Oregon
Tina Kotek, Governor

Department of Environmental Quality
Western Region Salem Office
4026 Fairview Industrial Dr SE
Salem, OR 97302
(503) 378-8240
FAX (503) 373-7944
TTY 711

September 27, 2024

Jerry Gillham
City of Sutherlin
126 E Central Ave.
Sutherlin, OR 97479

Re: NPDES permit Applicant Review Period
Comments Due: October 11, 2024, 5 p.m.
File no. 86662
Permit no. 101993
EPA no. OR0020842
Facility: Sutherlin WWTP, 4306 Stearns Lane, Sutherlin
Douglas County

Enclosed please find the applicant review drafts for your proposed National Pollutant Discharge Elimination System permit including a copy of the public notice, permit, and fact sheet. Please review these documents and submit your comments to:

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

Your comments **must be received by 5 p.m. on October 11, 2024**. DEQ will review your comments and address your concerns to the degree possible; however, we will not prepare a formal written response at this stage. DEQ will provide for additional applicant review if the permit is significantly modified in response to your comments. If there are no significant changes, DEQ will make the permit documents available for interested parties and hold a public hearing. Please be aware that the city may provide additional comment on the permit during this time. When the public participation period has ended, DEQ will take final action on your application.

Please contact me at 503-378-5055 with any questions about permitting processing. If you have any questions about your current permit, please contact Andy Ullrich at 541-776-6189 or andy.ullrich@deq.oregon.gov.

Sincerely,

Trinh Hansen

Trinh Hansen
Water Quality Permit Coordinator
Western Region, Salem Office

ec: NPDES Permit Source File, Portland Office, DEQ
Andy Ullrich, Medford, DEQ
Jody Gardner, City of Sutherlin
Kristi Gilbert, City of Sutherlin
ORMS

PUBLIC NOTICE

Date posted: X/X/XX

DEQ Requests Comments on Proposed City of Sutherlin Water Quality Permit Renewal

HOW TO PROVIDE PUBLIC COMMENT

Facility name: City of Sutherlin
Permit type: Domestic Minor
Comments due by: [Date] at 5 p.m.

Send written comments to:

By mail: Trinh Hansen, Permit Coordinator, Oregon DEQ
4026 Fairview Industrial Dr. SE, Salem, OR 97302

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

The Oregon Department of Environmental Quality invites the public to provide written comments on the conditions of City of Sutherlin's proposed water quality permit, known officially as a National Pollutant Discharge Elimination System permit.

Summary

Subject to public review and comment, DEQ intends to renew the proposed water quality permit, which allows the Sutherlin Wastewater Treatment Plant to discharge wastewater to Calapooya Creek, Fords Pond, and Fords Creek at 4306 Stearns Lane in Oakland. The facility also land applies to the Bainbridge Property at 1030 Isadore Road in Oakland, Oregon; the Reddekopp Property at 252 Isadore Road in Oakland; and the Banducci Property at 3830 Stearns Lane in Oakland.

About the facility

The City of Sutherlin has applied for a water quality permit renewal. DEQ last renewed this permit on July 9, 2019. The facility's treatment begins with an influent screen that removes rags and debris. Sewage is then pumped from the headworks to a splitter box where it can be directed to one or both sequencing bioreactor treatment units. From there, treated sewage flows into one or both contact tanks where it is mixed with stabilized activated sludge.

Wastewater then flows by gravity into a secondary clarifier and then into the ultraviolet (UV) disinfection unit, which flows directly to Outfall 001 in Calapooya Creek from November to May. When discharging to Fords Pond, the treated wastewater goes to a chlorine contact chamber for additional disinfection and then to dichlorination before going to Outfall 002a at Fords Pond. Discharge from Fords Pond to the Fords Creek Outfall 002b in the dry season is not allowed and there is a dam in place to prevent flow into the creek during that period. When stream flow in Calapooya Creek is below 82 cubic feet per second in May, treated wastewater flow is directed to Fords Pond and the dam to Fords Creek is closed.

The facility discharges to Calapooya Creek near the Rochester Covered Bridge from November to May and is permitted to discharge to Fords Pond near Church Road year – round. Calapooya Creek 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 Calapooya Creek Total Maximum Daily Load, or TMDL, for temperature, pH, E. coli, and dissolved oxygen.

The most recent DEQ inspection of the Sutherlin Wastewater Treatment Plant was on Sept. 23, 2021. DEQ identified violations during this inspection. Sutherlin has had eight water quality violations in the past permit term. The issues related to these past compliance issues are 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: BOD_5, TSS, temperature, *E. coli*, chlorine, and ammonia, as well as nitrates and nitrites.

DEQ also requires the permittee to maintain a biosolids management/land application plan, and a recycled water plan. As part of this permit renewal, these plans were and will be on public notice. The facility is permitted to treat wastewater solids to produce biosolids for beneficial reuse on agricultural lands located in Douglas County. The biosolids program including the beneficial use sites are described in the biosolids management/land application plan. Details regarding the treatment and use of recycled water are in the recycled water plan.

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

Yes. The draft permit would lower the limit for temperature from November – May 15. The draft permit also features a new daily maximum mass load limit for BOD_5 and TSS from June 1 – Oct 31. It would also lower the chronic limits of ammonia for both Outfall 001 and 002a and creates new nitrate+nitrite limits for Outfall 002a.

Pollutant	Change
June 1 – Oct 31: BOD_5 and TSS	New Daily Maximum: 150 lb/day
Outfall 001: Temperature	-0.4 million Kcal/day
Outfall 001: Ammonia	Monthly Average -1.6 mg/L
Outfall 002a: Nitrate+Nitrite	New limits: 10 mg/L monthly average and 24.5 mg/L daily maximum.

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.

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

How does DEQ monitor compliance with the permit requirements?

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

What happens next?

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

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

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

For more information

Find more information by reviewing draft permit documents attached to this notice, or Trinh Hansen at (503) 378-5055 or trinh.hansen@deq.oregon.gov with questions or to view documents in person at a DEQ office.

Non-discrimination statement

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT

Oregon Department of Environmental Quality
Western Region – City Office
4026 Fairview Industrial Dr. SE
Salem, OR 97302
Telephone: 503-378-8240

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

ISSUED TO:
Sutherlin, City of
126 E. Central
Sutherlin, OR 97479

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Treated Wastewater	001	Calapooya Creek - River Mile 9.8 43.401867, -123.362931
Treated Wastewater	002a	Fords Pond – River Mile 0.40 43.393534, -123.362197
Fords Pond discharge to Fords Creek	002b	Fords Creek - River Mile 0.50 43.395933, -123.369461
Recycled Water Reuse	003	Specified in Recycled Water Use Plan
Biosolids	004	Specified in Biosolids Management/Land Application Plan

FACILITY LOCATION:
Sutherlin STP
4306 Stearns Lane
Sutherlin, OR 97479
County: Douglas

EPA Permit Type: Minor

RECEIVING STREAM INFORMATION:
Receiving stream/NHD name: Calapooya and Fords Creek
USGS 12-Digit HUC: 171003030106
OWRD Administrative Basin: Umpqua
NHD Reach Code & % along reach:
Outfall 001: Calapooya Creek = 17100303000172 - 46%
Outfall 002a: Fords Pond = 17100303058695 – 31%
Outfall 002b: Fords Creek = 17100303011460 – 85%
ODEQ LLID & RM: 1234686433656-9.8–D and 1233740433975-0.50-D
Integrated Report AU ID:
Calapooya Creek: OR_SR_1710030301_02_106418
Fords Pond and Creek: OR_WS_171003030106_02_105275

Issued in response to Application No. 948184 received 12/06/2023. This permit is issued based on the land use findings in the permit record.

DRAFT	DRAFT	DRAFT
Ranei Nomura, Water Quality Manager Western Region	Issuance Date	Effective Date

PERMITTED ACTIVITIES

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

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

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

LIST OF TABLES

SCHEDULE A: WASTE DISCHARGE LIMITS

1. Outfall 001 – Permit Limits

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

Table A1: Permit Limits

Parameter	Units	Timeframe	Stream Flow (cfs)	Average Monthly	Average Weekly	Daily Maximum
Effluent Flow (See note a.)	MGD	May 1–31	< 82	-	-	0 (No discharge)
		Jun 1–Oct 31	All	-	-	0 (No discharge)
BOD_5 & TSS (See notes b & c.)	mg/L	Nov 1–Apr 30	All	30	45	-
	mg/L	May 1 – 31	> 82	30	45	-
	lb/day	Nov 1–30	< 45	440	170	260
			45–60		320	480
			> 60–96		440	660
			> 96		660	880
		Dec 1–Apr 30	All	560	840	1100
		May 1 – 31	> 82	560	840	1100
	% removal	Nov 1–Apr 30	All	85	-	-
		May 1 – 31	> 82	85	-	-
Chlorine, Total Residual (See note d.)	mg/L	Nov 1–May 31	All	0.01	-	0.036
Ammonia, Total	mg/L	Nov 1–May 31	All	11.8	-	23.5
pH	SU	Nov 1–May 31	All	Instantaneous limit between a daily minimum of 6.3 and a daily maximum of 9.0		
E. coli (See note e.)	#/100 mL	Nov 1–May 31	All	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		
Excess Thermal Load Limit (ETLL) (See note f.)	Million kcal/day	Nov 1–May 15	All	7-day rolling average: Option A: 6.9 Option B: $(0.3)(Q_e+0.25Q_r)(2.45)$		
		May 16–31	All	7-day rolling average: Option A: 21 Option B: $(0.1)(Q_e+Q_r)(2.45)$		

Parameter	Units	Timeframe	Stream Flow (cfs)	Average Monthly	Average Weekly	Daily Maximum

Notes:

a. If stream flow in May is < 82 cfs, divert effluent flow to Fords Pond.

b. Monthly average BOD_5 and TSS limits are not flow-based.

c. The weekly average BOD_5 and TSS limits are based on the weekly average flow in Calapooya Creek.

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

e. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 E. coli organisms/100 mL demonstrates compliance with the limit.

f. The permittee must select either Option A or Option B as the applicable 7-day rolling average Excess Thermal Load Limit (ETLL). If the permittee selects Option B, the permittee must calculate the daily ETLL using the above equations. The permittee must then calculate the 7-day rolling average ETLL for each day the Option B limit is selected. Q_e = Daily effluent flow in cubic feet per second (cfs). Q_r = Daily average Calapooya Creek flow (cfs). The permittee must use flow data from the USGS stream flow gage number 14320700 or another DEQ-approved data source. The minimum creek flow value to be used for the Nov. 1 – May 15 period is 19 cfs, the 7Q10 low flow of the creek for this period. The minimum creek flow value to be used for the May 15 - May 31 period is 82 cfs, the minimum flow of the creek when discharge is allowed during this period.

2. Outfall 002a – Permit Limits

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

Table A2: Permit Limits

Parameter	Timeframe	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5 and TSS	Year – Round	mg/L	10	15	-
		lb/day	73	110	150
		% removal	85	-	-
Chlorine, Total Residual (See note a.)	Year – Round	mg/L	0.0053	-	0.019
Ammonia, Total	Year – Round	mg/L	2.0	-	3.5
Nitrate (NO_3) Plus Nitrite (NO_2) (See note b.)	Year – Round	mg/L	10	-	24.5

Parameter	Timeframe	Units	Average Monthly	Average Weekly	Daily Maximum
pH	Year – Round	SU	Instantaneous limit between a daily minimum of 6.5 and a daily maximum of 8.5		
E. coli (See note c.)	Year – Round	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		

Notes:

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

b. The Nitrate (NO_3 Plus Nitrite (NO_2) limit is effective upon the completion of the compliance schedule in Schedule C.

c. If a single sample exceeds 406 organisms/100 mL, the permittee may take at least 5 consecutive re-samples at 4-hour intervals beginning within 28 hours after the original sample was taken. A geometric mean of the 5 re-samples that is less than or equal to 126 E. coli organisms/100 mL demonstrates compliance with the limit.

3. Outfall 002b – Permit Limits

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

Table A3: Permit Limits

Parameter	Timeframe	Stream Flow (cfs)	Units	Daily Maximum
Effluent Flow (See note a.)	June 1–Oct 31	All	MGD	0 (No discharge)
	May 1–31	< 82		0 (No discharge)

Note:

a. If stream flow in Calapooya Creek in May is < 82 CFS, divert effluent flow to Fords Pond and block flow to Fords Creek.

4. Regulatory Mixing Zone

Pursuant to OAR 340-041-0053, the permittee is granted a regulatory mixing zone as described below for only Outfall 001:

> *The allowable Regulatory Mixing Zone (RMZ) for Outfall 001 is that portion of Calapooya Creek that extends 10 feet upstream from the outfall end of pipe and 30 feet downstream out the outfall end of pipe. The Zone of Initial Dilution (ZID) is that portion of the Regulatory Mixing Zone extending 3 feet from the outfall end of pipe.*

There is no allowable Regulatory Mixing Zone (RMZ) or Zone of Initial Dilution (ZID) for any discharge to Fords Pond (Outfall 002a) or Fords Creek (Outfall 002b).

5. Use of Recycled Water

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

a. Treated and used according to the criteria listed in Table A2.

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

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

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

e. Irrigated using sound irrigation practices to prevent:

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

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

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

Table A4: Recycled Water Limits

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

6. Biosolids

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

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

b. The permittee must apply biosolids at or below the agronomic rates approved by DEQ in order to minimize potential groundwater degradation.

c. The permittee must obtain written site authorization from DEQ for each land application site prior to land application (see Schedule D) and follow the site-specific management conditions in DEQ-issued site authorization letter.

d. Prior to application, the permittee must ensure that biosolids meet one of the pathogen reduction standards under 40 CFR 503.32 and one of the vector attraction reduction standards under 40 CFR 503.33.

e. The permittee must not apply biosolids containing pollutants in excess of the ceiling concentrations shown in the table below. The permittee may apply biosolids containing pollutants in excess of the pollutant concentrations, but below the ceiling concentrations, however, the total quantity of biosolids applied cannot exceed the cumulative pollutant loading rates in the table below.

