



Oregon

Tina Kotek, Governor

Department of Environmental Quality
Northwest Region Portland Office/Water Quality
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Portland, OR 97232
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TTY 711

June 10, 2024

Nathan George
City of Tillamook
210 Laurel Ave.
Tillamook, OR 97141-2335

Re: NPDES Permit 2nd Public Notice Period
Comments Due: July 17, 2024, 5 p.m.
File no. 88665
Permit no. 101239
Facility: Tillamook STP, 710 5th Street, Tillamook
Tillamook County

Enclosed please find the Public Notice drafts for your proposed National Pollutant Discharge Elimination System Permit including a copy of the public notice, permit, and fact sheet. Please be aware that the City of Tillamook may provide additional comment on the permit during this time and submit to:

Trinh Hansen, Water Quality Permit Coordinator
DEQ Western Region
4026 Fairview Industrial Way Dr. SE
Salem, OR 97302
trinh.hansen@deq.oregon.gov

Your comments **must be received by 5 p.m. on July 17, 2024**. DEQ will hold a public hearing if DEQ receives written requests for a hearing during the public comment period from at least 10 people, or from an organization representing 10 or more people. DEQ gives equal weight to written and oral comments. When the public participation period has ended, DEQ will take final action on your application.

Please contact me at 503-378-5055 with any questions about permitting processing.

Sincerely,

Trinh Hansen
Water Quality Permit Coordinator
Western Region, Salem Office

cc: Source File, Portland Office, DEQ
Mike Pinney, Portland, DEQ
ORMS



PUBLIC NOTICE

Date posted: 6/10/24

DEQ Requests Comments on Proposed City of Tillamook Wastewater Treatment Plant's Water Quality Permit Renewal

HOW TO PROVIDE PUBLIC COMMENT

Facility name: City of Tillamook Wastewater Treatment Plant

Permit type: NPDES Domestic Major

Comments due by: Wed., July 17, 2024 at 5 p.m.

Send written comments to:

By mail: Trinh Hansen, Oregon DEQ
4026 Fairview Industrial Drive SE, Salem, OR 97302

By email: trinh.hansen@deq.oregon.gov

The Oregon Department of Environmental Quality invites the public to provide written comments on the conditions of the City of Tillamook Wastewater Treatment Plant's proposed water quality permit, known officially as a National Pollutant Discharge Elimination System permit. This is the second public notice for this permit. The initial public notice was issued on March 22, 2024. Public comments were received as a result of that public notice, which resulted in several changes to the permit. As such, DEQ has elected to issue a second public notice for comment on the proposed permit.

Summary

Subject to public review and comment, DEQ intends to renew the proposed water quality permit, which allows the City of Tillamook Wastewater Treatment Plant to discharge wastewater to the Trask River.

About the facility

The City of Tillamook has applied for a water quality permit renewal for its Wastewater Treatment Plant located at 710 5th Street in Tillamook. DEQ last renewed this permit on Dec. 31, 2018.

The facility treats wastewater collected by Tillamook's sanitary sewer system. The wastewater mostly comes from residences, about 95%, with the remainder being from commercial and light industrial sources. The treated wastewater contains several regulated pollutants such as biochemical oxygen demand, total suspended solids and bacteria.

The Tillamook facility discharges into the Trask River at River Mile 1.7 above the Highway 131 (or 3rd Street) Bridge over the river. The river is listed as impaired (Category 4 or 5) for several pollutants according to the most recent U.S. Environmental Protection Agency's approved Integrated Report for Oregon. The proposed permit reflects effluent limits established through reasonable potential analysis, best available technology or the North Coast Subbasins Total Maximum Daily Load, or TMDL, for temperature. The Tillamook Bay Watershed TMDL and current water quality standards were used to establish limits for fecal coliform bacteria.

Translation or other formats

[Español](#) | [한국어](#) | [繁體中文](#) | [Русский](#) | [Tiếng Việt](#) | [العربية](#)

800-452-4011 | TTY: 711 | deqinfo@deq.oregon.gov

The most recent DEQ inspection of the Tillamook facility was on July 13, 2022. DEQ did not identify violations during this inspection. The facility has had four water quality violations in the past permit term. The issues related to these past compliance issues have been resolved and the facility is currently operating in full compliance.

The facility holds no other permits from DEQ.

What types of pollutants does the permit regulate?

This permit sets conditions for how the facility deals with the following pollutants: biochemical oxygen demand (BOD₅), Total Suspended Solids (TSS), bacteria, pH, total residual chlorine, ammonia, temperature, and BOD₅ and TSS removal efficiency.

Although Tillamook does not currently produce biosolids for beneficial reuse or operate a recycled water program, the permit allows the facility to develop such programs. The permit requires Tillamook to develop a biosolids management plan before land applying biosolids and to develop an approved recycled water use plan before distributing recycled water.

Would the draft permit change the amount of pollution the facility is allowed to release?

Yes. The draft water quality permit does change the amount of pollution the facility can discharge by setting new limits for ammonia and decreasing the limit for fecal coliform bacteria.

Pollutant	Change
Ammonia	New limit
Fecal Coliform	Decreased

How did DEQ determine permit requirements?

DEQ evaluates types and amounts of pollutants and the water quality of the surface water or groundwater where the pollutants are proposed to be discharged. DEQ then determines permit requirements to ensure the proposed discharges will meet applicable statutes, rules, regulations and effluent guidelines of Oregon and the Clean Water Act.

For this proposed permit action, DEQ evaluated Tillamook's NPDES Permit Renewal Application, annual reports, TMDLs, and discharge monitoring reports. In addition, DEQ evaluated water quality data provided by the City of Tillamook and from several DEQ monitoring stations located on the Trask River. These materials may be viewed in person at the DEQ Northwest Region Offices located at: 700 NE Multnomah Street, Suite 600 in Portland.

DEQ relied solely on these documents and made no other discretionary decisions for the permit action.

How does DEQ monitor compliance with the permit requirements?

This permit will require the facility to monitor pollutants discharged using approved monitoring practices and standards. DEQ reviews the facility's discharge monitoring reports to check for compliance with permit limits.

What happens next?

Submit comments by sending an email or using mail service addressed to the permit coordinator listed in the "how to provide public comment" box above.

DEQ will hold a public hearing if it receives written requests for a hearing during the public comment period from at least 10 people or from an organization representing at least 10 people.

DEQ will consider and respond to all comments received and may modify the proposed permit based on comments.

For more information

Find more information by reviewing draft permit documents attached to this notice, or contact Trinh Hansen, at trinh.hansen@deq.oregon.gov with questions or to view documents in person at a DEQ office. Visit the [Your DEQ Online Help page](#) for more information on how to access public notice documents and submit comments through this platform.

Non-discrimination statement

DEQ does not discriminate on the basis of race, color, national origin, disability, age or sex in administration of its programs or activities. Visit DEQ's [Civil Rights and Environmental Justice page](#).



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT

Oregon Department of Environmental Quality
Northwest Region – Portland Office
700 NE Multnomah St., Suite 600
Portland, OR 97232
Telephone: 503-229-5263

Issued pursuant to ORS 468B.050 and the federal Clean Water Act.

ISSUED TO:

City of Tillamook
210 Laurel Avenue
Tillamook, Oregon 97141

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	Latitude: 45.4550 Longitude: -123.8590
Recycled Water Reuse	002	Specified in Recycled Water Use Plan
Biosolids	NA	Specified in Biosolids Management/Land Application Plan

FACILITY LOCATION:

City of Tillamook Wastewater Treatment Plant
710 5th Street
Tillamook, Oregon 97141
County: Tillamook

EPA Permit Type: Major

RECEIVING STREAM INFORMATION:

Receiving stream/NHD name: Trask River
USGS 12-Digit HUC: 171002030406
OWRD Administrative Basin: North Coast
NHD Reach Code & % along reach:
17100203000108 – 77.4%
ODEQ LLID & RM: 1238814454680-1.7
Integrated Report Assessment Unit ID:
OR_EB_1710020308_01_107225

Issued in response to Application No. 948295 received May 24, 2023. This permit is issued based on the land use findings in the permit record.

DRAFT

Tiffany Yelton-Bram, Water Quality
Manager – Northwest Region

DRAFT

Issuance Date

DRAFT

Effective Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to: 1) operate a wastewater collection, treatment, control and disposal system; and 2) discharge treated wastewater to waters of the state only from the authorized discharge point or points in Schedule A in conformance with the requirements, limits, and conditions set forth in this permit.

Unless specifically authorized by this permit, by another NPDES or Water Pollution Control Facility permit, or by Oregon statute or administrative rule, any other direct or indirect discharge of pollutants to waters of the state is prohibited.

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SCHEDULE A: WASTE DISCHARGE LIMITS

1. Outfall 001 – Permit Limits

During the term of this permit, the permittee must comply with the limits in the following table:

Table A1: Permit Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (May 1 – October 31) (See note a.)	mg/L	20	30	-
	lb/day	180	270	350
	% removal	85	-	-
TSS (May 1 – October 31) (See note b.)	mg/L	20	30	-
	lb/day	180	270	350
	% removal	85	-	-
BOD ₅ (November 1 – April 30) (See note a.)	mg/L	30	45	-
	lb/day	530	800	1100
	% removal	85	-	-
TSS (November 1 – April 30) (See note b.)	mg/L	30	45	-
	lb/day	530	800	1100
	% removal	85	-	-
Chlorine, Total Residual (See note c.)	mg/L	0.01	-	0.02
Ammonia as N (Final) (May 1 – October 31) (See note d.)	mg/L	11.7	-	43.4
pH	SU	Instantaneous limit between a daily minimum of 6.0 and a daily maximum of 9.0		
<i>E. coli</i> (See note e.)	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		
Fecal Coliform Bacteria (May 1 – October 31)	#/100 mL	Must not exceed a monthly median of 67, not more than 10% of the samples may exceed 133		
Fecal Coliform Bacteria (November 1 – April 30)	#/100 mL	Must not exceed a monthly median of 17, not more than 10% of the samples may exceed 52		
Excess Thermal Load Limit (See notes f and g.)	million kcal/day	Option A: 11.8 as a 7-day rolling average		
		Option B: $(Q_e * 1.548 + Q_r / 4) * (0.3) * 2.448$ as a 7-day rolling average		

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
Notes: a. The BOD 85% removal limit does not apply when the monthly average influent BOD is less than 167 mg/L. b. The TSS 85% removal limit does not apply when the monthly average influent TSS is less than 167 mg/L. c. DEQ has established a Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. Any analysis done for Total Residual Chlorine must have a quantitation limit that is either equal to or less than 0.05 mg/L. In cases where the average monthly or maximum daily limit for Total Residual Chlorine is lower than the Quantitation Limit, DEQ will use the reported Quantitation Limit as the compliance evaluation level. d. Limits for ammonia become effective after completion of the compliance schedule in Schedule C. e. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 <i>E. coli</i> organisms/100 mL demonstrates compliance with the limit. f. The permittee must select either Option A or Option B as the applicable 7-day rolling average Excess Thermal Load Limit (ETLL). If the permittee selects Option B, the permittee must calculate the daily ETLL using the above equation. The permittee must then calculate the 7-day rolling average ETLL using the appropriate equation for each day the Option B limit is selected. Q_r = Daily average Trask River flow (cfs). The minimum river flow value to be used is 54 cfs, the 7Q10 low flow used in the TMDL. The permittee must use river flow data from the USGS stream flow gage number 1430248 (Trask River above Cedar Creek) or another DEQ-approved data source. Q_e = Daily Average Effluent Flow (MGD). g. Permittee must calculate the daily excess thermal load (ETL) generated by the facility using the equation in Table B3 to determine compliance with the applicable 7-day rolling average ETTL prescribed under Option A or B.				

2. Regulatory Mixing Zone

Pursuant to OAR 340-041-0053, the permittee is granted a regulatory mixing zone as described below:

The allowable mixing zone is that portion of the Trask River 50 feet upstream and 100 feet downstream from the point of discharge. The zone of initial dilution (ZID) is that portion of the allowable mixing zone that is within 5 feet upstream and 20 feet downstream of the point of discharge.

3. Use of Recycled Water – Outfall 002

The permittee is authorized to distribute recycled water if it is:

- a. Treated and used according to the criteria listed in Table A2.
- b. Managed in accordance with its DEQ-approved Recycled Water Use Plan unless exempt as provided in Schedule D.
- c. Used in a manner and applied at a rate that does not adversely affect groundwater quality.
- d. Applied at a rate and in accordance with site management practices that ensure continued agricultural, horticultural, or silvicultural production and does not reduce the productivity of the site.
- e. Irrigated using sound irrigation practices to prevent:

- i. Offsite surface runoff or subsurface drainage through drainage tile;
- ii. Creation of odors, fly and mosquito breeding, or other nuisance conditions; and
- iii. Overloading of land with nutrients, organics, or other pollutants.

Table A2: Recycled Water Limits

Class	Level of Treatment (after disinfection unless otherwise specified)	Beneficial Uses
A	Class A recycled water must be oxidized, filtered and disinfected. Before disinfection, turbidity may not exceed: • An average of 2 NTUs within a 24-hour period. • 5 NTUs more than five percent of the time within a 24-hour period. • 10 NTUs at any time. After disinfection, total coliform may not exceed: • A median of 2.2 organisms per 100 mL based on daily sampling over the last 7 days that analyses have been completed. • 23 organisms per 100 mL in any single sample.	Class A recycled water may be used for: • Class B, Class C, Class D, and non-disinfected uses. • Irrigation for any agricultural or horticultural use. • Landscape irrigation of parks, playgrounds, school yards, residential landscapes, or other landscapes accessible to the public. • Commercial car washing or fountains when the water is not intended for human consumption. • Water supply source for non-restricted recreational impoundments.
B	Class B recycled water must be oxidized and disinfected. Total coliform may not exceed: 1. A median of 2.2 organisms per 100 mL, based on the last 7 days that analyses have been completed. 2. 23 total coliform organisms per 100 mL in any single sample.	Class B recycled water may be used for: • Class C, Class D, and non-disinfected uses. • Stand-alone fire suppression systems in commercial and residential building, non-residential toilet or urinal flushing, or floor drain trap priming. • Water supply source for restricted recreational impoundments.

Class	Level of Treatment (after disinfection unless otherwise specified)	Beneficial Uses
C	Class C recycled water must be oxidized and disinfected. Total coliform may not exceed: • A median of 23 total coliform organisms per 100 mL, based on results of the last 7 days that analyses have been completed. • 240 total coliform organisms per 100 mL in any two consecutive samples.	Class C recycled water may be used for: • Class D and non-disinfected uses. • Irrigation of processed food crops; irrigation of orchards or vineyards if an irrigation method is used to apply recycled water directly to the soil. • Landscape irrigation of golf courses, cemeteries, highway medians, or industrial or business campuses. • Industrial, commercial, or construction uses limited to: industrial cooling, rock crushing, aggregate washing, mixing concrete, dust control, nonstructural firefighting using aircraft, street sweeping, or sanitary sewer flushing.
D	Class D recycled water must be oxidized and disinfected. <i>E. coli</i> may not exceed: • A 30-day geometric mean of 126 organisms per 100 mL. • 406 organisms per 100 mL in any single sample.	Class D recycled water may be used for: • Non-disinfected uses. • Irrigation of firewood, ornamental nursery stock, Christmas trees, sod, or pasture for animals.
Non-disinfected	Non-disinfected recycled water must be oxidized.	Non-disinfected water may be used for: • Irrigation for growing commercial timber, fodder, fiber or seed crops not intended for human ingestion.

4. Biosolids

The permittee may land apply biosolids or provide biosolids for sale or distribution, subject to the following conditions:

- The permittee must manage biosolids in accordance with its DEQ-approved Biosolids Management Plan and Land Application Plan.
- The permittee must apply biosolids at or below the agronomic rates approved by DEQ in order to minimize potential groundwater degradation.
- The permittee must obtain written site authorization from DEQ for each land application site prior to land application (see Schedule D) and follow the site-specific management conditions in the DEQ-issued site authorization letter.
- Prior to application, the permittee must ensure that biosolids meet one of the pathogen reduction standards under 40 CFR 503.32 and one of the vector attraction reduction standards under 40 CFR 503.33.
- The permittee must not apply biosolids containing pollutants in excess of the ceiling concentrations shown in the table below. The permittee may apply biosolids containing pollutants in excess of the pollutant concentrations, but below the ceiling concentrations, however, the total quantity of biosolids applied cannot exceed the cumulative pollutant loading rates in the table below.

Table A3: Biosolids Limits

Pollutant (See note a.)	Ceiling concentrations (mg/kg)	Pollutant concentrations (mg/kg)	Cumulative pollutant loading rates (kg/ha)
Arsenic	75	41	41
Cadmium	85	39	39
Copper	4300	1500	1500
Lead	840	300	300
Mercury	57	17	17
Molybdenum	75	—	—
Nickel	420	420	420
Selenium	100	100	100
Zinc	7500	2800	2800
Note:			
a. Biosolids pollutant limits are described in 40 CFR 503.13, which uses the terms <i>ceiling concentrations</i> , <i>pollutant concentrations</i> , and <i>cumulative pollutant loading rates</i> .			

5. Mercury Minimization Plan

- a. By the date listed in Table B1, the permittee must submit an MMP (Mercury Minimization Plan) to DEQ for review and approval.
- b. The permittee must use DEQ MMP template for final plans and modifications unless authorized in writing by DEQ to use an alternative.
- c. If DEQ comments on the MMP, the permittee must respond to DEQ's comments in writing within 30 calendar days by submitting an updated MMP.
- d. After resolving comments (if any) on the plan, DEQ will post the MMP to solicit public comment for a minimum of 35 days.
- e. The permittee must begin implementation of the plan within 90 calendar days after being notified in writing that the public comment period has ended and DEQ has approved the plan.
- f. The MMP must include:
 - i. Facility name and permit number
 - ii. Name and signature of party responsible for developing or reviewing the plan
 - iii. Plan submittal date
 - iv. Identification and evaluation of current and potential mercury sources, including industrial, commercial, and residential sources
 - v. An implementation plan that includes specific methods for reducing mercury
 - vi. Mercury sample results for samples collected during the past five years
 - vii. Annual average effluent mercury concentrations and mass loads

- viii. Annual average biosolids concentrations and mass loads
- g. If DEQ determines that the MMP is not effective at reducing mercury concentrations, DEQ may require further changes to the MMP and may reopen the permit to modify the permit conditions.

Public Notice Draft

SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS

1. Reporting Requirements

The permittee must submit to DEQ monitoring results and reports as listed below.

Table B1: Reporting Requirements and Due Dates

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Mercury Minimization Plan (see Schedule A)	One time	Submit by XX/15/202X The 15 th day 24 months after permit's effective date	One electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Tables B2 and B3: Influent Monitoring and Effluent Monitoring	Monthly	By the 15th of the following month	Specified in Schedule B. Section 2 of this permit	Electronic reporting as directed by DEQ
Table B4: Copper Biotic Ligand Model and Aluminum Sampling Requirements	Monthly for 24 months beginning in January 2027	By the 15th of the following month	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Tables B5 – B8: Effluent Toxics Characterization	Quarterly for the first three years after permit's effective date (See note c.)	By the 15th of the month following each quarter	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Table B9: WET Test Monitoring	Quarterly in third year of permit (2027) per Table B9 (See note c.)	With the first DMR submittal after receipt of the test results	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Inflow and infiltration report (see Schedule D)	Annually	February 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Recycled Water Annual Report (see Schedule D) - Only required if the permittee distributes recycled water under a recycled water use plan	Annually	January 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Water Reuse Program Coordinator

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Wastewater solids annual report (see Schedule D)	Annually	By February 19 of the following year	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Biosolids Program Coordinator
Biosolids annual report (see Schedule D) - Only required if the permittee produces and distributes biosolids under a biosolids management plan	Annually	By February 19 of the following year	Electronic copy in a DEQ-approved form	Attached via electronic reporting as directed by DEQ DEQ Biosolids Program Coordinator
Hauled Waste Annual Report (see Schedule D) - Only required if facility has a Hauled Waste Control Plan, or otherwise accepts hauled waste.	Annually	January 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Industrial User Survey Update (see Schedule D)	Once per permit cycle	Submit by no later than 60 months after permit effective date	1 electronic copy and 1 hard copy in a DEQ approved format	• 1 Hard copy to DEQ Pretreatment Coordinator • 1 Electronic copy to Compliance Officer
Outfall Inspection Report (see Schedule D)	Once per permit cycle	Submit by 12/15/2027	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Notes: a. For submittals that are provided to DEQ by mail, the postmarked date must not be later than the due date. b. All reporting requirements are to be submitted in a DEQ-approved format, unless otherwise specified in writing. c. Quarters are defined as: Q1: Jan – Mar, Q2: Apr – June, Q3: Jul – Sept, Q4: Oct – Dec. If no discharge occurs during the quarter, continue sampling quarterly until 4 sets of samples have been collected. WET tests and toxics characterization testing must be collected on the same day.				

2. Monitoring and Reporting Protocols

a. Electronic Submissions

The permittee must submit to DEQ the results of monitoring indicated in Schedule B in an electronic format as specified below.

- i. The permittee must submit monitoring results required by this permit via DEQ-approved web-based Discharge Monitoring Report (DMR) forms to DEQ via electronic reporting. Any data used to calculate summary statistics must be submitted as a separate attachment approved by DEQ via electronic reporting.
- ii. The reporting period is the calendar month.
- iii. The permittee must submit monitoring data and other information required by this permit for all compliance points by the 15th day of the month following the reporting period unless specified otherwise in this permit or as specified in writing by DEQ.

b. Test Methods

The permittee must conduct monitoring according to test procedures in 40 CFR 136 and 40 CFR 503 for biosolids or other approved procedures as per Schedule F.

c. Detection and Quantitation Limits

- i. Detection Level (DL) – The DL is defined as the minimum measured concentration of a substance that can be distinguished from method blank results with 99% confidence. The DL is derived using the procedure in 40 CFR 136 Appendix B and evaluated for reasonableness relative to method blank concentrations to ensure results reported above the DL are not a result of routine background contamination. The DL is also known as the Method Detection Limit (MDL) or Limit of Detection (LOD).
- ii. Quantitation Limits (QLs) – The QL is the minimum level, concentration or quantity of a target analyte that can be reported with a specified degree of confidence. It is the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration for the analyte. It is normally equivalent to the concentration of the lowest calibration standard adjusted for sample weights, volumes, preparation, and cleanup procedures employed. The QL as reported by a laboratory is also sometimes referred to as the Method Reporting Limit (MRL) or Limit of Quantitation (LOQ).

d. Sufficient Sensitivity of Quantitation Limits

- i. The Laboratory QLs (adjusted for any dilutions) for analyses performed to demonstrate compliance with permit limits or as part of effluent characterization, must meet at least one of the requirements below:
 - (A) The QL is at or below the level of the water quality criterion for the measured parameter.
 - (B) The QL is above the water quality criterion but the amount of the pollutant in a facility's discharge is high enough that the method detects and quantifies the level of the parameter in the discharge.
 - (C) The QL has the lowest sensitivity of the analytical methods procedure specified in 40 CFR 136.
 - (D) The QL is at or below those defined in Oregon DEQ list of quantitation limits posted online at [the DEQ permitting website](#).

- ii. Matrix effects are present that prevent the attainment of QLs and these matrix effects are demonstrated according to procedures described in EPA's "*Solutions to Analytical Chemistry Problems with Clean Water Act Methods*", March 2007. If using alternative methods and taking appropriate steps to eliminate matrix effects does not eliminate the matrix problems, DEQ may authorize in writing re-sampling or allow a higher QL to be reported.
- e. Quality Assurance and Quality Control
 - i. Quality Assurance Plan – The permittee must develop and implement a written Quality Assurance Plan that details the facility sampling procedures, equipment calibration and maintenance, analytical methods, quality control activities and laboratory data handling and reporting. The QA/QC program must conform to the requirements of 40 CFR 136.7.
 - ii. If QA/QC requirements are not met for any analysis, the permittee must re-analyze the sample. If the sample cannot be re-analyzed, the permittee must re-sample and analyze at the earliest opportunity. If the permittee is unable to collect a sample that meets QA/QC requirements, then the permittee must include the result in the discharge monitoring report (DMR) along with a notation (data qualifier). In addition, the permittee must explain how the sample does not meet QA/QC requirements. The permittee may not use the result that failed the QA/QC requirements in any calculation required by the permit unless authorized in writing by DEQ. If these method criteria are not met for BOD₅, the permittee must: 1) report the daily BOD₅ values with data qualifiers; 2) include these BOD₅ values in the summary statistic calculations (e.g., weekly averages, monthly averages, % removal); and 3) report the BOD₅ summary statistics with data qualifiers.
 - iii. Flow measurement, field measurement, and continuous monitoring devices - The permittee must:
 - (A) Establish verification and calibration frequency for each device or instrument in the quality assurance plan that conforms to the frequencies recommended by the manufacturer.
 - (B) Verify at least once per year that flow-monitoring devices are functioning properly according to manufacturer's recommendation. Calibrate as needed according to manufacturer's recommendations.
 - (C) Verify at least weekly that the continuous monitoring instruments are functioning properly according to manufacturer's recommendation unless the permittee demonstrates a longer period is sufficient and such longer period is approved by DEQ in writing.
 - iv. The permittee must develop a receiving water sampling and analysis plan that incorporates QA/QC prior to sampling. This plan must be kept at the facility and made available to DEQ upon request.
- f. Reporting Sample Results
 - i. The permittee must report the laboratory DL and QL as defined above for each analyte, with the following exceptions: pH, temperature, BOD, CBOD, TSS, Oil & Grease, hardness, alkalinity, bacteriological analytes, and nitrate-nitrite. For temperature and pH, neither the QL nor the DL need to be reported. For the other parameters listed above, the permittee is only required to report the QL and only when the result is ND.

- ii. The permittee must report the same number of significant digits as the permit limit for a given parameter.
 - iii. Chemical Abstracts Service (CAS) Numbers. CAS numbers (where available) must be reported along with monitoring results.
 - iv. (For Discharge Monitoring Reports) If a sample result is above the DL but below the QL, the permittee must report the result as the DL preceded by DEQ's data code "e". For example, if the DL is 1.0 µg/l, the QL is 3.0 µg/L and the result is estimated to be between the DL and QL, the permittee must report "e1.0 µg/L" on the DMR. This requirement does not apply in the case of parameters for which the DL does not have to be reported.
 - v. (For Discharge Monitoring Reports) If the sample result is below the DL, the permittee must report the result as less than the specified DL. For example, if the DL is 1.0 µg/L and the result is ND, report "<1.0" on the discharge monitoring report (DMR). This requirement does not apply in the case of parameters for which the DL does not have to be reported.
- g. Calculating and Reporting Mass Loads
- The permittee must calculate mass loads on each day the parameter is monitored using the following equation:
- Example calculation: Flow (in MGD) X Concentration (in mg/L) X 8.34 = Pounds per day
- i. Mass load limits all have two significant figures unless otherwise noted.
 - ii. When concentration data are below the DL: To calculate the mass load from this result, use the DL. Report the mass load as less than the calculated mass load. For example, if flow is 2 MGD and the reported sample result is <1.0 µg/L, report "<0.02 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day).
 - iii. When concentration data are above the DL, but below the QL: To calculate the mass load from this result, use the DL. Report the mass load as the calculated mass load preceded by "e". For example, if flow is 2 MGD, the DL is 1.0 µg/L, the QL is 5 µg/L and the reported sample result is e3.5 µg/L, report "e0.017 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day,).

