



PUBLIC NOTICE

Date posted: 9/12/2024

DEQ Requests Comments on Proposed City of Cascade Locks Water Quality Permit Renewal

HOW TO PROVIDE PUBLIC COMMENT

Facility name: City of Cascade Locks STP

Permit type: Domestic Minor

Comments due by: Thursday, Oct. 17, 2024 at 5 p.m.

Send written comments to:

By mail: WQ Permit Coordinator, Oregon DEQ
800 SE Emigrant Ave., Ste. 330, Pendleton, OR 97801

By email: Water.permitter@deq.oregon.gov

The Oregon Department of Environmental Quality invites the public to provide written comments on the conditions of the City of Cascade Locks Sewage Treatment Plant 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 City of Cascade Locks STP to discharge wastewater to the Columbia River.

About the facility

The City of Cascade Locks has applied for a water quality permit renewal for the City of Cascade Locks STP located at 105 Herman Creek Lane in Cascade Locks. DEQ last renewed this permit on October 1, 2019. The City of Cascade Locks STP operates a sequencing batch reactor plant that treats wastewater and discharges treated effluent. The regulated pollutants produced by their operations are five-day biological oxygen demand (BOD₅), total suspended solids (TSS), pH, *E.coli* and thermal load.

The facility discharges to the Main Stem Columbia River near Herman Creek Lane approximately 1300 feet from the bank into the Columbia River. The Main Stem Columbia 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 or the Columbia and Lower Snake Rivers Temperature Total Maximum Daily Load, or TMDL, for temperature.

The most recent DEQ inspection of the City of Cascade Locks STP was on October 25, 2023. DEQ did not identify violations during this inspection. DEQ has documented violations since then, observing water quality violations in the past permit term. During construction and plant upgrades the facility discharged untreated wastewater to the Columbia River on two occurrences and discharged treated, but non-disinfected, wastewater to the Columbia River on one occurrence.

Translation or other formats

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Additionally, over the last permit term, the facility exceeded effluent limits, failed to submit required reports, failed to follow monitoring and reporting protocols, and allowed operation of the wastewater treatment or collection system without proper certification. These compliance issues are currently being addressed.

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: BOD₅, TSS, pH, *E.coli* and thermal load.

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

Yes. The draft permit would incorporate a thermal load limit consistent with the TMDL in place of the excess thermal load limit, decrease the TSS mass load limit, and decrease the BOD₅ limit in comparison to the existing CBOD₅ equivalent.

Pollutant	Change
Thermal Load	new
TSS Mass Load	-
BOD ₅ Mass Load	Substitution for CBOD ₅ limits and more stringent

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 the permit application, water quality online databases, monitoring data, a mixing zone analysis, previous permits, and facility plans and design. These materials may be viewed upon request. In addition to the review and assessment of materials noted above, DEQ has exercised discretion in establishing monitoring/reporting requirements and identifying applicable data for analyses.

Discretion exists when DEQ has the power to make a choice about whether to act or not act, to approve or not approve, or to approve with conditions. The role of the decision-maker is to make a judgment that takes into account all relevant information.

How does DEQ monitor compliance with the permit requirements?

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

What happens next?

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

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

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

For more information

Find more information by reviewing draft permit documents attached to this notice or contact Patty Isaak at 541-613-1125 or water.permitter@deq.oregon.gov with questions or to view documents in person at a DEQ office by appointment.

Non-discrimination statement

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



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT

Oregon Department of Environmental Quality
Eastern Region – Pendleton Office
800 SE Emigrant, #330
Pendleton, OR 97801
Telephone: 541-276-4063

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

ISSUED TO:

City of Cascade Locks
105 Herman Creek Lane
Cascade Locks, OR

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	45.6856, -121.8689

FACILITY LOCATION:

Cascade Locks STP
105 Herman Creek Lane
Cascade Locks, OR 97041
County: Hood River
EPA Permit Type: Minor

RECEIVING STREAM INFORMATION:

Receiving stream/NHD name: Columbia River
USGS 12-Digit HUC: 170701051204
OWRD Administrative Basin: Main Stem Columbia River
NHD Reach Code & % along reach: 17070105010058 – 57.01%
ODEQ LLID & RM: 1240483462464 – 147.1
Integrated Report AU ID: OR_LK_1707010512_88_100134

Issued in response to Application No. 948173 received December 31, 2023. This permit is issued based on the land use findings in the permit record.

	DRAFT	DRAFT
	Issuance Date	Effective Date
Mike Hiatt, Water Quality Manager, Eastern region		

PERMITTED ACTIVITIES

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

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

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SCHEDULE A: WASTE DISCHARGE LIMITS

1. Outfall 001 – Permit Limits

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

Table A1: Permit Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (May 1 – October 31)	mg/L	20	30	-
	lb/day	26	39	52
	% removal	85	-	-
TSS (May 1 – October 31)	mg/L	20	30	-
	lb/day	26	39	52
	% removal	85	-	-
BOD ₅ (November 1 – April 30)	mg/L	30	45	-
	lb/day	66	99	130
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	66	99	130
	% removal	85	-	-
pH (Year-round)	SU	Instantaneous limit between a daily minimum of 6.0 and a daily maximum of 8.5		
<i>E. coli</i> (Year-round) (See note a.)	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		
Thermal Load (June 1 – October 31)	million kcal/day	52.1 million kcal/day as a monthly average		
Notes:				
a. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 <i>E. coli</i> organisms/100 mL demonstrates compliance with the limit.				

2. 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 is that portion of the Columbia River 100 feet downstream from the diffuser. The Zone of Immediate Dilution (ZID) shall be defined as that portion of the allowable regulatory mixing zone that is within 10 feet downstream of the diffuser.

3. Chlorine Usage

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

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SCHEDULE B: MINIMUM MONITORING AND REPORTING REQUIREMENTS

1. Reporting Requirements

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

Table B1: Reporting Requirements and Due Dates

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Tables B2, B3, and B4 Influent Monitoring, Effluent Monitoring, and Receiving Stream Monitoring	Monthly	By the 15th of the following month	Specified in Schedule B. Section 2 of this permit	Electronic reporting as directed by DEQ
Inflow and infiltration report (see Schedule D)	Annually	February 15	Electronic copy in a DEQ- approved format	Attached via electronic reporting as directed by DEQ
Wastewater solids annual report (see Schedule D)	Annually	By February 19 of the following year	Electronic copy in a DEQ- approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Biosolids Program Coordinator
Industrial User Survey (see Schedule D)	Once per permit cycle	Submit by no later than 24 months after permit effective date	Electronic copy in a DEQ approved format	Attached via electronic reporting as directed by DEQ
Outfall Inspection Report (see Schedule D)	Once per permit cycle	Submit by 03/15/2027	Electronic copy in a DEQ- approved format	Attached via electronic reporting as directed by DEQ
Notes: a. For submittals that are provided to DEQ by mail, the postmarked date must not be later than the due date. b. All reporting requirements are to be submitted in a DEQ approved format, unless otherwise specified in writing.				

