FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: PARADISE VALLEY SEWER DISTRICT

P.O. BOX 2
PARADISE VALLEY, NV 89426

Permit Number: NS0089011

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: PARADISE VALLEY SEWER DISTRICT, HUMBOLDT
3/4 MILE S. OF PARADISE VALLEY, PARADISE VALLEY, NV 89426
LATITUDE: 41.4825, LONGITUDE: -117.532222
TOWNSHIP: 42 N, RANGE: 39 E, SECTION: 36

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	INFLUENT	Internal Outfall		41.4824	-117.533126	GROUNDWATER
002	RIB	External Outfall		41.481950	-117.533030	GROUNDWATER
003	MW-1	Monitoring Well		41.480950	-117.533416	GROUNDWATER
004	POND	External Outfall		41.4820	-117.532903	GROUNDWATER
005	POND	External Outfall		41.48241080	-117.533109	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, Paradise Valley Sewer District, is requesting a renewal of its groundwater discharge permit, Permit No. NS0089011, for the continued operation of its wastewater treatment facility (facility or WWTF). This permit renewal requires the Permittee to continue adhering to regulatory standards, ensuring effective wastewater treatment and disposal, and protecting public health and the environment, including groundwater resources. The Permittee proposes to continue to discharge secondary treated wastewater to groundwaters of the State.

The Nevada Division of Environmental Protection (NDEP or Division), Bureau of Water Pollution Control (BWPC), previously authorized discharge of treated effluent to groundwater for the facility in 1975, with its last renewal occurring in 2013 and expiring March 31, 2021; the permit has been administratively continued since.

Facility Overview

The facility serves the small agricultural community of Paradise Valley, Nevada, located approximately 40 miles north of Winnemucca in Humboldt County. With a population of around 110 residents, the area lies within the Humboldt River Basin in the Paradise Valley hydrologic area, where farming, seasonal hunting, and tourism drive economic activity. Many residences are occupied only part-time during hunting seasons and local events, and several historical structures remain vacant.

The facility is designed to treat domestic sewage using a dual-chambered, 5,000-gallon septic tank,

designed for influent pretreatment (e.g. grease and rag catcher) with primary and secondary settling compartments. Two steel access covers serve as cleanouts, allowing for periodic maintenance. The septic tank plays a vital role in solids removal, ensuring that only treated wastewater enters the pond system for further treatment and disposal. The septic tank provides one day of detention time at design flow rates before directing wastewater into a high-density polyethylene (HDPE) lined treatment pond for additional processing. The lined pond uses a 60-mil HDPE liner and was built with a 6-inch reinforced concrete slab to support the HDPE pipe boot, secured with a neoprene gasket and stainless-steel banding, preventing seepage around the 8-inch HDPE influent pipe. This is important since the shallow pond is not mechanically aerated (facultative), and organic overloading can create objectionable odor. The effluent then flows into one of the 2-acre rapid infiltration basins (RIBs) where the effluent either evaporates or percolates into the groundwater. It was indicated in the last inspection report that Humboldt County oversees major upkeep, including brush removal. The monitoring well is situated on the RIB service berm, midway down the length of the RIBs. The facility utilizes RIBs for final effluent disposal. The treatment system includes:

Pond No. 1 (Primary HDPE-lined treatment pond, 60-mil liner).

Pond No. 2 (Redundant HDPE-lined pond, available for maintenance and inspections).

RIB No. 1 (Primary RIB used for effluent disposal).

RIB No. 2 (Secondary RIB, used when additional capacity is required).

Typically, wastewater flows from the septic tank to Pond No. 1, then into RIB No. 1, allowing infiltration into the groundwater system. If necessary, excess flow is directed into RIB No. 2. When Pond No. 1 is down for maintenance, the flow is redirected from the septic tank to Pond No. 2, then into RIB No. 2.

A groundwater monitoring well (MW-1) is positioned between the two RIBs, upgradient of the transfer structure connecting them. To manage surface water, a v-ditch trench encased in a 2-inch drain rock sits beneath Pond No. 1, utilizing a 4-inch perforated pipe to divert excess stormwater away from the RIBs, preventing unintended surface water contamination.

