Issuance Date: July 1, 2015
Effective Date: August 1,2015
Expiration Date: July 31, 2020

National Pollutant Discharge Elimination System
Waste Discharge Permit No. WA0029581

State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

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.

King County Wastewater Treatment Division
King Street Center, KSC-NR-0512
Seattle, Washington 98104-3855

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

Plant Location:	**Receiving Water:**
King County South Wastewater Treatment Plant 1200 Monster Road SW Renton, WA 98057	Puget Sound – Central
Treatment Type: Activated Sludge with chlorine disinfection	

Kevin C. Fitzpatrick
Water Quality Section Manager
Northwest Regional Office
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.A	Discharge Monitoring Report (DMR)	Monthly	September 15, 2015
S3.A	Permit application and priority pollutant data in WQWebDMR	Annually	July 31, 2016
S3.F	Reporting Permit Violations	As necessary	
S4.B	Plans for Maintaining Adequate Capacity	As necessary	
S4.D	Notification of New or Altered Sources	As necessary	
S4.E	Wasteload Assessment	1/permit cycle	October 31, 2018
S5.F	Bypass Notification	As necessary	
S5.G	Operations and Maintenance Manual Update	As necessary	
S6.A.4	Pretreatment Report	1/year	April 30, 2016
S8	Spill Control Plan Update	As necessary	
S9.A	Sediment Sampling and Analysis Plan	1/permit cycle	December 1, 2016
S9.B	Sediment Data Report	1/permit cycle	December 1, 2018
S10.A	Acute Toxicity Effluent Test Results - Submit with Permit Renewal Application	2 tests/permit cycle, 1 submittal/permit cycle	Tests: 2018, 1st and 3rd quarters. Submittal: July 31, 2019
S11.A	Chronic Toxicity Effluent Test Results with Permit Renewal Application	2 tests/permit cycle, 1 submittal/permit cycle	Tests: 2018, 2nd and 4th quarters. Submittal: July 31, 2019
S13	Application for Permit Renewal	1/permit cycle	July 31, 2019
G4	Reporting Planned Changes	As necessary	
G5	Engineering Report for Construction or Modification Activities	As necessary	

Special Conditions

S1. Discharge limits

S1.A. Effluent limits

Puget Sound (Marine) Outfall No. 001

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, the Permittee may discharge treated municipal wastewater to the Puget Sound at the permitted locations subject to compliance with the following limits:

Effluent Limits: Outfall 001 (Puget Sound) *North Diffuser Lat/Long:* 47.602778˚, -122.429000˚ *South Diffuser Lat/Long:* 47.599722˚, -122.429028˚		
Parameter	**Average Monthly [a]**	**Average Weekly [b]**
Carbonaceous Biochemical Oxygen Demand (5-day) ($CBOD_5$)	25 milligrams/liter (mg/L) 30,000 pounds/day (lbs/day) 85% removal of influent $CBOD_5$	40 mg/L 48,000 lbs/day
Total Suspended Solids (TSS)	30 mg/L 36,000 lbs/day 85% removal of influent TSS	45 mg/L 54,000 lbs/day
	Average Monthly	**Maximum Daily [c]**
Total Residual Chlorine	500 µg/L	750 µg/L
	Instantaneous Minimum	**Instantaneous Maximum**
pH [d]	6.0 standard units	9.0 standard units
	Monthly Geometric Mean	**Weekly Geometric Mean**
Fecal Coliform Bacteria [e]	200/100 milliliter (mL)	400/100 mL

[a] Average monthly effluent limit is the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

[b] Average weekly discharge limit is 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.

[c] Maximum daily effluent limit is the highest allowable daily discharge. The daily discharge is the average discharge of a pollutant measured during a calendar day. This does not apply to pH.

[d] Report the instantaneous maximum and minimum pH monthly. Do not average pH values.

[e] Ecology provides directions to calculate the monthly and the weekly geometric mean in publication No. 04-10-020, *Information Manual for Treatment Plant Operators* available at: http://www.ecy.wa.gov/pubs/0410020.pdf

Green River (Freshwater) - Outfall No. 002

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge treated municipal wastewater at the Green River outfall for maintenance purposes only under the following conditions:

1. The Permittee must obtain approval from Ecology at least five (5) working days in advance of the discharging to the Green River for maintenance purposes.
2. The duration of the discharge must not exceed four (4) hours.
3. The discharge must comply with the limits specified below.

Effluent Limits: Outfall 002A (Green River) *Lat/Long:* 47.467500˚, -122.244167˚	
Parameter	**Maximum Daily [1]**
Effluent Flow, MGD [2]	Must be less than or equal to: 0.25 * Green River Flow (MGD) / 5
$CBOD_5$	20 mg/L
Total Suspended Solids	20 mg/L
Total Residual Chlorine	95 µg/L
pH	Shall not be outside the range 6.0 to 9.0
	Maximum Geometric Mean
Fecal Coliform	200/100 mL

[1] Maximum daily effluent limit is the highest allowable daily discharge. In this case, the daily discharge is the average measurement over the discharge duration.

[2] Effluent flow limit is based on a dilution factor of 5, which is required to assure compliance with water quality criteria.

