Permittee must:

1. Provide a written request.
2. Clearly state the parameters for which it is requesting reduced monitoring.
3. Clearly state the justification for the reduction.

**S3. REPORTING AND RECORDING REQUIREMENTS**

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. The Permittee must:

1. Submit monitoring results each month.
2. Summarize, report, and submit monitoring data obtained during each monitoring period on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by Ecology.

3. Ensure that DMR forms are postmarked or received by Ecology no later than the 15th day of the month following the completed monitoring period, unless otherwise specified in this permit.
4. Submit DMR forms monthly whether or not the facility was discharging. If the facility did not discharge during a given monitoring period, submit the form as required with the words "NO DISCHARGE" entered in place of the monitoring results.
5. Submit metals and priority pollutant analysis data no later than 45 days following the date of monitoring.
6. Send report(s) to Ecology at:

Water Quality Permit Coordinator  
Department of Ecology  
Southwest Regional Office  
P.O. Box 47775  
Olympia, WA 98504-7775

All laboratory reports providing data for organic and metal parameters must include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, concentration detected, and POTW flow on the date of sampling. Analytical results from samples sent to a contract laboratory must include information on the chain of custody, the analytical method, QA/QC results, and documentation of accreditation for the parameter.

**B. Records Retention**

The Permittee must retain records of all monitoring information for a minimum of three years. Such information must include all calibration and maintenance records and all original 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. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

**C. Recording of Results**

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement.
2. The individual who collected the sample or took the measurement.
3. The individual who performed the analysis.
4. The dates the analysis was performed.

- 5. The analytical techniques or methods used.
- 6. The results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

- Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
- If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within 30 days of sampling.

1. Immediate Reporting

The Permittee must report any failure of the disinfection system immediately to the Department of Ecology's Regional Office 24-hr. number and the Department of Health, Drinking Water Program phone numbers listed below:

Southwest Regional Office	360-407-6300
Department of Health, Drinking Water Program	360-521-0323 (business hours) 360-481-4901 (after business hours)

2. Twenty-four-hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

- a. Any noncompliance that may endanger health or the environment, unless previously reported under subpart 1, above.
- b. Any unanticipated **bypass** that exceeds any effluent limitation in the permit (See Part S4.B., "Bypass Procedures").
- c. Any **upset** that exceeds any effluent limitation in the permit (See G.15, "Upset").
- d. Any violation of a maximum daily or instantaneous maximum discharge limitation for any of the pollutants in Section S1.A of this permit.

- e. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limitation in the permit.

3. Report Within Five Days

The Permittee must also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under subparts 1 or 2, above. The written submission must 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.
- d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- e. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

4. Waiver of Written Reports

Ecology may waive the written report required in subpart 3, above, on a case-by-case basis upon request if a timely oral report has been received.

5. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in paragraph E.3, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

6. Report Submittal

The Permittee must submit reports to the address listed in S3.

F. Other Reporting

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of Revised Code of Washington (RCW) 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: <http://www.ecy.wa.gov/programs/spills/other/reportaspill.htm> .

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

G. Maintaining a Copy of This Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

**S4. FACILITY LOADING**

A. Design Criteria

The flows or waste loads for the permitted facility must not exceed the following design criteria:

Maximum Month Design Flow (MMDF)	2.0 MGD
Peak Instantaneous Design Flow (PIDF)	3.2 MGD
BOD <sub>5</sub> influent loading for maximum month	3,107 lbs/day
TSS influent loading for maximum month	3,160 lbs/day

B. Plans for Maintaining Adequate Capacity

1. The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology within six months after:
  - a. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months or 100 percent on any month.
  - b. The annual wasteload analysis (S4.F) shows that at either the current or projected rate of growth the Permittee's flows or loadings would exceed 100 percent of any the design flows and loadings listed above (S4.A) within five years.
2. The plan and schedule for continuing to maintain capacity must be sufficient to achieve the effluent limits and other conditions of this permit. This plan must identify any of the following actions or any other actions necessary to meet the objective of maintaining capacity.
  - a. Analysis of the present design, including the introduction of any process modifications that would establish the ability of the existing facility to achieve the effluent limits and other requirements of this permit at specific levels in excess of the existing design criteria specified in paragraph A, above.
  - b. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.
  - c. Limitation on future sewer extensions or connections or additional waste loads.

- d. Modification or expansion of facilities necessary to accommodate increased flow or waste load.
  - e. Reduction of industrial or commercial flows or waste loads to allow for increasing sanitary flow or waste load.
3. Engineering documents associated with the plan must follow within a year after submittal of the plan and must conform to the City's General Sewer Plan, meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.
  4. If the Permittee intends to apply for state or federal funding for the design or construction of a facility project, the plan must meet the environmental review requirements described in 40 CFR 35.3040 and 40 CFR 35.3045 and demonstrate cost effectiveness as required by WAC 173-95-730. The plan must specify any contracts, ordinances, methods for financing, or other arrangements necessary to achieve this objective.

C. Duty to Mitigate

The Permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

D. Notification of New or Altered Sources

1. The Permittee must submit written notice to Ecology whenever any new discharge or a substantial change in volume or character of an existing discharge into the POTW is proposed which:
  - a. Would interfere with the operation of, or exceed the design capacity of, any portion of the POTW;
  - b. Is not part of an approved general sewer plan or approved plans and specifications; or
  - c. Would be subject to pretreatment standards under 40 CFR Part 403 and Section 307(b) of the Clean Water Act.
2. This notice must include an evaluation of the POTW's ability to adequately transport and treat the added flow and/or waste load, the quality and volume of effluent to be discharged to the POTW, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

