Community Development Department
315 Kennel Avenue, PO Box 248, Molalla, Oregon 97038
Phone: (503) 759-0205

Website Posting

Apr 2, 2025

Based on information at the time of required posting, the City experienced no violation of the NPDES Permit conditions (as modified by the March 2021 MAO) for the month of March 2025.

Effluent did exceed unmodified NPDES limits as follow:

Monthly Average BOD5 Concentration (limit 10 mg/l) (MAO limit 25 mg/L): 11 mg/l

Monthly Average BOD5 Loading (limit 160 lbs) (MAO limit 400 lbs): 187 lbs

Weekly Average BOD5 Loading (Limit 240 lbs) (MAO limit 600 lbs): 287 lbs

March's DEQ Correspondence is attached below:

PUBLIC NOTICE

Date posted: 3/4/25

Public Hearing About City of Molalla Wastewater Treatment Plant's Proposed Water Quality Permit Renewal

HOW TO PROVIDE PUBLIC COMMENT

Facility name: City of Molalla Wastewater Treatment Plant

Permit type: Water Quality NPDES permit

Hearing details: April 9, 2025 at 5 p.m.

Register in advance for the hearing.
After registering, you will receive a confirmation email containing information about joining the webinar.

Send written comments to:

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

By email: WQPermit.NWR@deq.oregon.gov

Comments due by: April 14, 2025 at 5 p.m.

The Oregon Department of Environmental Quality invites the public to provide written comments and attend a public hearing to provide verbal comments on the conditions of the City of Molalla Wastewater Treatment Plant'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 City of Molalla's Wastewater Treatment Plant to discharge treated wastewater to the Molalla River and recycled water to agricultural land.

About the facility

The City of Molalla has applied for a water quality permit renewal for Molalla's Wastewater Treatment Plant located at 12424 S. Toliver Road in Molalla. DEQ last renewed this permit on May 12, 2014.

The Wastewater Treatment Plant treats wastewater collected by the City of Molalla's sanitary sewer system that services much of the developed area within the city's urban growth boundary. The wastewater originates primarily from domestic sources with a small percentage originating from commercial and light industrial sources. The treated wastewater contains several regulated pollutants such as biochemical oxygen demand, total suspended solids, pH, total mercury, temperature, bacteria, ammonia, and chlorine.

The facility discharges to the Molalla River near River Mile 20. The point of river discharge is approximately 3.2 miles east of the facility. The Molalla River is listed as impaired (Category 4 or 5) for several 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 Willamette Subbasins and Willamette River Total Maximum Daily Loads, or TMDLs, for temperature, bacteria and mercury.

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

The Molalla Wastewater Treatment Plant is currently being upgraded under an agreement with DEQ that includes several major improvements to the facility's existing treatment systems. These facility improvements are necessary to address an aging treatment system, capacity issues and operational challenges that have historically resulted in some exceedances of permit limits. These improvements will be completed by November 2027 and are designed to improve the overall quality of the wastewater discharged by the facility. The issues related to past compliance issues will be resolved with the installation and commissioning of the new facility upgrades.

The most recent DEQ inspection of the Molalla Wastewater Treatment Plant was on May 24, 2018. No compliance issues beyond those being addressed by existing facility upgrades were noted during the inspection.

The facility holds no other permits from DEQ.

What types of pollutants does the permit regulate?

This permit sets conditions for how the facility deals with the following pollutants: biochemical oxygen demand (BOD_5), Total Suspended Solids (TSS), bacteria, pH, chlorine, ammonia, temperature, total mercury, and BOD_5 and TSS removal efficiency.

DEQ also requires the Molalla Wastewater Treatment Plant to maintain a biosolids management/land application plan. The facility treats wastewater solids to produce biosolids for DEQ-approved beneficial reuse on agricultural lands or for disposal at a landfill. The biosolids program including the beneficial use sites are described in the biosolids management/land application plan.

The Molalla Wastewater Treatment Plant also operates a recycled water program in accordance with the permit and the facility's approved recycled water reuse plan. Details regarding the treatment and use of recycled water are in the plan.

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

Yes. The draft permit would increase the amount of allowable mass loads for BOD_5. This increase is the result of the on-going facility improvements which increases the amount of wastewater the facility is able to receive and treat. A more stringent pH limit will also be included. The permit also sets new limits for ammonia, total mercury, and temperature. The proposed changes are summarized below:

Pollutant	Change
BOD_5 Mass Load	Increase
TSS Mass Load	Increase
BOD/TSS Concentrations (May 1 – October 31)	New Limit
BOD/TSS Concentrations (Nov. 1 – April 30)	New Limit
pH	More Stringent Limit
Ammonia	New Limit
Temperature	New Limit
Total Mercury	New Limit

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 evaluated Molalla's water quality permit renewal application, TMDLs, discharge monitoring reports, lab reports and engineering reports for the facility upgrades. In addition, DEQ evaluated water quality data provided by Molalla and a DEQ monitoring station located along the Molalla River. These materials may be viewed in person at the DEQ Northwest Region Offices located at: 700 NE Multnomah Street, Suite 600 in Portland.

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

How does DEQ monitor compliance with the permit requirements?

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

What happens next?

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

DEQ will consider and respond to all comments received and may modify the proposed permit based on comments. DEQ gives equal weight to written and verbal comments.

For more information

Find more information by reviewing draft permit documents attached to this notice, or contact Trinh Hansen at WQPermit.NWR@deq.oregon.gov or 503-378-5055 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.

State of Oregon Department of Environmental Quality

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 Molalla
P. O. Box 248
Molalla, OR 97038

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	45.150062/-122.540878
Recycled Water Reuse	002	Specified in Recycled Water Use Plan
Biosolids	N/A	Specified in Biosolids Management/Land Application Plan

FACILITY LOCATION:

Molalla WWTP
12424 S. Toliver Road
Molalla, Oregon 97038
County: Clackamas
EPA Permit Type: Major

RECEIVING STREAM INFORMATION:

Receiving stream/NHD name: Molalla River
USGS 12-Digit HUC: 170900090607
OWRD Administrative Basin: Willamette River
NHD Reach Code & % along reach: 17090009000602-61.36%
ODEQ LLID & RM: 1227171452976-RM 20
Integrated Report AU ID: OR_SR_1709000906_02_104093

Issued in response to Application No. 952568 received April 12, 2019. This permit is issued based on the land use findings in the permit record.

	DRAFT	DRAFT
Tiffany Yelton-Bram, WQ 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.

Public Notice

TABLE OF CONTENTS

SCHEDULE A: WASTE DISCHARGE LIMITS 4
1. Outfall 001 – Prohibited Discharge Periods 4
2. Outfall 001 - Permit Limits 4
3. Regulatory Mixing Zone 7
4. Use of Recycled Water 7
5. Biosolids 9
6. Chlorine Usage 10
7. Mercury Minimization Plan 10

SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS 12
1. Reporting Requirements 12
2. Monitoring and Reporting Protocols 14
3. Monitoring and Reporting Requirements 18
4. Copper Biotic Ligand Model and Aluminum Parameters 23
5. Effluent Toxics Characterization Monitoring 24
6. Additional Receiving Stream and Effluent Characterization Monitoring 29
7. Whole Effluent Toxicity (WET) Requirements 29
8. Recycled Water Monitoring Requirements: Outfall 002 30
9. Biosolids Monitoring Requirements 31

SCHEDULE C: COMPLIANCE SCHEDULE 33
1. Compliance Schedule to Meet Final Ammonia Effluent Limits 33
2. Compliance Schedule to Meet Final Mercury Effluent Limits 34
3. Responsibility to Meet Compliance Dates 35

SCHEDULE D: SPECIAL CONDITIONS 36
1. Inflow and Infiltration 36
2. Mixing Zone Study Plan 36
3. Mixing Zone Study 36
4. Emergency Response and Public Notification Plan 36
5. Recycled Water Use Plan 36
6. Exempt Wastewater Reuse at the Treatment System 37
7. Wastewater Solids Annual Report 37
8. Biosolids Management Plan 37
9. Wastewater Solids Transfers 38
10. Hauled Waste Control Plan 38
11. Hauled Waste Annual Report 39
12. Lagoon Solids 39
13. Whole Effluent Toxicity Testing for Freshwater 39
14. Operator Certification 41
15. Industrial User Survey Update 42
16. Outfall Inspection 43
17. Groundwater Monitoring Plan 43

SCHEDULE F: NPDES GENERAL CONDITIONS 45

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

Public Notice

LIST OF TABLES

Table A1: Prohibited Discharge Periods 4
Table A2: BOD_5 and TSS Limits for Existing Facility 4
Table A3: BOD_5 and TSS Limits After Phase I Facility Upgrades 5
Table A4: Limits for Additional Parameters 5
Table A5: Recycled Water Limits 8
Table A6: Biosolids Limits 10
Table B1: Reporting Requirements and Due Dates 12
Table B2: Influent Monitoring Requirements 18
Table B3: Effluent Monitoring Requirements 18
Table B4: Receiving Stream Monitoring (Molalla River) 22
Table B5: Copper Biotic Ligand Model and Aluminum Sampling Requirements 24
Table B6: Metals, Cyanide, and Hardness 25
Table B7: Volatile Organic Compounds 26
Table B8: Acid-Extractable Compounds 27
Table B9: Base-Neutral Compounds 27
Table B10: Pesticides and PCBs 28
Table B11: Other Parameters with State Water Quality Criteria 29
Table B12: WET Test Monitoring 29
Table B13: Recycled Water Monitoring 30
Table B14: Biosolids Monitoring 31
Table B15: Biosolids Minimum Monitoring Frequency 32
Table C1: Compliance Schedule for Ammonia 33
Table C2: Compliance Schedule for Mercury 34

Public Notice

SCHEDULE A: WASTE DISCHARGE LIMITS

1. Outfall 001 – Prohibited Discharge Periods

The permittee is prohibited from discharging through Outfall 001 into the Molalla River during the time periods and river flow conditions indicated in the table below:

Table A1: Prohibited Discharge Periods

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
Flow (July 1 – September 30)	MGD	-	-	0
Flow (October 1 – June 30) When the seven-day average stream flow of the Molalla River $\leq$ 350 cubic feet per second (cfs). (See note a.)	MGD	-	-	0
Note: a. River flow as measured at USGS Stream Flow Gage No. 14200000 (Molalla River at Canby).				

2. Outfall 001 - Permit Limits

During all discharges through Outfall 001, the permittee must comply with the limits in the following tables:

Table A2: BOD_5 and TSS Limits for Existing Facility

Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5 (May 1 – June 30; October 1 - 31)	mg/L	10	15	-
	lb/day	92	140	180
	% removal	85	-	-
TSS (May 1 – June 30; October 1 - 31)	mg/L	10	15	-
	lb/day	92	140	180
	% removal	85	-	-
BOD_5 (November 1 – April 30)	mg/L	30	45	-
	lb/day	480	720	960
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	480	720	960
	% removal	85	-	-

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Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
Note: a. Limits for BOD_5 and TSS only apply during discharges from the existing facility and will no longer apply on the first day of the month following the operational start date of the proposed Phase I facility upgrades (expected in late 2027). The permittee must provide written notification to DEQ at least fourteen (14) days prior to the expected operational start date of the Phase I facility upgrades.				

Table A3: BOD_5 and TSS Limits After Phase I Facility Upgrades

Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5 (May 1 – June 30; October 1 -31)	mg/L	10	15	-
	lb/day	260	390	520
	% removal	85	-	-
TSS (May 1 – June 30; October 1 - 31)	mg/L	10	15	-
	lb/day	260	390	520
	% removal	85	-	-
BOD_5 (November 1 – April 30)	mg/L	30	45	-
	lb/day	1100	1700	2200
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	480	720	960
	% removal	85	-	-
Note: a. Limits for BOD_5 and TSS become effective on the first day of the month following written notification to DEQ that the proposed Phase I facility upgrades are operational (expected in late 2027). The permittee must notify DEQ in writing at least fourteen (14) days prior to the expected operational start date of the Phase I facility upgrades.				

Table A4: Limits for Additional Parameters

Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
Chlorine, Total Residual (Oct. 1 – June 30) (See notes b and c.)	mg/L	0.02	-	0.06
Ammonia (Oct. 1 – June 30) (Interim) (See note d.)	mg/L	16.7	-	25.9

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Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
Ammonia (May 1 – June 30; October 1 - 31) (Final) (See note e.)	mg/L	6.2	-	18.2
Ammonia (November 1 – April 30) (Final) (See note e.)	mg/L	9.2	-	25.9
Mercury (Oct. 1 – June 30) (Final) (See note f.)	ug/L	0.065	-	0.13
pH (Oct. 1 – June 30) (See note g.)	SU	Instantaneous limit between a daily minimum of 6.2 and a daily maximum of 9.0		
E. coli (Oct. 1 – June 30) (See note h.)	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		
Excess Thermal Load Limit (ETLL) (May 1 – June 30 and October 1 – 31) (See note i.)	million kcal/day	Option A: 14.5 as a 7-day rolling average		
		Option B: ETL Limit (ETLL) = 0.10*(Qe + [0.64*Qr])*2.447 as a 7-day rolling average		

Notes:

a. Unless otherwise noted, limits apply to all discharges from the existing and upgraded treatment facility.

b. Chlorine limits only apply to discharges from the existing treatment facility. Once the Phase I facility upgrades become operational, ultraviolet light will be used for disinfection and the existing tablet chlorination disinfection system will be terminated upon completion of the conversion of Lagoon No. 2 into a clean effluent storage pond. Chlorine limits will terminate on the last day of the month following the operational termination date of the tablet chlorination disinfection system. The permittee must notify DEQ in writing at least fourteen (14) days prior to the expected operational start date of ultraviolet disinfection system in the Phase I facility upgrades and termination of the tablet chlorination disinfection system.

c. DEQ has established a Quantitation Limit of 0.05 mg/L for Total Residual Chlorine. Any analysis done for Total Residual Chlorine must have a quantitation limit that is either equal to or less than 0.05 mg/L. In cases where the average monthly or maximum daily limit for Total Residual Chlorine is lower than the Quantitation Limit, DEQ will use the reported Quantitation Limit as the compliance evaluation level.

d. The interim ammonia limits are effective upon the permit effective date.

e. The final ammonia limits are effective after completion of the ammonia compliance schedule in Schedule C.1.

f. The final mercury limits are effective after completion of the mercury compliance schedule in Schedule C.2.

g. May not be above 9.0 for more than a total of 7 hours and 26 minutes in any calendar month, and no individual excursion from this range may exceed 60 minutes.

Public Notice

Parameter (See note a.)	Units	Average Monthly	Average Weekly	Daily Maximum
h. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 *E. coli* organisms/100 mL demonstrates compliance with the limit.				
i. The permittee must select either Option A or Option B as the applicable 7-day rolling average Excess Thermal Load Limit (ETLL). If the permittee selects Option B, the permittee must calculate the daily ETLL using the above equation. The permittee must then calculate the 7-day rolling average ETLL using the appropriate equation for each day that Option B limit is selected. Qe = Daily Mean Effluent Flow (mgd). Qr = Daily Mean Molalla River flow (cfs). The permittee must use river flow data from the USGS stream flow gage Number 14200000 (Molalla River at Canby) or another DEQ-approved data source. The Qr must be multiplied by 0.64 to determine estimated river flow at Outfall 001. The minimum river flow value to be used at Outfall 001 is 56 cfs, the 7Q10 low flow used in the Willamette Subbasins TMDL. Permittee must calculate the daily Excess Thermal Load (ETL) using the formula listed at the bottom of Table B3 (Effluent Monitoring Requirements).				

3. Regulatory Mixing Zone

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

The allowable Regulatory Mixing Zone (RMZ) is that rectangular portion of the Molalla River centered on the diffuser mid-point extending 10 feet towards each bank, and 50 feet downstream. The Zone of Immediate Dilution (ZID) is that portion of the Molalla River centered on the diffuser mid-point extending 5 feet towards each bank, and 5 feet downstream.

4. Use of Recycled Water

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

a. Treated and used according to the criteria listed in Table A5.

b. Managed in accordance with its DEQ-approved Recycled Water Use Plan unless exempt as provided in Schedule D.

c. Used in a manner and applied at a rate that does not adversely affect groundwater quality.

d. Applied at a rate and in accordance with site management practices that ensure continued agricultural, horticultural, or silvicultural production and does not reduce the productivity of the site.

e. Irrigated using sound irrigation practices to prevent:

   i. Offsite surface runoff or subsurface drainage through drainage tile;

   ii. Creation of odors, fly and mosquito breeding, or other nuisance conditions; and

   iii. Overloading of land with nutrients, organics, or other pollutants.

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Table A5: Recycled Water Limits

Class	Level of Treatment (after disinfection unless otherwise specified)	Beneficial Uses
A	Class A recycled water must be oxidized, filtered and disinfected. Before disinfection, unless otherwise approved in writing by DEQ, turbidity may not exceed: • An average of 2 NTUs within a 24-hour period. • 5 NTUs more than five percent of the time within a 24-hour period. • 10 NTUs at any time. After disinfection, total coliform may not exceed: • A median of 2.2 organisms per 100 mL based on daily sampling over the last 7 days that analyses have been completed. • 23 organisms per 100 mL in any single sample.	Class A recycled water may be used for: • Class B, Class C, Class D, and non-disinfected uses. • Irrigation for any agricultural or horticultural use. • Landscape irrigation of parks, playgrounds, school yards, residential landscapes, or other landscapes accessible to the public. • Commercial car washing or fountains when the water is not intended for human consumption. • Water supply source for non-restricted recreational impoundments.
B	Class B recycled water must be oxidized and disinfected. Total coliform may not exceed: • A median of 2.2 organisms per 100 mL, based on the last 7 days that analyses have been completed. • 23 total coliform organisms per 100 mL in any single sample.	Class B recycled water may be used for: • Class C, Class D, and non-disinfected uses. • Stand-alone fire suppression systems in commercial and residential building, non-residential toilet or urinal flushing, or floor drain trap priming. • Water supply source for restricted recreational impoundments.
C	Class C recycled water must be oxidized and disinfected. Total coliform may not exceed: • A median of 23 total coliform organisms per 100 mL, based on results of the last 7 days that analyses have been completed. • 240 total coliform organisms per 100 mL in any two consecutive samples.	Class C recycled water may be used for: • Class D and non-disinfected uses. • Irrigation of processed food crops; irrigation of orchards or vineyards if an irrigation method is used to apply recycled water directly to the soil. • Landscape irrigation of golf courses, cemeteries, highway medians, or industrial or business campuses. • Industrial, commercial, or construction uses limited to: industrial cooling, rock crushing, aggregate washing, mixing concrete, dust control, nonstructural firefighting using aircraft, street sweeping, or sanitary sewer flushing.

Public Notice

Class	Level of Treatment (after disinfection unless otherwise specified)	Beneficial Uses
D	Class D recycled water must be oxidized and disinfected. *E. coli* may not exceed: • A 30-day geometric mean of 126 organisms per 100 mL. • 406 organisms per 100 mL in any single sample.	Class D recycled water may be used for: • Non-disinfected uses. • Irrigation of firewood, ornamental nursery stock, Christmas trees, sod, or pasture for animals.

5. Biosolids

The permittee may land apply biosolids 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 in order 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 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 the Table A6. 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 loadings rates in Table A6. 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 A6.

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).

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Table A6: Biosolids Limits

Pollutant (See note a.)	Ceiling concentrations (mg/kg)	Pollutant concentrations (mg/kg)	Cumulative pollutant loading rates (kg/ha)
Arsenic	75	41	41
Cadmium	85	39	39
Copper	4300	1500	1500
Lead	840	300	300
Mercury	57	17	17
Molybdenum	75	–	–
Nickel	420	420	420
Selenium	100	100	100
Zinc	7500	2800	2800

Note:

a. Biosolids pollutant limits are described in 40 CFR 503.13, which uses the terms *ceiling concentrations*, *pollutant concentrations*, and *cumulative pollutant loading rates*.

6. Chlorine Usage

Once the ultraviolet disinfection system associated with the Phase I facility upgrades becomes the principal method of disinfection and Lagoon No. 2 is converted into a clean effluent storage pond, 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.

7. Mercury Minimization Plan

a. By the date listed in Table B1, the permittee must submit an MMP (Mercury Minimization Plan) to DEQ for review and approval.

b. The permittee must use DEQ MMP template for final plans and modifications unless authorized in writing by DEQ to use an alternative.

c. If DEQ comments on the MMP, the permittee must respond to DEQ's comments in writing within 30 calendar days by submitting an updated MMP.

d. After resolving comments (if any) on the plan, DEQ will post the MMP to solicit public comment for a minimum of 35 days.

e. The permittee must begin implementation of the plan within 90 calendar days after being notified in writing that the public comment period has ended and DEQ has approved the plan.

f. The MMP must include:

   i. Facility name and permit number

   ii. Name and signature of party responsible for developing or reviewing the plan

   iii. Plan submittal date

Public Notice

iv. Identification and evaluation of current and potential mercury sources, including industrial, commercial, and residential sources

v. An implementation plan that includes specific methods for reducing mercury

vi. Mercury sample results for samples collected during the past five years, if collected

vii. Annual average effluent mercury concentrations and mass loads

viii. Annual average biosolids concentrations and mass loads, if available

g. If DEQ determines that the MMP is not effective at reducing mercury concentrations, DEQ may require further changes to the MMP and may reopen the permit to modify the permit conditions.

Public Notice

SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS

1. Reporting Requirements

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

Table B1: Reporting Requirements and Due Dates

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Mercury Minimization Plan (see Schedule A)	One time	Submit by XX/15/2027 The 15th day 24 months after permit effective date	One electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
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
Table B5: Copper Biotic Ligand Model and Aluminum Sampling Requirements	Quarterly for 3 years starting Q2 2027 until 12 samples are collected	By the 15th of the month following each quarter	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Tables B6 – B9: Metals, Cyanide, and Hardness; Volatile Organic Compounds; Acid Extractable Compounds; and Base Neutral Compounds (See note c.)	Quarterly for 3 years starting Q2 2027 until 12 samples are collected.	By the 15th of the month following each quarter	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Tables B10 – B11: Pesticides and PCBs, and Other Parameters with State Water Quality Criteria (See note c.)	Quarterly for 1 year starting Q2 2027 until 3 samples are collected.	By the 15th of the month following each quarter	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Table B12: WET Test Monitoring (See note c.)	Every 3rd quarter starting Q2 2027 until at least 4 samples are collected.	With the first DMR submittal after receipt of the test results	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ

Public Notice

Reporting Requirement	**Frequency**	**Due Date** (See note a.)	**Report Form** (See note b.)	**Submit To:**
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
Mixing Zone Study Plan (see Schedule D)	One time	Submit by 12/15/2028	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Mixing Zone Study (see Schedule D)	One time	Submit by 12/15/2029	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Recycled Water Annual Report (see Schedule D)	Annually	January 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Water Reuse Program Coordinator
Wastewater solids annual report (see Schedule D)	Annually	By February 19 of the following year	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Biosolids Program Coordinator
Biosolids annual report (See Schedule D)	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 Control Plan (see Schedule D)	One time	Submit by XX/15/2025 (insert date two months after permit's effective date)	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Hauled Waste Annual Report (see Schedule D)	Annually	January 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ

Public Notice

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
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's effective date.)	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Industrial User Survey Update (see Schedule D)	Once per permit cycle	Submit by no later than 24 months after permit's effective date	1 electronic copy and 1 hard copy in a DEQ approved format	Attached via electronic reporting as directed by DEQ
Outfall Inspection Report (see Schedule D)	Once per permit cycle	Submit by 12/15/2028. [In the 3rd year of the permit one year prior to mixing zone study due date]	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Groundwater Monitoring Plan (see Schedule D)	Once per permit cycle	Submit by XX/15/2025. Six months after permit's effective date.	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ

Notes:

a. For submittals that are provided to DEQ by mail, the postmarked date must not be later than the due date.

b. All reporting requirements are to be submitted in a DEQ-approved format, unless otherwise specified in writing.

c. Quarters are defined as: Q1: Jan – Mar, Q2: Apr-June, Q3: July – Sept., Q4: Oct – Dec. If no discharge occurs during the quarter, collect the sample in the following quarter. WET tests and toxics characterization testing from Tables B6-B9 must be conducted on the same day.

