



**FACTSHEET**  
**(pursuant to NAC 445A.236)**

**Permittee Name:** CLARK COUNTY WATER RECLAMATION DISTRICT

5857 E FLAMINGO RD  
LAS VEGAS, NV 89122

**Permit Number:** NS0050025

**Permit Type:** GROUNDWATER DISCHARGE

**Designation:** GROUNDWATER

**New/Existing:** EXISTING

**Location:** MOAPA VALLEY WASTEWATER TREATMENT PLANT, CLARK  
1403 LEWIS AVENUE, OVERTON, NV 89040  
LATITUDE: 36.531667, LONGITUDE: -114.416389  
TOWNSHIP: 16 S, RANGE: 68 E, SECTION: 20

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	INFLUENT	Internal Outfall		36.533133	-114.411122	GROUNDWATER
002	EFFLUENT	External Outfall		36.533666	-114.414657	GROUNDWATER
003	UPGRADIENT MONITORING WELL MW-A	Monitoring Well		36.534639	-114.410764	GROUNDWATER
004	DOWNGRADIENT MONITORING WELL MW-B	Monitoring Well		36.534436	-114.416397	GROUNDWATER
005	DOWNGRADIENT MONITORING WELL MW-C	Monitoring Well		36.533166	-114.416393	GROUNDWATER

**Permit History/Description of Proposed Action**

The Permittee, Clark County Water Reclamation District, has applied for the renewal of Permit NS0050025 for the Moapa Valley Wastewater Treatment Plant (WWTP), at 1403 E. Lewis Avenue, located two miles east of the town of Overton, being within Clark County, Nevada. The Permittee proposes to continue discharging secondary-treated, denitrified wastewater to rapid infiltration basins (RIBs) located onsite.

This permit was first issued June 18, 1999. The most recent permit was issued on July 1, 2016, and expired on June 30, 2021; the permit has been administratively continued since.

**Facility Overview**

Moapa Valley WWTP serves approximately 690 residential, 57 commercial, and 7 governmental connections. Wastewater is collected and pumped from the Lewis Lane lift station to the treatment facility. Flow is monitored continuously with a flow meter. The Moapa Valley WWTP is a mechanical treatment facility, utilizing the activated sludge 5-Stage Bardenpho process to produce secondary-treated, denitrified effluent that is discharged to three RIBs. The facility can treat up to 0.75 million gallons per day (Mgal/d), based on the 30-day average.

The Bardenpho process modifies the conventional activated sludge process to enhance biological nutrient removal. The process is made up of the following steps:

**Anaerobic (No Oxygen, No Nitrate):** In this first zone, Polyphosphate Accumulating Organisms (PAOs) (phosphorus-accumulating bacteria) are stressed to release stored phosphorus into the wastewater. This is a crucial step in preparing for biological phosphorus removal.

**Anoxic 1 (No Oxygen, With Nitrate):** The water moves to an anoxic zone where microorganisms utilize nitrates (from the aerobic stage) and dissolved organic matter as an energy source to convert nitrates into harmless nitrogen gas. This is the first stage of denitrification.

**Aerobic 1 (With Oxygen):** This stage provides the oxygen necessary for the microorganisms to convert ammonia into nitrates (nitrification). It also removes Biochemical Oxygen Demand (BOD).

**Anoxic 2 (No Oxygen, With Nitrate):** A second anoxic zone further enhances nitrogen removal by allowing for more denitrification.

**Aerobic 2 (With Oxygen):** The final aerobic stage ensures complete nitrification and removes any remaining organic matter.

**Secondary Clarifier:** After the five stages, the mixture of treated water and microorganisms goes to a secondary clarifier, where the activated sludge settles out.

**Clarified Effluent:** The treated water is then discharged to the RIBs.

**Return Activated Sludge (RAS):** A portion of the settled activated sludge from the secondary clarifier is returned to the beginning of the secondary treatment process to maintain a sufficient concentration of microorganisms for nutrient removal.

Groundwater at the facility is monitored by three monitoring wells for any potential impacts associated with operations. Monitoring well MW-A is upgradient of the plant and wells MW-B and MW-C are downgradient of rapid infiltration basins, D, E, and F. The monitoring wells are sampled quarterly.

### **Outfall Summary**

Outfall 001 - This internal outfall is for raw sewage (influent) entering the facility.

