

Issue Date:
Effective Date:
Expiration Date:

National Pollutant Discharge Elimination System Waste Discharge Permit No. WA0024473

State of Washington
DEPARTMENT OF ECOLOGY
Eastern Regional Office
4601 North Monroe Street
Spokane, Washington 99205-1265

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

**City of Spokane Riverside Park Water Reclamation Facility (RPWRF) and Combined Sewer
Overflows (CSOs)
4401 N. Aubrey L. White Parkway
Spokane, Washington 99205**

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

Plant Location: 4401 N. Aubrey L. White Parkway, Spokane, WA 99205	RPWRF Receiving Water: Spokane River CSO Outfalls: 16 Outfalls to Spokane River 1 outfall to Latah Creek (aka Hangman Creek)
Treatment Type: Activated Sludge with Membrane Filtration and Chlorination	SIC Code: 4952 Sewerage Systems

Adriane P. Borgias
Water Quality Section Manager
Eastern 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.

Table 1: Summary of Permit Report Submittals

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report (DMR)	Monthly	Enter a specific date
S3.A	Discharge Monitoring Report (DMR)	Quarterly	Enter specific dates
S3.A	Discharge Monitoring Report (DMR)	1/year	Enter a specific date
S3.A	CSO Monitoring Annual Report	1/year	October 1, 2022
S3.A	Permit Renewal Application Monitoring Data	1/permit cycle	Insert date from S8
S3.A	DMR - Priority Pollutant Data - Single Sample Data	1/year	Insert date
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	-
S5.A	Operator Certification Card	1/year	May 15, 2023
S5.F	Bypass Notification	As necessary	-
S5.G.a.1	Operations and Maintenance Manual	1/permit cycle	Six months from effective date
S5.G.a.2	Operations and Maintenance Manual Update or Review Confirmation Letter	As necessary	-
S5.H	Collection System Exfiltration Prevention Plan	1/permit cycle	Insert date two years from effective date
S6.A.2	Accidental Spill Plan Update	1/permit cycle	Insert date
S6.A.5	Pretreatment Report	1/year	Insert date
S6.A.6	Request to make changes to pretreatment program	As necessary	-
S8.	Application for Permit Renewal	1/permit cycle	Insert date from S8.
S9.A.1	Spill Control Plan Update	1/permit cycle	Insert date two years from effective date

Permit Section	Submittal	Frequency	First Submittal Date
S10.A.1	Effluent Mixing Zone and Dye Tracer Plan of Study	1/permit cycle	Insert date one year from effective date
S10.A.3	Effluent Mixing Zone and Dye Tracer Study Results	1/permit cycle	Insert date four years from effective date
S11.1	Receiving Water and Effluent Study of Temperature – Quality Assurance Project Plan	1/permit cycle	Insert date one year from effective date
S11.3	Start measuring temperature year round and Notify Ecology via Email of the Change	1/permit cycle	Start measuring 18 months from effective date. Notify Ecology within 30 days.
S11.7	Receiving Water and Effluent Study of Temperature Results	1/permit cycle	Insert date four years from effective date
S12.1	Receiving Water Trace Metals and pH Study – Quality Assurance Project Plan	1/permit cycle	Insert date one year from effective date
S12.4	Receiving Water Trace Metals and pH Final Report	1/permit cycle	Insert date four years from effective date
S13.A	Sediment Sampling and Analysis Plan	1/permit cycle	Insert date one year from effective date
S13.B	Sediment Data Evaluation Report	1/permit cycle	Insert date four years from effective date
S14.C	CSO Post Construction Monitoring Plan	1/permit cycle	Insert date one year from effective date
S14.D	Combined Sewer Overflow Report	1/year	October 1, 2022
S15.A.4	Acute Toxicity Effluent Test Results - Submit with Permit Renewal Application	Once	Insert date from S8
S16.A.4	Chronic Toxicity Effluent Test Results with Permit Renewal Application	Once	Insert date from S8
S17.A	Toxics Reduction Best Management Practices Plan (BMPs Plan)	1/year	Insert date one year from effective date

Permit Section	Submittal	Frequency	First Submittal Date
S17.A	Updated Toxics Reduction Best Management Plan Quality Assurance Project Plan	Once	Insert date one year from effective date
S18. #1	Quality Assurance Project Plan (QAPP) for a pH	1/permit cycle	One year from effective date
S18. #2	pH Report	1/permit cycle	Three years from effective date
S18. #3	Engineering Report Addendum for pH	1/permit cycle	Four years from effective date
S18. #4	Plans, Specifications, and Construction Schedule for pH	1/permit cycle	Three months prior to permit expiration
S18. #5	Technical Memo with Evaluation of NLT Identifying Design Capacity for Treating PCBs	1/permit cycle	Three years from effective date
S18. #6	Engineering Report Addendum for PCBs	1/permit cycle	Four years from effective date
S18. #7	Plans, Specifications, and Construction Schedule for PCBs	1/permit cycle	Three months prior to permit expiration
S18.A.1	Engineering Documents	1/permit cycle	Insert date
S18.A.4	Plans and Specifications	1/permit cycle	Insert date
G1.	Notice of Change in Authorization	As necessary	-
G4.	Reporting Planned Changes	As necessary	-
G5.	Engineering Report for Construction or Modification Activities	As necessary	-
G7.	Notice of Permit Transfer	As necessary	-
G10.	Duty to Provide Information	As necessary	-
G20.	Compliance Schedules	As necessary	-
G21.	Contract Schedule	As necessary	-
G10.	Duty to Provide Information	As necessary	-
G20.	Compliance Schedules	As necessary	-
G21.	Contract Schedule	As necessary	-

Special Conditions

S1. Discharge limits

S1.A. Effluent limits

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

Beginning on the effective date of this permit, the Permittee may discharge treated domestic wastewater to the Spokane River at the permitted location subject to compliance with the following limits:

Table 2: Effluent Limits: Outfall 005

Latitude 47.695278 - Longitude -117.473889

Parameter	Average Monthly ^a	Average Weekly ^b
Total Suspended Solids (TSS)	30 mg/L 10,660 lbs/day 85% removal of influent TSS	45 mg/L 15,990 lbs/day
Carbonaceous Biochemical Oxygen Demand (5-day) (CBOD ₅) (November 1-February 29)	25 mg/L 14,199 lbs/day 85% removal of influent BOD ₅	40 mg/L 22,718 lbs/day

Parameter	Minimum	Maximum
pH (interim)	6.0 standard units ^h	9.0 standard units ^h
pH (final) (effective seven years from effective date)	7.85 standard units ⁱ	8.5 standard units ⁱ

Parameter	Monthly Geometric Mean	Weekly Geometric Mean
Fecal Coliform Bacteria ^c (Interim)	100 CFU/100 mL	150 CFU/100 mL
E.coli (Final) (Effective two years from effective date)	100 CFU/100 mL	150 CFU/100 mL

Parameter	Average Monthly	Maximum Daily ^d
Cadmium (Total as µg/L)	0.066 µg/L	0.099 µg/L
Lead (Total as µg/L)	0.583 µg/L	0.867 µg/L
Zinc (Total as µg/L)	46.7 µg/L	59.5 µg/L
Total Residual Chlorine ^e	8.5 µg/L	22 µg/L

Parameter	Average Monthly	Maximum Daily ^d
	3.06 lbs/day	17.5 lbs/day
PCBs (Total) ^f (Interim)	720 pg/L	1,994 pg/L
PCBs (Total) ^f (Final) (Effective ten years from effective date)	170 pg/L	392 pg/L

Table 3: Effluent Limits: Outfall 005 TMDL WLA (March-October)

Latitude 47.695278 - Longitude -117.473889

Parameter	Seasonal Average ^g
Total Ammonia (as NH3-N)	March-May: 299 lbs/day June-September: 75.6 lbs/day October: 299 lbs/day
Total Phosphorus	17.81 lbs/day
Carbonaceous Biochemical Oxygen Demand – 5 day (CBOD ₅) ^f	1780.6 lbs/day

Table 2 & 3 Footnotes:

^a **Average monthly** effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. See footnote c for fecal coliform calculations.

^b **Average weekly** discharge limit means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges¹ measured during that week. See footnote c for bacteria calculations.

^c Ecology provides directions to **calculate the monthly and the weekly geometric mean** in Ecology [Publication No. 04-10-020, Information Manual for Treatment Plant Operators](https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html) available online at <https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html>.

^d **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. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. This does not apply to pH or temperature.

^e **Chlorine limits** apply only during periods when chlorine is used for partial or full disinfection of the effluent. When UV disinfection is the only disinfection method used, chlorine limits do not apply. When not using chlorine for disinfection during the monitoring period, enter qualifier code “M” into the WQWebDMR form.

^f **40 CFR Part 136 Method 608** monitoring will be used to evaluate compliance. Any detection using this method is a violation of the permit limit.

^g Compliance with the effluent limitation for CBOD₅, NH₃-N, and TP will be based on a seasonal average, reported on a monthly basis. Critical season CBOD₅ and total phosphorous (TP) are evaluated at the end of the season (March 1- October 31) and is based on the seasonal average. Ammonia however, has three distinct seasons (March 1-May 31, June 1-Sept 30, and October 1-October 31) each seasons compliance is evaluated at the end of the season and is based on that season’s average.

^h pH between 5.0 and 6.0, or 9.0 and 10.0 will not be considered violations provided no single excursion exceeds 60 minutes in length and total time of excursion does not exceed 7 hours and 26 minutes per month. Any excursions below 5.0 and above 10 are violations. The instantaneous maximum and minimum pH must be reported daily.

ⁱ pH between 6.85 and 7.85, or 8.5 and 9.5 will not be considered violations provided no single excursion exceeds 60 minutes in length and total time of excursion does not exceed 7 hours and 26 minutes per month. Any excursions below 6.85 and above 9.5 are violations. The instantaneous maximum and minimum pH must be reported daily.

Table 4: Combined Sewer Overflow Outfall Limits: Critical Season March 1-October 31 (WLA is the sum of Outfalls from all CSOs)

Latitude: Varies - Longitude: Varies

Parameter	Seasonal Average ^a
Total Ammonia (as NH ₃ -N)	1.0 lbs/day
Total Phosphorus	0.95 lbs/day
Carbonaceous Biochemical Oxygen Demand – 5 day (CBOD ₅)	30 lbs/day

Table 4 Footnote:

^a Compliance with the effluent limitation for CSO CBOD₅, NH₃-N, and TP will be based on a seasonal (March 1-October 31) average, reported on a monthly basis for the sum of all the outfalls.

