Oregon
Tina Kotek, Governor

Department of Environmental Quality
Northwest Region Portland Office/Water Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232
(503) 229-5696
FAX (503) 229-6124
TTY 711

August 16, 2024

Roy Markee
City of Bay City
P.O. Box 3309
Bay City, OR 97107-3309

Re: NPDES Permit Public Notice Period
Comments Due: September 23, 2024, 5 p.m.
File no. 6667
Permit no. 101025
EPA no. OR0022578
Facility: Bay City WWTP, 8000 Elliott St., Bay City
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 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 September 23, 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

Trinh Hansen
Water Quality Permit Coordinator
Western Region, Salem Office

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

PUBLIC NOTICE

Date posted: 8/16/24

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

HOW TO PROVIDE PUBLIC COMMENT

Facility name: City of Bay City Wastewater Treatment Plant

Permit type: National Pollutant Discharge Elimination System permit

Comments due by: Monday, Sept. 23, 2024 at 5 p.m.

Send written comments to: Trinh Hansen, DEQ Water Quality Permit Coordinator

By mail: 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 City of Bay City's proposed water quality permit, known officially as a National Pollutant Discharge Elimination System permit.

Summary

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

About the facility

The City of Bay City has applied for a water quality permit renewal for the Bay City Wastewater Treatment Plant located at 8000 Elliott Street in Bay City. DEQ last renewed this permit on Nov. 1, 2019. This facility treats domestic wastewater from Bay City.

The facility discharges to Tillamook Bay near Goose Point. Tillamook Bay is listed as impaired (category 4 or 5) for six pollutants according to the most recent U.S. Environmental Protection Agency-approved integrated report for Oregon. The proposed permit reflects effluent limits established through reasonable potential analysis, best available technology and the Tillamook Bay Total Maximum Daily Load, or TMDL, for carbonaceous biochemical oxygen demand, biochemical oxygen demand, total suspended solids, total ammonia (as N), pH, enterococcus, and fecal coliform.

The most recent DEQ inspection of the Bay City Wastewater Treatment Plant was on April 26, 2023. DEQ did not identify violations during this inspection. The facility has had one water quality violation in the past permit term. The issues related to this past compliance issue have been resolved.

The facility holds no other permits from DEQ.

Translation or other formats

Español | 한국어 | 繁體中文 | Русский | Tiếng Việt | العربية
800-452-4011 | TTY: 711 | deqinfo@deq.oregon.gov

State of Oregon
DEQ Department of Environmental Quality

What types of pollutants does the permit regulate?

This permit sets conditions for how the facility deals with the following pollutants: carbonaceous biochemical oxygen demand, biochemical oxygen demand, total suspended solids, total ammonia (as N), pH, enterococcus, and fecal coliform.

DEQ also requires the permittee to maintain a biosolids management and land application plan. This plan will be updated separately from this permit renewal and is not part of this public notice.

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

Yes. The draft permit proposes to decrease the effluent limits for fecal coliform, narrow the allowable range for pH, and establish new limits for total ammonia (as N).

Pollutant	Change
Total Ammonia (as N)	New
Fecal Coliform	Decrease
pH	Narrower range

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 and 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 reviewed the renewal application, all previous permits and fact sheets and associated administrative records, regional water quality data and research, discharge monitoring reports and attachments submitted by the permittee, all available mixing zone studies and memos, all available compliance and enforcement documents in the administrative record, records of communications with the permittee and other documents contained within the administrative record. 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 503-378-5055 or trinh.hansen@deq.oregon.gov with questions or to view documents in person at a DEQ office.

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 Bay City
P.O. Box 3309
Bay City, OR 97107

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	45.514735, -123.891713 (WGS84)

FACILITY LOCATION:
Bay City Wastewater Treatment Plant
8000 Elliott Street
Bay City, OR 97107
County: Tillamook

EPA Permit Type: Minor

RECEIVING STREAM INFORMATION:
Receiving stream/NHD name: Tillamook Bay
USGS 12-Digit HUC: 171002030800
OWRD Administrative Basin: North Coast
NHD Reach Code & % along reach: 17100203011280, 64% along reach
ODEQ LLID & RM: 1239378455599, RM 3.49
Integrated Report AU ID: OR_EB_1710020308_01_100298

Issued in response to Application No. 948149 received March 5, 2024. This permit is issued based on the land use findings in the permit record.

DRAFT	DRAFT	DRAFT
Tiffany Yelton-Bram, Manager Northwest Region	Issuance Date	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.

TABLE OF CONTENTS

Note: Schedule E (Pretreatment Activities) is not part of this permit.

LIST OF TABLES

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
$CBOD_5$ (May 1 – October 31)	mg/L	15	25	-
	lb/day	26	39	52
	% removal	85	-	-
TSS (May 1 – October 31)	mg/L	20	30	-
	lb/day	35	53	70
	% removal	85	-	-
BOD_5 (November 1 – April 30)	mg/L	30	45	-
	lb/day	78	120	160
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	78	120	160
	% removal	85	-	-
Total Ammonia (as N) (May 1 – October 31) (Final) (See note a.)	mg/L	4.1	-	12.1
Total Ammonia (as N) (November 1 – April 30) (Final) (See note a.)	mg/L	8.8	-	25.9
pH (Final) (See note b.)	SU	Instantaneous limit between a daily minimum of 6.4 and a daily maximum of 9.0		
pH (Interim) (See note b.)	SU	Instantaneous limit between a daily minimum of 6.0 and a daily maximum of 9.0		
Fecal Coliform Bacteria (Final) (See note c.)	#/100 mL	Must not exceed a monthly median of 14, not more than 10% of the samples may exceed 43		
Fecal Coliform Bacteria (Interim) (See note c.)	#/100 mL	Must not exceed a monthly median of 42, not more than 10% of the samples may exceed 129		
Enterococcus Bacteria	#/100 mL	Must not exceed a monthly geometric mean of 35, not more than 10% of the samples may exceed 130		

Notes:

a. The final Total Ammonia limit is effective after completion of the compliance schedule in Schedule C.

b. The interim pH limit is effective upon permit effective date. The final pH limit is effective after completion of the compliance schedule in Schedule C.

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
c. The interim Fecal Coliform Bacteria limit is effective upon permit effective date. The final Fecal Coliform Bacteria limit is effective after completion of the compliance schedule in Schedule C.				

2. Regulatory Mixing Zone

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

The Regulatory Mixing Zone (RMZ) is the portion of Tillamook Bay in 50 feet from all directions from each diffuser. The Zone of Initial Dilution (ZID) is that part of the mixing zone within a 5-foot radius from the point of discharge.

3. Biosolids

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

a. Biosolids Management Plan - The permittee must manage biosolids in accordance with its DEQ-approved Biosolids Management Plan and Land Application Plan (see Schedule D)

b. Agronomic Rates for Nutrient Loading - The permittee must apply biosolids at or below the agronomic rates approved by DEQ to minimize potential groundwater degradation. At the time of sale or distribution of exceptional quality biosolids, the origin must be identified and biosolids analyses must be available to appliers or users of the biosolids.

c. Land Application Site Authorization - 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. This requirement does not apply for exceptional quality biosolids, which may be land applied as any other fertilizer or soil amendment.

d. Pathogen and Vector Attraction Reduction - Prior to land 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. For exceptional quality biosolids, the biosolids must meet one of the Class A pathogen reduction requirements in 40 CFR 503.32(a) and one of the vector attraction reduction requirements in 40 CFR 503.33(b)(1) through (b)(8) prior to land application.

e. Pollutants - The permittee must not apply biosolids containing pollutants in excess of the ceiling concentrations shown in Table A2. The permittee may apply biosolids containing pollutants in excess of the pollutant concentrations. However, the total quantity of these pollutant(s) cannot exceed the cumulative pollutant loading rates in Table A2. For biosolids to be managed as exceptional quality biosolids, the biosolids cannot exceed any of the ceiling concentration limits or the pollutant concentration limits in Table A2.

f. Approval to Apply Cumulative Pollutant Loading Rates - If the permittee's biosolids are subject to the cumulative pollutant loading rates as described in section e. above, the permittee must obtain specific approval from DEQ to land apply these biosolids in accordance with their approved Biosolids Management and Land Application Site Authorization (see Schedule D).

Table A2: Biosolids Limits

Pollutant (See note a.)	**Ceiling Concentration Limits (mg/kg)**	**Pollutant Concentration Limits Monthly Average (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 *ceiling concentrations*, *pollutant concentrations*, and *cumulative pollutant loading rates*.

4. Chlorine Usage

The permittee is prohibited from using chlorine or chlorine compounds for effluent disinfection purposes. Chlorine residual in effluent resulting from chlorine or chlorine-containing chemicals used for maintenance or other purposes is also prohibited.

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:
Tables B2, B3, and B4 Influent Monitoring, Effluent Monitoring, and Receiving Stream Monitoring	Monthly	By the 15th of the following month	Specified in Schedule B. Section 2 of this permit	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
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
Biosolids annual report (see Schedule D) - Only required if the permittee produces and distributes biosolids under a DEQ-approved 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
Sludge Depth Survey Report (see Schedule D – Lagoon Solids)	One Time	Submit by XX/15/2027 (the 15th of the month following 24 months after permit effective date.)	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Industrial User Survey (see Schedule D)	Once per permit cycle	Submit by no later than 24 months after permit effective date	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Outfall Inspection Report (see Schedule D)	Once per permit cycle	Submit by XX/15/2027 (In the 3rd year of the permit.)	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.

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 DEQ permitting website.

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. With the exception of BOD_5/$CBOD_5$, 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. For BOD_5/$CBOD_5$, the permittee may not use the result that failed the QA/QC requirement in any calculation except as follows.

(A) When the glucose-glutamic acid, dilution water, and/or seed control check are not met, the values are reported with the "e" (estimate) data qualifier. The estimated values are not used in the calculations.

