FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: VALLEY HEIGHTS MOAPA, LLC

1235 FLYNN ROAD
CAMARILLO, CA 93012

Permit Number: NS2001518

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: VALLEY HEIGHTS WASTEWATER TREATMENT FACILITY, CLARK
3719 RIVER HEIGHTS LN., LOGANDALE, NV 89021
LATITUDE: 36.60877650, LONGITUDE: -114.478884
TOWNSHIP: T15S, RANGE: R67E, SECTION: S22

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	RAPID INFILTRATION BASINS	External Outfall		36.60896810	-114.478906	GROUNDWATER
INF	INFLUENT METER	Internal Outfall		36.60877650	-114.478884	N/A
MW1	MONITORING WELL 1	Monitoring Well		36.609167	-114.478889	GROUNDWATER
MW2	MONITORING WELL 2	Monitoring Well		36.608825	-114.479008	GROUNDWATER
MW3	MONITORING WELL 3	Monitoring Well		36.608625	-114.479261	GROUNDWATER
MW4	MONITORING WELL 4	Monitoring Well		36.6080	-114.4790	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, Valley Heights Moapa, LLC has applied for the renewal of Permit NS2001518 for the Valley Heights Wastewater Treatment Facility (VHWWTF), at 3719 River Heights Lane, located in Logandale, within Clark County, Nevada. The Permittee proposes to continue to discharge treated wastewater to groundwaters of the State via rapid infiltration basins (RIBs).

This permit was first issued on July 30, 2002. The most recent permit was issued on March 29, 2013, and expired on March 28, 2018; the permit has been administratively continued since.

Facility Overview

The VHWWTF is located in Logandale, within Clark County, Nevada. The privately owned wastewater treatment facility is operated under contract with the Valley Heights Homeowner's Association (HOA). The VHWWTF services the Valley Heights subdivision, a 97-unit housing development, in Logandale, Clark County, Nevada. The subdivision is approximately 75% built out. The VHWWTF is a 26,500 Gal/d package wastewater treatment plant supplied by the MARWOOD-MAROLF Corporation in 2007. Domestic sewage is treated to the Environmental Protection Agency's (EPA) secondary treatment standards, with the treated wastewater being released into four small RIBs for percolation into the ground.

Domestic sewage is transported through a sanitary sewer collection system to the VHWWTF plant, which includes a manual barscreen (trash rack), mixed anoxic compartment (denitrification), aeration

compartments (nitrification & carbonaceous matter reduction), secondary (effluent) clarification, effluent holding compartment, and aerated sludge holding compartment. Waste activated sludge (WAS) is periodically removed and discharged to a drying bed at a larger, local wastewater treatment plant. The non-chlorinated, treated wastewater (effluent) is discharged into small, onsite infiltration basins. There are three shallow monitoring wells interspersed amongst the RIBs for monitoring groundwater quality.

The raw sewage enters the flow equalization chamber, after passing through a bar screen. The flow equalization chamber contains pumps, which pump to a constant head flow splitter box, where a predetermined amount of wastewater is allowed to flow to the anoxic zone, and any excess is recirculated back into the flow equalization chamber. The raw wastewater, along with settled sludge from the clarifier, flows into the anoxic zone, to reduce the level of nitrates, where a slow speed mixer keeps the solids in suspension. The aeration basin is aerated continuously during normal operation to maintain a high enough level of dissolved oxygen to allow for successful biological growth to occur. The growth process is also dependent upon the food-to-mass ratio and the mixed liquor suspended solids (MLSS) concentration. Once this process has been completed, the excess MLSS is removed, and the aerated wastewater flows to a settling tank or clarifier. The treated wastewater separates behind a baffle, where the stabilized sludge settles to the bottom, to be returned through air lift pumps to the inlet of the plant. A portion of the aerated wastewater rises behind the baffle and is then either hosed or agitated to cause it to settle. The remaining liquid, on the opposite side of the baffle, is further filtered by a layer of biological sludge, and then it flows over a weir and to the effluent lift station. A scum baffle, located in front of the weir, serves to deter any potential hydraulic surges of the solids. The treated wastewater is then discharged into four small RIBs (750 s.f. each) and allowed to percolate through the soil.