S1.B. Mixing zone authorization

Mixing zone for Outfall 005

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

Chronic mixing zone

The width of the chronic mixing zone is limited to a distance of 50 feet. The length of the chronic mixing zone extends 300 feet downstream of the outfall. 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 width of the acute mixing zone is limited to a distance of 50 feet. The length of the acute mixing zone extends 30 feet downstream of the outfall. 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.

Table 5: Available Dilution (dilution factor)

Criteria	Factor
Acute Aquatic Life Criteria	1.2
Chronic Aquatic Life Criteria	3.5
Human Health Criteria - Carcinogen	12.2
Human Health Criteria - Non-carcinogen	3.9

S2. Monitoring requirements

S2.A. Monitoring schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Table 6: Wastewater influent monitoring schedule

Wastewater Influent means the raw sewage flow from the collection system into the treatment facility. Sample the wastewater entering the headworks of the treatment plant excluding any side-stream returns from inside the plant.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Flow, Daily Total	Million gallons per day (mgd)	Continuous ^a	Measurement
pH ^b (Daily Min. & Daily Max.)	Standard units (s.u.)	Continuous ^a	Measurement
Temperature ^c (1-DADMax)	Degrees C	Continuous ^a	Measurement
Ammonia as N	mg/L	1/week	24-Hour Composite ^e
Total Phosphorus as P	mg/L	1/week	24-Hour Composite ^e
Carbonaceous Biochemical Oxygen Demand (CBOD ₅) ⁶	mg/L	5/week ^d	24-Hour Composite ^e
CBOD ₅	lbs/day ^f	5/week ^d	Calculated

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Total Suspended Solids (TSS)	mg/L	5/week ^d	24-Hour Composite ^e
TSS	lbs/day ^f	5/week ^d	Calculated
BOD ₅	mg/L	Monthly ^g	24-Hour Composite ^e
BOD ₅	lbs/day	Monthly ^g	Calculated
HEM (FOG)	mg/L	Quarterly ^h	24-Hour Composite ^e
HEM-SGT (TPH)	mg/L	Quarterly ^h	24-Hour Composite ^e
Lead, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Aluminum, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Antimony, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Arsenic, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Arsenic (V)	ng/L	Quarterly ^h	24-Hour Composite ^e
Beryllium, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Cadmium	µg/L	Quarterly ^h	24-Hour Composite ^e
Chromium, Hexavalent	µg/L	Quarterly ^h	24-Hour Composite ^e
Chromium, Trivalent	µg/L	Quarterly ^h	24-Hour Composite ^e
Chromium, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Copper, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Cyanide	µg/L	Quarterly ^h	24-Hour Composite ^e
Mercury, Total	ng/L	Quarterly ^h	Grab ⁱ
Molybdenum, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Nickel, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Selenium, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Silver, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Thallium, Total	µg/L	Quarterly ^h	24-Hour Composite ^e
Zinc, Total	µg/L	Quarterly ^h	24-Hour Composite ^e

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Benzene	µg/L	Quarterly ^h	24-Hour Composite ^e
Ethylbenzene	µg/L	Quarterly ^h	24-Hour Composite ^e
Toluene	µg/L	Quarterly ^h	24-Hour Composite ^e
Xylene	µg/L	Quarterly ^h	24-Hour Composite ^e
PCBs Total ^j	pg/L	Quarterly ^h	24-Hour Composite ^e
Chloride	mg/L	Quarterly ^h	24-Hour Composite ^e
Phenols	µg/L	Quarterly ^h	24-Hour Composite ^e
PBDEs ^j	pg/L	Quarterly ^h	24-Hour Composite ^e
TDS	mg/L	Quarterly ^h	24-Hour Composite ^e
Total Phenolic Compounds	µg/L	Quarterly ^h	Grab ⁱ
2,3,7,8, TCDDs	pg/L	1/year ^k	24-Hour Composite ^e

Table 6 Footnotes:

^a **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 two hours when continuous monitoring is not possible.

^b The Permittee must report the instantaneous maximum and minimum pH daily. Do not average pH values.

^c **Temperature monitoring** - Measure temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually. If reporting a grab sample for temperature, Permittee must collect grab sample when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon.

^d **5/week** means five times during each calendar week except weekends and holidays.

^e **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

^f **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34

^g **Monthly** means once every calendar month during alternating weeks.

^h **Quarterly sampling periods** are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on **XX/XX/2022** and submit results by **XX/XX/2022**.

i **Grab** means an individual sample collected over a 15-minute, or less, period.

j Use high-resolution methods for evaluation and characterization of PCBs (Method 1668) PBDEs (Method 1614) and Methylmercury (Method 1630).

k **1/year** means that a sample must be taken in a different quarter each year with the data reported by January 15.

Table 7: Final wastewater effluent

Final Wastewater Effluent means wastewater exiting the last treatment process or operation. Typically, this is after or at the exit from the chlorine contact chamber or other disinfection process. The Permittee may take effluent samples for the BOD₅ analysis before or after the disinfection process. If taken after, the Permittee must dechlorinate and reseed the sample.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Flow, Total	mgd	Continuous ^a	Measurement
pH ^b (Daily Min. & Daily Max.)	s.u.	Continuous ^a	Measurement
Temperature ^c (1-DADMax)	°C	Continuous ^a	Measurement
Temperature (7-DADMax) ^e	°C	Continuous ^a	Calculated
Dissolved Oxygen ^d (Daily Min.)	mg/L	Continuous ^a	Measurement
Chlorine (Total Residual) ^f	µg/L	3/day	Grab ^g
Chlorine (Total Residual) ^f	lbs/day ^l	3/day	Calculated
Nitrite/Nitrate	mg/L	Weekly	24-Hour Composite ^h
TKN	mg/L	Weekly	24-Hour Composite ^h
Hardness	mg/L as CaCO ₃	Weekly	24-Hour Composite ^h
Alkalinity	mg/L as CaCO ₃	Weekly	24-Hour Composite ^h
Cadmium, Total ⁱ	µg/L	Once every two weeks	24-Hour Composite ^h
Lead, Total ⁱ	µg/L	Once every two weeks	24-Hour Composite ^h
Zinc, Total ⁱ	µg/L	Once every two weeks	24-Hour Composite ^h
CBOD ₅ ^j	mg/L	5/week ^k	24-Hour Composite ^h
CBOD ₅	lbs/day ^l	5/week ^k	Calculated

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
CBOD ₅	% removal ^m	5/week ^k	Calculated
TSS	mg/L	5/week ^k	24-Hour Composite ^h
TSS	lbs/day ^l	5/week ^k	Calculated
TSS	% removal ^m	5/week ^k	Calculated
<i>E. Coli</i> ^{n, o}	#/100 mL	5/week ^k	Grab ^g
Fecal Coliform ^{n, p}	MPN/100 mL	5/week ^k	Grab ^g
Ammonia	mg/L	5/week ^k	24-Hour Composite ^h
Ammonia	lbs/day ^l	5/week ^k	Calculated
Soluble Reactive Phosphorus	µg/L	5/week ^k	24-Hour Composite ^h
Total Phosphorus	µg/L	5/week ^k	24-Hour Composite ^h
Total Phosphorus	lbs/day ^l	5/week ^k	Calculated
PCBs Total ^u	pg/L	Monthly ^r	24-Hour Composite ^h
Aluminum, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Antimony, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Arsenic, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Arsenic (V)	ng/L	Quarterly ^r	24-Hour Composite ^h
Beryllium, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Chromium, Hexavalent ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Chromium, Trivalent ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Chromium, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Copper, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Cyanide	µg/L	Quarterly ^r	24-Hour Composite ^h
Mercury, Total ⁱ	ng/L	Quarterly ^r	Grab ^g
Molybdenum, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Nickel, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Selenium, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Silver, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Thallium, Total ⁱ	µg/L	Quarterly ^r	24-Hour Composite ^h
Benzene	µg/L	Quarterly ^r	24-Hour Composite ^h

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Ethylbenzene	µg/L	Quarterly ^r	24-Hour Composite ^h
Toluene	µg/L	Quarterly ^r	24-Hour Composite ^h
Xylene	µg/L	Quarterly ^r	24-Hour Composite ^h
Chloride	mg/L	Quarterly ^r	24-Hour Composite ^h
HEM (FOG)	µg/L	Quarterly ^r	24-Hour Composite ^h
HEM-SGT (TPH)	µg/L	Quarterly ^r	24-Hour Composite ^h
PBDEs ^s	pg/L	Quarterly ^r	24-Hour Composite ^h
PCBs ^s	pg/L	Quarterly ^r	24-Hour Composite ^h
TDS	mg/L	Quarterly ^r	24-Hour Composite ^h
2,3,7,8, TCDDs	pg/L	1/year ^t	24-Hour Composite ^h

Table 7 Footnotes:

^a **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 four hours when continuous monitoring is not possible.

^b **pH** - The Permittee must report the instantaneous maximum and minimum pH daily. Do not average pH values.

^c **Temperature sampling** - The Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually. If continuous monitoring is not available then Permittee must collect and report grab sample when effluent is at or near its daily maximum, which usually occurs in late afternoon.

^d Report the daily minimum **dissolved oxygen** concentration each day. The Permittee must take a grab sample during each shift and report the daily minimum until continuous monitoring equipment is in place. The Permittee must have equipment in place for continuous monitoring within 6-months. Permittee must notify Ecology by email when equipment is in use.

^e **7DAD Max** - Calculate a 7-DAD Max for each day by averaging each days' maximum temperature value with the daily maximum temperatures of the three days prior and the three days after that specific date.

^f **Chlorine** - The Permittee must monitor total chlorine residual concentrations three times a day, once each shift when using chlorine for disinfection purposes.

^g **Grab** means an individual sample collected over a 15-minute, or less, period.

^h **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

ⁱ **Priority Pollutant Scans for Total Metals** shall use total recoverable metal laboratory methods for all parameters except for hexavalent chromium. The 40 CFR 136 method for hexavalent chromium measures only its dissolved form.

^j Take effluent samples for the CBOD₅ analysis before or after the disinfection process. If taken after, dechlorinate and reseed the sample.

^k **5/week** means five times during each calendar week except weekends and holidays.

^l **lbs/day** = Concentration (mg/L) x Flow (in MGD) x 8.34

^m % Calculate the percent (%) removal of BOD₅ and TSS using equation below.

removal = Influent concentration (mg/L) – Effluent concentration (mg/L) x 100 ÷ Influent concentration (mg/L)

ⁿ Report a numerical value for fecal coliforms and E.coli following the procedures in Ecology’s Publication [Number 04-10-020](#), Information Manual for Wastewater Treatment Plant Operators, available online at <https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html>. Do not report a result as too numerous to count (TNTC).