2. Monitoring and Reporting Protocols

a. Electronic Submissions

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

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

- ii. The reporting period is the calendar month.
- iii. The permittee must submit monitoring data and other information required by this permit for all compliance points by the 15th day of the month following the reporting period unless specified otherwise in this permit or as specified in writing by DEQ.
- b. Test Methods

The permittee must conduct monitoring according to test procedures in 40 CFR 136 and 40 CFR 503 for biosolids or other approved procedures as per Schedule F.
- c. Detection and Quantitation Limits
 - i. Detection Level (DL) – The DL is defined as the minimum measured concentration of a substance that can be distinguished from method blank results with 99% confidence. The DL is derived using the procedure in 40 CFR 136 Appendix B and evaluated for reasonableness relative to method blank concentrations to ensure results reported above the DL are not a result of routine background contamination. The DL is also known as the Method Detection Limit (MDL) or Limit of Detection (LOD).
 - ii. Quantitation Limits (QLs) – The QL is the minimum level, concentration or quantity of a target analyte that can be reported with a specified degree of confidence. It is the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration for the analyte. It is normally equivalent to the concentration of the lowest calibration standard adjusted for sample weights, volumes, preparation and cleanup procedures employed. The QL as reported by a laboratory is also sometimes referred to as the Method Reporting Limit (MRL) or Limit of Quantitation (LOQ).
- d. Sufficient Sensitivity of Quantitation Limits
 - i. The Laboratory QLs (adjusted for any dilutions) for analyses performed to demonstrate compliance with permit limits or as part of effluent characterization, must meet at least one of the requirements below:
 - (A) The QL is at or below the level of the water quality criterion for the measured parameter.
 - (B) The QL is above the water quality criterion but the amount of the pollutant in a facility's discharge is high enough that the method detects and quantifies the level of the parameter in the discharge.
 - (C) The QL has the lowest sensitivity of the analytical methods procedure specified in 40 CFR 136.
 - (D) The QL is at or below those defined in Oregon DEQ list of quantitation limits posted online at [DEQ permitting website](#).
 - ii. Matrix effects are present that prevent the attainment of QLs and these matrix effects are demonstrated according to procedures described in EPA's "*Solutions to Analytical Chemistry Problems with Clean Water Act Methods*", March 2007. If using alternative methods and taking appropriate steps to eliminate matrix effects does not eliminate the matrix problems, DEQ may authorize in writing re-sampling or allow a higher QL to be reported.
- e. Quality Assurance and Quality Control
 - i. Quality Assurance Plan – The permittee must develop and implement a written Quality Assurance Plan that details the facility sampling procedures, equipment calibration and

maintenance, analytical methods, quality control activities and laboratory data handling and reporting. The QA/QC program must conform to the requirements of 40 CFR 136.7.

- ii. If QA/QC requirements are not met for any analysis, the permittee must re-analyze the sample. If the sample cannot be re-analyzed, the permittee must re-sample and analyze at the earliest opportunity. If the permittee is unable to collect a sample that meets QA/QC requirements, then the permittee must include the result in the discharge monitoring report (DMR) along with a notation (data qualifier). In addition, the permittee must explain how the sample does not meet QA/QC requirements. The permittee may not use the result that failed the QA/QC requirements in any calculation required by the permit unless authorized in writing by DEQ. If these method criteria are not met for BOD₅, the permittee must: 1) report the daily BOD₅ values with data qualifiers; 2) include these BOD₅ values in the summary statistic calculations (e.g., weekly averages, monthly averages, % removal); and 3) report the BOD₅ summary statistics with data qualifiers.
 - iii. Flow measurement, field measurement, and continuous monitoring devices - The permittee must:
 - (A) Establish verification and calibration frequency for each device or instrument in the quality assurance plan that conforms to the frequencies recommended by the manufacturer.
 - (B) Verify at least once per year that flow-monitoring devices are functioning properly according to manufacturer's recommendation. Calibrate as needed according to manufacturer's recommendations.
 - (C) Verify at least weekly that the continuous monitoring instruments are functioning properly according to manufacturer's recommendation unless the permittee demonstrates a longer period is sufficient and such longer period is approved by DEQ in writing.
 - iv. The permittee must develop a receiving water sampling and analysis plan that incorporates QA/QC prior to sampling. This plan must be kept at the facility and made available to DEQ upon request.
- f. Reporting Sample Results
- i. The permittee must report the laboratory DL and QL as defined above for each analyte, with the following exceptions: pH, temperature, BOD, CBOD, TSS, Oil & Grease, hardness, alkalinity, bacteriological analytes and nitrate-nitrite. For temperature and pH, neither the QL nor the DL need to be reported. For the other parameters listed above, the permittee is only required to report the QL and only when the result is ND.
 - ii. The permittee must report the same number of significant digits as the permit limit for a given parameter.
 - iii. (For Discharge Monitoring Reports) If a sample result is above the DL but below the QL, the permittee must report the result as the DL preceded by DEQ's data code "e". For example, if the DL is 1.0 µg/l, the QL is 3.0 µg/L and the result is estimated to be between the DL and QL, the permittee must report "e1.0 µg/L" on the DMR. This requirement does not apply in the case of parameters for which the DL does not have to be reported.
 - iv. (For Discharge Monitoring Reports) If the sample result is below the DL, the permittee must report the result as less than the specified DL. For example, if the DL is 1.0 µg/L and the result is ND, report "<1.0" on the discharge monitoring report (DMR). This

requirement does not apply in the case of parameters for which the DL does not have to be reported.

g. Calculating and Reporting Mass Loads

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

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

- i. Mass load limits all have two significant figures unless otherwise noted.
- ii. When concentration data are below the DL: To calculate the mass load from this result, use the DL. Report the mass load as less than the calculated mass load. For example, if flow is 2 MGD and the reported sample result is <1.0 µg/L, report “<0.017 lb/day” for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day).

3. Monitoring and Reporting Requirements

- a. The permittee must monitor influent just before the fine screen removal device at the headworks and report results in accordance with Table B1 and the table below.

Table B2: Influent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note a.)	Report Statistic (See note b.)
Flow (50050)	MGD	Year-round	Daily	Metered	1. Monthly Average 2. Daily Maximum
BOD ₅ (00310)	mg/L	Year-round	2/week	24-hour composite	Monthly Average
TSS (00530)	mg/L	Year-round	2/week	24-hour composite	Monthly Average
pH (00400)	SU	Year-round	3/week	Grab	1. Monthly Maximum 2. Monthly Minimum

Notes:

- a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements.
- b. When submitting DMRs electronically, the permittee must submit all data used to determine summary statistics in a DEQ-approved format as a spreadsheet via electronic reporting unless otherwise directed by DEQ.

- b. The permittee must monitor effluent at Outfall 001 at the downstream end of the UV trough and report results in accordance with Table B1 and the table below. The permittee must monitor effluent flow for Outfall 001 at the downstream end of the equalization basin and upstream of the UV trough.