The WAS is periodically removed and discharged to a drying bed at the Moapa Valley Wastewater Treatment Plant (WWTP) in Overton by a licensed septage hauler.

Three shallow monitoring wells are located around the RIBs area, which report numbers intermittently due to their shallow depths and most often being dry, with a fourth being required by the Division to allow for proper evaluation of the performance of the VHWWTF.

Outfall Summary
Outfall INF – This internal outfall is for measuring the influent entering the plant.

Outfall 001 – This external outfall is for measuring the discharged treated effluent from the treatment plant.

Outfall MW1 – This downgradient monitoring well (MW1A) is located north of the RIBs.

Outfall MW2 – This downgradient monitoring well (MW2A) is located near the RIBs.

Outfall MW3 – This downgradient monitoring well (MW3) is located near the RIBs.

Outfall MW4 – This downgradient monitoring well (MW4) is to be located within a 250-foot radius of the RIBs.

Facility Upgrades since last issued permit
There have been no upgrades to the plant since the last issued permit.

Solids Handling
The WAS is periodically removed and discharged to a drying bed at the Moapa Valley WWTP in Overton by a licensed septage hauler.

Effluent Management and Reuse
Treated wastewater is discharged to the RIBs (Outfall 001) for percolation into the soil.

Design Flow (and basis) and Measurement & Current Capacity
The VHWWTF was designed for an average day flow rate of 0.0265 million gallons per day (Mgal/d).

The daily maximum influent flow rate for Outfall 001 is limited to 0.0662 Mgal/d. This outfall was added to the permit during this renewal period. The flow rate is based on design criteria supplied in the O&M Manual, on the Specification Data Sheet for Peak Hourly Flow (46 gpm).

The long-term average discharge (effluent) flow rate for Outfall 001 was 0.012 million gallons per day (Mgal/d). The daily maximum discharge rate was previously based on a 30-day daily average of 0.0265 Mgal/d. The revised effluent flow rates, under this outfall, will be based on a monitor and report (M&R) basis for both the 30-day average and daily maximum during this renewal period.

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 VHWWTF's Operation and Maintenance (O&M) Manual was last reviewed and approved on May 17, 2021. The Technical, Compliance, and Enforcement Branch of the Bureau of Water Pollution Control requires O&M Manuals to be updated every two (2) permit cycles which equate to every ten (10) years. Although the due date for the updated O&M Manual would be May 17, 2031, the Division requires the updated O&M Manual be submitted within 90 days of the permit issuance date to address missing information for the RIBs.

Effluent Characterization
Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from December 2019 to November 2024, was reviewed as part of this permit renewal process.

Notes:
mg/L = Milligrams per Liter
Mgal/d = Million Gallons per Day
S.U.= Standard Units
BOD5 = Biochemical Oxygen Demand, 5-Day
TDS = Total Dissolved Solids
TSS = Total Suspended Solids

Outfall 001:
BOD5: 24.98 mg/L
Flow Rate: 0.01 Mgal/d
Nitrogen: 20.63 mg/L
pH: 7.73 S.U.
TSS: 35.78 mg/L, with 30% of the reported numbers being below detectable levels

Outfall MW1 (averages are based on reported instances during the period reviewed, being dry 63% of the time):
Chloride: 116 mg/L (one instance)
Depth to water level below land surface: 48 Feet (one instance)
Nitrogen: 13.35 mg/L (two instances)
TDS: 96.80 mg/L (third instances)

Outfall MW2 (averages are based on reported instances, being dry 63% of the time):
Chloride: 131 mg/L (one instance)
Depth to water level below land surface: 47 Feet (one instance)
Nitrogen: 18.10 mg/L (one instance)
TDS: 77.67 mg/L

Outfall MW3 (averages are based on reported instances, being dry 63% of the time):
Chloride: 131 mg/L (one instance)

Depth to water level below land surface: 48 Feet
Nitrogen: 18.10 mg/L
TDS: 110 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. Common pollutants of concern from wastewater treatment facilities that denitrify and discharge treated wastewater are Chloride, Nitrogen, TDS, and pH along with potential inorganic chemicals and metals (Profile 1 contaminants).