2. Monitoring and Reporting Protocols

a. Electronic Submissions

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

i. The permittee must submit monitoring results required by this permit via DEQ-approved web-based Discharge Monitoring Report (DMR) forms to DEQ via electronic reporting. Any data used to calculate summary statistics must be submitted as a separate attachment approved by DEQ via electronic reporting.

ii. The reporting period is the calendar month.

Public Notice

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.

Public Notice

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 results 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. Chemical Abstracts Service (CAS) Numbers. CAS numbers (where available) must be reported along with monitoring results.

Public Notice

iv. (For Discharge Monitoring Reports) If a sample result is above the DL but below the QL, the permittee must report the result as the DL preceded by DEQ's data code "e". For example, if the DL is 1.0 µg/l, the QL is 3.0 µg/L and the result is estimated to be between the DL and QL, the permittee must report "E1.0 µg/L" on the DMR. This requirement does not apply in the case of parameters for which the DL does not have to be reported.

v. (For Discharge Monitoring Reports) If the sample result is below the DL, the permittee must report the result as less than the specified DL. For example, if the DL is 1.0 µg/L and the result is ND, report "<1.0" on the discharge monitoring report (DMR). This requirement does not apply in the case of parameters for which the DL does not have to be reported.

g. Calculating and Reporting Mass Loads

The permittee must calculate mass loads on each day the parameter is monitored using the following equation:

Example calculation: Flow (in MGD) X Concentration (in mg/L) X 8.34 = Pounds per day

i. Mass load limits all have two significant figures unless otherwise noted.

ii. When concentration data are below the DL: To calculate the mass load from this result, use the DL. Report the mass load as less than the calculated mass load. For example, if flow is 2 MGD and the reported sample result is <1.0 µg/L, report "<0.017 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day).

iii. When concentration data are above the DL, but below the QL: To calculate the mass load from this result, use the DL. Report the mass load as the calculated mass load preceded by "E". For example, if flow is 2 MGD, the DL is 1.0 µg/L, the QL is 5 µg/L and the reported sample result is E3.5 µg/L, report "E0.017 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day,).

Public Notice

3. Monitoring and Reporting Requirements

a. The permittee must monitor influent just downstream of the Parshall flume and before the Transfer Pump Station/Equalization Basin 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
BOD_5 (00310)	mg/L	Year-round	3/week	24-hour composite	Monthly Average
TSS (00530)	mg/L	Year-round	3/week	24-hour composite	Monthly Average
pH (00400)	SU	Year-round	Daily	Continuous	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 to Outfall 001 and report results in accordance with Table B1 and the table below. Effluent monitoring locations for individual parameters for both the existing and upgraded treatment facility are indicated in the table below:

Table B3: Effluent Monitoring Requirements

Item or Parameter	Units	Time Period (See note a.)	Minimum Frequency	Sample Type/ Required Action (See notes b & c.)	Report Statistic (See note d.)
Flow (50050)	MGD	Year-round	Daily	Metered	1. Monthly Average 2. Daily Maximum
BOD_5 (00310)	mg/L	Oct. 1 – June 30	3/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
BOD_5 (00310)	lb/day	Oct. 1 – June 30	3/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average

Public Notice

Item or Parameter	**Units**	**Time Period** (See note a.)	**Minimum Frequency**	**Sample Type/ Required Action** (See notes b & c.)	**Report Statistic** (See note d.)
BOD_5 percent removal (81010) (See notes d & e.)	%	Oct. 1 – June 30	1/month	Calculation based on monthly average BOD_5 concentration values	Monthly Average
TSS (00530)	mg/L	Oct. 1 – June 30	3/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
TSS (00530)	lb/day	Oct. 1 – June 30	3/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
TSS percent removal (81011) (See notes d & e.)	%	Oct. 1 – June 30	1/month	Calculation based on monthly average TSS concentration values	Monthly Average
pH (00400)	SU	Oct. 1 – June 30	Daily	Continuous (See note f.)	1. Daily Maximum 2. Daily Minimum
pH range excursions, > 60 minutes (82581)	Occurrences	Oct. 1 – June 30	1/month	Calculation	Total
pH range excursions, monthly total accum (82582)	Minutes	Oct. 1 – June 30	1/month	Calculation	Total
Chlorine, Total Residual (50060) (See note h.)	mg/L	Oct. 1 – June 30	Daily	Continuous (See note g.)	1. Daily Maximum 2. Monthly Average
Chlorine, Used (81400) (See note h.)	lb/day	Oct. 1 – June 30	Daily	Scale reading	Monthly Average
Total ammonia (as N) (00610)	mg/L	Oct. 1 – June 30	2/week	24-hour composite	1. Daily Maximum 2. Monthly Average
Mercury, Total Recoverable (See note i.) (71901)	µg/L	Oct. 1 – June 30	1/week	24-hour composite	1. Daily Maximum 2. Monthly Average

Public Notice

Item or Parameter	**Units**	**Time Period** (See note a.)	**Minimum Frequency**	**Sample Type/ Required Action** (See notes b & c.)	**Report Statistic** (See note d.)
Temperature (00010)	ºC	Year-round	Daily	Continuous (See notes c & j.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
Excess Thermal Load (51405)	Million kcal/day	May – June; October	Daily	Calculation (See note k.)	Maximum 7-day Rolling Average
Excess Thermal Load Limit	Million kcal/day	May – June; October	Daily	Calculation (See note l.)	Maximum 7-day Rolling Average
E. coli (51040)	#/100 mL	Oct. 1 – June 30	3/week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
UV dose	mJ/cm^2	Year-round	Daily	Daily average calculation	Maintain records on-site
Dissolved Oxygen (00300)	mg/L	Third year of permit cycle 2027	Quarterly	24-hour composite (See note m.)	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third year of permit cycle 2027	Quarterly	24-hour composite	Quarterly Maximum
Nitrate (NO3) Plus Nitrite (NO2) 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

Public Notice

Notes:

a. Unless otherwise noted, sampling for effluent discharged through Outfall 001 to Molalla River must be conducted from October 1 – June 30. Discharges through Outfall 002 for recycled water must be monitored in accordance with Table B13 (Recycled Water Monitoring).

b. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. If the failure or loss is for continuous temperature monitoring equipment, the permittee must perform grab measurements daily between 12 PM and 5 PM until continuous monitoring equipment is redeployed.

c. For the existing facility, all parameters will be monitored at the Discharge Monitoring Station (DMS) near the Molalla River. Following commissioning of the Phase 1 facility upgrades and rehabilitation of Lagoon No. 2, bacteria will be monitored after ultraviolet disinfection. All other parameters, with the exception of temperature and dissolved oxygen, will be monitored at the Effluent Pump Station. When discharging to the river, effluent temperature and dissolved oxygen will be monitored at the DMS just prior to discharge to the Molalla River. When discharging for recycled water, effluent temperature will be monitored at the Effluent Pump Station prior to land application.

d. 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.

e. 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.

f. The permittee must keep on file either daily calibration logs or an instrument manual showing that less than daily calibration is required along with calibration logs that comply with manufacturer instructions and any Proficiency (PT) or Water Pollution (WP) tests must be done using the continuous pH monitor.

g. The permittee must keep on file all maintenance logs that comply with manufacturer instructions for proper maintenance of the continuous chlorine monitor. Any Proficiency (PT) or Water Pollution (WP) tests must be done using the continuous chlorine monitor.

h. Monitoring for total residual chlorine and chlorine usage only applies to existing facility operations that use chlorine for disinfection. Once the ultraviolet light (UV) disinfection system becomes the principal method of disinfection after the rehabilitation of Lagoon No. 2, the permittee must stop using the existing tablet chlorination disinfection system and cease monitoring for residual chorine in final effluent. The permittee must notify DEQ in writing at least fourteen (14) day prior to the expected operational start date of ultraviolet disinfection system as the facility's primary disinfection method and the termination of the tablet chlorination disinfection system.

i. This mercury monitoring is related to compliance monitoring for the final mercury limit and must begin after completion of the mercury compliance schedule in Schedule C.2.

j. When determining the daily maximum temperature, the permittee may report the hourly average maximum temperature if continuous monitoring of temperature is performed more frequently than hourly intervals (i.e., multiple measurements taken during an hour).

k. The daily excess thermal load (ETL) discharged must be calculated using the daily maximum effluent temperature and the corresponding daily effluent flow using the formula below.

Public Notice

Item or Parameter	Units	Time Period (See note a.)	Minimum Frequency	Sample Type/ Required Action (See notes b & c.)	Report Statistic (See note d.)

The 7-day rolling average is then calculated from the daily ETLs. The 7-day average periods must not include daily ETLs outside of a limited period or daily ETLs with different criteria.

The daily ETL is calculated as follows: ETL= 3.785 * Qe *ΔT

Where:

ETL = Excess Thermal Load (million kcal/day)

Q_e = Daily effluent flow (MGD)

ΔT = Daily maximum effluent temperature (°C) minus ambient criterion (13 °C for the May 1 – June 15 and October 1 – 31 periods and 16 °C for the June 16 – 30 period)

l. If the permittee selects Excess Thermal Load Limit (ETLL) Option B from Table A3, then the permittee must calculate the ETLL (Mkcal/day) each day the permittee uses this option. The permittee must use the equation and procedure noted in Table A3.

m. CFR 122.21 requires that Dissolved Oxygen be collected as a 24-hour composite for permit application purposes. CFR 136.3(e) specifies that if a composite measurement is required but a composite sample would compromise sample integrity, that individual grab samples must be collected. 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. Unless indicated otherwise in Table B4 below, the permittee must monitor the Molalla River at and upstream of Outfall 001 and report the results in accordance with Tables 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 Stream Monitoring (Molalla River)

Item or Parameter (See note a.)	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note b.)	Report Statistic (See note c.)
Flow, stream (00056)	cfs	Year-round	Daily	USGS Gage Station Records (See note d.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
Velocity, stream (00055)	ft/s	August - November	1/month	Measurement (See note e.)	Monthly Minimum
Temperature (00010)	ºC	Nov. 1 – Apr. 30	1/month	Grab (See note f.)	1. Daily Maximum 2. Monthly Maximum
		May 1 – June 30; Oct. 1 - 31	1/week		
Total ammonia (as N) (00610)	mg/L	Year-round	1/month	Grab	Monthly Maximum

Public Notice

Item or Parameter (See note a.)	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note b.)	Report Statistic (See note c.)
TSS (00530)	mg/L	Year-round	1/month	Grab	Monthly Maximum
Dissolved Oxygen (00300)	mg/L	Year-round	1/month	Grab	Monthly Minimum
Mercury, Total Recoverable (71901) (See note g.)	µg/L	Oct 1 – June 30	2/year	Grab	Value

Notes:

a. Except as noted, permittee must conduct river monitoring at location upstream of Outfall 001. The location must be outside the upstream extent of the effluent plume for Outfall 001.

b. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. If the failure or loss is for continuous temperature monitoring equipment, the permittee must perform grab measurements daily between 12 PM and 5 PM until continuous monitoring equipment is redeployed.

c. 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.

d. Permittee must obtain river flow data from on-line stream gauging information listed for USGS Gaging Station No. 14200000 (Molalla River at Canby).

e. Stream Velocity must be measured at Outfall 001 and may be measured using a variety of methods including, but not limited to, the float method, current meter, or acoustic doppler current profiler. Method and date/time of measurements used must be included with all measurements. Measure and record velocity measurements at roughly the mid-point depth of the water column above Outfall 001. If it is impractical to safely wade or cross the stream channel by other means during the field measurements, permittee must record at least 10 surface velocity measurements at the location of Outfall 001. Report the average velocity of the measurements.

f. River temperature shall be measured using grab measurements recorded between 12 PM and 5 PM.

g. A field blank must also be completed and the results submitted electronically. A Field Blank is defined as blank water that is passed through the entire sampling equipment system onsite and subjected to identical collection, processing, preservation, transportation, storage procedures, and laboratory handling as for environmental samples. The field blank is processed at the sampling location through clean equipment on the same day, and directly before, the environmental samples. The purpose of the blank is to determine the concentration of target analyte(s) present in the environmental sample that could be attributed to field procedures for equipment cleaning and sample handling, and/or effects from laboratory sampling.

4. Copper Biotic Ligand Model and Aluminum Parameters

The permittee must monitor the Molalla River upstream of Outfall 001 and the effluent for Outfall 001 for copper biotic ligand model and aluminum parameters per the table below and Table B1. Effluent and ambient monitoring must be conducted concurrently. The permittee must collect upstream samples such that the effluent does not impact the samples (e.g., upstream for riverine discharges). It is the responsibility of the permittee to ensure that safe and practical sampling techniques and procedures are used. DEQ recommends that these procedures be included in a sample and analysis plan that can be reviewed by DEQ when necessary.

Public Notice

Table B5: Copper Biotic Ligand Model and Aluminum Sampling Requirements

Parameter (See note a.)	CAS (See note b.)	Units	Sampling Frequency (See note c.)	Sampling Location (See note d.)
Copper, total and dissolved	7440508	µg/L	Quarterly	Upstream and Effluent
Aluminum (See note e.)	7429905	µg/L	Quarterly	Upstream and Effluent
Hardness (as $CaCO_3$)	N/A	mg/L	Quarterly	Upstream and Effluent
Dissolved organic carbon	–	mg/L	Quarterly	Upstream and Effluent
pH (See note f.)	–	S.U.	Quarterly	Upstream and Effluent
Temperature	–	°C	Quarterly	Upstream and Effluent
Calcium, dissolved (See note g.)	7440702	mg/L	Quarterly	Upstream and Effluent
Magnesium, dissolved (See note g.)	7439954	mg/L	Quarterly	Upstream and Effluent
Sodium, dissolved (See note g.)	7440235	mg/L	Quarterly	Upstream and Effluent
Potassium, dissolved (See note g.)	7440097	mg/L	Quarterly	Upstream and Effluent
Sulfate, dissolved (See note g.)	14808798	mg/L	Quarterly	Upstream and Effluent
Chloride, dissolved (See note g.)	16887006	mg/L	Quarterly	Upstream and Effluent
Alkalinity, dissolved (See note g.)	–	mg/L	Quarterly	Upstream and Effluent

Notes:

a. All effluent samples must be 24-hr composite samples except grab samples must be collected for pH, alkalinity and temperature. All receiving stream samples must be grab samples.

b. Chemical Abstract Service

c. Permittee to sample for duration specified in Table B1.

d. Samples must be collected upstream (outside the influence of the effluent) and from the effluent on the same day.

e. Effluent samples must be in Total Recoverable fraction. Upstream samples must be in the Bioavailable fraction.

f. Ambient pH measurements in receiving waters where specific conductivity is < 200 uS/cm may require additional sampling practices to achieve accurate measurement. Refer to USGS (2021) "Measurement of pH In Techniques and Methods (Vol. 9)" or another 40 CFR 136 approved method for measuring pH in low ionic strength solutions. The permittee must account for low ionic strength when sampling ambient pH.

g. These analytes may be calculated from specific conductance measurements according to equations outlined in OAR 340-041-8033 Endnote N(1)(b). Specific conductance data may be used as a substitute for monitoring and analysis of these parameters only if it is concurrent with other BLM input parameters. If neither the analytes nor concurrent specific conductance is measured, regional defaults will be used in data analysis according to OAR 340-041-8033 Endnote N(2)(a).

5. Effluent Toxics Characterization Monitoring

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

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

Public Notice

Table B6: Metals, Cyanide, and Hardness

Pollutant (See note a.)	**CAS** (See note b.)	**Pollutant** (See note a.)	**CAS** (See note b.)
Antimony, total	7440360	Mercury Field Blank (See note d.)	7439976
Arsenic, total	7440382	Nickel, total and dissolved	7440020
Arsenic, total inorganic	7440382	Selenium, total and dissolved	7782492
Arsenic, total inorganic dissolved	7440382	Silver, total and dissolved	7440224
Beryllium, total	7440417	Thallium, total	7440280
Cadmium, total and dissolved	7440439	Zinc, total and dissolved	7440666
Chromium, total and dissolved	7440473	Cyanide, free (See note e & f.)	57125
Chromium III, total and dissolved (See note c.)	16065831	Cyanide, total (See note f.)	57125
Chromium VI, dissolved	18540299	Hardness (total as CaCO3)	
Lead, total and dissolved	7439921	Iron, total	7439896
Mercury, total	7439976		

Notes:

a. The term "total" used in reference to metals is intended to cover all EPA-accepted standard digestion methods and is considered to be equivalent to the term "total recoverable".

b. Chemical Abstract Service

c. There is no analytical method to test for Chromium III, results are obtained by subtracting dissolved Chromium VI from Chromium.

d. A **Field Blank** is defined as blank water that is passed through the entire sampling equipment system onsite and subjected to identical collection, processing, preservation, transportation, storage procedures, and laboratory handling as for environmental samples. The field blank is processed at the sampling location through clean equipment on the same day, and directly before, the environmental samples. The purpose of the blank is to determine the concentration of target analyte(s) present in the environmental sample that could be attributed to field procedures for equipment cleaning and sample handling, and/or effects from laboratory sampling.

e. There are multiple approved methods for testing for free cyanide. For more information, refer to DEQ's analytical memo on the subject of cyanide monitoring at https://www.oregon.gov/deq/FilterDocs/sToxicscyanide.pdf

f. Cyanide (free and total) must be collected as a grab sample according to 40 CFR 122. Twenty-four-hour composite samples are not required for this analyte.

Public Notice

Table B7: Volatile Organic Compounds

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

Notes:

a. VOC's must be collected as a grab sample according to 40 CFR 122. Twenty-four-hour composite samples are not required for this analyte.

b. Acrolein, Acrylonitrile, and 2-Chloroethylvinyl ether must be tested from an unacidified sample.

c. Chlorodibromomethane is identified as Dibromochloromethane in 40 CFR 136.3, Table 1C.

d. Dichlorobromomethane is identified as Bromodichloromethane in 40 CFR 136.3, Table 1C.

e. 1,2-Trans-dichloroethylene is identified as Trans-1,2-dichloroethene in 40 CFR 136.3, Table 1C.

f. 1,1-Dichloroethylene is identified as 1,1-Dichloroethene in 40 CFR 136.3, Table 1C.

g. 1,3-Dichloropropylene consists of both cis-1,3-Dichloropropene and Trans-1,3-dichloropropene. Both must be reported individually.

h. Methyl bromide is identified as Bromomethane in 40 CFR 136.3, Table 1C.

i. Methyl chloride is identified as Chloromethane in 40 CFR 136.3, Table 1C.

j. Tetrachloroethylene is identified as Tetrachloroethene in 40 CFR 136.3, Table 1C.

k. Trichloroethylene is identified as Trichloroethene in 40 CFR 136.3, Table 1C.

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Table B8: Acid-Extractable Compounds

Pollutant	CAS	Pollutant	CAS
p-chloro-m-cresol (See note a.)	59507	2-nitrophenol	88755
2-chlorophenol	95578	4-nitrophenol	100027
2,4-dichlorophenol	120832	Pentachlorophenol	87865
2,4-dimethylphenol	105679	Phenol	108952
4,6-dinitro-o-cresol (See note b.)	534521	2,4,5-trichlorophenol (See note c.)	95954
2,4-dinitrophenol	51285	2,4,6-trichlorophenol	88062

Notes:

a. p-chloro-m-cresol is identified as 4-Chloro-3-methylphenol in 40 CFR 136.3, Table 1C.

b. 4,6-dinitro-o-cresol is identified as 2-Methyl-4,6-dinitrophenol in 40 CFR 136.3, Table 1C.

c. To monitor for 2,4,5-trichlorophenol, use EPA Method 625.1.

Table B9: Base-Neutral Compounds

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

Public Notice

Pollutant	CAS	Pollutant	CAS

Notes:

a. 3,4-benzofluoranthene is listed as Benzo(b)fluoranthene in 40 CFR 136.

b. Also known as Chloroisopropyl Ether bis 2, and 2,2'-oxybis(2-chloro-propane) Bis(2-chloroisopropyl)ether is listed as 2,2'-oxybis(1-chloropropane) in 40 CFR 136."

c. 1,2-diphenylhydrazine is difficult to analyze given its rapid decomposition rate in water. Azobenzene (a decomposition product of 1,2-diphenylhydrazine), must be analyzed as an estimate of this chemical.

d. To analyze for Pentachlorobenzene and Tetrachlorobenzene 1,2,4,5, use EPA 625.1.

e. Due to known issues of sample contamination with phthalates, an equipment blank must be collected with Base Neutral compound samples and reported as part of the data submission. This is for all pollutants in this table.

Table B10: Pesticides and PCBs

Pollutant	CAS	Pollutant	CAS
Aldrin	309002	Endrin Aldehyde	7421934
BHC Technical (Hexachlorocylco-hexane) (See note a.)	608731	Guthion (See note b.)	86500
BHC-alpha (See note a.)	319846	Heptachlor	76448
BHC-beta (See note a.)	319857	Heptachlor Epoxide	1024573
BHC-delta (See note a.)	319868	Malathion	121755
BHC-gamma (Lindane) (See note a.)	58899	Methoxychlor	72435
Chlordane	57749	Mirex	2385855
Chloropyrifos (See note b.)	2921882	Parathion (See note b.)	56382
Demeton	8065483	Toxaphene	8001352
DDD 4,4'	72548	PCB- Aroclor 1254	11097691
DDE 4,4'	72559	PCB- Aroclor 1232	11141165
DDT 4,4'	50293	PCB- Aroclor 1260	11096825
Dieldrin	60571	PCB- Aroclor 1242	53469219
Endosulfan alpha (See note c.)	959988	PCB- Aroclor 1221	11104282
Endosulfan beta (See note d.)	33213659	PCB- Aroclor 1248	12672296
Endosulfan sulfate	1031078	PCB- Aroclor 1016	12674112
Endrin	72208		

Notes:

a. There is no analytical method for Technical BHC. Instead, the four major isomers (alpha, beta, delta and gamma) must be separately analyzed and then added together to compare to the BHC Technical criteria.

b. Analytical Methods: Chloropyrifos use EPA 625.1 or 608.3; Parathion and Guthion use EPA 614, 622 or 625.1. Parathion is listed as ethyl parathion in 40 CFR 136. Guthion is identified in 40 CFR 136.3, Table 1D as Azinphos methyl.

c. Endosulfan alpha is identified as Endosulfan I in 40 CFR 136.3, Table 1D.

d. Endosulfan beta is identified as Endosulfan II in 40 CFR 136.3, Table 1D.