(B) When the minimum DO depletion or the minimum residual DO is not met, the values are reported with the "<" or ">" data qualifiers as appropriate. The data must be used in the calculations. It is not acceptable to report "non-detect" on the discharge monitoring report. The data qualifiers carry to the summary statistic. For example, when calculating the loading, the data qualifiers are added to the value.

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, bacteria, 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. (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.

iv. (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 "<0.017 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 at the lift station and report results in accordance with Table B1 and 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
$CBOD_5$ (80082)	mg/L	May 1 – October 31	2/month	24-hour composite	Monthly Average
BOD_5 (00310)	mg/L	November 1 – April 30	2/month	24-hour composite	Monthly Average
TSS (00530)	mg/L	Year-round	2/month	24-hour composite	Monthly Average
pH (00400)	SU	Year-round	3/week	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 at Outfall 001 after UV disinfection (bacteria samples) and in the effluent channel (composite and grab samples) 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	November 1 – April 30	2/month	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
BOD_5 (00310)	lb/day	November 1 – April 30	2/month	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
BOD_5 percent removal (81010) (See note c.)	%	November 1 – April 30	Monthly	Calculation based on monthly average BOD_5 concentration values	Monthly Average
$CBOD_5$ (80082)	mg/L	May 1 – October 31	2/month	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
$CBOD_5$ (80082)	lb/day	May 1 – October 31	2/month	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
$CBOD_5$ percent removal (81383) (See note c.)	%	May 1 – October 31	Monthly	Calculation based on monthly average $CBOD_5$ concentration values	Monthly Average
TSS (00530)	mg/L	Year-round	2/month	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
TSS (00530)	lb/day	Year-round	2/month	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
TSS percent removal (81011) (See note c.)	%	Year-round	Monthly	Calculation based on monthly average TSS concentration values	Monthly Average

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
pH (00400)	SU	Year-round	3/week	Grab	1. Daily Maximum 2. Daily Minimum
Fecal coliform (74055)	#/100 mL	Year-round	2/week	Grab	1. Daily Maximum 2. Monthly Median
Fecal coliform % samples exceeding limit (30500)	%	Year-round before compliance schedule is completed	Monthly	Calculation	Monthly percent over 129
Fecal coliform % samples exceeding limit (30500)	%	Year-round after compliance schedule is completed	Monthly	Calculation	Monthly percent over 43
Enterococci (61211)	#/100 mL	Year-round	2/week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
Enterococci % samples exceeding limit (51937)	%	Year-round	Monthly	Calculation	Monthly percent over 130
Total ammonia (as N) (00610)	mg/L	Year-round	1/week	24-hour composite	1. Daily Maximum 2. Monthly Average
Temperature (00010)	ºC	Year-round	3/week	Grab (See note d.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
Alkalinity as $CaCO_3$ (00410)	mg/L	Year-round	Quarterly	Grab	Quarterly Maximum
UV intensity	mW/cm^2	Year-round	Daily	Continuous	Maintain records on-site
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 e.)	Quarterly Maximum
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

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, 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:

$$Percent\ Removal = \frac{[Influent\ Concentration] - [Effluent\ Concentration]}{[Influent\ Concentration]} \times 100$$

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 must perform temperature grab measurements daily between 12 PM and 5 PM.

e. 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.

c. The permittee must monitor Tillamook Bay and report the results in accordance with Table B1 and the table below. The permittee must collect samples such that the effluent does not impact the samples (e.g., upstream for riverine discharges).

Table B4: Receiving Water Body Monitoring (Tillamook Bay)

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action	Report Statistic (See note a.)
Total ammonia (as N) (00610)	mg/L	Year-round	Quarterly	Grab	Quarterly Maximum
Alkalinity as $CaCO_3$ (00410)	mg/L	Year-round	Quarterly	Grab	Quarterly Maximum

Note:

a. 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.

4. 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 B5: 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 Ammonia-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 B6.	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 B6.	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 B6.	As described in DEQ-approved Biosolids Management Plan

Item or Parameter	Minimum Frequency	Sample Type
Vector attraction reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B6.	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 B6: 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 Schedules to Meet Final Effluent Limits

The permittee must comply with the following schedules:

Table C1: Compliance Schedule for Total Ammonia and pH

Compliance Date:	Requirement:
By XX/XX/2025 Within 6 months of permit effective date	The permittee must submit to DEQ an optimization study outlining feasible operational changes that can be made to the current treatment process at Bay City WWTP to maximize control of total ammonia and pH.
By XX/XX/2025 Within 8 months of permit effective date	The permittee must begin implementation of the planned changes outlined in the optimization study.
By XX/XX/2025 Within 12 months of permit effective date	The permittee must either: 1. Notify DEQ that the permittee intends to immediately meet the final limits for total ammonia and pH in Schedule A of this permit (this action will complete this compliance schedule), or 2. Submit an options analysis for meeting the final total ammonia and pH effluent limits and copies or summaries of initial communications with financing agencies if external funding is required for facility upgrades.
By XX/XX/2026 Within 2 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limitations and a summary of funding acquisition progress. The permittee must include in the report a draft plan and timeline for achieving final total ammonia and pH effluent limits based on the results of the implementations of the optimization study and any planned facility upgrades. Permittee must revise draft plan and timeline in accordance with DEQ comments within 60 days of receiving DEQ comments. The permittee must also submit a design memorandum for any facility upgrades in order to achieve final effluent limits for total ammonia and pH. (This requirement does not apply if the permittee has previously notified DEQ that it intends to immediately meet the final limits for total ammonia and pH.)
By XX/XX/2027 Within 3 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limitations and the permittee must begin implementation of the final plan for achieving final effluent limits. (This requirement does not apply if the permittee has previously notified DEQ that it intends to immediately meet the final limits for total ammonia and pH.)
By XX/XX/2028 Within 4 years of permit effective date	The permittee must achieve compliance with the final effluent limits for total ammonia and pH in Schedule A of this permit.

Table C2: Compliance Schedule for Fecal Coliform Bacteria

Compliance Date:	Requirement:
By XX/XX/2025 Within 6 months of permit effective date	The permittee must submit to DEQ an optimization study outlining feasible operational changes that can be made to the current treatment process at Bay City WWTP to maximize reductions of fecal coliform bacteria.
By XX/XX/2025 Within 12 months of permit effective date	The permittee must begin implementation of the planned changes outlined in the optimization study and notify DEQ.
By XX/XX/2026 Within 2 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limitations.
By XX/XX/2026 Within 2.5 years of permit effective date	The permittee must either: 1. Notify DEQ that the permittee intends to immediately meet the final limits for fecal coliform bacteria contained in Schedule A of this permit (this action will complete this compliance schedule), or 2. Submit an options analysis for meeting the final fecal coliform bacteria effluent limits and copies or summaries of initial communications with financing agencies if external funding is required for facility upgrades.
By XX/XX/2027 Within 3 years of permit effective date	The permittee must submit a design memorandum for any facility upgrades required to achieve final effluent limits for fecal coliform bacteria. (This requirement does not apply if the permittee has previously notified DEQ that it intends to immediately meet the final limits for fecal coliform bacteria.)
By XX/XX/2027 Within 3.5 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limitations. The permittee must include in the report a draft plan and timeline for achieving final fecal coliform limits based on the results of the implementations of the optimization study and any facility upgrade design memorandums. Permittee must revise draft plan and timeline in accordance with DEQ comments within 60 days of receiving DEQ comments. (These requirements do not apply if the permittee has previously notified DEQ that it intends to immediately meet the final limits for fecal coliform bacteria.)
By XX/XX/2028 Within 4 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limitations and the permittee must begin implementation of the final plan for achieving final effluent limits. (This requirement does not apply if the permittee has previously notified DEQ that it intends to immediately meet the final limits for fecal coliform bacteria.)
By XX/XX/2029 Within 5 years of permit effective date	The permittee must achieve compliance with the final effluent limits for fecal coliform bacteria in Schedule A of this permit.

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. 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.

4. 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.

5. 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 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 5.b. above, if:

i. Pollutant concentrations of biosolids are less than the pollutant concentration limits in Schedule A, Table A2;

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).

6. 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.

7. 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.

8. 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.

9. Lagoon Solids

By the date listed in Table B1, the permittee must submit to DEQ a sludge depth survey and report. The report must include the sludge depths throughout the lagoons and an evaluation of the impact of sludge on treatment efficiency and odors. If the evaluation finds that the sludge is impacting the treatment efficiency and causing odors, the permittee must submit a plan to reduce or remove the sludge. See Schedule D, conditions 4, 5 and 6, for sludge removal requirements.

10. 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.

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.

h. When compliance with item (c) of 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.

11. Industrial User Survey

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 **4/6/2023**. 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.

12. 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.

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 B**7.**

(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 *BOD_5* means five-day biochemical oxygen demand.
E2. *CBOD* or *$CBOD_5$* 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. *m^3/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 Bay City

Permittee	City of Bay City 8000 Elliott St Bay City, OR 97107
Existing Permit Information	File Number: 6667 Permit Number: 101025 EPA Reference Number: OR0022578 Category: Domestic Class: Minor Expiration Date: 10/31/2024
Permittee Contact	Donald Miller Wastewater Operator 503-377-4174 P.O. Box 3309 Bay City, OR 97107
Receiving Water Information	Receiving stream/NHD name: Tillamook Bay NHD Reach Code & % along reach: 17100203011280, 64% along reach USGS 12-digit HUC: 171002030800, Tillamook Bay OWRD Administrative Basin: North Coast ODEQ LLID & River Mile: 1239378455599, RM 3.49 Assessment Unit ID: OR_EB_1710020308_01_100298
Proposed Action	Permit Renewal Application Number: 948149 Date Application Received: 3/5/2024
Permit Writer	Olivia Stoken 971-867-1077 Date Prepared: August, 2024

NPDES Permit Fact Sheet
City of Bay City

Table of Contents

List of Tables

List of Figures

NPDES Permit Renewal Fact Sheet
City of Bay City

1. Introduction

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

Below is a summary of the major changes to the permit:

Schedule A:

- New effluent limits for total ammonia have been added in Table A1.
- More stringent effluents limit for fecal coliform bacteria and pH have been added in Table A1.