Table A5: Biosolids Limits

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

Note:

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

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, B4, B5, B6 and B7 Influent Monitoring, Effluent Monitoring, and Receiving Stream Monitoring	Monthly	By the 15th of the following month	Specified in Schedule B. Section 2 of this permit	Electronic reporting as directed by DEQ
Table B8: Effluent Toxics Characterization	Monthly for three years starting Q1 of 2028	Within 45 days of the end of the month	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Inflow and infiltration report (see Schedule D)	Annually	February 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Recycled Water Annual Report (see Schedule D)	Annually	January 15	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ Electronic copy to DEQ Water Reuse Program Coordinator
Recycle Water Leakage Estimate Report (See note c.)	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
Biosolids annual report (see Schedule D)	Annually	By February 19 of the following year	Electronic copy in a DEQ-approved form	Attached via electronic reporting as directed by DEQ DEQ Biosolids Program Coordinator
Industrial User Survey (see Schedule D)	Once per permit cycle	Submit by no later than 24 months after permit effective date	1 electronic copy and 1 hard copy in a DEQ approved format	• 1 Hard copy to DEQ Pretreatment Coordinator • 1 Electronic copy to Compliance Officer

Reporting Requirement	Frequency	Due Date (See note a.)	Report Form (See note b.)	Submit To:
Outfall Inspection Report (see Schedule D)	Once per permit cycle	Submit by XX/15/20XX In the 3rd year of the permit.	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ
Bis(2-ethylhexyl) phthalate Source Identification Study (see Schedule D)	Once per permit cycle	Submit by XX/15/20XX In the 4th year of the permit	Electronic copy in a DEQ-approved format	Attached via electronic reporting as directed by DEQ

Notes:

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

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

c. The permittee shall submit to the Department a Lagoon Leakage Estimate Report. This report must comply with the Department's *Guidelines for Estimating Leakage from Existing Sewage Lagoons.*

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 BOD_5, the permittee must: 1) report the daily BOD_5 values with data qualifiers; 2) include these BOD_5 values in the summary statistic calculations (e.g., weekly averages, monthly averages, % removal); and 3) report the BOD_5 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.

f. Reporting Sample Results

i. The permittee must report the laboratory DL and QL as defined above for each analyte, with the following exceptions: pH, temperature, BOD, CBOD, TSS, Oil & Grease, hardness, alkalinity, bacteria, and nitrate-nitrite. For temperature and pH, neither the QL nor the DL need to be reported. For the other parameters listed above, the permittee is only required to report the QL and only when the result is ND.

ii. The permittee must report the same number of significant digits as the permit limit for a given parameter.

iii. (For Discharge Monitoring Reports) If a sample result is above the DL but below the QL, the permittee must report the result as the DL preceded by DEQ's data code "E". For example, if the DL is 1.0 µg/l, the QL is 3.0 µg/L and the result is estimated to be between the DL and QL, the permittee must report "e1.0 µg/L" on the DMR. This requirement does not apply in the case of parameters for which the DL does not have to be reported.

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

g. Calculating and Reporting Mass Loads

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

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

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

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

iii. When concentration data are above the DL, but below the QL: To calculate the mass load from this result, use the DL. Report the mass load as the calculated mass load preceded by "e". For example, if flow is 2 MGD, the DL is 1.0 µg/L, the QL is 5 µg/L and the reported sample result is e3.5 µg/L, report "e0.017 lb/day" for mass load on the DMR (1.0 µg/L x 2 MGD x conversion factor = 0.017 lb/day).

3. Monitoring and Reporting Requirements

a. The permittee must monitor influent at the influent screens and report results in accordance with Table B1 the table below.

Table B2: Influent Monitoring Requirements

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note a.)	Report Statistic (See note b.)
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 after the UV disinfection unit and report results in accordance with Table B1 and the table below:

Table B3: Effluent Monitoring Requirements (Outfall 001)

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	Nov. 1 – May 31	2/Week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
BOD_5 (00310)	lb/day	Nov. 1 – May 31	2/Week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
BOD_5 percent removal (81010) (See note c.)	%	Nov. 1 – May 31	Monthly	Calculation based on monthly average BOD_5 concentration values	Monthly Average
TSS (00530)	mg/L	Nov. 1 – May 31	2/Week	24-hour composite	1. Monthly Average 2. Maximum Weekly Average
TSS (00530)	lb/day	Nov. 1 – May 31	2/Week	Calculation	1. Daily Maximum 2. Monthly Average 3. Maximum Weekly Average
TSS percent removal (81011) (See note c.)	%	Nov. 1 – May 31	Monthly	Calculation based on monthly average TSS concentration values	Monthly Average

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
pH (00400)	SU	Nov. 1 – May 31	3/Week	Grab	1. Daily Maximum 2. Daily Minimum
Temperature (00010)	ºC	Nov. 1 – May 31	Daily	Continuous (See note f.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
Excess Thermal Load (51405)	Million kcal/day	Nov. 1 – May 31	Daily	Calculation (See note d.)	Maximum 7-day Rolling Average
Excess Thermal Load Limit	Million kcal/day	Nov. 1 – May 31	Daily	Calculation (See note e.)	7-day Rolling Average
E. coli (51040)	#/100 mL	Nov. 1 – May 31	2/Week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
Total ammonia (as N) (00610)	mg/L	Nov 1 – May 31	1/Week	24-hour composite	1. Monthly Average 2. Daily Maximum
Total Residual Chlorine (50060)	mg/L	Nov 1 – May 31	1/Week	Grab	1. Monthly Average 2. Daily Maximum
Alkalinity as $CaCO_3$ (00410)	mg/L	Nov 1 – May 31	Quarterly	24-hour composite	Quarterly Maximum
UV intensity	mW/cm^2	Nov 1 – May 31	Daily	Continuous	Maintain records on-site
UV dose	mJ/cm^2	Nov 1 – May 31	Daily	Calculation	Maintain records on-site
UV transmittance	%	Nov 1 – May 31	Daily	Continuous	Maintain records on-site
Dissolved Oxygen (00300)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite (See note g.)	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite	Quarterly Maximum

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
Nitrate (NO_3) Plus Nitrite (NO_2) Nitrogen (00630)	mg/L	Third and fourth year of permit cycle [2027 – 2028]]	Quarterly	24-hour composite	Quarterly Maximum
Oil and Grease (00556)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	Grab	Quarterly Maximum
Total Phosphorus (00665)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite	Quarterly Maximum
Total Dissolved Solids (70295)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	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:

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

Where:

Influent Concentration = Corresponding Monthly average influent concentration based on the analytical results of the reporting period.

Effluent Concentration = Corresponding Monthly average effluent concentration based on the analytical results of the reporting period.

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

The 7-day rolling average is then calculated from the daily ETLs.

The daily ETL is calculated as follows: $ETL = 2.45 * Q_e * \Delta T$

Where:

ETL = Excess Thermal Load (million kcal/day)

Q_e = Daily effluent flow (cfs)

ΔT = Daily maximum effluent temperature (°C) minus ambient criterion (18 °C for May 16–May 31 and 13 °C for Nov 1–May 15)

e. If the permittee selects Excess Thermal Load Limit (ETLL) Option B from Table A1, then the permittee must calculate the ETLL (million kcal/day) each day the permittee uses this option. The permittee must use the equation and procedure noted in Table A1.

f. The permittee may report the hourly average maximum temperature if continuous monitoring of temperature is performed at less than hourly intervals.

g. For Dissolved Oxygen, the permittee must collect and analyze at least four discrete grab samples over the operating day with samples collected no less than one hour apart. The analytical results for all samples in a day must be averaged for reporting purposes.

c. The permittee must monitor effluent at Outfall 002a at the end of the active chlorine contact channel and report results in accordance with Table B1 and the table below:

Table B4: Effluent Monitoring Requirements (Outfall 002a)

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

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action (See note a.)	Report Statistic (See note b.)
pH (00400)	SU	Year-round	3/Week	Grab	1. Daily Maximum 2. Daily Minimum
Chlorine, Total Residual (50060)	mg/L	Year-round	Daily	Grab	1. Daily Maximum 2. Monthly Average
Temperature (00010)	ºC	Year-round	3/Week	Continuous (See note d.)	1. Daily Maximum 2. Monthly Average 3. 7-day Rolling Average of Daily Maximum
E. coli (51040)	#/100 mL	Year-round	2/Week	Grab	1. Daily Maximum 2. Monthly Geometric Mean
Total ammonia (as N) (00610)	mg/L	Year-round	1/week	24-hour composite	1. Monthly Average 2. Daily Maximum
Nitrate (NO_3) Plus Nitrite (NO_2) Nitrogen (00630)	mg/L	Year-round	1/Week	24-hour composite	1. Monthly Average 2. Daily Maximum
Alkalinity as $CaCO_3$ (00410)	mg/L	Year-round	Quarterly	24-hour composite	Quarterly Maximum
Chlorine used (81400)	lb/day	Year-round	Daily	Scale reading	1. Monthly Average 2. Daily Maximum
Chlorine, Total Residual prior to dechlorination	mg/L	Year-round	Daily	Grab	Maintain records on-site
Dissolved Oxygen (00300)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite (See note e.)	Quarterly Minimum
Total Kjeldahl Nitrogen (TKN) (00625)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite	Quarterly Maximum
Oil and Grease (00556)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	Grab	Quarterly Maximum
Total Phosphorus (00665)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	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.)
Total Dissolved Solids (70295)	mg/L	Third and fourth year of permit cycle [2027 – 2028]	Quarterly	24-hour composite	Quarterly Maximum

Notes:

a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. 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:

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

Where:

Influent Concentration = Corresponding Monthly average influent concentration based on the analytical results of the reporting period.

Effluent Concentration = Corresponding Monthly average effluent concentration based on the analytical results of the reporting period.

d. The permittee may report the hourly average maximum temperature if continuous monitoring of temperature is performed at less than hourly intervals.

e. For Dissolved Oxygen, the permittee must collect and analyze at least four discrete grab samples over the operating day with samples collected no less than one hour apart. The analytical results for all samples in a day must be averaged for reporting purposes.

d. The permittee must monitor effluent at Outfall 002b (Fords Creek) at the entrance to Fords Creek and report results in accordance with Table B1 and the table below:

Table B5: Effluent Monitoring Requirements (Outfall 002a)

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	Estimate	1. Monthly Average
BOD_5	mg/L	Nov 1 – May 31	1/Month	Grab	1. Value
pH	SU	Nov 1 – May 31	1/Week	Grab	1. Daily Maximum 2. Daily Minimum

e. The permittee must monitor 001 Calapooya Creek from USGS Gauge 14320700 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 B6: Receiving Stream Monitoring Calapooya Creek

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type / Required Action (See note a.)	Report Statistic (See note b.)
Flow, stream (00056)	CFS	Nov 1–May 31	Daily (when discharging)	Reading	1. Daily Maximum 2. Monthly average

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 2 PM and 4 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.

f. The permittee must monitor in Fords Pond on the opposite end of the pond from the Outfall 002a 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.

Table B7: Ambient Monitoring Fords Pond

Item or Parameter	Units	Time Period (See note c.)	Minimum Frequency	Sample Type / Required Action (See note a.)	Report Statistic (See note b.)
pH (00400)	SU	Year – Round	1/month	Grab	Monthly Maximum
Temperature (00010)	ºC	Year – Round	1/month	Grab	Monthly Maximum
Alkalinity as $CaCO_3$ (00410)	mg/L	Year – Round	1/month	Grab	Monthly Maximum

Notes:

a. In the event of equipment failure or loss, the permittee must notify DEQ and deploy new equipment to minimize interruption of data collection. If new equipment cannot be immediately deployed, the permittee must perform grab measurements. 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. Monitor when discharging to Fords Pond.

4. Effluent Toxics Characterization Monitoring (Tier 1 Monitoring)

The permittee must collect and analyze effluent samples for the parameters listed in the table below. The permittee must collect effluent samples at the end of the active chlorine contact channel on the dates in Table B1.

Samples must be 24-hour composites. Sample results must be reported in µg/L unless otherwise specified and submitted to DEQ using approved electronic format.

Table B8: Base-Neutral Compounds (Outfall 002a)

Pollutant	CAS
Bis (2-ethylhexyl) phthalate (See note a.)	117817

Note:

a. When sampling for Bis (2-ethylhexyl)phthalate, the permittee must also conduct and report an equipment blank sample analysis on the same day.

5. Recycled Water Monitoring Requirements: Outfall 003

The permittee must monitor recycled water for Outfall 003 as listed below. The samples must be representative of the recycled water delivered for beneficial reuse at a location identified in the Recycled Water Use Plan.

Table B9: Recycled Water Monitoring

Item or Parameter	Units	Time Period	Minimum Frequency	Sample Type/ Required Action	Report (See note a.)
Total flow (50050)	MGD	When discharging	Daily	Measure	Monthly Total
Quantity irrigated (51789)	in/ac	When discharging	Daily	Calculate	Monthly Total
pH (00400)	SU	When discharging	2/Week	Grab	1. Monthly Minimum 2. Monthly Maximum
Turbidity (00070) (See note c.)	NTU	When discharging	Hourly	Measure	1. Daily Average 2. Daily Maximum
Turbidity, % of time above 5 NTU limit (61736) (See note d.)	%	When discharging	Daily	Calculate	Daily Maximum
Total coliform (74056)	#/100 mL	When discharging	Daily	Grab (See note b.)	1. 7-Day Median 2. Maximum Single Sample
Total Kjeldahl, Nitrogen (00625)	mg/L	When discharging	Quarterly	Grab	Value
Nitrite + Nitrate (NO_2+NO_3) (00630)	mg/L	When discharging	Quarterly	Grab	Value

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

Notes:

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

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

c. Turbidity measurements must be taken post filtration and prior to disinfection.

d. Turbidity cannot exceed five (5) NTU's more than five percent of the time in a 24-hour period.