Receiving Water
The receiving water is groundwater of the State. Groundwater is found at a depth of approximately 53 feet below ground surface. Initial testing at the site, for the RIB design indicates groundwater flow in the direction of the water table aquifer is north by northeast.

Compliance History
The facility has been out of compliance during December 2019 to November 2024 reporting period, with high levels of Nitrogen reported in the effluent sampled (double the permit limit), no submittal received of the O&M Manual addendum requested for the RIBs, along with not receiving a Nitrogen Management Plan as required under the Schedule of Compliance Table during the last permit renewal. The monitoring wells have shown lower Nitrogen numbers, although they have all been dry during much of the period reviewed, with no exceedances of the standard limits for Nitrogen reported during the times sampling occurred.

VHWWTF staff has attributed the Nitrogen exceedances to low flow to the treatment plant, resulting from the subdivision being partially developed, and the plant not running at full capacity. The previously issued permit had included the requirement to draft and implement a Nitrogen Reduction Plan, along with the most recent site inspection (May 2023), done by the Division, requesting that a deeper, downgradient monitoring well, cased to twice the depth of the current monitoring wells, be drilled to monitor Chloride, Depth to water level below land surface, Total Nitrogen, pH, Total Dissolved Solids, and Water level relative to mean sea level (Outfall MW4). These requirements have been added to this permit.

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

WWTP Discharge Limitations Table for Sample Location Inf (Influent Meter-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	30 Day Average	<= 0.026 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	INF	Continuous	METER
Flow rate	Daily Maximum	<= 0.0662 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	INF	Continuous	METER
BOD, 5-day[2]	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT
BOD, 5-day[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT
Solids, total suspended[2]	30 Day Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT
Solids, total suspended[2]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	INF	Monthly	DISCRT

Notes (WWTP Discharge Limitations Table):

1. When only one sample is taken per month, that sample may be used as the 30-day average as well as the daily maximum.
2. Sampling for both BOD, 5-day and total suspended solids (TSS) should be done concurrently when effluent (Outfall 001) is sampled to determine exact percentages of removal achieved.

Groundwater Monitoring Wells Table for Sample Location Mw1 (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	MW1	Quarterly	DISCRT
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	MW1	Quarterly	INSITU
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Groundwater	MW1	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW1	Quarterly	DISCRT
Water level relative to mean sea level[3]	Daily Maximum	M&R Feet (ft)		Groundwater	MW1	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. Groundwater elevation above mean sea level (AMSL).

Groundwater Monitoring Wells Table for Sample Location Mw2 (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	MW2	Quarterly	DISCRT
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	MW2	Quarterly	INSITU
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Groundwater	MW2	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW2	Quarterly	DISCRT
Water level relative to mean sea level[3]	Daily Maximum	M&R Feet (ft)		Groundwater	MW2	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. Groundwater elevation above mean sea level (AMSL).

Groundwater Monitoring Wells Table for Sample Location Mw3 (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	MW3	Quarterly	DISCRT
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	MW3	Quarterly	INSITU
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW3	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Groundwater	MW3	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW3	Quarterly	DISCRT
Water level relative to mean sea level[3]	Daily Maximum	M&R Feet (ft)		Groundwater	MW3	Quarterly	CALCTD

Notes (Groundwater Monitoring Wells Table):

1. If the monitoring well is dry during the reporting period, report as "Dry" on the DMR for this outfall.
2. Depth to groundwater.
3. Groundwater elevation above mean sea level (AMSL).

Groundwater Monitoring Wells Table for Sample Location Mw4 (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	MW4	Quarterly	DISCRT
Depth to water level ft below landsurface[2]	Daily Minimum	M&R Feet (ft)		Groundwater	MW4	Quarterly	INSITU
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	MW4	Quarterly	DISCRT
pH	Value		M&R Standard Units (SU)	Groundwater	MW4	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	MW4	Quarterly	DISCRT
Water level relative to mean sea level[3]	Daily Maximum	M&R Feet (ft)		Groundwater	MW4	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. Groundwater elevation above mean sea level (AMSL).

