



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: NEVADA DEPARTMENT OF CORRECTIONS

3955 WEST RUSSELL ROAD
LAS VEGAS, NV 891182316

Permit Number: NS0090053

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: LOVELOCK CORRECTIONAL CENTER, PERSHING
1200 PRISON ROAD, LOVELOCK, NV 89419
LATITUDE: 40.223058, LONGITUDE: -118.385367
TOWNSHIP: T27N, RANGE: R32E, SECTION: S9

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	RAPID INFILTRATION BASINS	External Outfall		40.219323	-118.395201	GROUNDWATER
INF	INFLUENT	Influent Structure		40.225663	-118.389553	FACULTATIVE PONDS

Permit History/Description of Proposed Action

The Permittee, Nevada Department of Corrections, has applied for the renewal of groundwater discharge permit NS0090053 for the Lovelock Correctional Center wastewater treatment facility (WWTF) located at 1200 Prison Rd, Lovelock, NV 89419. The Permittee proposes to continue to discharge secondary treated wastewater to groundwater of the State.

The permit was last issued on April 26, 2013, and expired on April 25, 2018; the permit has been administratively continued since.

Facility Overview

The WWTF serves the Lovelock Correctional Center. Influent wastewater is first screened and then metered (Parshall Flume) in the treatment headworks. The screened influent is then split evenly for treatment in two HDPE-lined aerated facultative ponds. Each facultative pond is outfitted with two 5 horsepower and one 15 horsepower aerators. The combined area of the aerated ponds at operating capacity is 2.38 acres, with a combined storage capacity of 5.9 million gallons, and a maximum operating depth in each pond of 10 feet. The effluent from the aerated facultative ponds then discharges to two HDPE-lined secondary polishing ponds for further organic material removal, solids settling, and natural decay of fecal coliform bacteria. The combined area of the polishing ponds is 1.4 acres, the combined storage capacity is 1.9 million gallons, and the maximum operating depth in each pond is 5 feet. After polishing, the treated effluent is discharged to six rapid infiltration basins (RIBs) for percolation to the groundwater. The combined area of the RIBs is 13 acres.

Outfall Summary

Outfall INF – This outfall is for raw sewage (influent) entering the facility.

Outfall 001 – This outfall is for the discharge of treated wastewater prior to entering any of the onsite RIBs.

Facility Upgrades since last issued permit

No facility upgrades have occurred since the last permit was issued.

Solids Handling

Rags and other large materials removed via the bar screen are placed in a dumpster and later disposed of at a local landfill.

Effluent Management and Reuse

Treated effluent is discharged to RIBs. The treated effluent is not currently reused as reclaimed water.

Design Flow (and basis) and Measurement & Current Capacity

The WWTF was designed with a 30-day average flow rate of 250,000 gallons per day (equivalent to 0.25 million gallons per day (MGD)). The permit has a 30-day average flow rate limit of 0.25 MGD. The long term average influent flow rate to the WWTF during the 2019 to 2023 reporting period was approximately 0.248 MGD, with a maximum 30-day average of 0.419 MGD. There were 23 exceedances of the flow limit from 2019 to 2023. The planned facility upgrades will allow the 30-day average limit to be increased to 0.39 MGD.

Pretreatment Program

The WWTF does not meet federal Environmental Protection Agency's (EPA) guidelines requiring them to have a pretreatment program.

Operations & Maintenance (O&M) Manual status

The Permittee is required to submit a new O&M manual within 30 days of the the completion of upgrades to the wastewater treatment facility.

Effluent Characterization

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from the years 2019 to 2023, was reviewed as part of this permit renewal process. The average flow rate was 0.248 million gallons per day (MGD) with a maximum 30-day average of 0.419 MGD. The average daily maximum during that time for the 5-day carbonaceous biochemical oxygen demand (CBOD5) was 31 mg/L, with a maximum of 90 mg/L. Total suspended solids (TSS) averaged 64 mg/L and had a maximum of 220 mg/L. Total nitrogen in the effluent averaged 22 mg/L. The pH average was 7.98 standard units (S.U.).

Pollutants of Concern

Pollutants of concern are any pollutant, or parameters, that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological conditions of the receiving water. Common pollutants of concern for wastewater treatment plants that use waste stabilization ponds include CBOD5, TSS, and pH. Pollutants of concern in the groundwater include chloride, total nitrogen, and total dissolved solids (TDS).

Receiving Water

The receiving water body for treated effluent is groundwater of the State via percolation in six RIBs. Groundwater is reported to be approximately 200 ft. below ground surface.