6. Biosolids Monitoring Requirements

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

Table B10: Biosolids Monitoring When distributing, land applying, or onsite storage

Item or Parameter	Minimum Frequency	Sample Type
Nutrient and conventional parameters (% dry weight unless otherwise specified): Total Kjeldahl Nitrogen (TKN) Nitrate-Nitrogen (NO_3-N) Total Ammoniacal Nitrogen (NH_3-N) Total Phosphorus (P) Potassium (K) pH (S.U.) Total Solids Volatile Solids	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B10.	As described in DEQ-approved Biosolids Management Plan
Pollutants: As, Cd, Cu, Hg, Pb, Mo, Ni, Se, Zn, mg/kg dry weight	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B10.	As described in DEQ-approved Biosolids Management Plan
Pathogen reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B10.	As described in DEQ-approved Biosolids Management Plan
Vector attraction reduction	As described in DEQ-approved Biosolids Management Plan, but not less than the frequency in Table B10.	As described in DEQ-approved Biosolids Management Plan

Item or Parameter	Minimum Frequency	Sample Type
Record of biosolids land application: date, quantity, location.	Each event	Record the date, quantity, and location of biosolids land applied on site location map or equivalent electronic system, such as GIS.

Table B11: Biosolids Minimum Monitoring Frequency

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

SCHEDULE C: COMPLIANCE SCHEDULE

1. Compliance Schedule to Meet Final Effluent Limits

The permittee must comply with the following schedule:

Table C1: Compliance Schedule

Compliance Date:	Requirement:
By xx/xx/xxxx Within 12months of permit effective date	The permittee must submit to DEQ an optimization study outlining feasible operational changes that can be made to the current treatment process at Sutherlin STP to maximize reductions of Nitrate plus Nitrite.
By xx/xx/xxxx Within 18 months of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final effluent limits. The permittee must also submit a design memorandum for denitrification to achieve final effluent limits for Nitrate plus Nitrite.
By xx/xx/xxxx Within 30 months of permit effective date	The permittee must begin implementation of the planned changes outlined in the optimization study.
By xx/xx/xxxx Within 3 years of permit effective date	The permittee must submit to DEQ a written progress report outlining the progress made towards achieving final Nitrate plus Nitrite limits at Outfall 002a. The permittee must include in the report a draft plan and timeline for achieving final effluent limits based on the results of the implementations of the optimization study and design memorandum. Permittee must revise draft plan and timeline in accordance with DEQ comments within 60 days of receiving DEQ comments.
By xx/xx/xxxx Within 4 years of permit effective date	The permittee must achieve compliance with the final effluent limits for Nitrate plus Nitrite in Schedule A of this permit.

2. Responsibility to Meet Compliance Dates

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

SCHEDULE D: SPECIAL CONDITIONS

1. Inflow and Infiltration

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

a. An assessment of the facility's I/I issues based on a comparison of summer and winter flows to the plant.

b. Details of activities performed in the previous year to identify and reduce inflow and infiltration.

c. Details of activities planned for the following year to identify and reduce inflow and infiltration.

d. A summary of sanitary sewer overflows that occurred during the previous year. This should include the following: date of the SSO, location, estimated volume, cause, follow-up actions and if performed, the results of receiving stream monitoring.

2. Emergency Response and Public Notification Plan

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

3. Recycled Water Use Plan

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

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

b. Leak Test – The permittee must perform a leak test on the upper pond near the seventh fairway at the Oak Hills Golf Club. The permittee must submit the results of the leak test to DEQ two years after permit issuance (Month 2026).

   i. Guidelines and Reports should follow instructions in the *Guidelines for Estimating Leakage from Existing Sewage Lagoons*. However, leakage reports a pond of less than one-half acre does not need certified and signed by a registered engineer or professional hydrologist. For these smaller systems, the reports may be prepared and signed by any qualified wastewater professional.

ii. Inquiries: Inquiries about these guidelines should be directed to DEQ regional water-quality plan review engineers.

4. Exempt Wastewater Reuse at the Treatment System

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

a. The recycled water is an oxidized and disinfected wastewater.

i. 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.

ii. Spray and/or drift from the use does not migrate off the site.

iii. Public access to the site is restricted.

5. Biosolids Management Plan

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

a. Annual Report

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

b. Site Authorization

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

c. Public Participation

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

ii. No DEQ-initiated public notice is required for continued use of sites identified in DEQ-approved biosolids management plan.

iii. For new sites that fail to meet the site selection criteria in the biosolids management plan or that are deemed by DEQ to be sensitive with respect to residential housing, runoff potential, or threat to groundwater, DEQ will provide an opportunity for public comment as directed by OAR 340-050-0030(2).

iv. For all other new sites, the permittee must provide for public participation following procedures in its DEQ-approved land application plan.

6. Wastewater Solids Transfers

a. *Within state.* The permittee may transfer wastewater solids including Class A and Class B biosolids, to another facility permitted to process or dispose of wastewater solids, including but not limited to: another wastewater treatment facility, landfill, or incinerator. The permittee must satisfy the requirements of the receiving facility. The permittee must report the name of the receiving facility, and the quantity of material transferred in the wastewater solids or biosolids annual report identified in Schedule B.

b. *Out of state.* If wastewater solids, including Class A and Class B biosolids, are transferred out of state for use or disposal, the permittee must obtain written authorization from DEQ, meet Oregon requirements for the use or disposal of wastewater solids, notify in writing the receiving state of the proposed use or disposal of wastewater solids, and satisfy the requirements of the receiving state.

7. 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 in 2022. 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 Outfalls 001 and 002a 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.

10. Bis(2-ethylhexyl) phthalate Source Identification Study

The permittee must submit by the date specified in table B1 a source identification study to determine potential sources of Bis(2-ethylhexyl) phthalate in the effluent.

11. Water Quality Trading Umpqua Basin

a. Water Quality Trading Plan

The permittee's water quality trading plan is incorporated into this permit by reference as enforceable conditions of this permit provided the plan is approved by DEQ. Prior to approval, DEQ must provide an opportunity for public notice and comment on the trading plan for a minimum of 35 days as a Category III permitting action pursuant to OAR 340-045-0027. Once DEQ approves of the plan, the permittee is authorized to use water quality trading to comply with the Excess Thermal Load waste discharge limitations in Schedule A provided its trading activities comply with the requirements of this section, OAR 340-039, and its trading plan.

b. Water Quality Trading Plan Modifications

Any changes to the plan must be submitted to DEQ for review and approval according to OAR 340-039-0025(7). Prior to approval, DEQ must provide an opportunity for public notice and comment on the trading plan for a minimum of 35 days as a Category III permitting action pursuant to OAR 340-045-0027. DEQ cannot approve of any modifications to the plan if this permit is administratively extended beyond its expiration date.

i. TMDLs are revised periodically. Development of new or revised TMDLs can change implementation requirements. Any new TMDL requirements must be incorporated into subsequent baseline determinations at project initiation per OAR 340-039-0030.

c. Individual Trading Projects

All individual trading projects and modifications to these projects must be consistent with DEQ-approved plan; they are not subject to public notice and comment and may be modified if this permit is administratively extended beyond its expiration date.

d. Events Beyond the Permittee's Reasonable Control

i. Damage to a project due to an event beyond the permittee's reasonable control (for example, wildfire, flood, vandalism) is not in and of itself considered a violation of this permit.

ii. The permittee must report these events as required in Schedule F, Section D whenever applicable. Ther permittee must also report the following to DEQ within 90 days of the damage:

(1) A description of the event, including an assessment of the damage.

(2) A plan for addressing the damage. Natural restoration and/or active replanting of the site is allowed if continued maintenance is expected to provide a reasonable potential for the long-term restoration of the shading function in an ecologically appropriate manner. Replacement with an alternate site or sites is also allowed.

(3) Schedule for implementation of the permittee's plan.

iii. Credits from projects that are damaged due to events beyond the reasonable control of the permittee remain valid provided the permittee demonstrates to DEQ that the sites will be restored, or alternative solutions implemented within a reasonable timeframe.

e. Recordkeeping

The permittee must keep the following records for each project site for as long as credits generated at the site is being used. These records must be made available to DEQ within 14 days of request.

i. Project name and address.

ii. General description of the project, including land ownership information, a description with latitudes and longitudes delineating the project boundary and, if applicable, the georeferenced GIS shapefile of the project boundary.

iii. Site-specific design or, for riparian restoration, a planting plan if developed.

iv. Monitoring documentation including photos.

v. Name and contact information of party or parties responsible for conducting the planting and monitoring.

f. Annual Report

i. By May 1 of each year, the permittee must submit an annual report to DEQ. The report must describe trading plan implementation and performance over the past year. The annual report must include information specific to each trading project implemented including:

ii. The location of each trading project and best management practices implemented in the preceding year.

iii. The trading project baseline.

iv. The trading ratios used.

v. Trading project monitoring results.

vi. Verification of trading plan performance including the quantity of credits acquired from each trading project and the total quantity of credits generated under the trading plan to date.

vii. Funding source for each trading project.

viii. If applicable, adaptive management measures implemented under the trading plan.

SCHEDULE E: PRETREATMENT ACTIVITIES

A pretreatment program is not part of this permit.

SCHEDULE F: NPDES GENERAL CONDITIONS

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 ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

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

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

C4. Penalties for Tampering

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

C5. Reporting of Monitoring Results

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

C6. Additional Monitoring by the Permittee

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

C7. Averaging of Measurements

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

C8. Retention of Records

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

C9. Records Contents

Records of monitoring information must include:

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

C10. Inspection and Entry

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

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

C11. Confidentiality of Information

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

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

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

D2. Anticipated Noncompliance

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

D3. Transfers

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

D4. Compliance Schedule

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

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

D5. Twenty-Four Hour Reporting

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

a. Overflows.
   (1) Oral Reporting within 24 hours.
      i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.
         (a) The location of the overflow;
         (b) The receiving water (if there is one);
         (c) An estimate of the volume of the overflow;
         (d) A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
         (e) The estimated date and time when the overflow began and stopped or will be stopped.
      ii. The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:
         (a) The OERS incident number (if applicable); and
         (b) A brief description of the event.
   (2) Written reporting postmarked within 5 days.
      i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:
         (a) The OERS incident number (if applicable);
         (b) The cause or suspected cause of the overflow;
         (c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
         (d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
         (e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

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

b. Other instances of noncompliance.
   (1) The following instances of noncompliance must be reported:
      i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
      ii. Any upset that exceeds any effluent limitation in this permit;
      iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
      iv. Any noncompliance that may endanger human health or the environment.
   (2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).
   (3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
      i. A description of the noncompliance and its cause;
      ii. The period of noncompliance, including exact dates and times;
      iii. The estimated time noncompliance is expected to continue if it has not been corrected;

iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
v. Public notification steps taken, pursuant to General Condition B**7.**

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

D6. Other Noncompliance

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

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

D7. Duty to Provide Information

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

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

D8. Signatory Requirements

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

D9. Falsification of Information

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

D10. Changes to Indirect Dischargers

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

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

SECTION E. DEFINITIONS

E1. *BOD* or *BOD_5* means five-day biochemical oxygen demand.

E2. *CBOD* or *$CBOD_5$* means five-day carbonaceous biochemical oxygen demand.
E3. *TSS* means total suspended solids.
E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.
E5. *FC* means fecal coliform bacteria.
E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
E8. *mg/l* means milligrams per liter.
E9. *µg/l* means microgram per liter.
E10. *kg* means kilograms.
E11. *m^3/d* means cubic meters per day.
E12. *MGD* means million gallons per day.
E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
E18. *Quarter* means January through March, April through June, July through September, or October through December.
E19. *Month* means calendar month.
E20. *Week* means a calendar week of Sunday through Saturday.
E21. *POTW* means a publicly-owned treatment works.

State of Oregon
Department of
Environmental
Quality

National Pollutant Discharge Elimination System
Permit Fact Sheet
City of Sutherlin

Permittee	City of Sutherlin Sutherlin STP 126 E Central Ave Sutherlin, OR 97479
Existing Permit Information	File Number: 86662 Permit Number: 101993 EPA Reference Number: OR0020842 Category: Domestic Class: Minor Expiration Date: 06/30/2024
Permittee Contact	Jody Gardner Wastewater Division Supervisor 541-459-5768 126 E Central Ave Sutherlin, OR 97479
Receiving Water Information	Receiving stream name: Calapooya Creek and Fords Creek NHD Reach Code & % along reach: Outfall 001: Calapooya Creek = 17100303000172 - 46% Outfall 002a: Fords Pond = 17100303058695 – 31% Outfall 002b: Fords Creek = 17100303011460 – 85% USGS 12-digit HUC: 171003030106 OWRD Administrative Basin: Umpqua ODEQ LLID & River Mile: Outfall 001: Calapooya Creek = 1234686433656-9.8–D Outfall 002a: Fords Pond = 1233621433935-0.4-D Outfall 002b: Fords Creek = 1232321433933-0.35-D Assessment Unit ID: Calapooya Creek: OR_SR_1710030301_02_106418 Fords Pond and Creek: OR_LK_1710030301_00_100200
Proposed Action	Permit Renewal Application Number: 948184 Date Application Received: 12/06/2023
Permit Writer	Helen Sanders 541-241-0152 Date Prepared: (final date prior to PN)

NPDES Permit Fact Sheet
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1. Introduction

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

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

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

- For Outfall 002a, a daily maximum mass load limit was added to Schedule A.
- Schedule A, average monthly ammonia concentration limit decrease for Outfall 001.
- Schedule A, Option A excess thermal load limit decrease for Outfall 001 from (November 1 – May 15).
- Nitrate (NO3) plus Nitrite (NO2) limits is added to Table A2 for Outfall 002a.
- UV dose and UV transmittance, and UV intensity is added as a continuous monitoring requirement in Schedule B, Table B3 for Outfall 001.
- Alkalinity, dissolved oxygen, Oil and Grease, total dissolved solids, TKN, nitrate plus nitrite, total phosphorus is included in the effluent monitoring requirements in Schedule B, Table B3 for Outfall 001.
- Temperature is included in the effluent monitoring requirements in Schedule B, Table B4 for Outfall 002a.
- Alkalinity, dissolved oxygen, Oil and Grease, total dissolved solids, TKN, nitrate plus nitrite, and total phosphorus is included in the effluent monitoring requirements in Schedule B, Table B4 for Outfall 002a.
- Ambient monitoring requirements is included for Fords Pond in Schedule B, Table B6 for flow, pH, temperature, and alkalinity, monthly.
- A compliance schedule is added to Schedule C to address the new Nitrate (NO3) plus Nitrite (NO2) limits for Outfall 002a.
- A leak test for the upper golf course pond is added as a requirement in Schedule D.
- A Water Quality Trading option is added to Schedule D.