Regular maintenance ensures efficient wastewater treatment at the facility. The septic tank is pumped approximately every five years to prevent excessive sludge and scum accumulation. Field inspections are conducted regularly to assess the condition of treatment ponds and RIBs, ensuring structural integrity and optimal infiltration capacity. Operators actively monitor flow rate, pH levels, temperature, and dissolved oxygen, maintaining compliance with state and federal wastewater regulations. Additional maintenance measures include scum and odor control, vegetation management to prevent overgrowth, and routine levee and berm inspections. Pest control strategies help mitigate disturbances to treatment processes, while monitoring septage quality ensures that the system remains fully functional and compliant with environmental standards. It was recommended in the previous inspection report to have Humboldt County set aside funding for eventual pond cleaning and weed removal on the access roads and within the RIBs.

Outfall Summary
Outfall 001 – This outfall is for the domestic wastewater (Influent) entering the septic tanks.

Outfall 002 – This outfall is for monitoring the effluent treated wastewater (Pond Effluent) prior to entering any of the onsite RIBs

Outfall 003 – This outfall is for the monitoring well (MW-1) located between the unlined RIBs.

Outfall 004 – This outfall is to measure the sludge accumulation (Pond Sludge) within the lined wastewater treatment pond.

Facility Upgrades since last issued permit
Since the last permit cycle, the Paradise Valley Sewer District has not implemented any major capital improvements or treatment system upgrades.

Solids Handling
Solids generated during the treatment process primarily settle in the two-chamber concrete septic tank. Accumulated sludge and scum are removed through periodic septic tank pumping, which is typically performed on a five-year cycle or as needed based on field inspections. The biosolids are hauled by a licensed septage hauler to an approved disposal facility. The permit does not require routine monitoring of biosolids characteristics due to the low volume of solids generated and the nature of the treatment system; however, operational logs must document tank pumping events, volumes removed, and disposal locations for recordkeeping and inspection purposes.

Effluent Management and Reuse
The facility is designed to treat domestic wastewater to a level consistent with equivalent to secondary treatment standards, with effluent discharged to HDPE-lined treatment ponds followed by infiltration into the subsurface through RIBs. There is no direct reuse of reclaimed water for irrigation, industrial, or recreational purposes. However, because effluent enters the subsurface environment, the permit requires monitoring to ensure groundwater protection. Based on the treatment method (i.e. no disinfection) and discharge route, the effluent aligns most closely with a Category E reclaimed water quality designation, reflecting no potential for direct human exposure and no coliform or pathogen reduction monitoring requirements.

Design Flow (and basis) and Measurement & Current Capacity
According to the original design documentation and the Operations & Maintenance (O&M) Manual, the treatment system was designed for an Annual Average Flow (AAF) of 5,000 gallons per day (gal/d), consistent with the size of the residential service area. No distinct Peak Daily Flow (PDF) or wet weather flow capacity was provided due to the passive nature of the system and the absence of significant inflow and infiltration. The facility's gravity-fed collection system limits hydraulic fluctuation, and actual measured flow has frequently been reported as "too low to read" in the flume, indicating volumes well below the design capacity.

Pretreatment Program
The Paradise Valley Sewer District is not subject to federal pretreatment requirements, as defined under 40 CFR Part 403. The service area consists exclusively of domestic wastewater sources, and there are no significant industrial users (SIUs) discharging to the system. Therefore, no pretreatment program is required, and the permit does not include pretreatment-related monitoring or reporting conditions. Should the District's service population or discharge character change significantly in the future, the Division may reassess the need for pretreatment program requirements.

Operations & Maintenance (O&M) Manual status
The current O&M manual was last accepted by the Division on July 28, 2008. According to BWPC policy, the O&M Manual must be updated and submitted for review at least every two permit cycles, or approximately every 10 years. An updated O&M Manual must be submitted during the upcoming permit cycle, consistent with Division expectations. The revised manual should follow the guidance provided in BWPC's guidance document WTS-2 Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant and be certified by a Nevada-licensed professional engineer (P.E.).

Effluent Characterization
Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from April 2020 to March 2025, was reviewed as part of this permit renewal process.

Effluent characterization data indicates that the treatment system effectively reduces pollutant concentrations prior to discharge into the RIBs.

- Carbonaceous Biochemical Oxygen Demand (CBOD5) – The quarterly average CBOD5 concentration at Outfall 001 was 140.6 mg/L, whereas Outfall 002 (treated effluent) averaged 26.9 mg/L, yielding a treatment efficiency of approximately 81%. CBOD5 exceeded the quarterly maximum limit of 45 mg/L on three occasions.

