



State of Oregon
Department of
Environmental
Quality

Water Pollution Control Facilities Permit Renewal Fact Sheet City of Nyssa

Permittee	City of Nyssa 301 Main Street Nyssa, OR 97913-3845
Existing Permit Information	File Number: 118971 Permit Number: 102989 Expiration Date: TBD
Permittee Contact	Duane Petty Public Works Foreman (541) 823-2736 301 Main Street Nyssa, OR 97913-3845
Facility Name & Location	Facility Name: City of Nyssa Wastewater Treatment Plant Address: 110 E 5 th Street Nyssa, OR 97913-3845 Lat/Long: 43.8786, -116.9860 County: Malheur
LLID:	LLID: 1190296461886, RM 387
Receiving Stream/Basin:	Nearest stream: Snake River Sub Basin Name: Middle Snake/Nyssa WRD Basin Name: Malheur River
Proposed Action:	Permit Renewal Application Number: 952933 Date Application Received: September 27, 2018
Source Category:	Domestic
Sources Covered:	Domestic Wastewater and Recycled Water
Permit Type:	WPCF-Dom-E
Permit Writer	Anna Morgan-Hayes (541) 246-4562 Date Prepared: (final date prior to PN)

WPCF Permit Renewal Fact Sheet City of Nyssa

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Applicant Review

WPCF Permit Renewal Fact Sheet

City of Nyssa

1. Introduction

As required by Oregon Administrative Rule 340-045-0037, 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 F – General conditions

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

The required monitoring, reporting and frequency for many of the parameters are based on DEQ's monitoring and reporting matrix guidelines, permit writer judgment, reporting requirements for similar facilities of this type and size and to ensure the needed data is available for the next permit renewal. Changes to monitoring frequencies include:

- Influent BOD₅ and TSS monitoring has been reduced from twice per month to monthly.
- Weekly lagoon freeboard monitoring has been added to Schedule B, Table B.2 and lagoon depth monitoring (monthly) has been removed.
- Lagoon perimeter monitoring has been increased to five times per week from weekly.
- Recycled water monitoring for nutrients (TKN, NO₂+NO₃-N, Total Ammonia (as N), Total Phosphorus) has been increased to quarterly from annually.

2. Facility Description

2.1 Wastewater Facility

The wastewater facility is described in the City of Nyssa Master Plan, June 2022 (HECO Engineering), as follows:

Most of the City of Nyssa's collection system was constructed at the same time as the original treatment plant in the late 1930s. The collection system includes approximately 67,300 lineal feet of pipe and 200 manholes. Collection pipe diameters range from 8 to 18 inches and the pressure sewer lines are either 8 or 10-inch in diameter.

Influent from the City flows to a headworks facility through a manually cleaned screening vault via an 18-inch gravity line. It then enters a wet well where two 1,175 gallons per minute (gpm) self-priming pumps direct the influent through a 10-inch pressure sewer to control structure 1. A headworks (mechanical screen and wet well/influent pump station [Main Lift Station]), emergency standby generator, maintenance shed, an operations/maintenance building, and a recreational vehicle (RV) the dumpsite is located on the site of the old treatment plant. All controls for the headworks are located in the influent pump station building and adjacent to the mechanical screen vault.

An operations/maintenance building is located on the headworks/operations grounds northeast of the screening structure and Main Lift Station. The operations/maintenance building houses the office and room for the operations and maintenance staff, SCADA observation, lab area, and maintenance shop. Samples from the various processes and the final discharge are prepared in the lab area and tested regularly.

Control structures and piping distribute the effluent between the ponds. Control Structure 1 consists of an underground vault with two valves that direct the influent from the headworks treatment screens into Treatment Cell A, the primary pond, or Cell A can be bypassed where it flows into Control Structure 2. From Control Structure 2 the flow can be diverted either directly into Cell C, or directly into the effluent pump station.

Once the influent enters primary treatment Cell A it settles for a design average of 45 days at the design average flowrate where it then flows into secondary treatment Cell B. There are three valves between ponds A and B that allow Cell B to be bypassed and allow the influent to go directly into the storage Cell C. The preliminary effluent (PE) that enters Cell B is retained for an additional design average of 30 days. It then enters Control Structure 2, and then into storage Cell C, or directly to the effluent pump station. Control Structure 2 contains a weir gate that controls the levels in treatment ponds A and B. Cell C is used to store the effluent for spray irrigation reuse. From Cell C, the effluent then flows into the effluent pump station.

The effluent pump station pumps from the storage cell via a 14-inch pipe into a 48-inch diameter, 19-foot deep, wet well. There is also a 12-inch inflow pipe that will allow inflow from a bypass directly from treatment Cell B. An 8-inch vertical turbine pump then directs the effluent into the chlorine contact basin.