4. The Permittee may only discharge when the Green River flow is greater than 500 cfs.
5. The Permittee must treat any maintenance discharges to the Green River using secondary treatment, disinfection, and dechlorination.
6. The Permittee must monitor the discharge as required in S2.A to ensure that effluent limits are met.
7. The Permittee must sample receiving water turbidity as detailed in S2.A.
8. Any discharge from the treatment plant that results in water quality violations or contributes significantly to a fish kill is a violation of this permit.
9. The Permittee may only discharge, as a result of maintenance activities, during the out-going tide (after a high tide and before the subsequent low tide).
10. The Permittee should consider fish migration patterns when scheduling maintenance discharges.

S1.B. Mixing zone authorization

Outfall 001 – Puget Sound (marine)

The following paragraphs define the maximum boundaries of the mixing zones:

Chronic mixing zone

The chronic mixing zone consists of circles surrounding each discharge port with radii of 825 feet measured from the center of each port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute mixing zone

The extended acute mixing zone consists of circles surrounding each discharge port with radii of 82 feet measured from the center of each port. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Outfall 001 - Available Dilution (dilution factor)	
Acute Aquatic Life Criteria	186
Chronic Aquatic Life Criteria	225
Human Health Criteria - Carcinogen	428
Human Health Criteria - Non-carcinogen	428

Outfall 002 – Green River (freshwater)

The Green River outfall is used as an emergency/backup outfall and is permitted for maintenance purposes only; emergency discharges from this outfall are permitted under S5.F. No chronic mixing zone is granted because maintenance discharges are permitted for durations of 4 hours or less.

Acute mixing zone

The acute mixing zone encompasses 25% of the river flow in accordance with WAC 173-201A-400(12). The resulting dilution factor is 5.0. The mixing zone extends 100 feet upstream, 300 feet downstream, and from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Outfall 002 - Available Dilution (dilution factor)	
Chronic Dilution Ratio*	Not Applicable
Acute Dilution Ratio	5.0:1

* Maintenance discharges are permitted for durations of 4 hours or less and therefore a chronic dilution factor is not applicable.

S2. Monitoring requirements

S2.A. Monitoring schedules

The Permittee must monitor in accordance with the following schedules and must use the laboratory method, detection level (DL), and quantitation level (QL) specified in Appendix A or corresponding Sampling Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) documents. Alternative methods from 40 CFR Part 136 are acceptable for those parameters without limits, and if the DL and QL are equivalent to those specified in Appendix A, corresponding SAP/QAPP documents, or sufficient to produce a measurable quantity.

Monitoring Requirements for Outfall 001 – Puget Sound

Parameter	Units	Minimum Sampling Frequency	Sample Type
(1) Wastewater influent (raw sewage from the collection system into the treatment facility)			
BOD_5	mg/L	1/week	24-hour composite [a]
	lbs/day [b]	1/week	Calculation
$CBOD_5$	mg/L	4/week	24-hour composite
	lbs/day [b]	4/week	Calculation
TSS	mg/L	4/week	24-hour composite
	lbs/day [b]	4/week	Calculation
(2) Final wastewater effluent (wastewater exiting the last treatment process or operation)			
Flow	MGD	Continuous [c]	Metered/recorded
$CBOD_5$ [d]	mg/L	4/week	24-hour composite
	lbs/day [b]	4/week	Calculation
	% removal [e]	Monthly	Calculation
TSS	mg/L	4/week	24-hour composite
	lbs/day [b]	4/week	Calculation
	% removal [e]	Monthly	Calculation
Chlorine (Total Residual)	µg/L	Continuous	Metered/recorded
Fecal Coliform [f]	# /100 ml	5/week	Grab [g]
pH [h]	Standard Units	Continuous	Metered/recorded
Total Ammonia	mg/L as N	Monthly	24-hour composite
	lbs/day [b]	Monthly	Calculation
Nitrate plus Nitrite Nitrogen	mg/L as N	Monthly	24-hour composite
Total Kjeldahl Nitrogen (TKN)	mg/L as N	Monthly	24-hour composite
Total Phosphorus	mg/L as P	Monthly	24-hour composite
Soluble Reactive Phosphorus	mg/L as P	Monthly	24-hour composite
Cyanide	micrograms/liter (µg/L)	2/year: Aug & Jan	Grab

Parameter	Units	Minimum Sampling Frequency	Sample Type
Total Phenolic Compounds	µg/L	2/year: Aug & Jan	Grab
Priority Pollutants (PP) – Total Metals [i]	µg/L ng/L for mercury	2/year: Aug & Jan	24-hour composite Grab for mercury
PP – Volatile Organic Compounds [i]	µg/L	2/year: Aug & Jan	Grab
PP – Acid-extractable Compounds [i]	µg/L	2/year: Aug & Jan	24-hour composite
PP – Base-neutral Compounds [i]	µg/L	2/year: Aug & Jan	24-hour composite
PP – PCBs [i]	µg/L	2/year: Aug & Jan	24-hour composite
(3) Whole effluent toxicity testing – As specified in Permit Conditions S10 & S11			
Acute Toxicity Testing		2/permit cycle	24-hour composite
Chronic Toxicity Testing		2/permit cycle	24-hour composite
(4) Pretreatment - As specified in Permit Condition S6			
(5) Permit Application Requirements – Final Wastewater Effluent			
Dissolved Oxygen	mg/L	1/year in Aug	Grab
Oil and Grease (HEM)	mg/L	1/year in Aug	Grab
Total Dissolved Solids	mg/L	1/year in Aug	24-hour composite
Total Hardness	mg/L	1/year in Aug	24-hour composite
Alkalinity	mg/L as CaCO3	1/year in Aug	Grab
Temperature	˚C	1/year in Aug	Grab
(6) Sediment - As specified in Permit Condition S9			

[a] 24-hour composite means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

[b] lbs/day = Concentration (in mg/L) x Flow (in MGD) x Conversion Factor (8.34). Calculate using the average flow measured during the sample collection period.