^o **Sample E.coli** by using the following method: SM 9223 B Colilert® 24 QTray®

^p **Sample fecal coliforms** by using the following method: MPN SM 9221 E

^q **Monthly** means once every calendar month during alternating weeks.

^r **Quarterly sampling** periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on **XX/XX/2022** and submit results by **XX/XX/2022**.

^s Use high-resolution methods for evaluation and characterization of PBDEs (Method 1614) and PCBs (Method 1668)

^t **1/year** means that a sample must be taken in a different quarter each year with the data reported by January 15.

^u **PCB compliance sampling** uses Method 608 as identified in Appendix A.

Table 8: Whole effluent toxicity testing – final wastewater effluent

Additional requirements specified in Special Condition S17 and S18.

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
Acute Toxicity Testing	See Section S17	2/permit cycle ^a	24-Hour Composite ^b
Chronic Toxicity Testing	See Section S18	2/permit cycle ^a	24-Hour Composite ^b

Table 8 Footnotes:

^a **2/permit cycle** mean samples must be taken once in the last summer and once in the last winter of the permit cycle. Report the data with the permit renewal application due by **(enter permit application due date)** as required in Section S8.

^b **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

Table 9: Pretreatment Monitoring Requirements

The Permittee must monitor the following parameters in the influent (at the headworks), the effluent, and biosolids in accordance with the Pretreatment requirements in Special Condition S6.B.

The schedule for pH and Priority Pollutants (PP) – Total Metals below applies only to biosolids since the influent and effluent monitoring schedule above requires monitoring of these and other metals at least quarterly.

Additionally, the Permittee must sample for the parameters identified in EPA Local Limits Development Guide Appendices Appendix G at the outfall for the primary clarifier and submit the results with the Pretreatment Annual Report Section S6.A(5).

Parameter	Units & Speciation	Minimum Sampling Frequency	Sample Type
pH	s.u.	Quarterly ^a	Grab ^b
Total Phenolic Compounds	µg/L	Quarterly ^a	Grab ^b
Cyanide	µg/L	Quarterly ^a	Grab ^b
PP – Volatile Organic Compounds	µg/L	1/year ^c	Grab ^b
PP – Acid-extractable Compounds	µg/L	1/year ^c	24-Hour Composite ^d
PP – Base-neutral Compounds	µg/L	1/year ^c	24-Hour Composite ^d
PP – Pesticides/PCBs	µg/L or ng/L	1/year ^c	24-Hour Composite ^d
Priority Pollutants (PP) – Total Metals	µg/L; ng/L for mercury	1/year ^c	24-Hour Composite ^d Grab for mercury ^b

Table 9 Footnotes:

^a **Quarterly sampling** periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on **XX/XX/2022** and submit results **XX/XX/2022**.

^b **Grab** means an individual sample collected over a 15-minute, or less, period.

^c **1/year** means that a sample must be taken in a different quarter each year with the data reported by January 15.

^d **24-Hour Composite** means a series of individual samples collected over a 24-hour period into a single container, and analyzed as one sample.

Table 10: Receiving water study of temperature

As specified in Section S11.

Submit a sampling Quality Assurance Plan for Ecology review and approval.	Submit QAPP (one year from effective date of the permit).
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Table 11: Receiving water Trace Metals study

As specified in Section S12.

Submit a sampling Quality Assurance Plan for Ecology review and approval.	Submit QAPP (one year from effective date of the permit).
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Table 12: Sediment study

As specified in Section S13.

Submit a Sediment and Analysis Plan for Ecology review and approval.	Submit SAP (one year from effective date of the permit).
Sampling period	August 15 through September 30
Submit Sediment Evaluation Report	Submit Report (Four years from effective date of the permit).

S2.B. Combined sewer overflow (CSO) monitoring schedule

The Permittee must monitor all discharges from CSO outfalls listed in Special Condition S14.A using the following monitoring schedule. Permittee must use automatic flow monitoring equipment to collect the information required below. Permittee must calibrate flow monitoring equipment according to requirements in Condition S2.D. The Permittee must add parameters in Table 13 to the parameters identified in the post construction monitoring plan.

Table 13: Combined sewer overflow (CSO) monitoring schedule

CSO discharge is defined as any untreated CSO that will exit or has exited the CSO outfall. Report all data each year in the CSO annual report as specified in Section S3.A.

Parameter	Units	Minimum Sampling Frequency	Sample Type
Volume Discharged	Gallons	Per Event ^a	See S14 Post Construction Monitoring Plan
CSO Discharge Duration	Hours	Per Event ^a	See S14 Post Construction Monitoring Plan
Storm Event Duration	Hours	Per Event ^a	See S14 Post Construction Monitoring Plan

Parameter	Units	Minimum Sampling Frequency	Sample Type
Precipitation	Inches	Per Event ^a	See S14 Post Construction Monitoring Plan
Total Ammonia as N	mg/L	Per Event ^a	See S14 Post Construction Monitoring Plan
Total Ammonia as N	lbs/day	Per Event ^a	See S14 Post Construction Monitoring Plan
Total Phosphorus as P	µg/L	Per Event ^a	See S14 Post Construction Monitoring Plan
Total Phosphorus as P	lbs/day	Per Event ^a	See S14 Post Construction Monitoring Plan
CBOD ₅	mg/L	Per Event ^a	See S14 Post Construction Monitoring Plan
CBOD ₅	lbs/day	Per Event ^a	See S14 Post Construction Monitoring Plan

Table 13 Footnotes:

^a “Per Event” means a unique flow event as defined in the [Permit Writer's Manual](#), Chapter 3, Section 3.4.4. Ecology defines the minimum inter-event period (MIET) as 24 hours. A CSO event is considered to have ended only after at least 24-hours has elapsed since the last measured occurrence of an overflow. The manual is available online at <https://apps.ecology.wa.gov/publications/documents/92109.pdf>.

S2.C. 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, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting 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 subchapter N [Parts 400–471] or 40 CFR subchapter O [Parts 501-503]) unless otherwise specified in this permit. Ecology may only specify alternative methods for parameters without limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

S2.D. Flow measurement, field measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, field 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 waste stream.
3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records.

The Permittee:

- a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.
 - b. Must calibrate continuous pH measurement instruments according to the manufacturer’s requirements.
 - c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.
4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from Ecology’s Quality Assurance Project Plan Development Tool, [Publication Number 18-03-205](https://fortress.wa.gov/ecy/publications/documents/1803205.pdf), **Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams** Version 1.0 (10/26/2011) available online at <https://fortress.wa.gov/ecy/publications/documents/1803205.pdf>.

Calibration as specified in this document is not required if the Permittee uses recording devices certified by the manufacturer.

5. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.
6. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.
7. Calibrate flow-monitoring devices at a minimum frequency of at least one calibration per year.
8. Maintain calibration records for at least three years.

S2.E. 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, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement.

The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

S2.F. Request for reduction in monitoring

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

The Permittee must:

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

S3. Reporting and recording requirements

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

S3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified).

The 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 (unless specifically exempted in the permit) 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 online to <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>.

2. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.
3. Upon request, the Permittee must also submit an electronic copy of the laboratory report that includes QA/QC results and chain of custody if using a contract laboratory.
4. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below.

The Permittee must:

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

- b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must submit the first quarterly DMR by XX/XX/2022 for the quarter beginning on XX/XX/2022.
 - c. Submit **annual DMRs**, unless otherwise specified in the permit, by January 15 for the previous calendar year. The annual sampling period is the calendar year.
 - d. Submit **permit renewal application monitoring data by (enter permit renewal application due date)** with the permit renewal application as required in Special Condition S8.
 - e. Submit **CSO monitoring data** each year **by October 1** with the CSO annual report. Upload the report into the WQWebPortal under the submittal CSO Annual Report.
5. 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.
 6. 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.
 7. Report single analytical values between the detection level (DL) and the quantitation level (QL) by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.
 8. **Note:** report zero for bacteria monitoring. Report as required by the laboratory method.
 9. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.
 10. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) 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 the day in the geometric mean calculation.
 - b) The detection value for those samples measured below detection.
 13. 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.
 14. Calculate average values and calculated total values (unless otherwise specified in the permit) using:

- a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.
 - 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.
15. Report single-sample grouped parameters (for example; priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

S3.B. Permit Submittals and Schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) 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 Program
Department of Ecology
Eastern Regional Office
4601 N. Monroe Street
Spokane, WA 99205-1265

S3.C. Records retention

The Permittee must retain records of all monitoring information for a **minimum of three years**. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit.

The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

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 30 days of sampling.
3. Report the violation to Ecology permit manager via email as soon as possible.

a. Immediate reporting

The Permittee must **immediately** report to Ecology, the Department of Health, Drinking Water Program, and the Spokane County Regional Health District (at the numbers listed below), all:

- Failures of the disinfection system.
- Noncompliance that may endanger public health or the environment.
- Collection system overflows discharging to a water body that may be used for drinking water.
- Plant bypasses discharging to a water body used as a source of drinking water.
- Any other failures of the sewage system (pipe breaks, etc.).

Ecology Eastern Regional Office	(509) 329-3400
Department of Health Drinking Water Program	(800) 521-0323 (during business hours) (877) 481-4901 (after hours)
Spokane County Regional Health	(509) 324-1500

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 (509) 329-3400 and send an email to the facility’s NPDES permit manager, within 24-hours from the time the Permittee becomes aware of any of the following circumstances:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S5.F, “Bypass Procedures”).
3. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, “Upset”).
4. **Any** violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.
5. **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 days** of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. Upload the written report electronically through the Water Quality Portal by using the WebPortal>Permit Submittals link under the submittal “**Noncompliance Notification (S3.F.c) Written Report Within 5-days**”.

The report must contain:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times.
3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
5. 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

1. 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.

- Note the violation in the “Add Overall Comment” section of the DMR (located in the upper left hand corner).
- Upload a written explanation into the WebPortal>Permit Submittals link under the submittal “**Noncompliance Notification Sampling and Analysis Violations**”.
- Email your permit manager to notify them of the violation and/or upload.