Schedule B:

- Influent and effluent monitoring requirements in Tables B2 and B3 have been updated to meet current monitoring matrix requirements, except CBOD, BOD, and TSS which have been updated based on a monitoring reduction request analysis.
- Receiving water body monitoring in Tillamook Bay has been added in Table B4.

Schedule C

- Compliance schedules for pH, total ammonia, and fecal coliform bacteria limits have been added in Table C1 and Table C2.

Schedule D:

- Special conditions added to proposed permit include 7.4 Wastewater Solids Annual Report, 7.5 Biosolids Management Plan, 7.7 Hauled Waste Control Plan, 7.8 Hauled Waste Annual Report, 7.9 Lagoon Solids, and 7.12 Outfall Inspection. Special conditions removed from previous permit include 7.2 Mixing Zone Study.

2. Facility Description

2.1 Wastewater Facility

The Bay City Wastewater Treatment Plant (WWTP) was constructed in 1971 as a clay-lined two cell lagoon that utilized a stabilization pond and chlorine disinfection. In 1995, the WWTP was

upgraded after DEQ, and facility personnel determined that effluent from the facultative lagoons installed in 1971 did not consistently meet permit limits.

The current treatment facility is a two-cell sequencing batch reactor (SBR) extended aeration system with an average dry weather design flow of 0.21 mgd and an average wet weather design flow of 0.31 mgd. This system combines biological treatment and sedimentation into a single basin and creates less sludge than other activated sludge systems through the extended aeration process. Raw sewage is pumped by an influent lift station to the treatment plant, where it goes through a mechanical auger, a grinder, and into one of the two SBR basins. Aeration, sedimentation, and clarification are carried out in the same tank within the SBR. Effluent is decanted from the SBR and disinfected by UV radiation prior to being discharged through the outfall to Tillamook Bay.

The outfall extends over 1000 feet from the facility into Tillamook Bay terminating in a single diffuser that is currently inundated with sediment and discharges in a "bubble-up" fashion into adjacent mud-flats.

Waste sludge from the SBRs is pumped to a single-staged aerobic sludge digester basin that utilizes jet aeration. Eventually, sludge is pumped from the digester basin to a facultative sludge lagoon where it is stored until biosolids are removed for landfill disposal. The facultative sludge lagoon can also be used for effluent recirculation if necessary.

If influent flows exceed the capacity of the influent pump station (1.4 mgd), the east lagoon serves as a surge basin and a recirculation pump draws raw wastewater from the surge basin for treatment in the SBR basins. The headworks facility was updated in early 2023 with a new auger for grit removal and an automatic system that pumps effluent to the east lagoon when influent flows exceed the pump station capacity.

Figure 2-1: Facility Location

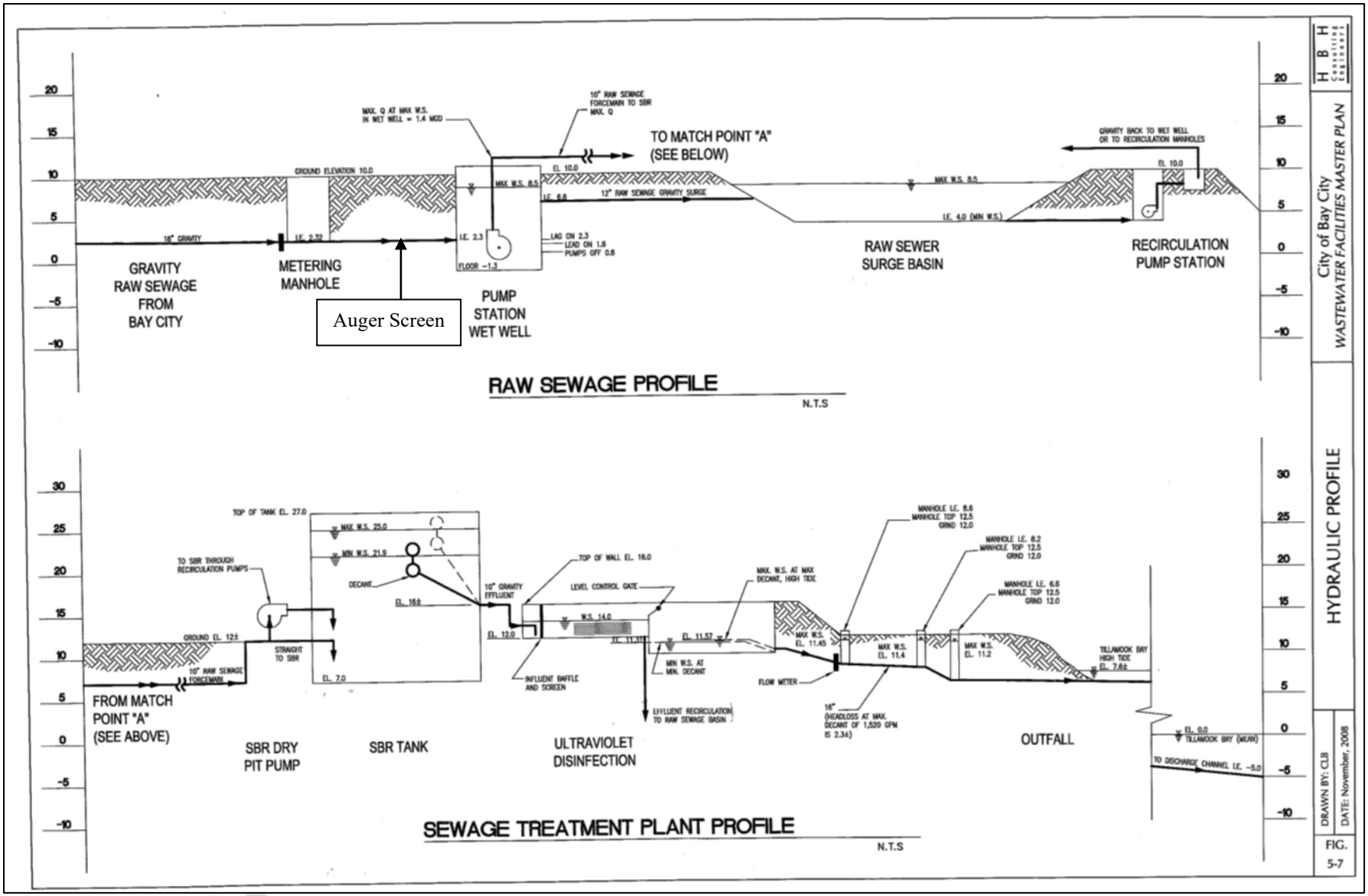

Figure 2-2: Line Drawing of Wastewater Treatment

Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long
001	Domestic	45.514735°, -123.891713° (WGS84)

2.2 Stormwater

Stormwater is not addressed in this permit. General NPDES permits for stormwater are not required for facilities with a design flow of less than 1 MGD.

2.3 Industrial Pretreatment

The permittee does not have a DEQ-approved industrial pretreatment program. Based on current information, no industrial pretreatment program is needed. Schedule D of the proposed permit requires the permittee to perform an industrial user survey.

Bay City Ordinance No. 498 authorizes the city to implement an industrial user permitting program for non-residential wastes discharged into the city sewer system. Currently the City has issued one permit to Tillamook Country Smoker with limits for flow, BOD, TSS, pH, and oil and grease. Bay City's industrial user permits are renewed annually.

2.4 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 shows the limits contained in the existing permit.

Table 3-1: Existing Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum (See note a.)
$CBOD_5$ (May 1 – October 31)	mg/L	15	25	-
	lb/day	26	39	52
	% removal	85	-	-
TSS (May 1 – October 31)	mg/L	20	30	-
	lb/day	35	53	70
	% removal	85	-	-
BOD_5 (November 1 – April 30)	mg/L	30	45	-
	lb/day	78	120	160
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	78	120	160
	% removal	85	-	-
pH	SU	Instantaneous limit between a daily minimum of 6.0 and a daily maximum of 9.0		
Fecal Coliform Bacteria	#/100 mL	Must not exceed a monthly median of 42, not more than 10% of the samples may exceed 129 (see note a.)		
Enterococcus Bacteria	#/100 mL	Must not exceed a monthly geometric mean of 35, not more than 10% of the samples may exceed 130		

Note:

a. If a single sample exceeds 129 organisms per 100 mL, the permittee must evaluate the previous nine sample results to determine if the 10% requirement has been met. If the previous nine samples were all below 129 organisms per 100 mL, the effluent limit has not been exceeded.

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 (BOD_5), total suspended solids (TSS) and pH (i.e., federal secondary treatment standards). Substitution of 5-day carbonaceous oxygen demand ($CBOD_5$) for BOD_5 is allowed. The numeric standards for these pollutants are contained in 40 CFR 133.102. In addition, DEQ has developed minimum design criteria for BOD_5 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	May 1 to Oct 31: 20 mg/L, Nov 1 to Apr 30: secondary treatment (same as federal)
$CBOD_5$ (mg/L)	25	40	
TSS (mg/L)	30	45	May 1 to Oct 31: 20 mg/L, Nov 1 to Apr 30: secondary treatment (same as federal)
pH (S.U.)	6.0 – 9.0. (instantaneous)		Not applicable
BOD_5, $CBOD_5$ and TSS % Removal	85%	Not applicable	Not applicable

The limits for BOD_5 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 monthly average concentrations of 15 mg/L $CBOD_5$ and 20 mg/L TSS during the dry weather season and 30 mg/L BOD_5 and TSS during the wet weather season. DEQ uses the average design flow to calculate the mass load limits as shown below for the dry and wet weather seasons.