Table B3: Effluent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Flow (50050)	MGD	Year-round	Daily	Metered	1. Monthly Average 2. Daily Maximum
BOD ₅ (00310)	mg/L	Year-round	2/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
BOD ₅ (00310)	lb/day	Year-round	2/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
BOD ₅ percent removal (81010) (See note c.)	%	Year-round	Monthly	Calculation based on monthly average BOD ₅ concentration values	Monthly Average
TSS (00530)	mg/L	Year-round	2/week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
TSS (00530)	lb/day	Year-round	2/week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
TSS percent removal (81011) (See note c.)	%	Year-round	Monthly	Calculation based on monthly average TSS concentration values	Monthly Average
pH (00400)	SU	Year-round	3/week	Grab	1. Daily Maximum 2. Daily Minimum
Temperature (00010)	°C	Year-round	3/week	Grab (See note d.)	1. Daily Maximum 2. Daily Average 3. Monthly Average 4. 7-day Rolling Average of Daily Maximum
Thermal Load (00015)	Million kcal/day	June – October	3/week	Calculation (See note e.)	1. Daily Maximum 2. Monthly Average
<i>E. coli</i> (51040)	#/100 mL	Year-round	2/week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
Total ammonia (as N) (00610)	mg/L	Year-round	Monthly	24-hour composite	Monthly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Alkalinity as CaCO ₃ (00410)	mg/L	Year-Round	Quarterly	Grab	Quarterly Maximum
UV intensity	mW/cm ²	Year-round	Daily	Continuous	Maintain records on-site
UV dose	mJ/cm ²	Year-round	Daily	Calculation OR from manufacturer's table	Maintain records on-site
UV transmittance	%	Year-round	Daily	Continuous	Maintain records on-site
Dissolved Oxygen (00300)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite (see note f.)	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum
Nitrate (NO ₃) Plus Nitrite (NO ₂) Nitrogen (00630)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum
Oil and Grease (00556)	mg/L	Third year of permit cycle [2027]	Quarterly	Grab	Quarterly Maximum
Total Phosphorus (00665)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum
Total Dissolved Solids (70295)	mg/L	Third year of permit cycle [2027]	Quarterly	24-hour composite	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Notes: a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. If the failure or loss is for continuous temperature monitoring equipment, the permittee must perform grab measurements daily between 12 PM and 5 PM until continuous monitoring equipment is redeployed. b. When submitting DMRs electronically, all data used to determine summary statistics must be submitted in a DEQ-approved format as a spreadsheet via electronic reporting unless otherwise directed by DEQ. c. Percent Removal must be calculated on a monthly basis using the following formula: $\text{Percent Removal} = \frac{[\text{Influent Concentration}] - [\text{Effluent Concentration}]}{[\text{Influent Concentration}]} \times 100$ Where: Influent Concentration = Corresponding Monthly average influent concentration based on the analytical results of the reporting period. Effluent Concentration = Corresponding Monthly average effluent concentration based on the analytical results of the reporting period. d. The permittee must perform temperature grab measurements daily between 12 PM and 5 PM. e. The daily thermal load (TL) discharged must be calculated using the daily average effluent temperature and the corresponding daily average effluent flow using the formula below. The monthly average is then calculated from the daily TLs. The daily TL is calculated as follows: $\text{TL} = 3.78 * Q_e * T_e$ Where: TL = Daily Thermal Load (million kcal/day) Q_e = Daily Average Effluent Flow (MGD) T_e = Daily Average Effluent Temperature (°C) f. For Dissolved Oxygen, the permittee must collect and analyze at least four discrete grab samples over the operating day with samples collected from at least two batch discharges. The analytical results for all samples in a day must be averaged for reporting purposes.					

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

Table B4: Receiving Stream Monitoring (Mainstem Columbia River)

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action	Report Statistic (See note a.)
pH (00400)	SU	Year-round	1/month	Grab	Monthly Maximum
Temperature (00010)	°C	Year-round	1/month	Grab	Monthly Maximum
Alkalinity as CaCO ₃ (00410)	mg/L	Year-round	1/quarter	Grab	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action	Report Statistic (See note a.)
Total ammonia (as N) (00610)	mg/L	Year-round	1/month	Grab	Monthly Maximum
Notes: a. When submitting DMRs electronically, all data used to determine summary statistics must be submitted in a DEQ-approved format as a spreadsheet via electronic reporting unless otherwise directed by DEQ.					

SCHEDULE C: COMPLIANCE SCHEDULE

A compliance schedule is not part of this permit.

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SCHEDULE D: SPECIAL CONDITIONS

1. Inflow and Infiltration

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

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

2. Emergency Response and Public Notification Plan

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

3. Exempt Wastewater Reuse at the Treatment System

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

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

4. Wastewater Solids Annual Report

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

5. 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.

- a. *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.

6. 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.

7. Operator Certification

- a. Definitions
 - i. “Supervise” means to have full and active responsibility for the daily on site technical operation of a wastewater treatment system or wastewater collection system.
 - ii. “Supervisor” or “designated operator”, means the operator delegated authority by the permittee for establishing and executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system in accordance with the policies of the owner of the system and any permit requirements.
 - iii. “Shift Supervisor” means the operator delegated authority by the permittee for executing the specific practice and procedures for operating the wastewater treatment system or wastewater collection system when the system is operated on more than one daily shift.
 - iv. “System” includes both the collection system and the treatment systems.
- b. The permittee must comply with OAR Chapter 340, Division 49, “Regulations Pertaining to Certification of Wastewater System Operator Personnel” and designate a supervisor whose certification corresponds with the classification of the collection and/or treatment system as specified in DEQ Supervisory Wastewater Operator Status Report. DEQ may revise the permittee’s classification in writing at any time to reflect changes in the collection or treatment system. This reclassification is not considered a permit modification and may be made after the permit expiration date provided the permit has been administratively extended by DEQ. If a facility is re-classified, a certified letter will be mailed to the system owner from DEQ Operator Certification Program. Current system classifications are publicized on DEQ Supervisory Wastewater Operator Status Report found on [DEQ Wastewater Operator Certification Homepage](#).
- c. The permittee must have its system supervised full-time by one or more operators who hold a valid certificate for the type of wastewater treatment or wastewater collection system, and at a grade equal to or greater than the wastewater system’s classification.
- d. The permittee's wastewater system may be without the designated supervisor for up to 30 consecutive days if another person supervises the system, who is certified at no more than one grade lower than the classification of the wastewater system. The permittee must delegate authority to this operator to supervise the operation of the system.

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

8. Industrial User Survey

Industrial User Survey Update

- a. By the date listed in Table B1, the permittee must submit to DEQ an update to the industrial user survey that was completed **on February 27, 2023**. The update must be completed in accordance with 40 CFR 403.8(f)(2)(i-iii) and provide DEQ with sufficient information to determine the need for development of a pretreatment program.
- b. Should DEQ determine that a pretreatment program is required, the permit must be reopened and modified in accordance with 40 CFR 403.8(e)(1) to incorporate a compliance schedule to require development of a pretreatment program. The compliance schedule must be developed in accordance with the provisions of 40 CFR 403.12(k), and must not exceed twelve (12) months.

9. Outfall Inspection

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

SCHEDULE E: PRETREATMENT ACTIVITIES

A pretreatment program is not part of this permit.

Public Notice

SCHEDULE F: NPDES GENERAL CONDITIONS

DOMESTIC FACILITIES October 1, 2015 Version

SECTION A. STANDARD CONDITIONS

A1. Duty to Comply with Permit

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

A2. Penalties for Water Pollution and Permit Condition Violations

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A4. Duty to Reapply

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

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

A5. Permit Actions

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

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).
- e. New information or regulations.
- f. Modification of compliance schedules.
- g. Requirements of permit reopener conditions
- h. Correction of technical mistakes made in determining permit conditions.
- i. Determination that the permitted activity endangers human health or the environment.
- j. Other causes as specified in 40 CFR §§ 122.62, 122.64, and 124.5.
- k. For communities with combined sewer overflows (CSOs):
 - (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.
 - (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
 - (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

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

A6. Toxic Pollutants

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

A7. Property Rights and Other Legal Requirements

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

A8. Permit References

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

A9. Permit Fees

The permittee must pay the fees required by OAR.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

B1. Proper Operation and Maintenance

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

B2. Need to Halt or Reduce Activity Not a Defense

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

B3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural

resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- b. Prohibition of bypass.
 - (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:
 - i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
 - iii. The permittee submitted notices and requests as required under General Condition B3.c.
 - (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).
- c. Notice and request for bypass.
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

B4. Upset

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

B5. Treatment of Single Operational Upset

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

B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

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

B7. Public Notification of Effluent Violation or Overflow

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

B8. Emergency Response and Public Notification Plan

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

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

B9. Removed Substances

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

SECTION C. MONITORING AND RECORDS

C1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

C2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be

capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

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

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

C4. Penalties for Tampering

The federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

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

C6. Additional Monitoring by the Permittee

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

C7. Averaging of Measurements

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

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;

- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

C10. Inspection and Entry

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

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

C11. Confidentiality of Information

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

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

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

D2. Anticipated Noncompliance

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

D3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under 40 CFR § 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

D4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-

800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.