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

a. 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 WAC. You can obtain further instructions on how to report a spill on Ecology’s Spills website located at <https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill>.

b. 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:

Table 14: Design Criteria

Flow	Unit
Maximum Month Average Design Flow (MMDF) March - October	68.1 MGD
Maximum One Day Design Flow March - October	94.6 MGD
Maximum Month Average Design Flow (MMDF) November - February	56.4 MGD

Flow	Unit
Maximum One Day Design Flow November - February	94.2 MGD
Membrane Filtration Unit Average Monthly Flow	50.0 MGD
BOD ₅ Influent Loading for Maximum Month	69,164 lbs/day
TSS Influent Loading for Maximum Month	71,067 lbs/day

S4.B. Plans for maintaining adequate capacity

a. Conditions triggering plan submittal

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

1. The actual flow or waste load reaches 85 percent of any one of the design criteria in S4.A for three consecutive months.
2. The projected plant flow or loading would reach design capacity within five years.

b. 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.

1. Analysis of the present design and proposed process modifications
2. Reduction or elimination of excessive infiltration and inflow of uncontaminated ground and surface water into the sewer system
3. Limits on future sewer extensions or connections or additional waste loads
4. Modification or expansion of facilities
5. 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 sludge 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](https://www.epa.gov/sites/default/files/2015-10/documents/43_fr_27736_-_27773_general_pretreatment_regulations_at_40_cfr_part_403_final.pdf) available online at https://www.epa.gov/sites/default/files/2015-10/documents/43_fr_27736_-_27773_general_pretreatment_regulations_at_40_cfr_part_403_final.pdf, and [Section 307\(b\) of the Clean Water Act](#) available at <https://www3.epa.gov/npdes/pubs/cwatxt.txt>.
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 \(b\)](https://www.ecfr.gov/current/title-40/chapter-1/subchapter-D/part-122#122.42) available at <https://www.ecfr.gov/current/title-40/chapter-1/subchapter-D/part-122#122.42>.

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

A Class IV plant certified operator must operate the City of Spokane, Riverside Park Water Reclamation Facility. 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 must be in charge during all regularly scheduled shifts.

The Permittee must:

1. Notify Ecology when the operator in charge at the facility changes. It must provide the new operator's name and certification level and provide the name of the operator leaving the facility.
2. The operator in charge must submit a copy of the operator card **by May 15 each year**, demonstrating that their operator certification is current.

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, 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.

S5.F. Bypass procedures

A bypass is the intentional diversion of waste streams from any portion of a treatment facility. This permit prohibits all bypasses except when the bypass is for essential maintenance, as authorized in special condition S5.F.1. or is approved by Ecology as an anticipated bypass following the procedures in S5.F.2.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

This permit allows bypasses for essential maintenance of the treatment system when necessary to ensure efficient operation of the system. The Permittee may bypass the treatment system for essential maintenance only if doing so does not cause violations of effluent limits. The Permittee is not required to notify Ecology when bypassing for essential maintenance. However, the Permittee must comply with the monitoring requirements specified in special condition S2.B.

2. Anticipated bypasses for non-essential maintenance

Ecology may approve an anticipated bypass under the conditions listed below. This permit prohibits any anticipated bypass that is not approved through the following process:

- a. If a bypass is for non-essential maintenance, the Permittee must notify Ecology, if possible, at least ten days before the planned date of bypass.

The notice must contain:

- A description of the bypass and the reason the bypass is necessary.
- An analysis of all known alternatives that would eliminate, reduce, or mitigate the potential impacts from the proposed bypass.
- A cost-effectiveness analysis of alternatives.
- 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 recurrence 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 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 determine if the Permittee has met the conditions of special condition S5.F.2. a and b and consider the following prior to issuing a determination letter, an administrative order, or a permit modification as appropriate for an anticipated bypass:
- If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.
 - If the 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 that would cause them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass.
 - If feasible alternatives to the bypass exist, such as:
 - The use of auxiliary treatment facilities.
 - Retention of untreated wastes.
 - Stopping production.
 - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
 - Transport of untreated wastes to another treatment facility.

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

a. O&M manual submittal and requirements

The Permittee must:

1. **Prepare an Operations and Maintenance (O&M) Manual** that meets the requirements of 173-240-080 WAC and submit it to Ecology for approval by **(insert date six months from effective date).**

2. Review the O&M Manual at least annually and submit to Ecology for review substantial changes or updates to the O&M Manual.
3. Keep the approved O&M Manual at the permitted facility.
4. Follow the instructions and procedures of this manual.

b. O&M manual components

In addition to the requirements of WAC 173-240-080(1) through (5), the O&M Manual must be consistent with the guidance in Table G1-3 of Ecology [Publication Number 98-37](#), the **Criteria for Sewage Works Design (Orange Book) 2008** available online at <https://apps.ecology.wa.gov/publications/documents/9837.pdf>.

The O&M Manual must include:

1. Emergency procedures for cleanup in the event of wastewater system upset or failure.
2. A review of system components which if failed could pollute surface water or could impact public health. Provide a procedure for a routine schedule of checking the function of these components.
3. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
4. Reporting protocols for submitting reports to Ecology to comply with the reporting requirements in the discharge permit.
5. 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).
6. The treatment plant process control monitoring schedule.
7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
8. Collection system lift stations operations and maintenance.
9. Collection system pipeline cleaning and inspection schedule.
10. CSO operations and maintenance requirements.

S5.H. Collection system exfiltration prevention plan and testing

The Permittee must **prepare a plan to prevent exfiltration of wastewater from collection system sewers into critical areas**, such as surface waters, ground water, or wellhead protection areas. The plan must address potential exfiltration from sewer pipes:

1. Identified in segments of the collection system that are routed under surface water.
2. Adjacent to (within 100 yards) surface water.

3. Placed over wellhead protection areas.
4. Operating at greater than atmospheric pressure.
5. Within 50-feet above the groundwater table.

The Permittee must present this plan to Ecology for approval **no later than (insert date two years from effective date).**

The Permittee must **submit an annual Collection System Exfiltration Leak Testing and Repairs Report** annually starting **(insert date three years from effective date)** identifying:

- The at risk portions of the collection system tested
- Results of the testing
- Repair schedule for sections showing exfiltration.

S6. Pretreatment

S6.A. General requirements

1. The Permittee must implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the Permittee's approved pretreatment program submittal entitled "Industrial Pretreatment Program" and dated September 30, 1987; 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 specified in Section 13.03A.0204 of Chapter 13.03A of the Spokane Municipal Code, or state standards, whichever 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 that may possess a State Waste Discharge Permit issued by Ecology. Once issued, an industrial waste discharge permit takes precedence over a state-issued waste discharge permit.
 - c. Maintain and update, as necessary, records identifying the nature, character, and volume of pollutants contributed by industrial users to the POTW. 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.

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. 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 noncompliance by any industrial users with applicable pretreatment standards and requirements. Once it identifies violations, the Permittee must take timely and appropriate enforcement action to address the noncompliance. The Permittee's action must follow its enforcement response procedures and any amendments, thereof.
- f. Publish, at least annually in the largest daily newspaper in the Permittee's service area, a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance 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 40 CFR 403.12(g) and (o). For SIUs subject to categorical standards (CIUs), the Permittee may either complete baseline and initial compliance reports for the CIU (when required by 40 CFR 403.12(b) and (d)) or require these of the CIU. The Permittee must ensure that it provides SIUs 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, a contract or legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements by commercial or industrial users within these jurisdictions. The contract or agreement must identify the agency responsible to perform the various implementation and enforcement activities in the contributing jurisdictions. In addition, the contract or legally binding agreements must outline the specific roles, responsibilities, and pretreatment activities of each jurisdiction.

2. The Permittee must develop and submit to Ecology for approval, an **updated Accidental Spill Prevention Program by (insert date)**. The program must include a schedule for implementation. The Ecology-approved program becomes an enforceable part of these permit conditions.
3. The Permittee must evaluate, at least once every two years, whether each Significant Industrial User needs a plan to control slug discharges. For purposes of this section, a slug discharge is any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or non-customary batch discharge. The Permittee must make the results of this evaluation available to Ecology upon request.

If the Permittee decides that a slug control plan is needed, the plan must contain, at a minimum, the following elements:

- a. Description of discharge practices, including non-routine batch discharges.
 - b. Description of stored chemicals.
 - c. Procedures for immediately notifying the Permittee of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5(b), with procedures for follow-up written notification within five days.
 - d. If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment necessary for emergency response.
4. Whenever Ecology determines that any waste source contributes pollutants to the Permittee's treatment works in violation of Section (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.
 5. Pretreatment Report
The Permittee must provide to Ecology an annual report that briefly describes its program activities during the previous calendar year. The report should include a summary of the inhibition identified through sampling of the primary clarifier effluent in the second and fourth year of the permit. The Primary Clarifier effluent must be sampled for the list of parameters identified in EPA Local Limits Development Guidance Appendices, Publication EPA 833-R-04-002B July 2004, Appendix G in the 2nd and 4th year of the permit.

The Permittee must **submit the annual report to Ecology by (insert date) and annually thereafter**.

The report must include the following information:

- a. An updated non-domestic inventory.
- b. Results of wastewater sampling at the treatment plant as specified in S2.

The Permittee must calculate removal rates for each pollutant and evaluate the adequacy of the existing local limits in Section 13.03A.0204 of Chapter 13.03A of the Spokane Municipal Code in prevention of treatment plant interference, pass through of pollutants that could affect receiving water quality, and sludge contamination.

