FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: NPS LAKE MEAD

601 NEVADA WAY
BOULDER CITY, NV 89005

Permit Number: NS0050015

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: NPS - LAS VEGAS BAY WASTEWATER TREATMENT SYSTEM, CLARK
WEST OF LAKESHORE DRIVE NEAR LAS VEGAS BAY, HENDERSON, NV 89124
LATITUDE: 36.116667, LONGITUDE: -114.876389
TOWNSHIP: T21S, RANGE: R64E, SECTION: S19

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	INFLUENT METER (MAIN LIFT STATION)	Internal Outfall		36.120556	-114.867778	NOT APPLICABLE
002	PORTABLE TOILET WASTE	Internal Outfall		36.116667	-114.876389	NOT APPLICABLE
003	SUM OF TOTAL FLOW RECEIVED	Sum		36.116667	-114.876389	NOT APPLICABLE
004	EVAPORATION/PERCOLATION BASINS	External Outfall		36.116944	-114.876667	GROUNDWATER
005	MONITORING WELL	Monitoring Well		36.116944	-114.875278	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, U. S. National Park Service, has applied for the renewal of Permit NS0050015 for the Las Vegas Bay Wastewater Treatment System (LVBWWTS), located west of Lakeshore Drive, near Las Vegas Bay, being within Clark County, Nevada. The Permittee proposes to continue to discharge secondary treated wastewater to groundwater of the State.

This permit was first issued on August 30, 1994. The most recent permit was issued on December 19, 2013, and expired on December 18, 2018; the permit has been administratively continued since.

Facility Overview

The National Park Service owns and operates the LVBWWTS, an aerated partial-mix pond treatment plant located near Las Vegas Bay in the Lake Mead National Recreation Area (LMNRA). In its current configuration, LVBWWTS is designed to receive and treat a 30-day average flow of 0.007 million gallons per day (MGD) and a daily maximum flow of 0.016 MGD. LVBWWTS includes a force main system, two lift stations (Main Lift Station and the Ramp Lift Station), an aerated 0.64-acre, high-density polyethylene (HDPE)-lined primary treatment pond (Pond #1), a 0.91-acre HDPE-lined secondary treatment pond (Pond #2), and two 0.91-acre percolation/evaporation basins (Ponds #3 and #4). Pond #3 is HDPE-lined and is designed to receive effluent for final settling and evaporation, while Pond #4 remains unlined and serves as a percolation/evaporation pond. Additional excavated ponds (Ponds #5 and #6) are available for facility expansion, if needed, but are currently not in service. One monitoring well is located down-gradient of the

treatment system. LVBWWTS may occasionally receive hauled waste from vault/portable toilets located throughout LMNRA.

Wastewater is pumped from the Main Lift Station to the LVBWWTS through a diversion manhole. Raw sewage enters the LVBWWTS at Pond #1, which utilizes two surface aerators that operate at night to supplement the dissolved oxygen (DO). Based on recent site inspections performed at the facility, Pond #2 is currently not being used due to low flow. Treated effluent is discharged into Pond #3 for evaporation, with Pond #4 serving as a secondary discharge option where the treated effluent can either evaporate or percolate into the ground. Any residual sludge material is removed from the ponds during re-lining activities.

Outfall Summary
Outfall 001 – This internal outfall is located at the main lift station and receives influent from both the Main Lift Station (located at the campground) and the Ramp Lift Station (located at the marina).

Outfall 002 – This internal outfall is for flow into the portable waste receiving basin.

Outfall 003 – This outfall is sum of Outfall 001 and Outfall 002 for total flow received.

Outfall 004 – This external outfall is for the evaporation pond (Pond #3) and the evaporation/percolation (Pond #4) pond and is the surface disposal site.

Outfall 005 – This downgradient outfall, for the monitoring well, is located north of the evaporation/percolation ponds.