2. Facility Description

2.1 Wastewater Facility

The City of Sutherlin operates a municipal wastewater treatment plant at 4306 Stearns Lane Sutherlin, OR 97479. The facility serves a population of about 8,593 people and the average dry weather design flow is 0.88 MGD. The facility discharges directly to two waterways, Outfall 001 to Calapooya Creek and Outfall 002a to Fords Pond. Fords Pond flows into Fords Creek (Outfall 002b), which is an intermittent stream that connects to the Calapooya Creek.

The Sutherlin sewage collection system consists of over 140,000 feet of gravity pipe and five sewage pump stations. In addition, some of the common sewer collection system utilizes septic tank effluent pump systems. Sutherlin originally installed approximately 54,000 feet of the gravity pipe and a sewage treatment plant in the 1950s. The original treatment plant was demolished after a new treatment plant was constructed at the present site in 1977. The current plant was extensively rebuilt in 2021.

The upgraded treatment plant begins with influent screens to remove large debris. From there, a new flow paced influent sampler was placed at the influent screen structure. Then, a grit classifier removes solids further and a flow splitter then discharges to the new continuous feed sequencing batch reactor (SBR) activated sludge treatment plant. The SBR system consists of four 355,000-gallon basins. Following the SBRs, effluent flows into the new ultraviolet disinfection system and out to Outfall 001 in the wet weather period and to the chlorine contact chamber in the dry weather period.

The effluent goes to the chlorine contact chamber for additional disinfection when discharging to Outfall 002a. During the wet weather season (Nov. 1 to May 31), treated effluent is disinfected with ultraviolet light only and discharged to Calapooya Creek. Though, the facility is permitted to discharge from the chlorine contact chamber to Fords Pond (Outfall 002a) year – round, it typically discharges to Fords Pond in the dry weather season (June 1 – Oct 31). Discharge to Fords Creek Outfall 002b in the dry season is not allowed and there is a dam in place to prevent flow into the creek during that period. When stream flow in Calapooya Creek is below 82 CFS in the month of May, effluent flow must be directed to Fords Pond and the dam to Fords Creek must be closed.

During the dry season (Jun 1 to Oct 31), treated effluent is filtered and disinfected with UV light and chlorine to meet Class A recycled water criteria and discharged to Oak Hills Golf Club for recycled water reuse on the golf course. The discharge process to Outfall 002a for recycled water reuse is as follows: Four vertical turbine pumps (two 20-horsepower and two 40-horsepower) convey Class A recycled water through a common pipeline to Fords Pond and to a pond at the Oak Hills Golf Club. The 20-HP pumps convey water to Fords Pond because the Fords Pond outfall is at a much lower elevation than the golf course pond. Immediately prior to discharge to Fords Pond, the recycled water is dechlorinated at the Fords Pond dichlorination building. The 40-HP pumps convey water to the golf course pond, which has low level (pump on), high level (pump off), and overflow alarm float switches. When high level is reached, the 40-HP pump will shut off and an automated valve in the Fords Pond dichlorination building will direct flow to

Fords Pond. One of the two 20-HP pumps will then turn on sending all flows to Fords Pond. The automated valve is controlled by a radio system. The valve alarms to the SCADA system in the event of failure and is programmed to automatically open in the event of recycled water pumps being off.

Per the City of Sutherlin's recycled water use plan, Sutherlin delivers recycled water in the summer to Oak Hills in a pond on the seventh fairway. Oak Hills irrigates recycled water from this pond. Sutherlin's NPDES permit and recycled water use plan allow Sutherlin to distribute recycled water to Oak Hills Golf Club using sound irrigation practices, including prevention of surface runoff and subsurface drainage. According to the recycled water use plan, irrigates 90 acre-feet (20.5 million gallons) on 38.5 acres. The historic water use is about 45 million gallons per year. However, the Oak Hills Golf Club (formerly Sutherlin Knolls) has a water right dated January 18, 1973 for up to 0.48 cubic foot per second and up to 2.5 acre feet per acre irrigated (96.25 acre feet total or 31.4 million gallons).

Screenings and grit are dewatered and disposed of at the Douglas County landfill near Roseburg, Oregon. Hauled waste is not accepted at the facility. Sutherlin's sewage sludge treatment process consists of two aerobic digesters. Sutherlin currently hauls sludge to Heard Farms year-round. Refer to the BMP for biosolids for additional information.

The addition of Outfalls 002a to Fords Pond and 002b to Fords Creek were approved in 2018 and began discharging in September 2021. Fords pond was previously a log pond for a lumber mill. The property was purchased by the city for wastewater discharge in the dry season, wetland habitat, and aesthetic purposes. The addition of Outfall 002a to Fords Pond and upgrades to the treatment facility in the 2019 permit transitioned the NPDES permit designation from a major to a minor domestic treatment facility. The new average dry weather design flow is 0.88 MGD and the new maximum monthly dry weather design flow is 1.8 MGD. The new average wet weather design flow is 2.01 MGD and the maximum monthly wet weather design flow is 2.7 MGD.

The upgrades to the treatment plant (many of which mentioned above) completed in September 2021 are as followed:

- New influent screening installed in existing screening structure. A flow paced influent sampler was placed at the influent screen structure.
- New influent pumping station consisting of five 43-HP clog-free screw centrifugal submersible pumps rated at 2.6 mgd @ 43' TDH each.
- New headworks consisting of a vortex grit concentrator with a capacity of 10.0 mgd and a grit classifier. A flow splitter that controls discharge to each of the SBR treatment basins through 12-inch mag meters.
- New continuous feed sequencing batch reactor (SBR) activated sludge treatment plant The system consists of four 355,000-gallon basins. The SBR equipment includes three 769 SCFM positive displacement blowers, four mixers, four 2.0-HP waste sludge pumps, and a WAS flow meter.
- Installation of two rotating disc filters, each capable of treating 3.0 mgd.

- Installation of an effluent magnetic flow meter (24-inch diameter) upstream of the new UV disinfection unit.
- A new ultraviolet disinfection system consisting of a fully enclosed stainless-steel unit with noncontact UV lamps in a horizontal configuration two banks of UV lights in one channel.
- The contact and stabilization tanks of one of the existing donut units was repurposed as additional chlorine contact tankage (170,000 gallons) by adding baffles. Treated water then flows to the existing chlorine contact chamber (106,000) for a total baffled tankage of 276,000 gallons allowing for 132 minutes of contact time at 3.0 mgd. The chlorinated recycled water is also be held in a 150,000-gallon recycled water storage tank prior to use.
- Four new vertical turbine irrigation pumps installed in the existing recycled water storage basin.
- Repurposed four of the chambers of the existing donut units to biosolids treatment and storage. The total volume biosolids aerobic digestion and storage is about 581,000 gallons. The system includes fine bubble diffusers, three rotary positive displacement blowers, four biosolids transfer pumps, and 1 rotary lobe biosolids dewatering press feed pump.
- Installation of a biosolids dewatering system consisting of a polymer injection system, a screw press, screw press conveyer, and associated equipment. The dewatering system has a capacity of 55 gpm at 2% solids and produce a cake of 12 to 16 % solids.
- Installation of two new 500 KW diesel generators for backup power with automatic transfer switch.

Figure 2-1: City of Sutherlin Wastewater Treatment Plant Location

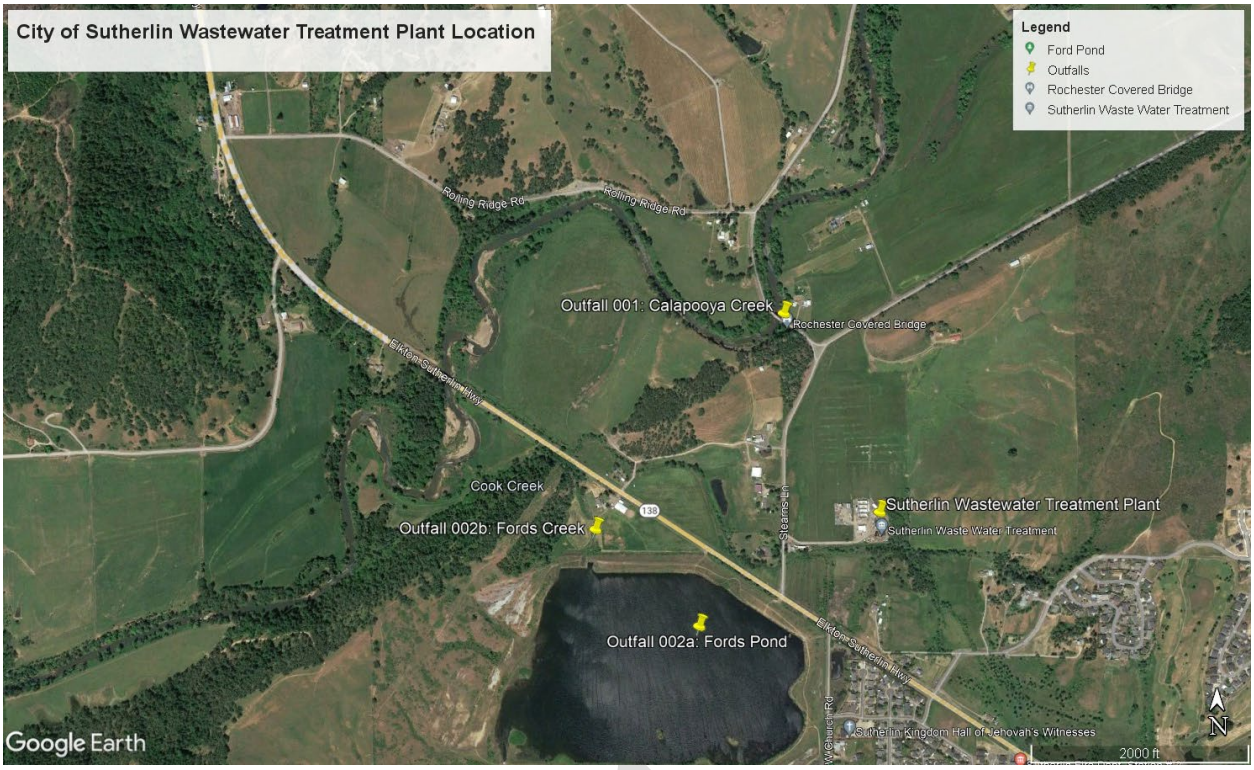


Figure 2-2: Diagram of the Sutherlin Wastewater Treatment Plant

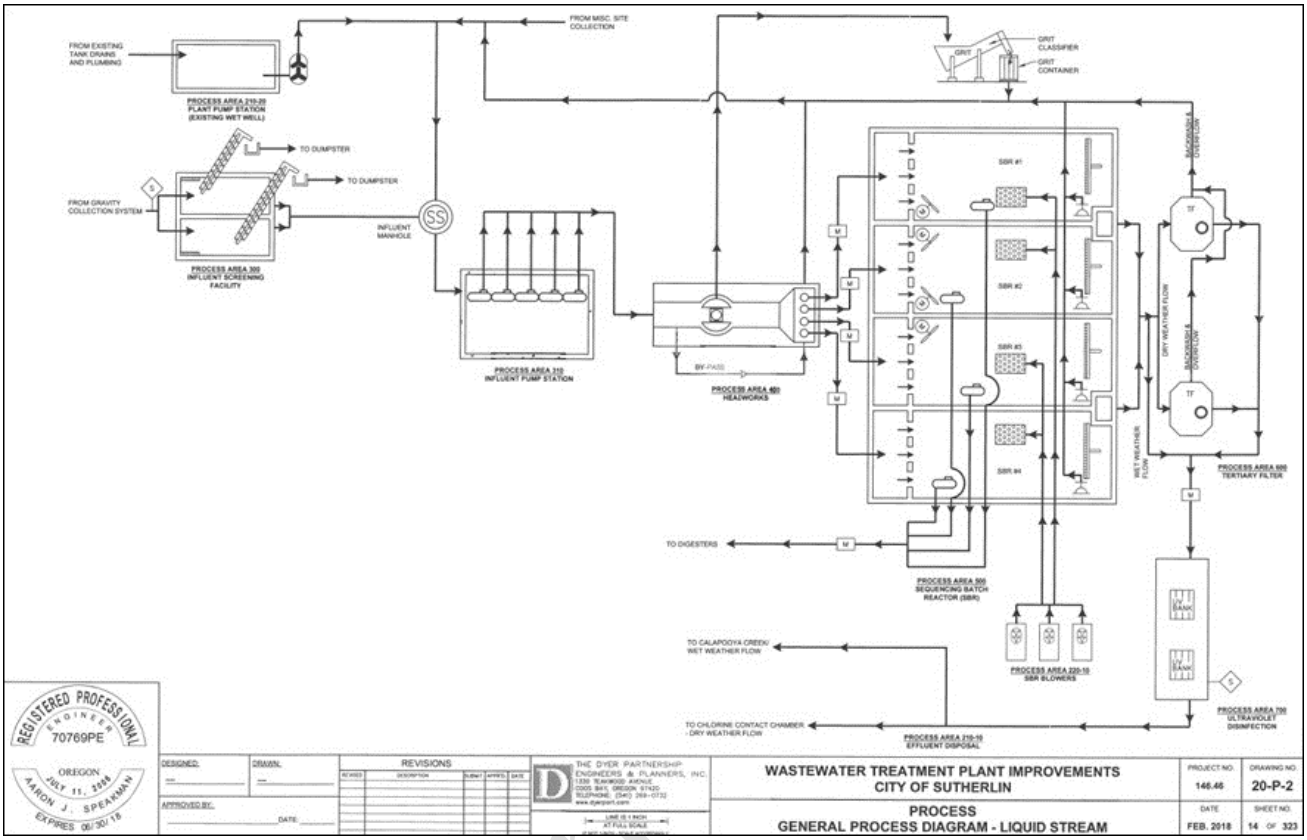


Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long	Design Flow[1] (mgd)	Existing Flow[2] (mgd)
001	Treated Wastewater	43.401867, -123.362931	2.01	2.28
002a	Treated Wastewater	43.394285, -123.363566	0.88	0.47
002b	Fords Pond discharge to Fords Creek	43.395933, -123.369461		
003	Recycled Water Reuse			
004	Biosolids			

1. Design Flow = design average dry weather or wet weather flow
2. Existing Flow = existing average monthly dry or wet weather flow

2.2 Compliance History

In 2005, Sutherlin and DEQ entered into a Mutual Agreement and Order number WQ/M-WR-05-054 because Sutherlin did not have the facilities to irrigate all of the wastewater during the months of May through October. The MAO was amended in 2012 to address ammonia effluent limit violations. The MAO was amended again in 2015 to adjust the project schedule. The final requirement in the Sutherlin MAO is:

"(7) By no later than fifteen (15) months after initiation of operation of the wastewater system upgrades, Permittee must submit a report summarizing the performance testing conducted during the first twelve (12) months of operation and an evaluation of whether the actual performance meets expectations in the DEQ plan approval letter. If performance does not meet the expectation, the report must also include a list of recommended performance improvements."