- c. Status of program implementation, including:
 - Any substantial modifications to the pretreatment program as originally approved by Ecology, including staffing and funding levels.
 - Any interference, upset, or permit violations experienced at the POTW that are directly attributable to wastes from industrial users.
 - Listing of industrial users inspected and/or monitored, and a summary of the results.
 - Listing of industrial users scheduled for inspection and/or monitoring for the next year, and expected frequencies.
 - 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.
 - Listing of industrial users issued industrial waste discharge permits.
 - Planned changes in the approved local pretreatment program. (See Subsection A.7. below).
 - d. Status of compliance activities, including:
 - Listing of industrial users that failed to submit baseline monitoring reports or any other reports required under 40 CFR 403.12.
 - 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 noncompliance.
 - 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 noncompliance.
6. 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:

1. Monitor its influent, effluent, and sludge for the priority pollutants identified in Tables II and III of Appendix D of 40 CFR Part 122 as amended, any compounds identified because of Special Condition S6.B.4, and any other pollutants expected from non-domestic sources using U.S. EPA-approved procedures for collection, preservation, storage, and analysis.
2. Test influent, effluent, and sludge samples for the priority pollutant metals (Table III, 40 CFR 122, Appendix D) on a quarterly basis throughout the term of this permit.
3. Test influent, effluent, and sludge samples for the organic priority pollutants (Table II, 40 CFR 122, Appendix D) on an annual basis. The Permittee may use the data collected for application purposes using Appendix A test methods to meet this requirement.
4. Sample POTW influent and effluent on a day when industrial discharges are occurring at normal-to-maximum levels.
5. Obtain 24-hour composite samples for the analysis of acid and base/neutral extractable compounds and metals.
6. Collect grab samples at equal intervals for a total of four grab samples per day for the analysis of volatile organic compounds. The laboratory may run a single analysis for volatile pollutants (EPA Method 624) for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than 1 ml of each grab included in the composite.
7. Ensure that all reported test data for metals represents the total amount of the constituents present in all phases, whether solid, suspended, or dissolved elemental or combined, including all oxidation states unless otherwise indicated.
8. Handle, prepare, and analyze all wastewater samples taken for GC/MS analysis in accordance with the U.S. EPA Method 624 and EPA Method 625 (October 26, 1984).
9. Collect a sludge sample concurrently with a wastewater sample as a single grab of residual sludge. Sludge organic priority pollutant sampling and analysis must conform to U.S. EPA Method 624 and EPA Method 625 unless the Permittee requests an alternate method and Ecology has approved. Sludge metals priority pollutant sampling and analysis must conform to U.S. EPA SW 846 6000 Series Methods and EPA SW 846 7000 Series Methods unless the Permittee requests an alternate method and Ecology has approved.
10. Collect grab samples for cyanide, phenols, and oils. Measure hexane soluble oils (or equivalent) only in the influent and effluent.
11. Make a reasonable attempt to identify all other substances and quantify all pollutants shown to be present by gas chromatograph/mass spectrometer (GC/MS) analysis per 40 CFR 136, Appendix A, EPA Method 624 and EPA Method 625, in addition to quantifying pH, oil and grease, and all priority pollutants.

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.

12. 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.
13. Conduct additional sampling and appropriate testing to determine concentration and variability, and to evaluate trends for all detected substances determined to be pollutants.

S6.C. Reporting of monitoring results

The Permittee must submit data from each sampling event electronically on quarterly and annual DMRs through the WQWebDMR system, as outlined in Special Condition S3.A. The Permittee must also include a summary of monitoring results in the Annual Pretreatment Report.

S6.D. Local limit development

The Permittee, in consultation with Ecology, must reevaluate its local limits by (insert date three years from effective date) in order to prevent pass through or interference. If Ecology determines that any pollutant present causes pass through or interference, or exceeds established sludge 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 POTW 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. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by **(insert date one year prior to expiration date)**.

Mail the **original, signed application** to the Water Quality Permit Coordinator, Eastern Regional Office, Department of Ecology, 4601 N. Monroe Street, Spokane, Washington 99205-1265.

Send an electronic copy of the application (preferably as a PDF) by email to the Permit Coordinator at stra461@ecy.wa.gov. Scan any attachments to the application and submit them with the application.

The Permittee must also submit a new application or addendum at least 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.

S9. Spill control plan

S9.A. Spill control plan submittals and requirements

The Permittee must:

1. Submit to Ecology an **update to the existing spill control plan by (insert date two years from effective date)**.
- b. Review the plan at least annually and update the spill plan as needed.
- c. Send changes to the plan to Ecology.
- d. Follow the plan and any supplements throughout the term of the permit.

S9.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 that may become pollutants or cause pollution upon reaching state's waters.

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

S10. Mixing zone and tracer study

S10.A. General requirements

The Permittee must:

- 1. Submit a **Plan of Study** to Ecology for review by **(insert date one year from effective date)** and meet with Ecology prior to initiation of the effluent mixing study. The dye study should be the primary tool. The most appropriate model should be the one that best validates against the dye results.
- 2. Use the Guidance for Conducting Mixing Zone Analyses (Appendix C of Ecology's **Permit Writer's Manual**; 2015) and the protocols identified in S.C.
- 3. Include the **results of the effluent mixing study** in the Effluent Mixing Report and submit it to Ecology for approval by **(insert date four years from effective date)**.
- 4. If the results of the mixing study, toxicity tests, and chemical analysis indicate that the concentration of any pollutant(s) exceeds or has a reasonable potential to exceed the state water quality standards, chapter 173-201A WAC, Ecology may issue an administrative order to require a reduction of pollutants or modify this permit to impose effluent limits to meet the water quality standards.

S10.B. Reporting requirements

The mixing zone study must include:

- 1. A statement confirming that AKART has been applied to the discharge.
- 2. A description of the size of the mixing zone allowed under chapter 173-201A WAC.
- 3. An analysis showing how bank outfall mixing zones have been minimized using the lowest dilution from hydraulic limitations, width limitations, distance limitations and those predicted by the model.
- 4. A clear description of the critical conditions used for dilution factors:
 - a. For ambient freshwater (unidirectional flow) use 7Q10 flows for acute, chronic and non-carcinogenic pollutants, and harmonic flow for carcinogens.
 - b. Use density profile that gives the lowest dilution. Evaluate both maximum and minimum stratification. For human health, use average density profiles to estimate dilution.

- c. For unidirectional flow use centerline dilution factor for acute and chronic conditions, while flux average for human health dilution factors.
- 5. Discharge information:
 - a. Location, orientation, description and dimensions of outfall.
 - b. Plan view maps showing the mixing zone size and dimensions in relation to the bank outfall.
 - c. Schematic of waterbody cross-section, showing channel width, depth, and bank outfall.
- 6. Discharge characteristics:
 - a. Existing and projected maximum daily, maximum monthly average, and annual average flows.
 - b. Discharge density (temperature and salinity).
- 7. Ambient water characteristics:
 - a. Critical stream flow statistics (7Q10, 30Q5, harmonic flow).
 - b. Velocity profile upstream, at the outfall, and downstream of the outfall.
 - c. Temporal density (temperature and salinity) profiles near the outfall. Include seasonal variability.
 - d. Manning's roughness coefficient, if used.
 - e. Available information regarding background concentrations of chemical substances in the receiving water for which there are criteria in chapter 173-201A WAC.
- 8. Model selection and results:
 - a. Model selection and application discussion. Consider model applicability to bank discharge and potential plume attachment to boundaries.
 - b. Description of mixing and plume dynamics (near-field/far-field).
 - c. Sensitivity analysis.
 - d. Calibration to empirical data (tracer studies), if applicable.
 - e. Provide model output and summary table of results.

S10.C. Protocols

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

- 1. Doneker, R.L. and G.H. Jirka, [CORMIX User Manual: A Hydrodynamic Mixing Zone Model and Decision Support System for Pollutant Discharges into Surface Waters, EPA-823-K-07-001](http://www.mixzon.com/downloads/), Dec. 2007. <http://www.mixzon.com/downloads/>.

[A complete list of general reference for CORMIX](http://www.cormix.info/references.php) is available at <http://www.cormix.info/references.php>.

2. Frick, W.E., Roberts, P.J.W., Davis, L.R., Keyes, D.J., Baumgartner, George, K.P. 2003. [Dilution Models for Effluent Discharges, 4th Edition \(Visual Plumes\)](#). Ecosystems Research Div., USEPA, Athens, GA, USA.
<https://www.epa.gov/sites/default/files/document/VP-Manual.pdf>.
3. Ecology, [Water Quality Program, Permit Writer's Manual.2018](#). Washington State Department of Ecology. Publication No. 92-109, Revised July 2018.
<https://apps.ecology.wa.gov/publications/documents/92109.pdf>.
4. Ecology, Guidance for conducting mixing zone analysis ([Appendix C, Water Quality Program, Permit Writer's Manual. 2015](#))
<https://fortress.wa.gov/ecy/publications/parts/92109part1.pdf>.
5. Kilpatrick, F.A., and E.D. Cobb, [Measurement of Discharge Using Tracers, Chapter A16, Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics](#), USGS, U.S. Department of the Interior, Reston, VA, 1985.
https://pubs.usgs.gov/twri/twri3-a16/pdf/TWRI_3-A16.pdf.
6. Wilson, J.F., E.D. Cobb, and F.A. Kilpatrick, [Fluorometric Procedures for Dye Tracing, Chapter A12. Techniques of Water-Resources Investigations of the USGS, Book 3, Application of Hydraulics](#), USGS, U.S. Department of the Interior, Reston, VA, 1986.
https://pubs.usgs.gov/twri/twri3-a12/pdf/TWRI_3-A12.pdf.

S11. Receiving water study of temperature

The Permittee must collect information on the effluent and receiving water to determine if the effluent has a reasonable potential to cause a violation of the water quality standards. If reasonable potential exists, Ecology will use this information to calculate effluent limits.

The Permittee must:

1. Submit a **Sampling Quality Assurance Project Plan (QAPP)** for Ecology review and approval by **(insert date one year from effective date)**.
2. Conduct all sampling and analysis in accordance with the guidelines given in Ecology [Publication Number 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](#) available at <https://fortress.wa.gov/ecy/publications/summarypages/0403030.html>.
A model [Quality Assurance Plan specific for temperature](#) is available at <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance>.
3. Measure temperature in the ambient water upstream of the outfall year round beginning **(insert date 18 months from effective date)** and notify Ecology via email within 30 days of this change.
4. Use micro-recording temperature devices known as thermistors to measure temperature. Ecology's Quality Assurance Project Plan Development Tool, [Publication Number 18-03-205, Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams](#), contains protocols for continuous temperature sampling and is available at <https://fortress.wa.gov/ecy/publications/documents/1803205.pdf>.

Calibrate the devices as specified in this document unless using recording devices certified by the manufacturer. Ecology does not require manufacture-specific equipment as given in this document; however, if the Permittee wishes to use measuring devices from another company, it must demonstrate the accuracy is equivalent.

5. Set the recording devices to record at one-half-hour intervals.
6. Report temperature monitoring data as daily maximum, seven-day running average of the daily maximums, and the monthly maximum of the seven-day running average. The model Quality Assurance Plan shows an example of these calculations.
7. **Submit the temperature data** for each month with the Receiving Water Temperature Study by **(insert date four years from effective date)**.

S12. Receiving water trace metals and pH study

The Permittee must collect receiving water information necessary to determine if the effluent has a reasonable potential to cause a violation of the water quality standards for pH and metals. If reasonable potential exists, Ecology will use the study information to calculate effluent limits.

The Permittee must:

1. **Submit a Sampling and Quality Assurance Project Plan** for Ecology review and approval by **(insert date one year from effective date)**.

Prepare all quality assurance plans in accordance with the guidelines given in Ecology [Publication Number 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](#) available at <https://fortress.wa.gov/ecy/publications/documents/0403030.pdf>.