Facility Upgrades since last issued permit
With approval from the Nevada Division of Environmental Protection (NDEP), the Main Lift Station and Ramp Lift Station were updated and replaced in 2021. Changes to the sewage treatment system, approved by the NDEP, being made in 2020, with the liners of the partial mix aeration pond (Pond #1) and facultative pond (Pond #2) were replaced with HDPE liners, and the former rapid infiltration basin (RIB) was converted to an HDPE-lined evaporation pond (Pond #3).

Solids Handling
Any sludge material remaining in the ponds is to be removed and properly disposed when the liners are replaced.

Effluent Management and Reuse
Effluent is released into an HDPE-lined pond to evaporate with an optional second evaporation/percolation pond for backup. There is no reuse associated with this permit.

Design Flow (and basis) and Measurement & Current Capacity
The long-term averaged daily maximum discharge flow rate for Outfall 003 was 0.007 Mgal/d. The daily maximum discharge flow rate was based on a 0.016 Mgal/d design flow.

Pretreatment Program
The facility does not meet the federal Environmental Protection Agency’s (EPA’s) guidelines requiring them to have a pretreatment program.

Operations & Maintenance (O&M) Manual status
The LVBWTS's Operation and Maintenance Manual (O&M Manual) was reviewed and approved February 10, 2014. The Technical, Compliance, and Enforcement (TCE) Branch of the Bureau of Water Pollution Control requires O&M manuals be updated every two (2) permit cycles which equates to every ten (10) years. Therefore, an updated O&M manual is due three (3) months after the permit issuance date.

Effluent Characterization
Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from November 2019

to October 2024, was reviewed as part of this permit renewal process. The LVBWWTS treats sanitary sewage from the surrounding area and then releases the treated effluent into rapid infiltration basins for percolation and evaporation. The long-term average maximum discharge flow rate for Outfall 003, being the total of Outfalls 001 and 002, was 0.004763 million gallons per day (Mgal/d) or 4,763 gallons per day (Gal/d). The daily maximum discharge flow rate for Outfall 003 is limited to 0.016 Mgal/d or 16,000 Gal/d. There were no reported exceedances of this limit.

Outfall 004 had no discharge during the five years of reporting reviewed for this permit renewal.

Outfall 005 had the following average reported levels of the following during the 5-year period reviewed, with two quarters of non-reporting:
Chloride: 824.71 mg/L
Depth to water level feet below land surface: 160.60 mg/L
Nitrogen, Total: 6.99 mg/L
Total Dissolved Solids (TDS): 3550 mg/L

Pollutants of Concern
Pollutants of concern are any pollutants or parameters that are believed to be present in the discharge and could affect or alter the physical, chemical, or biological condition of the receiving water. Pollutants of concern, for the groundwater, are Chloride, Nitrogen, and pH, along with potential inorganic chemicals and metals (Profile 1 contaminants).

Receiving Water
Receiving water is groundwater of the State via percolation. One monitoring well is located down-gradient of the percolation/evaporation basins.

Compliance History
The facility was in substantial compliance during November 2019 to October 2024 reporting period.

Proposed Effluent Limitations
The discharge shall be limited and monitored by the Permittee as specified below.

WWTP Discharge Limitations Table for Sample Location 001 (Influent Meter-Internal Outfall) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent[1]	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent[1]	001	Continuous	METER

Notes (WWTP Discharge Limitations Table):

1. Measure and report the total flow to the treatment ponds from the main lift station each month.

WWTP Discharge Limitations Table for Sample Location 002 (Portable Toilet Waste-Internal Outfall) To Be Reported Monthly[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		See Footnote[2]	002	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		See Footnote[2]	002	Continuous	METER

Notes (WWTP Discharge Limitations Table):

1. Measure and report the amount of vault/portable toilet waste delivered to the treatment ponds each month.
2. Discharge from pump truck.

WWTP Discharge Limitations Table for Sample Location 003 (Sum) To Be Reported Monthly[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	Daily Maximum	<= 0.016 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	003	Continuous	CALCTD
Flow, total	30 Day Average	<= 0.007 Million Gallons (Mgal)		Raw Sewage Influent	003	Continuous	CALCTD

Notes (WWTP Discharge Limitations Table):

1. Measure and report the sum of total flow from the main lift station and delivered vault/portable toilet waste to the treatment ponds each month.