E. Infiltration and Inflow Evaluation

1. The Permittee must annually prepare a report which summarizes infiltration and inflow over the past year in comparison to the last three years and a base year. The Permittee should choose the first "normal rainfall" year after the last significant I&I reduction projects as their base year. The report shall cover the period May 1 through April 30 and shall be due by **June 15, 2012**, and **annually**

thereafter). The Permittee must follow the format found in Ecology's "Information Manual for Treatment Plant Operators" Section 7.2 (<http://www.ecy.wa.gov/pubs/0410020.pdf>)

2. If this report finds that total flows in the peak month are more than 40% more than the minimum flow month over the reporting year, the Permittee shall do an I&I Evaluation as described in the EPA Manual: *I/I Analysis and Project Certification* (May 1985) Ecology publication 97-03 at <http://www.ecy.wa.gov/pubs/9703.pdf>. The study must be conducted within the next year in time to include the results of the analysis described in this publication in the next annual report. If that evaluation finds that either Inflow or Infiltration are excessive versus the definitions established by EPA in that manual, the analysis must also contain a plan and the soonest practicable schedule for:
  - a. Locating the sources of infiltration and inflow; and
  - b. Completion of projects estimated to reduce the sources of I&I to the point where I&I does not meet the criteria of "excessive" in the above EPA manual.F. Wasteload Assessment
1. The Permittee must conduct an annual assessment of their influent flow and waste loads over each calendar year and submit a report to Ecology by **February 15, 2012**, and **annually** thereafter. The Permittee must follow the format found in Ecology's "Information Manual for Treatment Plant Operators" Section 7.1 (<http://www.ecy.wa.gov/pubs/0410020.pdf>) and describe:
  - a. Whether the Permittee complied with permit effluent limits, and for any noncompliance, whether the Permittee believes it was related to limitations on the POTW's ability to treat the flows and loadings received to the standards required by this permit;
  - b. The percentage change in flows and loadings over the year compare to the previous year and to the design peak monthly and daily design flows, BOD loading capacity, and TSS loading capacity; and
  - c. The present and design population or population equivalent, the projected growth rate, and the estimated date upon which the design capacity is projected to be reached according to the most restrictive of the parameters above.

## **S5. OPERATION AND MAINTENANCE**

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

**A. Certified Operator**

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class 3 plant. This operator must be in responsible charge of the day-to-day operation of the wastewater treatment plant. An operator certified for at least a Class 2 plant must be in charge during all regularly scheduled shifts.

**B. O & M Program**

The Permittee must:

1. Institute an adequate operation and maintenance program for the entire sewage system.
2. Keep maintenance records on all major electrical and mechanical components of the treatment plant, as well as the sewage system and pumping stations. Such records must clearly specify the frequency and type of maintenance recommended by the manufacturer and must show the frequency and type of maintenance performed.
3. Make maintenance records available for inspection at all times.

**C. Short-term Reduction**

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out in a manner approved by Ecology.

If a Permittee contemplates a reduction in the level of treatment that would cause a violation of permit discharge limits on a short-term basis for any reason, and such reduction cannot be avoided, the Permittee must:

1. Give written notification to Ecology, if possible, 30 days prior to such activities.
2. Detail the reasons for, length of time of, and the potential effects of the reduced level of treatment.

This notification does not relieve the Permittee of its obligations under this permit.

**D. Electrical Power Failure**

The Permittee must ensure that adequate safeguards prevent the discharge of untreated wastes or wastes not treated in accordance with the requirements of this permit during electrical power failure at the treatment plant and/or sewage lift stations. Adequate safeguards include, but are not limited to: alternate power sources, standby generator(s), or retention of inadequately treated wastes.

The Permittee must maintain Reliability Class I (EPA 430/9-74-001) at the wastewater treatment plant. Reliability Class I requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions.

E. Prevent Connection of Inflow

The Permittee must strictly enforce its sewer ordinances and not allow the connection of inflow (roof drains, foundation drains, etc.) to the sanitary sewer system.

F. Bypass Procedures

This permit prohibits bypass. A bypass is the intentional diversion of waste streams around any portion of the treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions.

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least 10 days before the date of the bypass.

2. Bypass which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit.

This bypass is permitted only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause 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.
- b. No feasible alternatives to the bypass exist, such as:
  - The use of auxiliary treatment facilities.
  - Retention of untreated wastes.
  - Stopping production.
  - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.
  - Transport of untreated wastes to another treatment facility or preventative maintenance), or transport of untreated wastes to another treatment facility.

- c. Ecology is properly notified of the bypass as required in condition S3E of this permit.
3. If bypass is anticipated and has the potential to result in noncompliance of this permit.
    - a. The Permittee must notify Ecology at least 30 days before the planned date of bypass. The notice must contain:
      - A description of the bypass and its cause.
      - An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.
      - A cost-effectiveness analysis of alternatives including comparative resource damage assessment.
      - The minimum and maximum duration of bypass under each alternative.
      - A recommendation as to the preferred alternative for conducting the bypass.
      - The projected date of bypass initiation.
      - A statement of compliance with State Environmental Policy Act (SEPA).
      - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
      - Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.
    - b. For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during preparation of the engineering report or facilities plan and plans and specifications and must include these to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.
    - c. Ecology will consider the following prior to issuing an administrative order for this type of bypass:
      - If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

- If feasible alternatives to bypass exist, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

G. Operations and Maintenance Manual

The Permittee must:

1. Keep the approved O&M Manual at the permitted facility.
2. Follow the instructions and procedures of the O&M manual.
3. Review the O&M Manual at least annually and confirm this review by letter to Ecology.
4. Submit substantial changes or updates to the O&M Manual to Ecology for review and approval prior to incorporating them into the manual.

The Permittee's annual review is due by **February 15, 2012**, and **annually** thereafter and must confirm the O&M Manual addresses the requirements of WAC 173-240-080 (1) through (5) and review:

5. The treatment plant process control monitoring schedule.
6. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
7. Emergency procedures for responding to a wastewater system upset or failure.
8. Maintenance procedures that generate internal recycle or effluent flows.
9. Procedures for cleaning or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).