2. Conduct all sampling and analysis in accordance with the approved quality assurance project plan.
 - a. Locate the receiving water sampling locations outside the zone of influence of the effluent.
 - b. Use sampling station accuracy requirements of ± 20 meters.
 - c. Follow the clean sampling techniques, [Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels](#), EPA Publication No. 821-R-95-034, April 1995 available at https://www.epa.gov/sites/default/files/2015-10/documents/method_1669_1996.pdf.
 - d. Collect at least ten receiving water samples that reflect seasonal variation in concentration and analyze the samples for total suspended solids, hardness, temperature, pH, salinity, mercury, methyl mercury, and arsenic, and for both the total and dissolved fractions for the following metals: zinc, copper, lead, silver, cadmium, nickel, and chromium.
 - e. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A or method appropriate to identify the concentration in the water (highly sensitive methods).

3. Submit sediment, chemical, and biological data to Ecology’s Environmental Information Management System (EIM) (linked below). Submit data to EIM according to the instructions on the EIM website. The data submittal portion of the EIM website (linked below) provides information and help on formats and requirements for submitting tabular data. Submit specific questions about data submittal to the EIM Data Coordinator.
 - [Environmental Information Management System \(EIM\)](https://fortress.wa.gov/ecy/eimreporting/default.aspx)
https://fortress.wa.gov/ecy/eimreporting/default.aspx
 - [Data submittal portion of EIM website](https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data)
https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data
4. **Submit the final report**, summarizing the results of the study to Ecology by **(insert date four years from effective date)**. **The final report must document when the data was successfully loaded into EIM.**

Any subsequent sampling and analysis must also meet these requirements. The Permittee may conduct a cooperative receiving water study with other NPDES Permittees discharging in the same vicinity.

S13. Sediment monitoring

S13.A. Sediment sampling and analysis plan

The Permittee must submit to Ecology for review and approval a **sediment sampling and analysis plan** or a report demonstrating that the area downstream of the discharge is not a depositional area for sediment **by (insert date one year from effective date)**. The purpose of the plan is to characterize sediment (the nature and extent of chemical contamination and biological toxicity) quality near the Permittee’s discharge locations. The Permittee must follow the guidance provided in Ecology [Publication 12-09-057](#), the **Sediment Cleanup User’s Manual, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards** (Ecology, 2019) or the latest edition.

Note: **Sediment sampling must be between August 15 and September 30**. The approval of the plan takes up to six months, plan sampling appropriately.

S13.B. Sediment data evaluation report

Following Ecology approval of the sediment sampling and analysis plan, the Permittee must collect sediments between August 15 and September 30. The Permittee must **submit a sediment data report** to Ecology containing the results of the sediment sampling and analysis **by (insert date four years from effective date)**. The sediment data report must conform to the approved sediment sampling and analysis plan. The Permittee must follow the guidance provided in Ecology [Publication 12-09-057](#), the **Sediment Cleanup User’s Manual, Appendix A: Sampling Guidance for NPDES Permits under the Sediment Management Standards** (Ecology, 2019) or the latest edition.

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 biological data to Ecology’s EIM database** (linked below). Submit data to EIM according to the instructions on the EIM website.

The data submittal portion of the EIM website (linked below) provides information and help on formats and requirements for submitting tabular data.

- [Environmental Information Management System \(EIM\)](https://fortress.wa.gov/ecy/eimreporting/default.aspx)
<https://fortress.wa.gov/ecy/eimreporting/default.aspx>
- [Data submittal portion of EIM website](https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data)
<https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data>
- [MyEIM tools](https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/Using-MyEIM)
<https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/Using-MyEIM>

In addition to the EIM data submittal, Ecology’s MyEIM tools (linked above) must be used to confirm that the submitted data was accurately entered into EIM. Any differences between the MyEIM analytical results and sediment data report must be identified and explained.

S14. Combined sewer overflows

S14.A. Authorized combined sewer overflow (CSO) discharge locations

Beginning on the effective date of this permit, the Permittee may discharge domestic wastewater from the following list of controlled combined sewer overflow (CSOs) outfalls, which represent occasional point sources of pollutants as a result of overloading of the combined sewer system during precipitation events. The permit prohibits discharges not caused by precipitation. This permit does not authorize a discharge from a CSO that causes adverse impacts that threaten characteristic uses of the receiving water as identified in the water quality standards, chapter 173-201A WAC.

Table 15: Controlled Combined sewer overflow (CSO) discharge locations

Outfall Number	Overflow Structure & Regulator Location Description	Outfall Location Reference	Receiving Water Body	Latitude	Longitude
002	A.L. White @ Hartley (Extended)	0.6 miles downstream of PRWRF	Spokane River (North Bank)	47.696667	- 117.483778
006	Kiernan @ NW Blvd	0.25 miles upstream of PRWRF	Spokane River (North Bank)	47.691111	- 117.466889
007	Columbia Cir @ Downriver Park Dr	0.5miles upstream of PRWRF	Spokane River (North Bank)	47.688722	- 117.467972

Outfall Number	Overflow Structure & Regulator Location Description	Outfall Location Reference	Receiving Water Body	Latitude	Longitude
010/012	CSO 010: Chochran St @York Ave CSO 012: Pettet Dr @Mansfield Ave	At T.J. Meenach Bridge	Spokane River (North Bank)	47.680778	- 117.453833
014	Sherwood @ Summit	2.0 miles upstream of T.J. Meenach Bridge	Spokane River (North Bank)	47.665278	- 117.459222
015	Ohio @ Nettleton	2.5 miles upstream of T.J. Meenach Bridge	Spokane River (North Bank)	47.676667	- 117.355412
016	Clarke @ Riverside	1 mile downstream of Monroe St Dam	Spokane River (South Bank)	47.65625	- 117.454194
019	Seventh @ Inland Empire Way	At High Bridge (East Side)	Latah Creek	47.649278	- 117.446389
023	Cedar St @ Summit Pkwy	0.3 miles downstream of Monroe St Bridge	Spokane River (North Bank)	47.660694	- 117.432944
024	Adams St @ Sprague Ave	0.3 miles downstream of Monroe St Bridge	Spokane River (South Bank)	47.660028	- 117.433028
025	Cedar @ Main	0.3 miles downstream of Monroe St Bridge	Spokane River (South Bank)	47.660361	- 117.433167
026	Lincoln @ Spokane Falls Blvd	At Monroe St Bridge	Spokane River (South Bank)	47.660333	- 117.426667
033	Sprague Ave west of Sprague Wy Liberty Park (West End) (2 regulator locations)	0.1 miles upstream of J. Keefe Bridge	Spokane River (South Bank)	47.660472	- 117.394361
034	Crestline @ Riverside	South of Trent Bridge	Spokane River (South Bank)	47.661306	-117.39325
038	Magnolia @ S Riverton	0.25 miles upstream of Mission	Spokane River (South Bank)	47.674833	- 117.384278

Outfall Number	Overflow Structure & Regulator Location Description	Outfall Location Reference	Receiving Water Body	Latitude	Longitude
041	Rebecca @ Upriver Dr	0.5 miles upstream of Greene	Spokane River (North Bank)	47.676667	- 117.355412
042	Surro Ave west of Waterworks St	1.1 miles upstream of Greene	Spokane River (South Bank)	47.676694	- 117.340167

14.B. Nine minimum controls

In accordance with chapter 173-245 WAC and US EPA CSO control policy (59 FR 18688), the Permittee must implement and document the following nine minimum controls (NMC) for CSOs. The Permittee must document compliance with the NMC in the annual CSO report as required in Special Condition S14.D.

The Permittee must comply with the following technology-based requirements; the Permittee must:

1. Implement proper operation and maintenance programs for the sewer system and all CSO outfalls to reduce the magnitude, frequency, and duration of CSOs. The program must consider regular sewer inspections; sewer, catch basin, and regulator cleaning; equipment and sewer collection system repair or replacement, where necessary and disconnection of illegal connections.
2. Implement procedures that will maximize use of the collection system for wastewater storage that can be accommodated by the storage capacity of the collection system in order to reduce the magnitude, frequency, and duration of CSOs.
3. Review and modify, as appropriate, the existing pretreatment program to minimize the water quality impacts of a CSO discharge containing pollutants from non-domestic users. Permittees must identify in their annual report any regulated non-domestic discharge that enters the combined system upstream of a CSO outfall.
4. Operate the Permittee’s wastewater treatment plant at maximum treatable flow during all wet weather flow conditions to reduce the magnitude, frequency, and duration of CSOs. The Permittee must deliver all flows to the treatment plant within the constraints of the treatment capacity of the POTW.
5. Not discharge (prohibited) overflows from CSO outfalls except as a result of precipitation events. The Permittee must report each dry weather overflow to the permitting authority immediately per Special Condition S3.E. When it detects a dry weather overflow, the Permittee must begin corrective action immediately and inspect the dry weather overflow each subsequent day until it has eliminated the overflow.
6. Implement measures to control solid and floatable materials in CSOs.

7. Implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters.
8. Implement a public notification process to inform the citizens of when and where CSOs occur. The process must include (a) mechanism to alert persons of the occurrence of CSOs and (b) a system to determine the nature and duration of conditions that are potentially harmful for users of receiving waters due to CSOs.
9. Monitor CSO outfalls to characterize CSO impacts and the efficacy of CSO controls. This must include collection of data that it will use to document the existing baseline conditions, evaluate the efficacy of the technology-based controls, and determine the baseline conditions upon which it will base the long-term control plan. This data must include:
 - a. Characteristics of the combined sewer system, including the population served by the combined portion of the system and locations of all CSO outfalls in the CSS.
 - b. Total number of CSO events, and the frequency and duration of CSOs for a representative number of events.
 - c. Locations and designated uses of receiving water bodies.
 - d. Water quality data for receiving water bodies.
 - e. Water quality impacts directly related to CSO (e.g., beach closing, floatables, wash-up episodes, fish kills).

14.C. Requirements for controlled combined sewer overflows

a. CSOs identified as controlled

Based on monitoring data, the CSO outfalls listed in S14.A, must meet the requirement of “greatest reasonable reduction” as defined in chapter WAC 173-245-020(22). Frequency of overflow events at these CSO outfalls, as a result of precipitation events, must continue to meet the performance standard.

b. Performance standards for controlled CSO outfalls

The performance standard for each controlled CSO outfall is not more than one discharge event per outfall per year on average, due to precipitation. Ecology evaluates compliance with the performance standard annually based on a 20-year average. The Permittee must report the running 5-year and 20-year average number of overflow events per year per outfall during this permit term for the CSO outfalls identified in Section S14. A. in the CSO Annual Report required in Section S14.D.

c. CSO post construction monitoring plan

The Permittee must **submit a CSO Post Construction Monitoring Plan** to Ecology for review and approval **no later than (insert date one year from effective date)**. The plan must describe the monitoring protocols and frequencies the Permittee will follow to achieve the monitoring objectives.