The liquids treatment units were completed on February 14, 2020 and the new units began treating sewage on May 6, 2020. Accordingly, this report was due on August 6, 2021. DEQ received the required report on September 9, 2021.

DEQ received the final report on September 9, 2021. Amendment 2 of the MAO states: "Paragraph 18 is replaced with the following: "This MAO will terminate the day after the final task in Paragraph 7 is completed. However, Permittee remains liable for stipulated penalties for any violations of the MAO occurring during the period the MAO was in effect and demanded pursuant to Paragraph 15."

Accordingly, the MAO terminated on September 10, 2021.

On November 12, 2021, DEQ issued a Warning Letter with opportunity to correct (WLOTC – 6684) for several permit violations noted in an inspection. Those violations include:

1. Sutherlin violated Schedule A condition b by not managing recycled water in accordance with its DEQ-approved recycled water use plan. Specifically, Sutherlin delivered more water to the Oak Hills Golf Club than allowed by the recycled water use plan and more than Oak Hills Golf Club can reasonably irrigate on 38.5 acres. This contributed to Oak Hills' unpermitted discharge of recycled water.
2. Sutherlin failed to submit a mercury minimization plan by August 1, 2020 as required by Schedule A.7.
3. Sutherlin does not have a written laboratory quality assurance and quality control program as required by Schedule B condition 1.e.
4. Sutherlin failed to submit timely reports of progress as required by Schedule C.
5. Sutherlin does not have an emergency response and public notification plan as required by Schedule D condition 2 and Schedule F condition B8.
6. Sutherlin failed to submit a significant industrial user survey as required by Schedule D.9.

7. Schedule F condition B1 requires Sutherlin to properly operate and maintain the treatment system. Proper maintenance includes a robust preventative maintenance program. Sutherlin has purchased a computerized maintenance management system but has not yet populated it.

In 2022, Sutherlin and DEQ entered into another Mutual Agreement and Order number WQ/M-WR-2021-180 that included civil penalties because the facility discharged recycled water from a point not authorized by the permit. Oak Hill Golf Club discharged recycled water provided by Sutherlin to Cook Creek. The MAO also includes violations related to improper maintenance and operation and the failure to develop or implement a BMP.

2.3 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.

2.4 Industrial Pretreatment

city conducted an Industrial User Survey during the last permit cycle and determined that a DEQ-approved industrial pretreatment program is not needed. No categorical industrial users were identified in the IU survey update submitted with the city's permit renewal application. [Include if relevant] The proposed permit requires the permittee to conduct and submit to DEQ an updated Industrial User Survey (Survey) within one year of permit issuance. DEQ will review the Survey results and, if DEQ determines that a pretreatment program is required, the permit may be reopened and modified to require development of a pretreatment program.

2.5 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 tables below show the limits contained in the existing permit.

Table 3-1: Existing Effluent Limits for Outfall 001 Calapooya Creek

Parameter	Stream Flow (CFS)[a]	Units	Average Monthly	Average Weekly	Daily Maximum
Effluent Flow (June 1 – Oct. 31)		MGD	No discharge (Daily max limit = 0 MGD)		
Effluent Flow (May 1 to May. 31)	< 82	MGD	No discharge (Daily max limit = 0 MGD)		
BOD_5 & TSS (May 1 to May 31)[b,c]	≥ 82	mg/L	30	45	-
		lb/day	560	840	1100
BOD_5 & TSS (Nov. 1 to Nov. 30)[b,c]	<45	mg/L	30	45	-
		lb/day	440	170	260
	45 – 60	mg/L	30	45	-
		lb/day	440	320	480
	>60 – 96	mg/L	30	45	-
		lb/day	440	440	660
	>96	mg/L	30	45	-
		lb/day	440	660	880
BOD_5 & TSS (Dec. 1 to April 30)[b,c]	All	mg/L	30	45	-
		lb/day	560	840	1100
		% removal	85	-	-
Chlorine, Total Residual (Nov. 1 to May 31)		mg/L	0.01	-	0.036
Ammonia, Total (Nov. 1 to May 31)		mg/L	14	-	24
pH (Nov. 1 to May 31)		SU	Instantaneous limit between a daily minimum of 6.3 and a daily maximum of 9.0		
E. coli (Nov. 1 to May 31)		#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		

Parameter	Stream Flow (CFS)[a]	Units	Average Monthly	Average Weekly	Daily Maximum
Excess Thermal Load Limit (ETLL) (May 16 to May 31)		million kcal/day (Mkcal/day)	Option A: ETLL = 20.2 as a 7-day rolling average Option B: ETLL=(0.1)(Qe+Qr)(2.45) as a 7-day rolling average, where: Qe = Daily average effluent flow rate (cfs) Qr = 25% of receiving stream daily average flow rate (cfs)		
Excess Thermal Load Limit (ETLL) (Nov. 1 to May 15)		million kcal/day (Mkcal/day)	Option A: ETLL = 7.3 as a 7-day rolling average Option B: ETLL=(0.3)(0.25Qr+Qe)(2.45)as a 7-day rolling average, where: Qe = Daily average effluent flow rate (cfs Qr = 25% of receiving stream daily average flow rate (cfs)		
Notes: a. Stream flow in Calapooya Creek. b. Monthly average BOD and TSS limits are not flow based. c. The weekly average BOD and TSS limits are based on the weekly average flow in Calapooya Creek.					

Table 3-2: Existing Effluent Limits for Outfall 002a Fords Pond

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5	mg/L	10	15	-
	lb/day	73	110	-
	% removal	85	-	-
TSS	mg/L	10	15	-
	lb/day	73	110	-
	% removal	85	-	-
Chlorine, Total Residual	mg/L	0.0053	-	0.019
Ammonia Total Final[a] ((November 1 to April 30)	mg/L	2.0	-	3.5

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
Ammonia Total Interim[a] (November 1 to April 30)	mg/L	5.0	-	5.0
pH Final[a] (November 1 to April 30)	SU	Instantaneous limit between a daily minimum of 6.5 and a daily maximum of 8.5		
pH Interim[a] (November 1 to April 30)	SU	Instantaneous limit between a daily minimum of 6.3 and a daily maximum of 8.5		
E. coli (November 1 to April 30)	#/100 mL	Must not exceed a monthly geometric mean of 126, no single sample may exceed 406		

Note:

a. These interim limits are effective upon permit issuance. The final limits are effective after completion of the compliance schedule as specified in Schedule C.

3.2 Technology-Based Effluent Limit Development

40 CFR 122.44(a)(1) requires publicly owned treatment works (POTW) to meet technology-based effluent limits, for five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS) and pH (i.e., federal secondary treatment standards). Substitution of 5-day carbonaceous oxygen demand ($CBOD_5$) for BOD_5 is allowed. The numeric standards for these pollutants are contained in 40 CFR 133.102. In addition, DEQ has developed minimum design criteria for BOD_5 and TSS that apply to specific watershed basins in Oregon. These are listed in the basin-specific criteria sections under OAR 340-041-0101 to 0350. During the summer low flow months as defined by OAR, these design criteria are more stringent than the federal secondary treatment standards. The basin-specific criteria are not effluent limits but are implemented as design criteria for new or expanded wastewater treatment plants. The table below shows a comparison of the federal secondary treatment standards and the basin-specific design criteria for the Umpqua basin.

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

Parameter	Federal Secondary Treatment Standards		Umpqua Basin-Specific Design Criteria (OAR 340-041-0326)
	30-Day Average	7-Day Average	Monthly Average
BOD_5 (mg/L)	30	45	10 mg/L (May 1 – October 31), 30 mg/L (November 1 – April 30)
TSS (mg/L)	30	45	10 mg/L (May 1 – October 31), 30 mg/L (November 1 – April 30)
pH (S.U.)	6.0 – 9.0. (instantaneous)		6.5 – 8.5

Parameter	Federal Secondary Treatment Standards		Umpqua Basin-Specific Design Criteria (OAR 340-041-0326)
	30-Day Average	7-Day Average	Monthly Average
BOD_5 and TSS % Removal	85%	Not applicable	Not applicable

The limits for BOD_5 and TSS shown in the table above are concentration-based limits. Mass-based limits are required in addition to the concentration-based limits per OAR 340-041-0061(9). For any new facility or any facility that has expanded its dry weather treatment capacity after June 30, 1992, OAR 340-041-0061(9)(b) requires that the mass load limits be calculated based on the proposed treatment facility capabilities and the highest and best practicable treatment to minimize the discharge of pollutants. The permittee's facility has been engineered to achieve BOD_5 and TSS monthly average concentrations of 10 mg/L during the dry weather season and 30 mg/L during the wet weather season. DEQ uses the maximum monthly design flow to calculate the mass load limits as shown below for the dry and wet weather seasons.

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

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

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

* Design flow is the design maximum monthly dry weather flow (DMMDWF) or design maximum monthly wet weather flow (DMMWWF).

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

Table 3-4: Design Flows and Concentrations Limits

Season	Maximum Monthly Design Flow (mgd)	Monthly TSS Concentration Limit (mg/L)	Monthly BOD_5 Concentration Limit (mg/L)
Dry Weather	1.8	10	10
Wet Weather	2.7	30	30

001 Wet Weather Mass Load Calculations:

Monthly Average: 2.7 [design flow] mgd x 30 [concentration] mg/L x 8.34 = 675.5 = 675 (rounded to two significant figures)

Weekly Average: 675 lbs/day monthly average x 1.5 = 1012 lbs/day

Daily Maximum: 675 lbs/day monthly average x 2 = 1350 lbs/day

The current permit mass load limits for the design flow of 2.22 MGD for November – May are more stringent than the maximum monthly design flow (2.7) and, will remain in this renewal to meet antidegradation and antibacksliding requirements. The high and low flow periods in OAR 340-041-032(4) are approximate. The flow in Calapooya Creek remains relatively high through the month of May. Accordingly, DEQ has chosen to extend the high flow season through the month of May.

The proposed BOD_5 and TSS limits are listed in the following tables.

Table 3-5: Outfall 001 BOD_5 and TSS Technology Based Effluent Limits

Parameter (See note c.)	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5 (November 1 to May 31): (See notes a and b.)	mg/L	30	45	-
	lbs/day	560	840	1100
	% removal	85	-	-
TSS (November 1 to May 31): (See notes a and b.)	mg/L	30	45	-
	lbs/day	560	840	1100
	% removal	85	-	-

Notes:

a. Refer to Table 3-13 for the WQBEL calculated mass load limits in November.

b. Limits in May only apply when stream flow is ≥ 82 cfs. No discharge to Outfall 001 in May when stream flow is <82 cfs.

c. Wet weather discharge may flow to either Outfall 001 or 002a.

Outfall 002a Dry Weather Mass Load Calculations:

Monthly Average: 1.8 [design flow] mgd x 10 [concentration] mg/L x 8.34 = 150 lbs/day

Weekly Average: 150 lbs/day monthly average x 1.5 = 225 lbs/day

Daily Maximum: 150 lbs/day monthly average x 2 = 146 =300 lbs/day

The current average monthly and average weekly permit mass load limits for the average dry weather design flow of 0.88 MGD for June - October are more stringent than the maximum monthly dry weather design flow (1.8) and, will remain in this renewal to meet antidegradation and antibacksliding requirements. A new daily maximum mass load limit for both BOD and TSS will be included in the proposed permit. The daily maximum mass load limit was omitted by error in the previous permit and, for the proposed permit, will be based off the 0.88 MGD day weather design flow.

Table 3-6: Outfall 002a Dry Weather BOD_5 and TSS Technology Based Effluent Limits

Parameter	Units	Average Monthly	Average Weekly	Daily Maximum
BOD_5 (Outfall 002a: June 1 – October 31)	mg/L	10	15	-
	lbs/day	73	110	150
	% removal	85	-	-
TSS (Outfall 002a: June 1 – October 31)	mg/L	10	15	-
	lbs/day	73	110	150
	% removal	85	-	-

3.3 Water Quality-Based Effluent Limit Development

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

3.3.1 Designated Beneficial Uses

NPDES permits issued by DEQ must protect the following designated beneficial uses of the Calapooya Creek. These uses are listed in OAR-340-041-0326 for Umpqua Basin. Sutherlin wastewater treatment plant discharges seasonally into Calapooya Creek at river mile 9.8. Calapooya Creek is a tributary of the Umpqua River in the Umpqua Basin and enters the Umpqua at approximately river mile 103.