Outfall 002 - This external outfall is for monitoring the effluent being discharged into the RIBs.

Outfall 003 - This outfall is for a monitoring well (MW-A) which is located upgradient from the Moapa Valley WWTP.

Outfall 004 - This outfall is for a monitoring well (MW-B) which is located downgradient from the RIBs.

Outfall 005 - This outfall is for a monitoring well (MW-C) which is located downgradient from the RIBs.

### **Facility Upgrades since last issued permit**

There have been no significant improvements made to the facility since the previous permit renewal.

### **Solids Handling**

Sludge management is accomplished at the Moapa Valley WWTP by pumping the sludge through a Sludge Dewatering Geotextile Tube. These permeable, geotextile tubes offer efficient dewatering while containing fine grained solids. Once the Sludge Dewatering Geotextile Tube is exhausted, the tube is allowed to continue drying for a period of time before the biosolids are hauled off to the Republic Services Apex Landfill.

### **Effluent Management and Reuse**

The Moapa Valley WWTP discharges secondary-treated, denitrified wastewater is discharged into the RIBs for infiltration into the groundwater.

### **Design Flow (and basis) and Measurement & Current Capacity**

The Moapa Valley WWTP was designed with a 30-day average flow rate of 0.75 Mgal/d.

There were no flow rate reporting requirements in place, during the previous permit cycle, for Outfall 002 (Effluent), so there are no current flow rate numbers for that outfall. A reporting requirement has been added to this outfall based on a "Monitor and Report (M&R) Million Gallons per Day (Mgal)" discharge limitation parameter as stated under the permit.

The reported long-term average flow rate for Outfall 001 (Influent) was 0.16 Mgal/d, while reported daily maximum influent flow rate for Outfall 001 was 0.18 Mgal/d. There were no reported exceedances to this limit. Based on these rates, the plant is estimated to be at approximately 21% capacity.

### **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 Moapa Valley WWTP's O&M Manual was last reviewed and approved on August 15, 2016. The Technical, Compliance, and Enforcement Branch of the Bureau of Water Pollution Control requires O&M Manuals to be updated every ten (10) years. with an updated O&M Manual due on August 15, 2026.

### **Effluent Characterization**

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from July 2020 to June 2025, was reviewed as part of this permit renewal process. The Moapa Valley WWTP discharges secondary-treated, denitrified wastewater to the RIBs.

The following reported averages were taken from July 2020 to June 2025 reporting period:

#### Abbreviations:

BOD5 – Biochemical Oxygen Demand, 5-day  
 Depth – Depth to water level feet below land surface  
 TDS – Total Dissolved Solids  
 TSS – Total Suspended Solids  
 Water Level - Water level relative to mean sea level  
 mg/L – Milligrams per Liter  
 Mgal/d – Million Gallons per Day  
 S.U. – Standard Units

#### Outfall 001 (Influent):

BOD5: 185 mg/L  
 Flow Rate: 0.18 Mgal/d  
 TSS: 292 mg/L

#### Outfall 002 (Effluent):

BOD5: 6.32 mg/L  
 Nitrogen: 4.96 mg/L  
 pH: 7.75 S.U.  
 TSS: 4.96 mg/L

#### Outfall 003 (upgradient Monitoring Well MW-A):

Chloride: 305 mg/L  
 Depth: 74.35 Feet  
 Nitrogen: 7.31 mg/L

TDS: 2,671 mg/L\*  
Water Level: 17.73 Feet

Outfall 004 (downgradient Monitoring Well MW-B):  
Chloride: 266 mg/L  
Depth: 25.36 Feet  
Nitrogen: 6.73 mg/L  
TDS: 2,352 mg/L\*  
Water Level: 12.35 Feet

Outfall 005 (downgradient Monitoring Well MW-C):  
Chloride: 252.4 mg/L  
Depth: 36.29 Feet  
Nitrogen: 4.98 mg/L  
TDS: 2,325 mg/L\*  
Water Level: 12.03 Feet

The average percentage rate of removal for both BOD5 and TSS after treatment was approximately 97%.