WWTP Discharge Limitations Table for Sample Location 003 (Sum) To Be Reported Quarterly[1][2]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
BOD, carbonaceous, 05 day, 20 C	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	003	Quarterly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Quarterly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	003	Quarterly	DISCRT
Solids, total suspended	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	003	Quarterly	DISCRT
Solids, total suspended	Quarterly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	003	Quarterly	DISCRT

Notes (WWTP Discharge Limitations Table):

1. Sampling for CBOD, 5-day and total suspended solids (TSS) should be done concurrently when effluent (Outfall 004) is sampled to determine the exact percentages of removal achieved. If there is no discharge from Outfall 004, then no sampling of the influent is required.
2. Sampling should be done where the two waste streams meet and prior to any treatment being done.

WWTP Discharge Limitations Table for Sample Location 004 (Evaporation/Percolation Basins) 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	004	Quarterly	DISCRT
BOD, carbonaceous, 05 day, 20 C	Quarterly Average		<= 40 Milligrams per Liter (mg/L)	Effluent Gross	004	Quarterly	DISCRT
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Quarterly	DISCRT
pH, maximum	Daily Maximum[2]		<= 9.0 Standard Units (SU)	Effluent Gross	004	Quarterly	DISCRT
pH, minimum	Daily Minimum[2]		>= 6.0 Standard Units (SU)	Effluent Gross	004	Quarterly	DISCRT
Solids, total suspended	Daily Maximum		<= 135 Milligrams per Liter (mg/L)	Effluent Gross	004	Quarterly	DISCRT
Solids, total suspended	Quarterly Average		<= 90 Milligrams per Liter (mg/L)	Effluent Gross	004	Quarterly	DISCRT
BOD, carb-5 day, 20 deg C, percent removal[3]	Quarterly Minimum[4]		>= 65 Percent (%)	Effluent Gross	004	Quarterly	CALCTD
Solids, suspended percent removal[3]	Quarterly Minimum[4]		>= 65 Percent (%)	Effluent Gross	004	Quarterly	CALCTD

Notes (WWTP Discharge Limitations Table):

1. If no discharge takes place from this outfall during the reporting period, enter "No Discharge" on the DMR for this outfall.

2. If fewer than two samples are taken during the monitoring period, enter the single result as both the minimum and maximum value.
3. Sampling for both CBOD, 5-day and total suspended solids (TSS) should be done concurrently when influent (Outfall 003) is sampled to determine exact percentages of removal achieved.
4. Quarterly Minimum Average.

Groundwater Monitoring Wells Table for Sample Location 005 (Monitoring Well) To Be Reported Quarterly[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Depth to water level ft below landsurface[2]	Daily Minimum		M&R Feet (ft)	Groundwater	005	Quarterly	VISUAL
Nitrogen, total	Daily Maximum		< 10 Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Groundwater	005	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Water level relative to mean sea level[3]	Daily Maximum	M&R Feet (ft)		Groundwater	005	Quarterly	CALCTD

Notes (Groundwater Monitoring Wells Table):

1. If the monitoring well is found to be dry during the reporting period, report as "Dry" on the DMR for this outfall.
2. Depth to groundwater.
3. Static water level.

Ponds / Rapid Infiltration Basins for Sample Location 004 (Evaporation/Percolation Basins) To Be Reported Monthly

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Freeboard	Daily Minimum	>= 3 Feet (ft)		Effluent Gross	004	Twice Per Month	VISUAL
Liner Leakage Rate[1]	Daily Maximum	<= 500 Gallons per Acre per Day (gal/acre/d)[2]		Effluent Gross	004	Twice Per Month	METER
Reservoir storage	Average	M&R Million Gallons (Mgal)		Effluent Gross	004	Twice Per Month	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. The volume of fluid removed from the leak detection system (gal/acre/day). See Section B.PB.5.5 of the permit for further information.
2. The 500 gallons per acre per day (gal/acre/d) limitation is applicable for each individual pond with a leak detection system.