Public Notice

Table B11: Other Parameters with State Water Quality Criteria

Pollutant	CAS	Pollutant	CAS
Asbestos (See note a.)	1332214	Dioxin 2,3,7,8-TCDD (See note f.)	1746016
Barium, total (See note b.)	7440393	N-Nitrosodibutylamine	924163
Sulfide-hydrogen sulfide (See note c.)	7783064	N-Nitrosodiethylamine	55185
2,4,5-TP [2-(2,4,5-Trichloro- phenoxy) propanoic acid] (See note d.)	93721	N-Nitrosopyrrolidine	930552
2,4-D (2,4-Dichlorophenoxyacetic acid) (See note e.)	94757	Total Phosphorus as P	7723140

Notes:

a. Asbestos must be reported in fibers/L.
b. Barium, Total is identified as Barium-Total in 40 CFR 136.3, Table 1B.
c. Report Sulfide-Hydrogen Sulfide as Dissolved Sulfide as S.
d. This chemical is listed as Chlorophenoxy Herbicide (2,4,5-TP) in Table 40.
e. This chemical is listed as Chlorophenoxy Herbicide (2,4-D) in Table 40
f. Dioxin 2,3,7,8-TCDD is identified as 2,3,7,8-Tetrachloro-dibenzo-p-dioxin in 40 CFR 136.3,Table 1C.

6. Additional Receiving Stream and Effluent Characterization Monitoring

If additional ambient or effluent monitoring is needed, DEQ will notify the permittee through a request for supplemental information/data.

7. Whole Effluent Toxicity (WET) Requirements

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

Table B12: WET Test Monitoring

Parameter	Sample Type/Location	Minimum Frequency	Report
Acute toxicity	For acute toxicity: 24-hr composite samples, taken at the Discharge Monitoring Station prior to discharge to the river.	See Table B1	Report must include test results and backup information such as bench sheets sufficient to demonstrate compliance with permit requirements. Report must include a statement certifying that the results do or do not show toxicity.
Chronic toxicity	For chronic toxicity: 24-hr composite taken at the Discharge Monitoring Station prior to discharge to the river.		

Public Notice

8. Recycled Water Monitoring Requirements: Outfall 002

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

Table B13: Recycled Water Monitoring

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action	Report (See note a.)
Total flow (50050)	MGD	May 1 – Oct 31	Daily	Measure	Monthly Total
Quantity irrigated (51789)	in/ac	May 1 – Oct 31	Daily	Calculate	Monthly Total
pH (00400)	SU	May 1 – Oct 31	2/Week	Grab	1. Monthly Minimum 2. Monthly Maximum
UV dosage (61938) (See note b.)	mJ/cm^2	May 1 – Oct 31	Daily	Calculate based on UVI grab and average daily flow	Monthly Minimum
Turbidity (00070)	NTU	May 1 – Oct 31	Hourly (Class A)	Measure	1. Daily Average 2. Daily Maximum
Turbidity, time above limit (61736)	%	May 1 – Oct 31	Daily (Class A)	Calculate	Daily Maximum
Total coliform (74056)	#/100 mL	May 1 – Oct 31	• Daily (Class A) • 3/Week (Class B) • Weekly (Class C)	Grab (See note c.)	1. 7-Day Median 2. Maximum Single Sample
E. coli (51040)	#/100 mL	May 1 – Oct 31	Weekly (Class D)	Grab	1. Monthly Geometric Mean 2. Maximum Single Sample
Total Kjeldahl, Nitrogen (00625)	mg/L	May 1 – Oct 31	Quarterly	Grab	Value
Nitrite + Nitrate (NO_2+NO_3) (00630)	mg/L	May 1 – Oct 31	Quarterly	Grab	Value

Public Notice

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action	Report (See note a.)
Total Ammonia [as N] (00610)	mg/L	May 1 – Oct 31	Quarterly	Grab	Value
Total Phosphorus (00665)	mg/L	May 1 – Oct 31	Quarterly	Grab	Value
Nitrogen Loading Rate	lb/acre-year	May 1 – Oct 31	Annually	Calculate	Value for each field

Notes:

a. All data collected should be included in the Recycled Water Annual Report in addition to monthly and quarterly reporting as indicated.

b. Permittee is to begin reporting of ultraviolet (UV) dosage once UV disinfection system becomes operational with proposed Phase I facility upgrades. Permittee must notify DEQ in writing at least fourteen (14) days prior to when UV disinfection becomes operational, and the existing chlorine disinfection system is terminated.

c. Calculations of the median total coliform levels in Classes A – C are based on the results of the last seven days that analyses have been completed.

9. Biosolids Monitoring Requirements

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

Table B14: 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 B15.	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 B15.	As described in DEQ-approved Biosolids Management Plan

Public Notice

Item or Parameter	Minimum Frequency	Sample Type
Pathogen reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B15.	As described in DEQ-approved Biosolids Management Plan
Vector attraction reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B15.	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 B15: 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)

Public Notice

SCHEDULE C: COMPLIANCE SCHEDULE

1. Compliance Schedule to Meet Final Ammonia Effluent Limits

The permittee must comply with the following schedule:

Table C1: Compliance Schedule for Ammonia

Compliance Date	Requirement
Optimization Study	
By #######, 2025 Within 1 month of permit effective date.	The permittee must submit to DEQ a draft Optimization Study that outlines feasible operation changes that can be made to the facility's current treatment processes to minimize effluent ammonia concentrations during discharges through Outfall 001.
By #######, 2025 Within 3 months of permit effective date.	The permittee must submit a revised Optimization Study that addresses DEQ comments provided on the draft Optimization Study. If DEQ does not comment on the draft Optimization Study within 30 days of DEQ receipt, submittal of a revised Optimization Study is not necessary, and the draft Optimization Study is deemed approved.
By ######, 2025 Within 4 months of permit effective date.	The permittee must implement the operational changes and strategies identified in the approved Optimization Study until Phase 1 Facility Upgrades and rehabilitation of Lagoon No. 2 are completed.
By December 31, 2025 Within ## months of permit effective date.	The permittee must submit a brief Optimization Progress Report describing the operational changes that were implemented for ammonia control in 2025 discharges as part of the approved Optimization Study. The Progress Report must also document how effective the operational changes were at reducing effluent ammonia concentrations and provide monitoring results. The Progress Report must also describe any further operational changes that may be employed in 2026.
By December 31, 2026 Within ## months of permit effective date.	The permittee must submit a brief Optimization Progress Report describing the how effective the operational changes were at reducing effluent ammonia concentrations and provide monitoring results. The Progress Report must also describe any further operational changes that may be employed in 2027 until the final ammonia limits become effective on November 1, 2027.
Construction of Phase 1 Facility Upgrades and Rehabilitation of Lagoon No. 2	
By ######, 2025 Within 3 months of permit effective date.	The permittee must submit to DEQ a brief letter report that summarizes the status of construction of the Phase 1 Facility Upgrades including the start date of construction, percent complete (if applicable) and general progress to completion.
By December 31, 2025 Within ## months of permit effective date.	The permittee must submit to DEQ a Construction Progress Report summarizing the progress made in the construction of the Phase 1 Facility Upgrades and achieving operational status by the date required in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246.

Public Notice

By July 31, 2026 Within ## months of permit effective date.	The permittee must submit to DEQ a Construction Progress Report summarizing the progress made in the construction of the Phase 1 Facility Upgrades and achieving operational status by the date required in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246.
By October 31, 2026 Within ## months of permit effective date.	The permittee must submit to DEQ a brief letter report documenting that the Phase 1 Facility Upgrades are complete and operational per the schedule in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246. The letter must provide a brief summary schedule regarding the start-up and testing of the upgraded facility and the expected date of full operation for permit compliance.
July 1, 2027 Within ## months of permit effective date.	The permittee must submit to DEQ a brief Construction Progress Report summarizing the progress made in completing the rehabilitation of Lagoon No. 2 into a clean effluent storage pond per the schedule in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246.
September 1, 2027 Within ## months of permit effective date.	The permittee must submit to DEQ a brief letter report documenting that the rehabilitation of Lagoon No. 2 into a clean effluent storage pond was completed by August 30, 2027, per the schedule in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246. The letter must provide a brief summary schedule regarding the start-up and testing of the rehabilitated lagoon and the expected date of full operation for permit compliance
November 1, 2027	The permittee must achieve compliance with the final ammonia limits listed in Table A4 for all future discharges through Outfall 001.

2. Compliance Schedule to Meet Final Mercury Effluent Limits

The permittee must comply with the following schedule:

Table C2: Compliance Schedule for Mercury

Compliance Date	Requirement
Mercury Minimization Plan and Monitoring	
By #######, 2026 Within 12 months of permit effective date	The permittee must submit a memorandum describing the progress made in preparing the Mercury Minimization Plan in accordance with Schedule A.7 and Table B1. The memorandum must also describe progress made in identifying potential mercury sources within the sanitary collection system and any actions designed to reduce mercury in the effluent.
By #######, 2027 Within 24 months of permit effective date.	The permittee must submit to DEQ a draft Mercury Minimization Plan in accordance with Schedule A.7 and Table B1. Permittee must implement the DEQ-approved Mercury Minimization Plan according to Schedule A.7.
By #######, 2028 Within 36 months of permit effective date.	The permittee must submit a memorandum describing the progress made in implementing the Mercury Minimization Plan and actions designed to reduce mercury in the effluent.
By #######, 2028 Within 38 months of permit effective date.	The permittee must begin quarterly effluent sampling for mercury in Q2 2027 per Table B6 and Table B1. Monitoring must continue until 12 quarterly samples are collected.

Public Notice

By #######, 2029 Within 48 months of permit effective date	The permittee must submit a memorandum describing the progress made in implementing the Mercury Minimization Plan and actions designed to reduce mercury in the effluent.
Construction of Phase 1 Facility Upgrades and Rehabilitation of Lagoon No. 2	
By October 31, 2026 Within ## months of permit effective date.	Per Compliance Schedule C1, the permittee must submit to DEQ a brief letter report documenting that the Phase 1 Facility Upgrades are complete and operational per the schedule in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246.
September 1, 2027 Within ## months of permit effective date.	Per Compliance Schedule C1, the permittee must submit to DEQ a brief letter report documenting that the rehabilitation of Lagoon No. 2 into a clean effluent storage pond was completed by August 30, 2027, per the schedule in the latest amendment for Mutual Agreement and Order No. WQ/M-NWR-2016-246.
November 1, 2030	The permittee must achieve compliance with the final mercury limits listed in Table A4 for all future discharges through Outfall 001, and commence effluent mercury monitoring as described under Schedule B.

3. 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).

Public Notice

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. Mixing Zone Study Plan

The permittee must submit a mixing zone study plan for a Level 3 Mixing Zone Study for Outfall 001 to DEQ for review and approval by no later than the date specified in Schedule B1. The plan must provide a description of how the Level 3 Mixing Zone Study will be conducted in accordance with the Level 3 study requirements listed in DEQ's Mixing Zone Internal Management Directive and how mixing zone dilutions will be determined. At a minimum, the study plan must also include provisions for completing a single set of cross-sectional measurements of the stream channel at the outfall location during a representative low flow period. The cross section must include the location and depth of the outfall at the time of field study. The permittee must complete the Level 3 Mixing Zone Study per the DEQ-approved study plan.

3. Mixing Zone Study

By no later than the date specified in Table B1, permittee must submit the results of the Level 3 Mixing Zone Study that was conducted in accordance with the DEQ-approved study plan listed above in Schedule D, Condition 2. Required in the report is at minimum a single set of cross-sectional measurements of the stream channel at the outfall location during a representative low flow period, including the location and depth of the outfall at the time of measurement.

4. 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.

5. Recycled Water Use Plan

The permittee must update and maintain a DEQ-approved Recycled Water Use Plan meeting the requirements in OAR 340-055-0025. The permittee must submit this plan or any significant modifications to DEQ for review and approval with sufficient time to clear DEQ review and a public notice period prior to implementing changes to the recycled water program. The permittee must keep the plan updated. All plan revisions require written authorization from DEQ and are effective upon permittee's receipt of DEQ written approval. No significant modifications can be made to a plan for an administratively extended

Public Notice

permit (after the permit expiration date). Conditions in the plan are enforceable requirements under this permit. DEQ will provide an opportunity for public review and comment on any significant plan modifications prior to approving or denying. Public review is not required for minor modifications, changes to utilization dates or changes in use within the recycled water class.

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

6. 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.

7. 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.

8. Biosolids Management Plan

The permittee must update 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 implementing any significant changes to the biosolids program. 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.

Public Notice

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.

9. 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.

10. 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.

Public Notice

11. 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.

12. 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 7, 8 and 9, for sludge removal requirements.

13. Whole Effluent Toxicity Testing for Freshwater

a. The permittee must conduct whole effluent toxicity (WET) tests as specified here and in Schedule B of this permit.

b. Acute Toxicity Testing - Organisms and Protocols

i. The permittee must conduct 48-hour static renewal tests with *Ceriodaphnia dubia* (water flea) and 96-hour static renewal tests with *Pimephales promelas* (fathead minnow).

ii. All test methods and procedures must be in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.

iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ in writing prior to analysis.

iv. WET acute testing must be conducted using a dilution series based upon the effluent percentage at the ZID in the following manner: 100%; 64.7%; 29.4%; 14.7%; and 7.4% and a control (0% effluent).

v. An acute WET test shows toxicity if there is a statistically significant difference in survival between the control and 29.4% effluent reported as the NOEC < 29.4% effluent.

c. Chronic Toxicity Testing - Organisms and Protocols

i. The permittee must conduct tests with *Ceriodaphnia dubia* (water flea) for reproduction and survival test endpoint, *Pimephales promelas* (fathead minnow) for growth and survival test endpoint, and *Raphidocelis subcapitata* (green alga formerly known as *Selanastrum capricornutum*) for growth test endpoint.

ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in the applicable method, the permittee must submit a written request to DEQ for review and approval prior to use.

Public Notice

iii. Treatments to the final effluent samples (for example, dechlorination, ammonia removal), except those included as part of the methodology, may not be performed by the laboratory unless approved by DEQ in writing prior to analysis.

iv. WET chronic testing must be conducted using a dilution series based upon the effluent percentage at the RMZ in the following manner: 100% effluent; 57.2%; 14.3%; 7.2%; and 3.6% and a control (0% effluent).

v. A chronic WET test shows toxicity if the IC25 (25% inhibition concentration) occurs at dilutions equal to or less than the dilution that is known to occur at the edge of the mixing zone, that is, IC25 ≤ 14.3%.

d. Dual End-Point Tests

i. WET tests may be dual end-point tests in which both acute and chronic end-points can be determined from the results of a single chronic test. The acute end-point will be based on 48-hours for the *Ceriodaphnia dubia* (water flea) and 96-hours for the *Pimephales promelas* (fathead minnow).

ii. All test methods and procedures must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA-821-R-02-013, October 2002*, or the most recent version of this publication if such edition is available. If the permittee wants to deviate from the bioassay procedures outlined in this method, the permittee must submit a written request to DEQ for review and approval prior to use.

iii. Tests run as dual end-point tests must be conducted on a control (0%) and the following dilution series: 7.4%, 14.3%, 29.4%, 57.2%, and 100% effluent.

iv. Toxicity determinations for dual end-point tests must correspond to the acute and chronic tests described in conditions 13.b.v and 13.c.v above.

e. Sampling Requirements

At the time of WET sampling, the permittee must collect and analyze effluent samples for the parameters listed in Tables B6 – B11.

f. Evaluation of Causes and Exceedances

i. If any test exhibits toxicity as described in conditions 13.b.v. and 13.c.v. above, the permittee must conduct another toxicity test using the same species and DEQ-approved methodology within two weeks unless an extension is granted by DEQ in writing.

ii. If two consecutive WET test results indicate acute or chronic toxicity as described in conditions 13.b.v. and 13.c.v. above, the permittee must immediately notify DEQ of the results. DEQ will work with the permittee to determine the appropriate course of action to evaluate and address the toxicity.

g. Quality Assurance and Reporting

i. Quality assurance criteria, statistical analyses, and data reporting for the WET tests must be in accordance with the EPA documents stated in this condition.

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ii. For each test, the permittee must provide a bioassay laboratory report according to the EPA method documents referenced in this Schedule. The report must include all QA/QC documentation, statistical analysis for each test performed, standard reference toxicant test (SRT) conducted on each species required for the toxicity tests and completed Chain of Custody forms for the samples including time of sample collection and receipt. The permittee must submit reports to DEQ within 60 days of test completion.

iii. The report must include all endpoints measured in the test: NOEC (No Observed Effects Concentration), LOEC (Lowest Observed Effects Concentration), and IC_{25} (chronic effect 25% inhibition concentration).

iv. The permittee must make available to DEQ upon request the written standard operating procedures they, or the laboratory performing the WET tests, use for all toxicity tests required by DEQ.

h. Reopener

DEQ may reopen and modify this permit to include new limits, monitoring requirements, and/or conditions as determined by DEQ to be appropriate, and in accordance with procedures outlined in OAR Chapter 340, Division 45 if:

i. WET testing data indicate acute and/or chronic toxicity.

ii. The facility undergoes any process changes.

iii. Discharge monitoring data indicate a change in the reasonable potential to cause or contribute to an exceedance of a water quality standard.

i. Circumstances not addressed in this section, or that require deviation from the requirements of this section, must be approved in writing by DEQ before changes are implemented.

14. 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

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Certification Program. Current system classifications are publicized on the DEQ Supervisory Wastewater Operator Status Report found on the 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 the 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 (d) 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.

15. Industrial User Survey Update

Industrial User Survey Update

a. By the date listed in Table B1, the permittee must submit to DEQ an update to the industrial user survey that was completed in May 2016. 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.

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16. 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 listed in Table B1 (this date is one year prior to the submittal of the Mixing Zone Study in Schedule D Condition 3). 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.

17. Groundwater Monitoring Plan

By the date listed in Table B1, the permittee must develop and submit to DEQ for review a groundwater monitoring plan The permittee must implement groundwater monitoring plan within ninety (90) days of receiving DEQ's approval.

The groundwater monitoring plan must identify the location of three or more groundwater monitoring wells to be placed along the facility's property boundary. The monitoring wells must be placed at locations necessary to determine the direction of groundwater flow in the upper aquifer and to assess if the lagoons are causing an adverse impact on existing or potential beneficial uses of groundwater. The permittee must construct the wells according to the requirements of OAR 690-240 (Oregon Department of Water Resources). The groundwater monitoring plan must describe the general construction and installation procedures for the monitoring wells.

The groundwater monitoring plan must also include details regarding the monitoring well sampling program to be employed such as sampling methodology, monitoring frequency, parameters to be analyzed, data quality review and reporting procedures. At a minimum, the permittee will be required to monitor site groundwater quality for those parameters listed under Schedule B, Table B14, Biosolids Monitoring, of the NPDES permit since they can originate from lagoon solids.

At a minimum, monitoring must be conducted quarterly for the duration of the permit term. Monitoring results must be reported to DEQ on a quarterly and annual basis. The annual reports must include a summary review of the data collected, time history plots of the data, data quality review, and a review of any significant events at the site during the monitoring period.

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SCHEDULE E: PRETREATMENT ACTIVITIES

A pretreatment program is not part of this permit.

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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.

Public Notice

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.

Public Notice

(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.

Public Notice

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.

Public Notice

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.

Public Notice

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.

Public Notice

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.

Public Notice

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.

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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.

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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.

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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.

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State of Oregon
Department of
Environmental
Quality

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

Permittee	City of Molalla 12424 S. Toliver Road Molalla, Oregon 97038
Existing Permit Information	File Number: 57613 Permit Number: 101514 EPA Reference Number: OR0022381 Category: Domestic Class: Minor Expiration Date: June 1, 2019
Permittee Contact	Seth Kelly Wastewater Treatment Plant Manager 503-302-3600 P. O. Box 248 Molalla, Oregon 97083
Receiving Water Information	Receiving stream/NHD name: Molalla River NHD Reach Code & % along reach: 17090009000602, 61.36% USGS 12-digit HUC: 17090009067 OWRD Administrative Basin: Willamette ODEQ LLID & River Mile: 1227171452976 – 20 Assessment Unit ID: OR_SR_1709000906_02_104093
Proposed Action	Permit Renewal Application Number: 952568 Date Application Received: April 12, 2019
Permit Writer	Mark W. Hynson 503-229-5295 Date Prepared: February 25, 2025

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NPDES Permit Fact Sheet
City of Molalla Wastewater Treatment Plant

Table of Contents

1. Introduction 5
2. Facility Description 6
2.1 Existing Wastewater Facility 7
2.2 Proposed Facility Upgrades 8
2.3 Outfalls 11
2.4 Compliance History 13
2.5 Stormwater 14
2.6 Industrial Pretreatment 14
2.7 Wastewater Classification 14
3. Schedule A: Effluent Limit Development 14
3.1 Existing Effluent Limits 14
3.2 Technology-Based Effluent Limit Development 15
3.3 Water Quality-Based Effluent Limit Development 21
3.4 Antibacksliding 41
3.5 Antidegradation 42
3.6 Whole Effluent Toxicity 45
3.7 Groundwater 46
4. Schedule A: Other Limitations 46
4.1 Mixing Zone 46
4.2 Biosolids 46
4.3 Recycled Water 47
4.4 Chlorine Usage 47
5. Schedule B: Monitoring and Reporting Requirements 48
6. Schedule C: Compliance Schedule 48
6.1 Ammonia 48
6.2 Mercury 49
7. Schedule D: Special Conditions 49
7.1 Inflow and Infiltration 49
7.2 Mixing Zone Study Plan 50
7.3 Mixing Zone Study 50
7.4 Emergency Response and Public Notification Plan 50
7.5 Recycled Water Use Plan 50
7.6 Exempt Wastewater Reuse at the Treatment System 50

Public Notice

7.7 Wastewater Solids Annual Report 50
7.8 Biosolids Management Plan 50
7.9 Wastewater Solids Transfers 51
7.10 Hauled Waste Control Plan 51
7.11 Hauled Waste Annual Report 51
7.12 Lagoon Solids 51
7.13 Whole Effluent Toxicity Testing for Freshwater 51
7.14 Operator Certification 51
7.15 Industrial User Survey Update 51
7.16 Outfall Inspection 51
7.17 Groundwater Monitoring Plan 52
8. Schedule F: NPDES General Conditions 52
Appendix A: Existing WWTP Flow Schematic 53
Appendix B: Upgraded WWTP Flow Schematic 54
Appendix C: Temperature RPA 55

List of Tables

Table 2-1: List of Outfalls 13
Table 3-1: Existing BOD_5 and TSS Effluent Limits 15
Table 3-2: Existing Limits for Additional Parameters 15
Table 3-3: Comparison of TBELs for Federal Secondary Treatment Standards and Oregon Basin-Specific Design Criteria 16
Table 3-4: Existing Facility Design Flows and Concentrations Limits 17
Table 3-5: Upgraded Facility Design Flows and Concentrations Limits 18
Table 3-6: BOD_5 and TSS Technology Based Effluent Limits 20
Table 3-7: 303(d) and TMDL Parameters 22
Table 3-8: Domestic Toxic Pollutants of Concern 23
Table 3-9: Domestic Toxic Pollutants of Concern 23
Table 3-10: Low Flow Statistics at Molalla WWTP outfall 26
Table 3-11: Outfall 001 Dilution Summary 27
Table 3-12: pH Reasonable Potential Analysis 28
Table 3-13: Temperature Criteria Information 29
Table 3-14: Temperature Criterion Effluent Limits 33
Table 3-15: Proposed *E. coli* Limits 34
Table 3-16: Proposed Chlorine Limits 35
Table 3-17: Ammonia Analysis Information – Outfall 001 (Summer) 36
Table 3-18: Ammonia Analysis Information – Outfall 001 (Winter) 37
Table 3-19: Toxic Pollutants Analyzed 38
Table 3-20: Toxic Pollutants with Limits 38
Table 3-21: Copper BLM RPA Results 39
Table 3-22: Aluminum BLM RPA Results 40

Public Notice

Table 3-23: Summary of antidegradation analysis for BOD and TSS mass load increases 44

List of Figures

Figure 2-1: Facility Location 8
Figure 2-2: Outfall 001 and Outfall 002 Locations in Relation to Facility 12
Figure 2-3: Outfall 001 Location on Molalla River 12
Figure 3-1: Outfall 001 with ZID and RMZ 25

Public Notice

NPDES Permit Renewal Fact Sheet
City of Molalla Wastewater Treatment Plant

1. Introduction

The Department of Environmental Quality proposes to renew the National Pollutant Discharge Elimination System wastewater permit for the City of Molalla's Wastewater Treatment Plant (WWTP) located at 12424 S. Toliver Road, Molalla, Oregon. This permit allows and regulates the discharge of treated municipal wastewater to the Molalla River, which is a tributary stream within the Willamette River Basin.