- Total Suspended Solids (TSS) – The quarterly average TSS concentration at Outfall 001 was 102.2 mg/L, while Outfall 002 averaged 44.3 mg/L, reflecting a treatment efficiency of approximately 57%. TSS exceeded the permit limit of 90 mg/L once, with a recorded concentration of 180 mg/L on April 1, 2023, likely due to low flow conditions, long retention times, and increased algae growth.
- pH Levels – pH values at Outfall 002 ranged from 7.13 to 9.6, indicating seasonal fluctuations, with higher pH levels observed during warmer months due to increased biological activity. pH exceeded permit limits five times, with elevated levels occurring during summer months due to increased algae growth.
- Total Dissolved Solids (TDS) – Groundwater monitoring well MW-1 reported an average TDS concentration of 587.7 mg/L.
- Chloride – Groundwater chloride levels at MW-1 averaged 67.5 mg/L, though a notable spike to 450 mg/L occurred in June 2023.
- Total Nitrogen – No data indicator (NODI) code ‘T’ and ‘C’ for Outfall 001, indicating “Monitoring Not Possible” during specific monitoring periods, preventing assessment of nitrogen loading. Groundwater monitoring at MW-1 reported an average total nitrogen concentration of 0.88 mg/L, below regulatory limits.
- Flow Rate – Flow rate was unreported due to low water height in the flume, making readings unreadable.

Overall, the facility effectively treats effluent before discharge into RIBs. The renewal of Permit NS0089011 will maintain oversight of treatment operations, ensuring continued protection of groundwater resources in the Paradise Valley hydrologic area.

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 TDS.

Receiving Water
Receiving water is groundwater of the State; no reclaimed water is authorized to be discharged to surface waters. The groundwater depth at the facility is approximately 10 feet below ground surface. No adverse effects are expected to occur in the groundwater due to the use of the RIBs.

Compliance History
During the last permit term, the facility generally remained in compliance with its permit requirements but did experience some effluent limit exceedances and operational challenges.

The facility had five instances of pH exceedances, primarily occurring during warmer months, likely due to increased biological activity and algae growth in the treatment ponds. Additionally, there were three exceedances of the CBOD5 quarterly maximum limit of 45 mg/L, and one significant TSS exceedance reported in the Q1 DMR, where levels reached 180 mg/L - double the permit limit of 90 mg/L. This spike was attributed to low flow conditions and extended retention times, which can lead to higher suspended solids concentrations.

Despite these exceedances, no unauthorized discharges from the RIBs were reported, indicating that wastewater was properly contained within the designated disposal system. Monitoring well MW-1 data confirmed that groundwater was not adversely impacted, with TDS and total nitrogen concentrations remaining within acceptable limits.

Additionally, a depth-to-groundwater anomaly was observed in 2024, where levels dropped to over 150 feet below ground surface (bgs). A chloride concentration spike was recorded in June 2023, but subsequent monitoring indicated stabilization.

The facility was required to maintain an Operations and Maintenance (O&M) Manual, last approved in 2008, which must be updated every two permit cycles (10 years). An updated manual is required for the next permit cycle to ensure continued compliance with state and federal regulations.

Overall, while the facility had a few exceedances, its wastewater treatment and effluent disposal remained largely effective, with no significant violations impacting groundwater quality or unauthorized discharges from the RIBs. Continued monitoring and operational adjustments will help maintain compliance moving forward.

Proposed Effluent Limitations
The discharge shall be limited and monitored as specified below:

WWTP Discharge Limitations Table for Sample Location 001 (Influent) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	<= 5000 Gallons per Day (gal/d)		Raw Sewage Influent	001	Quarterly	METER[1]
Flow rate	Quarterly Average	<= 5000 Gallons per Day (gal/d)		Raw Sewage Influent	001	Quarterly	METER[1]
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Quarterly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Quarterly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Quarterly	DISCRT
Solids, total suspended	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Quarterly	DISCRT
Solids, total suspended	Quarterly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Quarterly	DISCRT

Notes (WWTP Discharge Limitations Table):

1. Calculation based off of 8-inch Palmer-Bowlus Flume reading.

WWTP Discharge Limitations Table for Sample Location 002 (Rib) To Be Reported Quarterly[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		<= 60 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Quarterly Average		<= 40 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Solids, total suspended	Daily Maximum		<= 135 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Solids, total suspended	Quarterly Average		<= 90 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
pH, minimum	Daily Minimum		>= 6 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT
pH, maximum	Daily Maximum		<= 9 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT
BOD, carb-5 day, 20 deg C, percent removal	Quarterly Minimum[3]		>= 65 Percent (%)	Effluent Gross	002	Quarterly	CALCTD[2]
Solids, suspended percent removal	Quarterly Minimum[3]		>= 65 Percent (%)	Effluent Gross	002	Quarterly	CALCTD[2]

Notes (WWTP Discharge Limitations Table):

1. Sample shall be obtained prior to entering the RIBs. If no effluent is discharged into a percolation pond, indicate NODI Code C for 'No Discharge' on DMR.