Ponds / Rapid Infiltration Basins for Sample Location 004 (Evaporation/Percolation Basins) 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	004	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO3)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Aluminum, total (as Al)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Antimony, total (as Sb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Arsenic, total (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Barium, total (as Ba)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Beryllium, total (as Be)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Cadmium, total (as Cd)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Calcium, total (as Ca)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Chromium, total (as Cr)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 004 (Evaporation/Percolation Basins) 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	004	Once Per Permit Term	DISCRT
Fluoride, total (as F)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Iron, total (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Lead, total (as Pb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Magnesium, total (as Mg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Manganese, total (as Mn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Mercury, total (as Hg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Nitrite plus nitrate total 1 det. (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
pH, maximum	Daily Maximum		M&R Standard Units (SU)	Effluent Gross	004	Once Per Permit Term	DISCRT
pH, minimum	Daily Minimum		M&R Standard Units (SU)	Effluent Gross	004	Once Per Permit Term	DISCRT
Potassium, total (as K)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT

Ponds / Rapid Infiltration Basins for Sample Location 004 (Evaporation/Percolation Basins) 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**
Selenium, total (as Se)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Silver, total (as Ag)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Sodium, total (as Na)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Sulfate, total (as SO4)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Thallium, total (as Tl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Uranium, natural, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Cyanide, weak acid, dissociable	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT
Zinc, total (as Zn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	004	Once Per Permit Term	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Analysis is for the dissolved fraction.

Summary of Changes From Previous Permit

An additional reporting period, Quarterly, was added for Outfall 003 with the following parameters added:

BOD, carbonaceous, 05 day, 20 C, for a “Daily Maximum” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Raw Sewage Influent” monitoring location, a “Quarterly” measurement

frequency, and a “Discrt” sample type.

BOD, carbonaceous, 05 day, 20 C, for a “Quarterly Average” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Raw Sewage Influent” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Solids, total suspended, for a “Daily Maximum” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Raw Sewage Influent” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Solids, total suspended, for a “Quarterly Average” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Raw Sewage Influent” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Along with the footnote:
1. Sampling for CBOD, 5day and total suspended solids (TSS) should be done concurrently when effluent (Outfall 004) is sampled to determine the exact percentages of removal achieved. If there is no discharge to Outfall 004, then no sampling of the influent is required.

Updated description of Outfall 002 from “Internal Outfall” to “Portable Toilet Waste” on permit.

Updated Outfall 003 (Sum) Monthly Flow Rate parameters from a “Sumatn” sample type to a “Calctd” sample type.

The parameters for the “Monthly” reporting period under Outfall 004 were updated with the following parameters:

Freeboard, with a “Daily Minimum” base, a “Greater than or Equal to 3.0 Feet (ft)” quantity, an “Effluent Gross” monitoring location, a “Twice per Month” measurement frequency, and a “Visual” sample type.

Liner Leakage Rate, with a “Daily Maximum” base, a “Less than or Equal to 500 Gallons per Acre per Day (gal/acre/d)” quantity, a “Effluent Gross” monitoring location, a “Twice per Month” measurement frequency, and a “Meter” sample type.

Reservoir Storage, with an “Average” base, a “M&R Million Gallons (Mgal), an “Effluent Gross” monitoring location, a “Twice a Month” measurement frequency, and a “Calctd” sample type.

Along with the footnotes:
1. The volume of fluid removed from the leak detection system (gal/acre/day). See Section B.PB.5.5 of the permit for further information.

2. The 500 gallons per acre per day (gal/acre/d) limitation is applicable for each individual pond with a leak detection system.

The following parameters were either removed or added to Outfall 004 for a “Quarterly” reporting period:
Parameters were removed:

BOD, carbonaceous, with a “Value” base. Nitrogen, total, with a “Value” base.