[c] "Continuous" means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must sample every six hours when continuous monitoring is not possible.

[d] Effluent samples for $CBOD_5$ analysis may be taken before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

[e] % removal = $\frac{\text{Influent monthly average conc. (mg/L)} - \text{Effluent monthly average conc. (mg/L)}}{\text{Influent monthly average concentration (mg/L)}} \times 100$

[f] Report a numerical value for fecal coliforms following the procedures in Ecology's *Information Manual for Wastewater Treatment Plant Operators*, Publication Number 04-10-020 available at: http://www.ecy.wa.gov/programs/wq/permits/guidance.html. Do not report a result as too numerous to count (TNTC).

[g] Grab means an individual sample collected over a fifteen (15) minute, or less, period.

[h] Report the instantaneous maximum and minimum pH daily. Do not average pH values.

[i] Record and report the effluent flow discharged on the day of the priority pollutant samples.

See Appendix A or corresponding SAP/QAPP for the required detection (DL) or quantitation (QL) levels.

Report single analytical values below detection as "less than (detection level)" where (detection level) is the numeric value specified in Appendix A.

Report single analytical values between the detection and quantitation levels with qualifier code of 'j' following the value. If unable to obtain the required DL and QL due to matrix effects, the Permittee must submit a matrix specific MDL and a QL with appropriate laboratory documentation.

Monitoring Requirements for Outfall 002A – Green River

Parameter	Units	Minimum Sampling Frequency	Sample Type
(1) Wastewater Final Effluent (wastewater exiting the last treatment process or operation)			
Effluent Flow - maximum	MGD	Continuous	Metered/recorded
Duration	Hours	Once per event	Measurement
$CBOD_5$	mg/L	Once per event	Composite of equal volume grab samples during event
TSS	mg/L	Once per event	Composite of equal volume grab samples during event
pH	s.u.	Continuous	Metered/recorded
Fecal Coliform	# /100 ml	Once per event	Grab
Total Residual Chlorine	µg/L	Continuous	Metered/recorded
Dilution Factor *	None	Once per event	Calculated
(2) Downstream of Discharge - 300 feet			
River Flow	cfs	Once per event	Measurement
Turbidity	NTU	Once per event	Grab
(3) Upstream of Discharge			
Turbidity	NTU	Once per event	Grab

* Dilution Factor = [0.25 * River Flow, MGD] / [Effluent Flow, MGD], report as comment on DMR

S2.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 sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

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 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit . Ecology may only specify alternative methods for parameters without permit limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

S2.C. Flow measurement and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement and continuous monitoring 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, the manufacturer's recommendation, and approved O&M manual procedures for the device and the wastestream.
3. Calibrate continuous monitoring instruments consistent with the manufacturer's recommendation.
4. Maintain calibration records for at least three years.

S2.D. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow and internal process control parameters are exempt from this requirement.

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.

S3.A. Discharge monitoring reports

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

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR) form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred and for the summary values (when applicable) included on the electronic form.

   To find out more information and to sign up for the Water Quality Permitting Portal go to: http://www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html
2. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.
3. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.
4. **Not** report zero for bacteria monitoring. Report as required by the laboratory method.
5. Calculate the geometric mean values for bacteria using:

a. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day it must use the arithmetic average for that day in the geometric mean calculation.

b. The detection value for those samples measured below detection.

6. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.

7. Calculate average values and total values (unless otherwise specified in the permit) using:

   a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.

   b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.

   c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

8. Report single-sample grouped parameters (for example: priority pollutants) on the WQWebDMR form and include sample date, concentration detected, detection limit (DL) (as necessary), laboratory quantitation level (QL) (as necessary), and CAS number. The Permittee must also submit an electronic copy of the laboratory report as an attachment using WQWebDMR. The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

9. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

10. Submit DMRs in WQWebDMR for parameters with the monitoring frequencies specified in S2 (monthly, annually, etc.) at the reporting schedule identified below. The Permittee must:

    a. Submit **monthly** DMRs by the 15th day of the following month.

    b. Submit **annual** DMRs by July 31th for the previous calendar year. These submittals must include the permit renewal application monitoring data, priority pollutant, cyanide, and phenolic compound data as required in Special Condition S2.A. The annual sampling period is the calendar year.

S3.B. Permit submittals and schedules

The Permittee must use the *Water Quality Permitting Portal – Permit Submittals* application to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

S3.C. Records retention

The Permittee must retain records of all monitoring information for a minimum of three (3) 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.

S3.D. 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 performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

S3.E. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special 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 unless otherwise specified by Special Condition S2.

S3.F. Reporting permit violations

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

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

a. Immediate reporting

The Permittee must **immediately** report to Ecology and the Department of Health, Shellfish Program, and Public Health of Seattle-King County (phone numbers listed below), all:

- Failures of the disinfection system
- Collection system overflows
- Plant bypasses discharging to marine surface waters
- Any other failures of the sewage system (pipe breaks, etc.)