**S6. PRETREATMENT****A. General Requirements**

The Permittee must work with Ecology to ensure that all commercial and industrial users of the publicly owned treatment works (POTW) comply with the pretreatment regulations in 40 CFR Part 403 and any additional regulations that the Environmental Protection Agency (U.S. EPA) may promulgate under Section 307(b) (pretreatment) and 308 (reporting) of the Federal Clean Water Act.

**B. Duty to Enforce Discharge Prohibitions**

1. The Permittee must not authorize or knowingly allow the discharge of any pollutants into its POTW which may be reasonably expected to cause Pass Through or Interference, or which otherwise violate general or specific discharge prohibitions contained in 40 CFR Part 403.5 or WAC-173-216-060.
2. The Permittee must not authorize or knowingly allow the introduction of any of the following into their treatment works:
  - a. Pollutants which create a fire or explosion hazard in the POTW (including, but not limited to waste streams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21).
  - b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, or greater than 11.0 standard units, unless the works are specifically designed to accommodate such discharges.
  - c. Solid or viscous pollutants in amounts that could cause obstruction to the flow in sewers or otherwise interfere with the operation of the POTW.
  - d. Any pollutant, including oxygen demanding pollutants, (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.
  - e. Petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through.
  - f. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity which may cause acute worker health and safety problems.
  - g. Heat in amounts that will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities such that the temperature at the POTW headworks exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless Ecology, upon request of the Permittee, approves, in writing, alternate temperature limits.

- h. Any trucked or hauled pollutants, except at discharge points designated by the Permittee.
      - i. Wastewaters prohibited to be discharged to the POTW by the Dangerous Waste Regulations (chapter 173-303 WAC), unless authorized under the Domestic Sewage Exclusion (WAC 173-303-071).
3. The Permittee must also not allow the following discharges to the POTW unless approved in writing by Ecology:
  - a. Noncontact cooling water in significant volumes.
  - b. Stormwater and other direct inflow sources.
  - c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment, or would not be afforded a significant degree of treatment by the system.
4. The Permittee must notify Ecology if any industrial user violates the prohibitions listed in this section (S6.B), and initiate enforcement action to promptly curtail any such discharge.

C. Wastewater Discharge Permit Required

The Permittee must require all non-domestic dischargers to apply for a permit, and may not allow any significant industrial users (SIUs) to discharge wastewater to the Permittee's sewer system until such user has received a wastewater discharge permit from Ecology in accordance with chapter 90.48 RCW and chapter 173-216 WAC.

D. Identification and Reporting of Existing, New, and Proposed Industrial Users

1. The Permittee must take continuous, routine measures to identify all existing, new, and proposed SIUs and potential significant industrial users (PSIUs) discharging or proposing to discharge to the Permittee's sewer system (see Appendix B of the Fact Sheet for definitions).
2. Within 30 days of becoming aware of an unpermitted existing, new, or proposed industrial user who may be an SIU, the Permittee must notify such user by registered mail that, if classified as an SIU, they must apply to Ecology and obtain a State Waste Discharge Permit. The Permittee must send a copy of this notification letter to Ecology within this same 30-day period.
3. The Permittee must also notify all Potential SIUs (PSIUs), as they are identified, that if the Permittee determines they are an SIU, they must apply to Ecology for a State Waste Discharge Permit within 30 days of such determination.

E. Industrial User Survey

1. The Permittee must complete an Industrial User Survey identifying and tabulating important information on all SIUs and potential SIUs discharging to the POTW. The Permittee must submit the survey to Ecology by **March 1**,

**2013**, and every five years thereafter. At a minimum, the Permittee must develop the list of SIUs and potential SIUs by means of a telephone book search, a water utility billing records search, and a physical reconnaissance of the service area. Information on potential SIUs must include at a minimum: the business name, telephone number, address, description of the industrial process(es), slug discharge potential, and the known wastewater volumes and characteristics.

2. The Permittee must update the Industrial User Survey annually each year they do not perform a complete re-survey. The Permittee must submit Industrial User Survey updates to Ecology by **March 1, 2014**, and **annually** thereafter. The updated survey must include a list of all new industrial users and updated information on existing industrial users that have significantly altered processes or disposal practices since the last survey or survey update. For industrial users which are SIUs or potential SIUs, the Permittee must obtain and include the minimum information described in section E.1 above.

F. Monitoring Requirements

The Permittee must monitor its influent, effluent, and sludge for the priority pollutants identified in Tables II and III of Appendix D of 40 CFR Part 122 as amended, any compounds identified as a result of Condition S6.B.4, and any other pollutants expected from non-domestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis. The Permittee must test influent, effluent, and sludge samples for the priority pollutant metals (Table III, 40 CFR 122, Appendix D) on a quarterly basis throughout the term of this permit. The Permittee must test influent, effluent, and sludge samples for the organic priority pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis. For ease of use, this permit summarizes pretreatment monitoring in section S2. In the event of a conflict between Section S2 and this section, this section shall take precedence.

1. The Permittee must sample POTW influent and effluent on a day when industrial discharges are occurring at normal to maximum levels. The Permittee must obtain 24-hour composite samples for the analysis of acid and base/neutral extractable compounds and metals. The Permittee must collect samples for the analysis of volatile organic compounds and samples must be collected using grab sampling techniques at equal intervals for a total of four grab samples per day.

The laboratory may run a single analysis for volatile pollutants (Method 624) for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than 1 ml of each grab included in the composite.

Unless otherwise indicated, all reported test data for metals must represent the total amount of the constituent present in all phases, whether solid, suspended, or dissolved, elemental or combined including all oxidation states.

The Permittee must handle, prepare, and analyze all wastewater samples taken for GC/MS analysis in accordance with the U.S. EPA Methods 624 and 625 (October 26, 1984).