3. Monitoring and Reporting Requirements

- a. The permittee must monitor influent after the headworks and prior to any return flows and report results in accordance with Table B1 the table below.

Table B2: Influent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note a.)	Report Statistic (See note b.)
Flow (50050)	MGD	Year-round	Daily	Metered	1. Monthly Average 2. Daily Maximum
BOD ₅ (00310)	mg/L	Year-round	3/week	24-hour composite	Monthly Average
TSS (00530)	mg/L	Year-round	1/week	24-hour composite	Monthly Average
pH (00400)	SU	Year-round	Daily	Grab	1. Monthly Maximum 2. Monthly Minimum
Notes: a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. b. When submitting DMRs electronically, the permittee must submit all data used to determine summary statistics in a DEQ-approved format as a spreadsheet via electronic reporting unless otherwise directed by DEQ.					

- b. The permittee must monitor effluent for Outfall 001 following disinfection and report results in accordance with Table B1 and the table below:

Table B3: Effluent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Flow (50050)	MGD	Year-round	Daily	Metered	1. Monthly Average 2. Daily Maximum
BOD ₅ (00310)	mg/L	Year-round	3/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
BOD ₅ (00310)	lb/day	Year-round	3/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
BOD ₅ percent removal (See note c.) (81010)	%	Year-round	1/month	Calculation based on monthly average BOD ₅ concentration values	Monthly Average
TSS (00530)	mg/L	Year-round	1/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
TSS (00530)	lb/day	Year-round	1/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
TSS percent removal (81011) (See note c.)	%	Year-round	1/month	Calculation based on monthly average TSS concentration values	Monthly Average
pH (00400)	SU	Year-round	Daily	Grab	1. Daily Maximum 2. Daily Minimum
Chlorine, Total Residual (50060)	mg/L	Year-round	Daily	Grab	1. Daily Maximum 2. Monthly Average
Chlorine used (81400)	lb/day	Year-round	Daily	Scale reading	1. Daily Maximum 2. Monthly Average

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Total ammonia (as N) (00610)	mg/L	May 1 – October 31	2/week	24-hour composite	1. Daily Maximum 2. Monthly Average
Total ammonia (as N) (00610)	mg/L	November 1 – April 30	1/month	24-hour composite	3. Daily Maximum 4. Monthly Average
Temperature (00010)	°C	Year-round	Daily	Continuous (See note d.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
Excess Thermal Load (51405)	Million kcal/day	Year-round	Daily	Calculation (See note e.)	Maximum 7-day Rolling Average
Excess Thermal Load Limit	Million kcal/day	Year-round	Daily	Calculation (See note f.)	7-day Rolling Average
<i>E. coli</i> (51040)	#/100 mL	Year-round	3/week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
Fecal coliform (74055)	#/100 mL	Year-round	3/week	Grab	1. Daily Maximum 2. Monthly Median
Fecal coliform (30500)	%	May 1 – October 31	Monthly	Calculation	Monthly percent over 133
Fecal coliform (30500)	%	November 1 – April 30	Monthly	Calculation	Monthly percent over 52
Mercury, Total Recoverable (MMP) (71901) (See note g.)	µg/L	First year of the permit cycle and every third year thereafter	Quarterly	24-hour composite	Quarterly Value
Salinity (480PS)	psu	Third year of permit cycle [2027]	Quarterly	Grab	Quarterly Maximum
Dissolved Oxygen (00300)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite (See note h.)	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Nitrate (NO ₃) Plus Nitrite (NO ₂) Nitrogen (00630)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum
Oil and Grease (00556)	mg/L	Third year of permit cycle [2027]	Quarterly	Grab	Quarterly Maximum
Total Phosphorus (00665)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum
Total Dissolved Solids (70295)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Notes: a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. If the failure or loss is for continuous temperature monitoring equipment, the permittee must perform grab measurements daily between 12 PM and 5 PM until continuous monitoring equipment is redeployed. b. When submitting DMRs electronically, all data used to determine summary statistics must be submitted in a DEQ-approved format as a spreadsheet via electronic reporting unless otherwise directed by DEQ. c. Percent Removal must be calculated on a monthly basis using the following formula: $\text{Percent Removal} = \frac{[\text{Influent Concentration}] - [\text{Effluent Concentration}]}{[\text{Influent Concentration}]} \times 100$ Where: Influent Concentration = Corresponding Monthly average influent concentration based on the analytical results of the reporting period. Effluent Concentration = Corresponding Monthly average effluent concentration based on the analytical results of the reporting period. d. The permittee may report the hourly average maximum temperature if continuous monitoring of temperature is performed at less than hourly intervals. e. The daily excess thermal load (ETL) discharged must be calculated using the daily maximum effluent temperature and the corresponding daily effluent flow using the formula below. The 7-day rolling average is then calculated from the daily ETLs. The daily ETL is calculated as follows: $\text{ETL} = 3.785 * Q_e * \Delta T$ Where: ETL = Excess Thermal Load (million kcal/day) Q_e = Daily effluent flow (MGD) ΔT = Daily maximum effluent temperature (°C) minus ambient criterion (18°C) f. If the permittee selects Excess Thermal Load Limit (ETLL) Option B from Table A1, then the permittee must calculate the ETLL (Million kcal/day) each day the permittee uses this option. The permittee must use the equation and procedure noted in Table A1. g. Example: If permit effective date is March 1, 2024; Monitoring is required quarterly from April 1, 2024 to March 31, 2025; and quarterly from April 1, 2027 to March 31, 2028; and continuing every three years until permit renewal. h. For Dissolved Oxygen, the permittee must collect and analyze at least four discrete grab samples over the operating day with samples collected no less than one hour apart. The analytical results for all samples in a day must be averaged for reporting purposes.					

4. Copper Biotic Ligand Model and Aluminum Parameters

The permittee must monitor the Trask River upstream of Outfall 001 and the effluent for Outfall 001 for copper biotic ligand model and aluminum parameters per the table below. Samples must be collected monthly for a period of 24 months beginning in January 2027. Effluent and ambient monitoring must be conducted concurrently.

Upstream/Ambient samples must be taken in a location outside of the influence of the effluent using appropriate sampling techniques and procedures. It is the responsibility of the permittee to ensure safe and practical sampling techniques and procedures are used. DEQ recommends that these procedures be included in a sample and analysis plan that can be reviewed by DEQ when necessary.

Table B4: Copper Biotic Ligand Model and Aluminum Sampling Requirements

Parameter (See note a.)	CAS (See note b.)	Units	Sampling Frequency (See note c.)	Sampling Location (See note d.)
Copper, total and dissolved	7440508	µg/L	1/month	Upstream and Effluent
Aluminum, total	7429905	µg/L	1/month	Upstream and Effluent
Hardness (as CaCO ₃)	–	mg/L	1/month	Upstream and Effluent
Dissolved organic carbon	–	mg/L	1/month	Upstream and Effluent
pH	–	S.U.	1/month	Upstream and Effluent
Temperature	–	°C	1/month	Upstream and Effluent
Calcium, dissolved	7440702	mg/L	1/month	Upstream and Effluent
Magnesium, dissolved	7439954	mg/L	1/month	Upstream and Effluent
Sodium, dissolved	7440235	mg/L	1/month	Upstream and Effluent
Potassium, dissolved	7440097	mg/L	1/month	Upstream and Effluent
Sulfate, dissolved	14808798	mg/L	1/month	Upstream and Effluent
Chloride, dissolved	16887006	mg/L	1/month	Upstream and Effluent
Alkalinity, dissolved	–	mg/L	1/month	Upstream and Effluent
Notes: a. All effluent samples must be 24-hr composite samples except grab samples must be collected for pH, alkalinity and temperature. All receiving stream samples must be grab samples. b. Chemical Abstract Service c. Samples must be collected monthly for a period of 24 months beginning in January 2027. d. Samples must be collected upstream (outside the influence of the effluent) and from the effluent on the same day.				

5. Effluent Toxics Characterization Monitoring (Tier 1 Monitoring)

The permittee must collect and analyze effluent samples for the parameters listed in the tables below. The permittee must collect effluent samples following disinfection and prior to discharge through Outfall 001 on the dates listed in Table B1.

Samples must be 24-hour composites, except as noted in the tables below for total cyanide, free cyanide, and volatile organic compounds. Sample results must be reported in µg/L unless otherwise specified and submitted to DEQ using approved electronic format.

Table B5: Metals, Cyanide, and Hardness

Pollutant (See note a.)	CAS (See note b.)	Pollutant (See note a.)	CAS (See note b.)
Antimony, total	7440360	Mercury, total	7439976
Arsenic, total	7440382	Nickel, total and dissolved	7440020
Arsenic, total inorganic	7440382	Selenium, total and dissolved	7782492
Arsenic, total inorganic dissolved	7440382	Silver, total and dissolved	7440224
Beryllium, total	7440417	Thallium, total	7440280
Cadmium, total and dissolved	7440439	Zinc, total and dissolved	7440666
Chromium, total and dissolved	7440473	Cyanide, free (See note c & d.)	57125
Chromium III, total and dissolved (See note e.)	16065831	Cyanide, total (See note d.)	57125
Chromium VI, dissolved	18540299	Hardness (total as CaCO ₃)	
Lead, total and dissolved	7439921	Iron, total	7439896

Notes:

- The term “total” used in reference to metals is intended to cover all EPA-accepted standard digestion methods and is considered to be equivalent to the term “total recoverable”.
- Chemical Abstract Service
- There are multiple approved methods for testing for free cyanide. For more information, refer to DEQ’s analytical memo on the subject of cyanide monitoring at <https://www.oregon.gov/deq/FilterDocs/sToxiccyanide.pdf>
- Cyanide (free and total) must be collected as a grab sample according to 40 CFR 122. Twenty-four-hour composite samples are not required for this analyte. If the result for Total Cyanide exceeds 5.0 µg/L, the permittee must monitor for Free Cyanide as part of the Tier 2 monitoring.
- There is no analytical method to test for Chromium III, results are obtained by subtracting Chromium VI from Chromium

Table B6: Volatile Organic Compounds

Pollutant (See note a.)	CAS	Pollutant (See note a.)	CAS
Acrolein (See note b.)	107028	1,2-trans-dichloroethylene (See note e.)	156605
Acrylonitrile (See note b.)	107131	1,1-dichloroethylene (See note f.)	75354
Benzene	71432	1,2-dichloropropane	78875
Bromoform	75252	1,3-dichloropropylene (See note g.)	542756
Carbon Tetrachloride	56235	Ethylbenzene	100414
Chlorobenzene	108907	Methyl Bromide (See note h.)	74839
Chlorodibromomethane (See note c.)	124481	Methyl Chloride (See note i.)	74873
Chloroethane	75003	Methylene Chloride	75092
2-Chloroethylvinyl Ether (See note b.)	110758	1,1,2,2-tetrachloroethane	79345
Chloroform	67663	Tetrachloroethylene (See note j.)	127184
Dichlorobromomethane (See note d.)	75274	Toluene	108883
1,2-Dichlorobenzene (o)	95501	1,1,1-trichloroethane	71556
1,3-Dichlorobenzene (m)	541731	1,1,2-trichloroethane	79005
1,4-Dichlorobenzene (p)	106467	Trichloroethylene (See note k.)	79016
1,1-dichloroethane	75343	Vinyl Chloride	75014
1,2-dichloroethane	107062		

Notes:

- VOC's must be collected as a grab sample according to 40 CFR 122. Twenty-four hour composite samples are not required for these analytes.
- Acrolein, Acrylonitrile, and 2-Chloroethylvinyl ether must be tested from an unacidified sample.
- Chlorodibromomethane is identified as Dibromochloromethane in 40 CFR § 136.3, Table 1C.
- Dichlorobromomethane is identified as Bromodichloromethane in 40 CFR § 136.3, Table 1C.
- 1,2-trans-dichloroethylene is identified as Trans-1,2-dichloroethene in 40 CFR § 136.3, Table 1C.
- 1,1-dichloroethylene is identified as 1,1-dichloroethene in 40 CFR § 136.3, Table 1C.
- 1,3-dichloropropylene consists of both cis-1,3-dichloropropene and Trans-1,3-dichloropropene. Both must be reported individually.
- Methyl bromide is identified as Bromomethane in 40 CFR § 136.3, Table 1C.
- Methyl chloride is identified as Chloromethane in 40 CFR § 136.3, Table 1C.
- Tetrachloroethylene is identified as Tetrachloroethene in 40 CFR § 136.3, Table 1C.
- Trichloroethylene is identified as Trichloroethene in 40 CFR § 136.3, Table 1C.

Table B7: Acid-Extractable Compounds

Pollutant	CAS	Pollutant	CAS
p-chloro-m-cresol (See note a.)	59507	2-nitrophenol	88755
2-chlorophenol	95578	4-nitrophenol	100027
2,4-dichlorophenol	120832	Pentachlorophenol	87865
2,4-dimethylphenol	105679	Phenol	108952
4,6-dinitro-o-cresol (See note b.)	534521	2,4,5-trichlorophenol (See note c.)	95954
2,4-dinitrophenol	51285	2,4,6-trichlorophenol	88062
Notes:			
a. p-chloro-m-cresol is identified as 4-Chloro-3-methylphenol in 40 CFR 136.3, Table 1C.			
b. 4,6-dinitro-o-cresol is identified as 2-Methyl-4,6-dinitrophenol in 40 CFR 136.3, Table 1C.			
c. To monitor for 2,4,5-trichlorophenol, use EPA Method 625.1.			

Table B8: Base-Neutral Compounds

Pollutant	CAS	Pollutant	CAS
Acenaphthene	83329	Dimethyl phthalate	131113
Acenaphthylene	208968	2,4-dinitrotoluene	121142
Anthracene	120127	2,6-dinitrotoluene	606202
Benzidine	92875	1,2-diphenylhydrazine (See note c.)	122667
Benzo(a)anthracene	56553	Fluoranthene	206440
Benzo(a)pyrene	50328	Fluorene	86737
3,4-benzofluoranthene (See note a.)	205992	Hexachlorobenzene	118741
Benzo(ghi)perylene	191242	Hexachlorobutadiene	87683
Benzo(k)fluoranthene	207089	Hexachlorocyclopentadiene	77474
Bis(2-chloroethoxy)methane	111911	Hexachloroethane	67721
Bis(2-chloroethyl)ether	111444	Indeno(1,2,3-cd)pyrene	193395
Bis(2-chloroisopropyl)ether (See note b.)	108601	Isophorone	78591
Bis (2-ethylhexyl)phthalate	117817	Napthalene	91203
4-bromophenyl phenyl ether	101553	Nitrobenzene	98953
Butylbenzyl phthalate	85687	N-nitrosodi-n-propylamine	621647
2-chloronaphthalene	91587	N-nitrosodimethylamine	62759
4-chlorophenyl phenyl ether	7005723	N-nitrosodiphenylamine	86306
Chrysene	218019	Pentachlorobenzene (See note d.)	608935
Di-n-butyl phthalate	84742	Phenanthrene	85018
Di-n-octyl phthalate	117840	Pyrene	129000
Dibenzo(a,h)anthracene	53703	1,2,4-trichlorobenzene	120821
3,3-Dichlorobenzidine	91941	Tetrachlorobenzene,1,2,4,5 (See note d.)	95943
Diethyl phthalate	84662		

Pollutant	CAS	Pollutant	CAS
Notes: a. 3,4-benzofluoranthene is listed as Benzo(b)fluoranthene in 40 CFR 136. b. Also known as Chloroisopropyl Ether bis 2, and 2,2'-oxybis(2-chloro-propane). Bis(2-chloroisopropyl)ether is listed as 2,2'-oxybis(1-chloropropane) in 40 CFR 136. c. 1,2-diphenylhydrazine is difficult to analyze given its rapid decomposition rate in water. Azobenzene (a decomposition product of 1,2-diphenylhydrazine), must be analyzed as an estimate of this chemical. d. To analyze for Pentachlorobenzene and Tetrachlorobenzene 1,2,4,5, use EPA 625.1.			

6. Additional Receiving Stream and Effluent Characterization Monitoring (Tier 2 Monitoring)

If additional ambient or effluent monitoring is needed, DEQ will notify the permittee through a request for supplemental information/data. The need for additional monitoring will be determined after DEQ's evaluation of the effluent toxics characterization (Tier 1 monitoring in Schedule B5) results.

7. Whole Effluent Toxicity (WET) Requirements

The permittee must monitor final effluent for whole effluent toxicity as described in the table below using the testing protocols specified in Schedule D, Whole Effluent Toxicity Testing for Freshwater and Saltwater. The effluent for Outfall 001 must be collected at the location specified below.

Table B9: WET Test Monitoring

Parameter	Sample Type/Location	Minimum Frequency	Report
Acute toxicity	For acute toxicity: 24-hr composite sample, taken after dechlorination and before the effluent flume.	Permittee must conduct freshwater tests in first and third quarters of 2027. The permittee must conduct saltwater tests in second and fourth quarters of 2027.	Report must include test results and backup information such as bench sheets sufficient to demonstrate compliance with permit requirements. Report must include a statement certifying that the results do or do not show toxicity.
Chronic toxicity	For chronic toxicity: 24-hr composite, taken after dechlorination and before the effluent flume.		

8. Recycled Water Monitoring Requirements: Outfall 002

The permittee must monitor recycled water for Outfall 002 as listed below (when discharging recycled water). The samples must be representative of the recycled water delivered for beneficial reuse at a location identified in the Recycled Water Use Plan.

Table B10: Recycled Water Monitoring

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action	Report (See note a.)
Total flow (50050)	MGD	Year-round	Daily	Measure	Monthly Total
pH (00400)	SU	Year-round	2/Week	Grab	1. Monthly Minimum 2. Monthly Maximum
Turbidity (00070)	NTU	Year-round	Hourly (Class A)	Measure	1. Daily Average 2. Daily Maximum
Turbidity, time above limit (61736)	%	Year-round	Daily (Class A)	Calculate	Daily Maximum
Total coliform (74056)	#/100 mL	Year-round	Daily (Class A) 3/Week (Class B) Weekly (Class C)	Grab (See note b.)	1. 7-Day Median 2. Maximum Single Sample
<i>E. coli</i> (51040)	#/100 mL	Year-round	Weekly (Class D)	Grab	1. Monthly Geometric Mean 2. Maximum Single Sample
Total Kjeldahl, Nitrogen (00625)	mg/L	Year-round	Quarterly	Grab	Value
Nitrite + Nitrate (NO ₂ +NO ₃) (00630)	mg/L	Year-round	Quarterly	Grab	Value
Total Ammonia [as N] (00610)	mg/L	Year-round	Quarterly	Grab	Value
Total Phosphorus (00665)	mg/L	Year-round	Quarterly	Grab	Value
Nitrogen Loading Rate	lb/acre-year	Year-round	Annually	Calculate	Value for each field

Notes:

- All data collected should be included in the Recycled Water Annual Report in addition to monthly and quarterly reporting as indicated.
- Calculations of the median total coliform levels in Classes A–C are based on the results of the last seven days that analyses have been completed.

9. Biosolids Monitoring Requirements

The permittee must monitor biosolids land applied or produced for sale or distribution as listed below. The samples must be representative of the quality and quantity of biosolids generated and undergo the same treatment process used to prepare the biosolids. Results must be reported as required in the biosolids management plan described in Schedule D.

Table B11: Biosolids Monitoring

Item or Parameter	Minimum Frequency	Sample Type
Nutrient and conventional parameters (% dry weight unless otherwise specified): Total Kjeldahl Nitrogen (TKN) Nitrate-Nitrogen (NO ₃ -N) Total Ammoniacal Nitrogen (NH ₃ -N) Total Phosphorus (P) Potassium (K) pH (S.U.) Total Solids Volatile Solids	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B12.	As described in DEQ-approved Biosolids Management Plan
Pollutants: As, Cd, Cu, Hg, Pb, Mo, Ni, Se, Zn, mg/kg dry weight	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B12.	As described in DEQ-approved Biosolids Management Plan
Pathogen reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B12.	As described in DEQ-approved Biosolids Management Plan
Vector attraction reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B12.	As described in DEQ-approved Biosolids Management Plan
Record of biosolids land application: date, quantity, location.	Each event	Record the date, quantity, and location of biosolids land applied on site location map or equivalent electronic system, such as GIS.

Table B12: Biosolids Minimum Monitoring Frequency

Quantity of biosolids land applied or produced for sale or distribution per calendar year		Minimum Sampling Frequency
(dry metric tons)	(dry U.S. tons)	
Less than 290	Less than 320	Once per year
290 to 1,500	320 to 1,653	Once per quarter (4x/year)
1,500 to 15,000	1,653 to 16,535	Once per 60 days (6x/year)
15,000 or more	16,535 or more	Once per month (12x/year)

SCHEDULE C: COMPLIANCE SCHEDULE

1. Compliance Schedule to Meet Final Effluent Limits

The permittee must comply with the following schedule:

Table C1: Compliance Schedule for Ammonia

Compliance Date:	Requirement:
By #####, 2024 Within 1 month of permit effective date.	The permittee must submit to DEQ a draft Optimization Study that outlines feasible operation changes that can be made to the facility's current treatment processes to minimize effluent ammonia concentrations during dry season discharges (May 1 through October 31) through Outfall 001.
By #####, 2024 Within 3 months of permit effective date.	The permittee must submit a revised Optimization Study that addresses DEQ comments provided on the draft Optimization Study. If DEQ does not comment on the draft Optimization Study within 30 days of DEQ receipt, submittal of a revised Optimization Study is not necessary, and the draft Optimization Study is deemed approved.
By #####, 2024 Within 4 months of permit effective date.	The permittee must begin implementation of operational changes and strategies identified in the approved Optimization Study to minimize effluent ammonia concentrations during the 2025 dry season (May 1 through October 31).
By April 1, 2025	The permittee must submit a brief Optimization Progress Report describing the status of implementing the operational changes that will be implemented for the 2025 dry season discharges as part of the approved Optimization Study.
March 1, 2026	The permittee must submit a final Optimization Progress Report describing the operational changes that were implemented for the 2025 dry season discharges as part of the 2024 Optimization Progress Report or approved Optimization Study. The Progress Report must document how effective the operational changes were at reducing effluent ammonia concentrations during the 2025 dry season and provide monitoring results.
February 1, 2026	The permittee must achieve compliance with ammonia limits listed in Table A2 for all future dry season discharges through Outfall 001.

2. Responsibility to Meet Compliance Dates

No later than 14 days following each compliance date listed in the table above, the permittee must notify DEQ in writing of its compliance or noncompliance with the requirements. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and a discussion of the likelihood of meeting the next scheduled requirement(s).

SCHEDULE D: SPECIAL CONDITIONS

1. Inflow and Infiltration

The permittee must submit to DEQ an annual inflow and infiltration report on a DEQ-approved form as directed in Table B1. The report must include the following:

- a. An assessment of the facility's I/I issues based on a comparison of summer and winter flows to the plant.
- b. Details of activities performed in the previous year to identify and reduce inflow and infiltration.
- c. Details of activities planned for the following year to identify and reduce inflow and infiltration.
- d. A summary of sanitary sewer overflows that occurred during the previous year. This should include the following: date of the SSO, location, estimated volume, cause, follow-up actions and if performed, the results of receiving stream monitoring.

2. Emergency Response and Public Notification Plan

The permittee must develop an Emergency Response and Public Notification Plan (plan), or ensure the facility's existing plan is current and accurate, per Schedule F, Section B, and Condition 8 within 6 months of permit effective date. The permittee must update the plan annually to ensure all information contained in the plan, including telephone and email contact information for applicable public agencies, is current and accurate. An updated copy of the plan must be kept on file at the facility for DEQ review. The latest plan revision date must be listed on the plan cover along with the reviewer's initials or signature.

3. Recycled Water Use Plan

In order to distribute recycled water, the permittee must develop and maintain a DEQ-approved Recycled Water Use Plan meeting the requirements in OAR 340-055-0025. The permittee must submit this plan or any significant modifications to DEQ for review and approval with sufficient time to clear DEQ review and a public notice period prior to distribution of recycled water. The permittee is prohibited from distributing recycled water prior to receipt of written approval of its Recycled Water Use Plan from DEQ. The permittee must keep the plan updated. All plan revisions require written authorization from DEQ and are effective upon permittee's receipt of DEQ written approval. No significant modifications can be made to a plan for an administratively extended permit (after the permit expiration date). Conditions in the plan are enforceable requirements under this permit. DEQ will provide an opportunity for public review and comment on any significant plan modifications prior to approving or denying. Public review is not required for minor modifications, changes to utilization dates or changes in use within the recycled water class.

- a. Recycled Water Annual Report – If the permittee distributes recycled water under a recycled water use plan, the permittee must submit a recycled water annual report by the date specified in Table B1: Reporting Requirements and Due Dates. The permittee must use the DEQ-approved recycled water annual report form. This report must include the monitoring data and analytical laboratory reports for the previous year's monitoring required under Schedule B.

4. Exempt Wastewater Reuse at the Treatment System

Recycled water used for landscape irrigation within the property boundary or in-plant processes at the wastewater treatment system is exempt from the requirements of OAR 340-055 if all of the following conditions are met:

- a. The recycled water is an oxidized and disinfected wastewater.
- b. The recycled water is used at the wastewater treatment system site where it is generated or at an auxiliary wastewater or sludge treatment facility that is subject to the same NPDES or WPCF permit as the wastewater treatment system.
- c. Spray and/or drift from the use does not migrate off the site.
- d. Public access to the site is restricted.

5. Wastewater Solids Annual Report

The permittee must submit a Wastewater Solids Annual Report by February 19 each year documenting removal of wastewater solids from the facility during the previous calendar year. The permittee must use DEQ-approved wastewater solids annual report form. This report must include the volume of material removed and the name of the permitted facility that received the solids.

6. Biosolids Management Plan

Prior to distributing biosolids to the public, the permittee must develop and maintain a Biosolids Management Plan and Land Application Plan meeting the requirements in OAR 340-050-0031. The permittee must submit these plans and any significant modification of these plans to DEQ for review and approval with sufficient time to clear DEQ review and a public notice period prior to removing biosolids from the facility. The permittee must keep the plans updated. All plan revisions require written authorization from DEQ and are effective upon permittee's receipt of DEQ written approval. No significant modifications can be made to a plan for an administratively extended permit (after the permit expiration date). Conditions in the plans are enforceable requirements under this permit.

a. Annual Report

The permittee must submit a Biosolids Annual Report by February 19 each year documenting biosolids management activities of the previous calendar year as described in OAR 340-050-0035(6). The permittee must use DEQ approved Biosolids Annual report form. This report must include the monitoring data and analytical laboratory reports for the previous year's monitoring specified under Schedule B.

b. Site Authorization

The permittee must obtain written authorization from DEQ for each land application site prior to its use. Conditions in site authorizations are enforceable requirements under this permit. The permittee is prohibited from land applying biosolids to a DEQ-approved site except in accordance with the site authorization, while this permit is effective and with the written approval of the property owner. DEQ may modify or revoke a site authorization following the procedures for a permit modification described in OAR 340-045-0055.

c. Public Participation

- i. DEQ will provide an opportunity for public review and comment on any significant plan modifications prior to approving or denying. Public review is not required for minor modifications or changes to utilization dates.