The Permittee must also *immediately* report any collection system overflows discharging to a waterbody used as a source of drinking water to Ecology, the Department of Health Drinking Water Program, and Public Health of Seattle-King County.

Ecology - Northwest Regional Office	425-649-7000
Department of Health - Shellfish Program	360-236-3330 (business hours) 360-789-8962 (after business hours)
Public Health of Seattle-King County	206-477-8177
Department of Health, Drinking Water Program	800-521-0323 (business hours) 877-481-4901 (after business hours)

Additionally, for any sanitary sewer overflow (SSO) that discharges to a municipal separate storm sewer system (MS4), the Permittee must notify the appropriate MS4 owner or operator.

b. Twenty-four-hour reporting

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

i. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

ii. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, “Bypass Procedures”).

iii. Any upset that causes an exceedance of an effluent limit in the permit (see G15, “Upset”).

iv. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.

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

c. Report within five days

The Permittee must also submit a written report within five business days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

i. A description of the noncompliance and its cause.

ii. The period of noncompliance, including exact dates and times.

iii. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.

iv. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

v. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

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

e. 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 subpart c, 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.

S3.G. Other reporting

1. Spills of oil or hazardous materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of 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 .

2. Failure to submit relevant or correct facts

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.

S3.H. 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

S4.A. Design criteria

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

Maximum Month Design Flow (MMDF)	144 MGD
BOD_5 Influent Loading for Maximum Month	251,000 lbs/day
TSS Influent Loading for Maximum Month	235,000 lbs/day

S4.B. Plans for maintaining adequate capacity

1. Conditions triggering plan submittal

   The Permittee must submit a plan and a schedule for continuing to maintain capacity to Ecology when:

   a. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months.

   b. The projected plant flow or loading would reach design capacity within five years.

2. Plan and schedule content

   The plan and schedule must identify the actions necessary to maintain adequate capacity for the expected population growth and to meet the limits and requirements of the permit. The Permittee must consider the following topics and actions in its plan.

   a. Analysis of the present design and proposed process modifications.

   b. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system.

   c. Limits on future sewer extensions or connections or additional waste loads.

   d. Modification or expansion of facilities.

   e. Reduction of industrial or commercial flows or waste loads

   Engineering documents associated with the plan must meet the requirements of WAC 173-240-060, "Engineering Report," and be approved by Ecology prior to any construction.

S4.C. Duty to mitigate

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

S4.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 wastewater treatment plant is proposed which:
   a. Would interfere with the operation of, or exceed the design capacity of, any portion of the wastewater treatment plant.
   b. Is not part of an approved general sewer plan or approved plans and specifications.
   c. Is 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 wastewater treatment plant'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 treatment plant, and the anticipated impact on the Permittee's effluent [40 CFR 122.42(b)].

S4.E. Wasteload assessment

The Permittee must conduct an assessment of its influent flow and waste load and submit a report to Ecology by October 31, 2018. The report must contain:

1. A description of compliance or noncompliance with the permit effluent limits.
2. A comparison between the existing and design:
   a. Monthly average dry weather and wet weather flows.
   b. Maximum month flows.
   c. Peak flows.
   d. BOD_5 loadings.
   e. Total suspended solids loadings.
3. The percent change in the above parameters since the previous report.
4. The present and design population or population equivalent.
5. The projected population growth rate.
6. The estimated date upon which the Permittee expects the wastewater treatment plant to reach design capacity, according to the most restrictive of the parameters above.
7. An Infiltration and Inflow (I/I) update that describes:
   a. For the collection system owned and operated by the County:
      i. The results of recent I/I monitoring
      ii. A summary of recent I/I improvement projects.
      iii. Projects planned to improve I/I.

b. For the collection systems owned and operated by component agencies:

i. Measures taken to encourage component agencies to control I/I.

ii. Any known I/I concerns.

iii. Steps planned to further encourage I/I reduction projects.

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), which 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.

S5.A. Certified operator

This permitted facility must be operated by an operator certified by the state of Washington for at least a Class IV 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 III plant must be in charge during all regularly scheduled shifts.

S5.B. Operation and maintenance 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.

S5.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 according to the approved O&M manual or as otherwise 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, thirty (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.

S5.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 II (EPA 430-99-74-001) at the wastewater treatment plant. Reliability Class II requires a backup power source sufficient to operate all vital components and critical lighting and ventilation during peak wastewater flow conditions. Vital components used to support the secondary processes (i.e., mechanical aerators or aeration basin air compressors) need not be operable to full levels of treatment, but must be sufficient to maintain the biota.

S5.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 within King County control.

S5.F. Bypass procedures

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a 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.

   This permit authorizes a bypass if it allows 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 ten (10) days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance of this permit.

   This permit authorizes such a bypass 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.
- 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.

c. Ecology is properly notified of the bypass as required in Special Condition S3.F 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 thirty (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 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 the project planning and design process. The project-specific engineering report or facilities plan as well as the plans and specifications must include details of probable construction bypasses 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.

S5.G. Operations and maintenance (O&M) manuals

1. O&M manual submittal and requirements

   The Permittee must:

   a. Review the O&M Manuals at least annually.

   b. Submit to Ecology for review and approval substantial changes or updates to the O&M Manuals.

   c. Keep the approved O&M Manuals at the permitted facility.

   d. Follow the instructions and procedures of the manuals.