In between the effluent pump and the chlorine basin, there is an 8-inch drain that allows the effluent to be redirected back into storage Cell C. Under normal operation, a hypochlorite solution is injected into the effluent as it is pumped to the contact basin to avoid short-circuiting, provide initial mixing, and maximize contact time. The contact basin consists of alternating baffles in a serpentine arrangement that direct the effluent through 5 chambers that provide a serpentine flow to allow for a designed 1-hour minimum contact time for appropriate disinfection. The floor of the contact basin slopes toward a sump near the head end that contains a mud valve to allow for drainage for cleaning. The basin outlets to a 10-inch pipe that leads to the irrigation pump station, or it can be used as a bypass back to Cell C to facilitate chlorine residual adjustments at the basin.

The irrigation pump station contains two (2) pumps. The disinfected effluent is pumped from the irrigation building to three separate linear move and one Wheel Line irrigation systems that can also be supplied with surface water from a 10-inch inflow pipe that brings water from the Snake River to supplement the reuse water for irrigation. The supplemental river water is pumped into the irrigation pump station by a 10 HP 750 gpm vertical mounted shaft-driven centrifugal pump drawing water from the Snake River. The effluent pump controls are located inside the irrigation pump station in the same room as the irrigation pumps. The effluent pump motor speed is VFD controlled using a programmable logic controller (PLC) to maintain a constant water level in the chlorine contact basin. The operator can remotely monitor the effluent pump operation through the SCADA system at the operations/maintenance building.

The disinfected effluent leaves the irrigation pump and is forced through a self-cleaning inline screen before being delivered via pressure irrigation lines to three (3) irrigation risers that feed the three (3) linear move irrigation machines. The linear irrigation system land applies the effluent to three fields, totaling approximately 90 acres of land application and the wheel line system applies effluent to an additional 5-acre parcel, for a total of 95 acres of land irrigation. The larger east pump is for operating any combination of 2 or all 3 of the linear move irrigation system and the wheel line irrigation systems, and the smaller west pump runs when only one of the irrigation systems is operated.

Figure 2-1: City of Nyssa Wastewater Treatment Plant, Lagoons, and Land Application Site Map



Figure 2-2: City of Nyssa, Treatment Process Flow Schematic, City of Nyssa, Master Plan, June 2022 (HECO, Project: NY21-0346)