(1) Oral Reporting within 24 hours.

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

(2) Written reporting postmarked within 5 days.

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

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

b. Other instances of noncompliance.

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

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

(2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

(3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:

- i. A description of the noncompliance and its cause;
- ii. The period of noncompliance, including exact dates and times;
- iii. The estimated time noncompliance is expected to continue if it has not been corrected;
- iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- v. Public notification steps taken, pursuant to General Condition B7.

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

D6. Other Noncompliance

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

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

D7. Duty to Provide Information

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

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

D8. Signatory Requirements

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

D9. Falsification of Information

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

D10. Changes to Indirect Dischargers

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

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

SECTION E. DEFINITIONS

E1. *BOD* or *BOD₅* means five-day biochemical oxygen demand.

E2. *CBOD* or *CBOD₅* means five-day carbonaceous biochemical oxygen demand.

E3. *TSS* means total suspended solids.

E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.

E5. *FC* means fecal coliform bacteria.

E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine

- E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
- E8. *mg/l* means milligrams per liter.
- E9. *µg/l* means microgram per liter.
- E10. *kg* means kilograms.
- E11. *m³/d* means cubic meters per day.
- E12. *MGD* means million gallons per day.
- E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
- E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
- E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
- E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
- E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
- E18. *Quarter* means January through March, April through June, July through September, or October through December.
- E19. *Month* means calendar month.
- E20. *Week* means a calendar week of Sunday through Saturday.
- E21. *POTW* means a publicly-owned treatment works.



State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System Permit Fact Sheet City of Cascade Locks

Permittee	City of Cascade Locks Cascade Locks STP 105 Herman Creek Lane Cascade Locks, OR 97014-0308
Existing Permit Information	File Number: 108653 Permit Number: 101328 EPA Reference Number: OR0041271 Category: Domestic Class: Minor Expiration Date: 07-31-2024
Permittee Contact	Louie Hooks Facility Contact 541-386-2432 818 Riverside Dr. Hood River, OR 97031-1179
Receiving Water Information	Receiving stream/NHD name: Columbia River NHD Reach Code & % along reach: 17070105010058 – 57.01% USGS 12-digit HUC: 170701051204 OWRD Administrative Basin: Main Stem Columbia River ODEQ LLID & River Mile: 1240483462464 – 147.1 Integrated Report Assessment Unit ID: OR_LK_1707010512_88_100134
Proposed Action	Permit Renewal Application Number: 948173 Date Application Received: 02/02/2024
Permit Writer	Megan Poskaitis 503-847-6597 Date Prepared: 9-11-2024

NPDES Permit Fact Sheet

City of Cascade Locks

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NPDES Permit Renewal Fact Sheet

City of Cascade Locks

1. Introduction

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

- Schedule A – Waste discharge limitations
- Schedule B – Minimum monitoring and report requirements
- Schedule C – Not Applicable
- Schedule D – Special conditions
- Schedule E – Not Applicable
- Schedule F – General conditions

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

- Update of excess thermal load limit with new thermal load limit to be consistent with the Columbia and Lower Snake Rivers temperature TMDL
- Substitution of BOD₅ for CBOD₅ effluent limits
- Update of TSS and BOD₅ mass load limits due to new design flows following plant upgrades
- Inclusion of receiving stream (Main stem Columbia River) monitoring for pH, temperature, alkalinity, and ammonia – Table B4

2. Facility Description

2.1 Wastewater Facility

The original wastewater treatment plant was constructed at Marina Park and placed into operation in 1968. In June 1998, to accommodate future growth, a new sequencing batch reactor (SBR) wastewater treatment facility was constructed and placed into service at its current location at the NE end of Herman Creek Road. The original wastewater treatment facility was demolished.

The SBR facility consists of the headworks equipped with a mechanical fine screen, bar screen and grit removal system, two SBR basins, a flow equalization basin, two aerobic digesters, and an ultraviolet (UV) disinfection channel system.

During the previous permit cycle, improvements to the wastewater treatment facility and collections system recommended by Anderson Perry & Associates, Inc. were installed. The wastewater treatment plant improvements include addition of a grit removal system to the headworks, SBR renovations, digester improvements, plant lift station improvements, and upgrades to the UV disinfection system.

Previously, headworks treatment did not include grit removal. The new grit removal system consists of a grit vortex, grit cyclone/classifier, and grit slurry pump. The SBR aeration system, US Filter Jet-Tech, was removed and replaced with the Aqua-Aerobic system, in which aeration and mixing are independent. Additional SBR renovations include a new blower system, a removable fine bubble diffuser, replaced decanting mechanism, and new floating mixers. The plant lift station improvements include pump removal and replacement, UV drain installation into wet well, and valve replacement. The UV disinfection system was upgraded to Trojan UV3000Plus with new electrical and controls. The existing effluent weir, light banks, and magnetic flow meter were removed and replaced, and a new UV basin drain was installed that drains to the plant lift station.

Untreated wastewater from the city collection system enters the plant through a 24-inch interceptor to the headworks where it is screened and passed through a grit removal system prior to being channeled to one of the two SBR basins. The following treatment processes occur in each SBR basin: fill, mixing, aeration, settling, decanting, and anoxic mixing. Each SBR basin can be operated in sequence (e.g., while one basin is in treatment mode the other can be filled) or each SBR basin can be operated separately. Decanted wastewater from the SBRs flows to the equalization basin before flowing at a metered rate through the UV disinfection channel. After passing through two UV disinfection banks, the treated effluent is directed to the Columbia River outfall and discharged.

Treated effluent discharges to the Columbia River (Outfall 001) at river mile 147.1. The outfall pipe is 18 inches in diameter and extends approximately 1300 feet from the bank into the Columbia River at a depth of 10 feet. A five-nozzle multi-port diffuser is at the end of the outfall pipe. Waste digested sludge is hauled to Hood River Wastewater Treatment Plant for treatment and disposal.

The Marina Park lift station, also referred to as the main pump station, is located at the site of the original wastewater treatment facility. Marina Park lift station receives a majority of wastewater from the city. It pumps wastewater approximately three miles to the wastewater treatment facility. This lift station has an emergency back-up power generator. During the renovation, the existing station components were demolished and new submersible pumps, valve vault, and piping were installed, equipped with new electrical, control, and SCADA panels.

The industrial pump station located at the intersection of Forest Land and Industrial Park Way was idle at the time of the last permit renewal. The industrial way pump station has been restored during the improvements through installation of submersible pumps, valve vault and piping, wet well rehabilitation, new electrical, control and SCADA panels and connection for a portable back-up power generator.