2. O&M manual components

   In addition to the requirements of WAC 173-240-080 (1) through (5), the O&M manuals must include:

   a. Emergency procedures for cleanup in the event of wastewater system upset or failure.

   b. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.

   c. Wastewater system maintenance procedures that contribute to the generation of process wastewater.

d. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.

e. Any directions to maintenance staff when 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).

f. The treatment plant process control monitoring schedule.

S6. Pretreatment

S6.A. General requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with King County Code 28.84.060 as amended by King County Ordinance No. 11963 on January 1, 1996, legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled "Industrial Pretreatment Program" and dated April 27, 1981; any approved revisions thereto; and the General Pretreatment Regulations (40 CFR Part 403). At a minimum, the Permittee must undertake the following pretreatment implementation activities:

   a. Enforce categorical pretreatment standards under Section 307(b) and (c) of the Federal Clean Water Act (hereinafter, the Act), prohibited discharge standards as set forth in 40 CFR 403.5, local limits, or state standards, which ever are most stringent or apply at the time of issuance or modification of a local industrial waste discharge permit. Locally derived limits are defined as pretreatment standards under Section 307(d) of the Act and are not limited to categorical industrial facilities.

   b. Issue industrial waste discharge permits to all significant industrial users [SIUs, as defined in 40 CFR 403.3(v)(i)(ii)] contributing to the treatment system, including those from other jurisdictions. Industrial waste discharge permits must contain as a minimum, all the requirements of 40 CFR 403.8 (f)(l)(iii). The Permittee must coordinate the permitting process with Ecology regarding any industrial facility which may possess a state waste discharge permit issued by Ecology.

   c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the treatment works. The Permittee must maintain records for at least a three-year period.

   d. Perform inspections, surveillance, and monitoring activities on industrial users to determine or confirm compliance with pretreatment standards and requirements. The Permittee must conduct a thorough inspection of SIUs annually, except Middle-Tier Categorical Industrial Users, as defined by 40 CFR 403.8(f)(2)(v)(B)&(C), need only be inspected once every two

years. The Permittee must conduct regular local monitoring of SIU wastewaters commensurate with the character and volume of the wastewater but not less than once per year except for Middle-Tier Categorical Industrial Users which may be sampled once every two years. The Permittee must collect and analyze samples in accordance with 40 CFR Part 403.12(b)(5)(ii)-(v) and 40 CFR Part 136.

e. Enforce and obtain remedies for non-compliance by any industrial users with applicable pretreatment standards and requirements. Once violations have been identified, the Permittee must take timely and appropriate enforcement action to address the non-compliance. The Permittee's action must follow its enforcement response procedures and any amendments, thereof.

f. Publish, at least annually in a newspaper of general circulation within the Permittee's service area, a list of all non-domestic users which, at any time in the previous 12 months, were in significant non-compliance as defined in 40 CFR 403.8(f)(2)(vii).

g. If the Permittee elects to conduct sampling of an SIU's discharge in lieu of requiring user self-monitoring, it must satisfy all requirements of 40 CFR Part 403.12. This includes monitoring and record keeping requirements of sections 403.12(g) and (o). For SIU's subject to categorical standards (i.e., CIUs), the Permittee may either complete baseline and initial compliance reports for the CIU (when required by 403.12(b) and (d)) or require these of the CIU. The Permittee must ensure SIUs are provided the results of sampling in a timely manner, inform SIUs of their right to sample, their obligations to report any sampling they do, to respond to non-compliance, and to submit other notifications. These include a slug load report (403.12(f)), notice of changed discharge (403.12(j)), and hazardous waste notifications (403.12(p)). If sampling for the SIU, the Permittee must not sample less than once in every six month period unless the Permittee's approved program includes procedures for reduction of monitoring for Middle-Tier or Non-Significant Categorical Users per 403.12(e)(2) and (3) and those procedures have been followed.

h. Develop and maintain a data management system designed to track the status of the Permittee's industrial user inventory, industrial user discharge characteristics, and compliance status.

i. Maintain adequate staff, funds, and equipment to implement its pretreatment program.

j. Establish, where necessary, contracts or legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements by commercial or industrial users within these jurisdictions. These contracts or agreements must identify the agency responsible for the various implementation and enforcement activities to be performed in the contributing jurisdiction.

2. Per 40 CFR 403.8(f)(2)(vii), the Permittee must evaluate each Significant Industrial User to determine if a Slug Control Plan is needed to prevent slug discharges which may cause interference, pass-through, or in any other way result in violations of the Permittee's regulations, local limits or permit conditions. The Slug Control Plan evaluation shall occur within one year of a user's designation as a SIU. In accordance with 40 CFR 403.8(f)(1)(iii)(B)(6) the Permittee shall include slug discharge control requirements in an SIU's permit if the Permittee determines that they are necessary.

3. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Subsection (b), (c), or (d) of Section 307 of the Act, and the Permittee has not taken adequate corrective action, Ecology will notify the Permittee of this determination. If the Permittee fails to take appropriate enforcement action within 30 days of this notification, Ecology may take appropriate enforcement action against the source or the Permittee.