2. Percent removal calculations are not required for CBOD5 or TSS during monitoring periods when no effluent flow is present, as percent removal calculations cannot be determined without corresponding influent data. When reporting this condition in NetDMR, use NODI code ‘C’ to indicate ‘No Discharge'.

   Influent and effluent data used for percent removal calculations must be collected on the same day and as close to the same time as feasible.

   % removal = (Ci-Ce) ÷ Ci × 100

   Where:

   - **Ci** = Influent quarterly average concentration (mg/L)
   - **Ce** = Effluent quarterly average concentration (mg/L)

3. EPA recommends the 30-day and 7-day average equivalent to secondary standards, as specified in §133.105, be applied as average monthly (calendar month) and average weekly (calendar week) discharge limitations, per §122.45(d)(2). The Division has adopted these recommendations and requires the Quarterly Minimum to be reported as the Quarterly Average Minimum.

Groundwater Monitoring Wells Table for Sample Location 003 (Monitoring Well) To Be Reported Quarterly[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Depth to water level ft below landsurface	Daily Minimum[2]	M&R Feet (ft)		Groundwater	003	Quarterly	VISUAL
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		<= 1000 Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Groundwater samples shall be taken only after purging at least three (3) well volumes of groundwater from the monitoring well.
2. Depth to Groundwater in feet, taken as field measurement.

Ponds / Rapid Infiltration Basins for Sample Location 002 (Rib) To Be Reported Once During The Permit Term[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Alkalinity, bicarbonate (as CaCO3)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO3)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Aluminum, total (as Al)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Antimony, total (as Sb)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Arsenic, total (as As)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Barium, total (as Ba)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Beryllium, total (as Be)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Cadmium, total (as Cd)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Calcium, total (as Ca)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Chromium, total (as Cr)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 002 (Rib) To Be Reported Once During The Permit Term[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Copper, total (as Cu)	Daily Maximum		Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Fluoride, total (as F)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Iron, total (as Fe)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Lead, total (as Pb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Magnesium, total (as Mg)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Manganese, total (as Mn)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Mercury, total (as Hg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Nitrite plus nitrate total 1 det. (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Potassium, total (as K)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Selenium, total (as Se)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 002 (Rib) To Be Reported Once During The Permit Term[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Silver, total (as Ag) [2]	Daily Maximum		Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Sodium, total (as Na)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Sulfate, total (as SO4)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Thallium, total (as Tl)[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Zinc, total (as Zn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Cyanide, weak acid, dissociable[3]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Uranium, natural, total[3]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Sample shall be obtained prior to entering the RIBs.
2. Analysis is for the dissolved fraction.
3. Profile I pollutants must be sampled and analyzed at least once during the permit term. While the presence of dissociable cyanide and natural uranium is not anticipated at this facility, results for the full Profile I suite are required to support a comprehensive groundwater protection evaluation. Based on the findings, the Division may consider modifying or removing certain parameters in the next permit cycle.

Ponds / Rapid Infiltration Basins for Sample Location 004 (Pond) To Be Reported Annually[1][2]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Sludge/Solids, depth[3]	Value	M&R Feet (ft)		See Footnote[4]	004	Annual[5]	GRAB

Notes (Ponds / Rapid Infiltration Basins):

1. The Permittee shall use a method approved by NDEP to determine the sludge depth in its ponds. The plan for monitoring the sludge depths shall be submitted with the O&M Manual.
2. When sludge depths average 20-percent of the total depth of the pond(s), the Permittee shall submit to NDEP a plan to remove the sludge within two years.
3. The Permittee shall report the total depth of the pond and the depth of sludge.
4. The Permittee shall test the sludge depths at various spots in the pond that have been approved by NDEP.
5. The Permittee shall sample the sludge depths during the 3rd quarter and include results in the Annual Report.