- 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
- Hydropower

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

The following tables 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 3-7: 303(d) and TMDL Parameters for Outfall 001

Water Quality Limited Parameters (Category 5)	
AU ID:	OR_SR_1710030301_02_106418
AU Name:	Calapooya Creek
AU Status:	Impaired
Year Listed	2002
Year Last Assessed	2022
303d Parameters (Category 5)	Flow Modification, Habitat Modification, E. coli, Dissolved Oxygen year-round, Temperature year round, Iron (total)-Aquatic Life Toxics
TMDL Parameters (Category 4)	
Temperature, pH, Dissolved Oxygen, E. coli	

3.3.3 TMDL Wasteload Allocations

DEQ issued a TMDL for the Umpqua Basin in 2006. The TMDL parameters that apply to Sutherlin STP are temperature, *E. coli*, pH, and dissolved oxygen.

The Umpqua Basin temperature TMDL addresses the non-spawning period (May 16 through October 14) and has assigned a temperature wasteload allocation to the facility as discussed in Section 3.3.8, below.

The facility is not discharging to Calapooya Creek between June and October. As such, the Sutherlin STP is meeting *E. coli* the requirements in the TMDL which prohibits discharge to the creek in the summer recreational period.

The TMDL for pH is for the summer period, of which the facility is not discharging to Calapooya Creek. Thus, Sutherlin STP is meeting the pH requirements in the TMDL. A wasteload allocation to address the fall-winter-spring dissolved oxygen limitation was not completed at the time of the dissolved oxygen TMDL issuance. Instead, a wasteload allocation for inorganic and total phosphorus was created in the TMDL from June 1 – October 31. This WLA does not apply for Sutherlin STP since the facility does not discharge to Calapooya Creek during those months.

Fords Pond where Outfall 002a discharges to was constructed in 2019 from a previous logging pond. As a relatively new enclosed waterbody with no TMDL or 303(d) listing associated with it, Table 3-8 depicts the TMDL parameters for the watershed in general, not specifically for Fords Pond.

Table 3-8: Applicable WLAs

Parameter	WLA	Time Period
Temperature	See Section 3.3.8, below	May 15 – October 15
E. coli	Log mean of 126. Not to exceed 406	June – October

3.3.4 Pollutants of Concern

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

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

Table 3-9: 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 3-10: Pollutants of Concern

Pollutant	How was pollutant identified?
pH	Effluent Monitoring
Temperature	Effluent Monitoring
E. coli	Effluent Monitoring
Total Residual Chlorine	Effluent Monitoring
Total Ammonia Nitrogen	Effluent Monitoring
Nitrate plus Nitrite	Effluent Monitoring
Bis (2-ethylhexyl)phthalate	Effluent Monitoring

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 specific to Outfall 001 and is described as:

> *The allowable mixing zone is that portion of Calapooya Creek contained within a band extending out no more than ½ the stream width and extending from a point ten (10) feet upstream of the outfall to a point thirty (30) feet downstream from the outfall. The Zone of Immediate Dilution (ZID) is that portion of the allowable mixing zone that is within three (3) feet of the point of discharge.*

The proposed permit contains an updated regulatory mixing zone description for Outfall 001 which is described as follows. The description was updated to remove the allowable width, as the dilution factor at the edge of the RMZ and ZID is determined at the downstream boundary, rather than a width.

> *The allowable Regulatory Mixing Zone (RMZ) for Outfall 001 is that portion of Calapooya Creek that extends 10 feet upstream from the outfall end of pipe and 30 feet downstream out the outfall end of pipe. The Zone of Initial Dilution (ZID) is that portion of the Regulatory Mixing Zone extending 3 feet from the outfall end of pipe.*
>
> *There is no allowable Regulatory Mixing Zone (RMZ) or Zone of Initial Dilution (ZID) for any discharge to Fords Pond (Outfall 002a) or Fords Creek (Outfall 002b).*

The dilution factors at the edge of the Regulatory Mixing Zone and Zone of Initial Dilution are shown in Table 3-12. These dilutions are based on a 2008 mixing zone study and a 2019 mixing zone memo by DEQ. The mixing zone memo documenting this review and analysis is in a December 21, 2023 Mixing Zone Memo which is part of the administrative record. For this memo, updated ambient and effluent flows and temperatures were used to model the effluent plume.

The Sutherlin WWTP outfall is a single 27-inch diameter metal pipe mounted on a concrete block in the stream bed with no diffuser. The discharge point is located approximately 15 feet from the left bank (looking downstream) of the river. At the 7Q10 low flow, the pipe is perched above the water's surface. The outfall end of pipe is located at 43.401867, -123.362931. Additional engineering drawings, photos of the outfall, and other information is available in the Mixing Zone Memo.

Table 3-11: Mixing Zone Dilutions

Dilution Summary – Nov 1 to Apr 30 (Wet Weather)						
Water Quality Standard	**Stream Flow (cfs)**		**Effluent Flow (mgd)**		**Dilution Factor**	**Location**
	Statistic	**Flow**	**Statistic**	**Flow**		
Aquatic Life, Acute	1Q10	13 cfs	☐ ADWDF x PF ☒ Max Daily Avg ☐ Other	2.246 MGD	1.9	ZID (3 ft)
Aquatic Life, Chronic	7Q10	19 cfs	☐ ADWDF ☐ Max Monthly Avg ☐ Other	1.024 MGD	4.9	RMZ (30 ft)
Human Health, Non-Carcinogen	30Q5	87 cfs	☐ ADWDF ☒ Max Monthly Avg ☐ Other	1.024 MGD	8.3	RMZ (30 ft)
ADWDF = Average dry weather design flow *PF = Peaking factor (1.5)*						

Dilution Summary – May 1 to May 31 (Discharge allowed when ambient > 82 cfs)						
Water Quality Standard	**Stream Flow**		**Effluent Flow**		**Dilution Factor**	**Location**
	Statistic	**Flow**	**Statistic**	**Flow**		
Aquatic Life, Acute	Flow based limit	82 cfs	☒ ADWDF x PF ☐ Max Daily Avg ☐ Other	0.88 MGD	2.4	ZID (3 ft)
Aquatic Life, Chronic	Flow based limit	82 cfs	☒ ADWDF ☐ Max Monthly Avg ☐ Other	0.88 MGD	9.0	RMZ (30 ft)
ADWDF = Average dry weather design flow *PF = Peaking factor (1.5)*						
Comments: Facility is only permitted to discharge in May when the ambient flow is greater than 82 cfs, so dilution calculated using ADWDF and 82 cfs ambient flow.						

3.3.6 BOD_5 and TSS

As mentioned above in Table 3-7, Calapooya Creek is water quality limited for dissolved oxygen during the spawning period (Oct 15 – May 15). During 1998, DEQ evaluated the discharge's impact to Calapooya Creek using the water quality simulation program MULTISTP. The modeling predicts water quality impacts during low periods in May and November if Sutherlin were to discharge at the maximum permitted levels. To protect water quality, DEQ will continue to place restrictions on discharges during the months of May and November. During May, discharge is allowed only when the stream flow in Calapooya Creek exceeds 82 cfs. During November, the limits are stream flow based as follows:

Table 3-12: Outfall 001 BOD_5 and TSS WQBELs

Parameter	Stream Flow (CFS)[a]	Units	Average Monthly (See note b.)	Average Weekly (See note c.)	Daily Maximum
BOD_5 & TSS (November 1 to November 30)	<45	mg/L	30	45	-
		lb/day	440	170	260
	45 – 60	mg/L	30	45	-
		lb/day	440	320	480
	>60 – 96	mg/L	30	45	-
		lb/day	440	440	660
	>96	mg/L	30	45	-
		lb/day	440	660	880

Notes:

a. Stream flow in Calapooya Creek.

b. Monthly average BOD and TSS limits are TBELS and not flow based.

c. The weekly and daily average BOD and TSS mass load limits are WQBELS and based on the weekly average flow in Calapooya Creek.

3.3.7 pH

The pH criterion for this basin is 6.5 – 8.5 per OAR 340-041-0326. The previous permit pH limits for Outfall 001 were 6.3 to 9.0. DEQ determined there is no reasonable potential for the discharge to exceed the pH criterion at the edge of the mixing zone based on the current limits. The proposed limit for Outfall 001 is a lower limit of 6.3, which is a WQBEL and an upper limit of 9.0 which is a TBEL. Based on DMRs from 2019-2023, the permittee should be able to meet these limits. Table 3-13 provides a summary of the data used for the analysis.

For Outfall 002a, the final previous permit pH limits were 6.5 to 8.5. There is no mixing zone for Outfall 002a because it discharges to Fords Pond, which is an enclosed waterbody in the dry season when the facility is discharging to Outfall 002a. Therefore, no RPA is necessary and DEQ is proposing to maintain the end-of-pipe pH limits of 6.5 to 8.5, which are both WQBELs.

Table 3-13: Outfall 001 pH Reasonable Potential Analysis

INPUT	Lower pH Criteria	Upper pH Criteria
1. DILUTION AT MZ BOUNDARY (7Q10)	4.9	4.9
2. UPSTREAM CHARACTERISTICS		
a. Temperature (deg C):	17.2	6.0
b. pH:	7.4	8.1
c. Alkalinity (mg CaCO3/L):	29.0	29.0
3. EFFLUENT CHARACTERISTICS		
a. Temperature (deg C):	17.6	11.3
b. pH (S.U.) – Enter existing lower and upper limit	6.3	9.0
c. Alkalinity (mg CaCO3/L):	134.6	134.6
4. APPLICABLE PH CRITERIA	6.5	8.5
pH at Mixing Zone Boundary:	6.5	8.3
Is there Reasonable Potential?	No	No
Proposed Effluent Limits	6.3	9.0
Effluent data source: ICIS summary statistic data 2019-2023.		
Ambient data source: AWQM Ambient Data 2019 – 2023 stations 10996-ORDEQ and 12796-ORDEQ.		

3.3.8 Temperature

3.3.8.1 Outfall 001 (Calapooya Creek) 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 3-14: Calapooya Creek Temperature Criteria Information

Applicable Temperature Criterion	Rearing/Migration 18ºC (OAR 340-041-0028(4)(c)
Applicable dates: May 15 – October 15	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☒Yes ☐No
Applicable dates: October 15 – May 15	
WQ-limited?	☒Yes ☐No
TMDL wasteload allocation assigned?	☒Yes ☐No
Applicable dates: May 16 – May 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: Temperature criteria for Calapooya Creek.	

As mentioned in Section 3.3.3, the Umpqua Basin temperature TMDL addresses the period when the rearing and migration fish use applies (May 15 through October 15). Since the facility is only allowed to discharge to Calapooya Creek from November 1 through May 31, the TMDL only applies to this facility from May 16 through May 31. The temperature wasteload allocation in the TMDL is based on the following equation:

$$WLA = (HUA)(Q_e + Q_r)(C_f)$$

Where: WLA = heat load allocation, based on a 7-day rolling average (Mkcal/day)

HUA = human use allowance = 0.1 ºC

Qe = effluent flow rate in cfs based on a 7-day rolling average

Q_r = stream flow (cfs)

C_f = conversion factor = 2.45 million kcal·s/ºC·ft^3·day

DEQ expresses thermal waste load allocations in permits as "excess thermal loads". These ETLs are expressed as a formula used to calculate the allowed heat load based on variables that fluctuate, such as streamflow. DEQ designates this limit as "Option B" in the permit. The excess thermal load discharged by the facility is calculated by:

$$ETL = (Q_e)(T_e - T_r)C_f$$

Where: ETL = Excess Thermal Load

Q_e = Effluent Flow (cfs)

T_e = Effluent temperature (ºC)

T_r = Temperature criteria (ºC) = 18 ºC

C_f = conversion factor = 2.45 million kcal·s/ºC·ft^3·day

DEQ also allows the permittee to determine compliance with a simplified critical case scenario limit, which is necessary for May 16 to May 31 when the facility is discharging to Calapooya Creek. DEQ designates this limit as "Option A". Option A is calculated using a stream flow of 82 cfs because the permit prohibits Sutherlin from discharging when stream flows are less than 82 cfs in May. The weekly dry weather design flow can be estimated by multiplying the average dry weather design flow by 1.5. DEQ is using the dry weather design flow of the new plant (0.88 mgd). Accordingly, the estimated weekly dry weather design flow is 0.88 mgd x 1.547 x 1.5 = 2.04 cfs.

The Option A ETL limit is:

"Option A" ETL Limit = $(HUA)(Q_e + Q_R)(C_f)$ = 0.1*(2.04 + 82)*2.45 = 21 Mkcal/day (rounded to two significant figures)

The current permit's limit for this period is based on the same equation and input values, but due to errors (rounding and transcription), is 20.2 million kcals/day. The proposed permit will include the 21 million kcals/day value. Based on the DMR data from 2021 through 2023, the maximum ETL discharged between May 16 and May 31 was 10.0 million Kcals/day. Based on this information, Sutherlin is expected to be able to meet this limit with the existing facilities.

DEQ conducted a temperature reasonable potential analysis for the spawning season (Oct 15 – May 15) since the stretch of the Calapooya Creek that Outfall 001 discharges to is designated as having salmonid and steelhead spawning as a beneficial use under OAR 340-041-0320, Figure 320B. The applicable temperature criterion is 13 ºC. Calapooya Creek is listed as water quality limited on the 2022 303d list. The most recent Umpqua Basin TMDL from 2006 does not have a WLA for Sutherlin STP in the spawning season. However, the data DEQ does have indicates that Calapooya Creek temperatures are higher than 13 °C at times. Per DEQ's Temperature Standard Implementation IMD, the human use allowance applies if temperature data show that the ambient temperature upstream of the source exceeds the numeric criteria. Accordingly, the following analysis follows DEQ's guidance for a stream that does not meet the temperature criterion.

OAR 340-041-0028(12)(b)(A) states:

> "Prior to the completion of a temperature TMDL or other cumulative effects analysis, no single NPDES source that discharges into a temperature water quality limited water may cause the temperature of the water body to increase more than 0.3 degrees Celsius above the applicable criteria after mixing with either twenty five percent of the stream flow or the temperature mixing zone, whichever is more restrictive".