- ii. No DEQ-initiated public notice is required for continued use of sites identified in DEQ-approved biosolids management plan.
 - iii. For new sites that fail to meet the site selection criteria in the biosolids management plan or that are deemed by DEQ to be sensitive with respect to residential housing, runoff potential, or threat to groundwater, DEQ will provide an opportunity for public comment as directed by OAR 340-050-0030(2).
 - iv. For all other new sites, the permittee must provide for public participation following procedures in its DEQ-approved land application plan.
- d. **Exceptional Quality Biosolids**

The permittee is exempt from the requirements in Condition 6.b above, if:

- i. Pollutant concentrations of biosolids are less than the pollutant concentration limits in Schedule A, Table A3;
- ii. Biosolids meet one of the Class A pathogen reduction alternatives in 40 CFR 503.32(a); and
- iii. Biosolids meet one of the vector attraction reduction options in 40 CFR 503.33(b)(1) through (8).

7. **Wastewater Solids Transfers**

- a. *Within state.* The permittee may transfer wastewater solids including Class A and Class B biosolids, to another facility permitted to process or dispose of wastewater solids, including but not limited to: another wastewater treatment facility, landfill, or incinerator. The permittee must satisfy the requirements of the receiving facility. The permittee must report the name of the receiving facility and the quantity of material transferred in the wastewater solids or biosolids annual report identified in Schedule B.
- b. *Out of state.* If wastewater solids, including Class A and Class B biosolids, are transferred out of state for use or disposal, the permittee must obtain written authorization from DEQ, meet Oregon requirements for the use or disposal of wastewater solids, notify in writing the receiving state of the proposed use or disposal of wastewater solids, and satisfy the requirements of the receiving state.

8. **Hauled Waste Control Plan**

The permittee may accept hauled wastes at discharge points designated by the POTW after receiving written DEQ approval of a Hauled Waste Control Plan. Hauled wastes may include wastewater solids from another wastewater treatment facility, septage, grease trap wastes, portable and chemical toilet wastes, landfill leachate, groundwater remediation wastewaters and commercial/industrial wastewaters. A Hauled Waste Control Plan is not required in the event biological seed must be added to the process at the POTW to facilitate effective wastewater treatment.

9. **Hauled Waste Annual Report**

If the permittee has a Hauled Waste Control Plan, or otherwise accepts hauled waste, the permittee must submit an annual report of hauled waste received by the POTW. This report, if required, must be submitted as described in Table B1. This report must include the date, time, type, and amount received each time the POTW accepts hauled waste. Hauled waste must be described in the permittee's Hauled Waste Control Plan.

10. Whole Effluent Toxicity Testing for Saltwater

- a. The permittee must conduct whole effluent toxicity (WET) tests as specified here and in Schedule B of this permit.
- b. Acute Toxicity Testing – Organisms and Protocols
 - i. The permittee must conduct 48-hour static renewal tests with *Holmesimysis costata* (mysid shrimp) and 96-hour static renewal tests with *Atherinops affinis* (Topsmelt). *Americamysis (Mysidopsis) bahia* may be substituted if *H. costata* is not available and *Menidia beryllina* (inland silverside) may be substituted if *Atherinops affinis* (Topsmelt) is not available.
 - ii. All test methods and procedures must be in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.
 - iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ prior to analysis.
 - iv. WET acute testing must be conducted using a dilution series based upon the effluent percentage at the ZID (EPZID) in the following manner: 100%, 62.5%, 25%, 12.5%, 6.25% effluent and a lab control (0% effluent.)
 - v. A WET test shows acute toxicity if there is a statistically significant difference in survival between the control and 25% percent effluent reported as the No Observable Effect Concentration (NOEC) < 25% effluent.
- c. Chronic Toxicity Testing – Organisms and Protocols
 - i. The permittee must conduct tests with: *Holmesimysis costata* (mysid shrimp) for reproduction and survival test endpoint, *Atherinops affinis* (topsmelt) for growth and survival test endpoint, and *Macrocystis pyrifera* (giant kelp) for growth test endpoint. The specified species are preferred as these are West Coast species. However, *Americamysis (Mysidopsis) bahia*, *Menidia beryllina* (inland silverside), and *Champia parvula* (red macroalga) may be substituted if the corresponding West Coast species is not available.
 - ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, EPA-821-R-02-014, October 2002* or *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, First Edition, EPA/600/R-95-136, August 1995* based on species selection in condition 9.c.i. above. If the permittee wants to deviate from the bioassay procedures outlined in the applicable method, the permittee must submit a written request to DEQ for review and approval prior to use.
 - iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ in writing prior to analysis.

- iv. WET chronic testing must be conducted using a dilution series based upon the effluent percentage at the RMZ (EPRMZ) in the following manner: 100% effluent; 53%, 6%, 3%, 1.5% and a control (0%).
- v. A WET test shows chronic toxicity if the IC25 (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the regulatory mixing zone, that is $IC_{25} \leq 6\%$.
- d. Dual End-Point Tests
 - i. WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point must be based on 48-hours for the *Holmesimysis costata* (mysid shrimp) or *Americamysis bahia* and 96-hours for the *Menidia beryllina* (inland silverside) or *Atherinops affinis* (topsmelt).
 - ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, EPA-821-R-02-014, October 2002*. Any deviation of the bioassay procedures outlined in this method must be submitted in writing to DEQ for review and approval prior to use.
 - iii. Tests run as dual end-point tests must be conducted on a control (0%) and the following dilution series: 1.5%, 3%, 6%, 25%, 50%, and 100% effluent.
 - iv. Toxicity determinations for dual end-point tests must correspond to the acute and chronic tests described in Sections 9.e.v and 9.f.v above.
- e. Sampling Requirements

At the time of WET sampling, the permittee must collect and analyze effluent samples for total copper and/or the parameters listed in Tables B5-B8 of this permit.
- f. Evaluation of Causes and Exceedances
 - i. If any test exhibits toxicity as defined above, the permittee must conduct another toxicity test using the same species and DEQ-approved methodology within two weeks unless an extension is granted by DEQ in writing.
 - ii. If two consecutive WET test results indicate acute or chronic toxicity, the permittee must immediately notify DEQ of the results. DEQ will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.
- g. Quality Assurance and Reporting
 - i. Quality assurance criteria, statistical analyses, and data reporting for the WET tests must be in accordance with the EPA documents stated in this condition.
 - ii. For each test, the permittee must provide a bioassay laboratory report according to the EPA method documents referenced in this Schedule. The report must include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests and completed Chain of Custody forms for the samples including time of sample collection and receipt. The permittee must submit reports to DEQ within 60 days of test completion.
 - iii. The report must include all endpoints measured in the test: NOEC (No Observed Effects Concentration), LOEC (Lowest Observed Effects Concentration), and IC₂₅ (chronic effect 25% inhibition concentration).

- iv. The permittee must make available to DEQ upon request the written standard operating procedures they, or the laboratory performing the WET tests, use for all toxicity tests required by DEQ.
- h. Reopener
DEQ may reopen and modify this permit to include new limits, monitoring requirements, and/or conditions as determined by DEQ to be appropriate, and in accordance with procedures outlined in OAR Chapter 340, Division 45 if:
 - i. WET testing data indicate acute and/or chronic toxicity.
 - ii. The facility undergoes any process changes.
 - iii. Discharge monitoring data indicate a change in the reasonable potential to cause or contribute to an exceedance of a water quality standard.
- i. Circumstances not addressed in this section, or that require deviation from the requirements of this section, must be approved in writing by DEQ before changes are implemented.

11. Whole Effluent Toxicity Testing for Freshwater

- a. The permittee must conduct whole effluent toxicity (WET) tests as specified here and in Schedule B of this permit.
- b. Acute Toxicity Testing - Organisms and Protocols
 - i. The permittee must conduct 48-hour static renewal tests with *Ceriodaphnia dubia* (water flea) and 96-hour static renewal tests with *Pimephales promelas* (fathead minnow).
 - ii. All test methods and procedures must be in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.
 - iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ in writing prior to analysis.
 - iv. WET acute testing must be conducted using a dilution series based upon the effluent percentage at the ZID (EPZID) in the following manner: 100%, 62.5%, 25%, 12.5%, 6.25% effluent and a control (0% effluent).
 - v. An acute WET test shows toxicity if there is a statistically significant difference in survival between the control and 25% effluent reported as the NOEC < 25% effluent.
- c. Chronic Toxicity Testing - Organisms and Protocols
 - i. The permittee must conduct tests with *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selenastrum capricornutum*) for growth test endpoint.

- ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in the applicable method, the permittee must submit a written request to DEQ for review and approval prior to use.
 - iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ in writing prior to analysis.
 - iv. WET chronic testing must be conducted using a dilution series based upon the effluent percentage at the RMZ (EPRMZ) in the following manner: 100% effluent; 53%, 6%, 3%, 1.5% and a control (0%).
 - v. A chronic WET test shows toxicity if the IC25 (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the mixing zone, that is, $IC_{25} \leq 6\%$.
- d. Dual End-Point Tests
- i. WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point will be based on 48-hours for the *Ceriodaphnia dubia* (water flea) and 96-hours for the *Pimephales promelas* (fathead minnow).
 - ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.
 - iii. Tests run as dual end-point tests must be conducted on a control (0%) and the following dilution series: 1.5%, 3%, 6%, 25%, 50%, and 100% effluent.
 - iv. Toxicity determinations for dual end-point tests must correspond to the acute and chronic tests described in conditions 10.b.v and 10.c.v above.
- e. Sampling Requirements
- At the time of WET sampling, the permittee must collect and analyze effluent samples for total copper and/or the parameters listed in Tables B5-B8 of this permit.
- f. Evaluation of Causes and Exceedances
- i. If any test exhibits toxicity as described in conditions 10.b.v. and 10.c.v. above, the permittee must conduct another toxicity test using the same species and DEQ-approved methodology within two weeks unless an extension is granted by DEQ in writing.
 - ii. If two consecutive WET test results indicate acute or chronic toxicity as described in conditions 10.b.v. and 10.c.v. above, the permittee must immediately notify DEQ of the results. DEQ will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.
- g. Quality Assurance and Reporting
- i. Quality assurance criteria, statistical analyses, and data reporting for the WET tests must be in accordance with the EPA documents stated in this condition.

- ii. For each test, the permittee must provide a bioassay laboratory report according to the EPA method documents referenced in this Schedule. The report must include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests, and completed Chain of Custody forms for the samples including time of sample collection and receipt. The permittee must submit reports to DEQ within 60 days of test completion.
 - iii. The report must include all endpoints measured in the test: NOEC (No Observed Effects Concentration), LOEC (Lowest Observed Effects Concentration), and IC₂₅ (chronic effect 25% inhibition concentration).
 - iv. The permittee must make available to DEQ upon request the written standard operating procedures they, or the laboratory performing the WET tests, use for all toxicity tests required by DEQ.
- h. Reopener
- DEQ may reopen and modify this permit to include new limits, monitoring requirements, and/or conditions as determined by DEQ to be appropriate, and in accordance with procedures outlined in OAR Chapter 340, Division 45 if:
- i. WET testing data indicate acute and/or chronic toxicity.
 - ii. The facility undergoes any process changes.
 - iii. Discharge monitoring data indicate a change in the reasonable potential to cause or contribute to an exceedance of a water quality standard.
- i. Circumstances not addressed in this section, or that require deviation from the requirements of this section, must be approved in writing by DEQ before changes are implemented.

12. Operator Certification

- a. Definitions
- i. “Supervise” means to have full and active responsibility for the daily on-site technical operation of a wastewater treatment system or wastewater collection system.
 - ii. “Supervisor” or “designated operator”, means the operator delegated authority by the permittee for establishing and executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system in accordance with the policies of the owner of the system and any permit requirements.
 - iii. “Shift Supervisor” means the operator delegated authority by the permittee for executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system when the system is operated on more than one daily shift.
 - iv. “System” includes both the collection system and the treatment systems.

- b. The permittee must comply with OAR Chapter 340, Division 49, "Regulations Pertaining to Certification of Wastewater System Operator Personnel" and designate a supervisor whose certification corresponds with the classification of the collection and/or treatment system as specified in DEQ Supervisory Wastewater Operator Status Report. DEQ may revise the permittee's classification in writing at any time to reflect changes in the collection or treatment system. This reclassification is not considered a permit modification and may be made after the permit expiration date provided the permit has been administratively extended by DEQ. If a facility is re-classified, a certified letter will be mailed to the system owner from DEQ Operator Certification Program. Current system classifications are publicized on DEQ Supervisory Wastewater Operator Status Report found on [DEQ Wastewater Operator Certification Homepage](#).
- c. The permittee must have its system supervised full-time by one or more operators who hold a valid certificate for the type of wastewater treatment or wastewater collection system, and at a grade equal to or greater than the wastewater system's classification.
- d. The permittee's wastewater system may be without the designated supervisor for up to 30 consecutive days if another person supervises the system, who is certified at no more than one grade lower than the classification of the wastewater system. The permittee must delegate authority to this operator to supervise the operation of the system.

When compliance with this section is not possible or practicable because the system supervisor is not available or the position is vacated unexpectedly, and another certified operator is not qualified to assume supervisory responsibility, the Director may grant a time extension for compliance with the requirements in response to a written request from the system owner. The Director will not grant an extension longer than 120 days unless the system owner documents the existence of extraordinary circumstances.

- e. If the wastewater system has more than one daily shift, the permittee must have another properly certified operator available to supervise operation of the system. Each shift supervisor must be certified at no more than one grade lower than the system classification.
- f. The permittee is not required to have a supervisor on site at all times; however, the supervisor must be available to the permittee and operator at all times.
- g. The permittee must notify DEQ in writing of the name of the system supervisor by completing and submitting the Supervisory Wastewater System Operator Designation Form. The most recent version of this form may be found on [DEQ Wastewater Operator Certification homepage](#). *NOTE: This form is different from the Delegated Authority form. The permittee may replace or re-designate the system supervisor with another properly certified operator at any time and must notify DEQ in writing within 30 days of replacement or re-designation of the operator in charge. As of this writing, the notice of replacement or re-designation must be sent to Water Quality Division, Operator Certification Program, 700 NE Multnomah St, Suite 600, Portland, OR 97232-4100. This address may be updated in writing by DEQ during the term of this permit.

13. Industrial User Survey Update

- a. By the date listed in Table B1, the permittee must submit to DEQ an update to the industrial user survey that was completed in 2023. The update must be completed in accordance with 40 CFR 403.8(f)(2)(i-iii) and provide DEQ with sufficient information to determine the need for development of a pretreatment program.

- b. Should DEQ determine that a pretreatment program is required, the permit must be reopened and modified in accordance with 40 CFR 403.8(e)(1) to incorporate a compliance schedule to require development of a pretreatment program. The compliance schedule must be developed in accordance with the provisions of 40 CFR 403.12(k), and must not exceed twelve (12) months.

14. Outfall Inspection

The permittee must inspect Outfall 001 including the submerged portion of the outfall line and diffuser to document its integrity and to determine whether it is functioning as designed. The inspection must determine whether diffuser ports are intact, clear and fully functional. The inspection must verify the latitude and longitude of the diffuser. The permittee must submit a written report to DEQ regarding the results of the outfall inspection by the date in Table B1. The report must include a description of the outfall as originally constructed, the condition of the current outfall and identify any repairs needed to return the outfall to satisfactory condition.

SCHEDULE E: PRETREATMENT ACTIVITIES

A pretreatment program is not part of this permit.

Public Notice Draft

SCHEDULE F: NPDES GENERAL CONDITIONS

DOMESTIC FACILITIES October 1, 2015 Version

SECTION A. STANDARD CONDITIONS

A1. Duty to Comply with Permit

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for DEQ to terminate, modify and reissue, revoke, or deny renewal of a permit.

A2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions of 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and Environmental Quality Commission (EQC) rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows DEQ to impose civil penalties up to \$25,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution in the second degree, is a Class A misdemeanor and is punishable by a fine of up to \$25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, unlawful water pollution in the first degree is a Class B felony and is punishable by a fine of up to \$250,000, imprisonment for not more than 10 years, or both.

The Clean Water Act provides that any person who violates permit condition, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation.

The Clean Water Act provides that any person who negligently violates any condition, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both.

In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both.

In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

Any person who knowingly violates section any permit condition, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both.

In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

Any person may be assessed an administrative penalty by the Administrator for violating any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act.

Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000.

Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

A3. 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. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

DEQ may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

A5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).
- e. New information or regulations.
- f. Modification of compliance schedules.
- g. Requirements of permit reopener conditions
- h. Correction of technical mistakes made in determining permit conditions.
- i. Determination that the permitted activity endangers human health or the environment.
- j. Other causes as specified in 40 CFR §§ 122.62, 122.64, and 124.5.
- k. For communities with combined sewer overflows (CSOs):
 - (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.

- (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
- (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

A6. Toxic Pollutants

The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rule (OAR) 340-041-0033 and section 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

A7. Property Rights and Other Legal Requirements

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

A8. Permit References

Except for effluent standards or prohibitions established under section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

A9. Permit Fees

The permittee must pay the fees required by OAR.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

B1. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B2. Need to Halt or Reduce Activity Not a Defense

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B3. Bypass of Treatment Facilities

- a. Definitions
 - (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.
 - (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- b. Prohibition of bypass.
 - (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:
 - i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
 - iii. The permittee submitted notices and requests as required under General Condition B3.c.
 - (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).
- c. Notice and request for bypass.
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

B4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. 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 causes(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required in General Condition D5, hereof (24-hour notice); and
 - (4) The permittee complied with any remedial measures required under General Condition A3 hereof.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

B5. Treatment of Single Operational Upset

For purposes of this permit, a single operational upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one federal Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include federal Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

- a. Definition. "Overflow" means any spill, release or diversion of sewage including:
 - (1) An overflow that results in a discharge to waters of the United States; and
 - (2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the United States.
- b. Reporting required. All overflows must be reported orally to DEQ within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D5.

B7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (for example, public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B8. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

B8. Emergency Response and Public Notification Plan

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses, or upsets that may endanger public health. At a minimum the plan must include mechanisms to:

- a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
- b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
- c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
- d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
- e. Provide emergency operations; and
- f. Ensure that DEQ is notified of the public notification steps taken.

B9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

C1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream,

body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

C2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503 unless other test procedures have been specified in this permit.

For monitoring of recycled water with no discharge to waters of the state, monitoring must be conducted according to test procedures approved under 40 CFR part 136 or as specified in the most recent edition of Standard Methods for the Examination of Water and Wastewater unless other test procedures have been specified in this permit or approved in writing by DEQ.

C4. Penalties for Tampering

The federal 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 may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a discharge monitoring report form approved by DEQ. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

C6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the discharge monitoring report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (for example, total residual chlorine), only the average daily value must be recorded unless otherwise specified in this permit.

C7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR part

503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

C10. Inspection and Entry

The permittee must allow DEQ or EPA upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

C11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR § 122.21 are not classified as confidential [40 CFR § 122.7(b)].

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

The permittee must comply with OAR 340-052, "Review of Plans and Specifications" and 40 CFR § 122.41(l)(1). Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by DEQ. The permittee must give notice to DEQ as soon as possible of any planned physical alternations or additions to the permitted facility.

D2. Anticipated Noncompliance

The permittee must give advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

D3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and

incorporate such other requirements as may be necessary under 40 CFR § 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

D4. Compliance Schedule

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. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.

(1) Oral Reporting within 24 hours.

- i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.
 - (a) The location of the overflow;
 - (b) The receiving water (if there is one);
 - (c) An estimate of the volume of the overflow;
 - (d) A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
 - (e) The estimated date and time when the overflow began and stopped or will be stopped.
- ii. The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:
 - (a) The OERS incident number (if applicable); and
 - (b) A brief description of the event.

(2) Written reporting postmarked within 5 days.

- i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:
 - (a) The OERS incident number (if applicable);
 - (b) The cause or suspected cause of the overflow;
 - (c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
 - (d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
 - (e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

b. Other instances of noncompliance.

(1) The following instances of noncompliance must be reported:

- i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
- ii. Any upset that exceeds any effluent limitation in this permit;
- iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
- iv. Any noncompliance that may endanger human health or the environment.

- (2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).
- (3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
 - i. A description of the noncompliance and its cause;
 - ii. The period of noncompliance, including exact dates and times;
 - iii. The estimated time noncompliance is expected to continue if it has not been corrected;
 - iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
 - v. Public notification steps taken, pursuant to General Condition B7.
- (4) DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

D6. Other Noncompliance

The permittee must report all instances of noncompliance not reported under General Condition D4 or D5 at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D7. Duty to Provide Information

The permittee must furnish to DEQ within a reasonable time any information that DEQ may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to DEQ, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to DEQ, it must promptly submit such facts or information.

D8. Signatory Requirements

All applications, reports or information submitted to DEQ must be signed and certified in accordance with 40 CFR § 122.22.

D9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$125,000 per violation and up to 5 years in prison per ORS chapter 161. Additionally, according to 40 CFR § 122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance will, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

D10. Changes to Indirect Dischargers

The permittee must provide adequate notice to DEQ of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the federal Clean Water Act if it were directly discharging those pollutants and;
- b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

SECTION E. DEFINITIONS

- E1. *BOD* or *BOD₅* means five-day biochemical oxygen demand.
- E2. *CBOD* or *CBOD₅* means five-day carbonaceous biochemical oxygen demand.
- E3. *TSS* means total suspended solids.
- E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.
- E5. *FC* means fecal coliform bacteria.
- E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
- E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
- E8. *mg/l* means milligrams per liter.
- E9. *µg/l* means microgram per liter.
- E10. *kg* means kilograms.
- E11. *m³/d* means cubic meters per day.
- E12. *MGD* means million gallons per day.
- E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
- E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
- E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
- E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
- E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- E18. *Quarter* means January through March, April through June, July through September, or October through December.
- E19. *Month* means calendar month.
- E20. *Week* means a calendar week of Sunday through Saturday.
- E21. *POTW* means a publicly-owned treatment works.



State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System Permit Fact Sheet City of Tillamook Wastewater Treatment Plant

Permittee	City of Tillamook 210 Laurel Avenue Tillamook, Oregon 97141
Existing Permit Information	File Number: 88665 Permit Number: 101239 EPA Reference Number: OR0020664 Category: Domestic Class: Major Expiration Date: November 30, 2023
Permittee Contact	Kenneth Oleman Wastewater Supervisor 503-812-6064 210 Laurel Avenue Tillamook, Oregon 97141
Receiving Water Information	Receiving stream/NHD name: Trask River NHD Reach Code & % along reach: 17100203000108-77.4% USGS 12-digit HUC: 171002030406 OWRD Administrative Basin: North Coast ODEQ LLID & River Mile: 1238814454680 – 1.7 Integrated Report Assessment Unit ID: OR_EB_1710020308_01_107225
Proposed Action	Permit Renewal Application Number: 948295 Date Application Received: May 24, 2023
Permit Writer	Mark W. Hynson 503-229-5295 Date Prepared: June 7, 2024

NPDES Permit Fact Sheet

City of Tillamook Wastewater Treatment Plant

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NPDES Permit Renewal Fact Sheet

City of Tillamook Wastewater Treatment Plant

1. Introduction

The Department of Environmental Quality (DEQ) proposes to renew the National Pollutant Discharge Elimination System (NPDES) wastewater permit for the City of Tillamook Wastewater Treatment Plant (WTP) located at 710 5th Street in the City of Tillamook, Tillamook County, Oregon. This permit allows and regulates the discharge of treated wastewater directly to the Trask River at River Mile (RM) 1.7. The permit also authorizes the City of Tillamook to recycle the treated effluent as recycled water to qualified users, after the approval of a Recycled Water Use Plan. Lastly, the permit allows the City of Tillamook to process and apply to land treated liquid biosolids to approved sites in the vicinity of the City of Tillamook, after the approval of a Biosolids Management Plan and Land Application Plan.

The permit and permit fact sheet were initially posted for public comment on DEQ's website on February 15, 2024. The public comment period closed on March 22, 2024. As a result of the comments received during the initial public comment period, DEQ revised several sections of the permit which included more stringent limits for fecal coliform and the incorporation of a compliance schedule. As a result of these permit changes, DEQ concluded that a second public comment period was warranted for this permit.

As required by Oregon Administrative Rule 340-045-0035, this fact sheet describes the basis and methodology used in developing the permit. The permit is divided into several sections:

- Schedule A – Waste discharge limitations
- Schedule B – Minimum monitoring and report requirements
- Schedule C – Compliance conditions and schedules
- Schedule D – Special conditions
- Schedule E – Pretreatment conditions
- Schedule F – General conditions

A summary of the major changes to the permit are listed below:

- Schedule A (Waste Discharge Limits) – This schedule has been updated to reflect new permit limits and current DEQ permit format. For example, the permit will include new limits for ammonia and more stringent limits for fecal coliform. In addition, the effluent limitations for Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS) have been corrected slightly to account for DEQ's practice of rounding mass limits to two significant digits. The permittee is also required to prepare a Mercury Minimization Plan.
- Schedule B (Minimum Monitoring and Reporting Requirements) – General monitoring and reporting requirements have been updated to include new summary statistics to be included with web-based electronic Net Discharge Monitoring Reports (NetDMR).

- Schedule C (Compliance Schedule) – A compliance schedule has been added to meet the new ammonia limit.
- Schedule D (Special Conditions) – Several special conditions related to biosolids management and land application, Whole Effluent Toxicity (WET) testing, operator certification and spill/emergency response planning have been updated in this schedule. The requirement to inspect the facility outfall in the next permit term has been moved into this schedule.
- Schedule E (Program Requirements) – There is no pretreatment program associated with this permit.
- Schedule F (General Conditions) – Includes the latest version of the NPDES General Conditions.

2. Facility Description

2.1 Wastewater Facility

The permittee's Tillamook Wastewater Treatment Plant (WTP) is located at 710 5th Street in the City of Tillamook in Tillamook County near the Trask River (Figure 2-1). The permittee completed major upgrades to the WTP in 2010, including a new activated sludge system as well as upgrades to other systems throughout the facility. Major facility improvements included: collection system and pump stations improvements, influent pump station, headworks improvements including an influent screen and bypass channel, selector activated sludge process with anoxic selectors, aeration and channel air blowers, secondary clarifiers with return and waste activated sludge pumping systems, chlorine contact chamber with dual basins and chemical flash mixers, chlorination-dechlorination system, and a reconstructed submerged outfall in the Trask River.

Treated effluent is discharged year-round to the Trask River at approximately RM 1.7.¹ A 2023 capacity evaluation of the facility confirmed an average dry weather design flow of 1.20 million gallons per day (MGD) and an average wet weather design flow of 2.80 MGD.² Actual flows during the 2022 dry season (May 1 – October 31) averaged 0.9 MGD (this includes wet weather flows that occurred in May and June). During the drier months of July through October, effluent flows averaged 0.6 MGD. Effluent flows during the 2022-2023 wet season averaged 2.4 MGD. The facility's peak flow design capacity is 4.0 MGD. The origin of the wastewater processed is approximately 95 percent domestic with the remainder being commercial and light industrial.