Monitoring may include:

- Effluent or discharge monitoring
- Ambient monitoring
- Biological assessments
- Whole effluent toxicity testing
- Sediment sampling for those areas with sediment deposits downstream of outfall

The plan must identify instances where uncontrolled outfalls in the system or outfalls not regulated by this permit may influence or adversely interfere with the water quality assessment of a controlled outfall.

The Permittee must implement the CSO Post-Construction Monitoring Plan **(insert date beginning of the year following Ecology’s plan approval)**.

As part of each annual report required by Special Condition S14.D, the Permittee must submit a data report containing the results of the monitoring and analysis completed during the reporting year. The data report must conform to the approved CSO Post-Construction Monitoring Plan.

If post construction monitoring includes sediment monitoring, the Permittee must include provisions for submitting a site-specific sediment sampling and analysis plan consistent with the requirements of Special Condition S13.A.

14.D. Combined sewer overflow annual report

The Permittee must **submit a CSO Annual Report** to Ecology for review and approval **by October 1 of each year**. The CSO Annual Report must cover the previous calendar year. The report must comply with the requirements of WAC 173-245-090(1) and must include documentation of compliance with the Nine Minimum Controls for CSOs described in Special Condition S14.B.

The CSO Annual report must include the following information:

1. A summary of the number and volume of untreated discharge events per outfall for that year.
2. A summary of the five and twenty-year moving average number of untreated discharge events per outfall, calculated once annually. The calculation of the five and twenty-year rolling average may depend on modeled overflow events using the historic precipitation data for the particular outfall.

Include an explanation of how the overflow was modeled. An example of the calculations for the five and twenty-year rolling average is available in the Fact Sheet Appendix D.

3. An explanation of the previous year’s CSO reduction accomplishments.
4. A list of CSO reduction projects planned for the next year.
5. Documentation of compliance with the Nine Minimum Controls described in Special Condition S14.B.
6. The results of any post-construction monitoring completed during the reporting period.
7. Summary of the CSO and collection system O&M activities.

S15. Acute toxicity

S15.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 last summer and once in the last winter prior to submission of the application for permit renewal.
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:

Table 16: Acute Toxicity Tests

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 by **(insert permit renewal application due date)**.

S15.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 Number 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 grab sample 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 Number 95-80](#), ***Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria**.

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 Number 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.

***Note:** Ecology [Publication Number 95-80](#), Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria available online at <https://apps.ecology.wa.gov/publications/summarypages/9580.html>.

4. 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.
5. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
6. 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 100% effluent.
7. 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.

S16. Chronic toxicity

S16.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 last summer and once in the last winter prior to submission of the application for permit renewal.
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 critical season (March – October) ACEC equals 83.3% effluent; non-critical ACEC equals 71.4% effluent. The series of dilutions should also contain the CCEC of 28.6% effluent (March – October) or 13.5% (November – February).
3. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-90/001.

4. Submit the results to Ecology by **(insert permit renewal application due date)**.
5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Table 17: Freshwater Chronic Test

Freshwater Chronic Test	Species	Method
Fathead minnow survival and growth	Pimephales promelas	EPA-821-R-02-013
Water flea survival and reproduction	Ceriodaphnia dubia	EPA-821-R-02-013

Table 20 Footnote:

^a Method [EPA-821-R-02-013](https://www.epa.gov/sites/production/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf) is available online at https://www.epa.gov/sites/production/files/2015-08/documents/short-term-chronic-freshwater-wet-manual_2002.pdf.

S16.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 Number 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 grab 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. 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 Number 95-80, ***Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria**.
3. 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 Ecology Publication Number 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.

***Note:** Ecology [Publication Number 95-80](https://apps.ecology.wa.gov/publications/summarypages/9580.html), Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria is available online at <https://apps.ecology.wa.gov/publications/summarypages/9580.html>.
4. 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.

5. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.
6. 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.
7. 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.

S17. Spokane River Watershed Toxics Reduction Strategy

S17.A. Best Management Practices and Implementation Plan

The Permittee must **submit a Toxics Reduction Best Management Practices Plan (BMPs Plan)** to Ecology for review and approval by **(insert date one year from effective date) and annually thereafter**. The BMPs must be implemented throughout the City of Spokane’s sewer shed to reduce toxicant (PCBs and PBDEs) loading to both the treatment plant and the Spokane River.

The Permittee must use information generated from the most recent Toxics Management Plan developed during the previous permit cycle to continue the reduction strategy.

The BMP Plan must:

- Identify actions to be taken
- Include a method for assessing efficacy of the identified action(s)
- Quantify toxic reductions as a result of the actions

The Plan must detail specific implementation actions used and refine their application annually based upon monitoring results. The Plan should include figures, maps, and other illustrations depicting BMP placement, use, and implementation.

The Permittee must **submit an updated Quality Assurance Project Plan (QAPP) by (insert date one year from effective date)**. All monitoring for BMP effectiveness must use appropriately sensitive test methods. All sampling and analysis for the BMPs plan must be in accordance with the approved QAPP. All lab sheets and a spreadsheet of raw data should accompany submission of the annual BMP plan. The City of Spokane must upload data to the Environmental Information Management System (or other) database as it becomes available.

Prepare all quality assurance plans in accordance with the guidelines given in Ecology [Publication Number 04-03-030, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies](https://apps.ecology.wa.gov/publications/SummaryPages/0403030.html) available online at <https://apps.ecology.wa.gov/publications/SummaryPages/0403030.html>.

In addition to Permittee identified appropriate BMPs for the sewer shed, the Permittee must implement the following:

- The continued source identification and removal actions for PCBs remaining within the Permittee’s municipal wastewater sewer system.
- Year round operation of the NLT upgrade following initiation of operation.
- Continuation of the public outreach and education effort.

S17.B. Community Based Toxics Reduction

The Permittee must continue to work with the Spokane River Regional Toxics Task Force to identify strategies for reducing toxics in the Spokane River Watershed. Participation in an equivalent citizen advisory organization or committee may substitute for the requirement to participate in the Spokane River Regional Toxics Task Force.

S18. Compliance schedule

By the dates tabulated below, the Permittee must complete the following tasks and submit a report describing, at a minimum:

- Whether it completed the task and, if not, the date on which it expects to complete the task.
- The reasons for delay and the steps it is taking to return the project to the established schedule.

Table 18: Compliance Schedule

	Tasks	Date Due
1.	Submit a Quality Assurance Project Plan (QAPP) for a pH study of the River (S12)	One year from effective date
2.	Submit a pH Report three years from the effective date of the permit (S12)	Three years from effective date
3.	Submit an Engineering Report Addendum identifying AKART for meeting pH final limits (S18.A)	Four years from effective date
4.	Submit Plans and a construction schedule for meeting pH (S18A.4).	Three months prior to permit expiration
5	Submit a technical memo stamped by an engineer with the evaluation of NLT identifying design capacity for treating PCBs.	Three years from effective date
6.	If optimized treatment system does not meet PCB treatment requirements, submit an Engineering Report Addendum identifying AKART for meeting PCBs limits (S18A)	Four years from effective date
7.	If optimized treatment system does not meet PCB treatment requirements, submit plans, specifications, and a construction schedule for meeting PCB Limits (S18 A.4)	Three months prior to permit expiration

S18 A. Engineering documents

1. The Permittee must prepare and submit an approvable engineering report or facility plan in accordance with chapter 173-240 WAC to Ecology for review and approval by **Insert Date**.
2. As required by RCW 90.48.112, the engineering report must address the feasibility of using reclaimed water as defined in RCW 90.46.010.
3. The report must contain any appropriate requirements as described in the following guidance:
 - a. [Criteria for Sewage Works Design \(Washington State Department of Ecology, Publication No. 98-37 WQ, 2008\)](https://apps.ecology.wa.gov/publications/documents/9837.pdf) located at <https://apps.ecology.wa.gov/publications/documents/9837.pdf>.
 - b. [Design Criteria for Municipal Wastewater Land Treatment Systems for Public Health Protection \(Washington State Department of Health, 1994\)](https://ibis.geog.ubc.ca/courses/geob370/students/class06.viceswage/References_files/municipal_land_treatment_design_criteria.pdf) located at https://ibis.geog.ubc.ca/courses/geob370/students/class06.viceswage/References_files/municipal_land_treatment_design_criteria.pdf.
 - c. [Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems \(Washington State Department of Ecology, Publication No. 93-36, 1993\)](https://apps.ecology.wa.gov/publications/documents/9336.pdf) located at <https://apps.ecology.wa.gov/publications/documents/9336.pdf>.
 - d. [Water Reclamation and Reuse Standards \(Washington State Department of Ecology and Department of Health Publication No. 97-23, 1997\)](https://apps.ecology.wa.gov/publications/documents/97023.pdf) located at <https://apps.ecology.wa.gov/publications/documents/97023.pdf>.
4. The Permittee must prepare and submit approvable **plans and specifications** to Ecology for review and approval in accordance with chapter 173-240 WAC by **Insert Date**.

In addition to the electronic copy required by Special Condition S3.B, the Permittee must submit one full size paper copy to Ecology for its use to the address listed in Special Condition S3.B. If the Permittee wants Ecology to provide a stamped approved copy it must submit an additional paper copy (total of 2 paper copies).

5. Prior to the start of construction, the Permittee must submit to Ecology a quality assurance plan as required by chapter 173-240 WAC.

General Conditions

G1. Signatory requirements

1. All applications 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:

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.

Under condition 2.d below, Ecology will reopen the permit should the Human Health Criteria for PCBs be revised.

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 sludge 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 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 sludge use or disposal practices.

Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. Plan review required

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with chapter 173-240 WAC. Engineering reports, plans, and specifications must be submitted at least 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 emanates, 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 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 for 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 40 CFR 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 \$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 \$10,000 for every such violation. Each 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.F.
4. The Permittee complied with any remedial measures required under S3.F 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 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 years, or by both.

G20. Compliance schedules

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

G21. 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 70A.140.040(9). In the event that Ecology does not comment within a 30-day 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. 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.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

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.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances that are required to be reported by dischargers if expected to be present. This permit Appendix A list does not include those parameters.