Note: A review of information found that the high levels of TDS near Overton, and the Moapa Valley area, were caused by a combination of natural geology in the Muddy Creek basin and human activity, particularly irrigation runoff, with the Nevada 2020-2022 Water Quality Integrated Report stating that it is “*a common impairment in the Colorado and Humboldt River Regions*”, with the Muddy River being a part of the Colorado River system. The region's dry climate also exacerbates the issue by increasing evaporation, which concentrates salt(s). It was determined that the high levels of TDS reported were not caused by the Moapa Valley WWTP. Along with evidence showing that the WWTP isn't causing the TDS issues in the groundwater based on the concentration of TDS being higher in the upgradient well than the downgradient wells.

### **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 for wastewater treatment plants are BOD5, Chloride, Nitrogen, pH, along with potential inorganic chemicals and analytes.

### **Receiving Water**

The receiving water is groundwater of the State. Groundwater monitoring is required to ensure groundwaters of the State are protected. Average depth to groundwater is 28 feet at the two downgradient wells (MW-B and MW-C) and 74 feet near the upgradient monitoring well (MW-A).

### **Compliance History**

The Moapa Valley WWTP has been in compliance during the years reviewed (July 2020-June 2025) with the exception of late reporting to the NetDMR database. Information gathered from the database for the timeframe reviewed was found to update and complete.

### **Proposed Effluent Limitations**

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

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

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, 5-day	Monthly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
BOD, 5-day	Weekly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Solids, total suspended	Monthly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Solids, total suspended	Weekly Average		M&R Milligrams per Liter (mg/L)	Raw Sewage Influent	001	Monthly	COMPOS
Flow rate	30 Day Average	<= 0.75 Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER

### WWTP Discharge Limitations Table for Sample Location 002 (Effluent - External Outfall) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, 5-day	Monthly Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
BOD, 5-day	Weekly Average		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	CALCTD
pH, minimum	Daily Minimum		>= 6 Standard Units (SU)	Effluent Gross	002	Monthly	GRAB
pH, maximum	Daily Maximum		<= 9 Standard Units (SU)	Effluent Gross	002	Monthly	GRAB
Solids, total suspended	Monthly Average		<= 30 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
Solids, total suspended	Weekly Average		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	COMPOS
BOD, 5-day, percent removal	Monthly Average Minimum <sup>[1]</sup>		>= 85 Percent (%)	Effluent Gross	002	Monthly	CALCTD
Solids, suspended percent removal	Monthly Average Minimum <sup>[1]</sup>		>= 85 Percent (%)	Effluent Gross	002	Monthly	CALCTD

#### Notes (WWTP Discharge Limitations Table):

- Both BOD5 and TSS treated effluent should be sampled concurrently when the influent is done to determine the actual percentage of removal rates being achieved by the facility.

**WWTP Discharge Limitations Table for Sample Location 002 (Effluent - External Outfall) To Be Reported Once During The Permit Term**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Alkalinity, bicarbonate (as CaCO <sub>3</sub> )	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO <sub>3</sub> )	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Aluminum, dissolved (as Al)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Antimony, dissolved (as Sb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Arsenic, dissolved (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Barium, dissolved (as Ba)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Beryllium, dissolved (as Be)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Cadmium, dissolved (as Cd)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Calcium, dissolved (as Ca)	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, dissolved (as Cr)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
			M&R				

**WWTP Discharge Limitations Table for Sample Location 002 (Effluent - External Outfall) To Be Reported Once During The Permit Term**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Copper, dissolved (as Cu)	Daily Maximum		Milligrams per Liter (mg/L)	Effluent Gross	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, dissolved (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Lead, dissolved (as Pb)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Magnesium, dissolved (as Mg)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Manganese, dissolved (as Mn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Mercury, dissolved (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
Potassium, dissolved (as K)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Selenium, dissolved [as Se]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Silver, dissolved (as Ag)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
			M&R				

**WWTP Discharge Limitations Table for Sample Location 002 (Effluent - External Outfall) To Be Reported Once During The Permit Term**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Sodium, dissolved (as Na)	Daily Maximum		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, dissolved (as Tl)	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
Cyanide, free available	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Zinc, dissolved (as Zn)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT

**Groundwater Monitoring Wells Table for Sample Location 003 (Upgradient Monitoring Well - Mw-A) To Be Reported Quarterly**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	003	Quarterly	VISUAL <sup>[2]</sup>
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	CALCTD
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	003	Quarterly	DISCRT
Water level relative to mean sea level <sup>[3]</sup>	Daily Maximum	M&R Feet (ft)		Groundwater	003	Quarterly	CALCTD

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater (ft).
2. Field measurement.
3. Groundwater elevation above mean sea level (AMSL).