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 design average dry weather flow (DADWF) or design average wet weather flow (DAWWF)

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 $CBOD_5/BOD_5$ Concentration Limit (mg/L)
Dry Weather	0.21	20	15 ($CBOD_5$)
Wet Weather	0.31	30	30 (BOD_5)
Design flow comments: Design average dry weather flow (DADWF) and design average wet weather flow (DAWWF)			

Dry Weather $CBOD_5$ Mass Load Calculations:

Monthly Average: 0.21 mgd x 15 mg/L x 8.34 = 26 lbs/day (two significant figures)

Weekly Average: 26 lbs/day monthly average x 1.5 = 39 lbs/day

Daily Maximum: 26 lbs/day monthly average x 2 = 52 lbs/day

Dry Weather TSS Mass Load Calculations:

Monthly Average: 0.21 mgd x 20 mg/L x 8.34 = 35 lbs/day (two significant figures)

Weekly Average: 35 lbs/day monthly average x 1.5 = 53 lbs/day (two significant figures)

Daily Maximum: 35 lbs/day monthly average x 2 = 70 lbs/day

Wet Weather BOD_5 and TSS Mass Load Calculations:

Monthly Average: 0.31 mgd x 30 mg/L x 8.34 = 78 lbs/day (two significant figures)

Weekly Average: 78 lbs/day monthly average x 1.5 = 120 lbs/day (two significant figures)

Daily Maximum: 78 lbs/day monthly average x 2 = 160 lbs/day (two significant figures)

The proposed $CBOD_5/BOD_5$ and TSS limits are listed in the following table.

Table 3-4: $CBOD_5/BOD_5$ and TSS Technology Based Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
$CBOD_5$ (May 1 – October 31)	mg/L	15	25	-
	lbs/day	26	39	52
	% removal	85	NA	NA

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
TSS (May 1 – October 31)	mg/L	20	30	-
	lbs/day	35	53	70
	% removal	85	-	-
BOD_5 (November 1 – April 30)	mg/L	30	45	-
	lbs/day	78	120	160
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lbs/day	78	120	160
	% removal	85	-	-

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 Tillamook Bay. These uses are listed in OAR-340-041-0230 for the North Coast basin.

- Industrial water supply
- Fish and aquatic life (including salmonid rearing and migration)
- Wildlife and hunting
- Fishing
- Boating
- Water contact recreation
- Aesthetic quality
- Commercial navigation and transportation

3.3.2 303(d) 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).

Table 3-5: 303(d) and TMDL Parameters

Water Quality Limited Parameters (Category 5)	
AU ID:	OR_EB_1710020308_01_100298
AU Name:	Tillamook Bay
AU Status:	Impaired
Year Listed	2002
Year Last Assessed	2022
303d Parameters (Category 5)	pH*, Enterococci, Arsenic – Inorganic
TMDL Parameters (Category 4)	
E. coli, Fecal Coliform, Temperature**	

*Assessment Unit ID OR_EB_1710020308_01_100298 – Tillamook Bay was incorrectly listed as impaired for pH in the 2022 Integrated Report. DEQ will be pursuing delisting for this AU for pH in the 2024 Integrated Report cycle with a delisting reason of "Applicable WQS attained; original basis for listing was incorrect". The 2022 pH 303(d) listing will not apply to NPDES permit renewals for facilities that discharge into this AU. See Appendix A for more information.

**Assessment Unit ID OR_EB_1710020308_01_100298 – Tillamook Bay was incorrectly listed as impaired for temperature in the 2018/2020 and 2022 Integrated Reports. DEQ will be pursuing delisting for this AU for temperature in the 2024 Integrated Report cycle with a delisting reason of "Applicable WQS attained; original basis for listing was incorrect". The 2022 temperature 303(d) listing will not apply to NPDES permit renewals for facilities that discharge into this AU. See Appendix B for more information.

DEQ has not developed TMDLs for enterococci or arsenic in Tillamook Bay. The enterococci and arsenic listings are addressed in sections 3.3.9, and 3.3.10, respectively.

3.3.3 TMDL Wasteload Allocations

DEQ issued a TMDL for the Tillamook Bay Watershed in 2001. Primary parameters of concern in the 2001 TMDL were temperature and bacteria. WLAs from this TMDL that are applicable to the permittees are listed in the following table.

Table 3-6: Applicable WLAs

Parameter	WLA	Time Period
Bacteria (Fecal Coliform)	Must not exceed a monthly geometric mean of 42 organisms per 100 mL. No more than 10 percent of the samples may exceed 129 organisms per 100 mL.	Year round

The fecal coliform WLA is discussed in section 3.3.9. Tillamook Bay was not water quality limited for temperature in 2001, so a WLA was not developed for Bay City WWTP.

3.3.4 Ocean Discharge Findings

Federal rules (40 CFR §125.120 – 40 CFR §125.124) require that a discharge into territorial seas that is to be permitted under the NPDES program be evaluated as to whether the discharge will cause unreasonable degradation of the marine environment. Goals 6 and 19 of Oregon's Statewide Planning Goals and Guidelines and Oregon's Territorial Seas Plan require that the State's marine resources be conserved. DEQ believes that the intent of these criteria is to reduce or prevent the discharge of those persistent pollutants that bio-accumulate in the marine food chain. Pollutants found in sewage that are amenable to treatment by typical wastewater treatment facilities include Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), pH, bacteria, nutrients, and potentially toxic substances, such as chlorine, which is used for disinfection of pathogenic organisms.

BOD, TSS, and pH are not discrete substances that can accumulate in living organisms. BOD is a measure of the oxygen used by microorganisms when they break down organic matter. TSS is a measure of organic and inorganic solid materials that are suspended in the water column, and pH is a measure of the amount of hydrogen ions in solution.

Residual chlorine in treated wastewater, if any, immediately reacts with bromide naturally present in seawater to produce other oxidants that are toxic to living organisms. These other oxidants are referred to as chlorine produced oxidants. Chlorine, which is still present in the reaction products, is too reactive to be bioavailable from soil, water, or other environmental media and too reactive to bio-accumulate in the food chain. Bay City, however, uses ultraviolet light for disinfection, and chlorine compounds are prohibited in the discharge.

Bacteria do not bio-accumulate in other living organisms. Nutrients, (e.g., nitrogen and phosphorus), can have deleterious effects on the marine environment by stimulating algal blooms. These algal blooms have the potential to cause turbidity problems and fluctuations in dissolved oxygen and pH. However, nutrients do not bio-accumulate in the tissues of living organisms and do not bio-magnify in the trophic levels of marine food chains.

DEQ has concluded that the discharge from the Bay City wastewater treatment plant will not cause unreasonable degradation of the marine environment.

3.3.5 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.

Based on EPA's NPDES permit application requirements, toxic pollutants of concern for domestic facilities are listed in the following table.

Table 3-7: 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 3-8: Pollutants of Concern

Pollutant	How was pollutant identified?
pH	Effluent Monitoring
Temperature	Effluent Monitoring
Fecal Coliform	Effluent Monitoring
Enterococcus	Effluent Monitoring
Total Ammonia Nitrogen	Application Requirement

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.

3.3.6 Regulatory Mixing Zone

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

> *The allowable mixing zone must consist of that portion of the Tillamook Bay within a 50-foot radius from the point of discharge. The zone of initial dilution is that part of the mixing zone within a 5-foot radius from the point of discharge.*

The proposed permit contains an updated regulatory mixing zone description which is described as follows. The previous permits included a condition at which the permittee could only discharge when the outfall was under 2 feet of water. The facility cannot meet that condition. So, alternative mixing zone modeling was conducted for the current discharge scenario at the facility. As a result, the mixing zone description was updated to:

> *The Regulatory Mixing Zone (RMZ) is the portion of Tillamook Bay in 50 feet from all directions from each diffuser. The Zone of Initial Dilution (ZID) is that part of the mixing zone within a 5-foot radius from the point of discharge.*

The current outfall is located approximately 2,000 feet north of Goose Point on the east side of Tillamook Bay. The outfall pipe extends from the eastern shoreline into the Bay, situated in what was once a shallow channel, serving Doty Creek. The Doty Creek channel, when the outfall was planned and installed, was approximately 2-3 feet deep at Mean Low Water. Storm events within

the area have relocated that channel closer to the shoreline and the outfall diffuser is currently inundated with sediment and discharges in a “bubble-up” fashion into adjacent mud-flats. The current outfall replaced an older outfall in 1995. The previous outfall was designed as a diffuser with two 8-inch diameter ports spaced 18 ft apart and had coordinates of 45.514686°, -123.889441° at the north diffuser and 45.514628°, -123.889436° at the south diffuser. This outfall was retired after the new outfall, was put into service in 1995. The new outfall is located at 45.514735°, -123.891713°. All coordinates are in WGS 1984.