Solids, total suspended, with a “Value” base.

pH, minimum, with a “Minimum Value” base.

pH, maximum, with a “Maximum Value” base.

BOD, carbonaceous, 05 day, 20 C, with a “Daily Maximum” base, a “Less than or Equal to 60 Milligrams per Liter (mg/L), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

BOD, carbonaceous, 05 day, 20 C, with a “Quarterly Average” base, a “Less than or Equal to 40 Milligrams per Liter (mg/L), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Nitrogen, total, with a “Daily Maximum” base, a “M&R Milligrams per Liter (mg/L), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

pH, maximum, with a “Daily Maximum” base, a “Less than or Equal to 9.0 Standard Units (S.U.), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

pH, minimum, with a “Daily Minimum” base, a “Greater than or Equal to 6.0 Standard Units (S.U.), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Solids, total suspended, with a “Daily Maximum” base, a “Less than or Equal to 135 Milligrams per Liter (mg/L), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Solids, total suspended, with a “Quarterly Average” base, a “Less than or Equal to 90 Milligrams per Liter (mg/L), concentration, a “Effluent Gross” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

BOD, carb 5-day, 20 deg C, percent removal, with a “Quarterly Minimum” base, a “Greater than or Equal to 65 Percent (%)” concentration, a “Effluent Gross” monitoring point, a “Quarterly” measurement frequency, and a “Calctd” sample type.

Solids, suspended percent removal, percent removal, with a “Quarterly Minimum” base, a “Greater than or Equal to 65 Percent (%)” concentration, a “Effluent Gross” monitoring point, a “Quarterly” measurement frequency, and a “Calctd” sample type.

Along with the footnotes:
1. If no discharge takes place from this outfall during the reporting period, enter "No Discharge" on the DMR for this outfall.

2. If fewer than two samples are taken during the monitoring period, enter the single result as both the minimum and maximum value.

3. Sampling for CBOD, 5-day and total suspended solids (TSS) should be done concurrently when influent (Outfall 003) is sampled to determine the exact percentages of removal achieved.

4. Quarterly Average Minimum.

Under Outfall 004, an additional reporting requirement of “Once During the Permit Term” was added with the following parameters:
Profile 1 Pollutants, with a “Daily Maximum” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Effluent Gross” monitoring location, a “Once Per Permit Term” measurement frequency, and a “Discrt” sample type. The monitoring and report concentrations are based on the influent being made up of domestic sewage, should it be discovered that there are any excess concentration levels or industrial waste pollutants found in the sample group, then concentration limits shall be added during the next renewal cycle.

Along with the footnote:

1. Analysis is for the dissolved fraction.
Under the Schedule of Compliance Table, the following Compliance Item was added:

The Permittee shall submit two copies (one hard copy and one electronic copy) of an updated Operations and Maintenance (O&M) Manual for review and approval by the Division. The O&M Manual shall

follow the Division's guidance document, WTS2 Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant and be wet stamped by a licensed, qualified Nevada engineer (P.E.).

And the Special Approval/Conditions Table requiring a Professional Engineer review and stamp any O&M manual submitted by the Permittee, has been deleted due to the revised Compliance Schedule statement including this requirement.

Technology Based Effluent Limitations, based on the EPA's 40 CFR 133.105 requirements for equivalent to secondary treatment standards, has been added.

Technology Based Effluent Limitations
Technology based effluent limitations (TBELs) are required as promulgated by the U.S EPA, for Publicly Owned Treatment Works (POTWs). The EPA published federal secondary treatment standards under 40 CFR 133 based on an evaluation of performance data for POTWs practicing a combination of physical and biological treatment. Facilities primarily using biological treatment technologies, such as trickling filters or waste stabilization ponds, can achieve significant reductions in CBOD5 and TSS, but might not consistently achieve the secondary treatment standards for these parameters. Because of this, the EPA promulgated regulations under 40 CFR 133.105 that include alternative standards that apply to facilities using equivalent to secondary treatment. Federal equivalent to secondary treatment standards is defined under 40 CFR 133.105 for CBOD5 as a 30-day average of 40 mg/L and a 7-day average of 60 mg/L, for TSS as a 30-day average of 45 mg/L and a 7-day average of 65 mg/L, and for CBOD5 and TSS percent removal as a monthly average of not less than 65%. Additionally, the Division uses a daily maximum limit in place of the 7-day average limit.