4. Pretreatment Report

   The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year. By April 30th, the Permittee must send the annual report to Ecology at:

   Water Quality Permit Coordinator
   Department of Ecology
   Northwest Regional Office
   3190 160th Avenue SE
   Bellevue, WA 98008-5452

   The report must include the following information:

   a. An updated listing of non-domestic industrial dischargers.

   b. Results of wastewater sampling at the treatment plant as specified in Subsection S6.B below. The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits in prevention of treatment plant interference, pass through of pollutants that could affect receiving water quality and biosolids contamination.

   c. Status of program implementation, including:

      i. Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.

      ii. Any interferences, upsets, or permit violations experienced at the WWTP that are directly attributable to wastes from industrial users.

      iii. Listing of industrial users inspected and/or monitored, and a summary of the results.

      iv. Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.

v. Listing of industrial users notified of promulgated pretreatment standards and/or local standards as required in 40 CFR 403.8(f)(2)(iii). The list must indicate which industrial users are on compliance schedules and the final date of compliance for each.

vi. Listing of industrial users issued industrial waste discharge permits.

vii. Planned changes in the pretreatment program implementation plan.

d. Status of compliance activities, including:

i. Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12 and in the Permittee's pretreatment program, dated April 27, 1981.

ii. Listing of industrial users that were at any time during the reporting period not complying with federal, state, or local pretreatment standards or with applicable compliance schedules for achieving those standards, and the duration of such non-compliance.

iii. Summary of enforcement activities and other corrective actions taken or planned against non-complying industrial users. The Permittee must supply to Ecology a copy of the public notice of facilities that were in significant non-compliance.

5. The Permittee must request and obtain approval from Ecology before making any significant changes to the approved local pretreatment program. The Permittee must follow the procedure in 40 CFR 403.18 (b) and (c).

S6.B. Monitoring requirements

The Permittee must monitor its influent, effluent, and biosolids at the South Plant WWTP 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 nondomestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis. The Permittee must test influent, effluent, and biosolids 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 biosolids samples for the organic priority pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis.

1. The Permittee must sample South Plant WWTP 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 (using GC/MS procedures approved by 40 CFR 136) 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 using procedures approved by 40 CFR 136.

2. The Permittee must collect a biosolids sample concurrently with a wastewater sample as a single grab sample of residual biosolids. Sampling and analysis must be performed using procedures approved by 40 CFR 136 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 using procedures approved by 40 CFR 136. 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.

S6.C. Reporting of monitoring results

The Permittee must include a summary of monitoring results in the Annual Pretreatment Report.

S6.D. Local limit development

As sufficient data become available, the Permittee must, in consultation with Ecology, reevaluate their local limits in order to prevent pass through or interference. If Ecology determines that any pollutant present causes pass through or interference, or exceeds established biosolids standards, the Permittee must

establish new local limits or revise existing local limits as required by 40 CFR 403.5. Ecology may also require the Permittee to revise or establish local limits for any pollutant discharged from the treatment works that has a reasonable potential to exceed the water quality standards, sediment standards, or established effluent limits, or causes whole effluent toxicity. Ecology makes this determination in the form of an Administrative Order.

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

S7. Solid wastes

S7.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.

S7.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. Spill control plan

S8.A Spill control plan submittals and requirements

The Permittee must:

1. Review the existing spill plan at least annually and update the spill plan as needed.
2. Send significant changes to the plan to Ecology.
3. Follow the plan and any supplements throughout the term of the permit.

S8.B. Spill control plan components

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as dangerous waste (DW) or extremely hazardous waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-site which may become pollutants or cause pollution upon reaching state's waters.

2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies, which meet the intent of this section.

S9. Sediment monitoring

S9.A. Sediment sampling and analysis plan

The Permittee must submit to Ecology for review and approval a sediment sampling and analysis plan for sediment monitoring by December 1, 2016. The purpose of the plan is to recharacterize sediment (the nature and extent of chemical contamination and biological toxicity) quality in the vicinity of the Permittee's discharge locations. The Permittee must sample the top 10 cm of sediment at the same eight stations sampled during the previous permit term, and the sediments must be analyzed for the 47 chemicals with SMS numeric criteria as well as conventional analytes. The Permittee must follow the guidance provided in the current version of the *Sediment Source Control Standards User Manual, Appendix B: sediment sampling and analysis plan.*

S9.B. Sediment data report

Following Ecology approval of the sediment sampling and analysis plan, the Permittee must collect sediments between August 15th and September 30th of 2017. The Permittee must submit to Ecology a sediment data report containing the results of the sediment sampling and analysis no later than December 1, 2018. The sediment data report must conform to the approved sediment sampling and analysis plan. The report must document when the data was successfully loaded into EIM as required below.

In addition to a sediment data report, submit the sediment chemical and any biological data to Ecology's EIM database (http://www.ecy.wa.gov/eim/). Data must be submitted to EIM according to the instructions on the EIM website. The data submittal portion of the EIM website (http://www.ecy.wa.gov/eim/submitdata.htm) provides information and help on formats and requirements for submitting tabular data.

S10. Acute toxicity

S10.A. Testing when there is no permit limit for acute toxicity

The Permittee must:

1. Conduct acute toxicity testing on final effluent once in the first quarter of 2018 and once in the third quarter of 2018.
2. Conduct acute toxicity testing on a series of at least five concentrations of effluent, including 100% effluent and a control.
3. Use each of the following species and protocols for each acute toxicity test:

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

4. Submit the results to Ecology with the permit renewal application.

S10.B. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.
2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. 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 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 listed in Subsection C and the 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 listed in Section A or pristine natural water of sufficient quality for good control performance.

6. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.
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 0.54% 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% 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.