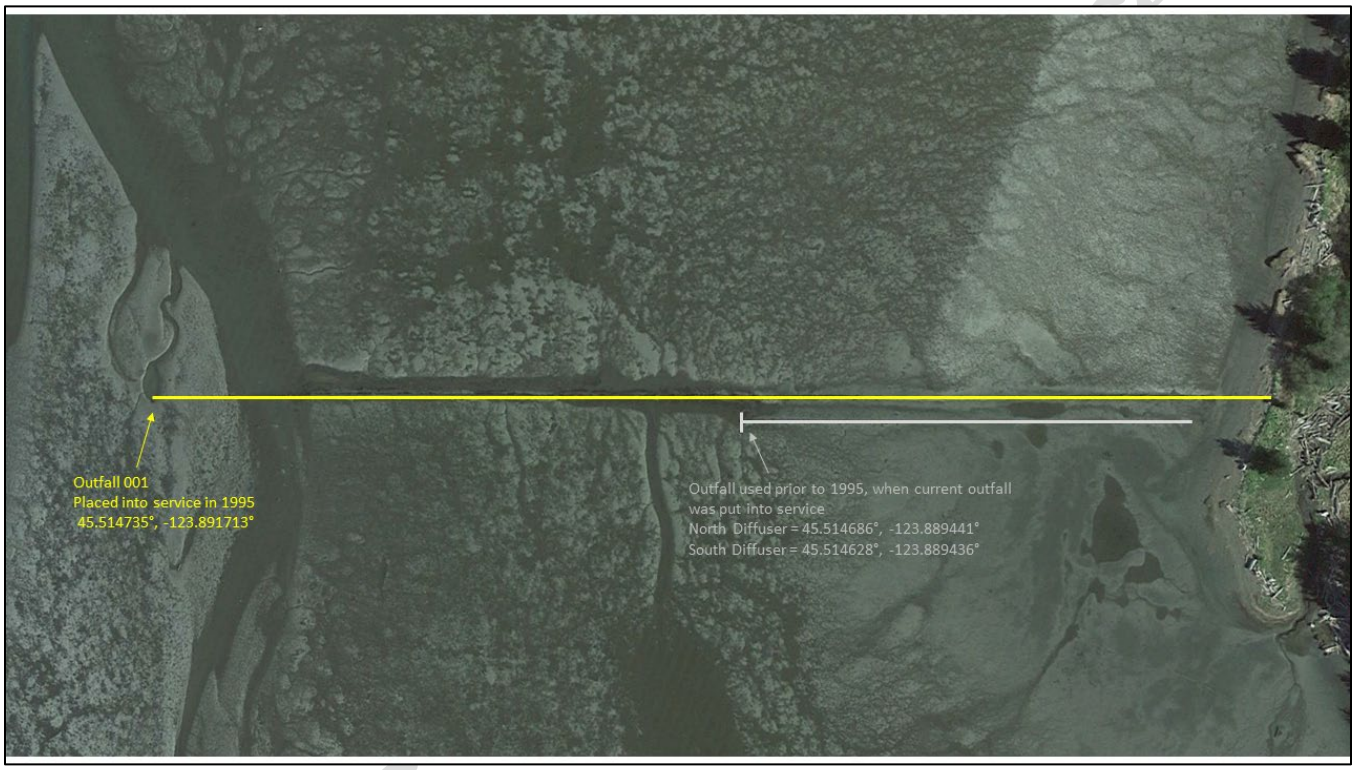

Figure 3-1: Outfall Location

A NOAA CO-OPS station is located in the bay – 9437540 Garibaldi. MLLW at the site is 3.99 feet above the station datum. A mixing zone study conducted in 1989 reported the outfall is located at -2.5 ft MSL. MSL is located at 8.49 feet above the station datum, which means the outfall is located at 5.99 feet above the station datum. From that information, DEQ concludes that the outfall is located at 2 feet above MLLW.

Aquatic Life Criteria developed by EPA indicate a time period over which exposure to a pollutant is meant to be averaged, and an upper limit on the average concentration, thereby limiting the duration of exposure to elevated concentrations. For acute criteria, EPA recommends an averaging period of 1 hour. That is; to protect against acute effects, the 1-hour average exposure should not exceed the Criterion Maximum Concentration (CMC). For chronic criteria, EPA recommends an averaging period of 4 days. That is, the 4-day average exposure should not exceed the Criterion Continuous Concentration (CCC) (United States Environmental Protection Agency, Aug 1994).

A review of tidal data between 2019 and 2023 shows a low tide event on 12/6/2021 where the tide dipped below 2 feet above MLLW (the estimated outfall elevation) for 336 minutes (5.6 hours) between 12/6/2021 at 1:00pm and 12/6/2021 at 6:36pm. As a result, the outfall is likely above the water level for 5-6 hours at a time during extreme low tide events.

Because the outfall is exposed at MLLW for more than 1 hour, and that condition is representative of the duration of the acute aquatic life criteria, no dilution at the ZID will be assigned. A dilution of 1 will be used for all acute aquatic life criteria reasonable potential analysis in the permit renewal.

DEQ's Mixing Zone IMD recommends evaluating Chronic Aquatic Life criteria at MLLW. However, in this particular case, MLLW would not occur over a 4-day period. As a result, a more reasonable low water height for the outfall for a 4-day average period would be the Mean Tide Level (MTL), which is the arithmetic mean of mean high water and mean low water (NOAA, 2024). The MTL is 8.48 above the datum. The outfall is located at 5.99 feet above the station datum. As a result, the Mean Tide Level (MTL) is 2.49 feet above the outfall elevation. Mixing zone modeling for this Mean Tide Level scenario (for Chronic Aquatic Life and Human Health) was conducted using CORMIX 12.0.1.0. Dilutions are in Table 3-9. An April 16, 2024 memo containing this analysis is included in the administrative record.

Table 3-9: Dilutions for Outfall 001

Dilution Summary – Outfall 001 – Year-Round						
Water Quality Standard	**Critical Velocity (m/s)**		**Effluent Flow (mgd)**		**Dilution Factor**	**Location**
	Statistic	**Velocity**	**Statistic**	**Flow**		
Aquatic Life, Acute	N/A	N/A	☐ ADWDF x PF ☐ Max Daily Avg ☒ Other: N/A	N/A	1	ZID (5 ft)
Aquatic Life, Chronic	10th percentile	0.1	☐ ADWDF ☒ Max Monthly Avg ☐ Other	0.825	3.2	RMZ (50 ft)
Human Health, Non-Carcinogen	50th percentile	0.5	☐ ADWDF ☒ Max Monthly Avg ☐ Other	0.825	9.1	RMZ (50 ft)
Human Health, Carcinogen	50th percentile	0.5	☐ Annual Avg Design ☐ Annual Avg ☒ Other: Max Monthly Average	0.825	9.1	RMZ (50 ft)
ADWDF = Average dry weather design flow *PF = Peaking factor (1.5)*						

3.3.7 pH

The pH criterion for this basin is 6.5 – 8.5 per OAR 340-041-0235. DEQ determined there is reasonable potential for the discharge to exceed the existing lower pH effluent limit (6.0) at the edge of the mixing zone. The proposed lower pH limit is 6.4 which is a WQBEL. The upper pH limit is 9.0 and is a TBEL. The following table provides a summary of the data used for the analysis.

Table 3-10: pH Reasonable Potential Analysis

Input	Lower pH Criteria	Upper pH Criteria
1. Discharge area characteristics		
a. Dilution at mixing zone boundary	3.2	3.2
b. Depth of discharge (m)	0.76	0.76
2. Upstream characteristics		
a. Temperature (°C)	15.0	9.1
b. pH (S.U)	7.8	8.2
c. Alkalinity (mg $CaCO_3$/L)	43.6	43.6
d. Salinity (psu)	32.6	32.6
3. Effluent characteristics		
a. Temperature (°C)	16.0	11.1
b. pH (S.U.)	6.0	9.0
c. Alkalinity (mg $CaCO_3$/L)	134.6	134.6
d. Salinity (psu)	0.1	0.1
4. Applicable pH criteria	6.5	8.5
pH at mixing zone boundary	**6.0**	**8.5**
Is there reasonable potential?	**Yes**	**No**
Proposed effluent limits	**6.4**	**9.0**
Effluent data source: DMRs: 11/1/2019 - 03/31/2024 Default effluent alkalinity and salinity values were used.		
Ambient data source: AWQMS: 5/18/2015 - 10/7/2020 from ORDEQ stations 13308, 38598 and 40793, EPA Garibaldi Station, and EPA National Aquatic Resources Survey Stations 10187 and 10205. Ambient salinity is the average salinity from stations and dates above.		

pH discharge monitoring data between November 2019 and March 2024 were compared against proposed limits in the figure below.