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 Limits
Schedule B – Minimum Monitoring and Reporting Requirements
Schedule C – Compliance Schedule
Schedule D – Special Conditions
Schedule E – Pretreatment Activities
Schedule F – NPDES General Conditions

The permit was last renewed in 2014 and expired on June 1, 2019. The proposed permit contains substantive changes from the 2014 permit as a result of proposed improvements and upgrades to the existing facility, the adoption of new water quality standards, updated analysis of the facility's discharges, and Total Maximum Daily Loads (TMDLS) for the Willamette Basin. A summary of the major changes is presented below:

- Schedule A: (Waste Discharge Limits)
  - Addition of higher mass limits for biochemical oxygen demand (BOD_5) and total suspended solids (TSS).
  - New monthly concentration limits for BOD5 and TSS for dry and weather flows.
  - More stringent limits for pH, ammonia and chlorine.
  - A new limit for mercury.
  - Addition of an excess thermal load limit based upon the Willamette Subbasins Temperature TMDL and water quality standards.
  - Addition of a requirement to develop and implement a Mercury Minimization Plan.
- Schedule B: (Minimum Monitoring and Reporting Requirements)
  - Updated monitoring frequency to reflect that facility is now considered a major facility (greater than 1 million gallons per day (MGD)
  - Expanded effluent characterization monitoring for toxics, mercury, copper and aluminum.

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- Schedule C: (Compliance Schedule)
    - Addition of Compliance Schedules for ammonia and mercury.
- Schedule D: (Special Conditions)

  Addition of requirements for:

    - Inflow and Infiltration Reporting
    - Mixing Zone Study for Outfall 001
    - Outfall Inspection
    - Groundwater Monitoring
- Schedule E: (Pretreatment Activities)
    - Updated to current permit requirements related to pretreatment program implementation.
- Schedule F: (General Conditions)
    - Updated to latest version of the NPDES General Conditions.

2. Facility Description

The City of Molalla owns and operates a domestic WWTP located at 12424 S. Toliver Road in Molalla. The original WTP was constructed in 1955 and replaced in 1980 with the existing facility that relies on aerated and facultative lagoons as the main biological processes used in the treatment of the City's wastewater. The existing facility treats raw sewage collected from domestic and commercial sources from much of the developed area within the Molalla urban growth boundary.

Since the construction of the existing facility, the service population for the facility has grown considerably which has exceeded the facility's original design capacity. This has resulted in a treatment facility that is not capable of providing proper treatment of raw sewage in a reliable and consistent basis and unable to meet the limits of its current permit. In 2018, the City of Molalla and the DEQ entered into a Mutual Agreement and Order (MAO) to develop a Wastewater Facility and Collection System Master Plan (Master Plan), and to design and construct improvements to the WWTP based upon the final approved Master Plan (additional details on the MAO are provided in Section 2.4).

The permittee is expected to complete construction of the WWTP improvements in two phases. Phase I upgrades to the existing facility are those required to meet the terms and conditions of the MAO and are expected to be completed during the next permit term. Additional Phase II upgrades will be completed as needed to meet future demands on the facility. As such, construction schedules for Phase II improvements have yet to be determined.

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The following sections provide a discussion of the existing WWTP facility and the proposed upgrades to be constructed at the facility.

2.1 Existing Wastewater Facility

The existing facility was constructed in 1980 and treats raw sewage collected from domestic and commercial sources from much of the developed area within the Molalla urban growth boundary. The facility has an average dry weather design flow of 1.92 million gallons per day (MGD). In recent years, the facility has reported average daily flow rates of 1.2 MGD. The permit application indicates that the population served by the facility at 9,960 individuals.

Raw sewage is conveyed to the treatment facility by gravity through the city's existing sanitary collection system and is initially received and treated by the facility's headworks system. The headworks infrastructure consists of two automated influent screening systems, a mechanical bar screen, and a Parshall Flume for flow measurement. The fine screen systems have a design capacity of 9.25 MGD and their function is to remove coarse materials from the water stream.

After passing through the facility headworks, the screened raw sewage flows by gravity to an asphalt-concrete lined aeration basin (i.e., aerated lagoon) with six aspirating aerators and a capacity of 1.3 million gallons (MG). The aeration basin was decommissioned and bypassed in October of 2022 due to deterioration of the liner. A transfer pump station, installed in 2002, conveys wastewater from the aeration basin to the first of two facultative lagoons that were constructed in series. The lagoons provide additional treatment, flow equalization, storage and long-term solids retention and digestion. Lagoon No. 1 is approximately 11.4 acres in size and has a maximum storage volume of 45 MG when the water is 12 feet deep in the lagoon with five (15 horsepower) mechanical aerators. Lagoon No. 2 is approximately 13.6 acres and has a total volume of 53 MG at the 12-foot water level. Total liquid capacity of both lagoons is 98 MG.

Tertiary treatment is provided by two dissolved air flotation (DAF) units and four multi-media filters. The DAF units receive flow from Lagoon No. 2 and have a total hydraulic capacity of 4 MGD. Each DAF is designed to remove algae and solids from the waste stream and consists of a circular clarifier, a saturation tank, and recycle pumps.

The effluent from the DAF units is then conveyed by gravity to a splitter box that directs flow to one of four gravity filters. Each filter consists of a 12-inch layer of silica sand and a 24-inch layer of anthracite coal. The filters have a combined total capacity of 4 MGD.

After filtration, calcium hypochlorite is used for disinfection immediately prior to entering the chlorine contact basin. The facility utilizes a tablet chlorination system where tablets are dissolved in feed water and the chlorinated solution is introduced into the effluent stream to provide disinfection.

The disinfected effluent then flows by gravity to the effluent pump station for discharge from the facility. Depending on the time of year, the treated effluent is either land applied on local approved agriculture sites or discharged to the Molalla River. Effluent is dechlorinated at the Discharge Monitoring Station, prior to discharging to the Molalla River. Under the existing

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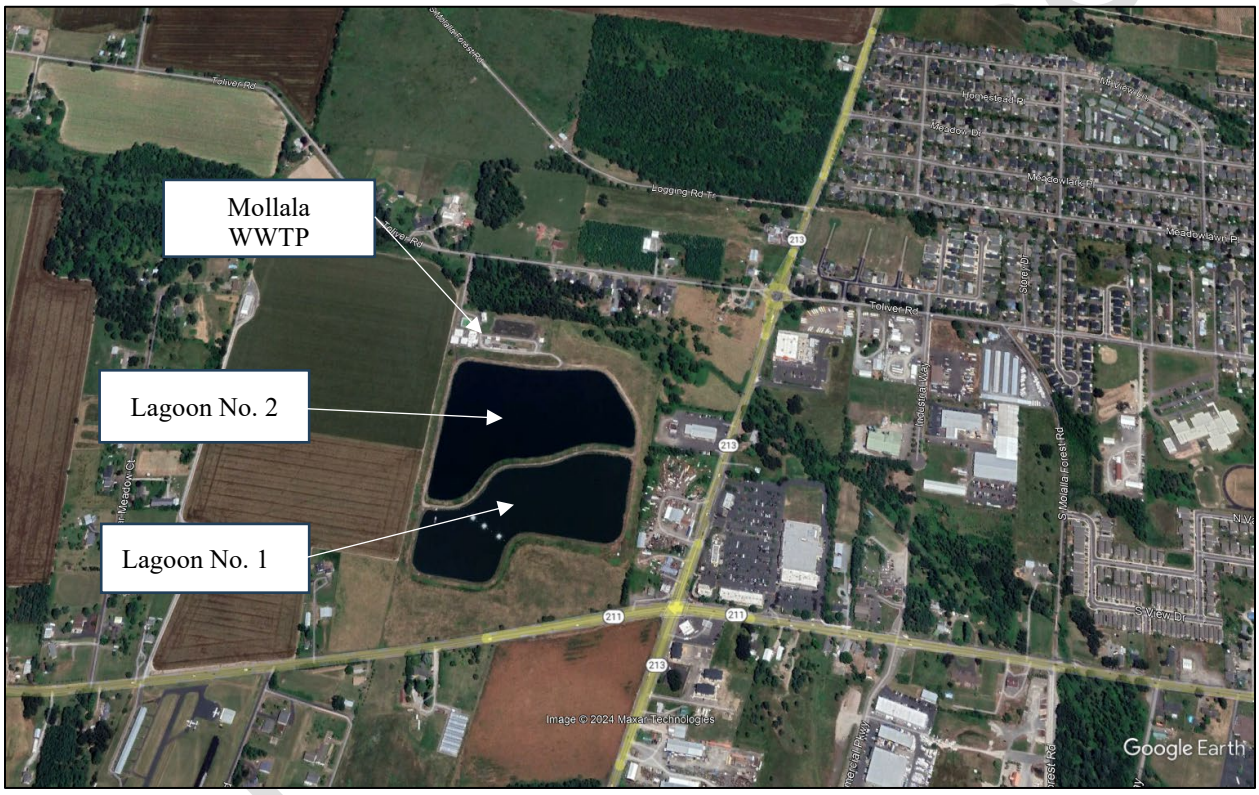
permit, the facility is not allowed to discharge to the Molalla River from May 1 through October 31.

Solids are primarily stored and undergo anaerobic digestion within two facultative lagoons (Lagoons No. 1 and 2). Sludge is typically kept within the lagoons for years. Historically, biosolids were infrequently removed. However, the city has taken action in recent years to periodically remove accumulated solids. The lagoons have adequate volume to store sludge for extended periods of time.

A schematic of the existing facility's treatment process is provided in Appendix A.



Aerial Photo Source: Google Earth, 2024

Figure 2-1: Facility Location

2.2 Proposed Facility Upgrades

The existing Molalla WWTP will be upgraded in two phases beginning in 2025. The Phase I WWTP upgrades involve major improvements to the facility's existing treatment systems. In addition, one of the two existing facultative lagoons will be rehabilitated to a clean effluent storage pond. The treatment process upgrades, and lagoon rehabilitation are expected to be completed by October 2026 and August 2027, respectively.

The Phase II upgrades will occur as needed to address treatment demand from additional population growth in the facility's service area. It is possible that some of the Phase II upgrades may be implemented towards the end of next permit term. The following presents a summary

listing of the existing facility's proposed Phase I upgrades, the general construction sequencing of the Phase 1 upgrades and the currently expected Phase II upgrades that may be implemented in the future:

Phase I Upgrades (2025 through 2027):

New Influent Flow Equalization Basin – The permittee will convert a portion of the existing aerobic lagoon into an influent flow equalization basin. The remaining portion of the aerobic lagoon will be filled in.

Transfer Pump Station Upgrades – Planned upgrades to the transfer pump station will involve installation of new pumps and a control panel. The facility's existing wet well will be reused.

New Grit Removal System – A new grit removal system will be installed to remove dirt, sand, small gravel and small particles from the influent waste stream. The new system is recommended to sustain the longevity of wastewater process equipment as well as maintain optimum efficiency of downstream treatment processes.

New Sequencing Batch Reactors – Planned upgrades to the secondary treatment process will include construction of four Sequencing Batch Reactor (SBR) basins.

Improved Effluent Storage - Existing facultative Lagoon No. 2 will be upgraded to include removal of existing solids for conversion to an Effluent Storage Pond dedicated to just storing treated effluent. The permittee plans to remove all existing solids from the lagoon by May 2026. During the spring and summer of 2027, the lagoon will be drained and allowed to dry. After drying is completed, fully-treated effluent from the upgraded treatment processes will be re-introduced and the lagoon will function solely as an Effluent Storage Pond. Solids will not be stored in the pond. The conversion of existing facultative Lagoon No. 1 to an Effluent Storage Pond will be completed under future Phase II upgrades.

New Aerobic Digesters – The permittee will install two new Aerobic Digesters, each with diffusers for mixing and aeration. One Aerobic Digester (with two basins) will be constructed in Phase I, and the second digester will be constructed at a subsequent phase when flows and loads require an expansion.

New Operations Building – A new Operations Building consisting of a laboratory, electrical room, blower room (SBR and Aerobic Digester Blowers), screw press room and cake storage area will be constructed. The press will produce Class B dewatered biosolids into either a short-term storage bay or directly into a dumpster or dump truck for pending disposal. The dewatering system will be designed with provisions to add components to produce Class A biosolids in the future, if needed.

New Effluent Filtration System - A new effluent filtration system will be installed consisting of two parallel units, each with a capacity of 4.5 MGD.

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New Ultraviolet (UV) Disinfection System - A new Ultraviolet (UV) disinfection system will be installed for disinfecting effluent flows year-round.

New Standby Generator – A new standby generator, sized at 600 kilowatts (kW), will be installed at the proposed SBR site area. The new generator will be capable of providing power to all the new treatment areas during a power outage.

A general schematic of the proposed upgraded facility is included in Appendix B.

General Construction Sequencing for Phase I Upgrades:

During construction of the Phase I WWTP upgrades, the existing WWTP systems (e.g., tertiary treatment, disinfection, and facultative lagoons) will remain in continuous operation until the Sequencing Batch Reactors (SBRs) are commissioned and the existing facultative Lagoon No. 2 is rehabilitated into an Effluent Storage Pond dedicated to just storing treated effluent. The operation of the existing WWTP will ensure proper treatment and disinfection of effluent until such time that all Phase 1 upgrades are completed. The general construction sequence for the proposed upgrades is summarized below:

Stage 1 – Initiate construction of Phase 1 upgrades in 2025. Construction extends through 2025 with commissioning of upgrades by November 2026. Remove existing solids from Lagoon No. 2 by May 2026.

Upon commissioning of Phase 1 upgrades, effluent from the upgraded facility will be processed through the existing lagoons, tertiary treatment system and chlorine disinfection system before discharge. The existing and upgraded facilities will operate until Lagoon No. 2 is rehabilitated.

Stage 2 – Drain Lagoon No. 2 in spring and summer 2027. Employ bypass pumping from outlet of Lagoon No. 1 around drained Lagoon No. 2. Effluent from Lagoon No. 1 will continue to be processed through the existing tertiary and disinfection systems.

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Stage 3 – Once completely drained, allow Lagoon No. 2 to dry while the lagoon is bypassed by treated effluent. Inspection of Lagoon No. 2 to occur during drying. Conduct necessary repairs to clay liner. After drying and repairs, re-introduce final effluent from the upgraded facility into Lagoon No. 2 by August 2027. Discontinue use of existing treatment and disinfection systems.

Phase II Upgrades (Construction Dates to Be Determined):

Effluent Pump Station – Potential Phase II upgrades will include the procurement and installation of a third effluent pump. In the interim, the Effluent Storage Ponds will serve as storage of treated effluent, if or when, an effluent pump (or effluent force main) is not in service.

Effluent Storage Expansion – As needed, additional recycled water storage will be added in the future when flows necessitate an expansion. Additionally, existing Lagoon No. 1 will be rehabilitated by 2030 into a second Effluent Storage Pond. This pond will be lined in the future, if necessary.

Aerobic Digester - An expansion to the Aerobic Digestion System will occur when required by the solids loads. Possible construction of second aerobic digester.

UV Disinfection System – If required, the UV disinfection system will be further expanded to produce Class A disinfected effluent.

Standby Generator - The existing 750 kW standby generator will be upgraded or replaced in Phase II.

2.3 Outfalls

Outfall 001 is located on the Molalla River at about River Mile (RM) 18.6 (Figures 2-2 and 2-3). Under the existing permit, effluent is only discharged from this point during the wet weather months (November - April), when stream flow is at least 350 cubic feet per second (cfs), as gauged at the Canby USGS gauging station on the Molalla River. Under the proposed permit, this will be expanded to include discharges in May, June and October. Outfall 002 is the recycled water outfall and represents monitoring for a number of different locations where land application of treated effluent occurs during the dry summer months (May - October).

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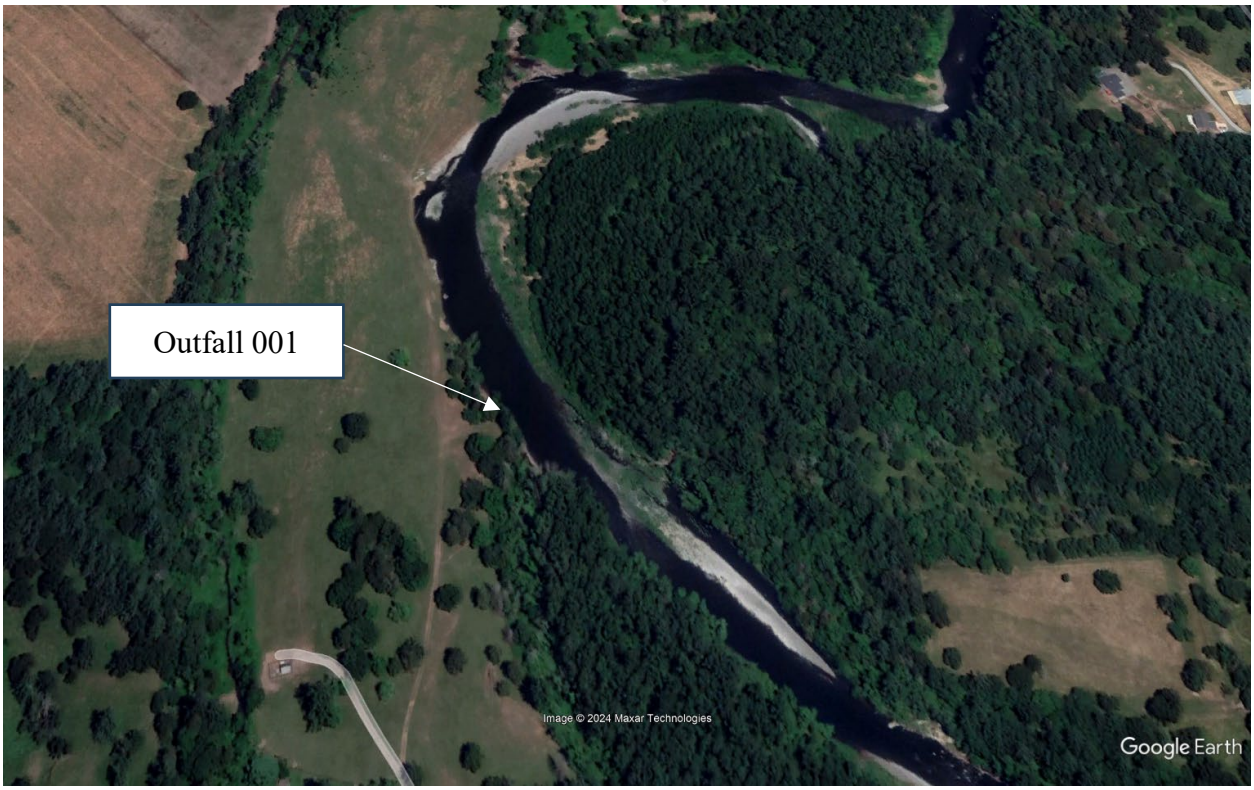
Aerial Photo Source: Google Earth, 2024

Figure 2-2: Outfall 001 and Outfall 002 Locations in Relation to Facility



Aerial Photo Source: Google Earth, 2024

Figure 2-3: Outfall 001 Location on Molalla River

The following table presents a summary of each outfall:

Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long	Design Flow (mgd) (See note a.)	Existing Flow (mgd) (See note b.)
001	Treated Municipal Wastewater	45.150058/-122.540889 (See note c.)	1.1	0.9
002 (See note d.)	Recycled Water	45.1552/-122.6109	1.1	0.9

Notes:

a. Design Flow = design average dry weather flow for the current facility

b. Existing Flow = existing average monthly dry weather flow

c. Coordinates are for the mid-point of the diffuser

d. Outfall 002 for recycled water is at the effluent pump station at the treatment facility. From this point, recycled water can be pumped to land application sites. Location to be documented in next update to Recycled Water Reuse Plan.

2.4 Compliance History

Since the permit was last renewed in May 2014, several violations and compliance issues have occurred that required enforcement action by DEQ. From June 2014 through October 2017, the majority of these enforcement actions were related to recurring exceedances of permit limits due to capacity and operational issues at the facility. Many of these exceedances were symptomatic of an aging treatment system and periodic high rainfall events which placed large demands on the facility and overwhelmed the existing facultative lagoon system.

All of these violations resulted in the issuance of several Warning Letters to the permittee by DEQ. However, both DEQ and the permittee recognized that until a new or modified treatment facility was constructed to correct the operational deficiencies of the existing WWTP, additional violations of permit limits were likely to occur. For these reasons, the following Mutual Agreement and Order became effective during the existing permit term:

Mutual Agreement and Order (MAO No. WQ/M-NWR-2016-246) – This MAO was signed by DEQ and the City of Molalla on October 4, 2018, which essentially directs the city to develop a Wastewater Facility and Collection System Master Plan that leads to the construction of a new wastewater treatment plant. The MAO also established interim effluent limits for total suspended solids for discharges from November 1 through April 30. The city has completed the Master Plan per the MAO and is currently in the early stages of constructing the new upgrades to the WWTP. The current amended MAO requires the city to complete commissioning of the new Sequencing Batch Reactor by October 31, 2026. In addition, conversion of existing facultative Lagoon No. 2 into an Effluent Storage Pond is required by August 31, 2027.

The facility was last inspected by DEQ on May 24, 2018. No compliance issues beyond those being addressed by the current MAO were noted during this inspection.

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2.5 Stormwater

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

2.6 Industrial Pretreatment

The City of Molalla conducted an Industrial User Survey during the last permit cycle and determined that a DEQ-approved industrial pretreatment program is not needed. No categorical industrial users were identified in the IU survey update submitted to the DEQ. The proposed permit requires the permittee to conduct and submit to DEQ an updated Industrial User Survey (Survey) within two years of permit issuance. DEQ will review the Survey results and, if DEQ determines that a pretreatment program is required, the permit may be reopened and modified to require development of a pretreatment program.

2.7 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 systems (both existing and proposed), 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 notes and tables below show the limits contained in the existing permit.

Treated Effluent Outfall 001

a. May 1 – October 31: During this time period the permittee may not discharge to waters of the state.

b. November 1 - April 30: During this time period the permittee must comply with the limits in Tables A1 and A2 while discharging to waters of the state:

Public Notice

i. Biochemical Oxygen Demand (BOD5) and Total Suspended Solids (TSS)

Table 3-1: Existing BOD_5 and TSS Effluent Limits

Parameter	Average Effluent Concentrations, mg/L		Monthly Average lbs/day	Weekly Average lbs/day	Daily Maximum lbs/day
	Monthly	Weekly			
BOD_5	10 mg/L	15 mg/L	160	240	320
TSS	10 mg/L	15 mg/L	160	240	320

Mass load limits are based on the average wet weather design flow to the facility which equals 1.92 MGD.