2. The Permittee must collect a sludge sample concurrently with a wastewater sample as a single grab of residual sludge. Sampling and analysis must conform to U.S. EPA Methods 624 and 625 unless the Permittee requests an alternate method and Ecology has approved.
3. The Permittee must take Cyanide, phenols, and oils as grab samples. Oils must be hexane soluble or equivalent, and should be measured in the influent and effluent only.
4. In addition to quantifying pH, oil and grease, and all priority pollutants, the Permittee must make a reasonable attempt to identify all other substances and quantify all pollutants shown to be present by gas chromatograph/mass spectrometer (GC/MS) analysis per 40 CFR 136, Appendix A, Methods 624 and 625. The Permittee should attempt to make determinations of pollutants for each fraction, which produces identifiable spectra on total ion plots (reconstructed gas chromatograms). The Permittee should attempt to make determinations from all peaks with responses 5% or greater than the nearest internal standard. The 5% value is based on internal standard concentrations of 30 µg/l, and must be adjusted downward if higher internal standard concentrations are used or adjusted upward if lower internal standard concentrations are used. The Permittee may express results for non-substituted aliphatic compounds as total hydrocarbon content. The Permittee must use a laboratory whose computer data processing programs are capable of comparing sample mass spectra to a computerized library of mass spectra, with visual confirmation by an experienced analyst. For all detected substances which are determined to be pollutants, the Permittee must conduct additional sampling and appropriate testing to determine concentration and variability, and to evaluate trends.

G. Local Limit Development

1. By **March 1, 2014**, the Permittee must provide Ecology an analysis of whether local limits are necessary to protect the POTW for the following pollutants (antimony, arsenic, beryllium, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, selenium, silver, thallium, zinc, BOD5, TSS, and ammonia). The Permittee shall propose with this study a load allocation strategy or local limit for any pollutant found to be entering the POTW at more than 66 percent of the maximum allowable headworks loading.
2. By **March 1, 2015**, the Permittee must provide a copy of the codified local limit or allocation strategy for each pollutant which the local limits study (G.1) found warrants a limit. The Permittee must consult with Ecology to ensure the local limit or load allocation strategy is sufficient to provide reasonable assurances against Pass Through or Interference.
3. Ecology may require the Permittee to revise or establish local limits for any pollutant discharged from the POTW that monitoring shows has a reasonable potential to inhibit biological processes, violate receiving water standards or permit limits, exceed sediment standards, applicable sludge standards, or to cause whole effluent toxicity. In such case, the Permittee must include that pollutant in the above limits if notified in time to do so, or establish a new or revised local limit in a timely manner.

4. Ecology may modify this permit to incorporate additional requirements relating to the establishment and enforcement of local limits. Any permit modification is subject to formal due process procedures under state and federal law and regulation.

**S7. SOLID WASTES****A. Solid Waste Handling**

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

**B. Leachate**

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

**S8. APPLICATION FOR PERMIT RENEWAL**

The Permittee must submit an application for renewal of this permit by \_\_\_\_\_. The application must be submitted on EPA form 3510-2A and contain all information required by this form for a POTW with a design flow greater than 1.0 MGD (sections A-F).

**S9. MIXING STUDY****A. General Requirements**

1. Ecology has provided an assessment of the degree of mixing which occurs at the edge of allowed mixing zones. If the Permittee believes the analysis (summarized in the fact sheet) or the presumptions upon which it is based are incorrect, the Permittee may conduct their own mixing zone study. To be useful for subsequent permitting actions, this study must determine the degree of effluent and receiving water mixing which occurs within the mixing zone (as defined in permit condition S1.B). The study must determine the degree of mixing during critical conditions, as defined in WAC 173-201A-020 Definitions - "Critical Condition," or as close to critical conditions as reasonably possible.
2. The Permittee must use the *Guidance for Conducting Mixing Zone Analyses* (Ecology, 1996) to establish the critical condition scenarios. The Permittee must measure the dilution ratio in the field with dye using study protocols specified in the *Guidance*, Section 5.0 "Conducting a Dye Study," as well as other protocols listed in Subpart C "Protocols." The Permittee may use mixing models as an acceptable alternative or adjunct to a dye study if:
  - a. The critical ambient conditions necessary for model input are known or will be established with field studies.

- b. If the diffuser is visually inspected for integrity or has been recently tested for performance by the use of tracers.
3. The Permittee must consult the *Guidance* mentioned above when choosing the appropriate model.
4. Ecology requires the use of models if critical condition scenarios that need to be examined are quite different from the set of conditions present during the dye study.
5. The Permittee may need to validate (and possibly calibrate) a model. The Permittee must conduct validation/calibration in accordance with the *Guidance* mentioned above, in particular, Subsection 5.2 “Quantify Dilution.” The Permittee must apply the resultant dilution ratios for acute and chronic boundaries in accordance with directions found in Ecology’s *Permit Writer’s Manual* (1994), Chapter VI and Appendix 6.
6. The Permittee must submit a Plan of Study to Ecology for review 90 days prior to initiation of the effluent mixing study.

B. Reporting Requirements

1. The Permittee must include the results of the effluent mixing study in the Effluent Mixing Report, and must submit it to Ecology for approval no later than the date of the next permit application if the Permittee wants Ecology to consider the study in developing the next permit terms and conditions.
2. If the Permittee has information on the background physical conditions or background concentration of chemical substances (for which there are criteria in chapter 173-201A WAC) in the receiving water, the Permittee must submit this information to Ecology as part of the Effluent Mixing Report.
3. If the results of the mixing study, toxicity tests, and chemical analysis indicate that the concentration of any pollutant(s) exceeds or has a reasonable potential to exceed the state water quality standards, chapter 173-201A WAC, Ecology may issue an administrative order to require a reduction of pollutants or modify this permit to impose effluent limits to meet the water quality standards.
4. The Permittee must locate the outfall and mixing zone boundaries with GPS coordinates. The accuracy of station locations must be identified in the report.