**Groundwater Monitoring Wells Table for Sample Location 004 (Downgradient Monitoring Well - Mw-B) To Be Reported Quarterly**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Chloride (as Cl)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	004	Quarterly	DISCRT
Depth to water level ft below landsurface <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	004	Quarterly	VISUAL <sup>[2]</sup>
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	004	Quarterly	CALCTD
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	004	Quarterly	DISCRT
Water level relative to mean sea level <sup>[3]</sup>	Daily Maximum	M&R Feet (ft)		Groundwater	004	Quarterly	CALCTD

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater (ft).
2. Field measurement.
3. Groundwater elevation above mean sea level (AMSL).

**Groundwater Monitoring Wells Table for Sample Location 005 (Downgradient Monitoring Well - Mw-C) To Be Reported Quarterly**

Parameter	Discharge Limitations			Monitoring Requirements			
	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 <sup>[1]</sup>	Daily Minimum	M&R Feet (ft)		Groundwater	005	Quarterly	VISUAL <sup>[2]</sup>
Nitrogen, total	Daily Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	CALCTD
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Water level relative to mean sea level <sup>[3]</sup>	Daily Maximum	M&R Feet (ft)		Groundwater	005	Quarterly	CALCTD

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater (ft).
2. Field measurement.
3. Groundwater elevation above mean sea level (AMSL).

**Summary of Changes From Previous Permit**

Under Outfall 001 (Influent) the following revisions were made:

CHANGED: BOD, 5-day, with a “Monthly Maximum” Base was revised to a “Weekly Average” Base, all other discharge limitations and monitoring requirements remain the same.

CHANGED: Solids, total suspended, with a “Monthly Maximum” Base was revised to a “Weekly Average” Base, all other discharging limitations and monitoring requirements remain the same.

Under Outfall 002 (Effluent) the following revisions, additions, or deletions were made:

CHANGED: BOD, 5-day, with a “Monthly Maximum” Base was revised to a “Weekly Average” Base, all other monitoring requirements remain the same.

CHANGED: Solids, total suspended, with a “Monthly Maximum” Base was revised to a “Weekly Average” Base, all other discharge limitations and monitoring requirements remain the same.

CHANGED: pH, maximum, with a “Monthly Maximum” Base, to a “Daily Maximum” Base, all other discharge limitations and monitoring requirements remain the same.

CHANGED: pH, minimum, with a “Monthly Minimum” Base, to a “Daily Minimum” Base, all other discharge limitations and monitoring requirements remain the same.

ADDED: BOD, 5-day, percent removal, with a "Monthly Average Minimum" Base, an " $\geq 85$  Percent (%)" Concentration, an "Effluent Gross" Monitoring Location, a "002" Sample Location, a "Monthly" Measurement Frequency, and "Calctd" Sample Type.

ADDED: Solids, suspended percent removal, with a "Monthly Average Minimum" Base, an " $\geq 85$  Percent (%)" Concentration, an "Effluent Gross" Monitoring Location, a "002" Sample Location, a "Monthly" Measurement Frequency, and "Calctd" Sample Type.

DELETED: Nitrogen, total, with a "Monthly Average" Base, an "M&R Milligrams per Liter (mg/L)" Concentration, a "Effluent Gross" Monitoring Location, a "002" Sample Location, a "Monthly" Measurement Frequency, and a "Calctd" Sample Type.

Under Outfall 002 (Effluent) Analytes of concern were added for a "Once during Permit Term" reporting requirement.

With the following footnote:

1. Analysis shall be for the dissolved fraction.

Under Outfalls 003 (MW-A), 004 (MW-B), and 004 (MW-C) the following revision was done.

Footnote 2 was revised to read as stated below:

2. Groundwater elevation above the mean sea level (AMSL).

### **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 practicing a combination of physical and biological treatment. Performance is measured by monitoring biodegradable organics, suspended solids in the effluent, and ensuring pH remains within regulatory limits. 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 discharges from treatment facilities, and has applied the same 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: Monthly average limit:  $\leq 30$  mg/L; Daily maximum limit:  $\leq 45$  mg/L.