Figure 2-1: Facility Location

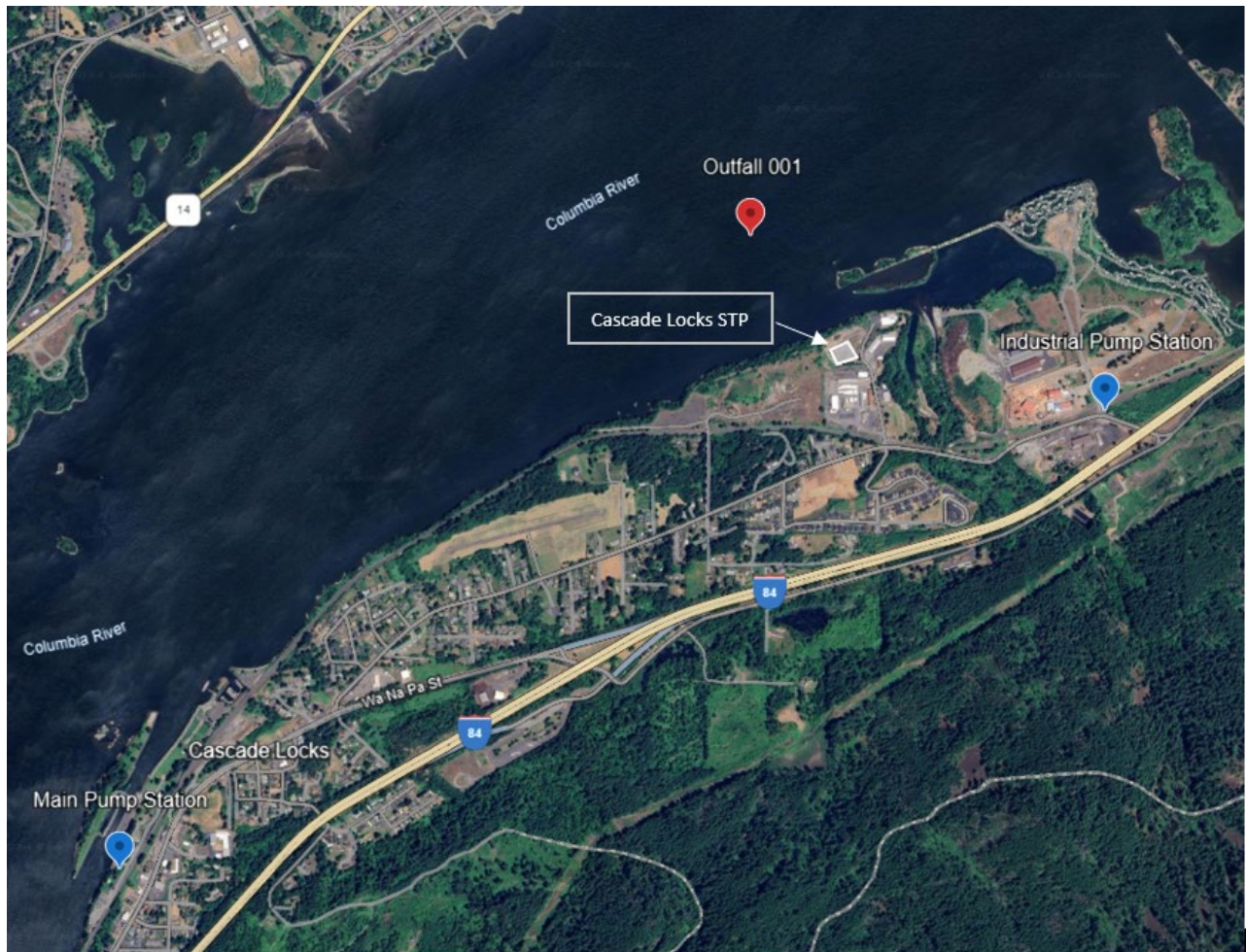


Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long	Design Flow¹ (mgd)	Existing Flow² (mgd)
001	Treated Wastewater	45.68575, - 121.868167	0.111	0.110
1. Design Flow = design average dry weather flow 2. Existing Flow = existing average monthly dry weather flow				

2.2 Stormwater

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

2.3 Industrial Pretreatment

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

2.4 Wastewater Classification

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

3. Schedule A: Effluent Limit Development

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

3.1 Existing Effluent Limits

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

Table 3-1: Existing Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
CBOD ₅ (November 1 - April 30)	mg/L	25	40	-
	lb/day	58	87	116
	% removal	85	-	-
CBOD ₅ (May 1 – October 31)	mg/L	15	25	-
	lb/day	41	62	82
	% removal	85	-	-
TSS (November 1 – April 30)	mg/L	30	45	-
	lb/day	83	124	166
	% removal	85	-	-
TSS (May 1 – October 31)	mg/L	20	30	-
	lb/day	41	62	82
	% removal	85	-	-
pH	SU	Instantaneous limit between a daily minimum of 6.0 and a daily maximum of 8.5		
<i>E. coli</i> See note a.	#/100 mL	Monthly log mean (same as geometric mean) may not exceed 126 organisms per 100 mL. No single sample may exceed 406 organisms per 100 mL.		
Excess Thermal Load (ETL)	million kcal/day (Mkcal/day)	44 million kcals/day maximum 7 day rolling average ETL		
Notes: a. No single <i>E. coli</i> sample may exceed 406 organisms per 100 mL; however, DEQ will not cite a violation of this limit if the permittee takes at least 5 consecutive re-samples at 4 hour intervals beginning as soon as practicable (preferably within 28 hours after the original sample was taken) and the geometric mean of the 5 re-samples is less than or equal to 126 <i>E. coli</i> organisms/100 mL.				

3.2 Technology-Based Effluent Limit Development

40 CFR 122.44(a)(1) requires publicly owned treatment works (POTW) to meet technology-based effluent limits, for five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS) and pH (i.e., federal secondary treatment standards). Substitution of 5-day carbonaceous

oxygen demand (CBOD₅) for BOD₅ is allowed. The numeric standards for these pollutants are contained in 40 CFR 133.102. In addition, DEQ has developed minimum design criteria for BOD₅ and TSS that apply to specific watershed basins in Oregon. These are listed in the basin-specific criteria sections under OAR 340-041-0101 to 0350. During the summer low flow months as defined by OAR, these design criteria are more stringent than the federal secondary treatment standards. The basin-specific criteria are not effluent limits, but are implemented as design criteria for new or expanded wastewater treatment plants. The table below shows a comparison of the federal secondary treatment standards and the basin-specific design criteria for the Main Stem Columbia River.

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

Parameter	Federal Secondary Treatment Standards		Main Stem Columbia River Basin-Specific Design Criteria (OAR 340-041-0104)
	30-Day Average	7-Day Average	Monthly Average
BOD ₅ (mg/L)	30	45	20 (May 1 to October 31)
TSS (mg/L)	30	45	20 (May 1 to October 31)
pH (S.U.)	6.0 – 9.0. (instantaneous)		Not applicable
BOD ₅ and TSS % Removal	85%	Not applicable	Not applicable

The limits for BOD₅ and TSS shown in the table above are concentration-based limits. Mass-based limits are required in addition to the concentration-based limits per OAR 340-041-0061(9). For any new facility or any facility that has expanded its dry weather treatment capacity after June 30, 1992, OAR 340-041-0061(9)(b) requires that the mass load limits be calculated based on the proposed treatment facility capabilities and the highest and best practicable treatment to minimize the discharge of pollutants. The permittee's facility has been engineered to achieve TSS monthly average concentrations of 20 mg/L during the dry weather season and 30 mg/L during the wet weather season. The permittee's facility has been engineered to achieve CBOD₅ monthly average concentrations of 15 mg/L during the dry weather season and 25 mg/L during the wet weather season.

The permittee has requested substitution of BOD₅ effluent limits in the proposed permit for CBOD₅ effluent limits in the current permit. DEQ permits this in accordance with EPA's 1984 promulgated rule revisions, allowing for the substitution of CBOD₅ for BOD₅ and vice versa when implementing federal secondary treatment standards. Following federal regulations and guidance, a monthly average concentration of 20 mg/L BOD₅ will substitute for 15 mg/L CBOD₅ during the dry weather season and a monthly average concentration of 30 mg/L BOD₅ will substitute for 25 mg/L CBOD₅ 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.