C. Protocols

The Permittee must determine the dilution ratio using protocols outlined in the following references, approved modifications thereof, or by another method approved by Ecology:

- Akar, P.J. and G.H. Jirka, *Cormix2: An Expert System for Hydrodynamic Mixing Zone Analysis of Conventional and Toxic Multiport Diffuser Discharges*, USEPA Environmental Research Laboratory, Athens, GA, Draft, July 1990.

- Baumgartner, D.J., W.E. Frick, P.J.W. Roberts, and C.A. Bodeen, *Dilution Models for Effluent Discharges*, USEPA, Pacific Ecosystems Branch, Newport, OR, 1993.
- Doneker, R.L. and G.H. Jirka, *Cormix1: An Expert System for Hydrodynamic Mixing Zone Analysis of Conventional and Toxic Submerged Single Port Discharges*, USEPA, Environmental Research Laboratory, Athens, GA, EPA/600-3-90/012, 1990.
- Ecology, *Permit Writer's Manual*, Water Quality Program, Department of Ecology, Olympia WA 98504, July 1994, including most current addenda.
- Ecology, *Guidance for Conducting Mixing Zone Analyses, Permit Writer's Manual*, (Appendix 6.1), Water Quality Program, Department of Ecology, Olympia, WA 98504, October 1996.
- Kilpatrick, F.A., and E.D. Cobb, Measurement of Discharge Using Tracers, Chapter A16, *Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics*, USGS, U.S. Department of the Interior, Reston, VA 1985.
- Wilson, J.F., E.D. Cobb, and F.A. Kilpatrick, Fluorometric Procedures for Dye Tracing, Chapter A12. *Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics*, USGS, U.S. Department of the Interior, Reston, VA 1986.

## **S10. OUTFALL EVALUATION**

The Permittee must inspect, at least once each permit cycle, the submerged portion of the outfall line and diffuser to document its integrity and continued function. By **March 1, 2012**, and each five years thereafter, the Permittee must submit the inspection report to Ecology, the Permittee must inspect during seasonally low flow conditions. The report must include:

- The date and time of inspection, who performed the inspection, and a description of any damages to the outfall line and diffuser structures.
- Photographic verification if conditions allow.
- A scale diagram(s) of the outfall area showing the river banks, river width, the outfall line, how far it extends into the river, and the distance between diffuser structures.
- A description of each diffuser's orifice size, orientation, submergence depth, and height above the river bottom.
- The flow velocity and height and width of the Lewis River at the time of inspection with respect to the 7Q10 low flow river depth and width.
- Whether the river current halts or reverses on the day of the study and if so, whether it was due to tidal influences or upstream dam operation. .

If the inspection finds repairs are required to restore the original functionality of the outfall diffuser, the Permittee shall accomplish such repairs at the earliest practicable date, and provide a supplemental report that documents the completion of the necessary repairs within 30 days after completing the repairs.

**S11. ACUTE TOXICITY**

**A. Testing When There Is No Permit Limit for Acute Toxicity**

The Permittee must:

1. Conduct acute toxicity testing on final effluent during June 2015, and January 2016.
2. Submit the results to Ecology with the permit renewal application.
3. Conduct acute toxicity testing on a series of at least five concentrations of effluent, including 100 percent effluent and a control.
4. Use each of the following species and protocols for each acute toxicity test:

<b>Acute Toxicity Tests</b>	<b>Species</b>	<b>Method</b>
Fathead minnow 96-hour static-renewal test	<i>Pimephales promelas</i>	EPA-821-R-02-012
Daphnid 48-hour static test	<i>Ceriodaphnia dubia</i> , <i>Daphnia pulex</i> , or <i>Daphnia magna</i>	EPA-821-R-02-012

**B. Sampling and Reporting Requirements**

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data in electronic format for entry into Ecology’s database, then the Permittee must send the data to Ecology along with the test report, bench sheets, and reference toxicant results.
2. The Permittee must collect grab samples for toxicity testing approximately midway through a decant cycle. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion of sample collection. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.
3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods for Whole Effluent Toxicity and the Department of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.
5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods or pristine natural water of sufficient quality for good control performance.
6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the acute critical effluent concentration (ACEC). The ACEC equals 19 percent effluent.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing must comply with the acute statistical power standard of 29 percent as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.
9. Reports of individual characterization or compliance test results must be submitted to Ecology within 60 days after each sample date.
10. The Acute Toxicity Summary Report must be submitted to Ecology by \_\_\_\_\_.

## **S12. CHRONIC TOXICITY**

### **A. Testing When There Is No Permit Limit for Chronic Toxicity**

The Permittee must:

1. Conduct chronic toxicity testing on final effluent during June 2015, and January 2016.
2. Submit the results to Ecology with the permit renewal application.
3. Conduct chronic toxicity testing on a series of at least five concentrations of effluent and a control. This series of dilutions must include the acute critical effluent concentration (ACEC). The ACEC equals 19 percent effluent.
4. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Freshwater Chronic Test	Species	Method
Fathead minnow	<i>Pimephales promelas</i>	EPA-821-R-02-013
Water flea	<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013
Alga	<i>Selenastrum capricornutum</i> / <i>Raphidocelis subcapitata</i>	EPA-821-R-02-013

**B. Sampling and Reporting Requirements**

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data in electronic format for entry into Ecology’s database, then the Permittee must send the data to Ecology along with the test report, bench sheets, and reference toxicant results.
2. The Permittee must collect a representative grab sample for toxicity testing approximately midway through the decant cycle. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion of sample collection. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.
3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.
4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods for Whole Effluent Toxicity and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.
5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods or pristine natural water of sufficient quality for good control performance.
6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.

7. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the CCEC and the ACEC. The CCEC and the ACEC may either substitute for the effluent concentrations that are closest to them in the dilution series or be extra effluent concentrations. The CCEC equals 1.4 percent effluent. The ACEC equals 19 percent effluent.
8. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39 percent as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.
9. Reports of individual characterization or compliance test results must be submitted to Ecology within 60 days after each sample date.
10. The Chronic Toxicity Summary Report must be submitted to Ecology by \_\_\_\_\_.

## GENERAL CONDITIONS

### G1. SIGNATORY REQUIREMENTS

A. All applications, reports, or information submitted to Ecology must be signed and certified.

1. In the case of corporations, by a responsible corporate officer.

For the purpose of this section, a responsible corporate officer means:

- a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or
- b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. In the case of a partnership, by a general partner.

3. In the case of sole proprietorship, by the proprietor.

4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

The public entity must submit the application for a permit for a domestic wastewater facility owned or operated by, or under contract to, a public entity.

B. All reports required by this permit and other information requested by Ecology must 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:

1. The authorization is made in writing by a person described above and submitted to Ecology.

2. 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.)

- C. Changes to authorization. If an authorization under paragraph B.2, above, 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 B.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section must 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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering 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.”

## **G2. RIGHT OF INSPECTION AND ENTRY**

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
- B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.
- C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

## **G3. PERMIT ACTIONS**

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology’s initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 40 CFR 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
  - 1. Violation of any permit term or condition.

2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
  3. A material change in quantity or type of waste disposal.
  4. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination.
  5. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or sludge use or disposal practice controlled by the permit.
  6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
  7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.
- B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:
1. A material change in the condition of the waters of the state.
  2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
  3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
  4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
  5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
  6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
  7. Incorporation of an approved local pretreatment program into a municipality's permit.
- C. The following are causes for modification or alternatively revocation and reissuance:
1. When cause exists for termination for reasons listed in A1 through A7 of this section, and Ecology determines that modification or revocation and reissuance is appropriate.
  2. When Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

**G4. REPORTING PLANNED CHANGES**

The Permittee must, as soon as possible, but no later than 60 days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in: 1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b); 2) a significant change in the nature or an increase in quantity of pollutants discharged; or 3) a significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

**G5. PLAN REVIEW REQUIRED**

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities must be constructed and operated in accordance with the approved plans.

**G6. COMPLIANCE WITH OTHER LAWS AND STATUTES**

Nothing in this permit must be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

**G7. TRANSFER OF THIS PERMIT**

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology.

A. Transfers by Modification

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

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies Ecology 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 transfer of permit responsibility, coverage, and liability between them.
3. Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under this subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

**G8. REDUCED PRODUCTION FOR COMPLIANCE**

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

**G9. REMOVED SUBSTANCES**

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

**G10. DUTY TO PROVIDE INFORMATION**

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology 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 must also submit to Ecology upon request, copies of records required to be kept by this permit.

**G11. OTHER REQUIREMENTS OF 40 CFR**

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

**G12. ADDITIONAL MONITORING**

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

**G13. PAYMENT OF FEES**

The Permittee must submit payment of fees associated with this permit as assessed by Ecology.

**G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS**

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof must be punished by a fine of up to \$10,000 and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit will incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to \$10,000 for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

#### **G15. UPSET**

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits 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.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in Condition S3.E; and 4) the Permittee complied with any remedial measures required under S4.C of this permit.

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

#### **G16. PROPERTY RIGHTS**

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

#### **G17. DUTY TO COMPLY**

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

#### **G18. TOXIC POLLUTANTS**

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

#### **G19. PENALTIES FOR TAMPERING**

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment

must be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both.

**G20. COMPLIANCE SCHEDULES**

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

**G21. CONTRACT REVIEW**

The Permittee must submit to Ecology any proposed contract for the operation of any wastewater treatment facility covered by this permit. The review is to ensure consistency with chapters 90.46 and 90.48 RCW. In the event that Ecology does not comment within a 30-day period, the Permittee may assume consistency and proceed with the contract.

**APPENDIX A**

***LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS***

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology’s Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical “non-detects” in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

***CONVENTIONAL PARAMETERS***

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
Biochemical Oxygen Demand	SM5210-B		2 mg/L
Chemical Oxygen Demand	SM5220-D		10 mg/L
Total Organic Carbon	SM5310-B/C/D		1 mg/L
Total Suspended Solids	SM2540-D		5 mg/L
Total Ammonia (as N)	SM4500-NH3-GH		0.3 mg/L
Flow	Calibrated device		
Dissolved oxygen	SM4500-OC/OG		0.2 mg/L

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
Temperature (max. 7-day avg.)	Analog recorder or Use micro-recording devices known as thermistors		0.2° C
pH	SM4500-H <sup>+</sup> B	N/A	N/A

**NONCONVENTIONAL PARAMETERS**

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
Total Alkalinity	SM2320-B		5 mg/L as CaCO <sub>3</sub>
Chlorine, Total Residual	SM4500 Cl G		50.0
Color	SM2120 B/C/E		10 color units
Fecal Coliform	SM 9221D/E,9222	N/A	N/A
Fluoride (16984-48-8)	SM4500-F E	25	100
Nitrate-Nitrite (as N)	SM4500-NO <sub>3</sub> -E/F/H		100
Nitrogen, Total Kjeldahl (as N)	SM4500-NH <sub>3</sub> -C/E/FG		300
Ortho-Phosphate (PO <sub>4</sub> as P)	SM4500- PE/PF	3	10
Phosphorus, Total (as P)	SM4500-PE/PF	3	10
Oil and Grease (HEM)	1664A	1,400	5,000
Salinity	SM2520-B		3 PSS
Settleable Solids	SM2540 -F		100
Sulfate (as mg/L SO <sub>4</sub> )	SM4110-B		200
Sulfide (as mg/L S)	SM4500-S <sup>2</sup> F/D/E/G		200
Sulfite (as mg/L SO <sub>3</sub> )	SM4500-SO <sub>3</sub> B		2000
Total Coliform	SM 9221B, 9222B, 9223B	N/A	N/A