TSS: Monthly average limit:  $\leq 30$  mg/L; Daily maximum limit:  $\leq 45$  mg/L.

pH: Daily Maximum:  $\leq 9.0$  Standard Units

pH: Daily Minimum  $\geq 6.0$  Standard Units

Limits Based on Secondary Treatment Standards:

BOD5 Percent removal:  $\geq 85$  percent.

TSS: Percent removal:  $\geq 85$  percent.

Limits Based on Facility's Design Criteria Review:

30-day average flow rate for influent is limited to  $\leq 0.75$  Mgal/d.

Daily maximum flow rate for influent being based on a monitor and report limit  $\leq M\&R$  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 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 requirement to monitor the effluent for pollutants of concern 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 is not expected to be present in the effluent, the permit requires the Permittee to sample these constituents once per term because they are included in the pollutants of concern list and have not been previously tested.

The constituents listed 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."

### **Influent and Effluent Monitoring Requirements:**

Monthly influent and effluent monitoring for BOD5 and TSS are included to assess the treatment performance of the Moapa Valley WWTP. A monthly sampling frequency for BOD5 and TSS is sufficient for determining compliance with the applicable effluent limitations. Percent 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.

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

Treatment plant parameters for BOD5, TSS, total nitrogen and pH are typically required to be monitored by all wastewater treatment facilities. Limits are based on Secondary Treatment standards and used to assess the performance of the publicly owned treatment works.

Monitoring wells parameters for depth to water level, chloride, total nitrogen, and TDS are typically monitored at all facilities required to monitor groundwater. Limits are based on standard Division monitoring requirements.

### **Anti-backsliding**

None of the proposed permit limits were changed to a less restrictive limit compared to those in the previous permit, with the exception of the monthly average for total nitrogen. This reporting parameter was removed to allow for consistency with current Division permit requirements along with previous reported concentrations consistently being below the current allowable limit for total nitrogen (10 mg/L).

**Antidegradation**

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

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

**Special Conditions**

There are no applicable special approvals/conditions for this permit.

SA – Special Approvals / Conditions Table

Item #	Description
1	Under B.MW.3. Increasing concentrations of total nitrogen as nitrogen (N) in groundwater samples invoke the following response requirements are only be applicable to those groundwater monitoring wells that are downgradient of the treatment plant, specifically Monitoring Wells MW-B and MW-C.
2	Section C.9. is not applicable and any additional solids, sludge, filter backwash or other pollutant management shall be addressed under the O&M Manual and/or through the acquiring of the applicable permit.

**Discharges From Future Outfalls/ Planned Facility Changes**

There are no planned discharges to future outfalls or facility changes.

**Corrective Action Sites**

There are no Bureau of Corrective Actions (BCA) remediation sites within a one-mile radius of the Moapa Valley WWTP.

**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, WTS-2 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 professional engineer (P.E.).	8/15/2026

**Deliverable Schedule:**

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	7/28/2026
2	Annual Report	Annually	1/28/2027

**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. **3/23/2026**, 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:**

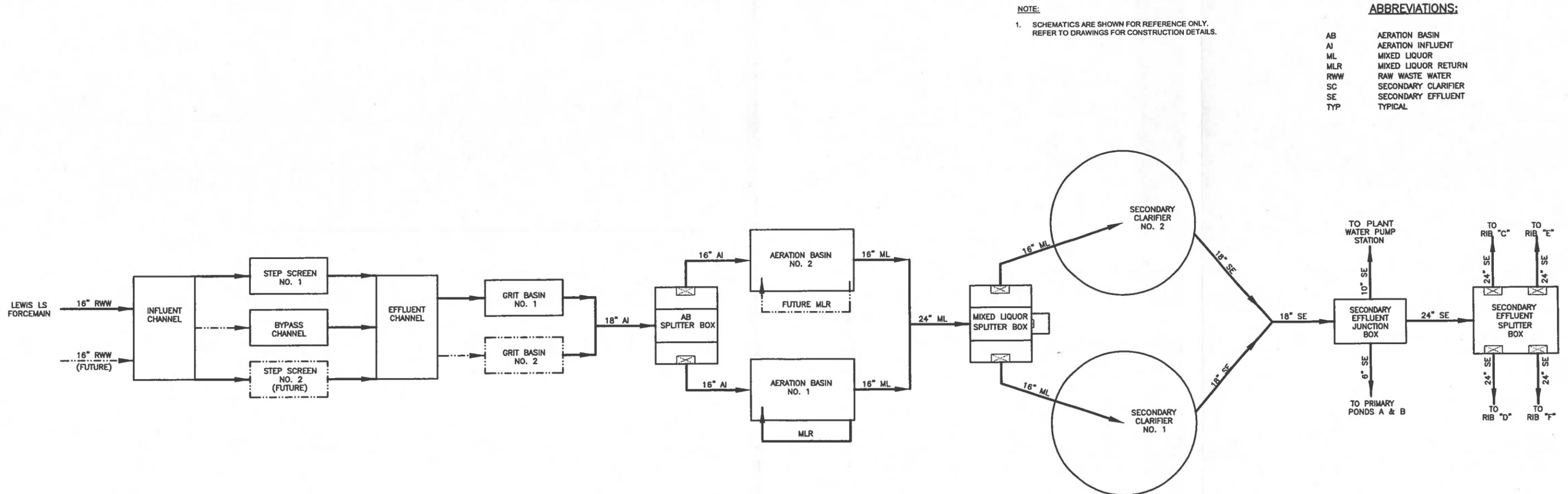
The Division has made the tentative determination to issue/re-issue the proposed 5-year permit.