DEQ uses the maximum monthly design flow to calculate the mass load limits as shown below for the dry and wet weather seasons.

$$\text{Monthly Avg Mass Load} = \text{Design Flow}^* \times \text{Monthly Concentration Limit} \times \text{Unit Conversion factor}$$

$$\text{Weekly Average Mass Load} = 1.5 \times \text{Monthly Average Mass Load Limit}$$

$$\text{Daily Maximum Mass Load} = 2 \times \text{Monthly Average Mass Load Limit}$$

* 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 3-3: Design Flows and Concentrations Limits

Season	Design Flow (mgd)	Monthly TSS Concentration Limit (mg/L)	Monthly BOD ₅ Concentration Limit (mg/L)
Dry Weather	0.157	20	20
Wet Weather	0.263	30	30
Design flow comments: Dry weather design flow basis is the design maximum monthly dry weather flow (DMMDWF) and wet weather design flow basis is design maximum monthly average wet weather flow (DMMWWF)			

Cascade Locks STP's summer mass load limits for BOD₅ and TSS are calculated using the design maximum monthly dry weather flow of 0.157 mgd and a concentration of 20 mg/L. The summer calculations for BOD₅ and TSS are:

Monthly Average: $0.157 \text{ mgd} \times 20 \text{ mg/L} \times 8.34 = 26.2 \text{ lbs/day}$ rounded off to 26 lbs/day (two significant figures)

Weekly Average: $26 \text{ lbs/day monthly average} \times 1.5 = 39 \text{ lbs/day}$

Daily Maximum: $26 \text{ lbs/day monthly average} \times 2 = 52 \text{ lbs/day}$

Cascade Locks STP's winter mass load limits for BOD₅ and TSS are calculated using the design maximum monthly wet weather flow of 0.263 mgd and a concentration of 30 mg/L. The winter mass load calculations for BOD₅ and TSS are:

Monthly Average: $0.263 \text{ mgd} \times 30 \text{ mg/L} \times 8.34 = 65.8 \text{ lbs/day}$ rounded off to 66 lbs/day (two significant figures)

Weekly Average: $66 \text{ lbs/day monthly average} \times 1.5 = 99 \text{ lbs/day}$

Daily Maximum: $66 \text{ lbs/day monthly average} \times 2 = 132 \text{ lbs/day}$ rounded off to 130 lbs/day (two significant figures)

Cascade Locks STP's summer and winter mass load limits for TSS are more stringent than those in the existing permit due to plant upgrades and changes in facility design, specifically maximum monthly design flows and design effluent concentrations. Cascade Locks STP has not requested a mass load increase. Likewise, DEQ reviewed the existing CBOD₅ limits as BOD₅ and found the proposed BOD₅ limits to be more stringent. Therefore, antibacksliding review is not needed. The proposed BOD₅ and TSS limits are listed in the following table.

Table 3-4: BOD₅ and TSS Technology Based Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD ₅ (May 1 – October 31)	mg/L	20	30	NA
	lbs/day	26	39	52
	% removal	85	85	NA
TSS (May 1 – October 31)	mg/L	20	30	NA
	lbs/day	26	39	52
	% removal	85	85	NA
BOD ₅ (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	66	99	130
	% removal	85	85	NA
TSS (November 1 – April 30)	mg/L	30	45	NA
	lbs/day	66	99	130
	% removal	85	85	NA

3.3 Water Quality-Based Effluent Limit Development

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

3.3.1 Designated Beneficial Uses

NPDES permits issued by DEQ must protect the following designated beneficial uses of the Columbia River. These uses are listed in OAR-340-041-0101 for the Main Stem Columbia River.

- 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
- Commercial navigation and transportation

3.3.2 303(d) Listed Parameters and Total Maximum Daily Loads

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

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

Water Quality Limited Parameters (Category 5)	
AU ID:	OR_LK_1707010512_88_100134
AU Name:	Columbia River
AU Status:	Impaired
Year Listed	1998
Year Last Assessed	2022
303d Parameters (Category 5)	Methylmercury; Polychlorinated Biphenyls (PCBs)
TMDL Parameters (Category 4)	
Dioxin (2,3,7,8-TCDD), Temperature, and Total Dissolved Gas	

DEQ has developed Total Dissolved Gas and Dioxin Total Maximum Daily Loads (TMDLs) for the Columbia River. These TMDLs do not indicate Cascade Locks STP as a source of total dissolved gas or dioxin. Methylmercury and PCBs are not pollutants of concern because they are not expected to be present in the effluent from a domestic minor facility.

3.3.3 TMDL Wasteload Allocations

EPA issued a Temperature TMDL for the Columbia River. The WLA from this TMDL that is applicable to the permittee is listed in the following table.

Table 3-6: Applicable WLAs

Parameter	WLA	Time Period
Thermal Load	5.21×10^7 kcal/day	June 1 – October 31

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 3-7: Domestic Toxic Pollutants of Concern

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

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

Table 3-8: Pollutants of Concern

Pollutant	How was pollutant identified?
pH	Effluent Monitoring
Temperature	Effluent Monitoring
E. coli	Effluent Monitoring
Total Ammonia Nitrogen	Application Requirement

The sections below discuss the analyses that were conducted for the pollutants of concern to determine if water quality based effluent limits are needed to meet water quality standards.

3.3.5 Regulatory Mixing Zone

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

The allowable mixing zone is that portion of the Columbia River 5 feet upstream and 100 feet downstream from the diffuser or point of discharge. The Zone of Immediate Dilution (ZID) shall be defined as that portion of the allowable mixing zone that is within 10 feet of the point of discharge.

However, this description allows for a ZID that does not completely overlap with the RMZ upstream of the discharge since the ZID extends 10 ft while the RMZ only extends 5 ft. Furthermore, tidal influence on the Columbia River ends at the Bonneville Dam. Therefore, the RMZ and ZID will be updated to remove the upstream flow, resize the ZID, and clarify language as follows:

The allowable regulatory mixing zone is that portion of the Columbia River 100 feet downstream from the diffuser. The Zone of Immediate Dilution (ZID) shall be defined as that portion of the allowable regulatory mixing zone that is within 10 feet downstream of the diffuser.

The dilution factors at the edge of the zone of initial dilution and mixing zone are shown in Tables 3-9 and 3-10. For this memo, DEQ used CORMIX 12.0 to simulate the discharge and provide updated dilution values at the edge of the ZID (10 feet) and edge of the regulatory mixing zone (100 feet). These updated model runs are documented in a 2023 Mixing Zone Memo which is part of the administrative record. Outfall information was taken from the most recent outfall inspection while updated effluent flow and temperature values were used. The model inputs and data sources are shown in the Outfall Description and Receiving Water and Effluent Flow Parameters tables in the mixing zone memo. The exact model inputs used in each design case are included in the mixing zone memo and model files are available in the administrative record.