The following limits are based on equivalent to secondary treatment standards, as allowed by the 40 CFR 133, and which have been adopted by the State of Nevada:

CBOD5 – The daily maximum threshold is limited to 60 mg/L and the quarterly average threshold is limited to 40 mg/L.

pH - The daily maximum threshold is limited to 9.0 standard units (S.U.) and a daily minimum limit of 6.0 S.U.

The federal regulations also 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 for a 30-day average, implemented as an average quarterly limit under this permit. Furthermore, the daily maximum TSS limit was calculated using a factor of 1.5 times the average quarterly limitation (90 mg/L X 1.5 = 135 mg/L).

The following adjustments to equivalent to secondary standards for TSS have been included in the permit:

TSS – The daily maximum threshold is limited to 135 mg/L and the quarterly average threshold is limited to 90 mg/L.

The following percent removal performance standards for POTWs, with equivalent to secondary treatment standards, have been applied to permit for CBOD5 and TSS:

CBOD5 percent removal quarterly average minimum limit is 65 Percent (%).

TSS percent removal quarterly average minimum limit is 65 Percent (%).

Limits Based on Facility's Design Criteria Review:

30-day average flow rate at the end of treatment is limited to <= 0.007 MGD.

Daily maximum flow rate at the end of treatment is limited to <= 0.016 MGD.

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 1 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 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 Profile 1 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. Although cyanide and uranium are not expected to be present in the effluent, the proposed permit requires the Permittee sample these constituents once during the permit term as they are included in the Profile 1 list and they have not been sampled before. The monitoring and report concentrations are based on the influent being made up of domestic sewage, should it be discovered that there are any excess concentration levels or industrial waste pollutants found in the sample group, then concentration limits shall be added during the next renewal cycle.

Monitoring is required to ensure that the treatment plant capacity is not exceeded, to assess the quality of the effluent being discharged, and to monitor groundwater quality.

Influent and Effluent Monitoring Requirements:
Quarterly influent and effluent monitoring for CBOD5 and TSS are included to assess the treatment performance of the LVBWWTS. A quarterly sampling frequency for CBOD5 and TSS is sufficient for determining compliance with the applicable effluent limitations. The removal requirements for CBOD5 and TSS are established in the permit as quarterly average minimums of 65%, based on equivalent to secondary treatment standards.

Some wastewater treatment processes can increase or decrease wastewater pH; therefore, quarterly monitoring for pH is included in assessing compliance with effluent limits of 6.0 S.U. as a daily minimum and 9.0 S.U. as a daily maximum.

Anti-backsliding
None of the proposed permit limits were changed to a less restrictive limit compared to 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.

Special Conditions
There are no special approvals or conditions applicable to this permit.

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items

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

Corrective Action Sites
There are no NDEP Bureau of Corrective Actions remediation sites within a one-mile radius of this facility.

Wellhead Protection Program
The closest Public Water Supply (PWS) well is located approximately 3.1 miles to the southwest of the outfall. The outfall is 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 (one hard copy and one electronic copy) of an updated Operations and Maintenance (O&M) Manual for review and approval by the Division. The O&M Manual shall follow the Division's guidance document, WTS2 Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant, and be prepared and wet-stamped by a licensed, qualified Nevada engineer (P.E.).	10/1/2025

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Discharge Monitoring Reports	Quarterly	10/28/2025
2	Annual Facility Reports	Annually	1/28/2026
3	Profile 1 Pollutant DMR Report	Once during the permit term	7/28/2030

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. **6/16/2025,** 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: **Melissa Hanson**
Date: **5/9/2025**
Title: **Staff II Engineer**