Appendix A contains a spreadsheet that includes a reasonable potential analysis based on meeting 13 °C at the edge of the mixing zone and after mixing with 25 percent of the stream flow. This analysis is during critical case low flows (November). The effluent temperature value used in this analysis is 19.8 °C. This value was taken from the facility's DMRs for the period from November 2021 to 2023 and represents the maximum 7-day average of the daily maximums for the spawning season. The analysis indicates that the discharge increases the temperature at the edge of the existing regulatory mixing zone and after mixing with 25 percent of the stream flow by 1.4 °C and 3.4 °C, respectively. As such, DEQ calculated an excess

thermal limit for the spawning season (Nov. 1 – May 15) because there is a reasonable potential for the discharge to exceed the human use allowance. The static limit for this period was calculated as 6.9 million kcals/day. This value is more stringent than the current permit's limit of 7.3 million kcals/day and will be included the proposed permit and is shown as "Option A" in the permit. The "Option B" limit for this period is flow based using the following equation:

ETLL = (HUA)(0.25*Qr + Qe)(Cf)

Where: ETLL = Excess Thermal Load Limit, based on a 7-day rolling average (Mkcal/day)

HUA = human use allowance = 0.3 °C

Qe = effluent flow rate in cfs based on a 7-day rolling average

Qr = stream flow (cfs)

Cf = conversion factor = 2.45 million kcal.s/°C.ft^3.day

Final effluent limits for Outfall 001 are listed in the following table.

Table 3-15: Outfall 001 Temperature Criterion Effluent Limits

Effluent limit needed? ☒Yes ☐No
TMDL WLA Limit: 21 Million Kcals/day or flow-based equation (see above)
Applicable time period: May 16 - May 31 ☐NA
Temperature Criterion Limit: 6.9 Million Kcals/day or flow-based equation (see above)
Applicable time period: November 1 – May 15 ☐NA
Comments:

Based on the DMR data from November 2021 through 2023, the discharge from Outfall 001 would have exceeded the Option A ETL limit on 11 days. The discharge would not have exceeded the Option B ETL limits and is expected to remain in compliance.

3.3.8.2 Outfall 001 (Calapooya Creek) 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 from Outfall 001 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 13ºC or more for salmon and steelhead, and 9ºC or more for bull trout.

Sutherlin STP: During the last permit renewal, DEQ confirmed with Oregon Department of Fish and Wildlife that, while active spawning has been identified in Calapooya Creek downstream of the discharge, no active spawning has been identified in the immediate vicinity of the outfall (within the mixing zone, which extends 30-feet downstream of the outfall). As discussed above, the excess thermal load limit included in the permit for the spawning season ensures that discharge will comply with the spawning standard at the mixing zone boundary and downstream. Therefore, impairment of an active salmonid spawning area where spawning redds are located or likely to be located due to this discharge is prevented or minimized.

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

  Sutherlin STP: The daily maximum-recorded temperature of the discharge to Calapooya Creek for the November 2021 to 2023 period was 19.8 ºC, well below the 32 ºC criterion. Therefore, the discharge does not have the potential to cause acute impairment or instantaneous lethality due to the thermal plume.

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

  Sutherlin STP: As mentioned above, the daily maximum-recorded temperature of the discharge from Outfall 001 for the November 2021 to 2023 period was 19.8 ºC, well below the 25 ºC criterion. As such, the effluent discharge does not have the potential to result in thermal shock potential within Calapooya Creek.

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

  Sutherlin STP: As mentioned previously, the daily maximum-recorded temperature of the discharge from Outfall 001 for the November 2021 to 2023 period was 19.8 ºC, slightly below the 21 ºC criterion. As such, the effluent discharge does not have the potential to result in migration blockage within Calapooya Creek.

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

Table 3-16: Outfall 001 Thermal Plume Effluent Limit

Effluent limit needed? ☐Yes ☒No
Calculated limit: N/A
Applicable timeframe: N/A
Comments: The limit for the spawning season presented in the table above ensures compliance.

3.3.8.3 Outfall 002a (Fords Pond) 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 3-17: Fords Pond Temperature Criteria Information

Applicable Temperature Criterion	Natural Lakes*; OAR 340-041-0028(6)
Applicable dates: Year-Round	
Salmon/Steelhead Spawning 13 °C? OAR 340-041-0028(4)(a)	☐Yes ☒No
Applicable dates: N/A	
WQ-limited?	☐Yes ☒No
TMDL wasteload allocation assigned?	☐Yes ☒No
Applicable dates: N/A	
TMDL based on natural conditions criterion?	☐Yes ☐No
Cold water summer protection criterion applies?	☐Yes ☒No
Cold water spawning protection applies?	☐Yes ☒No
Comments: As discussed below, Fords Pond is an artificial lake, but the natural lake criterion is being applied.	

For Outfall 002a to Fords Pond, DEQ has determined that the temperature standard for natural lakes applies to Fords Pond, which is no more than 0.3 °C increase above the natural condition. (DEQ does not have standards specific to manmade ponds or lakes.) Salmonids are not a listed beneficial use for the pond.

The following mass balance equation is used to determine the temperature increase caused by the discharge:

$\Delta T = (Ve/(Ve+Vr))\ (Te-Tc)$

Where,

ΔT = temperature increase

Ve = Volume of effluent = 0.88 million gallons per day

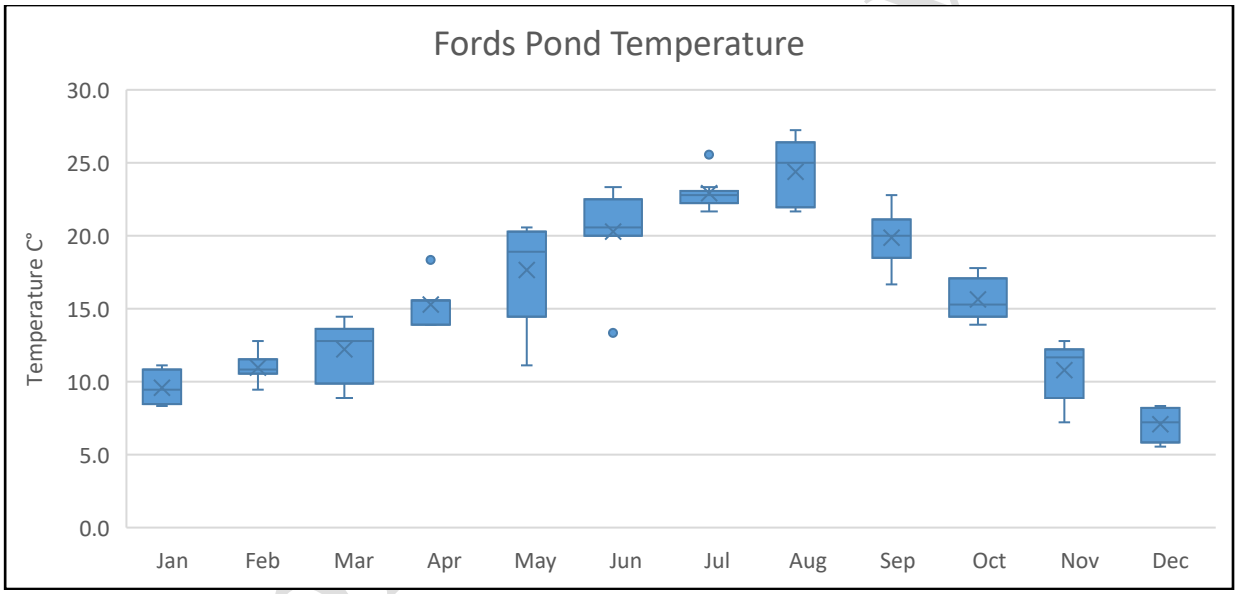
Vr = Volume of receiving water (Fords Pond) = 559 million gallons (upper 2 feet)

Te = Effluent Temperature

Tc = Temperature criterion = natural condition temperature

The following chart shows the 2017 - 2018 temperatures of Ford Pond prior to effluent discharge into the pond.

Figure 3-1: Fords Pond Temperature 2017 – 2018



The following table contains the results of those calculations based on effluent temperatures for that same timeframe. Based on these conservative estimates, the discharge will not increase the temperature more than 0.3 °C. There is no effluent limit for Outfall 002a at this time.

Table 3-18: Temperature Impact to Fords Pond

Month	Max Effluent Temp	Average Pond Temp	Temperature change (°C)
January	14.1	9.6	0.007
February	14.6	11.0	0.006
March	15	12.2	0.004
April	16.7	15.3	0.002
May	18.6	17.7	0.001
June	22.6	20.3	0.004

Month	Max Effluent Temp	Average Pond Temp	Temperature change (°C)
July	23.1	22.9	0.000
August	23.6	24.4	-0.001
September	23.3	19.9	0.005
October	21.4	15.6	0.009
November	19.4	10.8	0.014
December	16.1	7.1	0.014

Table 3-19: Outfall 002a Temperature Criterion Effluent Limits

Effluent limit needed? ☐Yes ☒No
TMDL WLA Limit: None
Applicable time period: Dates ☒NA
Temperature Criterion Limit: N/A
Applicable time period: Dates ☒NA
Comments:

3.3.8.4 Outfall 002a (Ford's Pond) Thermal Plume OAR 340-041-0053(2)(d)

As noted above, the fish beneficial use associated with Fords Pond is warm water species, with no salmonids present. Oregon's thermal plume limitation provisions (OAR 340-041-0053(2)(d)) only apply if salmonids are present in the outfall's mixing zone. No salmonids are present, so the provisions do not apply and not associated limits are included in the proposed permit.

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

Table 3-20: Outfall 002a Thermal Plume Effluent Limit

Effluent limit needed? ☐Yes ☒No
Calculated limit None:
Applicable timeframe: N/A
Comments:

3.3.8.5 Outfall 002a (Fords Pond) Temperature Monitoring

Ambient monitoring requirements of temperature in Fords Pond on the opposite end of the pond from the outfall (Outfall 002a) has been added to the permit to evaluate whether the effluent into Fords Pond has no more than a 0.3°C increase above the natural condition limit. The upcoming permit cycle will require an RPA for Outfall 002a.

3.3.9 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 3-21: Proposed *E. coli* Limits

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

3.3.10 Toxic Pollutants

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

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

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

3.3.10.1 Total Residual Chlorine

The existing permit contains chlorine limits of 0.010 mg/L average monthly limit and 0.036 mg/L maximum daily limit for Outfall 001, and 0.0053 mg/L average monthly limit and 0.019 mg/L maximum daily limit for Outfall 002a. The chlorine limits were evaluated to ensure they were still protective of water quality criteria. For both the Outfall 001 and 002a analysis, the current limits remain protective of water quality criteria and so the existing limits are being retained.

3.3.10.2 Total Ammonia Nitrogen

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

The existing permit has a maximum daily ammonia limit of 23.5 mg/L and a monthly average limit of 13.5 mg/L for Outfall 001. Winter season analyses using updated receiving stream, effluent, and mixing zone dilutions determined that there was reasonable potential for the chronic aquatic criteria to be exceeded. The newly calculated maximum daily limit of 33.5 mg/L is less stringent than the existing limits, so the existing limit will remain in the new permit to satisfy anti-backsliding and anti-degradation provisions. The new average monthly limit of 11.8 mg/L is more stringent than the existing permit and will be applied to the new permit. Based on the DMR data from November 2021 through 2023, the discharge would not exceed the new limits. As such, it is estimated that the permittee can meet this new limit.

The existing permit has a maximum daily ammonia limit of 3.5 mg/L and a monthly average limit of 2.0 mg/L for Outfall 002a. Since there is no mixing zone for Outfall 002a an end-of-pipe analysis was done using updated effluent data to calculate the criteria and determine RP. The RPA determined that there was reasonable potential for the existing ammonia limits to exceed the aquatic chronic criteria. The newly calculated maximum daily limit of 5.9 mg/L is less stringent than the existing limit, so the existing limit is being retained to satisfy anti-backsliding and anti-degradation provisions. The new average monthly limit of 2.0 mg/L is the same as the existing permit and will be unchanged to the new permit. Based on the DMR data from November 2021 through 2023, the discharge would have exceeded the average monthly limit on only one occasion and the mean of the average monthly DMR data is 0.62 mg/L. As such, it is estimated that the permittee can meet this new limit.

Table 3-22: Ammonia Analysis Information – Outfall 001 Winter

	Acute	Chronic	
		4-day	30-day
Dilution	1.9	4.9	8.3
Ammonia Criteria	19.3	3.7	1.5
Effluent Data Used			
Ammonia (mg/L)	24.0	24.0	
pH (SU)	6.9	6.9	
Temperature (ºC)	17.9	17.9	
Alkalinity (mg/L CaCO3)	64.0	64.0	
Receiving Stream Data Used			
Ammonia (mg/L)	0.0	0.0	
pH (SU)	9.4	9.4	
Temperature (ºC)	16.1	16.1	
Alkalinity (mg/L CaCO3)	43.5	43.5	
Ammonia Limit Needed?	Yes		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	11.8	33.5	

Effluent data source
DMR data November 2021-2023. Alkalinity defaults used.
Ambient data source
AWQMS Ambient Data 2021 - 2023 stations 10996-ORDEQ, 11309-ORDEQ, 12796-ORDEQ, 12804-ORDEQ, 33227-ORDEQ, 33549-ORDEQ.

Table 3-23: Ammonia Analysis Information – Outfall 002a Summer

	Acute	Chronic	
		4-day	30-day
Dilution	1	1	1
Ammonia Criteria	12.6	3.8	1.5
Effluent Data Used			
Ammonia (mg/L)	3.5	3.5	
pH (SU)	7.0	7.0	
Temperature (ºC)	23.5	23.5	
Alkalinity (mg/L CaCO3)	64.0	64.0	
Ammonia Limit Needed?	Yes		
Calculated Limits	AML	MDL	
Ammonia (mg/L)	2.0	5.9	
Effluent data source			
DMR data 2021-2023 for ammonia and pH. DMR data from 2012-2018 for temperature. Alkalinity defaults used.			