¹ This is the distance upstream from the mouth of the Trask River, where it meets Tillamook Bay, based upon DEQ's Geographic Information System (GIS) database. The existing permit lists Outfall 001 at RM 1.9. These river mile determinations are originally upon United States Geological Survey (USGS) mapping. The lower RMs from the DEQ GIS database (1.7) are due to the increased accuracy of the GIS data in comparison to the USGS mapping. The proposed permit will use the DEQ GIS river mile data to be consistent with river mile data being used in other DEQ compliance programs.

² *Capacity Evaluation for the Tillamook Wastewater Treatment Plant*. Table ES-4 Tillamook WTP Description and Design Criteria. Final Report – May 2023.

The permittee reports a current service population of approximately 5,265 residents. Historically the WTP has accepted hauled wastes; however, the permittee has indicated that hauled wastes from the public will no longer be accepted. Future acceptance of hauled waste shall be subject to a DEQ-approved hauled waste control plan.

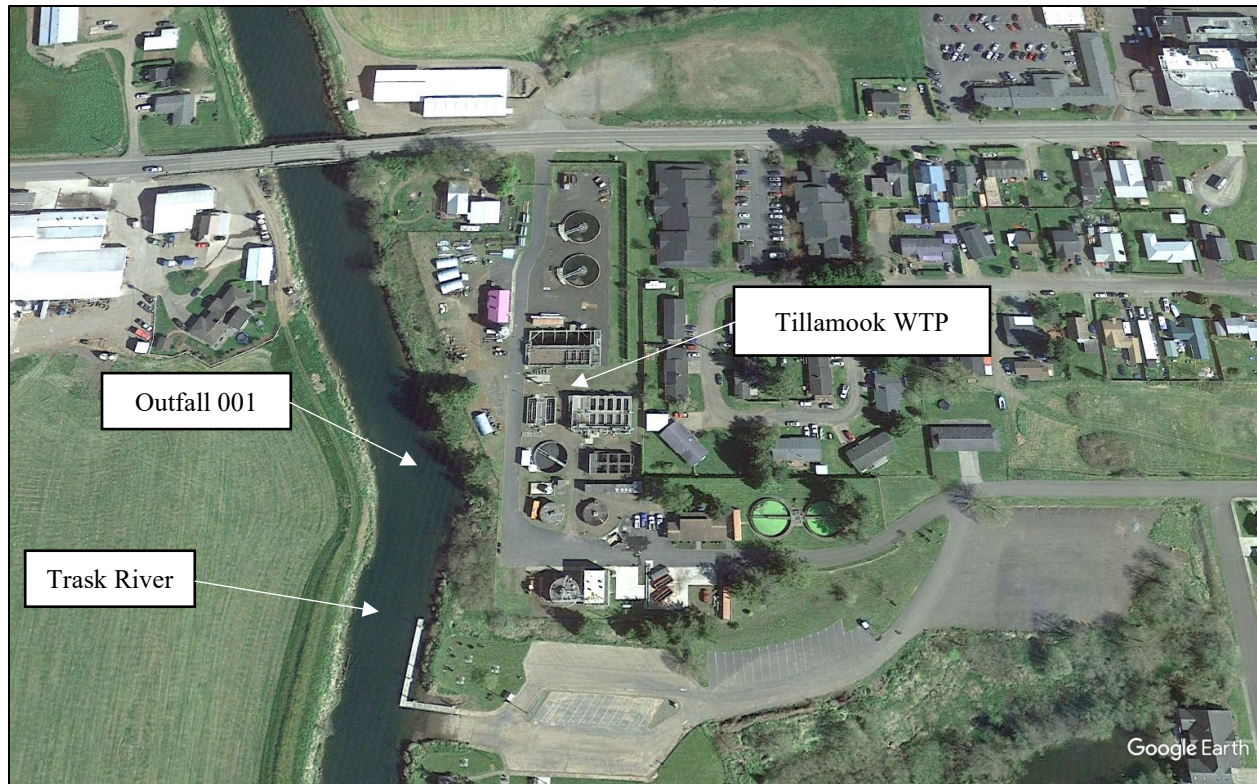


Photo Source: Google Earth, 2023

Figure 2-1: Facility and Outfall Locations

The WTP includes the following major treatment components:

- One step screen with bypass channel equipped with manual screen
- One vortex grit removal unit
- Two primary clarifiers
- One aeration basin
- Two secondary clarifiers
- One rotary drum thickener
- One anaerobic digester
- Two chlorine contact tanks

The permittee's overall process sequence at the WTP consists of the headworks screening and grit removal, a primary influent pumping station, two primary clarifiers, an aeration basin, two secondary clarifiers, a rotary drum thickener, an anaerobic digester, and two chlorine contact tanks. Sodium hypochlorite is used for disinfection and sodium bisulfite is used for dechlorination. A general flow schematic of the WTP is included in Appendix A.

Primary treatment includes screening, grit removal, and primary clarifiers. Variable frequency drives (VFDs) are used to transport raw wastewater to a step screen with 6 mm openings at the headworks. Grit is removed in a single gravity vortex unit. The grit handling process removes inert particulate matter from the screened raw sewage to reduce abrasive wear on downstream equipment and reduce the amount of material that settles in the tanks.

After screenings and grit removal, the wastewater flows to the primary clarifiers. The primary clarifiers concentrate the settleable portion of the suspended solids in the wastewater in the bottom of the clarifier. There are two primary clarifiers, each 20 feet wide by 60 feet in length. Settled solids are collected by rake mechanisms and transferred by progressive cavity pumps to the solids handling system. Effluent from the primary clarifiers is conveyed by gravity to the secondary treatment system.

The secondary treatment system consists of a single aeration basin with four biological zones, each set up for varying levels of mixing or aeration. The primary and conventional process mode is to distribute all primary effluent to Zone 1. Zone 1 consists of three cells, each with mixers to create a “No” free oxygen condition. The aeration basin is equipped with mixed liquor recycle pumps that can return nitrified effluent from the end of Zone 3 to Zone 1 for denitrification. A portion of the primary effluent may be transferred to the end of Zone 2 in a process mode referred to as step feed activated sludge. A portion of the primary effluent may also be transferred to the end of Zone 3 during a process referred to as hybrid contact stabilization activated sludge. The result of the aeration basin process is a settleable floc suitable for separation and removal in the secondary clarifier.

Secondary treatment also consists of two secondary clarifiers with return and waste activated sludge systems. The secondary clarifiers allow floc to settle out of the mixture forming a sludge on the bottom of the clarifier. This sludge can be drawn off and pumped back to the aeration basins as return activated sludge to improve process efficiency.

The secondary effluent is disinfected using chlorination prior to discharge into the Trask River. The chlorination system includes two chlorine contact tanks, each containing two channels used to provide adequate time for disinfection of secondary effluent. Sodium hypochlorite is used for disinfection and sodium bisulfite is used for dechlorination prior to discharge. The disinfected effluent is discharged by gravity to the Trask River through a 30-inch pipe with two discharge ports.

The solids processing system includes an anaerobic digester and rotary drum thickener. The anaerobic digester stabilizes and reduces the volume of volatile solids, usually by 40 percent or more, with a retention time of 38 days. The rotary drum thickener can be used for thickening or dewatering solids to reduce the amount of sludge remaining for disposal. Primary and secondary sludge make up the inflow to solids processing. Since 2012, the final dewatered sludge has been hauled to the Coffin Butte landfill in Oregon for disposal. The current practice of landfill disposal does not require a Biosolids Management Plan and Land Application Plan. However, this permit allows the permittee to land apply processed biosolids in accordance with Schedule A, Section 4 and Schedule B, Section 9 of the permit, and a DEQ-approved Biosolids Management Plan and Land Application Plan. Prior to land application of biosolids, the

permittee must submit and receive approval of a Biosolids Management Plan and Land Application Plan. Any proposed Biosolids Management Plan and Land Application Plan will be made available for public comment.

2.2 Outfalls

The WTP's point of discharge into the Trask River (Outfall 001) is located approximately 1.7 miles upstream of Tillamook Bay along the east bank of the Trask River (RM 1.7) (Figure 2-1). Constructed in 2009 as part of a major facility upgrade, the outfall consists of a 30-inch diameter pipe oriented perpendicular to the riverbank with two discharge ports. Each port is fitted with a duckbill check valve, pointing downstream in the direction of the river current and at an angle of 30 degrees above horizontal. At mean lower low water (MLLW), the outfall extends approximately 35 feet from the riverbank at a depth of 8.1 feet. The outfall is designed to handle all expected flows from the facility (Table 2-1).

The proposed permit requires the permittee to inspect and report on the integrity and function of Outfall 001 during the third year of the next permit term. The requirements for the outfall inspection are presented in Schedule D of the permit.

The proposed permit provides the Tillamook WTP with the option for discharging recycled water when a recycled water use plan is developed and approved by DEQ. This is identified as Outfall 002.

Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long	Design Flow ¹ (mgd)	Existing Flow ² (mgd)
001	Treated Wastewater	45.4549N/- 123.8590	1.2	0.9
002	Recycled Water	45.4549N/- 123.8590	To be determined	To be determined
1. Design Flow = design average dry weather flow 2. Existing Flow = existing average monthly dry weather flow for May 1 through October 31. Average flows for July through October are 0.6 MGD.				

2.3 Stormwater

The 1200-Z Industrial Stormwater general permit is required for wastewater treatment facilities with a design flow of 1 MGD or more unless all facility stormwater is collected, treated, and discharged as part of its treated wastewater. DEQ's industrial stormwater program will engage the permittee to determine applicability. Discharges of industrial stormwater are not authorized by this permit.

2.4 Industrial Pretreatment

The permittee conducted an Industrial User Survey during the last permit cycle and determined that a DEQ-approved industrial pretreatment program is not needed. No categorical industrial users were identified in the IU survey update submitted with the city's permit renewal application.

The proposed permit requires the permittee to conduct and submit to DEQ an updated Industrial User Survey (Survey) within five years of permit issuance. DEQ will review the Survey results and, if DEQ determines that a pretreatment program is required, the permit may be reopened and modified to require development of a pretreatment program.

2.5 Wastewater Classification

OAR 340-049 requires all permitted municipal wastewater collection and treatment facilities receive a classification based on the size and complexity of the systems. DEQ evaluated the classifications for the treatment and collection system, which are publicly available at: <https://www.deq.state.or.us/wq/opcert/Docs/OpcertReport.pdf>.

3. Schedule A: Effluent Limit Development

Effluent limits serve as the primary mechanism in NPDES permits for controlling discharges of pollutants to receiving waters. Effluent limitations can be based on either the technology available to control the pollutants or limits that are protecting the water quality standards for the receiving water. DEQ refers to these two types of permit limits as technology-based effluent limitations (TBELs) and water quality-based effluent limits (WQBELs) respectively. When a TBEL is not restrictive enough to protect the receiving stream, DEQ must include a WQBEL in the permit.

3.1 Existing Effluent Limits

The table below show the limits contained in the existing permit.

Table 3-1: Existing Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD ₅) (May 1 – October 31)	mg/L	20	30	--
	lbs/day	177	265	354
	% removal	85 ^g	--	--
Total Suspended Solids (TSS) (May 1 – October 31)	mg/L	20	30	--
	lbs/day	177	265	354
	% removal	85 ^g	--	--

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (November 1 – April 30)	mg/L	30	45	--
	lbs/day	530	795	1060
	% removal	85 ^g	--	--
TSS (November 1 – April 30)	mg/L	30	45	--
	lbs/day	530	795	1060
	% removal	85 ^g	--	--
pH ^a	Standard Units	Between 6.0 and 9.0		
Total Residual Chlorine ^b	mg/L	0.01	--	0.02
Fecal coliform bacteria (May 1 – October 31) ^c	# organisms/100 mL	200 ^d	--	400
Fecal coliform bacteria (November 1 – April 30) ^c	# organisms/100 mL	49 ^d	--	151
<i>E. coli</i> bacteria ^f	# organisms/100 mL	126 ^d	--	406
Excess Thermal Load ^h (Year-Round)	Option A (7-day rolling average)		Option B (7-day rolling average)	
	Shall not exceed a 7-day rolling average of 11.8 million Kcals		Shall not exceed a 7-day rolling average as calculated in the equation below	
Notes:				
a. May not be outside the range of 6.0 to 9.0 Standard Units.				
b. Calculated effluent limitations are below analytic range of available methods. The compliance level is equal to the Quantitation Limit which is 0.05 mg/L monthly average and 0.05 mg/L daily maximum.				
c. No single fecal coliform sample may exceed 400 organisms per 100 mL from May 1 through October 31. The permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning as soon as practicable (preferably within 28 hours) after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 200 fecal coliform organisms/100 mL to demonstrate compliance with the limit.				
d. Reported as a monthly geometric mean.				
e. No single fecal coliform sample may exceed 151 organisms per 100 mL from November 1 through April 30. The permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning as soon as practicable (preferably within 28 hours) after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 49 fecal coliform organisms/100 mL to demonstrate compliance with the limit.				
f. No <i>E. coli</i> sample may exceed 406 organisms per 100 mL. The permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning as soon as practicable (preferably within 28 hours) after the original sample was taken and the geometric mean of the 5 re-samples is less than or equal to 126 <i>E. coli</i> organisms/100 mL to demonstrate compliance with the limit.				
g. The 85% removal limit does not apply when the monthly average influent BOD or TSS is less than 167 mg/L.				

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
h. The permittee must comply with the excess thermal load limit using option A or B. For option B, the daily Excess Thermal Load Limit (ETLL) must be calculated using the formula below. $ETLL = (Q_e * 1.548 + Q_r / 4) * (0.3) * 2.448 \text{ million kcals/day, as a 7-day rolling average}$ Where: ETLL= Excess Thermal Load Limit (kcal/day), as a 7-day rolling average Q_e = Daily Average Effluent Flow (MGD) Q_r = Daily Average Trask River Flow (cfs)				

In the existing permit, the May 1 – October 31 mass limits are based on a dry weather design flow of 1.06 MGD. Average wet weather design flow is 2.12 MGD and mass load limits from November 1 to April 30 are based on 2.12 MGD.

3.2 Technology-Based Effluent Limit Development

40 CFR 122.44(a)(1) requires publicly owned treatment works (POTW) to meet technology-based effluent limits, for five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS) and pH (i.e., federal secondary treatment standards). Substitution of 5-day carbonaceous oxygen demand (CBOD₅) for BOD₅ is allowed. The numeric standards for these pollutants are contained in 40 CFR 133.102. In addition, DEQ has developed minimum design criteria for BOD₅ and TSS that apply to specific watershed basins in Oregon. These are listed in the basin-specific criteria sections under OAR 340-041-0101 to 0350. During the summer low flow months as defined by OAR, these design criteria are more stringent than the federal secondary treatment standards. The basin-specific criteria are not effluent limits, but are implemented as design criteria for new or expanded wastewater treatment plants. The table below shows a comparison of the federal secondary treatment standards and the basin-specific design criteria for the North Coast basin.

Table 3-2: Comparison of TBELs for Federal Secondary Treatment Standards and Oregon Basin-Specific Design Criteria

Parameter	Federal Secondary Treatment Standards		North Coast Basin-Specific Design Criteria (OAR 340-041-0235)
	30-Day Average	7-Day Average	Monthly Average
BOD ₅ (mg/L)	30	45	Low stream flow (approximately May 1 – October 31; 20 mg/L for BOD and TSS)
TSS (mg/L)	30	45	
pH (S.U.)	6.0 – 9.0. (instantaneous)		Not applicable

Parameter	Federal Secondary Treatment Standards		North Coast Basin-Specific Design Criteria (OAR 340-041-0235)
	30-Day Average	7-Day Average	Monthly Average
BOD ₅ or CBOD ₅ and TSS % Removal	85%	Not applicable	Not applicable

The limits for BOD₅ and TSS shown in the table above are concentration-based limits. Mass-based limits are required in addition to the concentration-based limits per OAR 340-041-0061(9). For any new facility or any facility that has expanded its dry weather treatment capacity after June 30, 1992, OAR 340-041-0061(9)(b) requires that the mass load limits be calculated based on the proposed treatment facility capabilities and the highest and best practicable treatment to minimize the discharge of pollutants. The permittee's facility has been engineered to achieve BOD₅ and TSS monthly average concentrations of 20 mg/L during the dry weather season and 30 mg/L during the wet weather season.

DEQ uses the maximum monthly design flow to calculate the mass load limits. The existing 2018 permit limits were based upon an average dry weather design flow of 1.06 MGD and a wet weather design flow of 2.12 MGD. As documented in the 2018 Permit Evaluation Report (PER), the actual facility design flows were uncertain and needed to be re-evaluated as result of the 2010 facility upgrade. As a condition of the 2018 permit renewal, the permittee completed a capacity evaluation of the facility which confirmed an average dry weather design flow of 1.20 MGD and an average wet weather design flow of 2.80 MGD for the facility.³

The confirmed dry and wet weather design flows are slightly higher than those used to develop the permitted mass loads in the existing 2018 permit. Calculating mass load limits based upon the higher confirmed design flows would result in an increase in the existing permitted mass loads. Based upon a review of Discharge Monitoring Reports (DMRs) submitted by the facility from 2018 through 2022, the facility is currently discharging well below the permitted limits for both TSS and BOD₅. For example, maximum recorded dry weather flows are typically half of the newly confirmed average dry weather design flow of 1.20 MGD. This also suggests that the most probable maximum dry weather discharge anticipated during the next permit term would still be well below the facility's previous documented design flow of 1.06 MGD.

The facility is operating well below permitted limits, and the permittee is not seeking a mass load increase with this permit renewal based upon the updated design flows. However, the permittee has the option to request a mass load increase during the permit term or at the next permit renewal. For this permit renewal, the dry and wet weather design flows from the 2018 permit were used to maintain the current mass load limits in the permit renewal (Refer to Table 3-3).

³ *Capacity Evaluation for the Tillamook Wastewater Treatment Plant*. Table ES-4 Tillamook WTP Description and Design Criteria. Final Report – May 2023.

To calculate the mass load limits for the dry and wet weather seasons, the following formula was used:

Monthly Avg Mass Load = Design Flow* x Monthly Concentration Limit x Unit Conversion factor

Weekly Average Mass Load = 1.5 x Monthly Average Mass Load Limit

Daily Maximum Mass Load = 2 x Monthly Average Mass Load Limit

* Design flow is the average dry weather design flow (ADWDF) or average wet weather design flow (AWWDF).

The following table lists the effluent flows and concentration limits used for the calculations.

Table 3-3: Design Flows and Concentrations Limits

Season	Design Flow (mgd)	Monthly TSS Concentration Limit (mg/L)	Monthly BOD ₅ Concentration Limit (mg/L)
Dry Weather	1.06	20	20
Wet Weather	2.12	30	30
Design flow comments: Dry weather: Average Dry Weather Design Flow (ADWDF); Wet weather: Average Wet Weather Design Flow (AWWDF). Both design flows are the same as from the 2018 permit.			

Example: Mass Load Calculations for Dry Weather:

Monthly Average: $1.06 \text{ MGD} \times 20 \text{ mg/L} \times 8.34 = 177 \text{ lbs/day}$ (rounded to 180 lbs/day for two significant figures)

Weekly Average: $180 \text{ lbs/day monthly average} \times 1.5 = 270 \text{ lbs/day}$

Daily Maximum: $180 \text{ lbs/day monthly} \times 2 = 360 \text{ lbs/day}$

The existing 2018 permit did not account for rounding to two significant digits consistent with DEQ's numeric rounding conventions associated with the accuracy of TSS and BOD₅ measurements of 10 or greater. The rounding to two significant figures resulted in slight increases to the mass load limitations in the permit renewal.

In order to allow these slight increases in the TSS and BOD load limits, DEQ must determine if anti-backsliding requirements prohibit the less stringent limits. In accordance with 40 CFR 122.44(l)(2)(i)(B), backsliding is allowed if it is determined that "technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b)." DEQ has determined that the inclusion of the previous load limits was the result of a technical mistake and, therefore, meets the anti-backsliding exception.

In addition, DEQ must ensure antidegradation requirements are also met. Section 3.3.2, below, includes a description of a dissolved oxygen (DO) analysis that concluded that the discharge is not considered a reduction in water quality under Oregon's antidegradation rule. A separate analysis was conducted to determine if the increase in TSS load limits would have the potential to result in a degradation of water quality. This analysis, which is part of the permit renewal file, conservatively estimates that the downstream TSS concentrations will increase by a maximum of 1.7%. Under DEQ's antidegradation policy, an impact of 2.5% or less is considered a de minimis lowering of water quality that does not require a full antidegradation review.

The existing permit (and prior versions of the permit) provided an adjustment to the 85 percent removal requirement for BOD₅ and TSS as allowed by Federal regulations under 40 CFR 133.103. Specifically, this adjustment removed the percent removal requirement when the monthly average influent BOD₅ or TSS concentrations are below 167 mg/L. As detailed in the 2018 PER for the existing permit, Federal regulations (40 CFR 133.103(d)) include special considerations for less concentrated influent wastewater from separate sewers. The rule allows substitution of either a lower percent removal requirement or a mass loading limit for the percent removal requirements provided that the permittee satisfactorily demonstrates that:

- The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits, but it's percent removal requirements cannot be met due to less concentrated influent wastewater;
- To meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limits (defined as at least 5 mg/l more stringent than the otherwise applicable concentration-based limits) than would otherwise be required by the concentration-based standards; and,
- The less concentrated influent wastewater is not the result of excessive infiltration and inflow (I/I).

When these three conditions are met, federal regulations allow relaxed percent removal and mass load requirements during wet weather. The 2018 PER determined that the facility met all three conditions above and included an adjustment to the 85 percent removal requirement for BOD₅ and TSS when average monthly influent flows were below 167 mg/L.

For this permit renewal, DEQ conducted a new assessment to determine if the facility continues to meet each condition. The results of that assessment are summarized below:

1. Based upon a review of discharge monitoring reports submitted from 2018 to 2023, the permittee continues to comply with the first provision as the facility consistently meets the permit's BOD and TSS concentrations limits.
2. To assess the second provision, DEQ needs to show that meeting the 85 percent removal rule would require meeting BOD or TSS concentrations 5 mg/L less than what would otherwise be required. The facility's winter limits are 30 mg/L for BOD and TSS so the analysis needs to show that keeping the 85 percent removal condition would require the City to meet effluent concentrations of 25 mg/L or less. Influent concentrations of 167 mg/L or less would

be required for the facility to meet a 25 mg/L limit. BOD and TSS influent concentrations are frequently below 167 mg/L demonstrating that the second provision is met.

3. For the third provision, 40 CFR 35.2005(b)(16) defines excessive inflow and infiltrations as follows:

The quantities of infiltration/inflow which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow.

The City's December 2003 Wastewater Facilities Plan provided cost estimates of \$24 million dollars for a system-wide rehabilitation of the sanitary collection system to remove inflow and infiltration. Using this information, the City determined that it was not economically feasible to eliminate the infiltration/inflow and that it was more cost effective to convey and treat it. DEQ concurred with this plan and approved the City's 2010 upgrades to the treatment plant which were specifically designed to treat the excessive inflow and infiltration.

DEQ concludes that the City meets each of the three provisions listed above and is granting the City an exception to the 85 percent removal requirement. This exception is being carried forward from the existing permit. The exception will be noted in Table A1 (Permit Limits) in Schedule A of the permit. When the monthly average influent BOD or TSS concentrations are below 167 mg/L, there is no percent removal limit.

To ensure that the city is taking steps to reduce inflow and infiltration, the proposed permit requires the permittee to develop and implement an Inflow Removal Program and submit annual inflow and infiltration reports, as specified in Schedule D, Section 1.

The proposed BOD₅ and TSS limits are listed in the following table.

Table 3-4: Technology Based Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (May 1 – October 31)	mg/L	20	30	NA
	lbs/day	180	270	360
	% removal	85	NA	NA
TSS (May 1 – October 31)	mg/L	20	30	NA
	lbs/day	180	270	360
	% removal	85	NA	NA

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	530	800	1100
	% removal	85	NA	NA
TSS (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	530	800	1100
	% removal	85	NA	NA

3.3 Water Quality-Based Effluent Limit Development

40 CFR 122.44(d) requires that permits include limitations more stringent than technology-based requirements where necessary to meet water quality standards. Water quality-based effluent limits may be in the form of a wasteload allocation required as part of a Total Maximum Daily Load (TMDL). They may also be required if a site-specific analysis indicates the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality criterion. DEQ establishes effluent limits for pollutants that have a reasonable potential to exceed a criterion. The analyses are discussed below.

3.3.1 Designated Beneficial Uses

NPDES permits issued by DEQ must protect the following designated beneficial uses of the Trask River. These uses are listed in OAR-340-041-0230 (Table 230A) for the North Coast Basin.

- Public and private domestic water supply⁵
- Industrial water supply
- Irrigation and livestock watering
- Fish and aquatic life (including salmonid rearing, migration, and spawning)
- Wildlife and hunting
- Fishing
- Boating
- Water contact recreation
- Aesthetic quality

3.3.2 303d Listed Parameters and Total Maximum Daily Loads

The following table lists the parameters that are on the 2022 303(d) list (Category 5) within the discharge's stream reach. The table also lists any parameters with a TMDL wasteload allocation assigned to the facility (Category 4).

⁵ With adequate pretreatment (filtration & disinfection) and natural quality to meet drinking water standards.

Table 3-5: 303d and TMDL Parameters

Water Quality Limited Parameters (Category 5)	
AU ID:	OR_EB_1710020308_01_107225
AU Name:	Tillamook Bay
AU Status:	Impaired
Year Listed	2002
Year Last Assessed	2022
303d Parameters (Category 5)	E. coli, Fecal Coliform, Dissolved Oxygen-year-round, Dissolved Oxygen-year-round, Dissolved Oxygen-spawn, Temperature-year-round, Temperature- spawn
TMDL Parameters (Category 4)	
Temperature and Fecal Coliform	

DEQ has reviewed information related to the facility's effluent to determine whether the permittee may be contributing to the Category 5 water quality impairment (Table 3-5).

DEQ performed a conservative Streeter-Phelps analysis to determine if the BOD₅ TBEL limits were lowering the dissolved oxygen by more than 0.1 mg/L. For this analysis DEQ used the maximum reported effluent temperature, the minimum reported DO concentration, the BOD₅ TBEL limit, the 90th percentile of the effluent ammonia concentration, and the maximum reported effluent Total Kjeldahl Nitrogen concentration. For ambient data the 90th percentile of temperature data, maximum BOD₅, maximum ammonia, and maximum TKN concentrations from stations 12959-ORDEQ and 13433-ORDEQ in AWQMS and permittee reported data. A salinity of 0 ppt was assumed as it resulted in a more conservative analysis. Given these conservative conditions, the analysis showed that there was no more than a 0.05 mg/L DO deficit in the river between the outfall and where the Trask River enters the estuary (1.7 miles downstream).

Because NPDES permits have specific limit for *E. coli* that do not allow them to discharge bacteria in excess of the bacteria criterion, it is assumed that the limits contained within the NPDES permit are protective of the bacteria water quality criteria (See section 3.3.8).