Compliance History

There were 11 reported exceedances for the previous monthly maximum TSS limit of 90 mg/L. Additionally, there were 10 exceedances of the previous daily maximum CBOD5 limit of 45 mg/L and 17 exceedances of the 30-day average limit of 30 mg/L. There were 23 exceedances of the 30-day average flow rate limit of 0.25 MGD. There were 3 exceedances of the pH upper limit of 9.0 S.U. The exceedances are expected to be addressed by planned facility upgrades.

Proposed Effluent Limitations

The discharge shall be limited and monitored by the Permittee as specified below:

WWTP Discharge Limitations Table for Sample Location 001 (Rapid Infiltration Basins) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, maximum	Maximum Value		<= 9 Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
pH, minimum	Minimum Value		>= 6 Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
Solids, total suspended	30 Day Average		<= 90 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		<= 60 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
BOD, carbonaceous, 05 day, 20 C	30 Day Average		<= 40 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
BOD, carb-5 day, 20 deg C, percent removal	Monthly Average Minimum		>= 65 Percent (%)	Effluent Gross	001	Monthly	DISCRT
Solids, suspended percent removal	Monthly Average Minimum		>= 65 Percent (%)	Effluent Gross	001	Monthly	DISCRT

WWTP Discharge Limitations Table for Sample Location 001 (Rapid Infiltration Basins) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Nitrogen, total	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Quarterly	DISCRT

WWTP Discharge Limitations Table for Sample Location 001 (Rapid Infiltration Basins) To Be Reported Once During The Permit Term

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Alkalinity, bicarbonate (as CaCO ₃)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO ₃)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Aluminum, total (as Al) ^[1]	Daily Maximum		<= 0.2 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Antimony, total (as Sb) ^[1]	Daily Maximum		<= 0.006 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Arsenic, total (as As) ^[1]	Daily Maximum		<= 0.01 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Barium, total (as Ba) ^[1]	Daily Maximum		<= 2 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Beryllium, dissolved (as Be)	Daily Maximum		<= 0.004 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Cadmium, dissolved (as Cd)	Daily Maximum		<= 0.005 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Calcium, total (as Ca) ^[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Chloride (as Cl)	Daily Maximum		<= 400 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Chromium, total (as Cr) ^[1]	Daily Maximum		<= 0.1 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
			<= 1				

WWTP Discharge Limitations Table for Sample Location 001 (Rapid Infiltration Basins) To Be Reported Once During The Permit Term

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Copper, dissolved (as Cu)	Daily Maximum		Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Fluoride, total (as F)	Daily Maximum		<= 4 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Iron, total (as Fe) ^[1]	Daily Maximum		<= 0.6 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Lead, dissolved (as Pb)	Daily Maximum		<= 0.015 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Magnesium, total (as Mg) ^[1]	Daily Maximum		<= 150 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Manganese, total (as Mn) ^[1]	Daily Maximum		<= 0.1 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Mercury, dissolved (as Hg)	Daily Maximum		<= 0.002 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Nitrite plus nitrate total 1 det. (as N)	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
pH, maximum	Daily Maximum		<= 8.5 Standard Units (SU)	Effluent Gross	001	Once Per Permit Term	DISCRT
pH, minimum	Daily Minimum		>= 6.5 Standard Units (SU)	Effluent Gross	001	Once Per Permit Term	DISCRT
Potassium, total (as K) ^[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT

WWTP Discharge Limitations Table for Sample Location 001 (Rapid Infiltration Basins) To Be Reported Once During The Permit Term

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Selenium, dissolved [as Se]	Daily Maximum		<= 0.05 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Silver, total (as Ag) [1]	Daily Maximum		<= 0.1 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Sodium, total (as Na)[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Sulfate, total (as SO4)	Daily Maximum		<= 500 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Thallium, total (as Tl)[1]	Daily Maximum		<= 0.002 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Solids, total dissolved	Daily Maximum		<= 1000 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Zinc, total (as Zn)	Daily Maximum		<= 5 Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT

Notes (WWTP Discharge Limitations Table):

1. Analysis is for dissolved fraction.

WWTP Discharge Limitations Table for Sample Location Inf (Influent Structure) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, carbonaceous, 05 day, 20 C	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT
Solids, total suspended	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Continuous	DISCRT
Flow rate	30 Day Average	<= 0.25 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	INF	Continuous	METER

Summary of Changes From Previous Permit

The Permittee is required to sample for the Division's Profile 1 pollutants once during the permit term to ensure groundwater is not being degraded. After the facility is upgraded, the permit will be modified to allow a greater discharge flow limit and to add monitoring well sampling requirements.

A CBOD5 percent removal limit of 65% has been added to the permit.

A TSS percent removal limit of 65% has been added to the permit.