Conventional Pollutants

Pollutant	CAS Number (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
Biochemical Oxygen Demand, Soluble		SM5210-B ³		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H ⁺ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

Nonconventional Pollutants

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO ₃
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH ₃ -B and C/D/E/G/H		20
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
Chemical Oxygen Demand		SM5220-D		10 mg/L

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
E.coli		SM 9221B, 9221F, 9223B	N/A	Specified in method - sample aliquot dependent
Enterococci		SM 9230B, 9230C, 9230D	N/A	Specified in method - sample aliquot dependent
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO ₃
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO ₃ - E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N _{org} B/C and SM4500NH ₃ - B/C/D/EF/G/H		300
NWTPH Dx ⁴		Ecology NWTPH Dx	250	250
NWTPH Gx ⁵		Ecology NWTPH Gx	250	250

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO ₄)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500- S ² F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO ₃)		SM4500-SO3B		2 mg/L
Temperature (max. 7-day avg.)		Analog recorder or Use micro- recording devices known as thermistors		0.2° C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

Priority Pollutants

Metals, Cyanide & Total Phenols

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination	121		SM4500-CN G	5	10

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
(Available Cyanide)					
Phenols, Total	65		EPA 420.1		50

Acid Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
2-Chlorophenol	24	95-57-8	625.1	3.3	9.9
2,4-Dichlorophenol	31	120-83-2	625.1	2.7	8.1
2,4-Dimethylphenol	34	105-67-9	625.1	2.7	8.1
4,6-dinitro-o-cresol (2-methyl-4,6-dinitrophenol)	60	534-52-1	625.1/1625B	24	72
2,4 dinitrophenol	59	51-28-5	625.1	42	126
2-Nitrophenol	57	88-75-5	625.1	3.6	10.8
4-Nitrophenol	58	100-02-7	625.1	2.4	7.2
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625.1	3.0	9.0
Pentachlorophenol	64	87-86-5	625.1	3.6	10.8
Phenol	65	108-95-2	625.1	1.5	4.5
2,4,6-Trichlorophenol	21	88-06-2	625.1	2.7	8.1

Volatile Compounds

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Acrolein	2	107-02-8	624.1	5	10

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Acrylonitrile	3	107-13-1	624.1	1.0	2.0
Benzene	4	71-43-2	624.1	4.4	13.2
Bromoform	47	75-25-2	624.1	4.7	14.1
Carbon tetrachloride	6	56-23-5	624.1/601 or SM6230B	2.8	8.4
Chlorobenzene	7	108-90-7	624.1	6.0	18.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624.1	1.0	2.0
Chloroform	23	67-66-3	624.1 or SM6210B	1.6	4.8
Dibromochloromethane (chlorodibromomethane)	51	124-48-1	624.1	3.1	9.3
1,2-Dichlorobenzene	25	95-50-1	624.1	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624.1	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624.1	4.4	17.6
Dichlorobromomethane	48	75-27-4	624.1	2.2	6.6
1,1-Dichloroethane	13	75-34-3	624.1	4.7	14.1
1,2-Dichloroethane	10	107-06-2	624.1	2.8	8.4
1,1-Dichloroethylene	29	75-35-4	624.1	2.8	8.4
1,2-Dichloropropane	32	78-87-5	624.1	6.0	18.0
1,3-dichloropropene (mixed isomers)	33	542-75-6	624.1	5.0	15.0

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
(1,2-dichloropropylene) ⁶					
Ethylbenzene	38	100-41-4	624.1	7.2	21.6
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624.1	1.0	2.0
Methylene chloride	44	75-09-2	624.1	2.8	8.4
1,1,2,2-Tetrachloroethane	15	79-34-5	624.1	6.9	20.7
Tetrachloroethylene	85	127-18-4	624.1	4.1	12.3
Toluene	86	108-88-3	624.1	6.0	18.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624.1	1.6	4.8
1,1,1-Trichloroethane	11	71-55-6	624.1	3.8	11.4
1,1,2-Trichloroethane	14	79-00-5	624.1	5.0	15.0
Trichloroethylene	87	79-01-6	624.1	1.9	5.7
Vinyl chloride	88	75-01-4	624/SM6200 B	1.0	2.0

Base/Neutral Compounds (Compounds in Bold are Ecology PBTS)

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Acenaphthene	1	83-32-9	625.1	1.9	5.7
Acenaphthylene	77	208-96-8	625.1	3.5	10.5

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Anthracene	78	120-12-7	625.1	1.9	5.7
Benzidine	5	92-87-5	625.1	44	132
Benzyl butyl phthalate	67	85-68-7	625.1	2.5	7.5
Benzo(a)anthracene	72	56-55-3	625.1	7.8	23.4
Benzo(b)fluoranthene (3,4-benzofluoranthene) ⁷	74	205-99-2	610/625.1	4.8	14.4
Benzo(j)fluoranthene⁷		205-82-3	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) ⁷	75	207-08-9	610/625.1	2.5	7.5
Benzo(r,s,t)pentaphene		189-55-9	625	1.3	5.0
Benzo(a)pyrene	73	50-32-8	610/625.1	2.5	7.5
Benzo(ghi)Perylene	79	191-24-2	610/625.1	4.1	12.3
Bis(2-chloroethoxy)methane	43	111-91-1	625.1	5.3	15.9
Bis(2-chloroethyl)ether	18	111-44-4	611/625.1	5.7	17.1
Bis(2-chloro-1-methylethyl)Ether (Bis(2-chloroisopropyl)ether) ¹⁰	42	108-60-1	625.1	5.7	17.1
Bis(2-ethylhexyl)phthalate	66	117-81-7	625.1	2.5	7.5
4-Bromophenyl phenyl ether	41	101-55-3	625.1	1.9	5.7

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
2-Chloronaphthalene	20	91-58-7	625.1	1.9	5.7
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6
Chrysene	76	218-01-9	610/625.1	2.5	7.5
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 (1,2,5,6-dibenzanthracene)	82	53-70-3	625.1	2.5	7.5
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	28	91-94-1	605/625.1	16.5	49.5
Diethyl phthalate	70	84-66-2	625.1	1.9	5.7
Dimethyl phthalate	71	131-11-3	625.1	1.6	4.8
Di-n-butyl phthalate	68	84-74-2	625.1	2.5	7.5
2,4-dinitrotoluene	35	121-14-2	609/625.1	5.7	17.1
2,6-dinitrotoluene	36	606-20-2	609/625.1	1.9	5.7
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (as Azobenzene)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625.1	2.2	6.6

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Fluorene	80	86-73-7	625.1	1.9	5.7
Hexachlorobenzene	9	118-74-1	612/625.1	1.9	5.7
Hexachlorobutadiene	52	87-68-3	625.1	0.9	2.7
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625.1	1.6	4.8
Indeno(1,2,3-cd)Pyrene	83	193-39-5	610/625.1	3.7	11.1
Isophorone	54	78-59-1	625.1	2.2	6.6
3-Methylcholanthrene		56-49-5	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8
Nitrobenzene	56	98-95-3	625.1	1.9	5.7
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		198-55-0	625	1.9	7.6
Phenanthrene	81	85-01-8	625.1	5.4	16.2
Pyrene	84	129-00-0	625.1	1.9	5.7
1,2,4-Trichlorobenzene	8	120-82-1	625.1	1.9	5.7

Dioxin

Priority Pollutant	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

Pesticides/PCBS

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L Unless specified	Quantitation Level (QL) ² µg/L Unless specified
Aldrin	89	309-00-2	608.3	4.0 ng/L	12 ng/L
alpha-BHC	102	319-84-6	608.3	3.0 ng/L	9.0 ng/L
beta-BHC	103	319-85-7	608.3	6.0 ng/L	18 ng/L
gamma-BHC (Lindane)	104	58-89-9	608.3	4.0 ng/L	12 ng/L
delta-BHC	105	319-86-8	608.3	9.0 ng/L	27 ng/L
Chlordane ⁸	91	57-74-9	608.3	14 ng/L	42 ng/L
4,4'-DDT	92	50-29-3	608.3	12 ng/L	36 ng/L
4,4'-DDE	93	72-55-9	608.3	4.0 ng/L	12 ng/L
4,4' DDD	94	72-54-8	608.3	11ng/L	33 ng/L
Dieldrin	90	60-57-1	608.3	2.0 ng/L	6.0 ng/L
alpha-Endosulfan	95	959-98-8	608.3	14 ng/L	42 ng/L
beta-Endosulfan	96	33213-65-9	608.3	4.0 ng/L	12 ng/L
Endosulfan Sulfate	97	1031-07-8	608.3	66 ng/L	198 ng/L
Endrin	98	72-20-8	608.3	6.0 ng/L	18 ng/L
Endrin Aldehyde	99	7421-93-4	608.3	23 ng/L	70 ng/L
Heptachlor	100	76-44-8	608.3	3.0 ng/L	9.0 ng/L
Heptachlor Epoxide	101	1024-57-3	608.3	83 ng/L	249 ng/L
PCB-1242 ⁹	106	53469-21-9	608.3	0.065	0.195

Priority Pollutants	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ µg/L Unless specified	Quantitation Level (QL)² µg/L Unless specified
PCB-1254	107	11097-69-1	608.3	0.065	0.195
PCB-1221	108	11104-28-2	608.3	0.065	0.195
PCB-1232	109	11141-16-5	608.3	0.065	0.195
PCB-1248	110	12672-29-6	608.3	0.065	0.195
PCB-1260	111	11096-82-5	608.3	0.065	0.195
PCB-1016 ⁹	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

Analytical Methods

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) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to $(1, 2, \text{ or } 5) \times 10^n$, where n is an integer. (64 FR 30417). **Also given as:** The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).
3. **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. **Northwest Total Petroleum Hydrocarbons Diesel Extended Range OR NWTPH Dx** – available online at <https://apps.ecology.wa.gov/publications/documents/97602.pdf>.
Northwest Total Petroleum Hydrocarbons Gasoline Extended Range OR NWTPH Gx – [Analytical Methods for Petroleum Hydrocarbons](https://apps.ecology.wa.gov/publications/documents/97602.pdf) available online at <https://apps.ecology.wa.gov/publications/documents/97602.pdf>.
5. **1, 3-dichloropropylene (mixed isomers)** – You may report this parameter as two separate parameters: cis-1, 3-dichloropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).
6. **Total Benzofluoranthenes** – Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.
7. **Chlordane** – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 14/42 ng/L.
8. **PCB 1016 & PCB 1242** – You may report these two PCB compounds as one parameter called PCB 1016/1242.
9. **Bis(2-Chloro-1-Methylethyl) Ether** – This compound was previously listed as Bis(2-Chloroisopropyl) Ether (39638-32-9).