Ponds / Rapid Infiltration Basins for Sample Location 001 (Rapid Infiltration Ponds-External Outfall) To Be Reported Monthly[1]

Discharge Limitations				Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
BOD, 5-day	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	COMPOS
BOD, 5-day	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	COMPOS
Nitrogen, total	30 Day Average		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
pH, maximum	Daily Maximum		<= 9.0 Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
pH, minimum	Daily Minimum		>= 6.0 Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
Solids, total suspended	Daily Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	COMPOS
Solids, total suspended	30 Day Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	COMPOS
BOD, 5-day, percent removal[2]	Monthly Average Minimum		>= 85 Percent (%)	Effluent Gross	001	Monthly	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 001 (Rapid Infiltration Ponds-External Outfall) To Be Reported Monthly[1]

	Discharge Limitations			Monitoring Requirements			
Parameter	**Base**	**Quantity**	**Concentration**	**Monitoring Loc**	**Sample Loc**	**Measurement Frequency**	**Sample Type**
Solids, suspended percent removal[2]	Monthly Average Minimum		>= 85 Percent (%)	Effluent Gross	001	Monthly	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. When only one sample is taken per month, that sample may be used as the 30-day average as well as the daily maximum.
2. Sampling for both BOD, 5-day and Total Suspended Solids (TSS) should be done concurrently when the influent (Outfall INF) is sampled to determine exact percentages of removal achieved.

Ponds / Rapid Infiltration Basins for Sample Location 001 (Rapid Infiltration Ponds-External Outfall) 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	001	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO3)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Aluminum, total (as Al)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Antimony, total (as Sb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Arsenic, total (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Barium, total (as Ba)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Beryllium, total (as Be)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Cadmium, total (as Cd)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Calcium, total (as Ca)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Chromium, total (as Cr)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 001 (Rapid Infiltration Ponds-External Outfall) 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	001	Once Per Permit Term	DISCRT
Fluoride, total (as F)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Iron, total (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Lead, total (as Pb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Magnesium, total (as Mg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Manganese, total (as Mn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Mercury, total (as Hg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Nitrite plus nitrate total 1 det. (as N)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
pH, maximum	Daily Maximum		M&R Standard Units (SU)	Effluent Gross	001	Once Per Permit Term	DISCRT
pH, minimum	Daily Minimum		M&R Standard Units (SU)	Effluent Gross	001	Once Per Permit Term	DISCRT
Potassium, total (as K)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT

Ponds / Rapid Infiltration Basins for Sample Location 001 (Rapid Infiltration Ponds-External Outfall) 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	001	Once Per Permit Term	DISCRT
Silver, total (as Ag)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Sodium, total (as Na)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Sulfate, total (as SO4)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Thallium, total (as Tl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Uranium, natural, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Cyanide, weak acid, dissociable	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT
Zinc, total (as Zn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Once Per Permit Term	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Analysis is for the dissolved fraction.

Summary of Changes From Previous Permit

The RIBs coordinates were changed to reflect exact location behind facility: Lat 36.6089681, Long -114.4789963.

Outfall INF was added to measure the flow rate and quality of domestic sewage entering the plant to

determine actual treatment level achieved. The following parameters were added under the outfall:

Flow Rate, having a "Daily Maximum" base, a "0.0662 Million Gallons per Day (Mgal/d)" discharge monitoring rate, a "Raw Sewage Influent" monitoring location, a "Continuous" measurement frequency, and a "Meter" sample type. The daily maximum flow rate was based on the peak flow rate as provdie on the design criteria page of the O&M manual (46 gpm x 60 min/hr.) x 24 = 66,240 gpd.

Flow Rate, being a "30-Day Average" base, a "0.0265 Million Gallons per Day (Mgal/d)" discharge monitoring rate, a "Raw Sewage Influent" monitoring location, a "Continuous" measurement frequency, and a "Meter" sample type.

BOD, 5-day, having a “Daily Maximum” base, a “M&R Milligrams per Liter” concentration, a “Raw Sewage Influent” monitoring location, a “Monthly” measurement frequency, and a “Compos” sample type.