S11. Chronic toxicity

S11.A. Testing when there is no permit limit for chronic toxicity

The Permittee must:

1. Conduct chronic toxicity testing on final effluent once in the second quarter of 2018 and once in the fourth quarter of 2018.
2. 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 0.54% effluent. The series of dilutions should also contain the CCEC of 0.44% effluent.
3. 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.
4. Submit the results to Ecology with the next permit renewal application.
5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Saltwater Chronic Test	Species	Method
Topsmelt survival and growth	*Atherinops affinis*	EPA/600/R-95/136
Mysid shrimp survival and growth	*Americamysis bahia* (formerly *Mysidopsis bahia*)	EPA-821-R-02-014

S11.B. Sampling and reporting requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.

2. The Permittee must collect 24-hour composite effluent samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. 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 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 listed in Section C and the 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 listed in Subsection C or pristine natural water of sufficient quality for good control performance.
6. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.
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 0.44% effluent. The ACEC equals 0.54% effluent.
8. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39% 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.

S12. Use of effluent from effluent transfer system

The Permittee may distribute effluent from the effluent transfer system (ETS) for use and return to the ETS for discharge via Outfall #001 of this permit – without modification of this permit – under the following conditions:

1. The distributed ETS effluent must meet all treatment and disinfection requirements of Condition S1 of this permit.
2. The effluent is used at the Boeing facility in the approved, closed loop, noncontact chiller project.

3. The Permittee may distribute ETS effluent to a similar closed-loop, noncontact system only after it requests and receives specific written approval from both the Departments of Ecology and Health.
4. The effluent returned to the ETS system for discharge via Outfall #001 must meet all permit requirements for that discharge.
5. The Permittee obtains, files, and enforces a signed user contract assuring compliance with all requirements of the approved project. All new contracts must be approved by the Departments of Ecology and Health and signed by all parties prior to any distribution of the effluent.
6. The Permittee immediately notifies all users during instances of noncompliance.

No other uses of ETS effluent are authorized under this permit.

S13. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by July 31, 2019.

The Permittee must also submit a new application or supplement at least one hundred eighty (180) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

General Conditions

G1. Signatory requirements

1. All applications, reports, or information submitted to Ecology must be signed and certified.
   a. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      - 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
      - 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.

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

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

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

   Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

2. 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:
   a. The authorization is made in writing by a person described above and submitted to Ecology.

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

3. Changes to authorization. If an authorization under paragraph G1.2, 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 G1.2, above, must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. 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:

1. 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.
2. 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.
3. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
4. 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.

1. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
   a. Violation of any permit term or condition.
   b. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
   c. A material change in quantity or type of waste disposal.
   d. 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.

e. A change in any condition that requires either a temporary or permanent reduction, or elimination of any discharge or biosolids use or disposal practice controlled by the permit.

f. Nonpayment of fees assessed pursuant to RCW 90.48.465.

g. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

2. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:

   a. A material change in the condition of the waters of the state.

   b. New information not available at the time of permit issuance that would have justified the application of different permit conditions.

   c. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.

   d. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.

   e. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.

   f. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.

   g. Incorporation of an approved local pretreatment program into a municipality's permit.

3. The following are causes for modification or alternatively revocation and reissuance:

   a. When cause exists for termination for reasons listed in 1.a through 1.g of this section, and Ecology determines that modification or revocation and reissuance is appropriate.

   b. 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 G7) 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 one hundred eighty (180) 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.

3. A significant change in the Permittee's biosolids 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 excuses 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.

1. Transfers by Modification

   Except as provided in paragraph (2) 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.

2. Automatic Transfers

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

   a. The Permittee notifies Ecology at least thirty (30) days in advance of the proposed transfer date.

   b. 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.

   c. 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 shall be punished by a fine of up to ten thousand dollars ($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 may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($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 Special Condition S3.E.
4. The Permittee complied with any remedial measures required under S3.E 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 shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) 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 fourteen (14) days following each schedule date.

G21. Service agreement review

The Permittee must submit to Ecology any proposed service agreements and proposed revisions or updates to existing agreements 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 as required by RCW 70.150.040(9). In the event that Ecology does not comment within a thirty-day (30) period, the Permittee may assume consistency and proceed with the service agreement or the revised/updated service agreement.

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, or EPA has granted the laboratory written permission to use the method.
- The Permittee knows that an alternate, less sensitive method (higher DL and QL) from those listed below is sufficient to produce measurable results in their effluent.
- If the Permittee is unable to obtain the required DL and QL due to matrix effects (such as for treatment plant influent or CSO effluent), the Permittee must strive to achieve to lowest possible DL and QL and report the DL and QL in the required report.

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.