Table 3-2: Existing Limits for Additional Parameters

November – April	Limits
BOD_5 and TSS Removal Efficiency	May not be less than 85% monthly average for BOD_5 and TSS
E. coli Bacteria (See Note 1.)	Monthly geometric mean may not exceed 126 organisms per 100 mL. No single sample may exceed 406 organisms per 100 mL.
pH	May not be outside the range of 6.0 to 9.0 S. U.
Total Residual Chlorine	Monthly average concentration may not exceed 0.07 mg/L. Daily maximum concentration may not exceed 0.18 mg/L
Ammonia (NH_3-N)	Monthly average concentration may not exceed 16.7 mg/L. Daily maximum concentration may not exceed 25.9 mg/L.
Dilution	Discharge may note commence until gauged stream flows exceeds 350 cfs and will cease when the average stream flow for the previous seven-day-period is less than 350 cfs.
Temperature	Effluent discharge will cease when the 7-day moving average effluent temperature exceeds 18.0 degrees C.

Note:

1. No single *E. coli* sample may exceed 406 organisms per 100 mL; however, no violation has occurred if the permittee takes at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken and the log mean of the 5 re-samples is less than or equal to 126 *E. coli* organisms/100 mL.

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

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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 Willamette basin.

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

Parameter	Federal Secondary Treatment Standards		Willamette Basin-Specific Design Criteria (OAR 340-041-0345)
	30-Day Average	7-Day Average	Monthly Average
BOD_5 (mg/L)	30	45	Low Stream Flow (approximately May 1 – October 31): 10 mg/L – BOD_5 and TSS, or equivalent control. High Stream Flow (approximately November 1 – April 30): Minimum of secondary treatment or equivalent control.
TSS (mg/L)	30	45	
pH (S.U.)	6.0 – 9.0. (instantaneous)		Not applicable
BOD_5 and TSS % Removal	85%	Not applicable	Not applicable

3.2.1 Existing Facility Mass Load Calculations

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). The basin-specific design criteria included in the table above apply to new or expanded facilities (after June 30, 1992). The existing Molalla facility is not new or expanded, so these criteria do not currently apply. For any facility that has not expanded their average dry weather treatment capacity after June 30, 1992, OAR 340-041-0061(9)(a) requires that the mass load limits be calculated using the following equations:

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 the design average wet weather flow (DAWWF).

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The existing 2014 permit does not allow discharges during the dry season from May 1 through October 31. As such, no mass limits were calculated during the previous permit renewal for this period of the year. The facility has requested that the proposed permit allow discharges in May, June and October (in addition to the existing the November through April period). New mass limits for these months are calculated below.

In addition, the existing 2014 permit incorrectly included wet season (November 1 – April 30) BOD_5 and TSS limits based upon on the Willamette River basin's dry season (low flow) monthly design criterion of 10 mg/L rather than the basin's wet season (high flow) monthly design criterion of 30 mg/L (the federal secondary treatment standard). This error resulted in relatively low wet season limits for BOD_5 and TSS for the facility. New, corrected TBELs for this period are calculated below.

Prior to incorporating any new, less stringent limits into a permit, antidegradation and antibacksliding requirements must be considered. These requirements are discussed in Sections 3.2.2, 3.2.3, 3.4, and 3.5, below.

The BOD_5 and TSS mass load TBELs for the existing facility are based upon current average dry and wet weather design flows and the monthly basin standards for each discharge season. The following table lists the effluent flows and concentration limits used for the calculations.

Table 3-4: Existing Facility Design Flows and Concentrations Limits

Season	Design Flow (mgd)	Monthly TSS Concentration Limit (mg/L)	Monthly BOD_5 Concentration Limit (mg/L)
Dry Weather	1.1 (See note a.)	10	10
Wet Weather	1.92 (See note b.)	30	30

Notes:

a. Dry weather design flow is average dry weather design from General Design Data Drawing (No. 10-G-5) in February 2024 construction drawings for facility upgrades.

b. Wet weather design flow is average wet weather design flow documented in 2014 permit.

Existing Facility BOD_5 and TSS Dry Weather Mass Load Calculations:

Monthly Average: 1.1 MGD x 10 mg/L x 8.34 = 91.7 lbs/day (Rounded to 92 lbs/day for two significant figures.)

Weekly Average: 90 lbs/day monthly average x 1.5 = 138 (Rounded to 140 lbs/day for two significant figures)

Daily Maximum: 90 lbs/day monthly average x 2 = 184 lbs/day (Rounded to 180 lbs/day for two significant figures)

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Existing Facility BOD_5 and TSS Wet Weather Mass Load Calculations:

Monthly Average: 1.92 MGD x 30 mg/L x 8.34 = 480 lbs/day

Weekly Average: 480 lbs/day monthly average x 1.5 = 720 lbs/day

Daily Maximum: 480 lbs/day monthly average x 2 = 960 lbs/day

3.2.2 Upgraded Facility Mass Load Calculations

During the next permit term, the proposed upgrades to the existing facility will expand both dry and wet weather treatment capacities. 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 proposed facility upgrades have been engineered to achieve BOD_5 and TSS monthly average concentrations of 10 mg/L during the dry weather season and 30 mg/L during the wet weather season. DEQ uses the maximum monthly design flow to calculate the mass load limits 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 maximum monthly dry weather flow (DMMDWF) or design maximum monthly wet weather flow (DMMWWF).

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

Table 3-5: Upgraded Facility Design Flows and Concentrations Limits

Season	Design Flow (mgd)	Monthly TSS Concentration Limit (mg/L)	Monthly BOD_5 Concentration Limit (mg/L)
Dry Weather	3.06	10	10
Wet Weather	4.5	30	30
Design flow comments: Design flows are 2043 maximum monthly dry weather flow (MMDWF) and maximum monthly wet weather flow (MMWWF) obtained from General Design Data Drawing (No. 10-G-5) in February 2024 facility upgrade plans.			

Upgraded Facility BOD_5 and TSS Dry Weather Mass Load Calculations:

Monthly Average: 3.06 MGD x 10 mg/L x 8.34 = 255.2 (260) lbs/day (Rounded to two significant figures)

Weekly Average: 260 lbs/day monthly average x 1.5 = 390 lbs/day

Public Notice

Daily Maximum: 260 lbs/day monthly average x 2 = 520 lbs/day

Upgraded Facility BOD_5 and TSS Wet Weather Mass Load Calculations:

Monthly Average: 4.5 MGD x 30 mg/L x 8.34 = 1125.9 (1100 lbs/day) (Rounded to two significant figures)

Weekly Average: 1100 lbs/day monthly average x 1.5 = 1650 (1700 lbs/day)

Daily Maximum: 1100 lbs/day monthly average x 2 = 2200 lbs/day

As indicated above, the existing and proposed facility mass load limits for BOD_5 and TSS are higher than the limits in the existing permit. Prior to incorporating any new, less stringent limits into a permit, antidegradation and antibacksliding requirements must be considered. These requirements are discussed in Section 3.2.3, below.

3.2.3 Proposed Permit Technology-Based Effluent Limits

As part of the permit development process, the permittee has requested BOD_5 and TSS mass load increases to allow for dry season discharges and to address the higher treatment capabilities of the proposed upgraded facility during both the wet and dry seasons. As indicated above, the existing and upgraded facility mass load limits for BOD_5 and TSS are higher than the limits in the existing permit. Prior to incorporating any new, less stringent limits into a permit, antidegradation and antibacksliding requirements must be considered. These requirements as they relate to the new proposed limits have been evaluated by DEQ and the results of the evaluations are summarized in Sections 3.4 and 3.5, below.

Based on these evaluations, each of the TBELs noted above are included in the proposed permit with the exception of the winter TSS mass load limits for the new facility (See section 3.5.2 for antidegradation analysis). Because of this, the new facility's winter TSS mass load limits will be the same as those proposed for the existing facility.

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The table below presents the proposed permit's BOD and TSS TBELs.

Table 3-6: BOD_5 and TSS Technology Based Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
EXISTING FACILITY				
BOD_5 (May 1 – October 31)	mg/L	10	15	NA
	lbs/day	92	140	180
	% removal	85	NA	NA
TSS (May 1 – October 31)	mg/L	10	15	NA
	lbs/day	92	140	180
	% removal	85	NA	NA
BOD_5 (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	480	720	960
	% removal	85	NA	NA
TSS (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	480	720	960
	% removal	85	NA	NA
PROPOSED UPGRADED FACILITY				
BOD_5 (May 1 – October 31)	mg/L	10	15	NA
	lbs/day	260	390	520
	% removal	85	NA	NA
TSS (May 1 – October 31)	mg/L	10	15	NA
	lbs/day	260	390	520
	% removal	85	NA	NA
BOD (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	1100	1700	2200
	% removal	85	NA	NA
TSS (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	480	720	960
	% removal	30	45	NA

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The permittee will be required to notify DEQ of the expected operational start date of the Phase I facility upgrades at least fourteen (14) days prior to start-up. The BOD_5 and TSS limits for the Phase I facility upgrades will become effective on the first day of the month following DEQ's receipt of the start-up notification.

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 that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality criterion. DEQ establishes effluent limits for pollutants that have a reasonable potential to exceed a criterion. The analyses are discussed below.

3.3.1 Designated Beneficial Uses

NPDES permits issued by DEQ must protect the following designated beneficial uses of the Molalla River, which is a tributary stream in the Willamette Basin. These uses are listed in OAR-340-041-0340 for the Willamette Basin.

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

* With adequate pretreatment and natural quality that meets drinking water standards.

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).

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Table 3-7: 303(d) and TMDL Parameters

Water Quality Limited Parameters (Category 5)	
AU ID:	OR_SR_1709000906 02 104093
AU Name:	Molalla River
AU Status:	Impaired
Year Listed	2002
Year Last Assessed	2022
303d Parameters (Category 5)	Alkalinity – Aquatic Life Toxics
TMDL Parameters (Category 4)	
Flow Modification, Temperature (2024), Bacteria (2008), Mercury (2019)	

This section of the Molalla River is listed for alkalinity under the aquatic life water quality criteria. To meet the criteria, alkalinity may not be below 20 mg/L in order to protect aquatic life. The existing Molalla WWTP consistently produces effluent with alkalinity concentrations well above 40 mg/L. Future discharges from both the existing and proposed facility are expected to discharge effluent with similar alkalinity concentrations. As such, the effluent from the Molalla WWTP is not considered to be contributing factor in the listing.

3.3.3 TMDL Wasteload Allocations

For temperature and bacteria, DEQ has developed Total Maximum Daily Loads (TMDLs) in the Willamette Basin to address these pollutants of concern. A new temperature TMDL for the Willamette Subbasins (including the Molalla-Pudding Subbasin) was recently approved by EPA in 2024. A discussion of the temperature issues associated with the discharge and the relationship to the TMDL is presented in Section 3.3.7.

Bacteria is addressed in the Molalla-Pudding Subbasin TMDL which was approved by EPA in December 2008. The bacteria TMDL also provided wasteload allocations for bacteria that set the permitted effluent limits at the water quality standard. Bacteria limitations continue to require that the facility meet the water quality criteria at the end of the discharge pipe (see Section 3.3.8).

The EPA also issued a TMDL and Water Quality Management Plan (WQMP) on December 30, 2019 to address mercury impairments in the Willamette River basin to achieve the Oregon criterion for fish tissue concentrations of methylmercury. This TMDL includes the Molalla-Pudding Subbasin and requires that DEQ establish a wasteload allocation in the form of mercury reduction plans for major municipal wastewater treatment plants like the City of Molalla WWTP. The development of a Mercury Monitoring Plan and monitoring for mercury to measure the effectiveness of mercury reduction efforts will be included in the renewed permit. Additional details are provided in Section 3.3.9.6.

Public Notice

3.3.3.1 Prohibited Discharge Period

The existing permit prohibits discharges to the Molalla River from May 1 through October 31 due to river flow and effluent temperature limitations. As a result of the new temperature TMDL for the Willamette Subbasins and the updated mixing zone evaluation (see Section 3.3.6), the proposed permit modifies the prohibited discharge period to allow effluent discharges from May 1 – June 30 and October 1- 31. The facility will be allowed to discharge to the river provided flows in the Molalla River are above 350 cfs (as a mean daily discharge at USGS gauge 14200000 [Canby]) and effluent temperatures meet the limitations described in Section 3.3.7 (Temperature).

3.3.4 Pollutants of Concern

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

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

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

Table 3-8: 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 3-9: Domestic Toxic Pollutants of Concern

Pollutant	How was pollutant identified?
pH	Effluent Monitoring
Temperature	Effluent Monitoring
E. coli	Effluent Monitoring
Total Residual Chlorine	Effluent Monitoring
Total Ammonia Nitrogen	Application Requirement
Metals	Application Requirement
Volatile Organic Compounds	Application Requirement

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Pollutant	How was pollutant identified?
Acid Extractable Compounds	Application Requirement
Base-Neutral Compounds	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.

3.3.5 Regulatory Mixing Zone

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

> *The allowable mixing zone includes that portion of the Molalla River with boundary dimensions equal to the length of the effluent diffuser plus 10-feet on each end with the mixing zone extending 5-feet upstream and 50-feet downstream of the diffuser. The Zone of Immediate Dilution (ZID) is defined as that portion of the allowable mixing zone within 5-feet of the diffuser.*

The proposed permit contains an updated regulatory mixing zone description to limit the width of the mixing zone so that it does not extend beyond the wetted width of the Molalla River channel at low flows. It was also modified to remove the upstream distance as this portion of the Molalla River is not tidally influenced. The proposed regulatory mixing zone is described as follows:

> *The allowable Regulatory Mixing Zone (RMZ) is that rectangular portion of the Molalla River centered on the diffuser mid-point extending 10 feet towards each bank, and 50 feet downstream. The Zone of Immediate Dilution (ZID) is that portion of the Molalla River centered on the diffuser mid-point extending 5 feet towards each bank, and 5 feet downstream.*

The outfall is a 24-inch HDPE pipe with 3 diffusers. The diffusers extend vertically upward at 45 degrees downstream and were installed with 8-inch duckbill valves of an unknown model. The total diffuser length is 6 feet, with 3 feet in between the centerline of each diffuser port. At low water levels, the pipe end cap is approximately 15 feet from the wetted edge of the river. The HDPE portion of the pipe and some of the riser was covered in riprap upon installation. Just the diffuser ports emerge from the rip rap and are less than 0.5 feet off the bottom of the stream bed. The outfall pipe extends into the river at approximately a right angle from the left bank. The outfall end of pipe is located at 45.150062°, -122.540878° and the diffuser mid-point is located at 45.150058°, -122.540889° (Coordinate System: WGS 1984). The mixing zone is visualized in Figure 3-1.

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Figure 3-1: Outfall 001 with ZID and RMZ

The dilution factors at the edge of the Regulatory Mixing Zone and Zone of Initial Dilution for the months of October through June are shown in Table 3-10. No mixing zone study or outfall inspection had been conducted at the outfall location at the time of the proposed permit renewal, so these dilutions are based on an analysis by DEQ. The mixing zone memorandum documenting this analysis is in an August 27, 2024 Mixing Zone Memo which is part of the administrative record. For this memo, the discharge of both current and updated facility effluent flows (with actual and new facility design being comparable) were modeled using CORMIX 12.0.1.0. Because actual flows at the current facility are comparable to design flows/expected flows at the new facility, the dilutions in this mixing zone analysis can be used for effluent limit development for the facility prior to and after upgrade.

The outfall is about 12 miles upstream of the Molalla River Near Canby, OR river gauge - 14200000. The gauge is at River Mile 6.05, the outfall is at River Mile 18.59. The drainage area at the gauge is 323 square miles (mi^2).[1] . The coordinates for the gauge are 45.24428767, -122.687314.

[1] USGS. (2024, 07 09). *Molalla River Near Canby, OR - 14200000*. Retrieved from USGS Water Data for the Nation: https://waterdata.usgs.gov/monitoring-location/14200000/#parameterCode=00065&period=P7D&showMedian=false; Retreived July 9, 2024.

An area ratio analysis was used to estimate the ambient discharge at the outfall location. The USGS StreamStats utility was used to delineate the watershed at the outfall location. StreamStats reported a drainage area at the outfall location of 204 mi^2. Based on drainage area, the outfall location drains less area than the gauge. Flows at the outfall location can be estimated by:

$$Q_A\ (Molalla\ River\ 14200000) * 0.64 = Q_A(\text{at Molalla WWTP outfall})$$

The following table shows the low flow statistics adjusted using the area ratio analysis:

Table 3-10: Low Flow Statistics at Molalla WWTP outfall

Low Flow Stat	May	June	July	Aug.	Sept.	Oct.	Nov. (Nov -Apr critical period)
1Q10	162	68	31	23	22	27	59
7Q10	189	76	34	24	23	27	81
14Q3	309	147	53	33	31	53	255
30Q5	353	128	57	32	32	73	321
Harmonic Mean: The year-round harmonic mean is 129.							

The facility has an ambient flow-based discharge limitation where discharge is prohibited when the mean daily discharge at USGS gauge 14200000 (Canby) is below 350 cfs. That limit is to be retained in the proposed permit. The facility has also requested to discharge during the summer period, primarily in May, June, and October, in order to discharge excess recycled water. DEQ proposes to retain the 350 cfs limitation during the summer months as well, so all modeling scenarios were conducted when the flow at USGS gauge 14200000 (Canby) is 350 cfs. The stream flow at the outfall when USGS gauge 14200000 (Canby) is at 350 cfs is 224 cfs based upon the equation presented above (350 cfs * 0.64 = 224 cfs). As a result, 224 cfs was used in the proposed dilution modeling cases. Additional modeling scenarios are included in the mixing zone memo in the administrative record for reference, in the case that mixing zone modeling at other ambient flow conditions or seasons is needed in the future.

Public Notice

Table 3-11: Outfall 001 Dilution Summary

Dilution Summary – Oct 1 – Jun 30						
Water Quality Standard	**Stream Flow (cfs)**		**Effluent Flow (mgd)**		**Dilution Factor**	**Location**
	Statistic	**Flow**	**Statistic**	**Flow**		
Aquatic Life, Acute	Ambient flow limit	224	Peak Daily Flow for New Facility	6.172	3.4	ZID (5 ft downstream)
Aquatic Life, Chronic	Ambient flow limit	224	Max Month Wet Weather Design for New Facility / Actual Highest Monthly Average for current facility	4.5	7.0	RMZ (50 ft downstream)
Human Health, Non-Carcinogen	Ambient flow limit	224	Max Month Wet Weather Design for New Facility / Actual Highest Monthly Average for current facility	4.5	7.0	RMZ (50 ft downstream)
Human Health, Carcinogen	Ambient flow limit	224	Annual Average Design Flow for New Facility / Actual Annual Flow for current facility	2.02	15	RMZ (50 ft downstream)
Comments: Dilutions apply to current and upgraded facility.						

3.3.6 pH

The pH criterion for this basin is 6.5 – 8.5 per OAR 340-041-0340. DEQ determined there is reasonable potential for the discharge to exceed the pH criterion at the edge of the mixing zone. As a result, the proposed permit modifies the existing pH limits from 6.0 to 9.0 S.U to 6.2 to 9.0 S.U. The lower limit of 6.2 is a WQBEL and the upper limit of 9.0 is a TBEL. A review of recent effluent data showed that the permittee will be able to meet the new lower pH limit upon permit issuance and therefore no compliance schedule is needed. The following table provides a summary of the data used for the analysis.

Public Notice

Table 3-12: pH Reasonable Potential Analysis

INPUT	Lower pH Criteria	Upper pH Criteria
1. Dilution at mixing zone boundary	7.0	7.0
2. Upstream characteristics		
a. Temperature (deg C)	8.1	5.8
b. pH	7.1	7.7
c. Alkalinity (mg CaCO3/L)	15.0	15.0
3. Effluent characteristics		
a. Temperature (°C)	21.9	8.4
b. pH (S.U.)	6.0	9.0
c. Alkalinity (mg CaCO3/L)	100.5	100.5
4. Applicable pH criteria	6.5	8.5
pH at mixing zone boundary	**6.3**	**8.0**
Is there reasonable potential?	**Yes**	**No**
Proposed effluent limits	**6.2**	**9.0**
Effluent data source: City of Molalla Discharge Monitoring Reports from December 2020 to December 2023. Temperature data from Discharge Monitoring Reports – January 2022 through December 2023.		
Ambient data source: City of Molalla Discharge Monitoring Reports from December 2020 to April 2022. DEQ Monitoring Station No. 10637 - Molalla River at Knights Bridge Road (Canby) from February 2020 to October 2023.		

3.3.7 Temperature

3.3.7.1 Temperature Criteria OAR 340-041-0028

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

Public Notice

Table 3-13: Temperature Criteria Information

Applicable Temperature Criterion	Core Cold Water 16ºC (OAR 340-041-0028(4)(b)
Applicable dates: Year-Round	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☒Yes ☐No
Applicable dates: October 15 – June 15	
WQ-limited?	☒Yes ☐No (See comments)
TMDL wasteload allocation assigned?	☒Yes ☐No
Applicable dates: May 1 – October 31	
TMDL based on natural conditions criterion?	☐Yes ☒No
Cold water summer protection criterion applies?	☐Yes ☒No
Cold water spawning protection applies?	☐Yes ☒No
Comments: The Molalla River is not listed as water-quality limited for temperature on the 2022 303(d) list water since this segment of the river was considered "unassessed" for temperature in the 2018/2020 Integrated Report. Available ambient temperature data indicates that the river is not consistently meeting applicable temperature criteria. Refer to additional discussion below.	

3.3.8 Applicable Temperature Criteria and TMDL Waste Load Allocation

As noted in the table above, the section of the Molalla River into which the facility discharges has a listed beneficial fish use of core cold water year-round, with an applicable criterion of 16 ºC (OAR 340-041-0340, Figure 340A). It also has a listed salmon and steelhead spawning use from October 15 – June 15, with an applicable criterion of 13 ºC (OAR 340-041-0340, Figure 340B). In 2023, the spawning use designation for this section of the Molalla River was revised within Oregon Administrative Rules to apply from August 15 – June 15. This change to the beneficial use is still awaiting EPA approval. However, since this use has been identified as an existing use, it is considered in this assessment as required under Oregon's antidegradation rule.

As noted in the table above, the section of the Molalla River into which the facility discharges is not currently listed for temperature on the 2022 303(d) list. However, a review of available ambient temperature data for this segment of the Molalla River indicates that this segment of the river often exceeds the core cold water (16 ºC) and salmon/steelhead spawning (13 ºC) temperature criteria in the summer.

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In addressing the temperature impairments in the Molalla River, the DEQ recently issued a temperature Total Maximum Daily Load (TMDL) for the Willamette Subbasins (including the Molalla-Pudding Subbasin). According to the TMDL, the critical period for temperature in this segment of the river is May 1 through October 31. The TMDL contains a Waste Load Allocation (WLA) for the Molalla WWTP that applies during this period.[2] The static WLA for the Molalla WWTP is 14.5 million kilocalories per day (Mkcals/day) as a rolling 7-day average. Overall, the WLA applies from May 1 through October 31. The TMDL also included a flow-based WLA for the facility, which is based on effluent flow, river flow, and a static human use allowance (HUA) of 0.10 ºC. This WLA is also included in the proposed permit as an optional limit to be calculated by the permittee on a daily basis and is compared to the facility's calculated daily excess thermal load (ETL) for compliance.

Both WLA options apply from May 1 through October 31. For the remainder of the year (November 1 – April 30), the TMDL determined that no WLA, and no associated limit, was necessary for the facility. The TMDL considered the spawning use time period included in the preceding table. As discussed above, DEQ is required under Oregon's antidegradation rule to consider existing beneficial uses that may not be otherwise be addressed under the approved beneficial uses. One such existing use is the salmonid and steelhead spawning use from August 15 through June 15. While the proposed permit does not allow the facility to discharge in August or September, it does allow it to discharge in May, June, and October. To ensure the proposed permit is protective of this existing spawning use, the TMDL WLA for spawning is included in the permit as a limit for the first half of October, in addition to the October 15 – 31 and May 1 – June 15 periods as required under the TMDL. The ETL limits included in the proposed permit are discussed in more detail in Section 3.3.8.2, below.