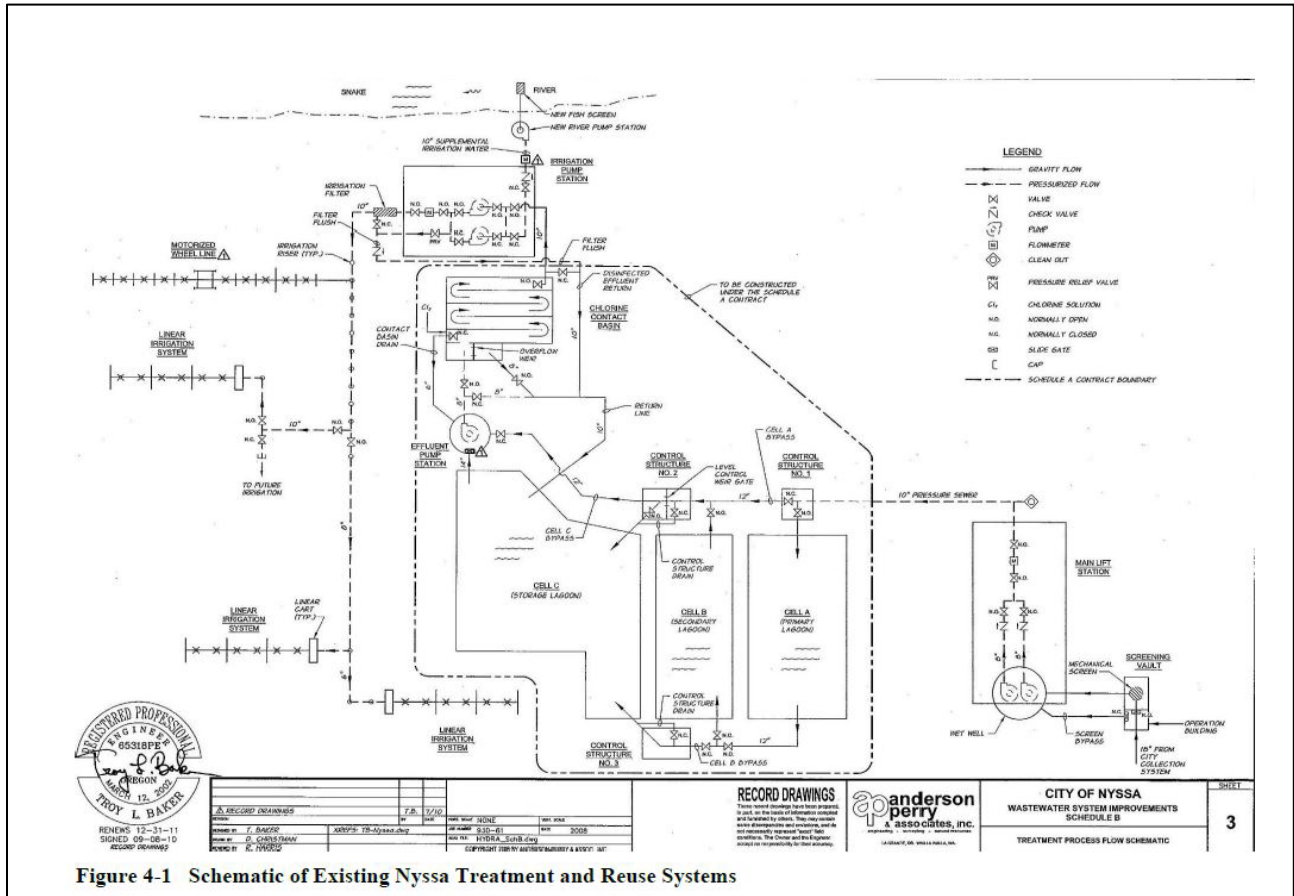


Figure 4-1 Schematic of Existing Nyssa Treatment and Reuse Systems

Table 2-1: List of Outfalls

Outfall Number	Type of Waste	Lat/Long	Design Flow ¹ (mgd)	Existing Flow ² (mgd)
001	Facultative Lagoons	43.8786, -116.9860	0.415	0.252
002	Land Application of Recycled Water	As specified in the Recycled Water Use Plan		
003	Biosolids	As specified in the Biosolids Management Plan		

- Design Flow = average annual design flow (City of Nyssa Master Plan, June 2022, HECO Engineering).
- Existing Flow = existing maximum monthly dry weather flow (City of Nyssa Master Plan, June 2022, HECO Engineering, Table 5-2).

2.2 Compliance History

This facility was inspected on TBD. Monitoring reports were reviewed for the period since last permit issuance date. Based on that review, and prior enforcement actions, the following enforcements letters were sent out during the term of the WPCF permit: This section will be updated as needed.

January 22, 2015: Warning Letter, 2015-WL-507 – Exceedance of bacteria limits for Class D recycled water, while discharging to the land application area. This violation was reported to DEQ and the facility immediately ceased discharge.

February 8, 2016: Warning Letter, 2016-WL-1354 – Failed to collect monitoring data required by Schedule B of the permit. This violation was reported to DEQ and immediately corrected.

2.3 Biosolids

The term wastewater solids includes sewage sludge and biosolids. Sewage sludge refers to solids from primary, secondary, or advanced treatment of domestic wastewater that have not been treated or determined to be suitable for land application as fertilizer or soil amendment. The term biosolids refers to domestic wastewater treatment facility solids that have undergone adequate treatment and are suitable for application to the land as a fertilizer or soil amendment. Land application of biosolids must be performed in accordance with a DEQ-approved biosolids management plan (BSMP) and site authorization letter. Alternatively, a BSMP and site authorization are not required for disposal of wastewater solids in a landfill.

2.4 Groundwater

The route of contamination for nitrate-nitrogen to groundwater is through land application. The permit incorporates additional monitoring for Recycled Water application to ensure application of nitrogen at agronomic rates, therefore limiting potential groundwater contamination. Additionally, the lagoons are lined with 60-mil HDPE to prevent leakage and the permit requires a lagoon leak test be conducted during the permit term.

2.5 Recycled Water

Land application of recycled water is not permitted under this permit without a DEQ-approved recycled water use plan. If the permit holder chooses to develop a recycled water program, a comprehensive recycled water use plan meeting the requirements in OAR 340-055 must be submitted to DEQ for review and approval; appropriate actions must also be made to OHA and WRD.

2.6 Wastewater Classification

OAR 340-049 requires all permitted municipal wastewater collection and treatment facilities receive a classification based on the size and complexity of the systems. DEQ evaluated the

classifications for the treatment and collection system, which are publicly available at: <https://www.deq.state.or.us/wq/opcert/Docs/OpcertReport.pdf>.

3. Schedule A: Effluent Limit Development

No discharge to state waters is permitted. All wastewater is treated in facultative lagoons and must be irrigated only on DEQ-approved land application sites in accordance with a recycled water use plan. Prior to land application, recycled water must be treated by disinfection to at least Class D standards for beneficial use as defined in OAR 340-055.