3.3.3 TMDL Wasteload Allocations

A Total Maximum Daily Load (TMDL)⁴ for temperature in the North Coast Subbasins, including the Trask River in the vicinity of the facility outfall, was developed by DEQ, and approved by the USEPA in August 2003. The TMDL was modified by addendum in December 2006. The Tillamook Bay Watershed TMDL for fecal coliform, which includes the vicinity of the facility outfall, was approved by USEPA in July 2001. A TMDL can be thought of as an

⁴ Section 303(d) of the Clean Water Act requires each state to develop a list (the "303(d)" list) of water bodies that do not meet state surface water quality standards after implementation of technology-based controls. Each state is then required to complete a Total Maximum Daily Load (TMDL) for water bodies on the 303(d) list. The TMDL must address water quality on a basin-wide scale to ensure overall water quality standards will be met. The North Coast Basin TMDL is available online at: <https://www.oregon.gov/deq/wq/tmdls/Pages/TMDLs-Basin-N-Coast.aspx>.

estimate of the total amount of pollution a waterbody can assimilate without exceeding water quality standards. The TMDL addresses the temperature and fecal coliform listing for this section of the river. A discussion of the temperature issues associated with the discharge and the relationship to the TMDL is presented in Section 3.3.7. A discussion of the fecal coliform issues associated with the discharge and the relationship to the TMDL is presented in Section 3.3.8.

3.3.4 Pollutants of Concern

To ensure that a permit is protecting water quality, DEQ must identify pollutants of concern. These are pollutants that are expected to be present in the effluent at concentrations that could adversely impact water quality. DEQ uses the following information to identify pollutants of concern:

- Effluent monitoring data.
- Knowledge about the permittee's processes.
- Knowledge about the receiving stream water quality.
- Pollutants identified by applicable federal effluent limitation guidelines.

Table 3-6: Domestic Toxic Pollutants of Concern

Flow Rate	Pollutants
< 0.1 mgd	Total Residual Chlorine
> 0.1 mgd and < 1.0 mgd	Total Residual Chlorine, Total Ammonia Nitrogen
> 1.0 mgd	Total Residual Chlorine, Total Ammonia Nitrogen, Metals, Volatile Organic Compounds, Acid Extractable Compounds, Base Neutral Compounds

DEQ identified the following pollutants of concern for this facility listed in the following table.

Table 3-7: Pollutants of Concern

Pollutant	How was pollutant identified?
pH	Effluent Monitoring
Temperature	Effluent Monitoring
Fecal Coliform	Effluent Monitoring
<i>E. coli</i>	Effluent Monitoring
Total Residual Chlorine	Effluent Monitoring
Dissolved Oxygen	Water Quality Limitation
Total Ammonia Nitrogen	Application Requirement
Metals	Application Requirement
Volatile Organic Compounds	Application Requirement
Acid Extractable Compounds	Application Requirement
Base-Neutral Compounds	Application Requirement
Base-Neutral Compounds	Application Requirement

EPA has developed a methodology called Reasonable Potential Analysis (RPA) for determining if there is a reasonable potential for a discharge to cause or contribute to violations of water quality standards for a particular parameter. An RPA takes into account effluent variability, available dilution (if applicable), receiving stream water quality and water quality standards for the protection of aquatic life and human health. If the RPA results indicate that there is a potential for the discharge to cause or contribute to exceedances of water quality standards, the methodology is then used to establish permit limits that will not cause or contribute to violations of water quality standards.

DEQ has adopted EPA's methodology for conducting an RPA and has developed spreadsheets that incorporate this analysis. The sections below discuss the analyses that were conducted for the pollutants of concern to determine if water quality-based effluent limits are needed to meet water quality standards.

3.3.5 Regulatory Mixing Zone

The proposed permit contains a mixing zone as allowed per OAR 340-041-0053. The proposed mixing zone remains unchanged from the existing permit and is described as follows:

The allowable mixing zone is that portion of the Trask River 50 feet upstream and 100 feet downstream from the point of discharge. The zone of initial dilution (ZID) is that portion of the allowable mixing zone that is within 5 feet upstream and 20 feet downstream of the point of discharge.

The dilutions at the edge of the zone of initial dilution and mixing zone are shown in Table 3-8. These dilutions are based on a 2015 mixing zone study reviewed by DEQ. For this memo, DEQ used CORMIX 12.0.1.0 to simulate the discharge and provide updated dilution values at the edge of the ZID (20 feet downstream) and edge of the regulatory mixing zone (100 feet downstream). These updated model runs resulted in lower dilutions when compared to those from the 2018 permit and are documented in a 2023 Mixing Zone Memo which is part of the administrative record. The exact model inputs used in each design case are included in the mixing zone memo and model files are available in the administrative record.

Table 3-8: Outfall 001 Dilution Summary

Dilution Summary – Year-round						
Water Quality Standard	Tidal Velocity		Effluent Flow (mgd)		Dilution	Location
	Statistic	Flow	Statistic	Flow		
Aquatic Life, Acute	Lowest one-hour average	0.05	Dry Peak Day Design Flow (Harrison 2023)	3.5	4	ZID
Aquatic Life, Chronic	Tidally averaged velocity	0.17	Dry Maximum Month Design Flow (Harrison 2023)	2.3	17	MZ

Human Health, Non-Carcinogen	Tidally averaged velocity	0.17	Dry Maximum Month Design Flow (Harrison 2023)	2.3	12	MZ
Human Health, Carcinogen	Tidally averaged velocity	0.17	Annual Design Flow(Harrison 2023)	2.8	10	MZ

3.3.6 pH

The pH criterion for this basin is 6.5 – 8.5 for both estuarine and fresh waters per OAR 340-041-0235. The federal secondary treatment standards allow the permittee to discharge effluent with a pH between 6.0 and 9.0. This pH range was utilized in a reasonable potential analysis along with effluent data collected from January 2019 to August 2023, and ambient river data collected from January 2013 to March 2023 from three DEQ monitoring stations on the Trask River. Since the facility is located on the Lower Trask River in which flows are tidally influenced, the RPA for pH was conducted under both freshwater and saltwater receiving stream conditions.

DEQ determined there is no reasonable potential for the discharge to exceed the pH criterion at the edge of the mixing zone. This includes both freshwater and saltwater receiving stream conditions. As such, the proposed permit will retain the existing permit limit of 6.0 – 9.0 for pH. These limits are considered to be TBELs. The following tables provides a summary of the data used for the analysis under fresh and estuarine conditions.

Table 3-9: pH Reasonable Potential Analysis (Freshwater)

INPUT	Lower pH Criteria	Upper pH Criteria
1. Dilution at mixing zone boundary	17	17
2. Upstream characteristics		
a. Temperature (deg C)	17.8	6.3
b. pH	7.1	7.6
c. Alkalinity (mg CaCO ₃ /L)	25.0	25.0
3. Effluent characteristics		
a. Temperature (° C)	22.0	15.1
b. pH (S.U.)	6.0	9.0
c. Alkalinity (mg CaCO ₃ /L)	134.1	134.1
4. Applicable pH criteria	6.5	8.5
pH at mixing zone boundary	6.5	7.7
Is there reasonable potential?	No	No
Proposed effluent limits	6.0	9.0
Effluent data source: Facility Discharge Monitoring Reports from January 2019 to August 2023.		
Ambient data source: AWQMS - DEQ Monitoring Station Nos. 13431 (Trask River @Netarts Road (Hwy 6), 12959 (Lower Trask Boat Ramp [Steiner Boat Launch]) and 13433 (Trask River at Highway 101) - Data from January 2013 to March 2023.		

Table 3-10: pH Reasonable Potential Analysis (Estuarine)

INPUT	Lower pH Criteria	Upper pH Criteria
1. Dilution at mixing zone boundary	17	17
2. Upstream characteristics		
a. Temperature (deg C)	17.8	6.3
b. pH	7.1	7.6
c. Alkalinity (mg CaCO ₃ /L)	25.0	25.0
3. Effluent characteristics		
a. Temperature (° C)	22.0	15.1
b. pH (S.U.)	6.0	9.0
c. Alkalinity (mg CaCO ₃ /L)	134.1	134.1
4. Applicable pH criteria	6.5	8.5
pH at mixing zone boundary	6.5	8.0
Is there reasonable potential?	No	No
Proposed effluent limits	6.0	9.0
Effluent data source: Facility Discharge Monitoring Reports from January 2019 to August 2023. Temperature values are maximum monthly values.		
Ambient data source: AWQMS - DEQ Monitoring Station Nos. 13431 (Trask River @Netarts Road (Hwy 6), 12959 (Lower Trask Boat Ramp [Steiner Boat Launch]) and 13433 (Trask River at Highway 101) - Data from January 2013 to March 2023. Salinity is calculated from conductivity and temperature recorded concurrently at these stations. Station 13431 is immediately downstream of facility. Mixing Zone Study recorded maximum salinity of 2.0 PSU on 9/18/2014.		

3.3.7 Temperature

3.3.7.1 Temperature Criteria OAR 340-041-0028

The following table summarizes the temperature criteria that apply at the discharge location along with whether the receiving stream is water quality-limited for temperature and whether a TMDL wasteload allocation has been assigned. Using this information, DEQ performed several analyses to determine if effluent limits were needed to comply with the temperature criteria.

Table 3-11: Temperature Criteria Information

Applicable Temperature Criterion	Rearing/Migration 18°C (OAR 340-041-0028(4)(c))
Applicable dates: Year-round	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☐ Yes ☒ No
Applicable dates: Not Applicable	
WQ-limited?	☒ Yes ☐ No
TMDL wasteload allocation assigned?	☒ Yes ☐ No
Applicable dates: Year-round	
TMDL based on natural conditions criterion?	☐ Yes ☒ No
Cold water summer protection criterion applies?	☐ Yes ☒ No
Cold water spawning protection applies?	☐ Yes ☒ No
Comments:	

As noted in Table 3-5, the portion of the Trask River into which the Tillamook WTP discharges is listed as water quality limited for temperature. In 2001, the DEQ issued the Tillamook Bay Watershed TMDL to address the temperature impairment. The TMDL was modified by addendum in 2006⁵. The TMDL Addendum includes a wasteload allocation for the facility which addresses the 18°C rearing and migration criterion for the receiving stream. The wasteload allocation provided by the TMDL has an allowable effluent temperature of 19.8°C when the river flow is 54 cfs and the effluent flow is 2.6 cfs (1.7 MGD). This equates to an Excess Thermal Load Limit (ETLL) of 11.8 million kcals/day (as a 7-day rolling average). The TMDL addendum also includes equations to calculate applicable wasteload allocations for other river and effluent flow rates. The ETLL included in the proposed permit are discussed in more detail in Section 3.3.7.3 below.

3.3.7.2 Thermal Plume OAR 340-041-0053(2)(d)

In addition to compliance with the temperature criteria, OAR 340-041-0053(2)(d) contains thermal plume limitation provisions designed to prevent or minimize adverse effects to salmonids that may result from thermal plumes. The discharge was evaluated for compliance with these provisions as follows:

- OAR 340-041-0053(2)(d)(A): Impairment of an active salmonid spawning area where spawning redds are located or likely to be located. This adverse effect is prevented or minimized by limiting potential fish exposure to temperatures of 13°C or more for salmon and steelhead, and 9°C or more for bull trout.

⁵ Addendum #1: Modifications to North Coast Basin Temperature Waste Load and Load Allocations for the Tillamook Bay Watershed Total Maximum Daily Load (TMDL) (June 2001). Prepared by DEQ. November 2006.

Tillamook WTP Discharge: Based on the North Coast Basin fish use and salmonid spawning use maps contained in OAR 340-041 (Figures 230A and 230B, respectively), the designated fish use for this segment of the Trask River is salmon and trout rearing & migration (year-round) and no spawning use. Therefore, the discharge will not cause impairment of an active salmonid spawning area.

- OAR 340-041-0053(2)(d)(B): Acute impairment or instantaneous lethality is prevented or minimized by limiting potential fish exposure to temperatures of 32°C or more to less than 2 seconds.

Tillamook WTP Discharge: Based on a review of January 2019 to August 2023 effluent data, the maximum effluent temperature at Outfall 001 was 23.0°C in September 2020. Thus, anticipated peak temperatures are expected to be well below 32°C and are not expected to cause an acute impairment or instantaneous lethality due to the thermal plume.

- OAR 340-041-0053(2)(d)(C): Thermal shock caused by a sudden increase in water temperature is prevented or minimized by limiting potential fish exposure to temperatures of 25°C or more to less than 5% of the cross-section of 100% of the 7Q10 flow of the water body.

Tillamook WTP Discharge: Based on a review of January 2019 to August 2023 effluent data, the maximum effluent temperature at Outfall 001 was 23.0°C in July 2019. Thus, anticipated peak temperatures are expected to be below 25°C which will prevent or minimize thermal shock due to the thermal plume.

- OAR 340-041-0053(2)(d)(D): Unless ambient temperature is 21°C or greater, migration blockage is prevented or minimized by limiting potential fish exposure to temperatures of 21°C or more to less than 25% of the cross-section of 100% of the 7Q10 flow of the water body.

Tillamook WTP Discharge: The migration rule is based primarily on the USEPA guidance document, *EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards* (April 2003)⁶. Section V.3 of the document gives guidance on protecting salmonids from thermal plume impacts and provides this discussion on migration blockage:

Adult migration blockage conditions can occur at 21°C. Therefore, EPA suggests that the cross-sectional area of a river at or above 21°C be limited to less than 25% or, if upstream temperature exceeds 21°C, the thermal plume be limited such that 75% of the cross-sectional area of the river has less than a de minimis (e.g., 0.25°C) temperature increase.

⁶ U.S. Environmental Protection Agency. 2003. *EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards*. EPA 910-B-03-002. Region 10 Office of Water, Seattle. WA. Pages 33 -34.

DEQ considers a de minimis temperature increase to be 0.3°C or less (see DEQ's *Temperature Water Quality Standard Implementation – A DEQ Internal Management Directive*, April 2008). The maximum recorded receiving water temperature upstream of the discharge location is 23°C recorded in July 2019 (data from January 2019 through August 2023). An analysis related to migration blockage indicates that when the receiving water temperature is 21°C and effluent temperature is at the maximum recorded 7-day average value (22.5 °C), the effluent plume, when it reaches 25% of the receiving stream's cross-sectional area, will be 21.26 °C (See Appendix B). This 0.26°C over the upstream temperature is considered a de minimis increase that prevents or minimizes migration blockage. In addition, the maximum effluent temperature used in the analysis was recorded in July 2019 - before the peak fall migration period for fish in this portion of the Trask River (October through December). Fish migrating past the facility during the fall migration season are exposed to cooler effluent temperatures which further minimizes and reduces fish migration blockage.

In summary, the analysis indicates that the discharge from the Tillamook WTP meets the temperature thermal plume limits in OAR 340-041-0053(2)(d).

3.3.7.3 Temperature Effluent Limits.

The proposed permit includes effluent temperature limitations based upon the North Coast Basin TMDL Addendum No. 1. These limits are expressed as Excess Thermal Load Limits (ETLLs). The TMDL allows for two ETLL options. The first option is a static limit based on fixed critical effluent and ambient river flows. The second option is based on critical effluent flow and the actual (measured) river flow. Both options apply on a year-round basis to be consistent with the TMDL.

The two options included in the proposed permit include the following:

Option A: On a year-round basis, the permittee must meet an ETTL of 11.8 Mkal/day as a seven-day rolling average. This option is based on the fixed effluent flow of 1.7 MGD and the 7Q10 stream flow of 54 cfs – which equates to a fixed ETLL equal to 11.8 million kcals/day. (These flows are considered the critical flows for the facility and receiving stream.) The seven-day rolling average for any specific day is the average of the daily values for that day and the preceding six days.

Option B: On a year-round basis, the permittee has the option to calculate an ETTL when Trask River flow is reported by using the following equation:

$$\text{ETLL} = (Q_e * 1.548 + Q_r / 4) * (0.3) * 2.448 \text{ million kcals/day, as a 7-day average}$$

Where:

ETLL= Excess Thermal Load Limit (million kcal/day)

Q_e = Daily Average Effluent Flow (MGD)

Q_r = Daily Average River Flow (cfs)

The USGS maintains a river flow gauge on the Trask River that the permittee can access electronically to obtain stream flow data. Option B is also applied as a seven-day rolling average ETL for each day that the Option B limit is selected by the permittee.

For both options, the permittee will be required to use the following formula for calculating the facility's ETL to determine compliance with the ETL limit: To assess compliance with the proposed limit, the

$$ETL = 3.785 * Q_e * \Delta T$$

Where:

Q_e = Daily Average Effluent Flow (MGD)

ΔT = Daily Maximum Effluent Temperature (°C) minus ambient criterion (18°C)

Schedule A of the proposed permit provides the permittee with the options and formulas for calculating the ETL limit. Schedule B provides the permittee with instructions for reporting compliance with the ETL limit under the options.

3.3.8 Bacteria

E. coli

The proposed permit limits for *E. coli* are based on the seasonal allocations in the North Coast Basin TMDL and the standard listed at OAR 340-041-0009(6)(b) requires discharges of bacteria into freshwaters meet a monthly geometric mean of 126 *E. coli* per 100 mL, with no single sample exceeding 406 *E. coli* per 100 mL. If a single sample exceeds 406 *E. coli* per 100 mL, then the permittee may take five consecutive re-samples. If the geometric mean of the five re-samples is less than or equal to 126, a violation is not triggered. The re-sampling must be taken at four-hour intervals beginning within 28 hours after the original sample was taken. The following table includes the proposed permit limits and apply year-round.

Table 3-12: Proposed *E. coli* Limits

<i>E. coli</i> (#/100 ml)	Geometric Mean	Maximum
Existing Limit	126	406
Proposed Limit	126	406

Fecal Coliform

The current permit contains limits for fecal coliform based on the 2001 TMDL. This TMDL addressed the fecal coliform water quality standard that was in place at the time of TMDL development. The fecal coliform standard has since been updated, and now includes a figure (OAR 340-041-0230, Figure 230E) that delineates locations in Tillamook Bay shellfish harvesting where coastal contact recreation and shellfish harvesting are designated beneficial uses. The locations for the shellfish harvesting use differ from those considered under the TMDL. Because of this difference, the TMDL wasteload allocation cannot be solely relied on to ensure compliance with the fecal coliform criteria at the designated shellfish harvesting location.

DEQ conducted a new analysis and determined that more stringent fecal coliform limits are required to ensure compliance with the fecal coliform water quality criteria (see Appendix D). The limits for fecal coliform are seasonal and are included in the table below. The statistics used for limit compliance have changed to align with the applicable rule.

The fecal coliform bacteria limits in the existing permit contained a resampling provision if a single sample exceeded either 400 organisms per 100 mL during summer or 151 organisms per 100 mL during fall/winter/spring. These provisions are only allowed for *E. coli* (OAR 340-041-0009(6)(b)(C)) or for total coliforms for recycled water (OAR 340-041-0009(6)(c)(C)), not for fecal coliform. The TMDL from which the fecal coliform bacteria limits derive does not contain a resampling provision (see Section 3.3.3). Therefore, these provisions will be removed in the new permit.

Table 3-13: Proposed Fecal Coliform Limits

Discharge Period	Fecal Coliform (#/100 ml)	
	Monthly Median	Not More than 10% of the Samples May Exceed
May 1 – October 31	67	133
November 1 – April 30	17	52

3.3.9 Toxic Pollutants

DEQ typically performs the reasonable potential analysis for toxics according to EPA guidance provided in the Technical Support Document for Water Quality-Based Toxics Control (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991). The factors incorporated into this analysis include:

1. Effluent concentrations and variability
2. Water quality criteria for aquatic life and human health
3. Receiving water concentrations
4. Receiving water dilution (if applicable)

DEQ performs these analyses using spreadsheets that incorporate EPA's statistical methodology. The following sections describe the analyses for various toxic pollutants below.

3.3.9.1 Total Residual Chlorine

The existing permit contains chlorine limits since the permittee uses chlorine to disinfect the effluent before discharging to Trask River. Along with being an effective disinfectant, chlorine is toxic to many aquatic organisms. To ensure that the potential for toxicity is minimized, the permittee employs dechlorination equipment to reduce the presence of chlorine in the discharge.

Since the facility is located on the Lower Trask River in which flows are tidally influenced, the RPA was chlorine was conducted under both freshwater and saltwater receiving stream conditions. The RPAs indicate that the permittee does not have reasonable potential to cause or contribute to an exceedance of water quality criteria within the Trask River for both fresh and saltwater conditions under the current limits. As such, the existing limits are being retained to satisfy anti-degradation requirements.

3.3.9.2 Total Ammonia Nitrogen

DEQ's ammonia criteria vary with changes in pH and temperature. DEQ performed a reasonable potential analysis that accounts for changes in the effluent and receiving water pH and temperature to determine the appropriate ammonia criteria. Since the facility discharges to a section of the Trask River that is considered tidally influenced, the RPA for ammonia was conducted under both freshwater and saltwater conditions. The analysis used effluent data reported through the facility's discharge monitoring reports from May 2016 through August 2023. Ambient river data was obtained from several DEQ monitoring stations located on the Trask River from January 2013 through March 2023.

The results of the analysis indicated that there is a reasonable potential to exceed water quality standards for ammonia during dry season discharges in late summer and early fall (August – October). The reasonable potential determination is related to freshwater discharge conditions and is due to low river flows in the receiving water during late summer, as well as the occasional higher concentrations of ammonia reported by the facility during the dry season. As such, the proposed permit will include new limits for ammonia that will apply during dry season discharges (May 1 – October 31). The permittee will not be able to meet these limits upon permit issuance and therefore a compliance schedule is necessary (See Section 6).

The analysis did not indicate a reasonable potential to exceed water quality standards for ammonia during the wet season (November 1 to April 30). No ammonia limits are necessary during this time period.

Due to the establishment of the new ammonia limits, the proposed permit increases the frequency of ammonia monitoring when compared to the 2018 permit. In addition, the ammonia monitoring will be conducted year-round.

The following tables provide a summary of the data used for the ammonia analysis and the results of the analysis for both dry (summer) and wet (winter) discharge seasons for freshwater and saltwater analyses.

Table 3-14: Ammonia Analysis Information – (Freshwater Summer)

	Acute	Chronic	
		4-day	30-day
Dilution	4	17	12
Ammonia Criteria	10.9	3.8	1.5
Effluent Data Used			
Ammonia (mg/L)	47.3	47.3	
pH (SU)	7.1	7.1	
Temperature (°C)	22.7	22.7	
Alkalinity (mg/L CaCO3)	30.0	30.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.5	7.5	
Temperature (°C)	18.3	18.3	
Alkalinity (mg/L CaCO3)	45.4	45.4	
Ammonia Limit Needed?	Yes		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	11.7	43.4	
Effluent data source			
DMRs from May 2016 to August 2023. Limited ammonia sampling in winter. Temperature and pH are maximum monthly values from January 2019 to August 2023.			
Ambient data source			
AWQMS and Permittee Monitoring. AWQMS data from DEQ Monitoring Station No. 12959 (Trask River @Lower Trask Boat Ramp) from January 2021 to May 2022 and DEQ Monitoring Station No. 13433 (Trask River @ Hwy 101) from January 2013 to March 2023. Permittee ambient monitoring (Permit No. 102579) from Discharge Monitoring Reports from November 2019 to December 2022.			

Table 3-15: Ammonia Analysis Information – (Freshwater Winter)

	Acute	Chronic	
		4-day	30-day
Dilution	4	17	12
Ammonia Criteria	17.7	6.5	2.6
Effluent Data Used			
Ammonia (mg/L)	6.8	6.8	
pH (SU)	6.7	6.7	
Temperature (°C)	18.1	18.1	
Alkalinity (mg/L CaCO3)	20.5	20.5	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.6	7.6	
Temperature (°C)	9.9	9.9	
Alkalinity (mg/L CaCO3)	34.7	34.7	
Ammonia Limit Needed?	No		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	N/A	N/A	
Effluent data source			
DMRs from May 2016 to August 2023. Limited ammonia sampling in winter. Temperature and pH are maximum monthly values from January 2019 to August 2023.			
Ambient data source			
AWQMS and Permittee Monitoring. AWQMS data from DEQ Monitoring Station No. 12959 (Trask River @Lower Trask Boat Ramp) from January 2021 to May 2022 and DEQ Monitoring Station No. 13433 (Trask River @ Hwy 101) from January 2013 to March 2023. Permittee ambient monitoring (Permit No. 102579) from Discharge Monitoring Reports from November 2019 to December 2022.			

Table 3-16: Ammonia Analysis Information – (Saltwater Summer)

	Acute	Chronic	
		4-day	30-day
Dilution	4	17	12
Ammonia Criteria	20.2	2.7	---
Effluent Data Used			
Ammonia (mg/L)	47.3	47.3	
pH (SU)	7.1	7.1	
Temperature (°C)	22.7	22.7	
Alkalinity (mg/L CaCO3)	30.0	30.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.5	7.5	
Temperature (°C)	18.3	18.3	
Alkalinity (mg/L CaCO3)	45.4	45.4	
Ammonia Limit Needed?	No		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	N/A	N/A	
Effluent data source			
DMRs from May 2016 to August 2023. Limited ammonia sampling in winter. Temperature and pH are maximum monthly values from January 2019 to August 2023.			
Ambient data source			
AWQMS and Permittee Monitoring. AWQMS data from DEQ Monitoring Station No. 12959 (Trask River @Lower Trask Boat Ramp) from January 2021 to May 2022 and DEQ Monitoring Station No. 13433 (Trask River @ Hwy 101) from January 2013 to March 2023. Permittee ambient monitoring (Permit No. 102579) from Discharge Monitoring Reports from November 2019 to December 2022.			

Table 3-17: Ammonia Analysis Information – (Saltwater Winter)

	Acute	Chronic	
		4-day	30-day
Dilution	4	17	12
Ammonia Criteria	47.5	5.2	---
Effluent Data Used			
Ammonia (mg/L)	6.8	6.8	
pH (SU)	6.7	6.7	
Temperature (°C)	18.1	18.1	
Alkalinity (mg/L CaCO3)	20.5	20.5	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.6	7.6	
Temperature (°C)	9.9	9.9	
Alkalinity (mg/L CaCO3)	34.7	34.7	
Ammonia Limit Needed?	No		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	N/A	N/A	
Effluent data source			
DMRs from May 2016 to August 2023. Limited ammonia sampling in winter. Temperature and pH are maximum monthly values from January 2019 to August 2023.			
Ambient data source			
AWQMS and Permittee Monitoring. AWQMS data from DEQ Monitoring Station No. 12959 (Trask River @Lower Trask Boat Ramp) from January 2021 to May 2022 and DEQ Monitoring Station No. 13433 (Trask River @ Hwy 101) from January 2013 to March 2023. Permittee ambient monitoring (Permit No. 102579) from Discharge Monitoring Reports from November 2019 to December 2022.			

3.3.9.3 Priority Pollutant Toxics

DEQ conducted a reasonable potential analysis for the group of toxics listed in the following table. A complete list of the pollutants is located in the reasonable potential spreadsheets located in Appendix C.

Table 3-18: Toxic Pollutants Analyzed

Toxic Group
Metals
Volatile Organic Compounds
Acid Extractable Compounds
Base-Neutral Compounds
Pesticides
Effluent data source: Tillamook WTP effluent toxics monitoring March 2019 to December 2022.
Receiving water data source: DEQ Monitoring Station Nos. 12959 (Trask River at Lower Trask River Boat Ramp) and 13433 (Lower Trask River at Hwy 101). Data from March 2013 to January 2023.