3.3.8.1 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 using discharge data recorded by the facility in DMRs from 2019-2023 and design flows for the proposed facility upgrades (which are higher than the existing facility). The results of the analysis are summarized below:

- 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 9ºC or more for bull trout.

[2] *Total Maximum Daily Loads for the Willamette Subbasins – Technical Support Document - Temperature*. Table 9-1: Thermal Wasteload Allocations (WLA) for Point Sources. Page 120. Oregon Department of Environmental Quality. August 2024.

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Molalla WWTP Discharge - While this segment of the receiving stream is identified as having salmonid spawning use, there is no information indicating that active salmonid spawning redds are located within or immediately downstream of the regulatory mixing zone. In general, river channel conditions in this section of the river are not favorable for spawning. Using effluent temperature data from November 2019 – December 2023, DEQ performed an analysis of the discharge related to the spawning criterion. The result of this analysis indicates that, when river temperatures are at the maximum recorded value during the spawning season, the discharge does not have a reasonable potential to heat the receiving stream above the 13 ºC spawning criterion. Since the likely location of any active salmonid spawning areas would be well downstream and outside of the mixing zone, the impairment of an active spawning area is prevented or minimized.

- 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.

  Molalla WWTP Discharge – Since the facility is currently prohibited from discharging to the river during the dry season (May 1 through October 31), effluent temperatures during the dry season are not reported by the facility. As an alternative, DEQ reviewed dry season influent temperature data from 2019 through 2023 as a way to establish a reasonable estimate of the maximum possible effluent temperature that the facility could discharge through Outfall 001 from October 1 through June 30 (the proposed period of discharge). During this time period, the maximum reported influent temperature was 21.7 ºC (June 2021). In comparison, the maximum reported effluent temperature from the wet season (November 1 – April 30) discharges was 19.3 ºC (April 2023). Thus, anticipated peak temperatures through Outfall 001over the next permit term are expected to be well below 32 ºC and are not expected to cause an acute impairment or instantaneous lethality due to the thermal plume.

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

  Molalla WWTP Discharge – Based upon a review of influent and effluent temperature data from November 2019 through December 2023, the maximum estimated effluent temperature during the proposed discharge period of October 1 through June 30 was 21.7 ºC (June 2021). Since anticipated peak temperatures through Outfall 001 are expected to be below 25 ºC, 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.

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

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

The maximum recorded receiving water temperature upstream of the discharge location is 26.9 °C. An analysis for Outfall 001 related to migration blockage indicates that when the receiving water temperature is 21 °C and effluent temperature is at the maximum estimated value (21.7 ºC from 2019-2023 influent/effluent data), the effluent plume, when it reaches 25% of the receiving stream's cross-sectional area, will be 21.1 ºC (See Appendix C: Attachment C-1). This 0.1 ºC over the upstream temperature is considered a *de minimis* increase that prevents or minimizes migration blockage.

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

3.3.8.2 Temperature Effluent Limits

The temperature analyses summarized above indicate the need for temperature effluent limits when the facility discharges during the May 1 – June 30 and October 1 - October 31 periods. No discharges will be allowed from July 1 through September 30.

As discussed above, the limits are based on the Willamette Subbasin TMDL's WLA for the City of Molalla WWTP. The exception are the limits for the October 1 – 14 period, when the TMDL addressed the core cold water criterion of 16 °C. During this period, an existing steelhead and salmonid spawning use was documented during the 2023 update of the fish use maps within Oregon Administrative Rules. To ensure this existing beneficial use is protected, the limit during this period has been modified to include October 1 -14 to the dates when the 13 °C spawning criterion must be addressed. (See the equation below the following table.)

These limits are expressed as Excess Thermal Load Limits (ETLLs). The TMDL included two implementation options for determining the applicable ETL Limit.[4] The first option is a static limit based on critical river and effluent flows. The second option is based on the critical effluent flow, actual effluent temperatures and actual (measured) river flows. These two options are included in the proposed permit.

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

[4] *Total Maximum Daily Loads for the Willamette Subbasins – Technical Support Document - Temperature*. Section 9.2.2: Wasteload Allocations. Page 120. August 2024.

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The two options included in the proposed permit are listed below:

Table 3-14: Temperature Criterion Effluent Limits

Effluent limit needed? ☒Yes ☐No
TMDL Static WLA Limit (Option A): 14.5 Mkcals/day as a seven-day rolling average (See note a.)
Applicable time period: May 1 – June 30 and October 1 - 31
TMDL Flow-based WLA Limit (Option B): ETL Limit (ETLL) = 0.10 *(Qe + [0.64*Qr])*2.447 (See notes b, c, and d.)
Applicable time period: May 1 – June 30 and October 1- 31
Notes: a. The seven-day rolling average for any specific day is the average of the daily values for that day and the preceding six days. b. Qe = Daily Mean Effluent Flow (cfs); Qr = Daily Mean River Flow (cfs) as recorded at USGS Gauge No. 14200000 (Molalla River at Canby) or other DEQ approved monitoring source. The Qr must be multiplied by 0.64 to determine estimated river flow at Outfall 001. c. This ETL Equation is presented as Equation No. 9 -11 in the Technical Support Document for the TMDLs for the Willamette River Subbasins. d. This option is also applied as a seven-day rolling average ETL limit for each day that Option B limit is selected by the permittee.

For both options presented above, the permittee will be required to use the following formula for calculating the facility's daily excess thermal load to determine compliance with the ETL Limit:

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

Where:

Qe = Daily Average Effluent Flow (MGD)
ΔT = Daily Maximum Effluent Temperature (°C) minus ambient criterion (13 °C for the May 1 – June 15 and October 1 -31 period and 16 °C for the June 16 – 30 period).

Since the limit is expressed as a 7-day rolling average, the facility will be required to report starting on the 7th day of each reporting season (May 7 and October 7).

Schedule A of the proposed permit provides the permittee with the options and formulas for calculating the ETL and ETL Limit. Schedule B provides the permittee with instructions for reporting compliance with the ETL Limit under the options. The facility may use either option on a daily basis.

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3.3.9 Bacteria

The 2008 Molalla-Pudding Subbasins TMDL provides a wasteload allocation for a bacteria effluent limit that is set at the statewide water quality standard. OAR 340-041-0009(6)(b) requires discharges of bacteria into freshwaters meet a monthly geometric mean of 126 *E. coli* per 100 mL, with no single sample exceeding 406 *E. coli* per 100 mL. If a single sample exceeds 406 *E. coli* per 100 mL, then the permittee may take five consecutive re-samples. If the geometric mean of the five re-samples is less than or equal to 126, a violation is not triggered. The re-sampling must be taken at four-hour intervals beginning within 28 hours after the original sample was taken. The following table includes the proposed permit limits that apply year-round to both the existing and proposed upgraded treatment facilities.

Table 3-15: Proposed *E. coli* Limits

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

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 Residual Chlorine

The existing permit contains chlorine limits for Outfall 001. The chlorine limits were re-evaluated using updated mixing zone information to ensure they are still protective of water quality. The analysis indicated that there is reasonable potential for the water quality criteria to be exceeded under the existing limits. The newly calculated limits are more stringent than the existing limits, so the new limits are being proposed. The permittee is expected to meet the new chlorine limits once the proposed permit is issued, and no compliance schedule is necessary. The proposed limits are considered WQBELs and listed in the following table.

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Table 3-16: Proposed Chlorine Limits

	Chronic (mg/L)	Acute (mg/L)
Chlorine Criteria	0.011	0.019
	Average Monthly Limit (mg/L)	**Maximum Daily Limit (mg/L)**
Existing Limit	0.07	0.18
Calculated Limit	0.02	0.06
Proposed Limit	**0.02**	**0.06**
Effluent data source: Existing limits		
Receiving water data source: Assumed to be zero		

The new chlorine limits will remain effective until the rehabilitation of existing Lagoon No. 2 as an Effluent Storage Pond is completed and fully operational. This is expected by November 2027. Once the effluent storage pond is fully operational, the upgraded facility will utilize ultraviolet light solely for disinfection and the existing calcium hypochlorite tablet disinfection system will be discontinued. Once the upgraded facility begins using ultraviolet disinfection, the permittee will be prohibited from using chlorine or chlorine compounds for effluent disinfection purposes (See Section 4.4).

3.3.10.2 Total Ammonia Nitrogen

DEQ's ammonia criteria vary with changes in pH and temperature. DEQ performed a reasonable potential analysis for both the summer dry (May 1 – October 31) and winter wet (November 1 – April 30) seasonal discharges to account for changes in the effluent and receiving water pH and temperature to determine the appropriate ammonia criteria. The analysis used ambient and effluent data reported in the facility's Discharge Monitoring Reports from January 2021 through December 2023.

Since the facility is currently prohibited from discharging to the river during the dry season, effluent temperatures during the dry season are not reported by the facility. As an alternative, DEQ utilized dry season influent temperature data from 2022 and 2023 to provide a reasonable estimate of the effluent temperatures that the facility could discharge through Outfall 001.

The permittee does record effluent pH several times per week during the dry season. This data is recorded since the effluent is directed to local agricultural land where is it is applied as recycled water. The existing permit requires monitoring of pH twice per week for recycled water.

The existing permit has established a daily maximum and average monthly limit for ammonia at 25.9 mg/L and 16.7 mg/L, respectively. The daily maximum limit of 25.9 mg/L was utilized as the highest effluent concentration for ammonia in the analysis. The results of the RPAs for both dry and wet weather discharges indicate that there is reasonable potential for the discharge through Outfall 001 to cause or contribute to exceedances of the water quality criteria for ammonia throughout the year. As such, new seasonal limits for ammonia expressed as an average monthly limit (AML) and maximum daily limit (MDL) will be placed into the permit for

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Outfall 001. The summary of the data used, and the results of the analysis used for dry and wet season discharges are presented below in Tables 3-17 and 3-18, respectively.

Table 3-17: Ammonia Analysis Information – Outfall 001 (Summer)

	Acute	Chronic	
		4-day	30-day
Dilution	3.4	7	7
Ammonia Criteria	5.4	2.3	0.9
Effluent Data Used			
Ammonia (mg/L)	25.9	25.9	
pH (SU)	7.6	7.6	
Temperature (ºC)	22.1	22.1	
Alkalinity (mg/L CaCO3)	64.0	64.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.8	7.8	
Temperature (ºC)	22.9	22.9	
Alkalinity (mg/L CaCO3)	37.0	37.0	
Ammonia Limit Needed?	**Yes**		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	6.2	18.2	
Effluent data source			
City of Molalla DMRs from January 2022 to December 2023. Influent temperatures from May 1 – October 31 were used as an estimate of effluent temperatures. Summer effluent pH is for treated effluent discharges to agricultural fields as recycled water.			
Ambient data source			
City of Molalla 2021-2023. DEQ monitoring station No.10637 on Molalla River at Knights Bridge Road (Canby) - February 2019 through December 2023.			

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Table 3-18: Ammonia Analysis Information – Outfall 001 (Winter)

	Acute	Chronic	
		4-day	30-day
Dilution	3.4	7	7
Ammonia Criteria	8.0	3.3	1.3
Effluent Data Used			
Ammonia (mg/L)	25.9	25.9	
pH (SU)	7.8	7.8	
Temperature (ºC)	15.0	15.0	
Alkalinity (mg/L CaCO3)	134.6	134.6	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	7.6	7.6	
Temperature (ºC)	17.6	17.6	
Alkalinity (mg/L CaCO3)	13.0	13.0	
Ammonia Limit Needed?	**Yes**		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	9.2	27.0	
Effluent data source			
City of Molalla DMRs from January 2022 to December 2023. Influent temperatures from May 1 – October 31 were used as an estimate of effluent temperatures. Summer effluent pH is for treated effluent discharges to agricultural fields as recycled water.			
Ambient data source			
City of Molalla 2021-2023. DEQ monitoring station No.10637 on Molalla River at Knights Bridge Road (Canby) - February 2019 through December 2023.			

As presented in Table 3-18 above, the maximum daily limit of 27.0 mg/L for ammonia during wet season (winter) discharges is less restrictive (higher) than the existing permit's maximum daily limit of 25.9 mg/L. In order to comply with antidegradation rules, the existing limit of 25.9 mg/L will be retained in the permit for wet season discharges from November 1 – April 30. The limits presented in Table 3-17 will apply to dry season discharges from May 1 – June 30 and October 1 through October 31. The facility will not be allowed to discharge from July 1 through September 30.

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The new ammonia limits in both tables will apply to discharges from both the existing and proposed upgraded WWTP. However, a review of recent discharge data indicated that the permittee will not be able to meet the new ammonia limits upon permit issuance while the existing facility is still operational. As such, a compliance schedule is needed. Details regarding the compliance schedule for meeting the new ammonia limits is discussed in Section 6.

3.3.10.3 Priority Pollutant Toxics

DEQ conducted a reasonable potential analysis for the group of toxics listed in the following table. A complete list of pollutants for each toxic group can be found in 40 CFR 122 Appendix J. A complete list of analytes with state Water Quality Criteria can be found in OAR 340-041-8033 Tables 30 and 40.

Table 3-19: Toxic Pollutants Analyzed

Toxic Group
Metals
Volatile Organic Compounds
Acid Extractable Compounds
Base-Neutral Compounds
Effluent data source: City of Molalla Effluent Toxics and Copper BLM sampling- January 2015 – March 2024
Receiving water data source: City of Molalla Toxics and Copper BLM sampling- November 2020 – April 2024

The following table provides a summary of toxic pollutants for which there was reasonable potential to exceed water quality criteria at the edge of the ZID for acute aquatic life criteria or RMZ for chronic aquatic life criteria and human health criteria. Limits will be included in the proposed permit. In cases where multiple criteria were exceeded, only the exceedance resulting in the most stringent limit is listed below. Information for toxic pollutants without limits for this permit renewal is included in the permit file. A compliance schedule will be included for mercury (see Section 6).

Table 3-20: Toxic Pollutants with Limits

Pollutant Parameter	Water Quality Criterion Limit is Based On	Water Quality Criterion Used for Limit (ug/L)	Average Monthly Limit (ug/L)	Maximum Daily Limit (ug/L)
Mercury, Total Recoverable	Aquatic Life Chronic	0.012	0.065	0.13

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3.3.10.4 Copper Biotic Ligand Model

Monthly paired effluent and ambient copper BLM input data was collected by Molalla WWTP staff and analyzed by various labs starting in November 2020 through April 2024, resulting in 24 samples. For the RPAs, the mixed concentration of each input parameter were then entered into the BLM model to calculate the instantaneous water quality criteria (IWQC) for each paired data set. Each IWQC was compared to the corresponding copper concentration of the effluent or the calculated value at complete mix. Table 3-21 below shows the sample date, calculated criterion, calculated copper value, and toxic unit (copper concentration divided by the instantaneous criterion). A toxic unit greater than one, indicates there is a potential for the discharge to exceed the criterion. A toxic unit of NA indicates that either the effluent data was below the calculated criteria, the effluent data was non-detect, or the copper data was in the total recoverable instead of dissolved fraction. There is no reasonable potential to exceed the copper criterion because there were not any toxic units that exceeded 1.0.

Table 3-21: Copper BLM RPA Results

Date	Effluent Cu ug/L	Ambient Cu ug/L	ZID	BLM CMC	Toxic Units	RMZ	BLM CCC	Toxic Units	100% mix	BLM CCC	Toxic Units
			Cu ug/L	ug/L		Cu ug/L	ug/L		Cu ug/L	Cu ug/L	
2020-11-04	0.27	0.27	0.27	5.34	NA	0.27	2.29	NA	0.27	1.57	NA
2020-12-03	0.03	0.03	0.03	8.04	NA	0.03	4.78	NA	0.03	5.24	NA
2021-01-06	0.06	10.80	7.64	7.71	NA	9.27	3.39	NA	10.48	2.75	NA
2021-02-10	0.27	0.00	0.08	8.11	NA	0.04	2.89	NA	0.01	1.99	NA
2021-03-11	0.06	0.00	0.02	9.02	NA	0.01	3.38	NA	0.00	1.74	NA
2021-04-08	0.27	0.27	0.27	13.76	NA	0.27	5.73	NA	0.27	2.66	NA
2021-11-04	0.27	0.00	0.08	14.96	NA	0.04	6.99	NA	0.01	4.64	NA
2021-12-02	0.27	0.00	0.08	9.23	NA	0.04	4.10	NA	0.01	2.61	NA
2022-01-05	0.06	0.06	0.06	7.98	NA	0.06	3.98	NA	0.06	3.00	NA
2022-02-02	4.20	0.00	1.24	7.65	NA	0.60	2.61	0.23	0.13	1.39	0.09
2022-03-03	0.00	0.00	0.00	14.20	NA	0.00	5.75	NA	0.00	3.06	NA
2022-04-07	0.06	0.06	0.06	13.03	NA	0.06	5.18	NA	0.06	3.19	NA
2022-11-08	0.23	0.23	0.23	13.96	NA	0.23	6.21	NA	0.23	4.35	NA
2022-12-08	0.00	0.23	0.16	10.62	NA	0.20	3.97	NA	0.22	1.81	NA
2023-01-03	0.23	0.23	0.23	14.83	NA	0.23	6.09	NA	0.23	4.21	NA
2023-02-02	0.23	0.00	0.07	17.38	NA	0.03	11.57	NA	0.01	11.51	NA
2023-03-08	0.23	0.23	0.23	9.92	NA	0.23	4.30	NA	0.23	3.33	NA
2023-04-06	0.00	0.00	0.00	7.33	NA	0.00	2.58	NA	0.00	1.67	NA
2023-11-07	0.23	0.23	0.23	13.48	NA	0.23	5.04	NA	0.23	2.98	NA
2023-12-06	0.23	0.23	0.23	6.73	NA	0.23	2.67	NA	0.23	2.02	NA
2024-01-08	0.23	0.23	0.23	3.84	NA	0.23	1.69	NA	0.23	1.13	NA
2024-02-06	0.23	0.00	0.07	2.63	NA	0.03	1.15	NA	0.01	0.77	NA
2024-03-06	0.23	0.00	0.07	3.11	NA	0.03	1.25	NA	0.01	0.77	NA
2024-04-02	2.20	0.05	0.68	4.24	NA	0.36	1.70	0.21	0.11	1.19	0.10

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3.3.10.5 Aluminum

Monthly paired effluent and ambient aluminum criteria input data was collected by Molalla WWTP staff and analyzed by various labs starting in November 2020 through April 2024, resulting in 24 samples. For the RPAs, the mixed concentration of each input parameter were then entered into the aluminum criteria model to calculate the instantaneous water quality criteria (IWQC) for each paired data set. Each IWQC was compared to the corresponding aluminum concentration of the effluent or the calculated value at the ZID boundary, the MZ boundary, and at complete mix. Table 3-22 below shows the sample date, calculated criterion, calculated aluminum value, and toxic unit (aluminum concentration divided by the instantaneous criterion). A toxic unit greater than one, indicates there is a concern that the discharge may have the potential to cause or contribute to an exceedance of the criterion. A toxic unit of NA indicates that either the effluent data was below the calculated criteria or the effluent data was non-detect. There is no reasonable potential to exceed the aluminum criterion because there were not any toxic units that exceeded 1.0.

Table 3-22: Aluminum BLM RPA Results

Date	Effluent Al ug/L	Ambient Al ug/L	ZID	CMC	Toxic Units	RMZ	CCC	Toxic Units	100% mix	CCC	Toxic Units
			Al ug/L	ug/L		Al ug/L	ug/L		Al ug/L	Al ug/L	
2020-11-04	144	53	80	830	NA	66	440	NA	56	440	NA
2020-12-03	7	6	10	1300	NA	10	510	NA	10	600	NA
2021-01-06	384	1880	1440	1400	NA	1666	570	NA	1835	560	NA
2021-02-10	281	137	179	1100	NA	158	430	NA	141	340	NA
2021-03-11	162	87	109	1600	NA	98	590	NA	89	440	NA
2021-04-08	80	44	55	1800	NA	49	610	NA	45	440	NA
2021-11-04	232	66	115	1900	NA	90	760	NA	71	650	NA
2021-12-02	358	58	146	1600	NA	101	630	NA	67	530	NA
2022-01-05	504	381	417	1400	NA	399	550	NA	385	460	NA
2022-02-02	797	72	285	1400	NA	176	470	NA	94	340	NA
2022-03-03	824	1080	1005	1900	NA	1043	640	NA	1072	460	NA
2022-04-07	284	86	144	1700	NA	114	740	NA	92	660	NA
2022-11-08	140	290	246	1700	NA	269	650	NA	285	650	NA
2022-12-08	133	60	81	1700	NA	70	590	NA	62	410	NA
2023-01-03	450	172	254	2100	NA	212	960	NA	180	850	NA
2023-02-02	177	57	92	2000	NA	74	720	NA	61	650	NA
2023-03-08	199	97	127	1600	NA	112	650	NA	100	650	NA
2023-04-06	448	174	255	1200	NA	213	440	NA	182	360	NA
2023-11-07	6	30	23	1600	NA	26	560	NA	29	450	NA
2023-12-06	118	738	556	1100	NA	649	410	NA	719	340	NA
2024-01-08	196	189	191	890	NA	190	330	NA	189	270	NA
2024-02-06	210	90	125	710	NA	107	270	NA	94	220	NA
2024-03-06	65	150	125	760	NA	138	280	NA	147	230	NA
2024-04-02	5	62	45	840	NA	54	320	NA	60	270	NA

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3.3.10.6 Mercury – Human Health Criterion

Oregon's human health water quality criterion for mercury is expressed in terms of a fish tissue concentration rather than a water column concentration. A Willamette Basin Mercury TMDL was established by EPA on December 30, 2019. According to the EPA TMDL and the State of Oregon Water Quality Management Plan, this facility must conduct mercury monitoring and develop and implement a mercury minimization plan tailored to the facility's potential to discharge mercury.

The proposed permit includes a requirement for the permittee to develop and submit a mercury minimization plan (in Schedule A) and to conduct associated effluent monitoring (in Schedule B). Once the plan is submitted to DEQ for review, it must go on public notice for public review and is incorporated into the permit by reference.

3.4 Antibacksliding

The proposed permit complies with the antibacksliding provisions of Clean Water Act (CWA) sections 402(o) and 303(d)(4) and 40 CFR 122.44(l). The proposed permit limits are the same or more stringent than the existing permit limits with the following exceptions: 1) the proposed permit includes less stringent BOD and TSS mass load limits for the winter period, 2) the proposed permit includes a new allowable discharge during the summer period, and 3) the proposed permit includes new excess thermal load (temperature) limits. Although antibacksliding provisions generally do not allow relaxation of effluent limits in permit renewals, these proposed permit modifications are allowed under the provisions as noted below.

3.4.1 Proposed Permit, Existing Facility Winter BOD_5 and TSS Limits

As discussed in Section 3.2, changes being made to the winter (November – April) limits for BOD_5 and TSS are to correct for a mistaken rule interpretation made while implementing state technology based effluent limits (TBELs) during a previous permit renewal. DEQ is proposing to correct this mistake. This will result in less stringent BOD_5 and TSS limits in the winter period. The current permit includes BOD_5 and TSS monthly concentration limits of 10 mg/L (along with associated loads). The proposed permit will include BOD_5 and TSS monthly concentration limits of 30 mg/L (along with associated loads). CWA section 402(o)(2) includes an exemption from the antibacksliding provisions for state TBELs in the case of a technical mistake or mistaken rule interpretation. This exemption is therefore applicable to these limit changes. This limit relaxation also meets the antidegradation requirements as noted in Section 3.5, below.