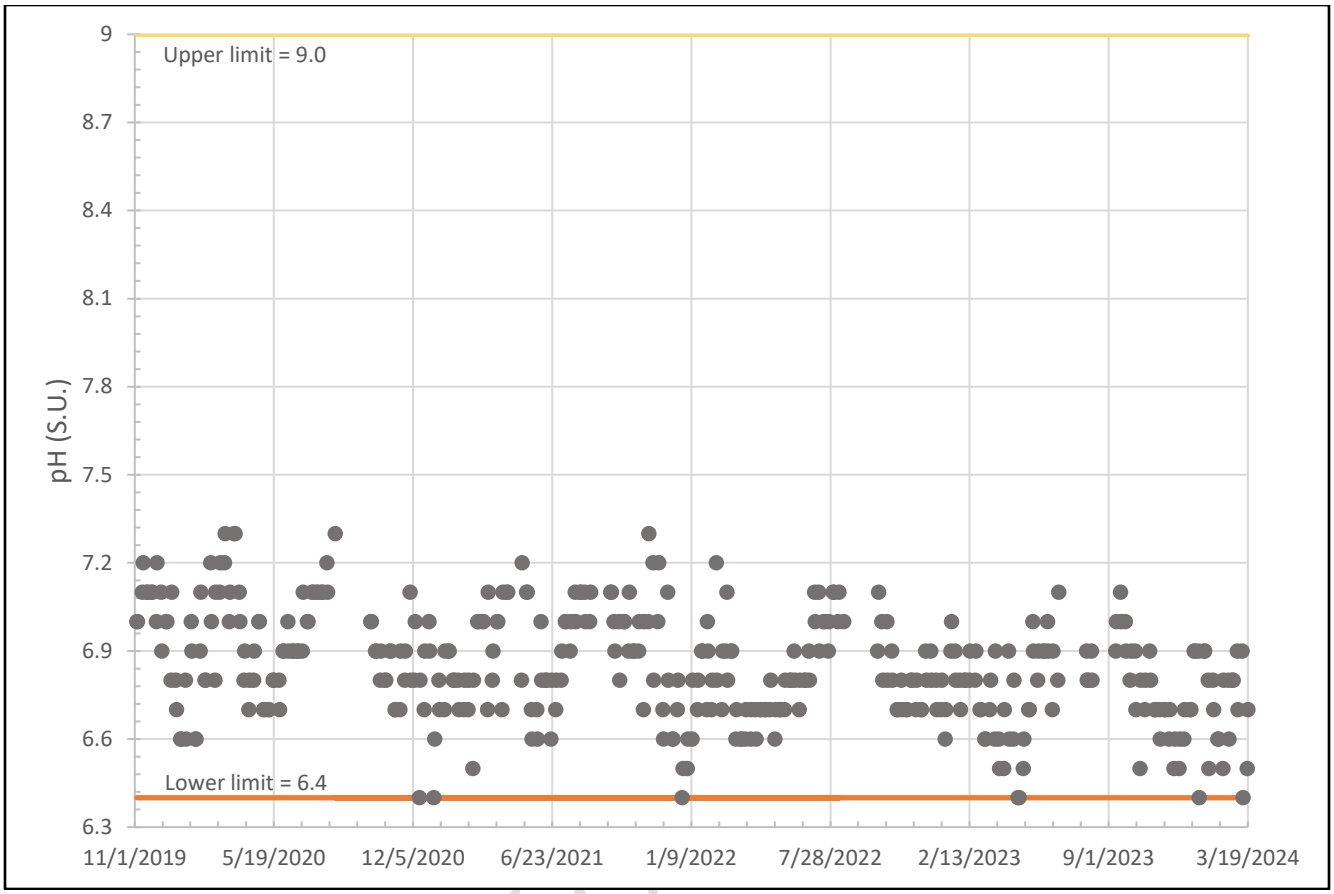

Figure 3-2: pH Monitoring Data vs Proposed Limits

From November 2019 to March 2024, the maximum daily pH value was 7.3, while the minimum pH daily value was 6.4. The permittee will have to adjust facility operations to meet other effluent limits. As a result, the permittee will not be able to be able to meet the lower pH limit upon issuance. A compliance schedule has been added to the proposed permit (see Schedule C of Fact Sheet and Permit).

3.3.8 Temperature

3.3.8.1 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	Oceans & Bays (340-041-0028(7))
Applicable dates: Year-round	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☐Yes ☒No
Applicable dates: NA	
WQ-limited?	☐Yes ☒No
TMDL wasteload allocation assigned?	☐Yes ☒No
Applicable dates: NA	
TMDL based on natural conditions criterion?	☐Yes ☒No
Cold water summer protection criterion applies?	☐Yes ☒No
Cold water spawning protection applies?	☐Yes ☒No
Comments:	

Ocean and bay waters may not be warmed by more than 0.3 °C (0.5 °F) above the natural condition unless a greater increase would not reasonably be expected to adversely affect fish or other aquatic life. Based on consultation with ODFW and ODA, DEQ determined salmonid rearing and migration to be the most sensitive beneficial use in the Mainstem Lower Tillamook Bay assessment unit. Because an adverse effect to fish or other aquatic life is not reasonably expected, DEQ performed a temperature reasonable potential analysis for year-round rearing and migration. The criterion is 18 ºC. The effluent temperature value used in this analysis is 22 °C and represents the maximum 7-day average of the daily maximum effluent temperatures. The ambient temperature value used in this analysis is 13 °C and represents the average 7-day average of the daily maximum ambient temperatures. The results of this analysis indicate that there is no potential for the facility's discharge to exceed the temperature standard (see Appendix C).

Based on this analysis, no temperature limit associated with the applicable temperature criteria is included in the proposed permit.

Final effluent limits are listed in the following table.

Table 3-122: Temperature Criterion Effluent Limits

Effluent limit needed? ☐Yes ☒No
TMDL WLA Limit: NA
Applicable time period: Dates ☒NA
Temperature Criterion Limit: NA
Applicable time period: Year round ☒NA
Comments:

3.3.8.2 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 ºC or more for salmon and steelhead, and 9 ºC or more for bull trout.

  Tillamook Bay is not designated as salmonid spawning habitat; therefore, the spawning area requirement is met.

- 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 ºC or more to less than 2 seconds.

  The maximum daily effluent temperature recorded between May 2020 and October 2023 was 22 °C, below the criterion of 32 °C. Therefore, the discharge is not expected to cause acute impairment to salmonid species.

- 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 ºC or more to less than 5% of the cross-section of 100% of the 7Q10 flow of the water body.

  The maximum daily effluent temperature recorded between May 2020 and October 2023 was 22 °C. Since the maximum effluent temperature is below 25 °C, thermal shock caused by the discharge is prevented or minimized.

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

  An analysis related to migration blockage, included in Appendix D, indicates that when the effluent plume reaches 25% of the receiving stream's cross-sectional area, the plume's temperature will not be above 21.0 °C, and migration blockage caused by the discharge is therefore prevented or minimized.

Effluent limits needed to comply with the thermal plume requirements are shown in the following table.

Table 3-13: Thermal Plume Effluent Limit

Effluent limit needed? ☐Yes ☒No
Calculated limit: NA
Applicable timeframe: NA
Comments: NA

3.3.9 Bacteria

Enterococcus

OAR 340-041-0009(6)(a) requires discharges of bacteria into coastal waters meet a monthly geometric mean of 35 enterococcus organisms per 100 mL, with no more than 10 percent of samples exceeding 130 enterococcus organisms per 100 mL. The following table includes the proposed permit limits and apply year-round.

Table 3-14: Proposed Enterococcus Limits

Enterococcus (#/100 ml)	Geometric Mean	No more than 10% exceed
Existing Limit	35	130
Proposed Limit	35	130

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 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 E). The limits for fecal coliform are year-round and are included in the table below. The statistics used for limit compliance have changed to align with the applicable rule.

Table 3-15: 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	14	43
November 1 – April 30	14	43

Fecal coliform discharge monitoring data between November 2019 and March 2024 were compared against proposed limits in the figure below.

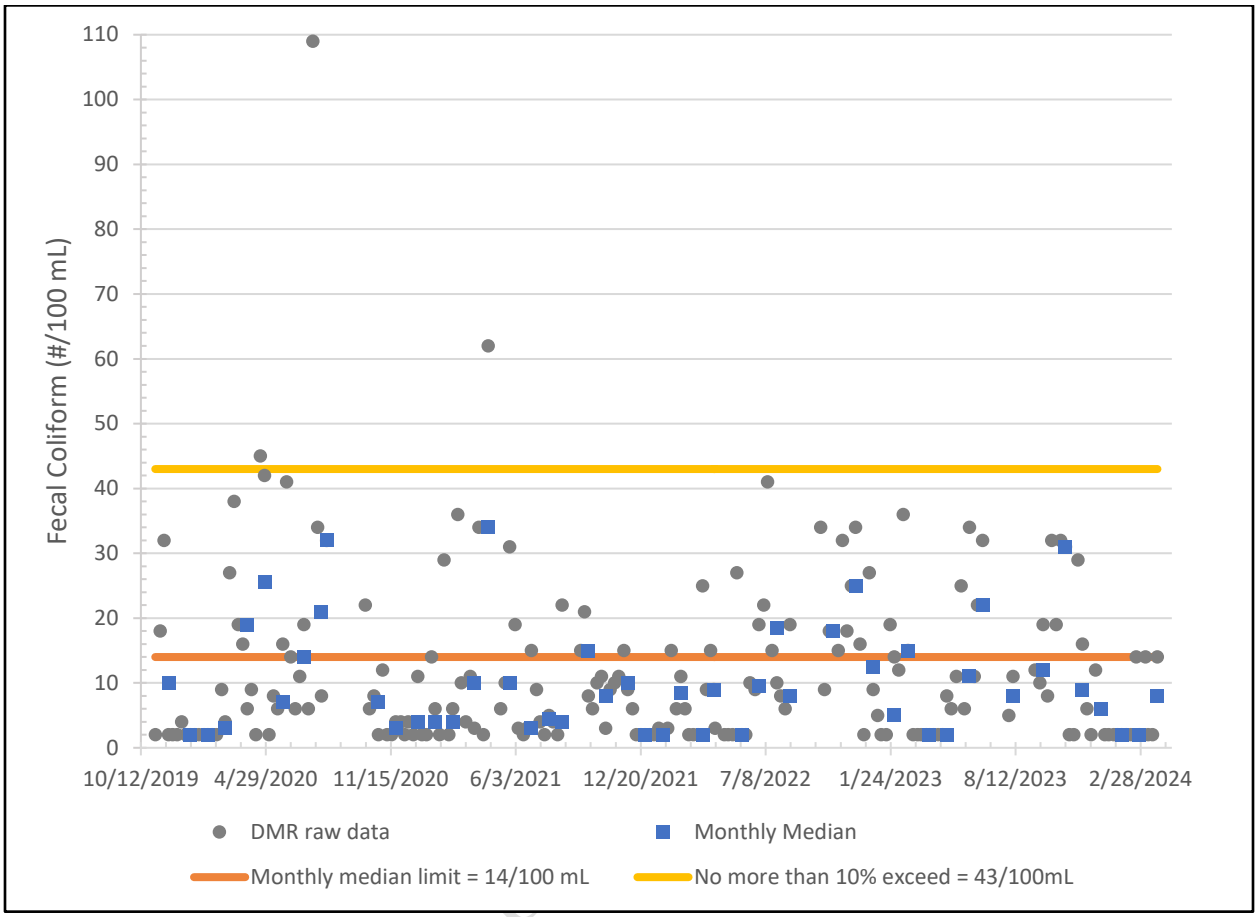

Figure 3-3: Fecal Coliform Monitoring Data vs Proposed Limits

The proposed monthly median limit is outside of the range currently achieved by the facility. A compliance schedule has been added to the proposed permit (see Schedule C of Fact Sheet and Permit).

3.3.10 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.

3.3.10.1 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.