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
Total dissolved solids	SM2540 C		20 mg/L
Total Hardness	SM2340B		200 as CaCO <sub>3</sub>
Aluminum, Total (7429-90-5)	200.8	2.0	10
Barium Total (7440-39-3)	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)	EPA SW 846 8021/8260	1	2
Boron Total (7440-42-8)	200.8	2.0	10.0
Cobalt, Total (7440-48-4)	200.8	0.05	0.25
Iron, Total (7439-89-6)	200.7	12.5	50
Magnesium, Total (7439-95-4)	200.7	10	50
Molybdenum, Total (7439-98-7)	200.8	0.1	0.5
Manganese, Total (7439-96-5)	200.8	0.1	0.5
NWTPH Dx	Ecology NWTPH Dx	250	250
NWTPH Gx	Ecology NWTPH Gx	250	250
Tin, Total (7440-31-5)	200.8	0.3	1.5
Titanium, Total (7440-32-6)	200.8	0.5	2.5

**PRIORITY POLLUTANTS**

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>METALS, CYANIDE &amp; TOTAL PHENOLS</b>			
Antimony, Total (7440-36-0)	200.8	0.3	1.0
Arsenic, Total (7440-38-2)	200.8	0.1	0.5
Beryllium, Total (7440-41-7)	200.8	0.1	0.5
Cadmium, Total (7440-43-9)	200.8	0.05	0.25
Chromium (hex) dissolved (18540-29-9)	SM3500-Cr EC	0.3	1.2

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>METALS, CYANIDE &amp; TOTAL PHENOLS</b>			
Chromium, Total (7440-47-3)	200.8	0.2	1.0
Copper, Total (7440-50-8)	200.8	0.4	2.0
Lead, Total (7439-92-1)	200.8	0.1	0.5
Mercury, Total (7439-97-6)	1631E	0.0002	0.0005
Nickel, Total (7440-02-0)	200.8	0.1	0.5
Selenium, Total (7782-49-2)	200.8	1.0	1.0
Silver, Total (7440-22-4)	200.8	0.04	0.2
Thallium, Total (7440-28-0)	200.8	0.09	0.36
Zinc, Total (7440-66-6)	200.8	0.5	2.5
Cyanide, Total (57-12-5)	335.4	5	10
Cyanide, Weak Acid Dissociable	SM4500-CN I	5	10
Phenols, Total	EPA 420.1		50
<b>ACID COMPOUNDS</b>			
2-Chlorophenol (95-57-8)	625	1.0	2.0
2,4-Dichlorophenol (120-83-2)	625	0.5	1.0
2,4-Dimethylphenol (105-67-9)	625	0.5	1.0
4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	625/1625B	1.0	2.0
2,4 dinitrophenol (51-28-5)	625	1.0	2.0
2-Nitrophenol (88-75-5)	625	0.5	1.0
4-nitrophenol (100-02-7)	625	0.5	1.0
Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
Pentachlorophenol (87-86-5)	625	0.5	1.0
Phenol (108-95-2)	625	2.0	4.0
2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>VOLATILE COMPOUNDS</b>			
Acrolein (107-02-8)	624	5	10
Acrylonitrile (107-13-1)	624	1.0	2.0
Benzene (71-43-2)	624	1.0	2.0
Bromoform (75-25-2)	624	1.0	2.0
Carbon tetrachloride (56-23-5)	624/601 or SM6230B	1.0	2.0
Chlorobenzene (108-90-7)	624	1.0	2.0
Chloroethane (75-00-3)	624/601	1.0	2.0
2-Chloroethylvinyl Ether (110-75-8)	624	1.0	2.0
Chloroform (67-66-3)	624 or SM6210B	1.0	2.0
Dibromochloromethane (124-48-1)	624	1.0	2.0
1,2-Dichlorobenzene (95-50-1)	624	1.9	7.6
1,3-Dichlorobenzene (541-73-1)	624	1.9	7.6
1,4-Dichlorobenzene (106-46-7)	624	4.4	17.6
Dichlorobromomethane (75-27-4)	624	1.0	2.0
1,1-Dichloroethane (75-34-3)	624	1.0	2.0
1,2-Dichloroethane (107-06-2)	624	1.0	2.0
1,1-Dichloroethylene (75-35-4)	624	1.0	2.0
1,2-Dichloropropane (78-87-5)	624	1.0	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) (542-75-6) <sup>3</sup>	624	1.0	2.0
Ethylbenzene (100-41-4)	624	1.0	2.0
Methyl bromide (74-83-9) (Bromomethane)	624/601	5.0	10.0
Methyl chloride (74-87-3)	624	1.0	2.0

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>METALS, CYANIDE &amp; TOTAL PHENOLS</b>			
(Chloromethane)			
Methylene chloride (75-09-2)	624	5.0	10.0
1,1,2,2-Tetrachloroethane (79-34-5)	624	1.9	2.0
Tetrachloroethylene (127-18-4)	624	1.0	2.0
Toluene (108-88-3)	624	1.0	2.0
1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	624	1.0	2.0
1,1,1-Trichloroethane (71-55-6)	624	1.0	2.0
1,1,2-Trichloroethane (79-00-5)	624	1.0	2.0
Trichloroethylene (79-01-6)	624	1.0	2.0
Vinyl chloride (75-01-4)	624/SM6200B	1.0	2.0
<b>BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)</b>			
Acenaphthene (83-32-9)	625	0.2	0.4
Acenaphthylene (208-96-8)	625	0.3	0.6
Anthracene (120-12-7)	625	0.3	0.6
Benzidine (92-87-5)	625	12	24
Benzyl butyl phthalate (85-68-7)	625	0.3	0.6
Benzo(a)anthracene (56-55-3)	625	0.3	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene) (205-99-2) <sup>4</sup>	610/625	0.8	1.6
<b>Benzo(j)fluoranthene (205-82-3) <sup>4</sup></b>	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) <sup>4</sup>	610/625	0.8	1.6
<b>Benzo(r,s,t)pentaphene (189-55-9)</b>	625	0.5	1.0