BOD, 5-day, having a “30-Day Average” base, a “M&R Milligrams per Liter” concentration, a “Raw Sewage Influent” monitoring location, a “Monthly” measurement frequency, and a “Compos” sample type.

Solids, Total Suspended, having a “Daily Maximum” base, a “M&R Milligrams per Liter” concentration, a “Raw Sewage Influent” monitoring location, a “Monthly” measurement frequency, and a “Compos” sample type.

Solids, Total Suspended, having a “30-Day Average” base, a “M&R Milligrams per Liter” concentration, a “Raw Sewage Influent” monitoring location, a “Monthly” measurement frequency, and a “Compos” sample type.

Along with the footnote:
1. Sampling for both BOD, 5-day and total suspended solids (TSS) should be done concurrently when effluent (Outfall 001) is sampled to determine exact percentages of removal achieved.

Profile 1 Pollutants of Concern were added to the Wastewater Treatment Plant Table for Outfall 001 along with the footnote:
1. Analysis is for the dissolved fraction.

Under Outfall 001, for a monthly reporting period, the following two parameters were added:

BOD5, 5day, percent removal, being a "Monthly Average Minimum" base, a "Greater than or equal to 85 Percent (%)", an "Effluent Gross" monitoring location, a "Monthly when discharging" measurement frequency, and a "Calctd" sample type.

TSS, percent removal, being a "Monthly Average Minimum" base, a "Greater than or equal to 85 Percent (%)", an "Effluent Gross" monitoring location, a "Monthly when discharging" measurement frequency, and a "Calctd" sample type.

Along with the footnote:
Sampling for both BOD, 5-day and total suspended solids (TSS) should be done concurrently when the influent (Outfall INF) is sampled to determine exact percentages of removal achieved.

The "Water level relative to mean sea level" parameter was added to the Monitoring Well Table for Outfalls MW1, MW2, and MW3 with a quarterly reporting schedule, with a "Daily Maximum" base, "M&R Feet" discharge limitation, a "Monitoring Well" location, a "Quarterly" measurement frequency, and a "Calctd" Sample Type.

Along with the footnotes:
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. Groundwater elevation above mean sea level (AMSL).

A new monitoring well outfall (MW4) was added with the following parameters:
Chloride, with a “Daily Maximum” base, a “M&R Milligrams per Liter (mg/L)” concentration, a “Groundwater” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

Depth to water level ft below land surface, with a “Daily Minimum” base, a “M&R Feet (ft)” quantity, a “Groundwater” monitoring location, a “Quarterly” measurement frequency, and a “Insitu” sample type.

Nitrogen, total, with a “Daily Maximum” base, a “Less than or Equal to (<=)10 Milligrams per Liter (mg/L)” concentration, a “Groundwater” monitoring location, a “Quarterly” measurement frequency, and a “Discrt” sample type.

pH, with a “Value” base, a “M&R Standard Units (SU)” concentration, a “Groundwater” monitoring location, a “Quarterly” measurement location, and a “Discrt” sample type.

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

Water level relative to mean sea level, with a “Daily Maximum” base, a “M&R Feet (ft), a “Groundwater” monitoring location, a “Quarterly” measurement frequency, and a “Calctd” sample type.

Along with the footnotes:
1. If the monitoring well is found to be dry during the reporting period, report as "Dry" on the DMR for this outfall.
2. Groundwater elevation.
3. Groundwater elevation above mean sea level (AMSL).

Technology Based Effluent Limitations were updated based on the EPA's secondary treatment standards.

The Basis for Effluent Limitations was added to provide an expanded explanation of the EPA's secondary treatment standards, and associated monitoring requirements based on parameter, being for BOD, 5-day, pH, TSS, and the Profile 1 Pollutants.

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 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.

U.S. EPA published federal secondary treatment standards at 40 CFR 133 based on an evaluation of performance data for POTWs, which has been consistently applied to both public and privately owned treatment facilities for constant administation, practicing a combination of physical and biological treatment. Performance is measured by monitoring biodegradable organics and suspended solids in the effluent, and the ability to maintain pH. Federal secondary treatment standards are defined under 40 CFR 133 for maximum BOD5 as a 30-day average of 30 mg/L and a 7-day average of 45 mg/L and for maximum TSS as a 30-day average of 30 mg/L and a 7-day average of 45 mg/L. In addition to describing the minimum levels of effluent quality attainable by secondary treatment, 40 CFR 133.102 states that the 30-day average percent removal of BOD5 and TSS shall not be less than 85%. The Division has adopted these standards for groundwater dischargers and applied the 7-day average thresholds as daily maximum effluent limits for BOD5 and TSS.