Ammonia reasonable potential analyses were performed for summer (May 1 – October 31) and winter (November 1 – April 30). The results of the summer and winter analyses show that there is reasonable potential to exceed water quality criterion at the edge of the ZID or the RMZ for the chronic (7Q10) ammonia saltwater criteria.

Bay City WWTP currently does not have ammonia limits, but because of the reasonable potential found for the summer and winter periods, new effluent limits are included in the proposed permit. These new ammonia limits will be an average monthly limit (AML) of 4.1 mg/L and a maximum daily limit (MDL) of 12.1 mg/L from May 1 to October 31 and an AML of 8.8 mg/L and an MDL of 25.9 mg/L from November 1 to April 30.

Ammonia discharge monitoring data between November 2019 and March 2024 were compared against proposed limits in the figure below.

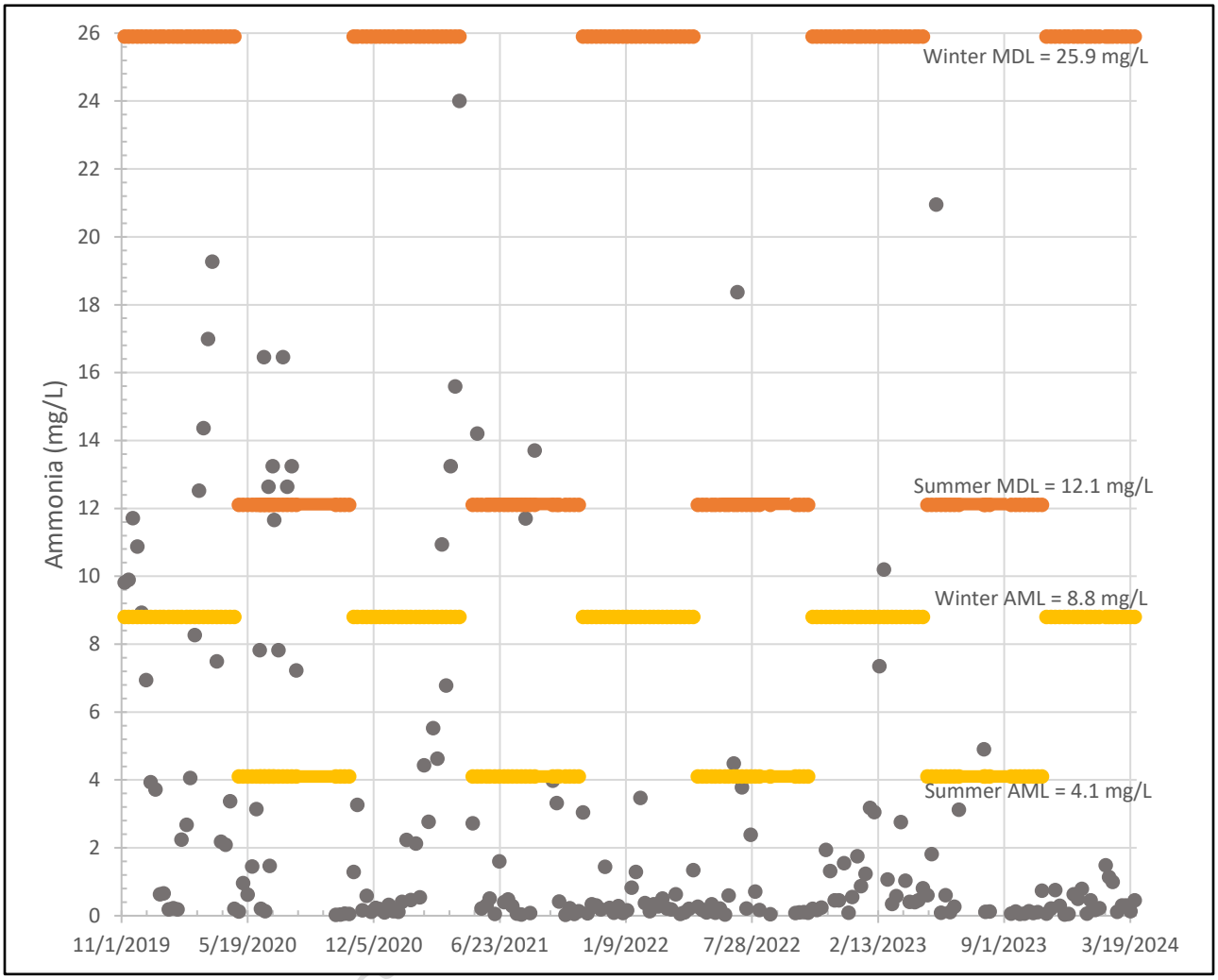

Figure 3-4: Ammonia Monitoring Data vs Proposed Limits

The proposed limits are outside of the range currently achieved by the facility. A compliance schedule has been added to the proposed permit (see Schedule C of Fact Sheet and Permit).

The following tables provide a summary of the data used for the ammonia analyses and the results of the analyses.

Table 3-16: Ammonia Analysis Information - Summer

	Acute	Chronic	
		4-day	30-day
Dilution	1	3.2	9.1
Ammonia Criteria	35.9	2.2	-
Effluent Data Used			
Ammonia (mg/L)	21.0	21.0	
pH (SU)	7.1	7.1	
Temperature (ºC)	21.0	21.0	
Alkalinity (mg/L $CaCO_3$)	64.0	64.0	
Receiving Water Body Data Used			
Ammonia (mg/L)	0.1	0.1	
pH (SU)	8.2	8.2	
Temperature (ºC)	16.1	16.1	
Alkalinity (mg/L $CaCO_3$)	108.0	108.0	
Ammonia Limit Needed?	**Yes**		
Calculated Limits	**AML**	**MDL**	
Ammonia (mg/L)	4.1	12.1	
Effluent data source			
DMRs: 11/1/2019 - 03/31/2024 Default effluent alkalinity and salinity values were used.			
Ambient data source			
AWQMS: 5/18/2015 - 10/7/2021 from ORDEQ stations 13308, 38598 and 40793, EPA Garibaldi Station, and EPA National Aquatic Resources Survey Stations 10187 and 10205. Ambient salinity is the average salinity from stations and dates above.			

Table 3-17: Ammonia Analysis Information - Winter

	Acute	Chronic	
		4-day	30-day
Dilution	1	3.2	9.1
Ammonia Criteria	56.0	4.5	-
Effluent Data Used			
Ammonia (mg/L)	24.0	24.0	
pH (SU)	7.1	7.1	
Temperature (ºC)	15.0	15.0	
Alkalinity (mg/L $CaCO_3$)	64.0	64.0	
Receiving Water Body Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	8.2	8.2	
Temperature (ºC)	11.4	11.4	
Alkalinity (mg/L $CaCO_3$)	55.1	55.1	
Ammonia Limit Needed?	**Yes**		
Calculated Limits	**AML**	**MDL**	
Ammonia (mg/L)	8.8	25.9	
Effluent data source			
DMRs: 11/1/2019 - 03/31/2024 Default effluent alkalinity and salinity values were used.			
Ambient data source			
AWQMS: 5/18/2015 - 10/7/2021 from ORDEQ stations 13308, 38598, and 40793, EPA Garibaldi Station, and EPA National Aquatic Resources Survey Stations 10187 and 10205. Ambient salinity is the average salinity from stations and dates above.			

3.3.10.2 Priority Pollutant Toxics

The City of Bay City's WWTP discharges less than 1 MGD and no priority pollutant toxics are known to be present in the discharge. Therefore, no additional controls or monitoring will be required.

3.3.10.3 Other Pollutants Associated with Water Quality Impairments

This assessment unit is listed for Arsenic in Category 5 for not meeting human health criterion for arsenic. Monitoring is required for facilities where the pollutant is known to be present. Arsenic is not known or expected to be present in the facility discharge. Therefore, there is no reasonable potential to cause or contribute to this listing and monitoring for arsenic is not being required in the proposed permit.

3.3.10.4 Mercury – Human Health Criterion

DEQ determined that this facility is not a likely source of mercury. Therefore, no additional controls or monitoring will be required.

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). The proposed limits are the same or more stringent than 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 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

DEQ does not require whole effluent toxicity testing (WET) for minor domestic facilities because concentrations of toxics are typically very low and WET testing is not warranted.

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 WWTP is currently storing all its wastewater solids in a facultative sludge lagoon at the treatment plant. If during the term of this permit the WWTP decides that its wants to treat and land apply their wastewater solids as biosolids, the facility will need to develop a Biosolids Management Plan. At a minimum, this plan will need to detail that the facility's wastewater solids will meet biosolids pollutant limits defined in OAR 340-050 and 40 CFR Part 503 and will be treated to meet state and federal criteria for pathogen reduction (Class A or Class B biosolids) and vector attraction reduction. The plan will also be subject to public review and comment before it may be implemented.

For all Class B biosolids to be land applied under this permit, Schedule A of the permit requires the facility to apply biosolids according to their Biosolids Management Plan. In addition, Schedule A requires the following:

- The biosolids must be land applied 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.

It should be noted that the facility will not need to develop a Biosolids Management Plan for transfer of its wastewater solids or sewage sludge to other DEQ-approved facilities permitted to process, manage, or dispose of these types of residuals.

4.3 Chlorine Usage

Schedule A of the permit prohibits the permittee from using chlorine or chlorine compounds for effluent disinfection purposes.

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. The permittee requested monitoring reductions for BOD_5, $CBOD_5$, TSS, enterococcus, and fecal coliform. DEQ reviewed the request using EPA's memo "Interim Guidance for Performance – Based Reductions of NPDES Permit Monitoring Frequencies - April 19, 1996" and found that the permittee was eligible for reductions in BOD_5, $CBOD_5$, and TSS monitoring and adjusted monitoring frequencies accordingly. Due to water quality impairments in the receiving water for bacteria, no reductions in enterococcus or fecal coliform monitoring frequencies were granted. Receiving water body monitoring added this permit renewal includes total ammonia and alkalinity for use in reasonable potential analyses. Both parameters are not routinely monitored by another agency in Tillamook Bay and most of the ambient data currently available will be over 10 years old during the next permit renewal.