3.4.2 Proposed Permit, New Facility Winter BOD_5 and TSS Limits

In addition to the correction to the BOD_5 and TSS concentration limits discussed above, the BOD_5 mass load limits for the new facility are also less stringent due to new wet weather design flows. This relaxation is allowed under CWA section 402(o)(2), which allows for exemptions due to material and substantial alterations or additions to the facility. This limit relaxation also meets the antidegradation requirements as noted in Section 3.5, below. (A relaxation of the associated TSS mass load limit was not included in the proposed permit because antidegradation requirements were not met.)

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3.4.3 Proposed Permit, Existing and New facility Summer Discharge

Additionally, as is also discussed in Section 3.2 above, the proposed permit includes a new allowable discharge during the months of May, June, and October. The current permit does not allow discharge during these months. This prohibition was first included in the 2004 version of the permit,[5] and was included as a state TBEL.[6] CWA section 402(o) prohibits backsliding when relaxing WQBELs or state-based TBELs, except under one of the exceptions listen in 402(o)(2) or in compliance with CWA section 303(d)(4). The relevant exception in this case is under CWA section 303(d)(4). Under 303(d)(4), an exception to backsliding is allowed for state TBELs when the water body is attaining the water quality standards for the pollutants being considered (BOD_5 and TSS). Also, the less stringent limit must comply with antidegradation. The receiving water body is in attainment for dissolved oxygen (the parameter associated with BOD_5) and there is no water quality standard for TSS. Antidegradation for these two parameters is evaluated in the following section.

3.4.4 Proposed Permit, Existing and New facility Thermal Discharges

As noted in Section 3.3.6, the proposed permit includes excess thermal load limits. These limits are functionally less stringent than the existing temperature limit in the existing permit. Although antibacksliding provisions generally do not allow relaxation of effluent limits in renewal permits, section 303(d)(4)(A) of the Clean Water Act allows relaxation when the receiving water is not in attainment for the limiting or related pollutant, the effluent limit is based on a TMDL wasteload allocation, and it can be shown that relaxation is consistent with antidegradation requirements. As noted in Section 3.3.6, the specific assessment unit where the discharge occurs is not considered in attainment of the applicable temperature criteria since a TMDL applies. The new limit is based on a TMDL wasteload allocation. It also complies with the antidegradation requirement as noted in the following section. Therefore, the new thermal load limits based on the TMDL wasteload allocation are allowed and are included in the proposed permit.

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.

In comparison to the existing 2014 permit, the permittee has proposed that the permit include higher wet weather BOD_5 and TSS mass load limits (see Section 3.2) and also be allowed to discharge during the May, June, and October period (when the existing permit prohibits discharge). Since these proposed discharges include pollutant loads that are higher than those in the existing permit, DEQ performed an antidegradation review. The first step in this review was to determine if the proposed increased loads would likely result in any measurable change in water quality. If a measurable change in water quality is likely to occur, then an in-depth antidegradation analysis is required. If it is determined that no measurable change is likely to

[5] 2004 City of Molalla Fact Sheet, page 3 of 17.
[6] At the time the limit (discharge prohibition) was first implemented, DEQ determined that proper operation of the facility would eliminate the need for discharge during this period (DEQ Reply to Comments, 3/12/2004, bottom of page 6 of 8). This limit/prohibition is therefore a technology-based limit developed by DEQ (therefore, it is a state technology-based effluent limit).

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occur, then no further anti-degradation review is required, and the proposed limits may be included in the new permit.

3.5.1 BOD_5

An antidegradation analysis was conducted to determine if mass load increases based on both changes in concentration-based effluent limits and design flows would be included in the proposed permit. The full analysis for dissolved oxygen/BOD_5 and TSS is in a November 13, 2024 memo retained in the administrative record. For the increase in the BOD_5 mass load limits, the potential impact on water quality is a reduction of the dissolved oxygen levels in the receiving water. Per OAR 340-041-0004(3)(d), up to a 0.1 mg/L decrease in dissolved oxygen within a stream reach is not considered a reduction in water quality so long as it has no adverse effects on threatened and endangered species. DEQ conducted a set of water quality analyses to assess the estimated impacts of the BOD_5 mass load increases on dissolved oxygen levels in the Molalla River. Geosyntec Consultants submitted a memo to DEQ dated Aug 8, 2019 that provided some antidegradation analysis for a variety of conditions. Some aspects of the proposed facility upgrade changed between the antidegradation analysis conducted by Geosyntec and the final design. DEQ's analysis was conducted for the existing facility, and the newly proposed facility, based on 100% design. The newly proposed facility has completed 100% engineering design plans at the time of this analysis, which were approved by DEQ on February 9, 2024.

Summer: No single effluent limit proposal for the months of May, June, and October was made in the report. DEQ used the data from the report as well as other available data to determine if OAR 340-041-0004(3)(d) is met. DEQ's Streeter-Phelps Dissolved Oxygen model was used to determine if a decrease of equal to or greater than 0.1 mg/L decrease in dissolved oxygen would occur as a result of discharges by the facility during May, June, and October, when the ambient flow at the outfall was 224 cfs (equivalent to 350 cfs flow at USGS 14200000).

Winter: Another analysis was made for the November through April period. The facility's current permit contains concentration based effluent limits of 10 mg/L monthly average for BOD_5 and TSS during Nov – Apr. The basin standard is 30 mg/L monthly average. The facility has requested to increase the concentration-based limit and the associated mass load limit for the current facility and the proposed facility. Those limits are described in Sections 3.2.1 and 3.2.2 under Technology Based Effluent Limits.

Based on these analyses, DEQ determined that no measurable reduction in water quality due to the BOD_5 mass load increases is expected to occur and no further anti-degradation review is required.

3.5.2 TSS

An analysis was also conducted to determine if the requested new and increase TSS load would be considered a de minimis lowering of water quality based on DEQ's April 30, 2024 memo titled *Total Suspended Solids Antidegradation Review Determination*. For the TSS mass load increase and the potential to reduce water quality by a measurable amount, DEQ compares the impact of the discharge on water quality against a *de minimis* threshold. For most pollutants that have water quality criteria, DEQ policy is to consider a reduction in assimilative capacity of 10% or less for the entire assessment unit, for all dischargers, to be a *de minimis* impact to water

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quality.[7] There is no water quality criterion for TSS, so a parallel approach was used where a 10% or less increase over the baseline receiving stream TSS concentration is considered *de minimis*. A set of analyses of the proposed increases to the TSS mass load limits estimates that there will be an increase of less than 10% over the baseline receiving stream TSS concentrations for each limit increase, except for the proposed TSS limits for the new facility during the winter period. These increases represent a de minimis, or non-measurable, impact on water quality.

Summer: The downstream concentration of TSS as a result of the new discharge during the summer period, for the existing facility, is a 2.7% increase. The increase in TSS as a result of the proposed permit, upgraded facility during the summer is 7.3%. As a result, both mass load limit increases for TSS during the summer are included in the proposed permit.

Winter: The increase in downstream TSS for the proposed permit, existing facility is 5.7%. The total increase from the current permit to the proposed permit, upgraded facility is 14.7% for the winter period. As a result, the mass load increase for the proposed permit, existing facility is included, but an increase for the upgraded facility is not. The 14.7% increase represents a greater than de minimis impact on water quality and requires a full antidegradation review to be conducted. The permittee has not completed this review, so the winter TSS mass load limits for the new facility are set at same limits as those for the existing facility (see Table 3-6).

Table 3-23: Summary of antidegradation analysis for BOD and TSS mass load increases

Season	Analysis	Proposed Permit Existing Facility	Proposed Permit Upgraded Facility	Summary
May - Oct	DO (deficit)	-0.06 mg/L	-0.03 mg/L	Increase included in proposed permit for existing and upgraded facility
May - Oct	TSS (% increase)	+2.7%	Total increase from current permit to proposed permit upgraded facility = +7.3%	Increase included in proposed permit for existing and upgraded facility
Nov - Apr	DO (deficit)	-0.06 mg/L	-0.06 mg/L	Increase included in proposed permit for existing and upgraded facility

[7] DEQ Memorandum from Jennifer Wigal: *Procedures to determine if a new or increased load would be a de minimis lowering of water quality*, May 2, 2018.

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Season	Analysis	Proposed Permit Existing Facility	Proposed Permit Upgraded Facility	Summary
Nov - Apr	TSS (% increase)	+5.7%	Total increase from current permit to proposed permit upgraded facility = +14.7% (> 10% increase is not *de minimis*)	Increase included in proposed permit for existing facility only.

3.5.3 Temperature

The new thermal loads associated with the proposed permit are based on a TMDL wasteload allocation which ensures the temperature increases are an insignificant increase according to Oregon's antidegradation rule, OAR 340-041-0004(3)(c). These insignificant increases are not considered a degradation of water quality under the antidegradation rule.

3.5.4 Final Determination

Since it was found that there will be no measurable reduction or degradation in water quality due to the increased mass loads allowed under the proposed permit (which does not include the TSS mass loads for the winter period as originally proposed by the permittee), no further anti-degradation analysis is required to proceed with the proposed limits.

Except for the thermal, BOD_5 and TSS mass load limits as discussed above, the proposed permit contains the same or lower discharge loadings as the existing permit. Permit renewals with the same or slightly lower 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 the proposed limits are not protective of the receiving stream's designated beneficial uses. Except for the existing spawning use discussed in Section 3.3.6, above, 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. The existing spawning use is described in Section 3.3.6 along with an analysis demonstrating that the proposed limits are protective of this use. Therefore, DEQ has determined that the proposed discharge complies with DEQ's antidegradation policy. DEQ's antidegradation worksheet for this permit renewal is available upon request.

3.6 Whole Effluent Toxicity

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

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

3.7 Groundwater

The permittee operates two facultative lagoons that provide additional treatment, flow equalization, storage and long-term solids retention and digestion. Both lagoons were constructed in 1980 and have a clay liner to reduce the loss of stored water and minimize impacts to groundwater.

Given the age of the lagoons and proximity of the lagoons to private domestic and public water supply wells, the existing permit required the permittee to conduct a lagoon leak test to assess the potential loss of lagoon water into groundwater. The test was conducted in 2017 and the permittee submitted the results to DEQ. Based upon DEQ's review of the results, DEQ concluded the lagoons are experiencing water loss due to leakage, which could indicate a problem with the clay liner of one or both lagoons.

Since the leakage from the lagoons poses a potential threat to groundwater, the proposed permit will require the permittee to prepare and implement a groundwater monitoring plan for the facility. The groundwater monitoring plan will include details regarding the number and location of monitoring wells to be installed, as well as details of the sampling program to be employed such as sampling methodology, monitoring frequency, parameters to be analyzed, data quality review and reporting procedures. DEQ will review and approve the groundwater monitoring plan before implementation. Schedule D of the permit lists additional details on the groundwater monitoring plan requirements.

4. Schedule A: Other Limitations

4.1 Mixing Zone

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

4.2 Biosolids

The permittee currently produces Class B biosolids that are either landfilled or stored in the lagoons. Although the permittee does not have a current land application program, the Class B biosolids have the potential for beneficial land application. During the next permit term, the permittee expects to update their existing biosolids management plan and land application plan. DEQ will review the updated plans and provide an opportunity for public comment on the proposed land application activity. Once approved, conditions in the Biosolids Management Plan and Land Application Plan become permit conditions.

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

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

4.3 Recycled Water

The permittee currently operates a recycled water program to produce a Class C recycled water for irrigation uses and anticipates continuing to do so. The permittee operates its recycled water program under a Recycled Water Use Plan that was last updated in 2018. During the next permit term, the permittee is expected to update the existing plan. Any updates to the recycled water use plan must meet the requirements in OAR 340-055 and will be submitted to DEQ for review and approval; appropriate actions must also be made to OHA and WRD. The updated recycled water use plan, including the locations of any proposed irrigation projects will be made available for public comment. Once approved after public comment, conditions in the updated recycled water use plan become permit conditions.

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

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

4.4 Chlorine Usage

The existing WWTP utilizes a calcium hypochlorite tablet disinfection system that will be used until the Phase I facility upgrades become operational in late 2027. The upgraded facility will utilize ultraviolet light for disinfection and the existing calcium hypochlorite tablet disinfection system will be discontinued. Once the upgraded facility begins using ultraviolet disinfection, Schedule A of the permit prohibits the permittee from using chlorine or chlorine compounds for effluent disinfection purposes.

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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.

6. Schedule C: Compliance Schedule

6.1 Ammonia

The proposed permit contains new water quality-based effluent limits for ammonia for Outfall 001. These limits will go into effect after the rehabilitation and commissioning of Lagoon No. 2 into an Effluent Storage Pond in November 2027. By that time, the upgraded facility will be fully operational and expected to be capable of meeting the new ammonia limits. The new limits do not apply to discharges from the existing facility.

Upon permit issuance, the existing facility will be unable to meet the more stringent limits for ammonia. As such, the proposed permit contains a compliance schedule that allows time for the permittee to construct the proposed facility upgrades and rehabilitate Lagoon No. 2 in order to meet the new limits. The facility upgrades include the construction of new sequencing batch reactors, aerobic digestors and an effluent filtration system. Lagoon No. 2 will also be rehabilitated by removing existing stored sludge and repairing the lagoon liner as needed in order to store only fully-treated effluent. The combined facility improvements and rehabilitation of Lagoon No. 2 is expected to allow the Molalla WWTP to meet the new ammonia limits.

In addition, the compliance schedule requires the development of an Optimization Study to determine feasible operational changes that can be made to the WWTP's existing treatment processes to minimize effluent ammonia concentrations. These operational changes will be employed while the proposed facility upgrades are being constructed. The compliance schedule lays out a series of milestones for the Optimization Study, the construction of the upgraded facility, and rehabilitation of Lagoon No. 2 which, upon completion, will enable the permittee to meet the permit's water quality-based effluent limits (see 40 CFR 122.47 and OAR 340-041-0061(12)). DEQ has reviewed the facility's proposed schedule for the Optimization Study and the construction of the upgraded facility and rehabilitation of Lagoon No. 2 and has determined that the proposed compliance schedule is efficient and timely, requiring the permittee to meet the final ammonia limits as soon as possible.

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The existing permit includes an ammonia daily maximum limit of 25.9 mg/L and an ammonia average monthly limit of 16.7 mg/L. These limits apply from October 1 – June 30 and are retained in the proposed permit as interim limits, which are effective until the new, more stringent limits become effective at the end of the compliance schedule.

6.2 Mercury

The proposed permit also contains new water quality-based effluent limits for mercury for Outfall 001. Upon permit issuance, the existing facility will be unable to meet the new numeric limit for mercury, designed to meet aquatic life water quality criteria for mercury. As such, the proposed permit contains a compliance schedule that allows time for the permittee to construct the proposed facility upgrades, rehabilitate Lagoon No. 2, and to develop and implement a new Mercury Minimization Plan. The proposed facility upgrades, and rehabilitation of Lagoon No. 2 are expected to improve overall effluent quality. In addition, Schedule A.2 (Mercury Minimization Plan) of the permit requires the permittee to develop and implement a Mercury Minimization Plan (MMP) which requires the permittee to identify and evaluate potential mercury sources within the permittee's sanitary collection system. In addition, the plan will require the permittee to specify methods for reducing mercury in the facility effluent and to conduct further effluent sampling for mercury. Although the Mercury Minimization Plan is designed to address the human health criteria for mercury and is required for major domestics within the Willamette basin, the implementation of the plan should provide source control and therefore a pathway to reduce mercury in the effluent overall.

The new limits for mercury will go into effect in November 2030. This will allow time for the permittee to complete the proposed facility upgrades, rehabilitate Lagoon No. 2 to a clean effluent lagoon and to fully implement the DEQ-approved MMP. It also allows time for the permittee to conduct additional effluent sampling to fully characterize and assess the concentrations of mercury in the effluent and to gauge the effectiveness of the mercury reduction methods prescribed by the MMP. Given the facility's proposed schedule for the construction of the upgraded facility and the permit's schedule for developing and implementing the MMP, DEQ has determined that the proposed compliance schedule for mercury is efficient and timely, requiring the permittee to meet the final mercury limits as soon as possible.

7. Schedule D: Special Conditions

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

7.1 Inflow and Infiltration

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

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7.2 Mixing Zone Study Plan

A condition requiring the permittee to develop and submit a Mixing Zone Study Plan for a Level 3 Mixing Zone Study for Outfall 001 to DEQ for review and approval. The study plan must provide a description of how the Level 3 Mixing Zone Study will be conducted in accordance with the Level 3 study requirements listed in DEQ's Mixing Zone Internal Management Directive.

7.3 Mixing Zone Study

A requirement to submit the results of a Mixing Zone Study conducted in accordance with the DEQ-approved study plan listed above in Schedule D, Condition 2.

7.4 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.

7.5 Recycled Water Use Plan

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

7.6 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.

7.7 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.

7.8 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.

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7.9 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.

7.10 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.

7.11 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.

7.12 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.

7.13 Whole Effluent Toxicity Testing for Freshwater

The permittee is required to perform WET testing to ensure the aggregate of toxics is not negatively impacting aquatic life. This condition describes the test procedures and requirement for the WET testing. A dilution series has been specified on the basis of the mixing zone analysis.

7.14 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.

7.15 Industrial User Survey Update

This condition requires the permittee to update an industrial user survey that was last completed in 2016. 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.

7.16 Outfall Inspection

A condition that requires the permittee to inspect Outfall 001 and submit a report regarding its condition.

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7.17 Groundwater Monitoring Plan

This condition requires the permittee to submit and implement a groundwater monitoring plan for the purposes of monitoring groundwater quality in the vicinity of the facility's lagoons.

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

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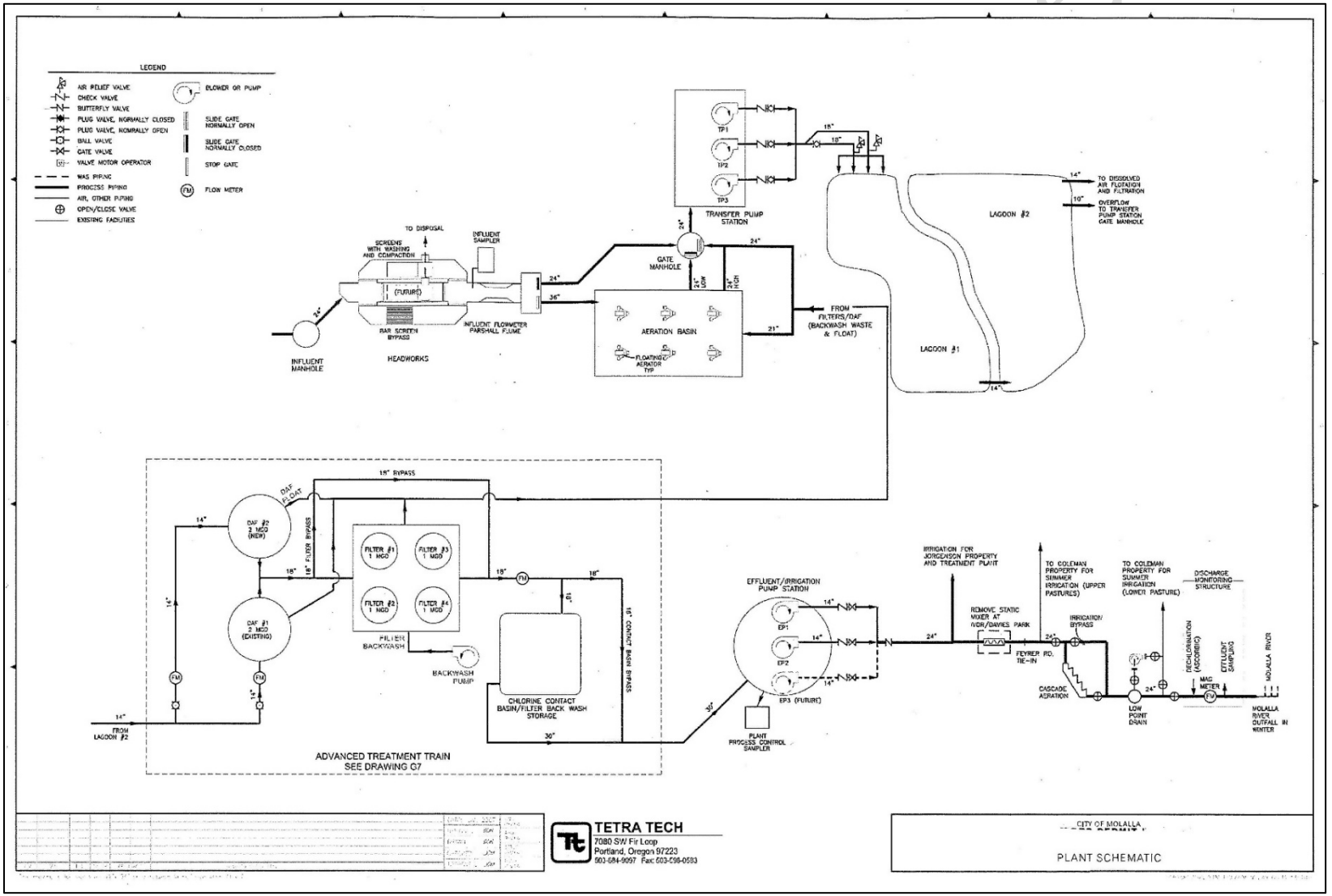
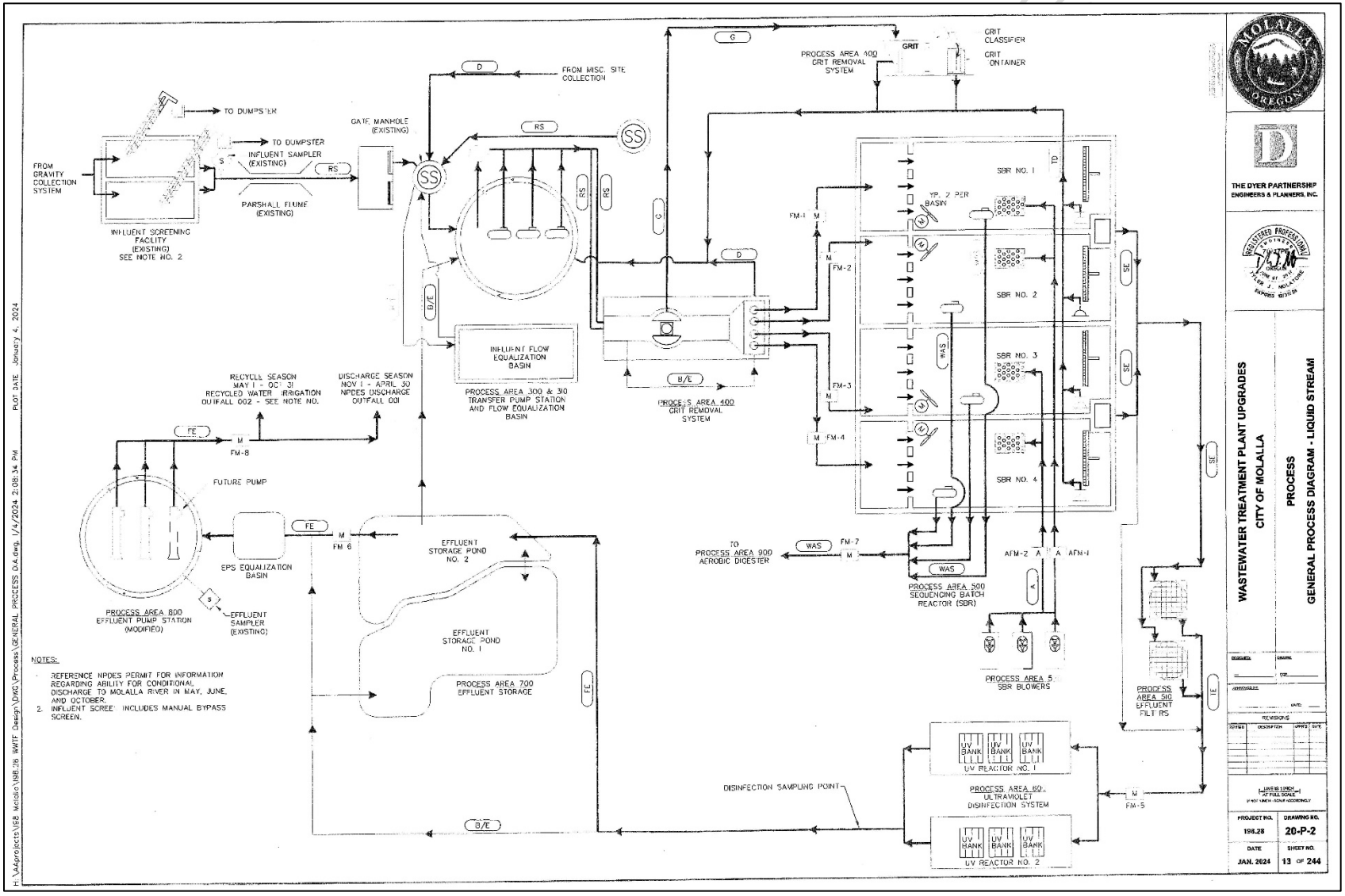
Appendix A: Existing WWTP Flow Schematic

Aeration basins are currently off-line - February 2025



Appendix B: Upgraded WWTP Flow Schematic



Appendix C: Temperature 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: City of Molalla WTP **Date: August 21, 2024**

The 2024 Willamette SubBasins TMDL lists 7Q10 at 56 cfs for mid-late summer flows. Facility will not discharge July 1 - September 30. The 7Q10 used in analysis is minimal flow in river for permitted discharges from October 1 - June 30. The 224 cfs equates to 350 cfs at Canby.