Table 3-9: Dry Weather Dilution Summary

Dilution Summary – May 1 to October 31 (Dry Weather)						
Water Quality Standard	Stream Flow (cfs)		Effluent Flow (mgd)		Dilution Factor	Location
	Statistic	Flow	Statistic	Flow		
Aquatic Life, Acute	1Q10	67,715	☐ ADWDF x PF ☐ Max Daily Avg ☒ Other	1.3	39	ZID
Aquatic Life, Chronic	7Q10	80,452	☐ ADWDF ☐ Max Monthly Avg ☒ Other	1.3	178	MZ
Human Health, Non-Carcinogen	30Q5	93,007	☐ ADWDF ☐ Max Monthly Avg ☒ Other	1.3	205	MZ
ADWDF = Average dry weather design flow PF = Peaking factor (1.5)						
Comments: Effluent flow statistic is based off of batch flow rate						

Table 3-10: Wet Weather Dilution Summary

Dilution Summary – November 1 to April 30 (Wet Weather)						
Water Quality Standard	Stream Flow (cfs)		Effluent Flow (mgd)		Dilution Factor	Location
	Statistic	Flow	Statistic	Flow		
Aquatic Life, Acute	1Q10	76,007	☐ ADWDF x PF ☐ Max Daily Avg ☒ Other	1.1	52	ZID
Aquatic Life, Chronic	7Q10	86,797	☐ ADWDF ☐ Max Monthly Avg ☒ Other	1.1	211	MZ
Human Health, Non-Carcinogen	30Q5	101,487	☐ ADWDF ☐ Max Monthly Avg ☒ Other	1.1	265	MZ
<i>ADWDF = Average dry weather design flow</i> <i>PF = Peaking factor (1.5)</i>						
Comments: Effluent flow statistic is based off of batch flow rate						

3.3.6 pH

The pH criterion for this basin is 7.0 – 8.5 per OAR 340-041-0104. The facility's current permit limits are 6.0 – 8.5. DEQ determined there is no reasonable potential for the discharge to exceed the pH criterion at the edge of the mixing zone. The lower limit remains 6.0 and is a TBEL. The upper limit is 8.5 and is a WQBEL.

Table 3-11: pH Reasonable Potential Analysis

INPUT	Lower pH Criteria	Upper pH Criteria
1. Dilution at mixing zone boundary	178.0	178.0
2. Upstream characteristics		
a. Temperature (deg C)	22.3	5.5
b. pH	7.2	8.3
c. Alkalinity (mg CaCO3/L)	48.9	48.9
3. Effluent characteristics		
a. Temperature (°C)	23.0	9.8
b. pH (S.U.)	6.0	8.5
c. Alkalinity (mg CaCO3/L)	134.6	134.6
4. Applicable pH criteria	7.0	8.5
pH at mixing zone boundary	7.1	8.3
Is there reasonable potential?	No	No
Proposed effluent limits	6.0	8.5
Effluent data source: DMRs 2022-2024. Alkalinity default used.		
Ambient data source: Columbia River Shoreline at The Dalles Marina Jetty Midpoint, Hood River STP Ambient Sampling Location, and US197 South end of The Dalles Bridge - Columbia River		

3.3.7 Temperature

3.3.7.1 Temperature Criteria OAR 340-041-0028

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

Table 3-12: Temperature Criteria Information

Applicable Temperature Criterion	Migration Corridor 20°C (OAR 340-041-0028(4)(d))
Applicable dates: Year-round	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☐ Yes ☒ No
Applicable dates: NA	
WQ-limited?	☒ Yes ☐ No
TMDL wasteload allocation assigned?	☒ Yes ☐ No
Applicable dates: June 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 Columbia and Lower Snake Rivers Temperature Total Maximum Daily Load assigns a wasteload allocation to the facility, which applies to their discharge. This allocation is addressed in the proposed permit by including an effluent limit of 52.1 million kcal/day thermal load, expressed as a monthly average, from June through October.

To demonstrate compliance with the thermal load limit, the daily thermal load discharged is calculated by multiplying the daily effluent flow by the average daily effluent temperature and a standard conversion factor.

The following formula is to be used to calculate the thermal loading of the effluent:

$$TL_e = T_e \times Q_e \times c$$

Where,

TL_e = Daily Thermal Load (million kcal/day)

T_e = Daily average effluent temperature (°C).

Q_e = Effluent Flow (million gallon per day (MGD))

c = Conversion factor = 3.78

The daily thermal load values are then averaged over the month to give the monthly thermal load discharged, which must be equal to or less than 52.1 million kcal/day for the June through October period. The TMDL requires no limitation for the remainder of the year.

The final effluent limit is listed in the following table and is included in the proposed permit. This limit is less stringent than the existing permit's excess thermal load limit. A discussion of the antidegradation and antibacksliding considerations related to this change are discussed in sections 3.4 and 3.5, below.

Table 3-13: Temperature Criterion Effluent Limits

Effluent limit needed? ☒ Yes ☐ No
TMDL WLA Limit: 52.1 million kcal/day
Applicable time period: June 1 – October 31
Temperature Criterion Limit: NA

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

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

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

OAR 340-041-0101 does not list spawning as a beneficial use for this section of the river, and thus, this rule does not apply.

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

The facility's maximum daily effluent temperature is 27.6 °C, which is well below the lethal criterion of 32 °C, thus acute impairment or instantaneous lethality are prevented.

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

An analysis related to thermal shock, included in Appendix B, indicates that when both the effluent and upstream receiving water temperatures are at their maximum measured values, the plume's temperature at 5% of the receiving stream's cross-sectional area will not be above 25°C. Based on this analysis, thermal shock caused by the discharge is prevented or minimized.

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

The migration blockage portion of the rule is based primarily on the USEPA document, *EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards* (April 2003). 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 locations is 24.5 °C. An analysis related to migration blockage, included in Appendix B, indicates that when the receiving water temperature is 21.0°C and the effluent temperature is at the maximum recorded value (26.7°C), the effluent plume when it reaches 25% of the receiving stream's cross-sectional area will be 21.001°C. This 0.001 °C over the upstream temperature is considered a de minimis increase which prevents or minimizes migration blockage.

Table 3-14: Thermal Plume Effluent Limit

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

3.3.8 Bacteria

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

Table 3-15: Proposed E. coli Limits

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

3.3.9 Toxic Pollutants

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

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

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

3.3.9.1 Total Ammonia Nitrogen

DEQ's ammonia criteria vary with changes in pH and temperature. DEQ performed a reasonable potential analysis that accounts for changes in the effluent and receiving water pH and temperature to determine the appropriate ammonia criteria. The following table provides a summary of the data used for the ammonia analysis and the results of the analysis.

Cascade Locks STP does not have an existing ammonia limit. DEQ found no reasonable potential for Cascade Locks STP to exceed the ammonia criteria resulting from this analysis.

Table 3-16: Ammonia Analysis Information - Summer

	Acute	Chronic	
		4-day	30-day
Dilution	39	178	205
Ammonia Criteria	2.3	1.2	0.5
Effluent Data Used			
Ammonia (mg/L)	2.1	2.1	
pH (SU)	7.3	7.3	
Temperature (°C)	26.0	26.0	
Alkalinity (mg/L CaCO3)	64.0	64.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	8.2	8.2	
Temperature (°C)	22.6	22.6	
Alkalinity (mg/L CaCO3)	62.3	62.3	
Ammonia Limit Needed?	No		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	n/a	n/a	
Effluent data source			

	Acute	Chronic	
		4-day	30-day
Ammonia: DMRs 2022-2024			
Temperature and pH: ICIS summary statistics (90 th percentile of the daily maximum)			
Ambient data source			
Ammonia: Columbia River Shoreline at The Dalles Marina Jetty Midpoint			
Temperature, pH, and Alkalinity: Columbia River Shoreline at The Dalles Marina Jetty Midpoint, Hood River STP Ambient Sampling Location, and US197 South end of The Dalles Bridge - Columbia River			