Ponds / Rapid Infiltration Basins for Sample Location 005 (Pond) To Be Reported Quarterly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Freeboard	Daily Minimum	>= 3 Feet (ft)		See Footnote[1]	005	Quarterly	STATIC

Notes (Ponds / Rapid Infiltration Basins):

1. Design minimum is 3 feet from the top perimeter of the pond to the water surface. The reported value should be the height from the water surface to the top of the berm, and not the length of the side wall of the pond. The assumed slope of the side wall is 3:1. Use of Staff Gauge near the emergency escape ladder, measured from the toe of the pond slope. Report readings in tenths of a foot as recorded on the field gauge.

Summary of Changes From Previous Permit

The following changes were made to the WWTP Discharge Limitations Table for Sample Location 001 (Internal Outfall) to be Reported Quarterly:

- Added monitoring for Daily Maximum Flow Rate, CBOD5, and TSS
- Updated Base from Quarterly Maximum to Quarterly Average.
- Updated footnote 1 to read “Calculation based off of 8-inch Palmer-Bowlus Flume reading.”

The following changes were made to the WWTP Discharge Limitations Table for Sample Location 002 (External Outfall) to be Reported Quarterly:

- Added Quarterly Average monitoring of CBOD5 and TSS.
- Changed Base from Quarterly Maximum to Daily Maximum for CBOD5, TSS, and pH.
- Quarterly Average for CBOD5 was changed to 40 mg/L to comply with the equivalent to secondary treatment standards for 30-day average, as specified in § 133.105.
- Daily Maximum CBOD5 was changed to 60 mg/L because it was previously incorrect, and the limit now reflects the equivalent to secondary treatment standards for 7-day average, as specified in § 133.105.
- Updated Daily Maximum limit for TSS to 135 mg/L, and Quarterly Average limit to 90 mg/L for TSS.
- The proposed permit establishes monthly average minimum effluent limits for CBOD5 and TSS percent removal consistent with the Division’s equivalent to secondary treatment standards for CBOD5 and TSS in ponds.
- Added footnotes to the Quarterly Minimum Base saying “EPA recommends the 30-day and 7-day average equivalent to secondary standards, as specified in § 133.105, be applied as average monthly (calendar month) and average weekly (calendar week) discharge limitations, per § 122.45(d)(2). The Division has adopted these recommendations and requires the Quarterly Minimum to be reported as the Quarterly Average Minimum.”

The following changes were made to the WWTP Discharge Limitations Table for Sample Location 003 (Monitoring Well) to be Reported Quarterly:

- Removed footnotes 2 and 3 from groundwater monitoring table.
- The proposed permit replaces the quarterly maximum for depth to water level with a daily minimum.
- The proposed permit replaces the quarterly maximum for total nitrogen, chloride, and total dissolved solids with a daily maximum.

The proposed permit establishes once per permit term effluent monitoring and reporting requirements for Profile I pollutants.

Technology Based Effluent Limitations

The WWTF operates under a Nevada Water Pollution Control Permit and relies on waste stabilization ponds as the primary method of secondary treatment. Although the facility is not federally subject to the

effluent standards outlined in 40 CFR Part 133, the BWPC adopted those standards when developing technology-based effluent limitations (TBELs) for waste stabilization pond systems.

The facility provides significant biological treatment of domestic wastewater, but it does not consistently meet the effluent quality thresholds associated with secondary treatment. Specifically, the facility failed to meet Criterion 1 under 40 CFR §133.101(g) because a reported TSS value exceeded the calculated 95th percentile threshold of 136.6 mg/L. It also could not demonstrate compliance with Criterion 3, which requires a consistent 65 percent removal of CBOD5 and TSS, due to a lack of historical reporting data for percent removal of CBOD5 and TSS.

Given the facility's small design flow of 5,000 gallons per day and the very low potential threat to groundwater quality, BWPC has determined that the continued use of effluent limitations equivalent to secondary standards is appropriate. To enhance oversight and support future evaluations, the permit now requires the facility to monitor and report the daily maximum values for CBOD5 and TSS on a quarterly basis.

Accordingly, this permit applies a quarterly average CBOD5 limit of 40 mg/L, with a daily maximum limit of 60 mg/L. The minimum percent removal for CBOD5 is set at 65 percent, measured as a quarterly average. For TSS, the permit applies Nevada's adjusted state-specific standard of 90 mg/L as a quarterly average. The corresponding daily maximum limit for TSS is 135 mg/L, calculated using a standard EPA multiplier of 1.5 (90 mg/L X 1.5 = 135 mg/L). The minimum percentage removal for TSS is also set at 65 percent on a quarterly average basis. The effluent pH must always remain within the range of 6.0 to 9.0 standard units.