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 =	224	cfs	2024 DEQ MZ Study Review
Ambient Temperature=	25	ºC	Maximum Ambient Temp. is 26.9 C,
Effluent Flow =	3.06	mgd	Proposed Facility Max. Monthly Dry Weather Design Flow
Max Daily Effluent Temperature =	21.7	ºC	Max. Temp for Oct 1 - June 30; Nov. 2019 - December 2023 DMRs - June 2021

5% of 7Q10 =	11.2	cfs	
5% dilution =	3		dilution = (Qr*0.05)/Qe + 1
Temperature at 5% cross section =	**24.0**	**ºC**	**No Reasonable Potential**

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 =	224	cfs	2024 DEQ MZ Study Review
Ambient Temperature =	21	ºC	Maximum Ambient Temp is 26.9 C.
Effluent Flow =	3.06	mgd	Proposed Facility Max. Monthly Dry Weather Design Flow
Max 7dAM Effluent Temperature =	21.7	ºC	Max. Temp. - Influent/Effluent for Oct 1 - June 30 - Data Nov. 2019 - December 2023 - June

25% of 7Q10 =	56.0	cfs	
25% dilution =	13		dilution = (Qr*0.25)/Qe + 1
Temperature at 25% cross section =	**21.1**	**ºC**	
ΔT at 25% Stream Flow=	**0.1**	**ºC**	**No Reasonable Potential**

Notes: Facility does not currently measure dry season effluent temperatures - no discharge to river. Maximum effluent temperatures are estimated from recorded dry season influent temperatures. Effluent flow is proposed maximum dry weather design flows - actual dry season discharges will be well below average dry weather design flow of 3.06 MGD due to temperature WLA and land applications of recycled water.

From:	HANSEN Trinh * DEQ
To:	Seth Kelly; Mac Corthell
Cc:	HYNSON Mark * DEQ; YELTON-BRAM Tiffany * DEQ; NAVARRO Jeffrey * DEQ; BURKHART Robert * DEQ; BRITSON Aliana * DEQ; LINZER Jeff * DEQ; BODNAR Rebecca * DEQ
Subject:	City of Molalla's public comment period for NPDES permit: Comments due April 14, 2025, 5 p.m.
Date:	Tuesday, March 4, 2025 10:38:13 AM
Attachments:	image001.png 101514-PERMPN-Packet-MOLALLAWWT-20250304.pdf

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File no. 57613
Permit no. 101514
EPA no. OR0022381
Facility: Molalla WWTP, 12424 S. Toliver Road, Molalla
Clackamas County

Your proposed National Pollutant Discharge Elimination System permit is now on public notice at this link. This includes 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.

DEQ will hold a virtual public hearing to accept verbal comments on this draft permit at 5 p.m. on April 9, 2025. Register in advance for the hearing. After registering, you will receive a confirmation email containing information about joining the webinar.

Your comments **must be received by 5 p.m. on April 14, 2025**.. 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.

Thank you for your attention to this matter!

Trinh Hansen
Water Quality Permit Coordinator
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Office: 503-378-5055 | Mobile: 503-804-6594 | trinh.hansen@deq.oregon.gov
YDO go live 4-16-2025!
Take a look at: https://www.oregon.gov/deq/wq/wqpermits/Pages/wqydo.aspx

Please include file, permit, and/or application number when applicable.

PUBLIC RECORDS LAW DISCLOSURE:
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From:	Mac Corthell
To:	Seth Kelly; HYNSON Mark * DEQ
Cc:	NAVARRO Jeffrey * DEQ; SIMPSON Jason * DEQ
Subject:	RE: 101514-Molalla - Meeting Times to Prepare for Public Hearing
Date:	Thursday, March 13, 2025 1:57:44 PM

I too am good for all those dates/times. TY!

-Mac

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Thursday, March 13, 2025 12:39 PM
To: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>; Mac Corthell <mcorthell@cityofmolalla.com>
Cc: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>; SIMPSON Jason * DEQ <Jason.Simpson@deq.oregon.gov>
Subject: RE: 101514-Molalla - Meeting Times to Prepare for Public Hearing

I am available any of those dates or times.

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Sent: Thursday, March 13, 2025 12:11 PM
To: Seth Kelly <skelly@cityofmolalla.com>; Mac Corthell <mcorthell@cityofmolalla.com>
Cc: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>; SIMPSON Jason * DEQ <Jason.Simpson@deq.oregon.gov>
Subject: 101514-Molalla - Meeting Times to Prepare for Public Hearing

Seth and Mac,

Following up on my earlier e-mail regarding preparation for the Public Hearing. Here are some dates and times that DEQ staff are available for a hearing preparation meeting:

Monday March 31 – 2:30 – 4:00 PM

Tuesday April 1 – 1:30 – 3:30 PM

Wednesday April 2 - 1:00 – 3:00 PM

Please let me know what dates and times work best for you.

This meeting should be no more than an hour.

I will have a draft PowerPoint Presentation prepared prior to this meeting for your review and comment.

Thanks. Mark

Mark W. Hynson
Water Quality Specialist
Oregon Department of Environmental Quality
Water Quality Program, NW Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232-4100

Mark.Hynson@deq.oregon.gov
Desk: 503-229-5295

In early 2025, NPDES and WPCF permittees will
begin using Your DEQ Online, a one-step place
for you to manage your water quality permit.
https://wqpermits.oregon.gov

From: HYNSON Mark * DEQ
To: Seth Kelly
Subject: RE: 101514-Molalla - Request for Site Photos
Date: Wednesday, March 26, 2025 1:59:00 PM

Seth,

Great pictures! Thank you!

We just seem to have lots of pictures of the recycled water fields….. Go figure. Appreciate it. Mark

---

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Wednesday, March 26, 2025 1:05 PM
To: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Subject: RE: 101514-Molalla - Request for Site Photos

Hi Mark,

No issue at all. Here a few of around the WWTP and one of our irrigation fleet. Would you like any of the progress on the new SBR site?

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Sent: Tuesday, March 25, 2025 4:00 PM
To: Seth Kelly <skelly@cityofmolalla.com>
Subject: 101514-Molalla - Request for Site Photos

Seth,

I have a favor to ask.

Could you send me 5-6 general photos of your facility?

We have plenty of photos of meters, control panels, pumps and the lagoons – and the recycled water sites. What we are lacking are general site photos showing the chlorine contact basin, buildings, headworks structure, etc.

I am putting together the PowerPoint presentation for the public hearing and I want to include some photos that include more than repeated photos of lagoons, meters and control panels. And trying to copy photos from the facility plans is not working out great.

Whatever you may have on file would be good. No need to take any new ones.

Thanks. Mark

Mark W. Hynson
Water Quality Specialist
Oregon Department of Environmental Quality
Water Quality Program, NW Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232-4100

Mark.Hynson@deq.oregon.gov
Desk: 503-229-5295

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https://wqpermits.oregon.gov

From: HYNSON Mark * DEQ
To: Seth Kelly
Subject: RE: 101514-Molalla- Draft Public Hearing PowerPoint Presentation
Date: Friday, March 28, 2025 1:52:03 PM

Roger that! Thank you. I will make the change.

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Friday, March 28, 2025 1:32 PM
To: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Cc: Mac Corthell <mcorthell@cityofmolalla.com>
Subject: RE: 101514-Molalla- Draft Public Hearing PowerPoint Presentation

Mark,

The only recommendation I have is Slide 15, I would call those irrigation reels.

Thank you,

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Sent: Friday, March 28, 2025 12:29 PM
To: Seth Kelly <skelly@cityofmolalla.com>; Mac Corthell <mcorthell@cityofmolalla.com>
Subject: 101514-Molalla- Draft Public Hearing PowerPoint Presentation

Seth and Mac,

Here is a copy of DEQ's draft Public Hearing Powerpoint Presentation for the Public Hearing on April 9.

This is the presentation that the DEQ Hearings Examiner will use to conduct and facilitate the Public Hearing. About halfway through the presentation, I will be taking over the

presentation to provide general information on facility and permit. This begins on Slide 8 and terminates at Slide 26. I am going try and keep this presentation down to about 20 minutes – just a lot to cover.

Anyway, we will be discussing this at our prep meeting on Monday. Please review slides 8-26 and let me know of any recommended edits or changes. In particular, please make sure I have the right notations under each of the photographs.

Let me know if you have any questions. Thanks. Mark

Mark W. Hynson
Water Quality Specialist
Oregon Department of Environmental Quality
Water Quality Program, NW Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232-4100

Mark.Hynson@deq.oregon.gov
Desk: 503-229-5295

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https://wqpermits.oregon.gov

From:	HYNSON Mark * DEQ
To:	Mac Corthell; Seth Kelly
Cc:	NAVARRO Jeffrey * DEQ; SIMPSON Jason * DEQ; YELTON-BRAM Tiffany * DEQ; BURKHART Robert * DEQ
Subject:	RE: 101514-Molalla-Prep for Public Hearing
Date:	Thursday, March 13, 2025 12:17:17 PM

Mac,

The Public Hearing will be virtual and will start at 5:00 PM on Wednesday April 9, 2025.

Thanks. Mark

From: Mac Corthell <mcorthell@cityofmolalla.com>
Sent: Thursday, March 13, 2025 11:44 AM
To: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>; Seth Kelly <skelly@cityofmolalla.com>
Cc: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>; SIMPSON Jason * DEQ <Jason.Simpson@deq.oregon.gov>; YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; BURKHART Robert * DEQ <Robert.BURKHART@deq.oregon.gov>
Subject: RE: 101514-Molalla-Prep for Public Hearing

Hi Mark,

Thank you for the information. Seth and I will be in attendance, and we may bring one of our Engineers with us but I'm not sure on that yet.

We'll keep an eye out for a pre-public hearing scheduling email and the power point.

One quick question, what time do we anticipate the hearing on 4/9 to be, and at what location (or will it be electronic). Just getting my ducks in a row.

Have a good weekend!

-Mac

Macahan "Mac" Corthell, J.D.
Assistant City Manager
City of Molalla
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – mcorthell@cityofmolalla.com
Website – http://www.cityofmolalla.com

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From: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Sent: Thursday, March 13, 2025 10:33 AM
To: Seth Kelly <skelly@cityofmolalla.com>; Mac Corthell <mcorthell@cityofmolalla.com>
Cc: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>; SIMPSON Jason * DEQ <Jason.Simpson@deq.oregon.gov>; YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; BURKHART Robert * DEQ <Robert.BURKHART@deq.oregon.gov>
Subject: 101514-Molalla-Prep for Public Hearing

Seth and Mac,

Now that we are in the Public Notice period for the Molalla permit, our next action will be to prepare for the Public Hearing on April 9, 2025.

The Public Hearing will be facilitated by a DEQ Hearings Officer (at the moment, this will be Jason Simpson). The Public Hearing is largely facilitated by DEQ staff – but there will be a need to have City of Molalla staff in attendance for informational purposes. Please let me know who would be representing the City at the hearing.

The Public Hearing will have two phases. The first phase provides general information on the public hearing process and the permit. At this phase, the DEQ Hearings Officer will describe the public hearings process for attendees and then will turn over the hearing to me (as the Principal Permit Writer) to make a brief PowerPoint presentation on the facility and the key elements of the permit. This is strictly informational for attendees and is not part of the formal recorded hearing. Following the PowerPoint presentations, DEQ asks if there are any general questions regarding the facility or the permit. Again, this an opportunity for attendees to ask clarifying questions – no formal comments. We ask City of Molalla staff to be in attendance since we may asked questions that DEQ staff are unable to answer – such as "What's the status of construction on the new plant? It is very unlikely that we receive such questions – but they can happen. In general, there is really nothing for you or anyone else from City of Molalla need to do during the informational presentation except listen.

The second phase is the actual Public Hearing. DEQ closes the informational phase and DEQ Hearings Examiner starts the formal hearing process and invites attendees to make verbal comments. This part of the hearing will be recorded. Attendees wishing to make comments must identify themselves by raising their had to make a comment. Each person who wishes to make a comment typically has three minutes to do so and we have slides that inform the commenter how much time they have left. Again, this is facilitated by the Hearings Examiner. If no one comes forward immediately to make a comment, the recorded Hearing is held open for I believe about 30 minutes to see if someone logs in and wishes to make a comment. Please note that City of Molalla staff are welcome to make comments during the hearing.

During the recorded Public Hearing, DEQ simply takes comments and does not engage in any response or discussion on the comment. We thank the commenter and move onto the next comment. After all comments are made, the DEQ Hearings Examiner will close the Public Hearing.

I will preparing a PowerPoint Presentation on the facility and permit for the hearing. I will be providing Molalla a copy of the presentation about a week before the hearing for review and comment.

We would also like to have a brief meeting with the City about a week prior to the hearing to discuss format and details. I will be sending a second e-mail with dates and times for a possible meeting.

We will be in touch.

Let me know if you have any questions. Thanks. Mark

Mark W. Hynson
Water Quality Specialist
Oregon Department of Environmental Quality
Water Quality Program, NW Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232-4100

Mark.Hynson@deq.oregon.gov
Desk: 503-229-5295

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https://wqpermits.oregon.gov

From: HYNSON Mark * DEQ
To: Seth Kelly
Subject: RE: Data Request
Date: Monday, March 31, 2025 12:18:58 PM
Attachments: 101514-DATA-Molalla Ammonia RPA 350 CFS-20240828.xlsx
101514-DATA-Molalla Chlorine RPA 350 CFS-20240821.xlsx

Seth,

Here you go.

On the ammonia RPA – refer to the summer and winter tabs to see how the proposed summer and winter ammonia limits were calculated. For the winter, the daily maximum limit was calculated at 27 mg/L – but was kept to the existing maximum daily limit of 25.9 due to anti-degradation purposes. Ambient and effluent data are shown on the respective tabs.

Let me know if you need anything else.

Mark

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Monday, March 31, 2025 10:48 AM
To: HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Subject: Data Request

Hello Mark,

Hope things are well and we will see you this afternoon.

I am curious if you could email me over the

- Reasonable potential evaluation for ammonia &
- Reasonable potential evaluation for chlorine worksheets

Thank you,

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: Seth Kelly
To: "PINNEY Mike * DEQ"
Cc: Mitchell Jaspers
Subject: RE: Effluent pH readings
Date: Monday, March 10, 2025 2:02:00 PM
Attachments: image002.png

Mike,

Thank you and will do.

Seth Kelly

Water Quality Superintendent

315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: PINNEY Mike * DEQ <Mike.PINNEY@deq.oregon.gov>
Sent: Monday, March 10, 2025 12:56 PM
To: Seth Kelly <skelly@cityofmolalla.com>
Cc: Mitchell Jaspers <mjaspers@cityofmolalla.com>
Subject: RE: Effluent pH readings

Seth,
Do what you have to do to get the monitoring you are required to do.
Note in the NetDMR comments which dates are grabs versus the continual monitor. If you notice the daily extreme is occurring at a particular time, grab at that time.

Please inform us when the probe is replaced and functioning correctly.

Regards,

Michael Pinney PE
Senior Environmental Engineer
Northwest Region
Department of Environmental Quality
700 NE Multnomah St. Ste.600
Portland OR 97232

503-229-5310
Cell 971-227-1765

In early 2025, NPDES and WPCF permittees will begin using Your DEQ Online, a one-stop place for you to manage your water quality permit. https://wqpermits.oregon.gov

---

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Monday, March 10, 2025 12:47 PM
To: PINNEY Mike * DEQ <Mike.PINNEY@deq.oregon.gov>
Cc: Mitchell Jaspers <mjaspers@cityofmolalla.com>
Subject: Effluent pH readings

Hi Mike,

Our Effluent pH probe at the Discharge Monitoring Station seems to have started to fail. It quickly loses calibration and does not seem to be reading very accurate compared to results of the bench pH probe we have in our onsite lab. We are going to start taking 3 grabs per week starting this week and have reached out to vendor to get a new probe. We will continue our 3 grabs until our new probe comes in and I would like permission to utilize our bench probe grab sample results for the DMR and disregard the readings our inline meter is providing us. I will ensure to update you when we have a new probe installed.

Also, I have CC'd Mitchell Jaspers our Lead operator as an interdiction. He is taking a larger role on and may be passing along information as it pertains to the WWTP at times as well.

Thank you,

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: Seth Kelly
To: "NAVARRO Jeffrey * DEQ"
Cc: YELTON-BRAM Tiffany * DEQ; Mac Corthell; HYNSON Mark * DEQ
Subject: RE: Molalla Permit# 101514 Public Notice
Date: Monday, March 3, 2025 3:40:00 PM

Hi Jeff,

That works good for the City I will put it into my calendar. Thank you for working with me. Hope you have a good evening.

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>
Sent: Monday, March 3, 2025 3:38 PM
To: Seth Kelly <skelly@cityofmolalla.com>
Cc: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; Mac Corthell <mcorthell@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Subject: RE: Molalla Permit# 101514 Public Notice

Thanks Seth, the 30 days is a minimum. We can start the public notice tomorrow or Wednesday and still have the hearing any day as long as it's at least 30 days after we post the public notice. So if the afternoon/evening of April 9th works best for you, we can do that.

Jeff
503-314-0898

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Monday, March 3, 2025 3:27 PM
To: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>
Cc: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; Mac Corthell <mcorthell@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Subject: RE: Molalla Permit# 101514 Public Notice

Hi Jeff,

I think with knowing that the hearing needs to be in the evening it would be preferred that the hearing not be on a Friday. With that in mind would it be possible to do the Notice on March 6th if that would make the Public Hearing on April 7th. Not too sure how on the nose we have to be with the 30 days from notice to hearing.

If that does not work could Public Notice be tomorrow for a April 3rd Hearing or Monday, March 10th with a April 9th Hearing?

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>
Sent: Monday, March 3, 2025 1:07 PM
To: Seth Kelly <skelly@cityofmolalla.com>
Cc: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; Mac Corthell <mcorthell@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>
Subject: RE: Molalla Permit# 101514 Public Notice

Afternoon Seth,
Thanks for getting back to me. Starting March 5 is very doable for us. For clarification, the hearing will need to take place in early evening. We usually target a start time of 4 or 5pm. This allows the general public more opportunity to attend after work hours. Please let me know if these start times are reasonable on April 4.

Jeff
503-314-0898

From: Seth Kelly <skelly@cityofmolalla.com>
Sent: Monday, March 3, 2025 12:37 PM
To: NAVARRO Jeffrey * DEQ <Jeffrey.NAVARRO@deq.oregon.gov>
Cc: YELTON-BRAM Tiffany * DEQ <Tiffany.YELTON-BRAM@deq.oregon.gov>; Mac Corthell <mcorthell@cityofmolalla.com>; HYNSON Mark * DEQ <Mark.HYNSON@deq.oregon.gov>

Subject: Molalla Permit# 101514 Public Notice

Hello Mr. Navarro,

I am reaching out to see about coordination the Public Notice release on the City of Molalla Draft Permit# 101514. Would it work for your team to have a Public Notice this Wednesday the March 5th so that the Public Hearing could be Friday April 4th with a start time between 10:00 – 11:00 am?

Thank you,

Seth Kelly
Water Quality Superintendent
315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From:	Seth Kelly
To:	"GRAEPER Melyssa * DEQ"
Subject:	RE: Technical Assistance Webinar Series Details and Registration- 3/26/25 webinar: Wastewater Lagoons 101: EPA Tools for Operators
Date:	Thursday, March 6, 2025 12:05:00 PM

Hi Melyssa,

I appreciate you passing this along. I will try to coordinate my staff being able to attend.

Seth Kelly

Water Quality Superintendent

315 Kennel Ave. | PO Box 248 |Molalla, OR 97038
Phone – 503.759.0243
Email – skelly@cityofmolalla.com
Website – http://www.cityofmolalla.com

From: GRAEPER Melyssa * DEQ <Melyssa.GRAEPER@deq.oregon.gov>
Sent: Wednesday, March 5, 2025 4:26 PM
Subject: Technical Assistance Webinar Series Details and Registration- 3/26/25 webinar: Wastewater Lagoons 101: EPA Tools for Operators

Hello!

Please see the below information and attached flyer about an upcoming lagoon operation webinar that may interest you or your staff.

Melyssa Graeper (she/her)
Regional Solutions Team | DEQ NW Region
(503) 509-4636

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From: Office of Enforcement & Compliance Assurance (OECA) <oeca.epa@service.govdelivery.com>
Sent: Monday, March 3, 2025 8:39 AM
Subject: Technical Assistance Webinar Series - Details and Registration for 3/26/25 webinar

EPA's Office of Compliance invites you to a **free** webinar on **Wednesday, March 26, 2025**, as part of EPA's ongoing Technical Assistance Webinar Series: Improving CWA-NPDES Permit Compliance at Small Wastewater Treatment Systems.

See the attached detailed announcement flyer for our next scheduled webinar on March 26 (1:00-2:30pm ET) titled, ***Wastewater Lagoons 101: EPA Tools for Operators***, featuring Alma Hidalgo and Cornell Gayle from EPA headquarters, and Mike Beck from Eastern Research Group (ERG). This webinar rescheduled from January 2025. This webinar will discuss how lagoon systems are designed to treat wastewater and common compliance problems operators face and several new tools EPA has developed for lagoon operators. See the attached announcement for a more detailed description and/or CLICK HERE to register.

Our website to announce future webinars and archive past recorded webinars is: https://www.epa.gov/compliance/technical-assistance-webinar-series-improving-cwa-npdes-permit-compliance. It can take several weeks to get the webinars posted, so check back frequently to find the most recent recordings. **Please note that certificates are *not* available for viewing past recorded webinars.**

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Thank you for your continued interest. If you require special accommodations or have any additional questions regarding the webinar series, please contact webinar organizers at water.compliance@epa.gov.