Table 3-17: Ammonia Analysis Information - Winter

	Acute	Chronic	
		4-day	30-day
Dilution	52	211	265
Ammonia Criteria	3.7	2.1	0.9
Effluent Data Used			
Ammonia (mg/L)	0.2	0.2	
pH (SU)	7.1	7.1	
Temperature (°C)	18.0	18.0	
Alkalinity (mg/L CaCO3)	64.0	64.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	8.3	8.3	
Temperature (°C)	11.6	11.6	
Alkalinity (mg/L CaCO3)	76.6	76.6	
Ammonia Limit Needed?	No		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	n/a	n/a	
Effluent data source			
Ammonia: DMRs 2022-2024 Temperature and pH: ICIS summary statistics (90 th percentile of the daily maximum)			
Ambient data source			
Ammonia: Columbia River Shoreline at The Dalles Marina Jetty Midpoint Temperature and pH: Columbia River Shoreline at The Dalles Marina Jetty Midpoint, Hood River STP Ambient Sampling Location, and US197 South end of The Dalles Bridge - Columbia River			

3.3.9.2 Mercury – Human Health Criterion

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

3.4 Antibacksliding

The proposed permit complies with the antibacksliding provisions of CWA sections 402(o) and 303(d)(4) and 40 CFR 122.44(l). Except for the thermal load limit, the proposed limits are the same or more stringent than the existing permit so the antibacksliding provision is satisfied. As discussed in Section 3.3.7 above, during the June – October period, the excess thermal load limit in the proposed permit is less stringent than the thermal load 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 (WLA), and it can be shown that relaxation is consistent with antidegradation requirements. As noted above, the receiving water is water quality limited for temperature and the new, less stringent excess thermal load limit is based on a TMDL WLA. It also complies with the antidegradation requirement since TMDL WLA ensures the temperature increase is an insignificant increase according to the Oregon's antidegradation rule, OAR 340-041-0004(3)(c). Therefore, the new thermal load limit based on the TMDL wasteload allocation is allowed and is 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.

DEQ has performed an antidegradation review for this discharge. The proposed permit contains the same or more stringent discharge loadings as the existing permit, except for the temperature (thermal load) limit as discussed in Section 3.3.7. Permit renewals with the same or more stringent discharge loadings as the previous permit are not considered to lower water quality from the existing condition.

Under Oregon's Antidegradation Rule, discharges with insignificant temperature increases are not considered degradation (OAR 340-041-0004(3)(c)). Specifically, the rule states that insignificant temperature increases authorized under OAR 340-041-0028(11) and (12) are not considered a reduction in water quality. Section 3.3.7 of this report provides an analysis of the temperature impacts of this discharge and determines appropriate effluent limits to ensure the discharge will result in temperature increases at or below those authorized under OAR 340-041-0028(11) and (12). Based on OAR 340-041-0004 and Section 3.3.7 of this report, this insignificant increase is not considered a degradation of water quality under the antidegradation rule.

DEQ is not aware of any information that the existing limits are not protecting the receiving stream's designated beneficial uses. DEQ is also not aware of any existing uses present within the water body that are not currently protected by standards developed to protect the designated uses. Therefore, DEQ has determined that the proposed discharge complies with DEQ's antidegradation policy. DEQ's antidegradation worksheet for this permit renewal is available upon request.

3.6 Whole Effluent Toxicity

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

3.7 Groundwater

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

4. Schedule A: Other Limitations

4.1 Mixing Zone

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

4.2 Chlorine Usage

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

5. Schedule B: Monitoring and Reporting Requirements

Schedule B of the permit describes the minimum monitoring and reporting necessary to demonstrate compliance with the proposed effluent limits. In addition, monitoring for other parameters is required to better characterize the effluent quality and the receiving stream. This data will be used during the next permit renewal. Detailed monitoring frequency and reporting requirements are in Schedule B of the proposed permit. The required monitoring, reporting and frequency for many of the parameters are based on DEQ's monitoring and reporting matrix guidelines, permit writer judgment, and to ensure the needed data is available for the next permit renewal. DEQ has determined that effluent characterization and monitoring of the receiving stream (Main stem Columbia River) for pH, ammonia, alkalinity, and temperature is necessary to fully evaluate the facility's site specific conditions.

6. Schedule C: Compliance Schedule

The permittee is expected to meet all effluent limits once the permit becomes effective and therefore a compliance schedule is not needed.

7. Schedule D: Special Conditions

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

7.1 Inflow and Infiltration

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

7.2 Emergency Response and Public Notification Plan

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

7.3 Exempt Wastewater Reuse at the Treatment System

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

7.4 Wastewater Solids Annual Report

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

7.5 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.

7.6 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.

7.7 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.

7.8 Industrial User Survey

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

7.9 Outfall Inspection

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

8. Schedule F: NPDES General Conditions

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

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

Appendix A: Reasonable Potential Analyses

Thermal Plumes OAR 340-041-0053(2)(d) Part C Analysis

Temperature Thermal Plume Limitations within the Mixing Zone Rule (OAR 340-041-0053(2)(d))			
Facility Name: Cascade Locks STP		Date: 02-13-2024	
OAR 340-041-0053(2)(d)(C): Thermal Shock 25 deg C at 5% of the stream cross section			
Enter data into white cells below:		Data Metric/Source	
7Q10 =	80452 cfs	7Q10 flow from dry weather dilution summary (Table 3-9)	
Ambient Temperature =	24.5 °C	Maximum ambient temperature - Dalles_Ambient, HoodRiver_Ambient, and 355594-ODEQ	
Effluent Flow =	1.95 mgd	Critical monthly effluent flow (1.3 MGD) x 1.5 - dry weather dilution summary (Table 3-9)	
Max Daily Effluent Temperature =	26.7 °C	DMRs 2019-2023	
5% of 7Q10 =	4022.6 cfs		
5% dilution =	1334	dilution = (Qr*0.05)/Qe + 1	
Temperature at 5% cross section	24.5 °C	No Reasonable Potential	

Equation used to calculate ΔT at edge of MZ

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

Equation used to calculate thermal load limit

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

Where:

Qe = Effluent Flow in mgd
S = Dilution
 ΔT_{all} = Allowable temperature increase at edge of MZ (°C)
Cp = Specific Heat of Water (1 cal/g °C)
ρ = Density of Water (1 g/cm³)
3785.41 = Flow conversion from mgd to m³/day

Thermal Plumes OAR 340-041-0053(2)(d) Part D Analysis

Temperature Thermal Plume Limitations within the Mixing Zone Rule (OAR 340-041-0053(2)(d))			
Facility Name: Cascade Locks STP		Date: 02-13-2024	
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 =	80452 cfs	7Q10 stream flow from dry weather dilution summary (Table 3-9)	
Ambient Temperature =	21 °C	Max ambient temperature >21, so used 21 °C - Dalles_Ambient, HoodRiver_Ambient, and 355594-ODEQ	
Effluent Flow =	1.95 mgd	Critical monthly effluent flow (1.3 MGD) x 1.5 - dry weather dilution summary (Table 3-9)	
Max 7dAM Effluent Temperature =	26.7 °C	DMRS 2019-2023	
25% of 7Q10 =	20113.0 cfs		
25% dilution =	6668	dilution = (Qr*0.25)/Qe + 1	
Temperature at 25% cross section =	21.0 °C	No Reasonable Potential	
ΔT at 25% Stream Flow =	0.0 °C		

Equation used to calculate ΔT at edge of MZ

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

Equation used to calculate thermal load limit

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

Where:

Qe = Effluent Flow in mgd
S = Dilution
 ΔT_{all} = Allowable temperature increase at edge of MZ (°C)
Cp = Specific Heat of Water (1 cal/g °C)
ρ = Density of Water (1 g/cm³)
3785.41 = Flow conversion from mgd to m³/day