The RPA used the results of effluent monitoring for toxic substances that was conducted from March 2019 to August 2022. The sampling events included both wet and dry discharge seasons. Ambient river data was obtained from two DEQ monitoring stations located on the Trask River upstream of the facility. The data between the two stations was collected from March 2013 through January 2023. The RPA was conducted for both freshwater and saltwater discharge conditions. The dilutions used in the analysis are presented in Section 3.3.5.

The effluent monitoring for toxic substances included sampling for copper that was conducted from January 2021 to December 2022. Quality control issues were noted in the results of several copper samples which resulted in their removal from analysis. To ensure that adequate copper data is available at the next permit renewal, DEQ extended copper sampling into the next permit term. In addition, DEQ issued an enforcement notice to the permittee requiring a quality control review of their sampling procedures for copper and other toxic substances.

A summary discussion on the results of the RPA relative to toxic metals and organics is presented below:

Metals - The RPA analysis was conducted for priority pollutant metals for both the aquatic life and human health criteria. An RPA for the copper and aluminum freshwater standards is discussed separately in Sections 3.3.9.4 and 3.3.9.5, respectively.

The RPA is a two-step process where the monitoring information is first evaluated for each applicable pollutant parameter to determine if there is the potential for the corresponding criterion to be exceeded at the end-of-pipe. Under freshwater discharge conditions, the RPA identified dissolved zinc (aquatic toxicity criteria) and total recoverable thallium (human health

criteria) as potential pollutants of concern at the end-of-pipe discharge (again, with no consideration for in-stream dilution) (Appendix C: Attachments C-1 and C-2). Under saltwater discharge conditions, the RPA indicated a reasonable potential to exceed aquatic toxicity water quality criteria for dissolved copper at the point of discharge (with no consideration for in-stream dilution) (Appendix C: Attachment C-3).

In the second step of the analysis for each identified pollutant with reasonable potential at the point of discharge under freshwater and saltwater discharge conditions, the ambient river conditions are evaluated using available ambient monitoring data and in-stream dilution values. The completed freshwater and saltwater RPAs indicated that there was “no reasonable potential” for the identified pollutants of concern to cause aquatic toxicity or exceed human health criteria at the edge of mixing zones or zones of initial dilution during freshwater discharge conditions. As such, the permit will not require limits for these parameters. DEQ is requiring further characterization of these pollutants during the next permit cycle.

Priority Pollutant Organics – The Tillamook WTF conducted monitoring for priority pollutant metals and organics in accordance with the frequency and methodology specified in its current NPDES permit. Monitoring for priority pollutant organics was conducted from 2019 - 2022. With regards to the priority pollutant organics, the majority the pollutants were not detected; however, chlorodibromomethane, dichloroboromethane, and bis (2-ethylhexyl)phthalate were detected at low levels in the effluent. In these instances, the freshwater human health analysis did indicate a reasonable potential for these pollutants to exceed water quality criteria at the end of pipe discharge. However, no reasonable potential to exceed water quality human health criteria was indicated when ambient concentrations for detected pollutants and dilution values were entered into the analysis (Appendix C: Attachment C-2). Under saltwater discharge conditions, the detected pollutants did not exceed human health water quality criteria at the end of pipe discharges (Appendix C: Attachment C-4).

Overall, the results of the RPA did not result in any priority pollutant organics exceeding water quality standards at the edge of the regulatory mixing zone for either freshwater or saltwater discharge conditions (Appendix C: Attachments C-2 and C-4, respectively). As such, the permit will not require limits for these parameters. DEQ is requiring further characterization of these pollutants during the new permit cycle. Following the additional characterization, DEQ will conduct a reasonable potential analysis during the next permit renewal.

3.3.9.4 Copper Biotic Ligand Model

Monthly paired effluent and ambient copper Biotic Ligand Model (BLM) input data was collected by Tillamook WTP staff and analyzed by various labs from January 2021 through December 2022. For the RPAs, the mixed concentration of each input parameter was then entered into the BLM model to calculate the instantaneous water quality criteria (IWQC) for each paired data set. Each IWQC was compared to the corresponding copper concentration of the effluent or the calculated value at complete mix. Table 3-19 below shows the sample date, calculated criterion, calculated copper value, and toxic unit (copper concentration divided by the instantaneous criterion). A toxic unit greater than one, indicates there is a potential for the discharge to exceed the criterion. A toxic unit of NA indicates that either the effluent data was below the calculated criteria, the effluent data was non-detect, or the copper data was total

recoverable instead of dissolved. There is not reasonable potential to exceed the dissolved freshwater copper criterion based on this analysis.

Table 3-19: Copper Biotic Ligand Model Results

Date	Effluent Cu ug/L	Ambient Cu ug/L	ZID	BLM CMC	Toxic Units	RMZ	BLM CCC	Toxic Units	100% mix	BLM CCC	Toxic Units
			Cu ug/L	ug/L		Cu ug/L	ug/L		Cu ug/L	Cu ug/L	
1/27/2021	<2	<2	0.00	2.36	NA	0.00	1.36	NA	0.00	1.24	NA
2/5/2021	<2	<2	0.00	3.54	NA	0.00	1.45	NA	0.00	1.45	NA
3/4/2021	<2	<2	0.00	4.18	NA	0.00	1.94	NA	0.00	1.92	NA
4/22/2021	3.53	<2	0.88	5.28	NA	0.21	2.33	0.09	0.11	1.84	0.06
5/20/2021	3.15	<2	0.79	5.28	NA	0.19	2.59	0.07	0.09	2.31	0.04
6/16/2021	4.61	2.73	3.40	3.86	0.88	3.09	2.60	NA	3.04	2.36	NA
7/8/2021	4.25	<2	1.06	7.88	NA	0.25	3.21	0.08	0.13	2.83	0.05
8/5/2021	17.10	<2	4.28	5.87	0.73	1.01	2.08	0.48	0.51	1.79	0.29
9/9/2021	9.53	<2	2.38	13.13	NA	0.56	3.20	0.18	0.29	2.76	0.10
10/7/2021	4.88	<2	1.22	6.48	NA	0.29	2.34	0.12	0.15	2.13	0.07
11/2/2021	3.12	2.35	2.54	4.85	NA	2.40	3.49	NA	2.37	3.84	NA
12/9/2021	2.52	<2	0.63	3.81	NA	0.15	2.34	0.06	0.08	2.70	NA
1/5/2022	<2	<2	0.00	1.00	NA	0.00	1.07	NA	0.00	1.13	NA
2/16/2022	4.34	<2	1.09	3.35	0.32	0.26	1.50	0.17	0.13	1.37	0.09
3/23/2022	<2	<2	0.00	1.60	NA	0.00	1.25	NA	0.00	1.13	NA
4/6/2022	2.68	<2	0.67	1.50	0.45	0.16	0.57	0.28	0.08	0.52	0.15
5/19/2022	3.48	<2	0.87	1.83	0.48	0.20	1.06	0.19	0.10	1.24	0.08
6/7/2022	<2	<2	0.00	1.66	NA	0.00	1.18	NA	0.00	1.26	NA
7/25/2022	2.25	<2	0.56	2.97	NA	0.13	1.53	0.09	0.07	1.39	0.05
8/8/2022	<2	2.23	1.67	3.31	NA	2.10	1.41	NA	2.16	1.39	NA
9/14/2022	2.49	<2	0.62	2.79	NA	0.15	1.33	0.11	0.07	1.40	0.05
10/12/2022	2.42	<2	0.61	3.25	NA	0.14	1.13	0.13	0.07	1.20	0.06
11/16/2022	4.13	<2	1.03	4.01	0.26	0.24	1.60	0.15	0.12	1.38	0.09
12/13/2022	<2	<2	0.00	1.91	NA	0.00	0.91	NA	0.00	1.07	NA

3.3.9.5 Aluminum

Monthly paired effluent and ambient aluminum criteria input data was collected by Tillamook WTP staff and analyzed by various labs from January 2021 through December 2022. For the RPAs, the mixed concentration of each input parameter was then entered into the aluminum criteria model to calculate the instantaneous water quality criteria (IWQC) for each paired data set. Each IWQC was compared to the corresponding aluminum concentration of the effluent or the calculated value at the ZID boundary, the MZ boundary, and at complete mix. All of the effluent data submitted by the permittee was non detect at 50 ug/L. The lowest criteria calculated from the paired data was 180 ug/L. Therefore, the data is considered sufficiently sensitive and there is no reasonable potential to exceed the aluminum criteria.

3.3.9.6 Mercury – Human Health Criterion

Oregon’s human health water quality criterion for mercury is expressed in terms of a fish tissue concentration rather than a water column concentration. Because of this, DEQ’s approach to performing the reasonable potential analysis for mercury is different from that for other parameters. This approach is described in DEQ’s “Implementation of Methylmercury in NPDES Permits” internal management directive.

According to the IMD, “Any facility contributing significant and consistent concentrations of total mercury to the receiving water body is considered to have the reasonable potential to exceed the water quality criterion unless a site-specific survey determines otherwise.” Because the water quality criterion for mercury is a fish tissue-based concentration rather than a water column concentration, permit limits for mercury cannot be expressed in terms of a concentration. Therefore, when mercury is present in treated effluent on a consistent basis, the permit needs to contain mercury monitoring, plus a narrative effluent limit that consists of a Mercury Minimization Plan (MMP).

A review of effluent monitoring data indicates that total mercury is present in the discharge and therefore there is a reasonable potential to cause or contribute to the exceedance of the water quality standard. Accordingly, the proposed permit requires the facility to monitor for mercury (in Schedule B) and develop and implement a mercury minimization plan (in Schedule A). Once the plan is submitted to DEQ for review, it must go on public notice for public review and is incorporated into the permit by reference.

3.4 Antibacksliding

The proposed permit complies with the antibacksliding provisions of CWA sections 402(o) and 303(d)(4) and 40 CFR 122.44(l). As discussed in Section 3.2, above, the proposed permit includes slightly higher TSS and BOD mass load limits. In accordance with 40 CFR 122.44(l)(2)(i)(B), backsliding is allowed if it is determined that “technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).” DEQ has determined that the inclusion of the previous mass load limits was the result of a technical mistake (a rounding error) and therefore meets the antibacksliding exception. The remainder of the limits in the proposed permit are the same or more stringent than those in the existing permit, so the antibacksliding provision is satisfied.

3.5 Antidegradation

DEQ must ensure the permit complies with Oregon’s antidegradation policy found in OAR 340-041-0004. This policy is designed to protect water quality by limiting unnecessary degradation from new or increased sources of pollution.

DEQ has performed an antidegradation review for this discharge. The proposed permit contains slightly higher dry and wet weather BOD₅ and TSS mass load limits to address an error in the existing 2018 permit. When the existing permit was developed, the calculation of mass limits did not account for rounding to two significant digits consistent with DEQ’s numeric rounding conventions associated with the accuracy of TSS and BOD₅ measurements of 10 or greater. Rounding the mass load calculations to two significant figures resulted in slight increases to the

mass load limitations in the permit renewal. These increases are within the range of expected conventions of rounding with multiple measurements required for reporting of weekly or monthly mass load limits. They are also within the range of rounding conventions larger values such as daily limits. As noted in Section 3.2, above, an evaluation of these slight increases in mass loads determined that they constitute a de minimis lowering of water quality not requiring a full antidegradation review.

The remaining permit limits have the same or more stringent discharge loadings as the existing permit. Permit renewals with the same or more stringent discharge loadings as the previous permit are not considered to lower water quality from the existing condition. DEQ is not aware of any information that existing limits are not protecting the receiving stream's designated beneficial uses. DEQ is also not aware of any existing uses present within the water body that are not currently protected by standards developed to protect the designated uses. Therefore, DEQ has determined that the proposed discharge complies with DEQ's antidegradation policy. DEQ's antidegradation worksheet for this permit renewal is available upon request.

3.6 Whole Effluent Toxicity

Whole effluent toxicity (WET) tests are used to determine the treated wastewater's aggregate toxic effect on aquatic organisms. Wastewater samples are collected, and aquatic organisms are subjected to a range of concentrations in controlled laboratory experiments. EPA recommends that WET tests be used in NPDES permits together with requirements based on chemical-specific water quality criteria.

WET tests are used to determine the percentage of effluent that produces an adverse effect on a group of test organisms. The measured effect may be fertilization, growth, reproduction, or survival. EPA's methodology includes both an acute test and a chronic test. An acute WET test is considered to show toxicity if adverse effects occur at effluent concentrations less than what is found at the edge of the zone of immediate dilution (ZID). A chronic WET test is considered to show toxicity if adverse effects occur at effluent concentration less than what is known to occur at the edge of the mixing zone.

3.7 Groundwater

The treatment facility does not have any basins, ponds or lagoons that have the potential to leach into the groundwater. No groundwater monitoring or limits are required.

4. Schedule A: Other Limitations

4.1 Mixing Zone

Schedule A describes the regulatory mixing zone as discussed above in section 3.

4.2 Biosolids

The permittee has the capability to develop a new biosolids program to land apply biosolids or produce biosolids for sale and distribution during the term of this permit. Prior to the land application of biosolids, the permittee must develop a comprehensive biosolids management plan and land application plan. DEQ will review the plans and provide an opportunity for public comment on the proposed land application activity. Once approved, conditions in the biosolids management plan and land application plan become permit conditions.

Schedule A of the permit requires the facility to apply biosolids according to their biosolids management plan. In addition, Schedule A requires the following:

- Apply at or below agronomic rates.
- The permittee must have written site authorization for each location from DEQ before land applying and abide by the restrictions for each site.
- Prior to application, the permittee must ensure that biosolids meet one of the pathogen reduction standards under 40 CFR 503.32 and one of the vector attraction reduction standards under 40 CFR 503.33.
- The permittee must not apply biosolids containing pollutants in excess of the ceiling concentrations for the nine metals shown in Schedule A of the permit.

4.3 Recycled Water or Irrigation of Industrial Wastewater

The permittee does not currently operate a recycled water program but may develop one during the term of this permit. If the permittee chooses to develop a recycled water program, a comprehensive recycled water use plan meeting the requirements in OAR 340-055 will be submitted to DEQ for review and approval; appropriate actions must also be made to OHA and WRD. The recycled water use plan, including the locations of any proposed irrigation projects will be made available for public comment.

Schedule A of the permit requires the permittee to apply recycled water according to their recycled water use plan. Schedule A also restricts the application of recycled water to prevent the following:

- Irrigating above agronomic rates,
- Adverse impact to groundwater,
- Offsite surface runoff or subsurface drainage through drainage tile,
- Creation of odors, fly and mosquito breeding, or other nuisance conditions.

5. Schedule B: Monitoring and Reporting Requirements

Schedule B of the permit describes the minimum monitoring and reporting necessary to demonstrate compliance with the proposed effluent limits. In addition, monitoring for other

parameters is required to better characterize the effluent quality and the receiving stream. This data will be used during the next permit renewal.

Detailed monitoring frequency and reporting requirements are in Schedule B of the proposed permit. The required monitoring, reporting, and frequency for many of the parameters are based on DEQ's monitoring and reporting matrix guidelines, permit writer judgment, and to ensure the needed data is available for the next permit renewal.

For this permit renewal, DEQ's current monitoring and reporting matrix guidelines for major domestic wastewater treatment facilities resulted in an increase in the frequency of influent and effluent sampling for several parameters such as BOD₅, pH, *E. coli*, and fecal coliform when compared to the existing permit. At the permittee's request, DEQ conducted a review of existing water quality conditions and the permittee's compliance record relative to reducing proposed monitoring frequencies for these parameters. DEQ conducted the review in accordance with USEPA guidance⁷ which determined that the permittee could monitor TSS concentrations and mass once per week while maintaining water quality protection. This is the frequency included in the proposed permit. Due to existing water quality limitations in the Trask River, the review concluded that no reductions in the frequency of monitoring for BOD₅, pH, *E. coli*, or fecal coliform could be allowed from those currently required by DEQ's monitoring and reporting guidelines.

6. Schedule C: Compliance Schedule

The proposed permit contains new water quality-based effluent limits for ammonia for Outfall 001. These limits will apply only to dry season discharges from Outfall 001 from May 1 through October 31. The facility is unable to meet this limit for Outfall 001 upon permit issuance. The proposed permit contains a compliance schedule that allows time for the permittee to make facility modifications in order to meet the new limits. The facility modifications include the development and implementation of an Optimization Study to determine feasible operational changes that can be made to the WTP's existing treatment processes to minimize effluent ammonia concentrations. The compliance schedule lays out a series of milestones for the Optimization Study and implementation of operational changes which, upon completion, will enable the permittee to meet the permit's water quality-based effluent limits (see 40 CFR 122.47 and OAR 340-041-0061(12)). DEQ has reviewed the facility's proposed schedule for the Optimization Study and operational changes and has determined that the proposed compliance schedule is efficient and timely, requiring the permittee to meet the final limits as soon as possible.

⁷ U.S. Environmental Protection Agency. Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies. April 19, 1996 Memorandum.

7. Schedule D: Special Conditions

The proposed permit contains the following special conditions. The conditions include the following:

7.1 Inflow and Infiltration

A requirement to submit an updated inflow and infiltration report in order to reduce groundwater and stormwater from entering the collection system.

7.2 Emergency Response and Public Notification Plan

A requirement to develop and submit an emergency and spill response plan or ensure the existing one is current per General Condition B.8 in Schedule F.

7.3 Recycled Water Use Plan

A condition requiring the permittee to develop and maintain a recycled water use plan that meet the requirements in OAR 340-055-0025. The plan must also include location-specific information describing where and how recycled water is managed to protect public health and the environment.

7.4 Exempt Wastewater Reuse at the Treatment System

A condition that exempts the permittee from the recycled water requirements in OAR 340-055, when recycled water is used for landscape irrigation at the treatment facility or for in-plant processes, such as in plant maintenance activities.

7.5 Wastewater Solids Annual Report

This condition requires the permittee to submit a Wastewater Solids Annual Report each year documenting removal of wastewater solids from the facility during the previous calendar year.

7.6 Biosolids Management Plan

A requirement to manage all biosolids in accordance with a DEQ-approved biosolids management plan and land application plan. The biosolids management plan and the land application plan must meet the requirements in OAR 340-050-0031 and describe where and how the land application of biosolids is managed to protect public health and the environment.

7.7 Wastewater Solids Transfers

A condition that allows the facility to transfer treated or untreated wastewater solids to other in-state or out-of-state facilities that are permitted to accept the wastewater solids.

7.8 Hauled Waste Control Plan

A condition that allows the acceptance of hauled waste according to a DEQ-approved hauled waste plan. The hauled waste plan ensures waste is not accepted that could negatively impact the treatment capabilities of the facility.

7.9 Hauled Waste Annual Report

A condition requiring submittal of an annual hauled waste report that summarizes hauled waste accepted at the facility during the previous year.

7.10 Whole Effluent Toxicity Testing for Saltwater

Since the permittee discharges into an estuarine section of the Trask River, the permittee is required to perform WET testing under both saltwater and freshwater conditions. Under both receiving water conditions, the permittee is required to perform WET testing to ensure the aggregate of toxics is not negatively impacting aquatic life. This condition describes the test procedures and requirement for the WET testing under saltwater conditions (freshwater WET testing is described in Schedule D Condition 11 of the permit). A dilution series has been specified on the basis of the mixing zone analysis.

7.11 Whole Effluent Toxicity Testing for Freshwater

Since the permittee discharges into an estuarine section of the Trask River, the permittee is required to perform WET testing under both saltwater and freshwater conditions. Under both receiving water conditions, the permittee is required to perform WET testing to ensure the aggregate of toxics is not negatively impacting aquatic life. This condition describes the test procedures and requirement for the WET testing under freshwater conditions (saltwater WET testing is described in Schedule D Condition 10 of the permit). A dilution series has been specified on the basis of the mixing zone analysis.

7.12 Operator Certification

The permittee is required to have a certified operator consistent with the size and type of treatment plant covered by the permit per OAR 340-049-0005. This special condition describes the requirements relating to operator certification.

7.13 Industrial User Survey Update

This condition requires the permittee to update an industrial user survey. The purpose of the survey is to identify whether there are any categorical industrial users discharging to the POTW, and ensure regulatory oversight of these discharges.

7.14 Outfall Inspection

A condition that requires the permittee to inspect the outfall and submit a report regarding its condition.

8. Schedule E: Pretreatment Activities

A pretreatment program is not part of this permit.

9. Schedule F: NPDES General Conditions

Schedule F contains the following general conditions that apply to all NPDES permittees. These conditions are reviewed by EPA on a regular basis.

- Section A. Standard Conditions
- Section B. Operation and Maintenance of Pollution Controls
- Section C. Monitoring and Records
- Section D. Reporting Requirements
- Section E. Definitions

Appendix A: WTP Flow Schematic

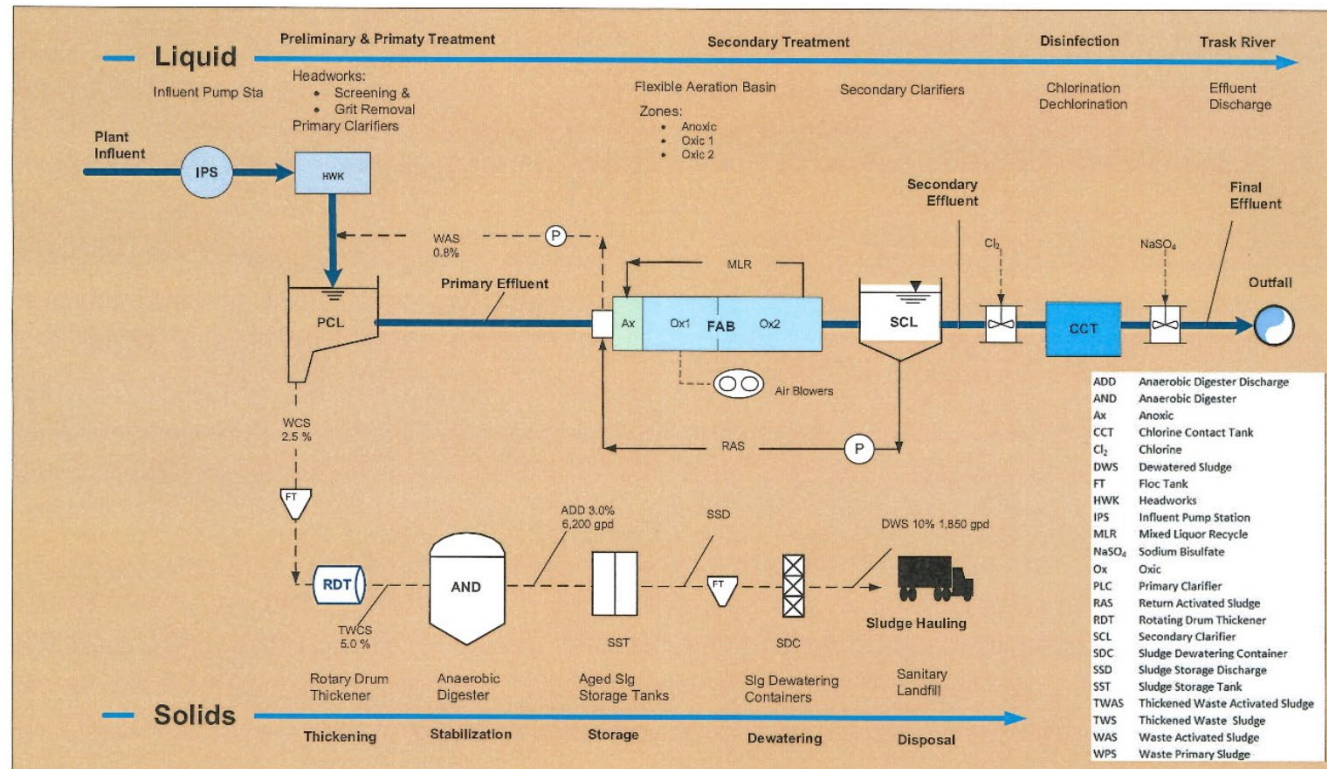


Figure 3.1.3: Flow Schematic – Current (2020) Tillamook WWTP Operation for Population 7500

Appendix B: Temperature Reasonable Potential Analysis

Temperature Thermal Plume Limitations within the Mixing Zone Rule (OAR 340-041-0053(2)(d))

Sections 5.6 and 6.5 of Temperature IMD

This rule only applies to receiving streams with salmonid uses. For migration blockage, applies to upstream migration of anadromous salmonids (See associated notes in the "Thermal Plumes Instructions"). This spreadsheet assesses compliance with OAR 340-042-0053(2)(d) subparts C and D. Subparts A and B need to be assessed separately (see Thermal Plumes Instructions).

Facility Name: City of Tillamook WTP

Date: November 15, 2023

OAR 340-041-0053(2)(d)(C): Thermal Shock 25 deg C at 5% of the stream cross section	
Enter data into white cells below:	
7Q10 = 54 cfs	Data Metric/Source
Ambient Temperature = 25 °C	Addendum No. 1 - North Coast Basin TMDL
Effluent Flow = 1.8 mgd	Thermal shock criteria
Max Daily Effluent Temperature = 23 °C	ADWDF plus peaking factor (1.2 MGD x 1.5)
	Used max. effluent temp from DMRs January 2019 - August 2023. Higher than 7DAMA-conservative analysis.
5% of 7Q10 = 2.7 cfs 5% dilution = 2 dilution = $(Qr \cdot 0.05) / Qe + 1$	
Temperature at 5% cross section = 24.0 °C	No Reasonable Potential
Notes:	

OAR 340-041-0053(2)(d)(D): Migration Blockage 21 deg C at 25% of the stream cross section	
Enter data into white cells below:	
7Q10 = 54 cfs	Data Metric/Source
Ambient Temperature = 21 °C	Addendum No. 1 - North Coast Basin TMDL
Effluent Flow = 1.8 mgd	Migration blockage criteria
Max 7dAM Effluent Temperature = 22.5 °C	ADWDF plus peaking factor (1.2 MGD x 1.5)
	Used max. 7 dAM. from DMRs January 2019 - August 2023.
25% of 7Q10 = 13.5 cfs 25% dilution = 6 dilution = $(Qr \cdot 0.25) / Qe + 1$	
Temperature at 25% cross section = 21.3 °C	No Reasonable Potential
ΔT at 25% Stream Flow = 0.26 °C	No Reasonable Potential

Equation used to calculate ΔT at edge of MZ

$$\Delta T_{mz} = \frac{T_e + (S - 1)T_a}{S} - T_a$$

Equation used to calculate thermal load limit

$$TLL = 3.7854 Q_e S \Delta T_{all} C_p \rho$$

Where:

Q_e = Effluent Flow in mgd

S = Dilution

ΔT_{all} = Allowable temperature increase at edge of MZ ($^{\circ}\text{C}$)

C_p = Specific Heat of Water (1 cal/g $^{\circ}\text{C}$)

ρ = Density of Water (1 g/cm³)

3785.41 = Flow conversion from mgd to m³/day

Rule Citation - OAR 340-041-0053

(d) Temperature Thermal Plume Limitations. Temperature mixing zones and effluent limits authorized under 340-041-0028(12)(b) will be established to prevent or minimize the following adverse effects to

(A) Impairment of an active salmonid spawning area where spawning redds are located or likely to be located. This adverse effect is prevented or minimized by limiting potential fish exposure to temperatures of 13 degrees Celsius (55.4 Fahrenheit) or more for salmon and steelhead, and 9 degrees Celsius (48 degrees Fahrenheit) or more for coho salmon.