Mass-based limitations have not been included in the permit because the facility's influent flow is often too low to accurately measure using existing equipment. This approach is consistent with the federal provisions at 40 CFR §122.45(f), which allow flexibility in cases where dilution is not a concern and flow rates are unreliable.

Water Quality Based Effluent Limitations
No water quality-based effluent limitations apply to this permit.

Proposed Water Quality Based Effluent Limits (monthly/weekly/daily)
No water quality-based effluent limitations apply 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 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."

Influent and Effluent Monitoring Requirements: Monthly influent and effluent monitoring for CBOD5 and TSS are included to assess treatment performance of the facultative ponds. A monthly sampling frequency for CBOD5 and TSS is sufficient for determining compliance with the applicable effluent limitations. Based on the facility's design flow of 0.2 Mgal/d and the monthly sampling frequency, the effluent limit for CBOD5 is established in the permit as a daily maximum of 60 mg/L and the effluent limit for TSS is established in the permit as a daily maximum of 135 mg/L. Percent removal requirements for CBOD5 and TSS are established in the permit as monthly average minimums of 65%, based on equivalent to secondary treatment standards.

Monthly monitoring for pH is included to assess compliance with effluent limits of 6.0 S.U. as a daily minimum and 9.0 S.U. as a daily maximum, which is consistent with equivalent to secondary treatment standards for pH.

Other Required Water Quality Monitoring: The requirement to monitor the effluent for all Profile I pollutants 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 a reissued permit are required to be as stringent as those in the previous permit, with some exceptions.

The previous permit implemented a limit of 90 mg/L as a quarterly maximum for TSS. As stated in the Technology Based Effluent Limitations section of the Fact Sheet, the federal regulations allow states to adjust the maximum allowable TSS concentration for waste stabilization ponds upwards from those specified in the equivalent to secondary treatment standards to conform to TSS concentrations achievable with waste stabilization ponds. The approved alternate TSS requirement in the state of Nevada is 90 mg/L as a 30-day average. The Division has determined that 90 mg/L limit for TSS was mistakenly applied as a quarterly maximum instead of a quarterly average. The proposed permit implements the correct daily maximum limit for TSS as 135 mg/L. This limit was calculated using a factor of 1.5 times the 30-day average alternate TSS limit (90 mg/L X 1.5 = 135 mg/L).

The previous permit also implemented a quarterly maximum limit of 45 mg/L for CBOD5. The federal equivalent to secondary treatment standards, defined at 40 CFR 133.105, lists a 30-day average limit as 45 mg/L for the 5-day biochemical oxygen demand (BOD5). The Division has determined that the previous permit mistakenly applied the 30-day average limit of 45 mg/L for BOD5 as the quarterly maximum limit for CBOD5. The proposed permit implements the correct daily maximum limit for CBOD5 as 60 mg/L as listed in 40 CFR 133.105(e).

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 Nevada Revised Statute (NRS) 445A.520 and NRS 445A.565 and is consistent with the federal antidegradation policy found at Title 40 in the Code of Federal Regulations (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.

There are currently no specific water quality standards that have been formally adopted by the State for groundwater, therefore, as this permit is for discharges to groundwater, and not surface water, the antidegradation rule is not applicable.

Special Conditions
See special approvals/conditions table below.

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

Discharges From Future Outfalls/ Planned Facility Changes
There are no planned discharges from future outfalls or Facility changes.

Corrective Action Sites
There are no Bureau of Corrective Actions remediation sites located within a one-mile radius of the wastewater treatment facility site.

Wellhead Protection Program

The outfalls are not located within a Wellhead Protection Area, which represents an approximate 10-year capture zone of a well, or within a Drinking Water Protection Area, which is defined by a 3,000-foot radius around a PWS well.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of an updated O&M manual to NDEP for review. The manual shall be prepared in accordance with the Division's WTS-2 guidance document: *Minimum Information Required for an Operations and Maintenance Manual*.	6/25/2026

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	10/28/2025
2	Annual Report	Annually	1/28/2026
3	Annual DMRs	Annually	1/28/2026
4	Once Per Permit Term DMR	Once during the permit term	10/28/2030

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. **9/12/2025,** 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: **Tiffany Barulich**
Date: **8/11/2025**
Title: **Associate Engineer**