All pollutants that have numeric limits in Section S1 of this permit must be analyzed with the methods specified below. 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

Pollutant & CAS No. ***(if available)***	**Recommended Analytical Protocol**	**Detection (DL)[1], µg/L unless specified**	**Quantitation Level (QL)[2], µg/L unless specified**
Biochemical Oxygen Demand	SM5210-B		2 mg/L
Total Suspended Solids	SM2540-D		5 mg/L
Total Ammonia (as N)	SM4500-NH3-B and C/D/E/G/H Kerouel & Aminot 1997		0.3 mg/L
Dissolved oxygen	SM4500-OC/OG		0.2 mg/L
Temperature (max. 7-day avg.)	Analog recorder or use micro-recording devices known as thermistors		0.2º C
pH	SM4500-H^+ B	N/A	N/A

NONCONVENTIONAL PARAMETERS

Pollutant & CAS No. (if available)	**Recommended Analytical Protocol**	**Detection (DL)[1], µg/L unless specified**	**Quantitation Level (QL)[2], µg/L unless specified**
Total Alkalinity	SM2320-B		5.0 mg/L as CaCO3
Chlorine, Total Residual	SM4500 Cl G 4500 Cl D/E, Hach 8370		50.0
Fecal Coliform	SM 9221E,9222 B, D	N/A	Specified in method - sample aliquot dependent
Total Coliform	SM 9221B, 9222B,9223B	N/A	Specified in method - sample aliquot dependent
Nitrate + Nitrite Nitrogen (as N)	SM4500-NO3- E/F/H		200
Nitrogen, Total Kjeldahl (as N)	SM4500-N_{org}B/C and SM4500NH_3-B/C/D/EF/G/H EPA 351.2		500
Nitrogen, Total (as N)	SM4500-N-C	50	100
Soluble Reactive Phosphorus (as P)	SM4500- PE/PF	100	100
Phosphorus, Total (as P)	SM 4500 PB followed by SM4500-PE/PF	100	300

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1], µg/L unless specified	Quantitation Level (QL)[2], µg/L unless specified
Oil and Grease (HEM)	1664 A or B	1,400	5,000
Salinity	SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids	SM2540 -F		Sample and limit dependent
Sulfate (as mg/L SO_4)	SM4110-B, 4500-SO4 E		7.1 mg/L
Sulfide (as mg/L S)	SM4500-S[2]F/D/E/G		200
Sulfite (as mg/L SO_3)	SM4500-SO3B		2000
Total dissolved solids	SM2540 C		98 mg/L
Total Hardness	SM2340B C, 200.7, 200.8		200 as $CaCO_3$
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, 200.8	12.5	50
Magnesium, Total (7439-95-4)	200.7, 200.8	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 [4]	Ecology NWTPH Dx	250	250
NWTPH Gx [5]	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

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1], µg/L unless specified	Quantitation Level (QL)[2], µg/L unless specified
METALS, CYANIDE & TOTAL PHENOLS			
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 B	5	10
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, SM4500-CN-C,E	5	10
Cyanide, Weak Acid Dissociable	SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	SM4500-CN G	5	10
Phenols, Total	EPA 420.1		50
ACID COMPOUNDS			
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	2.0	4.0
2,4 dinitrophenol (51-28-5)	625	1.5	3.0
2-Nitrophenol (88-75-5)	625	0.5	1.0
4-nitrophenol (100-02-7)	625	1.0	2.0
Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	625	1.0	2.0
Pentachlorophenol (87-86-5)	625	0.5	1.0

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1], µg/L unless specified	Quantitation Level (QL)[2], µg/L unless specified
Phenol (108-95-2)	625	2.0	4.0
2,4,6-Trichlorophenol (88-06-2)	625	2.0	4.0
VOLATILE COMPOUNDS			
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) [6]	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) (Chloromethane)	624	1.0	2.0
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
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)			
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	20	40
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) [7]	610/625	0.8	1.6
Benzo(j)fluoranthene (205-82-3) [7]	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) [7]	610/625	0.8	1.6
Benzo(r,s,t)pentaphene (189-55-9)	625	1.3	5.0
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	0.5	1.0
Bis(*2-ethylhexyl*)phthalate (117-81-7)	625	0.3	1.0
4-Bromophenyl phenyl ether (101-55-3)	625	0.3	0.5
2-Chloronaphthalene (91-58-7)	625	0.3	0.6
4-Chlorophenyl phenyl ether (7005-72-3)	625	0.3	0.5

Pollutant & CAS No. (if available)	Recommended Analytical Protocol	Detection (DL)[1], µg/L unless specified	Quantitation Level (QL)[2], µg/L unless specified
Chrysene (218-01-9)	610/625	0.3	0.6
Dibenzo (a,h)acridine (226-36-8)	610M/625M	2.5	10.0
Dibenzo (a,j)acridine (224-42-0)	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	2.0	4.0
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	1.0	2.0
2,6-dinitrotoluene (606-20-2)	609/625	1.0	2.0
Di-n-octyl phthalate (117-84-0)	625	0.3	0.6
1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)	1625B, 625	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	2.0	4.0
Hexachloroethane (67-72-1)	625	0.5	1.0
Indeno(*1,2,3-cd*)Pyrene (193-39-5)	610/625	0.5	1.0
Isophorone (78-59-1)	625	0.5	1.0
3-Methyl cholanthrene (56-49-5)	625	2.0	8.0
Naphthalene (91-20-3)	625	0.4	0.75
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	1.0	2.0
Perylene (198-55-0)	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
PCBs			
PCB-1242 [8]	608	0.25	0.5
PCB-1254	608	0.25	0.5
PCB-1221	608	0.25	0.5
PCB-1232	608	0.25	0.5
PCB-1248	608	0.25	0.5
PCB-1260	608	0.13	0.5
PCB-1016 [8]	608	0.13	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 99% 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) – TThe 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. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.
4. NWTPH Dx˙Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see http://www.ecy.wa.gov/biblio/97602.html
5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see http://www.ecy.wa.gov/biblio/97602.html
6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
7. Total Benzofluoranthenes – Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
8. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.