6. Schedule C: Compliance Schedule

The proposed permit contains new effluent limits for total ammonia and more restrictive effluent limits for fecal coliform bacteria and pH. The facility is unable to meet these limits upon permit issuance. The proposed permit contains compliance schedules that allow time for the facility to make facility modifications in order to meet the new limits. These compliance schedules lay out a series of milestones 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)).

The limits addressed in the schedule are more restrictive WQBELs than those in the current permit. DEQ has determined that the proposed compliance schedule requires the permittee to meet the final limits as soon as possible. The permittee must provide process optimization and engineering options, as well as progress reports on achieving the final effluent limitations. The permittee must determine and begin to implement (by the dates described in Schedule C of the permit) solutions for achieving final total ammonia, pH, and fecal coliform bacteria effluent limits.

7. Schedule D: Special Conditions

The proposed permit contains the following special conditions:

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 Exempt Wastewater Reuse at the Treatment System

A condition that exempts the permit holder 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.

7.4 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.

7.5 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.

7.6 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.

7.7 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.

7.8 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.

7.9 Lagoon Solids

A condition requiring the permittee to submit a sludge depth survey report to ensure lagoon solids are maintained within design standards and accumulations do not negatively affect treatment capabilities.

7.10 Operator Certification

The permit holder 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.

7.11 Industrial User Survey

This condition requires the permittee to conduct or 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.

7.12 Outfall Inspection

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

8. 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: pH AU Memo

State of Oregon
DEQ Department of Environmental Quality

Memorandum

To: WQ Permit File, 101025 Bay City and 102609 Garibaldi

From: Olivia Stoken, NPDES Permit Writer

Reviewed By: Aliana Britson, Rob Burkhart, George Cannon, and Lesley Merrick

Date: 5/7/2024

Subject: pH 303(d) Listing Discrepancy in Tillamook Bay (Assessment Unit OR_EB_1710020308_01_100298)

Assessment unit (AU) OR_EB_1710020308_01_100298 located in Tillamook Bay was incorrectly added to the 303(d) list as a Category 5 parameter for pH in the 2022 Integrated Report (IR). During the 2022 IR Call for Data, USEPA submitted dissolved oxygen, pH, and temperature data collected at their Garibaldi monitoring location between January 22, 2018 and July 9, 2020. This submission included around 43,000 results per parameter.

Due to an unknown transcription error, the submitted data indicated an impairment of pH for Tillamook Bay. A re-evaluation of the AU with the corrected data resulted in the assessment unit attaining pH water quality standards. Therefore, DEQ will be pursuing delisting for Assessment Unit ID OR_EB_1710020308_01_100298 – Tillamook Bay for pH in the 2024 IR cycle with a delisting reason of "Applicable WQS attained; original basis for listing was incorrect".

Multiple NPDES permittees discharge into this AU, including the City of Bay City (permit # 101025) and the City of Garibaldi (permit # 102609). Since this AU will be delisted for pH in the 2024 IR, the 2022 pH 303(d) listing will not apply to NPDES permit renewals for facilities that discharge into this AU.

Appendix B: Temperature AU Memo

State of Oregon
DEQ Department of Environmental Quality

Memorandum

To: WQ Permit File, 101025 Bay City and 102609 Garibaldi

From: Olivia Stoken, NPDES Permit Writer

Reviewed By: Rob Burkhart, Jeff Navarro, Lesley Merrick, and Travis Pritchard

Date: 5/29/2024

Subject: Temperature 303(d) Listing Discrepancy in Tillamook Bay (Assessment Unit OR_EB_1710020308_01_100298)

Assessment unit (AU) OR_EB_1710020308_01_100298 located in Tillamook Bay was incorrectly added to the 303(d) list as a Category 4A parameter for temperature in the 2018/2020 and 2022 Integrated Reports (IR).

During the 2018/2020 IR, the assessment unit methodology underwent substantial changes resulting in two AUs for Tillamook Bay, the Mainstem Lower (OR_EB_1710020308_01_100298) and the Mainstem Upper (OR_EB_1710020308_01_107225). The Mainstem Upper AU includes portions of major tributaries to Tillamook Bay, which were assessed and listed for temperature in the early 2000s. The temperature assessment and listing for the Miami River was incorrectly carried into the Mainstem Lower Tillamook Bay AU during the 2018/2020 IR methodology change. Therefore, DEQ will be pursuing delisting for Assessment Unit ID OR_EB_1710020308_01_100298 – Lower Mainstem Tillamook Bay for temperature in the 2024 IR cycle with a delisting reason of "Applicable WQS attained; original basis for listing was incorrect".

Multiple NPDES permittees discharge into this AU, including the City of Bay City (permit # 101025) and the City of Garibaldi (permit # 102609). Since this AU will be delisted for temperature in the 2024 IR, the 2022 temperature 303(d) listing will not apply to NPDES permit renewals for facilities that discharge into this AU.

Appendix C: Temperature RPA

Stream Meets Water Quality Criterion (OAR 340-041-0028(4))

For situations where the criterion is met (the waterbody is not listed as impaired for temperature) - Analysis at Edge of Mixing Zone
Section 5.4 of the Temperature IMD

Facility Name: Bay City WWTP **Date:** 5/30/2024
Applicable Criterion and Season: **Rearing and Migration 18 deg C year-round**

Enter data into white cells below:

			Data Metric/Source
Mixing Zone Dilution =	3.2		Aquatic life, chronic year round dilution from mixing zone memo
Ambient Temperature =	13	°C	Average of the 7-day rolling average daily max ambient temperature (2015-2020)
Effluent Temperature =	22	°C	Max of the 7-day rolling average daily max effluent temperature (2019-2024)
Applicable Temperature Criterion =	18	°C	
Effluent Flow =	1.2375	mgd	Max monthly average flow from mixing zone memo x 1.5

ΔT at MZ edge=	**2.8**	**°C**
Temperature at MZ edge=	**15.8**	**°C**

No Reasonable Potential

Thermal Load Limit = N/A Million Kcals (7-day Rolling Avg.)
(relative to the ambient temperature used above)

Note
This thermal load limit is the excess thermal load needed to increase the ambient temperature up to the criterion temperature. However, if the ambient temperature is less than 0.3°C below the criterion, then the thermal load limit is calculated as the excess thermal load necessary to increase the ambient temperature by 0.3°C (as directed by the IMD). Since the Thermal Load Limit above is the excess thermal load above the ambient temperature, compliance is evaluated using the usual equation to determine the actual load discharged, but using the ambient temperature as opposed to the criterion: ETL discharged = $(T_e - T_a)*Qe*3.78541$, where T_e is effluent temperature and T_a is the ambient temperature used above.

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

$$TLL = 3.78541 Q_e S \Delta T_{all} C_p \rho$$

Where:
Qe = Effluent Flow in mgd
S = Dilution
ΔT_{all} = Allowable temperature increase at edge of MZ (°C)
Cp = Specific Heat of Water (1 cal/g °C)
ρ = Density of Water (1 g/cm^3)
3785.41 = Flow conversion from mgd to m^3/day

Appendix D: Thermal Plume RPA

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 salmonits (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: Bay City WWTP **Date: 5/30/2024**

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:			Data Metric/Source
7Q10 =		cfs	
Ambient Temperature=		°C	
Effluent Flow =		mgd	
Max Daily Effluent Temperature =		°C	

5% of 7Q10 =	0.0	cfs
5% dilution =	#DIV/0!	dilution = (Qr*0.05)/Qe + 1

Temperature at 5% cross section =	**#DIV/0!**	°C	
			#DIV/0!

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:			Data Metric/Source
7Q10 =	1027.125	cfs	Critical velocity x average depth x distance to nearest bank from mixing zone memo
Ambient Temperature =	13	°C	Average of the 7-day rolling average daily max ambient temperature (2015-2020)
Effluent Flow =	1.2375	mgd	Max monthly average flow from mixing zone memo x 1.5
Max 7dAM Effluent Temperature =	22	°C	Max of the 7-day rolling average daily max effluent temperature (2019-2024)

25% of 7Q10 =	256.8	cfs
25% dilution =	135	dilution = (Qr*0.25)/Qe + 1

Temperature at 25% cross section =	**13.1**	°C	**No Reasonable Potential**
ΔT at 25% Stream Flow=	**0.1**	°C	

Notes:

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:

Qe = Effluent Flow in mgd
S = Dilution
ΔT_{all} = Allowable temperature increase at edge of MZ (°C)
Cp = Specific Heat of Water (1 cal/g °C)
ρ = Density of Water (1 g/cm^3)
3785.41 = Flow conversion from mgd to m^3/day

Appendix E: Fecal Coliform Bacteria Limit Derivation

Background/General Discussion

The 2001 Tillamook Bay Watershed TMDL included fecal wasteload allocations for Bay 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 conductivity in the bay vs conductivity of saltwater allowed for dilution to be considered in the TMDL wasteload allocation development (see Section 3.2.7 of the TMDL and Appendix B). The TMDL also used estimates of instream and overland bacteria decay (or die off) for riverine discharges 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.

Permit Limit Development

Since OAR 340-041-0230 Figure 230E designates shellfish harvesting as a use within all of Tillamook Bay, the fecal coliform criteria are required to be addressed at this location. 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.[1]

As noted above, the TMDL wasteload allocation for Bay City was calculated using the dilution value of 3 to 1 that was expected to occur in the Tillamook Bay and was considered under the TMDL. Since the revised rule designates all of the bay to be shellfish harvesting area, this dilution is no longer considered valid for derivation of Bay City'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) within the bay, the new permit limits are based on targeting the criteria (14 and 43) within the bay.

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