3.3.10.3 Priority Pollutant Toxics

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

Table 3-24: Toxic Pollutants Analyzed

Toxic Group
Metals
Base-Neutral Compounds
Effluent data source: Sutherlin STP Effluent Toxic Monitoring Oct. 2021-2023.
Receiving water data source: AWQMS DEQ Monitoring Station 10996-ORDEQ.

Sutherlin STP conducted monitoring for Lead, Silver, Cyanide, Bis(2-ethylhexyl) phthalate, and Nitrate+ Nitrite in accordance with the frequency and methodology specified in its current NPDES permit. These pollutants were analyzed through the toxic RPA using lognormal distribution. The RPA for Outfall 001 showed that there was no reasonable potential for any of the monitored analytes at that outfall. The results for Outfall 002a indicated that there was reasonable potential for the chronic human health criteria to be exceeded for Nitrate+Nitrite. With the lack of a mixing zone in Fords Pond, there was no dilution to be factored into the analysis. For Outfall 002a, the average monthly limit for Nitrate+Nitrite will be 10 mg/L and the maximum daily limit will be 24.5 mg/L. These are new limits. With the highest Nitrate+Nitrite sample from 2021-2023 measuring at 8.1 mg/L, it is estimated that the permittee can meet these limits. However, there is limited data to determine whether the facility can meet this limit upon permit issuance. The proposed permit contains a compliance schedule that allows time for the facility to make facility modifications to meet the new limits.

For Bis(2-ethylhexyl) phthalate effluent data there was one sample with a quantified detection out of 5 samples collected. However, the samples were collected using a non-CFR 136 approved method. Sample contamination for Bis(2-ethylhexyl) phthalate is a known issue, and no equipment blanks were submitted with the data. Due to in inconclusive nature of the data, Bis(2-ethylhexyl) phthalate limits will not be incorporated into this permit over the next permit cycle. However, because DEQ is unable to rule out the potential presence of Bis(2-ethylhexyl) phthalate in the effluent, the human health criteria for Bis(2-ethylhexyl) phthalate are very low, and Outfall 002a has no mixing zone, the proposed permit contains additional effluent monitoring for Outfall 002a in Schedule B for bis(2-ethylhexyl) phthalate and equipment blanks that will be evaluated at the next permit renewal. In addition, a source identification study will be added to the permit in Schedule D to determine potential sources of the pollutant.

3.3.10.4 Copper Biotic Ligand Model

Monthly copper BLM input data was collected by Sutherlin STP staff and analyzed by various labs starting in July 2021 through October 2023. Samples were only collected during the summer when effluent was being directed through Outfall 002a to Ford's Pond resulting in 16 samples. Ford's Pond is effluent dominated and does not contain a mixing zone, and therefore the RPA analysis was done with a dilution of 1 for all scenarios. Temperature data was not collected during the analysis, temperature data collected in 2017 by the permittee was substituted for the purpose of the RPA. No paired data was collected during the winter months when the permittee discharges to Outfall 001. Because no winter effluent copper data was available, an analysis was not completed. Additionally, since the facility is considered a minor discharger, no additional monitoring will be added to the permit.

For the RPAs, the mixed concentration of each input parameter was then entered into the BLM model to calculate the instantaneous water quality criteria (IWQC) for each data set. Each IWQC was compared to the corresponding copper concentration of the effluent. Table 3-23 below shows the sample date, calculated criterion, calculated copper value, and toxic unit (copper concentration divided by the instantaneous criterion). A toxic unit greater than one, indicates there is a potential for the discharge to exceed the criterion. A toxic unit of NA indicates that either the effluent data was below the calculated criteria, the effluent data was non-detect, or the copper data was in the total recoverable instead of dissolved fraction. For Outfall 002a There is

no reasonable potential to exceed the copper criterion because there were no toxic units that exceeded 1.0.

Table 3-25: Outfall 002a CuBLM Results

Date	Effluent Cu	BLM CMC	Toxic Units	BLM CCC	Toxic Units
	ug/L	ug/L		ug/L	
7/22/2021	9.00	28.08	NA	17.44	NA
8/24/2021	0.00	29.23	NA	18.16	NA
9/27/2021	10.00	27.27	NA	16.94	NA
10/5/2021	0.00	33.77	NA	20.98	NA
5/26/2022	2.00	7.98	NA	4.95	NA
6/16/2022	2.00	12.91	NA	8.02	NA
7/7/2022	2.00	19.41	NA	12.06	NA
8/4/2022	2.00	13.77	NA	8.55	NA
9/8/2022	9.00	24.28	NA	15.08	NA
10/18/2022	6.00	20.66	NA	12.83	NA
5/4/2023	7.00	11.97	NA	7.43	NA
6/8/2023	2.00	26.97	NA	16.75	NA
7/13/2023	2.00	22.36	NA	13.89	NA
8/10/2023	2.00	31.87	NA	19.79	NA
9/19/2023	2.00	28.81	NA	17.89	NA
10/12/2023	0.00	19.31	NA	12.00	NA

Because this permittee is now reclassified as a minor domestic, copper is no longer considered a pollutant of concern and no monitoring will be required in the next permit term. The results of this RPA support this conclusion.

3.3.10.5 Mercury – Human Health Criterion

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

According to the IMD, "Any facility contributing significant and consistent concentrations of total mercury to the receiving water body is considered to have the reasonable potential to exceed the water quality criterion unless a site-specific survey determines otherwise." Because the water quality criterion for mercury is a fish tissue-based concentration rather than a water column concentration, permit limits for mercury cannot be expressed in terms of a concentration. Therefore, when mercury is present in treated effluent on a consistent basis, the permit needs to contain mercury monitoring, plus a narrative effluent limit that consists of a Mercury Minimization Plan (MMP). The MMP was issued in 2023, and sampling will commence in 2024 to determine if the facility would be a likely source of mercury.

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). With the exception of the new excess thermal load limit for Outfall 001 from May 16 – May 31, the proposed limits are the same or more stringent than the existing permit so the antibacksliding provision is satisfied.

As mentioned previously in Section 3.3.8.1, the new excess thermal load limit for Outfall 001 from May 16 – May 31 is slightly higher than the existing limit, changing from 20.2 million kcals/day to 21 million kcals/day. This change is to correct an error in the current permit. In accordance with 40 CFR 122.44(l)(2)(i)(B), backsliding is allowed if it is determined that "technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b)." DEQ has determined that the inclusion of the previous limit was the result of a technical mistake and therefore meets the antibacksliding exception. In addition, the limits are both is based on a TMDL wasteload allocation. Section 303(d)(4)(A) of the Clean Water Act allows relaxation when the receiving water is not in attainment for the limiting or related pollutant, the effluent limit is based on a TMDL wasteload allocation, and it can be shown that relaxation is consistent with antidegradation requirements. As noted above, the receiving water is water quality limited, and the new limit is based on a TMDL WLA. The antidegradation requirements are discussed below.

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 discharge loadings as the existing permit, with the exception of the temperature (excess thermal load) limit for the May 16 – May 31 period as discussed in Section 3.3.8.1, above. This new limit is not considered degradation since it is based on a TMDL wasteload allocation which ensures the temperature increase is an insignificant increase according to the Antidegradation Rule, OAR 340-041-0004(3)(c). Therefore, the new thermal load limit is allowed and is included in the proposed permit.

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

3.6 Whole Effluent Toxicity

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

3.7 Groundwater

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

4. Schedule A: Other Limitations

4.1 Mixing Zone

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

4.2 Biosolids

The permit holder currently produces a Class B biosolids for land application by distribution or sale and anticipates continuing to do so. On January 30, 2017, Sutherlin submitted a revised biosolids management plan. Per OAR 340-050-0015(8), the biosolids management plan is subject to review and comment during the public participation process required by this permit renewal. DEQ reviewed the biosolids management plan and land application plan. These are available for public review and comment along with the permit. Once approved after public comment, conditions in the biosolids management plan and land application plan become permit conditions.

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

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

Sutherlin is currently authorized to land apply biosolids on the following sites:

- Bainbridge Property, 1030 Isadore, Oakland, Oregon
- Reddekopp Property, 252 Isadore, Oakland, Oregon
- Banducci Property, 3830 Stearns Lane, Oakland Oregon

4.3 Recycled Water

The permit holder currently operates a recycled water program to produce a Class A recycled water for irrigation uses and anticipates continuing to do so. A draft recycled water use plan was submitted to DEQ for review in February 2023 and will be available for public comment with the issued permit. Once approved after public comment, conditions in the recycled water use plan become permit conditions.

Recycled water is used for irrigation at Oak Knolls Golf Course. The golf course is surrounded by homes that are closer than 70 feet from the golf course, requiring the more stringent requirements in Class A where there are no distance setbacks. For Class A, recycled water may not be sprayed onto an area where food is being prepared or served, or onto a drinking fountain. Class A recycled water must also be well oxidized, filtered so that the turbidity is less than 2 Nephelometric Turbidity Units, and disinfected so that the total coliform counts are no more than 2.2 organisms per 100 ml on a monthly geometric mean. Total coliform must be monitored once per day. Also, continuous (hourly) turbidity monitoring is required, and no more than 5 percent of the turbidity reading may exceed 5 NTU.

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

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

4.4 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.

Receiving stream flow monitoring from USGS Gauge 14320700 is required for Calapooya Creek to determine whether stream flow in May is below 82 cfs and effluent needs to be diverted from Outfall 001 to Outfall 002a. This monitoring is also used to determine which BOD_5 and TSS mass load limits should apply in November based on flow range. The overall purpose of these requirements is because spawning gravels are found about 3/4 mile downstream, just upstream of the Highway 138 bridge. This area would support Chinook salmon spawning during the spawning period of October 15 through May 15. Coho salmon smolts (young fish) would migrate downstream though the Rochester Bridge area from March to May when the flows would be greater and return upstream as adults.

Ambient monitoring in Fords Pond is required across the pond from Outfall 002a. This monitoring is required when discharging to Fords Pond. The ambient monitoring is required to determine the RPA for temperature, ammonia, and pH with the next permit renewal.

6. Schedule C: Compliance Schedule

The proposed permit contains a new effluent limit for Nitrate plus Nitrite to Outfall 002a. There is limited data to determine whether the facility can meet this limit upon permit issuance. The proposed permit contains a compliance schedule that allows time for the facility to make facility modifications to meet the new limits. This compliance schedule lays out a series of milestones which, upon completion, will require the permittee to meet the permit's water quality-based effluent limits for Nitrate plus Nitrite (see 40 CFR 122.47 and OAR 340-041-0061(12)).

DEQ has determined that the proposed compliance schedule requires the permittee to meet the final limits as soon as possible. The permittee must provide process and engineering options for achieving the final effluent limitations. The permittee must determine and begin to implement by the date described in Schedule C of the permit a solution for achieving final Nitrate plus Nitrite effluent limit.

7. Schedule D: Special Conditions

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

7.1 Inflow and Infiltration

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

7.2 Emergency Response and Public Notification Plan

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

7.3 Recycled Water Use Plan

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

7.4 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.

7.5 Biosolids Management Plan

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

7.6 Wastewater Solids Transfers

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

7.7 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.

7.10 Bis(2-ethylhexyl) phthalate Source Identification Study

A condition that requires the permittee to perform a source inspection study for Bis(2-ethylhexyl) phthalate.

7.11 Water Quality Trading Umpqua Basin

A condition that provides the permittee the option to implement a Water Quality Trading Plan in the Umpqua Basin.

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: Temperature RPA

Enter data into white cells below:			Data Metric/Source
Mixing Zone Dilution =	4.9		Mixing zone memo 2023
7Q10 =	19	cfs	Mixing zone memo 2023
Effluent Flow =	3.02	mgd	DAWWF x 1.5
Applicable Temperature Criterion	13	°C	
Effluent Temperature	19.8	°C	ICIS Data Nov. 2021-2023
Allowable increase =	0.3	°C	

Dilution at 25% Stream Flow =	2	dilution = (Qr*0.25)/Qe + 1	
ΔT at edge of MZ=	**1.4**	**°C**	**Reasonable Potential**
ΔT at 25% Stream Flow=	**3.4**	**°C**	
Thermal Load Limit =	**6.9**	**Million Kcals (7-day Rolling Avg.)**	

Appendix B: Toxic Monitoring List

Pollutant	CAS
Nitrate (NO3) + Nitrite (NO2)	
Silver (total and dissolved)	7440224
Cyanide (Free)	57125
Cyanide (Total)	57125
Bis(2-ethylhexyl)phthalate	117817
Hardness (CaCO3)	

Appendix C: Outfall 002a Nitrate plus Nitrite RPA

			Identify Pollutants of Concern					In-Stream Conc.		Det. Reasonable Potential		
Pollutant Parameter	Carcinogen Status	# of Sample	Effluent Conc.	CV	Est. Max Eff. Conc.	RP at end of pipe?	Ambient Conc.	Max Conc. @ RMZ	WQ Crit: Water + Organism	WQ Crit: Organism Only	Is there Reasonable Potential to Exceed? (Yes/No)	
	(Yes/No)		(µg/l)	Default=0.6	(µg/l)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	Water + Fish	Fish
Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD												
Nitrates-Nitrite	n	10	5490	0.933068174	12094.14947	Yes	187.790784	12094.1495	10000	na	YES	NO

	RP Status		Carcinogen Status	WQ: Criteria		Ambient Conc.	WLAs		CV	Compliance Monitoring	Effluent Limit	
Pollutant Parameter	WQ Crit: Water + Organism	WQ Crit: Organism Only		WQ Crit: Water + Organism	WQ Crit: Organism Only		WQ Crit: Water + Organism	WQ Crit: Organism Only			Monthly (AML)	Max. Daily (MDL)
	(Yes/No)	(Yes/No)	(Yes/No)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)		#/month	(µg/l)	(µg/l)
Table 1 Effluent Parameters for all POTWs w/a Flow > 0.1 MGD												
Nitrates-Nitrite	YES	NO	no	10000	na	187.7907844	10000	--	0.9330682	4	10000	24507.8163