(B) Acute impairment or instantaneous lethality is prevented or minimized by limiting potential fish exposure to temperatures of 32.0 degrees Celsius (89.6 degrees Fahrenheit) or more to less than 2 seconds;

(C) Thermal shock caused by a sudden increase in water temperature is prevented or minimized by limiting potential fish exposure to temperatures of 25.0 degrees Celsius (77.0 degrees Fahrenheit) or more to less than 5 percent of the cross section of 100 percent of the 7Q10 low flow of the water body; the Department may develop

(D) Unless the ambient temperature is 21.0 degrees or greater, migration blockage is prevented or minimized by limiting potential fish exposure to temperatures of 21.0 degrees Celsius (69.8 degrees Fahrenheit) or more to less than 25 percent of the cross section of 100 percent of the 7Q10 low flow of the water body.

Appendix C: Toxics Reasonable Potential Analysis (RPA) Spreadsheets

Attachment C-1: Aquatic Toxicity (Freshwater)

5. Aquatic Toxicity RP

RPA Run Information	
Facility Name:	Tillamook WTP
DEQ File Number:	88665
EPA Identification #:	OR0020664
Permit Number:	101239
Prepared By:	Mark Hynson
Preparation Date:	10/18/2023
Facility Flow Rate (MGD):	1.2
Outfall Number:	1
Determination Date:	10/18/23
RPA Run Notes:	
Color Key:	"*" = Enter data
Intermediate Calc.s	"--" = Will calculate
Calculation Results	

Facility Information			
1. Are there dilution #'s from mixing zone study? (Yes/No)			yes
2. Is the receiving waterbody fresh water? (Yes/No)			yes
3. If Question 1 = "No", then fill in the following table			
Eff. Flow Rate	MGD	N/A	Calculated dilution Factors
Stream Flow: 7Q10	CFS	N/A	Dilution @ ZID
Stream Flow: 1Q10	CFS	N/A	Dilution @ MZ
% dilution at ZID	%	10%	
% dilution at MZ	%	25%	
4. If answered "Yes" to Question #1, then fill in dilution values			
Dilution @ ZID (1Q10 from study)			4
Dilution @ MZ (7Q10 from study)			17
5. Enter Water Hardness. Use average hardness during critical (usually low-flow period). Effluent default is 25 mg/L.			
Effluent	mg/L CaCO ₃	56.7857143	
Up-stream	mg/L CaCO ₃	34.6857143	
ZID boundary	mg/L CaCO ₃	40	
MZ boundary	mg/L CaCO ₃	36	
6. Please enter statistical Confidence and Probability values (note: defaults already entered)			
Confidence Level	%	99%	
Probability Basis	%	95%	

Pollutant Parameter	Identify Pollutants of Concern						Determine In-Stream Conc.			Det. Reasonable Potential			
	Evaluation Required?	# of Sample	Highest Effluent Conc.	Coefficient of Variation	Est. Max Eff. Conc.	RP at end of pipe?	Ambient Conc.	Max Total Conc. @ ZID	Max Total Conc. @ RMZ	WQ Crit: 1 Hour (CMC)	WQ Crit: 4 Day (CCC)	Is there Reasonable Potential to Exceed? (Yes/No)	
	(Yes/No)		(µg/l)	Default=0.6	(µg/l)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	Acute	Chronic
Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD													
Nitrates-Nitrite	Yes											Evaluation will occur with DO analysis	
Table 2 Effluent Parameters for Selected POTWs													
Hardness (Total as CaCO ₃)	Yes											Must be collected for metals criteria calculation. Submit data to the fields at the top of the spreadsheet	
Table 2: Metals (total recoverable), cyanide and total phenols													
												Use total recoverable data as surrogate. no	
Arsenic (total recoverable)	Yes	5	0.111	0.6	--		No Aquatic Water Quality Criteria						
Arsenic (total inorganic)	Yes	--	--	--	--		No Aquatic Water Quality Criteria						

Arsenic (dissolved inorganic)	Yes	--	--	--	--	Data	*	--	--	340.00	150.00	--	--
Cadmium (total recoverable)	Yes	4	0.0322	0.6	0.104508	No	*	--	--	1.40	--	--	--
Cadmium (dissolved)	Yes	4	0.0322	0.6	0.104508	No	*	--	--	0.78	0.13	--	--
Chromium (total recoverable)	Yes	5	0.453	0.6	--	No Aquatic Water Quality Criteria							
Chromium III (dissolved)	Yes	--	--	--	--	Data	*	--	--	854.99	37.31	--	--
Chromium VI (dissolved)	Yes	--	--	--	--	Data	*	--	--	16.00	11.00	--	--
Copper (total recoverable)	Yes	--	--	--	--	No Aquatic Water Quality Criteria							
Copper (dissolved)	Yes	--	--	--	--	Data	0	--	--	See BLM	See BLM	--	--
Iron (total recoverable)	Yes	11	153	0.260066376	210.0096	No	*	--	--	--	1000.00	--	--
Lead (total recoverable)	Yes	5	0.385	0.6	--	No Aquatic Water Quality Criteria							
Lead (dissolved)	Yes	5	0.26	0.6	0.746934	No	*	--	--	25.60	0.87	--	--
Mercury (total)	Yes	12	0.0032	0.471003872	0.005411	No	*	--	--	2.40	0.01	--	--
Nickel (total recoverable)	Yes	5	1.46	0.6	--	No Aquatic Water Quality Criteria							
Nickel (dissolved)	Yes	5	1.34	0.6	3.849584	No	*	--	--	217.07	21.97	--	--
Selenium (total recoverable)	Yes	5	0.102	0.6	--	No Aquatic Water Quality Criteria							
Selenium (dissolved)	Yes	5	0.124	0.6	0.35623	No	*	--	--	13.00	4.60	--	--
Silver (total recoverable)	Yes	5	0.00247	0.6	--	No Aquatic Water Quality Criteria							
Silver (dissolved)	Yes	5	0.00247	0.6	0.007096	No	*	--	--	0.79	0.10	--	--
Zinc (total recoverable)	Yes	14	45	0.408620879	--	No Aquatic Water Quality Criteria							
Zinc (dissolved)	Yes	14	40.2	0.408962998	61.06128	Yes	1.2	16.16532	4.721251804	55.37	50.40	NO	NO
Cyanide (total)	Yes	12	0	0	--	No Aquatic Water Quality Criteria							
Cyanide (free)	Yes	11	0	0	0	No	*	--	--	22.00	5.20	--	--
Total phenolic compounds	Yes	No Aquatic Water Quality Criteria											
Table 2: Volatile organic compounds													
Table 2: Acid-extractable compounds													
Pentachlorophenol	Yes	5	0	0	0	No	*	--	--	pH Data	pH Data	--	--
Table 2: Base-neutral compounds													
Table 3: Pesticides and PCBs													
Aldrin	Yes	5	0	0	0	No	*	--	--	3.00	na	--	--
BHC-gamma (Lindane)	Yes	5	0	0	0	No	*	--	--	0.95	0.08	--	--
Chlordane	Yes	5	0	0	0	No	*	--	--	2.40	0.00	--	--
Chloropyrifos	Yes	--	--	--	--	Data	*	--	--	0.08	0.04	--	--
Demeton	Yes	--	--	--	--	Data	*	--	--	na	0.10	--	--

DDT 4,4'	Yes	5	0	0	0	No	*	--	--	1.10	0.00	--	--
Dieldrin	Yes	5	0	0	0	No	*	--	--	0.24	0.06	--	--
Endosulfan alpha	Yes	5	0	0	0	No	*	--	--	0.22	0.06	--	--
Endosulfan beta	Yes	5	0	0	0	No	*	--	--	0.22	0.06	--	--
Endosulfan	Yes	--	--	--	--	Data	*	--	--	0.22	0.06	--	--
Endrin	Yes	5	0	0	0	No	*	--	--	0.09	0.04	--	--
Guthion	Yes	--	--	--	--	Data	*	--	--	na	0.01	--	--
Heptachlor	Yes	5	0	0	0	No	*	--	--	0.52	0.00	--	--
Heptachlor Epoxide	Yes	5	0	0	0	No	*	--	--	0.52	0.00	--	--
Malathion	Yes	--	--	--	--	Data	*	--	--	na	0.10	--	--
Methoxychlor	Yes	5	0	0	0	No	*	--	--	na	0.03	--	--
Mirex	Yes	--	--	--	--	Data	*	--	--	na	0.00	--	--
Parathion	Yes	--	--	--	--	Data	*	--	--	0.07	0.01	--	--
Toxaphene	Yes	5	0	0	0	No	*	--	--	0.73	0.00	--	--
Total PCBs (Sum of PCB	Yes	--	--	--	--	Data	*	--	--	2.00	0.01	--	--
Table3: Other parameters with state water quality criteria													
Hydrogen Sulfide (dissolved as S)	TBD	--	--	--	--	--	*	--	--	na	2.00	--	--
Phosphorus, Elemental	TBD	--	--	--	--	--	*	--	--	na	na	--	--
tributyltin (TBT)	TBD	--	--	--	--	--	*	--	--	0.46	0.06	--	--

Attachment C-2: Human Health (Freshwater)

7. Human Health RP																																																																																																																																																																																																																																																																																																																	
RPA Run Information				Facility Information																																																																																																																																																																																																																																																																																																													
Facility Name:		Tillamook WTP		1. Do I have dilution values from a mixing zone study? (Yes/No) Yes																																																																																																																																																																																																																																																																																																													
DEQ File Number:		88665		2. If answered "No" to Question 1, then fill in the following table																																																																																																																																																																																																																																																																																																													
EPA Identification #:		OR0020664		Eff. Flow Rate																																																																																																																																																																																																																																																																																																													
Permit Number:		101239		MGD		N/A		Calculated dilution Factors																																																																																																																																																																																																																																																																																																									
Prepared By:		Mark Hynson		Stream Flow: Harmonic M		CFS		N/A		Dilution @ Harmonic Mean				N/A																																																																																																																																																																																																																																																																																																			
Preparation Date:		10/18/2023		Stream Flow: 30Q5		CFS		N/A		Dilution @ 30Q5				N/A																																																																																																																																																																																																																																																																																																			
Facility Flow Rate (MGD):		1.2		% dilution at MZ		%		25%																																																																																																																																																																																																																																																																																																									
Outfall Number:		1		3. If answered "Yes" to Question #1, then fill in dilution values																																																																																																																																																																																																																																																																																																													
Determination Date:		10/18/23		Dilution @ RMZ: harmonic mean flow								12																																																																																																																																																																																																																																																																																																					
				Dilution @ RMZ: 30Q5 flow								10																																																																																																																																																																																																																																																																																																					
				4. Please enter statistical Confidence and Probability values (note: defaults already entered)																																																																																																																																																																																																																																																																																																													
				Confidence Level				%				95%																																																																																																																																																																																																																																																																																																					
				Probability Basis				%				95%																																																																																																																																																																																																																																																																																																					
Color Key: ** = Enter data				5. Is the water "fresh" or "salt"? Fresh																																																																																																																																																																																																																																																																																																													
Intermediate Calc.s		"--" = Will calculate		RPA Run Notes:																																																																																																																																																																																																																																																																																																													
Calculation Results																																																																																																																																																																																																																																																																																																																	
<table border="1"> <thead> <tr> <th rowspan="3">Pollutant Parameter</th> <th colspan="7">Identify Pollutants of Concern</th> <th colspan="2">In-Stream Conc.</th> <th colspan="4">Det. Reasonable Potential</th> </tr> <tr> <th>Evaluation Required?</th> <th>Carcinogen Status</th> <th># of Sample</th> <th>Effluent Conc.</th> <th>Coefficient of Variation</th> <th>Est. Max Eff. Conc.</th> <th>RP at end of pipe?</th> <th>Ambient Conc.</th> <th>Max Total Conc. @ RMZ</th> <th>WQ Crit: Water + Fish</th> <th>WQ Crit: Fish</th> <th colspan="2">Is there Reasonable Potential to Exceed? (Yes/No)</th> </tr> <tr> <th>(Yes/No)</th> <th>(Yes/No)</th> <th></th> <th>(µg/l)</th> <th>Default=0.6</th> <th>(µg/l)</th> <th>(Yes/No)</th> <th>(µg/l)</th> <th>(µg/l)</th> <th>(µg/l)</th> <th>(µg/l)</th> <th>Water + Fish</th> <th>Fish</th> </tr> </thead> <tbody> <tr> <td colspan="14">Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD</td> </tr> <tr> <td>Nitrates-Nitrite</td> <td>Yes</td> <td>n</td> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>Data</td> <td>*</td> <td>--</td> <td>10000</td> <td>na</td> <td>--</td> <td>--</td> </tr> <tr> <td colspan="14">Table 2 Effluent Parameters for Selected POTWs</td> </tr> <tr> <td colspan="14">Table 2: Metals (total recoverable), cyanide and total phenols</td> </tr> <tr> <td colspan="14">Use total recoverable data as surrogate. No</td> </tr> <tr> <td>Antimony (total recoverable)</td> <td>Yes</td> <td>n</td> <td>3</td> <td>0.213</td> <td>0.6</td> <td>0.638901</td> <td>No</td> <td>*</td> <td>--</td> <td>5</td> <td>64</td> <td>--</td> <td>--</td> </tr> <tr> <td>Arsenic (total recoverable)</td> <td>Yes</td> <td>y</td> <td>5</td> <td>0.01208</td> <td>0.6</td> <td colspan="8">No Human Health Water Quality Criteria</td> </tr> <tr> <td>Arsenic (total inorganic)</td> <td>Yes</td> <td>Y</td> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>Data</td> <td>*</td> <td>--</td> <td>2</td> <td>2.1</td> <td>--</td> <td>--</td> </tr> <tr> <td>Copper (total recoverable)</td> <td>Yes</td> <td>N</td> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>Data</td> <td>*</td> <td>--</td> <td>1300</td> <td>na</td> <td>--</td> <td>--</td> </tr> <tr> <td>Mercury (total)</td> <td>Yes</td> <td>N</td> <td colspan="11">RP is "Yes" if at least 4 mercury samples and 25% or more of samples are above the recommended QL. See methylmercury IMD</td> </tr> <tr> <td>Methyl Mercury</td> <td>Yes</td> <td>N</td> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>Data</td> <td>*</td> <td>--</td> <td>na</td> <td>0.00014</td> <td>--</td> <td>--</td> </tr> <tr> <td>Nickel (total recoverable)</td> <td>Yes</td> <td>N</td> <td>5</td> <td>1.46</td> <td>0.6</td> <td>3.393482</td> <td>No</td> <td>*</td> <td>--</td> <td>140</td> <td>170</td> <td>--</td> <td>--</td> </tr> <tr> <td>Selenium (total recoverable)</td> <td>Yes</td> <td>N</td> <td>5</td> <td>0.102</td> <td>0.6</td> <td>0.237079</td> <td>No</td> <td>*</td> <td>--</td> <td>120</td> <td>420</td> <td>--</td> <td>--</td> </tr> <tr> <td>Thallium (total recoverable)</td> <td>Yes</td> <td>N</td> <td>4</td> <td>0.0173</td> <td>0.6</td> <td>0.044725</td> <td>Yes</td> <td>0</td> <td>0.004473</td> <td>0</td> <td>0.047</td> <td>NO</td> <td>NO</td> </tr> <tr> <td>Zinc (total recoverable)</td> <td>Yes</td> <td>N</td> <td>14</td> <td>45</td> <td>0.408620879</td> <td>61.05905</td> <td>No</td> <td>*</td> <td>--</td> <td>2100</td> <td>2600</td> <td>--</td> <td>--</td> </tr> <tr> <td>Cyanide (total)</td> <td>Yes</td> <td>N</td> <td>12</td> <td>0</td> <td>0</td> <td>0</td> <td>No</td> <td>*</td> <td>--</td> <td>130</td> <td>130</td> <td>--</td> <td>--</td> </tr> <tr> <td colspan="14">Table 2: Volatile organic compounds</td> </tr> <tr> <td>Acrolein</td> <td>Yes</td> <td>N</td> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>Data</td> <td>*</td> <td>--</td> <td>1</td> <td>0.93</td> <td>--</td> <td>--</td> </tr> </tbody> </table>														Pollutant Parameter	Identify Pollutants of Concern							In-Stream Conc.		Det. Reasonable Potential				Evaluation Required?	Carcinogen Status	# of Sample	Effluent Conc.	Coefficient of Variation	Est. Max Eff. Conc.	RP at end of pipe?	Ambient Conc.	Max Total Conc. @ RMZ	WQ Crit: Water + Fish	WQ Crit: Fish	Is there Reasonable Potential to Exceed? (Yes/No)		(Yes/No)	(Yes/No)		(µg/l)	Default=0.6	(µg/l)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	Water + Fish	Fish	Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD														Nitrates-Nitrite	Yes	n	--	--	--	--	Data	*	--	10000	na	--	--	Table 2 Effluent Parameters for Selected POTWs														Table 2: Metals (total recoverable), cyanide and total phenols														Use total recoverable data as surrogate. No														Antimony (total recoverable)	Yes	n	3	0.213	0.6	0.638901	No	*	--	5	64	--	--	Arsenic (total recoverable)	Yes	y	5	0.01208	0.6	No Human Health Water Quality Criteria								Arsenic (total inorganic)	Yes	Y	--	--	--	--	Data	*	--	2	2.1	--	--	Copper (total recoverable)	Yes	N	--	--	--	--	Data	*	--	1300	na	--	--	Mercury (total)	Yes	N	RP is "Yes" if at least 4 mercury samples and 25% or more of samples are above the recommended QL. See methylmercury IMD											Methyl Mercury	Yes	N	--	--	--	--	Data	*	--	na	0.00014	--	--	Nickel (total recoverable)	Yes	N	5	1.46	0.6	3.393482	No	*	--	140	170	--	--	Selenium (total recoverable)	Yes	N	5	0.102	0.6	0.237079	No	*	--	120	420	--	--	Thallium (total recoverable)	Yes	N	4	0.0173	0.6	0.044725	Yes	0	0.004473	0	0.047	NO	NO	Zinc (total recoverable)	Yes	N	14	45	0.408620879	61.05905	No	*	--	2100	2600	--	--	Cyanide (total)	Yes	N	12	0	0	0	No	*	--	130	130	--	--	Table 2: Volatile organic compounds														Acrolein	Yes	N	--	--	--	--	Data	*	--	1	0.93	--	--
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Acrylonitrile	Yes	Y	5	0	0	0	No	*	--	0	0.025	--	--
Benzene	Yes	Y	5	0	0	0	No	*	--	0	1.4	--	--
Bromoform	Yes	y	5	0	0	0	No	*	--	3	14	--	--
Carbon Tetrachloride	Yes	Y	5	0	0	0	No	*	--	0	0.16	--	--
Chlorobenzene	Yes	N	5	0	0	0	No	*	--	74	160	--	--
Chlorodibromomethane	Yes	y	16	0.53238	1.015773552	0.9547	Yes	0	0.079558	0	1.3	NO	NO
Chloroform	Yes	n	4	25.6	0.6	66.18294	No	*	--	260	1100	--	--
1,2-Dichlorobenzene (o)	Yes	n	5	0	0	0	No	*	--	110	130	--	--
1,3-Dichlorobenzene (m)	Yes	n	5	0	0	0	No	*	--	80	96	--	--
1,4-Dichlorobenzene (p)	Yes	n	5	0	0	0	No	*	--	16	19	--	--
Dichlorobromomethane	Yes	y	16	0.98747	0.838997782	1.638479	Yes	0	0.13654	0	1.7	NO	NO
1,2-dichloroethane	Yes	y	5	0	0	0	No	*	--	0	3.7	--	--
1,2-trans-dichloroethylene	Yes	n	5	0	0	0	No	*	--	120	1000	--	--
1,1-dichloroethylene	Yes	n	5	0	0	0	No	*	--	230	710	--	--
1,2-dichloropropane	Yes	y	5	0	0	0	No	*	--	0	1.5	--	--
1,3-dichloropropene	Yes	y	--	--	--	--	Data	*	--	0	2.1	--	--
Ethylbenzene	Yes	n	5	0	0	0	No	*	--	160	210	--	--
Methyl Bromide	Yes	n	4	0	0	0	No	*	--	37	150	--	--
Methylene Chloride	Yes	y	5	0	0	0	No	*	--	4	59	--	--
1,1,2,2-tetrachloroethane	Yes	y	5	0	0	0	No	*	--	0	0.40	--	--
Tetrachloroethylene	Yes	y	5	0	0	0	No	*	--	0	0.33	--	--
Toluene	Yes	n	5	2.22	0.6	5.159952	No	*	--	720	1500	--	--
1,1,2-trichloroethane	Yes	y	5	0	0	0	No	*	--	0	1.6	--	--
Trichloroethylene	Yes	y	5	0	0	0	No	*	--	1	3	--	--
Vinyl Chloride	Yes	y	5	0	0	0	No	*	--	0	0.24	--	--
Table 2: Acid-extractable compounds													
2-chlorophenol	Yes	n	5	0	0	0	No	*	--	14	15	--	--
2,4-dichlorophenol	Yes	n	5	0	0	0	No	*	--	23	29	--	--
2,4-dimethylphenol	Yes	n	5	0	0	0	No	*	--	76	85	--	--
4,6-dinitro-o-cresol	Yes	n	5	0	0	0	No	*	--	9	28	--	--
2,4-dinitrophenol	Yes	n	5	0	0	0	No	*	--	62	530	--	--
Pentachlorophenol	Yes	y	5	0	0	0	No	*	--	0	0.30	--	--
Phenol	Yes	n	5	0	0	0	No	*	--	9400	86000	--	--
2,4,5-trichlorophenol	Yes	n	5	0	0	0	No	*	--	330	360	--	--
2,4,6-trichlorophenol	Yes	y	5	0	0	0	No	*	--	0	0.24	--	--
Table 2: Base-neutral compounds													
Acenaphthene	Yes	n	4	0	0	0	No	*	--	95	99	--	--
Anthracene	Yes	n	4	0	0	0	No	*	--	2900	4000	--	--

Benidine	Yes	y	4	0	0	0	No	*	--	0	0.00002	--	--
Benzo(a)anthracene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Benzo(a)pyrene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Benzo(b)fluoranthene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Benzo(k)fluoranthene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Bis(2-chloroethyl)ether	Yes	y	4	0	0	0	No	*	--	0	0.053	--	--
Bis (2-chloro-1-methylethyl) ether	Yes	n	4	0	0	0	No	*	--	1200	6500	--	--
Chloromethyl Ether, bis	Yes	y	--	--	--	--	Data	*	--	0	0.000029	--	--
Bis (2-ethylhexyl)phthalate	Yes	y	15	0.20558	1.390435027	0.439951	Yes	0	0.036663	0	0.22	NO	NO
Butylbenzyl phthalate	Yes	n	4	0.33	0.6	0.853139	No	*	--	190	190	--	--
2-chloronaphthalene	Yes	n	2	0	0	0	No	*	--	150	160	--	--
Chrysene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Di-n-butyl phthalate	Yes	n	5	0	0	0	No	*	--	400	450	--	--
Dibenzo(a,h)anthracene	Yes	y	5	0	0	0	No	*	--	0	0.0018	--	--
3,3-Dichlorobenzidine	Yes	y	4	0	0	0	No	*	--	0	0.0028	--	--
Diethyl phthalate	Yes	n	4	0	0	0	No	*	--	3800	4400	--	--
Dimethyl phthalate	Yes	n	4	0	0	0	No	*	--	84000	110000	--	--
2,4-dinitrotoluene	Yes	y	4	0	0	0	No	*	--	0	0.34	--	--
1,2-diphenylhydrazine	Yes	y	--	--	--	--	Data	*	--	0	0.02	--	--
Fluoranthene	Yes	n	4	0	0	0	No	*	--	14	14	--	--
Fluorene	Yes	n	4	0	0	0	No	*	--	390	530	--	--
Hexachlorobenzene	Yes	n	4	0	0	0	No	*	--	0	0.000029	--	--
Hexachlorobutadiene	Yes	y	4	0	0	0	No	*	--	0	1.8	--	--
Hexachlorocyclopentadiene	Yes	n	4	0	0	0	No	*	--	30	110	--	--
Hexachloroethane	Yes	y	4	0	0	0	No	*	--	0	0.33	--	--
Indeno(1,2,3-cd)pyrene	Yes	y	4	0	0	0	No	*	--	0	0.0018	--	--
Isophorone	Yes	n	4	0	0	0	No	*	--	27	96	--	--
Nitrobenzene	Yes	n	4	0	0	0	No	*	--	14	69	--	--
N-nitrosodimethylamine	Yes	y	4	0	0	0	No	*	--	0	0.3	--	--
N-nitrosodi-n-propylamine	Yes	y	4	0	0	0	No	*	--	0	0.051	--	--
N-nitrosodiphenylamine	Yes	y	4	0	0	0	No	*	--	1	0.60	--	--
Pentachlorobenzene	Yes	n	4	0	0	0	No	*	--	0	0.15	--	--
Pyrene	Yes	n	4	0	0	0	No	*	--	290	400	--	--
1,2,4-trichlorobenzene	Yes	n	2	0	0	0	No	*	--	6	7	--	--
Tetrachlorobenzene,1,2,4,5	Yes	n	4	0	0	0	No	*	--	0	0.11	--	--
Table 3: Pesticides and PCBs													
Aldrin	Yes	y	5	0	0	0	No	*	--	0	0.0000050	--	--
BHC-Technical	No	y	--	--	--	--	--	*	--	0	0.0015	--	--

BHC-alpha	Yes	y	5	0	0	0	No	*	--	0	0.00049	--	--
BHC-beta	Yes	y	5	0	0	0	No	*	--	0	0.0017	--	--
BHC-gamma (Lindane)	Yes	n	5	0	0	0	No	*	--	0	0.18	--	--
Chlordane	Yes	y	5	0	0	0	No	*	--	0	0.000081	--	--
DDD 4,4'	Yes	y	5	0	0	0	No	*	--	0	0.000031	--	--
DDE 4,4'	Yes	y	5	0	0	0	No	*	--	0	0.000022	--	--
DDT 4,4'	Yes	y	5	0	0	0	No	*	--	0	0.000022	--	--
Dieldrin	Yes	y	5	0	0	0	No	*	--	0	0.0000054	--	--
Endosulfan alpha	Yes	n	5	0	0	0	No	*	--	9	8.9	--	--
Endosulfan beta	Yes	n	5	0	0	0	No	*	--	9	8.9	--	--
Endosulfan Sulfate	Yes	n	5	0	0	0	No	*	--	9	8.9	--	--
Endrin	Yes	n	5	0	0	0	No	*	--	0	0.024	--	--
Endrin Aldehyde	Yes	n	5	0	0	0	No	*	--	0	0.030	--	--
Heptachlor	Yes	y	5	0	0	0	No	*	--	0	0.0000079	--	--
Heptachlor Epoxide	Yes	y	5	0	0	0	No	*	--	0	0.0000039	--	--
Methoxychlor	Yes	n	5	0	0	0	No	*	--	100	na	--	--
Toxaphene	Yes	y	5	0	0	0	No	*	--	0	0.000028	--	--
Total PCBs (Sum of PCB Aroclors)	Yes	y	--	--	--	--	Data	*	--	0	0.0000064	--	--
Table3: Other parameters with state water quality criteria													
Barium (total recoverable)	TBD	n	--	--	--	--	--	*	--	1000	na	--	--
Manganese (total recoverable)	TBD	n	--	--	--	--	--	*	--	Withdrawn	100	--	--
2,4,5-TP [2-(2,4,5-Trichloro-phenoxy) propanoic acid]d	TBD	n	--	--	--	--	--	*	--	10	na	--	--
2,4-D (2,4-Dichlorophenoxy) acetic acid)	TBD	n	--	--	--	--	--	*	--	100	na	--	--
Dioxin 2,3,7,8-TCDD	TBD	y	--	--	--	--	--	*	--	0	5.1E-10	--	--
Nitrosamines	TBD	y	--	--	--	--	--	*	--	0	0.046	--	--
N-Nitrosodibutylamine	TBD	y	--	--	--	--	--	*	--	0	0.022	--	--
N-Nitrosodiethylamine	TBD	y	--	--	--	--	--	*	--	0	0.046	--	--
N-Nitrosopyrrolidine	TBD	y	--	--	--	--	--	*	--	0	3.4	--	--