The following performance standards for POTWs with secondary treatment standards have been included in the permit:

BOD5: 30-day average limit: <= 30 mg/L; Daily maximum limit: <= 45 mg/L.

TSS: 30-day average limit: <= 30 mg/L; Daily maximum limit: <= 45 mg/L.

pH: Daily Maximum: <= 9.0 Standard Units

pH: Daily Minimum >=6.0 Standard Units

Limits Based on Secondary Treatment Standards:
BOD5 Percent removal: >= 85 percent (%).

TSS: Percent removal: >= 85 percent (%).

The permit establishes a daily maximum effluent limit for total nitrogen (as N) of 10 mg/L based on the facility's design criteria review. The previous permit included a 30-day average limit of 10 mg/L for total nitrogen; however, in staying consist with other permitted facilities, the Division has changed the 30-day average limit to monitor and report and established a daily maximum limit of 10 mg/L.

Limits Based on Facility's Design Criteria Review:
30-day average flow rate for the domestic sewage (influent) is limited to <= 0.0265 Mgal/d.

Daily maximum flow rate for domestic sewage (influent) is limited to <= 0.0662 Mgal/d.

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 Nevada Revised Statutes (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 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.”

Detection monitoring is the first phase of a groundwater monitoring program. Under this phase, facilities monitor groundwater to detect and characterize any releases of hazardous constituents into the uppermost aquifer. Samples are taken from the monitoring wells and analyzed for specific indicator parameters and any other waste constituents or reaction products that indicate that a release might have occurred, to allow for the continued evaluation of the performance of the onsite wastewater treatment system, detecting potential groundwater contamination, and ensuring compliance with environmental regulations.

Influent and Effluent Monitoring Requirements:
Monthly influent and effluent monitoring for BOD5 and TSS are included to assess the treatment performance of VHWWTF. A monthly sampling frequency for BOD5 and TSS is sufficient for determining compliance with the applicable effluent limitations. The recent removal requirements for BOD5 and TSS are established in the permit as monthly average minimums of 85%, based on secondary treatment standards.

Some wastewater treatment processes can increase or decrease wastewater pH; therefore, monthly 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.

Other Required Water Quality Monitoring:
The requirement to monitor the effluent for 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. 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.

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 Nevada Revised Statute (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 of 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 treated wastewater discharged within the compliance limits of the proposed permit.

Special Conditions
There are no Special Approvals/Conditions associated with this permit.

SA – Special Approvals / Conditions Table

Item #	Description
1	The proposed monitoring well (Outfall MW4) plan is due 90 days from the issuance date of the permit.
2	The proposed monitoring well (Outfall MW4) needs to be completed within six (6) months from the issuance date of the permit.

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

Corrective Action Sites
There is one Bureau of Correction Actions (BCA) remediation site within the one-mile radial allowance from the facility. The site (8-001067) had a confirmed release of diesel from an underground storage tank in 2023. It is not anticipated that the discharge of treated wastewater at the VHWWTF will negatively affect the active BCA 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 (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 and be wet stamped and prepared by a licensed, qualified Nevada engineer (P.E.).	10/1/2025
2	The Permittee shall submit a nitrogen reduction plan detailing the process by which the facility will maintain an effluent total nitrogen level within the permitted daily maximum of 10.0 mg/L.	7/1/2026
3	If total nitrogen has not remained below the permitted daily maximum of 10.0 mg/L for one year, the existing, or new, monitoring wells must be drilled to a depth at which groundwater can be sampled.	7/1/2026

Deliverable Schedule:

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly Reports	Quarterly	10/28/2025
2	Annual Reports	Annually	1/28/2026

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. **6/9/2025,** 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: **5/2/2025**
Title: **Staff II Engineer**