All activities concerning recycled water must conform to a recycled water use plan approved by DEQ. Specific crops, application rates and buffers are included in the required recycled water use plan. All recycled water must be distributed on land, for dissipation by evapotranspiration and controlled seepage by following sound irrigation practices so as to prevent:

- i. Prolonged ponding of treated recycled water on the ground surface;
- ii. Surface runoff or subsurface drainage through drainage tile;
- iii. The creation of odors, fly and mosquito breeding, or other nuisance conditions;
- iv. The overloading of land with nutrients, organics, or other pollutant parameters; and
- v. Until otherwise approved by DEQ via a revised recycled water use plan, treated effluent must only be reused as Class D for beneficial uses.
- vi. Treated effluent must only be applied at site and crop specific agronomic loading rates.

3.1 Groundwater

DEQ may evaluate the need for a full assessment of the facility's impact on groundwater quality if there is any evidence of an adverse impact resulting from the facilities operation or the facility fails to operate in accordance with permit conditions. Schedule A of the proposed permit includes a condition prohibiting adverse impacts to groundwater.

3.2 Recycled Water

Schedule A of the permit requires the permittee to apply recycled water according to a 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.

3.3 Biosolids

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.

4. 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. 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, reporting requirements for similar facilities of this type and size and to ensure the needed data is available for the next permit renewal.

The monitoring data provide DEQ with information to evaluate the performance of the wastewater treatment facility for influent, the lagoons, and effluent. The authority to require periodic reporting by permittees is found at ORS 468.065(5).

Monitoring requirements for influent pH, BOD₅ (biochemical oxygen demand) and total suspended solids (TSS) sampling are included in the permit for the City of Nyssa to track influent loading to the system and as monitoring for performance of the treatment system. Lagoon freeboard and perimeter monitoring are required to ensure the structure and integrity of the lagoon is adequate.

Effluent parameters are required when irrigating with recycled water at an approved land application site. Requirements for flow monitoring, irrigation volume, bacteria, total chlorine residual, and nutrient monitoring are included in Table B4. Nutrients must be evaluated and reported on by the permittee to ensure overloading of the field above agronomic uptake rate for the planted crops does not occur. The permittee must track and report any supplemental fertilizer, supplemental irrigation water, and additional nutrient loading applied to the site.

5. Schedule C: Compliance Schedule

The permittee is expected to meet all effluent limits and therefore a compliance schedule is not needed.

6. Schedule D: Special Conditions

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

6.1 Inflow and Infiltration

A requirement to submit an annual report detailing inflow and infiltration and to address potential for groundwater and stormwater from entering the collection system.

6.2 Emergency Response and Public Notification Plan

A requirement to develop and submit an emergency and spill response plan or ensure the current one is current per General Condition B.6 in Schedule F.

6.3 Recycled Water Use Plan

A condition requiring the permit holder to update 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.

6.4 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.

6.5 Wastewater Solids and Biosolids Annual Report

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

6.6 Biosolids Management Plan

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

6.7 Wastewater Solids Transfers

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

6.8 Hauled Waste Control Plan

A condition that allows the acceptance of hauled waste after a hauled waste plan is submitted and approved by DEQ. The hauled waste plan ensures waste is not accepted that could negatively impact the treatment capabilities of the facility.

6.9 Hauled Waste Annual Report

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

6.10 Lagoon Solids

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

6.11 Lagoon Leak Test

By no later than the date provided in Schedule B of this permit, the permittee must conduct and submit the results of a lagoon leak test to DEQ for each cell of the wastewater lagoon system. Guidelines for estimating lagoon leakage are available from DEQ. Use of the guidelines is required to provide sufficient information on estimation of lagoon leakage.

6.12 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.

6.13 Industrial User Survey

This condition requires the permittee to conduct 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. Schedule F: WPCF General Conditions

This schedule includes conditions and definitions that are applicable to all WPCF permits in Oregon of this type.

8. Next Steps

The City of Nyssa has submitted a complete WPCF permit renewal application. DEQ will send the draft permit documents to the applicant for review and comment, and then proceed with a Category II permitting action for public notification as per OAR 340-045-0027.

DEQ will respond to comments received during the comment period. All those providing comment will receive a copy of DEQ's response. Interested parties may also request a copy of DEQ's response. Once comments are received and evaluated, DEQ will decide whether to issue the permit as proposed, to make changes to the permit, or to deny the permit. DEQ will notify the permittee of DEQ's decision. If substantive changes are made to the permit, then an additional public notice period may occur. DEQ may also revise this fact sheet or update the fact sheet through memorandum.

Applicant Review