Attachment C-3: Aquatic Toxicity (Saltwater)

5. Aquatic Toxicity RP														
RPA Run Information				Facility Information										
Facility Name:		Tillamook WTP		1. Are there dilution #'s from mixing zone study? (Yes/No)										
DEQ File Number:		88665		2. Is the receiving waterbody fresh water? (Yes/No)										
EPA Identification #:		OR0020664		3. If Question 1 = "No", then fill in the following table										
Permit Number:		101239		Eff. Flow Rate		MGD		N/A		Calculated dilution Factors				
Prepared By:		Mark Hynson		Stream Flow: 7Q10		CFS		N/A		Dilution @ ZID		N/A		
Preparation Date:		2/6/2024		Stream Flow: 1Q10		CFS		N/A		Dilution @ MZ		N/A		
Facility Flow Rate (MGD):		1.2		% dilution at ZID		%		10%						
Outfall Number:		1		% dilution at MZ		%		25%						
Determination Date:		2/6/24		4. If answered "Yes" to Question #1, then fill in dilution values										
RPA Run Notes:						Dilution @ ZID (1Q10 from study)		4						
						Dilution @ MZ (7Q10 from study)		17						
				5. Enter Water Hardness. Use average hardness during critical (usually low-flow period). Effluent default is 25 mg/L.										
Color Key: "*" = Enter data Intermediate Calc.s Calculation Results				Effluent		mg/L CaCO ₃		56.06						
				Up-stream		mg/L CaCO ₃		34.6857143						
				ZID boundary		mg/L CaCO ₃		40						
				MZ boundary		mg/L CaCO ₃		36						
				6. Please enter statistical Confidence and Probability values (note: defaults already entered)										
				Confidence Level		%		99%						
Probability Basis		%		95%										
Identify Pollutants of Concern														
Pollutant Parameter		Evaluation Required?	# of Sample	Highest Effluent Conc.	Coefficient of Variation	Est. Max Eff. Conc.	RP at end of pipe?	Ambient Conc.	Max Total Conc. @ ZID	Max Total Conc. @ RMZ	WQ Crit: 1 Hour (CMC)	WQ Crit: 4 Day (CCC)	Is there Reasonable Potential to Exceed? (Yes/No)	
		(Yes/No)		(µg/l)	Default=0.6	(µg/l)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	Acute	Chronic
Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD														
Nitrates-Nitrite		Yes	Evaluation will occur with DO analysis											
Table 2 Effluent Parameters for Selected POTWs														
Hardness (Total as CaCO ₃)		Yes	Must be collected for metals criteria calculation. Submit data to the fields at the top of the spreadsheet											
Table 2: Metals (total recoverable), cyanide and total phenols														
Use total recoverable data as surrogate. no														
Arsenic (total recoverable)		Yes	5	0.111	0.6	--	No Aquatic Water Quality Criteria							
Arsenic (total inorganic)		Yes	--	--	--	--	No Aquatic Water Quality Criteria							

5. Aquatic Toxicity RP

Arsenic (dissolved inorganic)	Yes	--	--	--	--	Data	*	--	--	69.00	36.00	--	--
Cadmium (total recoverable)	Yes	4	0.0322	0.6	0.104508	WQ Crit.	*	--	--	--	--	--	--
Cadmium (dissolved)	Yes	4	0.0322	0.6	0.104508	No	*	--	--	40.00	8.80	--	--
Chromium (total recoverable)	Yes	5	0.453	0.6	--	No Aquatic Water Quality Criteria							
Chromium III (dissolved)	Yes	--	--	--	--	Data	*	--	--	--	--	--	--
Chromium VI (dissolved)	Yes	--	--	--	--	Data	*	--	--	1100.00	50.00	--	--
Copper (total recoverable)	Yes	19	17.5	1.276185186	--	No Aquatic Water Quality Criteria							
Copper (dissolved)	Yes	19	7.19	0.95340803	14.31613	Yes	0.15	3.691533	0.983301956	4.80	3.10	NO	NO
Iron (total recoverable)	Yes	11	153	0.260066376	210.0096	WQ Crit.	*	--	--	--	--	--	--
Lead (total recoverable)	Yes	5	0.385	0.6	--	No Aquatic Water Quality Criteria							
Lead (dissolved)	Yes	5	0.26	0.6	0.746934	No	*	--	--	210.00	8.10	--	--
Mercury (total)	Yes	12	0.0032	0.471003872	0.005411	No	*	--	--	2.10	0.03	--	--
Nickel (total recoverable)	Yes	5	1.46	0.6	--	No Aquatic Water Quality Criteria							
Nickel (dissolved)	Yes	5	1.34	0.6	3.849584	No	*	--	--	74.00	8.20	--	--
Selenium (total recoverable)	Yes	5	0.102	0.6	--	No Aquatic Water Quality Criteria							
Selenium (dissolved)	Yes	5	0.124	0.6	0.35623	No	*	--	--	290.00	71.00	--	--
Silver (total recoverable)	Yes	5	0.00247	0.6	--	No Aquatic Water Quality Criteria							
Silver (dissolved)	Yes	5	0.00247	0.6	0.007096	No	*	--	--	1.90	na	--	--
Zinc (total recoverable)	Yes	14	45	0.408620879	--	No Aquatic Water Quality Criteria							
Zinc (dissolved)	Yes	14	40.2	0.408962998	61.06128	No	*	--	--	90.00	81.00	--	--
Cyanide (total)	Yes	12	0	0	--	No Aquatic Water Quality Criteria							
Cyanide (free)	Yes	11	0	0	0	No	*	--	--	1.00	1.00	--	--
Total phenolic compounds	Yes	No Aquatic Water Quality Criteria											
Table 2: Volatile organic compounds													
Table 2: Acid-extractable compounds													
Pentachlorophenol	Yes	5	0	0	0	No	*	--	--	13.00	7.90	--	--
Table 2: Base-neutral compounds													
Table 3: Pesticides and PCBs													
Aldrin	Yes	5	0	0	0	No	*	--	--	1.30	na	--	--
BHC-gamma (Lindane)	Yes	5	0	0	0	No	*	--	--	0.16	na	--	--
Chlordane	Yes	5	0	0	0	No	*	--	--	0.09	0.00	--	--
Chloropyrifos	Yes	--	--	--	--	Data	*	--	--	0.01	0.01	--	--
Demeton	Yes	--	--	--	--	Data	*	--	--	na	0.10	--	--

5. Aquatic Toxicity RP

DDT 4,4'	Yes	5	0	0	0	No	*	--	--	0.13	0.00	--	--
Dieldrin	Yes	5	0	0	0	No	*	--	--	0.71	0.00	--	--
Endosulfan alpha	Yes	5	0	0	0	No	*	--	--	0.03	0.01	--	--
Endosulfan beta	Yes	5	0	0	0	No	*	--	--	0.03	0.01	--	--
Endosulfan	Yes	--	--	--	--	Data	*	--	--	0.03	0.01	--	--
Endrin	Yes	5	0	0	0	No	*	--	--	0.04	0.00	--	--
Guthion	Yes	--	--	--	--	Data	*	--	--	na	0.01	--	--
Heptachlor	Yes	5	0	0	0	No	*	--	--	0.05	0.00	--	--
Heptachlor Epoxide	Yes	5	0	0	0	No	*	--	--	0.05	0.00	--	--
Malathion	Yes	--	--	--	--	Data	*	--	--	na	0.10	--	--
Methoxychlor	Yes	5	0	0	0	No	*	--	--	na	0.03	--	--
Mirex	Yes	--	--	--	--	Data	*	--	--	na	0.00	--	--
Parathion	Yes	--	--	--	--	Data	*	--	--	na	na	--	--
Toxaphene	Yes	5	0	0	0	No	*	--	--	0.21	0.00	--	--
Total PCBs (Sum of PCB	Yes	4	0	0	0	No	*	--	--	10.00	0.03	--	--
Table3: Other parameters with state water quality criteria													
Hydrogen Sulfide (dissolved as S)	TBD	--	--	--	--	--	*	--	--	na	2.00	--	--
Phosphorus, Elemental	TBD	--	--	--	--	--	*	--	--	na	0.10	--	--
tributyltin (TBT)	TBD	--	--	--	--	--	*	--	--	0.37	0.01	--	--

Attachment C-4: Human Health (Saltwater)

7. Human Health RP													
RPA Run Information				Facility Information									
Facility Name:		Tillamook WTP		1. Do I have dilution values from a mixing zone study? (Yes/No) Yes									
DEQ File Number:		88665		2. If answered "No" to Question 1, then fill in the following table									
EPA Identification #:		OR0020664		Eff. Flow Rate		MGD	N/A	Calculated dilution Factors					
Permit Number:		101239		Stream Flow: Harmonic M	CFS	N/A	Dilution @ Harmonic Mean						
Prepared By:		Mark Hynson		Stream Flow: 30Q5	CFS	N/A	Dilution @ 30Q5						
Preparation Date:		2/6/2024		% dilution at MZ		%	25%						
Facility Flow Rate (MGD):		1.2		3. If answered "Yes" to Question #1, then fill in dilution values			Dilution @ RMZ: harmonic mean flow				12		
Outfall Number:		1					Dilution @ RMZ: 30Q5 flow				10		
Determination Date:		2/6/24		4. Please enter statistical Confidence and Probability values (note: defaults already entered)			Confidence Level			%	95%		
							Probability Basis			%	95%		
Color Key: ** = Enter data				5. Is the water "fresh" or "salt"? Salt									
Intermediate Calc.s		".." = Will calculate		RPA Run Notes:									
Calculation Results													
Pollutant Parameter													
Evaluation Required?		Carcinogen Status	# of Sample	Effluent Conc.	Coefficient of Variation	Est. Max Eff. Conc.	RP at end of pipe?	Ambient Conc.	Max Total Conc. @ RMZ	WQ Crit: Water + Fish	WQ Crit: Fish	Is there Reasonable Potential to Exceed? (Yes/No)	
(Yes/No)		(Yes/No)		(µg/l)	Default=0.6	(µg/l)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	Water + Fish	Fish
Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD													
Nitrates-Nitrite		Yes	n	--	--	--	--	Data	*	--	--	na	--
Table 2 Effluent Parameters for Selected POTWs													
Table 2: Metals (total recoverable), cyanide and total phenols Use total recoverable data as surrogate. No													
Antimony (total recoverable)		Yes	n	3	0.213	0.6	0.638901	No	*	--	--	64	--
Arsenic (total recoverable)		Yes	y	5	0.01208	0.6	No Human Health Water Quality Criteria						
Arsenic (total inorganic)		Yes	Y	--	--	--	--	Data	*	--	--	1.0	--
Copper (total recoverable)		Yes	N	19	17.5	1.276185186	31.27287	No	*	--	--	na	--
Mercury (total)		Yes	N	RP is "Yes" if at least 4 mercury samples and 25% or more of samples are above the recommended QL. See methylmercury IMD									
Methyl Mercury		Yes	N	--	--	--	--	Data	*	--	--	0.00014	--
Nickel (total recoverable)		Yes	N	5	1.46	0.6	3.393482	No	*	--	--	170	--
Selenium (total recoverable)		Yes	N	5	0.102	0.6	0.237079	No	*	--	--	420	--
Thallium (total recoverable)		Yes	N	4	0.0173	0.6	0.044725	No	0	0.004473	--	0.047	NO
Zinc (total recoverable)		Yes	N	14	45	0.408620879	61.05905	No	*	--	--	2600	--
Cyanide (total)		Yes	N	12	0	0	0	No	*	--	--	130	--
Table 2: Volatile organic compounds													
Acrolein		Yes	N	--	--	--	--	Data	*	--	--	0.93	--

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Acrylonitrile	Yes	Y	5	0	0	0	No	*	--	--	0.025	--	--
Benzene	Yes	Y	5	0	0	0	No	*	--	--	1.4	--	--
Bromoform	Yes	y	5	0	0	0	No	*	--	--	14	--	--
Carbon Tetrachloride	Yes	Y	5	0	0	0	No	*	--	--	0.16	--	--
Chlorobenzene	Yes	N	5	0	0	0	No	*	--	--	160	--	--
Chlorodibromomethane	Yes	y	16	0.53238	1.015773552	0.9547	No	*	--	--	1.3	--	--
Chloroform	Yes	n	4	25.6	0.6	66.18294	No	*	--	--	1100	--	--
1,2-Dichlorobenzene (o)	Yes	n	5	0	0	0	No	*	--	--	130	--	--
1,3-Dichlorobenzene (m)	Yes	n	5	0	0	0	No	*	--	--	96	--	--
1,4-Dichlorobenzene (p)	Yes	n	5	0	0	0	No	*	--	--	19	--	--
Dichlorobromomethane	Yes	y	16	0.98747	0.838997782	1.638479	No	*	--	--	1.7	--	--
1,2-dichloroethane	Yes	y	5	0	0	0	No	*	--	--	3.7	--	--
1,2-trans-dichloroethylene	Yes	n	5	0	0	0	No	*	--	--	1000	--	--
1,1-dichloroethylene	Yes	n	5	0	0	0	No	*	--	--	710	--	--
1,2-dichloropropane	Yes	y	5	0	0	0	No	*	--	--	1.5	--	--
1,3-dichloropropene	Yes	y	5	0	0	0	No	*	--	--	2.1	--	--
Ethylbenzene	Yes	n	5	0	0	0	No	*	--	--	210	--	--
Methyl Bromide	Yes	n	4	0	0	0	No	*	--	--	150	--	--
Methylene Chloride	Yes	y	5	0	0	0	No	*	--	--	59	--	--
1,1,2,2-tetrachloroethane	Yes	y	5	0	0	0	No	*	--	--	0.40	--	--
Tetrachloroethylene	Yes	y	5	0	0	0	No	*	--	--	0.33	--	--
Toluene	Yes	n	5	2.22	0.6	5.159952	No	*	--	--	1500	--	--
1,1,2-trichloroethane	Yes	y	5	0	0	0	No	*	--	--	1.6	--	--
Trichloroethylene	Yes	y	5	0	0	0	No	*	--	--	3	--	--
Vinyl Chloride	Yes	y	5	0	0	0	No	*	--	--	0.24	--	--
Table 2: Acid-extractable compounds													
2-chlorophenol	Yes	n	5	0	0	0	No	*	--	--	15	--	--
2,4-dichlorophenol	Yes	n	5	0	0	0	No	*	--	--	29	--	--
2,4-dimethylphenol	Yes	n	5	0	0	0	No	*	--	--	85	--	--
4,6-dinitro-o-cresol	Yes	n	5	0	0	0	No	*	--	--	28	--	--
2,4-dinitrophenol	Yes	n	5	0	0	0	No	*	--	--	530	--	--
Pentachlorophenol	Yes	y	5	0	0	0	No	*	--	--	0.30	--	--
Phenol	Yes	n	5	0	0	0	No	*	--	--	86000	--	--
2,4,5-trichlorophenol	Yes	n	5	0	0	0	No	*	--	--	360	--	--
2,4,6-trichlorophenol	Yes	y	5	0	0	0	No	*	--	--	0.24	--	--
Table 2: Base-neutral compounds													
Acenaphthene	Yes	n	4	0	0	0	No	*	--	--	99	--	--
Anthracene	Yes	n	4	0	0	0	No	*	--	--	4000	--	--

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Benzidine	Yes	y	4	0	0	0	No	*	--	--	0.00002	--	--
Benzo(a)anthracene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Benzo(a)pyrene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Benzo(b)fluoranthene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Benzo(k)fluoranthene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Bis(2-chloroethyl)ether	Yes	y	4	0	0	0	No	*	--	--	0.053	--	--
Bis (2-chloro-1-methylethyl) ether	Yes	n	4	0	0	0	No	*	--	--	6500	--	--
Chloromethyl Ether, bis	Yes	y	--	--	--	--	Data	*	--	--	0.000029	--	--
Bis (2-ethylhexyl)phthalate	Yes	y	15	0.20558	1.390435027	0.439951	Yes	0	0.036663	--	0.22	--	NO
Butylbenzyl phthalate	Yes	n	4	0.33	0.6	0.853139	No	*	--	--	190	--	--
2-chloronaphthalene	Yes	n	2	0	0	0	No	*	--	--	160	--	--
Chrysene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Di-n-butyl phthalate	Yes	n	5	0	0	0	No	*	--	--	450	--	--
Dibenzo(a,h)anthracene	Yes	y	5	0	0	0	No	*	--	--	0.0018	--	--
3,3-Dichlorobenzidine	Yes	y	4	0	0	0	No	*	--	--	0.0028	--	--
Diethyl phthalate	Yes	n	4	0	0	0	No	*	--	--	4400	--	--
Dimethyl phthalate	Yes	n	4	0	0	0	No	*	--	--	110000	--	--
2,4-dinitrotoluene	Yes	y	4	0	0	0	No	*	--	--	0.34	--	--
1,2-diphenylhydrazine	Yes	y	4	0	0	0	No	*	--	--	0.02	--	--
Fluoranthene	Yes	n	4	0	0	0	No	*	--	--	14	--	--
Fluorene	Yes	n	4	0	0	0	No	*	--	--	530	--	--
Hexachlorobenzene	Yes	n	4	0	0	0	No	*	--	--	0.000029	--	--
Hexachlorobutadiene	Yes	y	4	0	0	0	No	*	--	--	1.8	--	--
Hexachlorocyclopentadiene	Yes	n	4	0	0	0	No	*	--	--	110	--	--
Hexachloroethane	Yes	y	4	0	0	0	No	*	--	--	0.33	--	--
Indeno(1,2,3-cd)pyrene	Yes	y	4	0	0	0	No	*	--	--	0.0018	--	--
Isophorone	Yes	n	4	0	0	0	No	*	--	--	96	--	--
Nitrobenzene	Yes	n	4	0	0	0	No	*	--	--	69	--	--
N-nitrosodimethylamine	Yes	y	4	0	0	0	No	*	--	--	0.3	--	--
N-nitrosodi-n-propylamine	Yes	y	4	0	0	0	No	*	--	--	0.051	--	--
N-nitrosodiphenylamine	Yes	y	4	0	0	0	No	*	--	--	0.60	--	--
Pentachlorobenzene	Yes	n	4	0	0	0	No	*	--	--	0.15	--	--
Pyrene	Yes	n	4	0	0	0	No	*	--	--	400	--	--
1,2,4-trichlorobenzene	Yes	n	5	0	0	0	No	*	--	--	7	--	--
Tetrachlorobenzene,1,2,4,5	Yes	n	4	0	0	0	No	*	--	--	0.11	--	--
Table 3: Pesticides and PCBs													
Aldrin	Yes	y	5	0	0	0	No	*	--	--	0.0000050	--	--
BHC-Technical	No	y	--	--	--	--	--	*	--	--	0.0015	--	--

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BHC-alpha	Yes	y	5	0	0	0	No	*	--	--	0.00049	--	--
BHC-beta	Yes	y	5	0	0	0	No	*	--	--	0.0017	--	--
BHC-gamma (Lindane)	Yes	n	5	0	0	0	No	*	--	--	0.18	--	--
Chlordane	Yes	y	5	0	0	0	No	*	--	--	0.000081	--	--
DDD 4,4'	Yes	y	5	0	0	0	No	*	--	--	0.000031	--	--
DDE 4,4'	Yes	y	5	0	0	0	No	*	--	--	0.000022	--	--
DDT 4,4'	Yes	y	5	0	0	0	No	*	--	--	0.000022	--	--
Dieldrin	Yes	y	5	0	0	0	No	*	--	--	0.0000054	--	--
Endosulfan alpha	Yes	n	5	0	0	0	No	*	--	--	8.9	--	--
Endosulfan beta	Yes	n	5	0	0	0	No	*	--	--	8.9	--	--
Endosulfan Sulfate	Yes	n	5	0	0	0	No	*	--	--	8.9	--	--
Endrin	Yes	n	5	0	0	0	No	*	--	--	0.024	--	--
Endrin Aldehyde	Yes	n	5	0	0	0	No	*	--	--	0.030	--	--
Heptachlor	Yes	y	5	0	0	0	No	*	--	--	0.0000079	--	--
Heptachlor Epoxide	Yes	y	5	0	0	0	No	*	--	--	0.0000039	--	--
Methoxychlor	Yes	n	5	0	0	0	No	*	--	--	na	--	--
Toxaphene	Yes	y	5	0	0	0	No	*	--	--	0.000028	--	--
Total PCBs (Sum of PCB Aroclors)	Yes	y	4	0	0	0	No	*	--	--	0.0000064	--	--
Table3: Other parameters with state water quality criteria													
Barium (total recoverable)	TBD	n	--	--	--	--	--	*	--	--	na	--	--
Manganese (total recoverable)	TBD	n	--	--	--	--	--	*	--	--	100	--	--
2,4,5-TP [2-(2,4,5-Trichloro-phenoxy) propanoic acid]d	TBD	n	--	--	--	--	--	*	--	--	na	--	--
2,4-D (2,4-Dichlorophenoxy) acetic acid)	TBD	n	--	--	--	--	--	*	--	--	na	--	--
Dioxin 2,3,7,8-TCDD	TBD	y	--	--	--	--	--	*	--	--	5.1E-10	--	--
Nitrosamines	TBD	y	--	--	--	--	--	*	--	--	0.046	--	--
N-Nitrosodibutylamine	TBD	y	--	--	--	--	--	*	--	--	0.022	--	--
N-Nitrosodiethylamine	TBD	y	--	--	--	--	--	*	--	--	0.046	--	--
N-Nitrosopyrrolidine	TBD	y	--	--	--	--	--	*	--	--	3.4	--	--

Appendix D: Fecal Coliform Bacteria Limit Derivation

Background/General Discussion

The 2001 Tillamook Bay Watershed TMDL included fecal wasteload allocations for the City of Tillamook's wastewater treatment plant ("city"). These allocations addressed the beneficial use of shellfish harvesting within the Tillamook Bay, as designated at the time of TMDL development. At that time there was no specific map within DEQ's water quality rules delineating shellfish harvesting areas. The TMDL determined that the location of shellfish harvesting uses were at some distance downstream of the mouths of the rivers entering the bay. This allowed for dilution to be considered in the TMDL wasteload allocation development (see Section 3.2.7 of the TMDL). The TMDL also used estimates of instream and overland bacteria decay (or die off) in the development of allocations.

In 2016, Oregon's bacteria standards were updated to include figures explicitly delineating shellfish harvesting areas. Specifically, OAR 340-041-0230 Figure 230E was included designating shellfish harvesting areas in the Tillamook Bay. This figure indicates that the designated shellfish harvesting area in the bay is much closer to the mouth of the Trask River (and other rivers) than the location considered during TMDL development.

DEQ would typically rely on TMDL allocations to ensure discharges are not causing or contributing to exceedances criteria. However, because of this change in rule, the allocation to the city may not ensure compliance with the fecal criteria. In particular, the 3 to 1 dilution ratio used in the TMDL for allocation development was reconsidered. The approach used to address the instream decay of bacteria in the TMDL is not affected by this rule change since it only considered decay in the rivers, where there is no designated shellfish harvesting use.

Permit Limit Development

Since OAR 340-041-0230 Figure 230E designates shellfish harvesting as a use within Tillamook Bay near the mouth of the tributary rivers, the fecal coliform criteria are required to be addressed at these locations. These criteria are included in OAR 340-041-009(1)(c) and are a median concentration of 14 organisms per 100 mL and not more than ten percent of the samples may exceed 43 organisms per 100 mL.⁸

As noted above, the TMDL wasteload allocation for Tillamook was calculated using the dilution value of 3 to 1 that was expected to occur between the mouth of the Trask River and the shellfish harvesting area that was considered under the TMDL. Since the revised rule designates the bay near the mouth of the Trask to be a shellfish harvesting area, this dilution is no longer considered valid for derivation of Tillamook's fecal coliform limits. Where the TMDL targeted fecal coliform values of 42 (14 multiplied by the dilution of 3) and 129 (43 multiplied by the dilution of 3) at the mouth of the Trask, the new permit limits are based on targeting the criteria (14 and 43) at the river mouth.

The fecal coliform decay approach used in the TMDL is still considered valid and was used in limit development. These die-off values may be expressed as ratios of the TMDL wasteload allocations to the targeted values at the mouth of the river. Two die off ratios were derived for the Tillamook discharge – one for the summer period and one for fall/winter/spring. This parallels the approach used in the TMDL. These ratios were calculated by dividing the TMDL wasteload allocations for the City of Tillamook

⁸ The TMDL considered the geometric mean and the 90th percentile statistics as equivalent to the statistics in the rule.

(TMDL Table 18) by the fecal coliform values targeted by the TMDL at the mouth of the Trask River. These values are presented in the table below.

Derivation of Decay Ratios Between Discharge Location and Mouth of Trask River				
Season	Criterion	TMDL Target Fecal Coliform	TMDL Wasteload Allocation	Decay Ratio (allocation/target)
Summer (May – Oct)	Median	42	200	4.8
	90 th Percentile	129	400	3.1
Fall/Winter/Spring (Nov-Apr)	Median	42	49	1.2
	90 th Percentile	129	151	1.2
Notes: The Summer wasteload allocations were capped in the TMDL and therefore result in conservative decay ratios.				

The approach used to determine the new fecal coliform limits uses the decay ratios derived above but uses the fecal coliform criteria of 14 (median) and 43 (no more than 10%) as the targeted values for the mouth of the Trask River. The limits in the permit are expressed as a monthly median and a “not more than 10% of the samples may exceed” value.

These limits are presented in the table below.

Derivation of New Fecal Coliform Limits				
Season	Criterion	TMDL Target Fecal Coliform	Decay Ratio (allocation/target)	New Fecal Coliform Limits
Summer (May – Oct)	Monthly Median	14	4.8	67
	Not more than 10% of the samples may exceed	43	3.1	133
Fall/Winter/Spring (Nov – Apr)	Monthly Median	14	1.2	17
	Not more than 10% of the samples may exceed	43	1.2	52