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>METALS, CYANIDE &amp; TOTAL PHENOLS</b>			
Benzo(a)pyrene (50-32-8)	610/625	0.5	1.0
Benzo(ghi)Perylene (191-24-2)	610/625	0.5	1.0
Bis(2-chloroethoxy)methane (111-91-1)	625	5.3	21.2
Bis(2-chloroethyl)ether (111-44-4)	611/625	0.3	1.0
Bis(2-chloroisopropyl)ether (39638-32-9)	625	0.3	0.6
Bis(2-ethylhexyl)phthalate (117-81-7)	625	0.1	0.5
4-Bromophenyl phenyl ether (101-55-3)	625	0.2	0.4
2-Chloronaphthalene (91-58-7)	625	0.3	0.6
4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5
Chrysene (218-01-9)	610/625	0.3	0.6
<b>Dibenzo (a,j)acridine (224-42-0)</b>	610M/625M	2.5	10.0
<b>Dibenzo (a,h)acridine (226-36-8)</b>	610M/625M	2.5	10.0
Dibenzo(a-h)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	625	0.8	1.6
Dibenzo(a,e)pyrene (192-65-4)	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene (189-64-0)	625M	2.5	10.0
3,3-Dichlorobenzidine (91-94-1)	605/625	0.5	1.0
Diethyl phthalate (84-66-2)	625	1.9	7.6
Dimethyl phthalate (131-11-3)	625	1.6	6.4
Di-n-butyl phthalate (84-74-2)	625	0.5	1.0
2,4-dinitrotoluene (121-14-2)	609/625	0.2	0.4
2,6-dinitrotoluene (606-20-2)	609/625	0.2	0.4

<b>Pollutant &amp; CAS No. (if available)</b>	<b>Recommended Analytical Protocol</b>	<b>Detection (DL)<sup>1</sup> µg/L unless specified</b>	<b>Quantitation Level (QL)<sup>2</sup> µg/L unless specified</b>
<b>BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)</b>			
Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
1,2-Diphenylhydrazine ( <i>as Azobenzene</i> ) (122-66-7)	1625B	5.0	20
Fluoranthene (206-44-0)	625	0.3	0.6
Fluorene (86-73-7)	625	0.3	0.6
Hexachlorobenzene (118-74-1)	612/625	0.3	0.6
Hexachlorobutadiene (87-68-3)	625	0.5	1.0
Hexachlorocyclopentadiene (77-47-4)	1625B/625	0.5	1.0
Hexachloroethane (67-72-1)	625	0.5	1.0
Indeno(1,2,3- <i>cd</i> )Pyrene (193-39-5)	610/625	0.5	1.0
Isophorone (78-59-1)	625	0.5	1.0
<b>3-Methyl cholanthrene (56-49-5)</b>	625	2.0	8.0
Naphthalene (91-20-3)	625	0.3	0.6
Nitrobenzene (98-95-3)	625	0.5	1.0
N-Nitrosodimethylamine (62-75-9)	607/625	2.0	4.0
N-Nitrosodi-n-propylamine (621-64-7)	607/625	0.5	1.0
N-Nitrosodiphenylamine (86-30-6)	625	0.5	1.0
<b>Perylene (198-55-0)</b>	625	1.9	7.6
Phenanthrene (85-01-8)	625	0.3	0.6
Pyrene (129-00-0)	625	0.3	0.6
1,2,4-Trichlorobenzene (120-82-1)	625	0.3	0.6
<b>DIOXIN</b>			
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16)	1613B	1.3 pg/L	5 pg/L

<b>PESTICIDES/PCBs</b>			
Aldrin (309-00-2)	608	0.025	0.05
alpha-BHC (319-84-6)	608	0.025	0.05
beta-BHC (319-85-7)	608	0.025	0.05
gamma-BHC (58-89-9)	608	0.025	0.05
delta-BHC (319-86-8)	608	0.025	0.05
Chlordane (57-74-9) <sup>5</sup>	608	0.025	0.05
4,4'-DDT (50-29-3)	608	0.025	0.05
4,4'-DDE (72-55-9)	608	0.025	0.05 <sup>10</sup>
4,4' DDD (72-54-8)	608	0.025	0.05
Dieldrin (60-57-1)	608	0.025	0.05
alpha-Endosulfan (959-98-8)	608	0.025	0.05
beta-Endosulfan (33213-65-9)	608	0.025	0.05
Endosulfan Sulfate (1031-07-8)	608	0.025	0.05
Endrin (72-20-8)	608	0.025	0.05
Endrin Aldehyde (7421-93-4)	608	0.025	0.05
Heptachlor (76-44-8)	608	0.025	0.05
Heptachlor Epoxide (1024-57-3)	608	0.025	0.05
PCB-1242 (53469-21-9) <sup>6</sup>	608	0.25	0.5
PCB-1254 (11097-69-1)	608	0.25	0.5
PCB-1221 (11104-28-2)	608	0.25	0.5
PCB-1232 (11141-16-5)	608	0.25	0.5
PCB-1248 (12672-29-6)	608	0.25	0.5
PCB-1260 (11096-82-5)	608	0.13	0.5
PCB-1016 (12674-11-2) <sup>6</sup>	608	0.13	0.5
Toxaphene (8001-35-2)	608	0.24	0.5

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99percent confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample

weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to  $(1, 2, \text{ or } 5) \times 10^n$ , where n is an integer. (64 FR 30417).

ALSO GIVEN AS: The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

3. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
4. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
5. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 0.025/0.050.
6. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.