Technology Based Effluent Limitations

Technology based effluent limitations (TBELs) are required as promulgated by the United States (U.S) EPA for Publicly Owned Treatment Works (POTWs). The following limits are based on equivalent to secondary treatment standards as allowed by the Code of Federal Regulation (CFR) Title 40, Section 133, and which has been adopted by the state of Nevada:

- CBOD5 – The daily maximum is limited to 60 mg/L; the 30-day average is limited to 40 mg/L; percent removal is limited to greater than 65%.
- TSS - The 30-day average is limited to 90 mg/L; percent removal is limited to greater than 65%.
- pH - pH is limited to a daily maximum of 9.0 S.U and a daily minimum of 6.0 S.U.

Water Quality Based Effluent Limitations

Water quality based effluent limitations are not applicable to this permit.

Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)

Water quality based effluent limitations are not applicable to this permit.

Basis for Effluent Limitations

There are currently no specific water quality standards that have been formally adopted by the State for groundwater. However, the Division has the discretion to implement effluent limitations outside water quality standards per Nevada Administrative Code (NAC) 445A.243, which states, "In establishing an effluent limitation to carry out the policy of this State set forth in NRS 445A.305, consideration must be given to, but is not limited by, the following: ...(2) the need for standards that specify by chemical, physical, biological or

other characteristics the extent to which pollution by various substances will not be tolerated.” The constituents listed in Profile I have been vetted by the Division and have been included in groundwater discharge permits for many years as a means of regulating groundwater quality. Per Nevada Revised Statute (NRS) 445A.490, “No permit may be issued which authorizes any discharge or injection of fluids through a well into any waters of the State: ... (3) which would result in the degradation of existing or potential underground sources of drinking water. The requirement to monitor the effluent for all Profile I pollutants (excluding weak acid dissociable cyanide and uranium) once per permit term is included to evaluate the quality of the effluent and determine whether the effluent has potential to impact the receiving water.

Anti-backsliding

To prevent backsliding, effluent limitations in this permit are as stringent as those in the previous permit.

Antidegradation

The Division has developed an antidegradation regulation that is applied on a statewide basis, and which meets the statutory requirements of Nevada’s water pollution control law found at NRS 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at 40 CFR § 131.12. The objective of the Division’s antidegradation regulation is to prevent degradation of Nevada’s surface waters and maintain the unique attributes and special characteristics and water quality associated with high-quality waters.

As this permit is for discharges to groundwater, and not surface water, the new antidegradation rule is not applicable. There are currently no specific water quality standards that have been formally adopted by the State for groundwater; however, data reviewed during the renewal process does not indicate the potential for degradation of the groundwater from the effluent discharged within the compliance limits of the proposed permit.

Special Conditions

See the Special Approvals / Conditions Table below.

SA – Special Approvals / Conditions Table

Item #	Description
1	A modification to the permit will be conducted to increase the 30-day average flow rate, add outfalls for the three (3) monitoring wells, add sampling requirements for the wells, and update the permit as needed, after the Permittee provides the Division certification, signed by a Nevada registered Professional Engineer, that facility upgrades were completed as approved by the Division.

Discharges From Future Outfalls/ Planned Facility Changes

The treatment facility demand has increased above the currently permitted capacity from 0.25 MGD to 0.39 MGD. The treatment system and much of its equipment has passed its design life and is in need of upgrades / rehabilitation. The effluent quality was assessed to be the result of underperforming headworks and aeration system. As a result, there are several upgrades planned for the facility, including the following:

- Headworks replacement
- Treatment ponds expansion and relining
- New aeration units
- New lift station
- RIB rehabilitation
- Instrumentation and electrical upgrades
- O&M Manual updates
- New monitoring well installation

The Permittee shall notify the Division when the facility upgrades are complete so that the Division can adjust the flow limit and add monitoring well sampling requirements.

Corrective Action Sites

There are no Bureau of Corrective Actions remediation sites located within one (1) mile of this facility.

Wellhead Protection Program

The closest Public Water System (PWS) well is located approximately 9.7 miles to the northeast of the outfall. The outfall is not located within a Drinking Water Protection Area, which is defined by a 3,000-foot radius around a PWS well, or a Wellhead Protection Area, which represents an approximate 10-year capture zone of a PWS well.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies (one hard copy and one electronic copy) of a revised Operations and Maintenance (O&M) Manual that addresses the upgrades to the facility, prepared by a Nevada licensed professional engineer, for Division review and approval.	9/30/2029

Deliverable Schedule:

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Reports	Quarterly	1/28/2025
2	Annual Reports	Annually	1/28/2025

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being mailed to interested persons on our mailing list and will be posted on our website at <https://ndep.nv.gov/posts>. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **9/30/2024**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determined to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue/re-issue the proposed 5-year permit.

Prepared by: **Bonnie Hartley**

Date: **8/28/2024**

Title: **Staff II, Associate Engineer**