Prepared by: **Melissa Hanson**

Date: **2/12/2026**

Title: **Staff II Engineer**

Last Saved By: SMF\_DENL 5-20-10 08:50am



**NOTE:**  
 1. SCHEMATICS ARE SHOWN FOR REFERENCE ONLY.  
 REFER TO DRAWINGS FOR CONSTRUCTION DETAILS.

**ABBREVIATIONS:**

AB	AERATION BASIN
AI	AERATION INFLUENT
ML	MIXED LIQUOR
MLR	MIXED LIQUOR RETURN
RWW	RAW WASTE WATER
SC	SECONDARY CLARIFIER
SE	SECONDARY EFFLUENT
TYP	TYPICAL

LIQUID FLOW SCHEMATIC  
 FIGURE 1.6

CLARK COUNTY WATER RECLAMATION DISTRICT  
 MOAPA VALLEY WATER RESOURCE CENTER

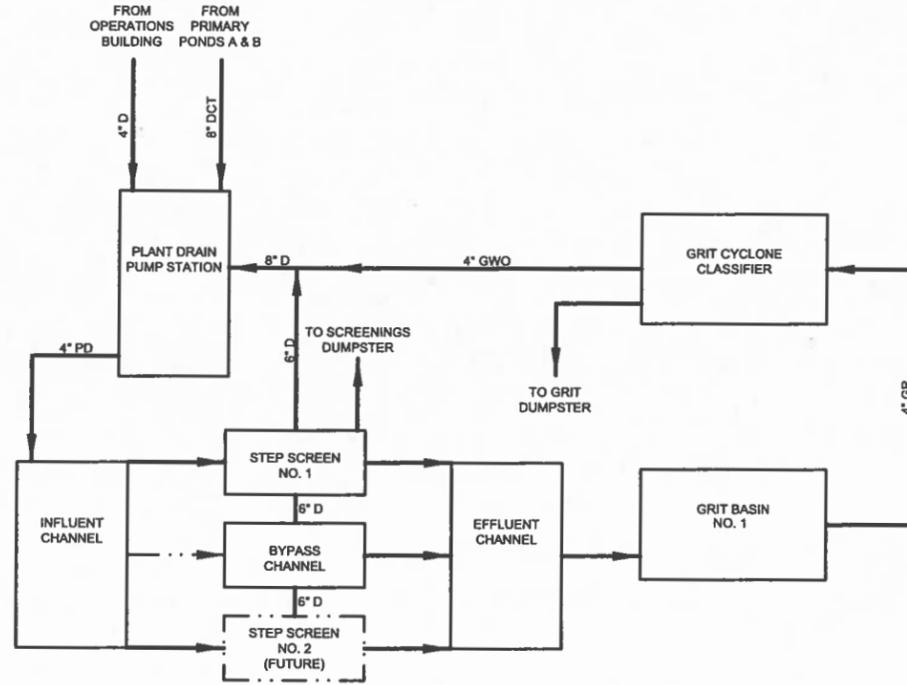


**NOTE:**

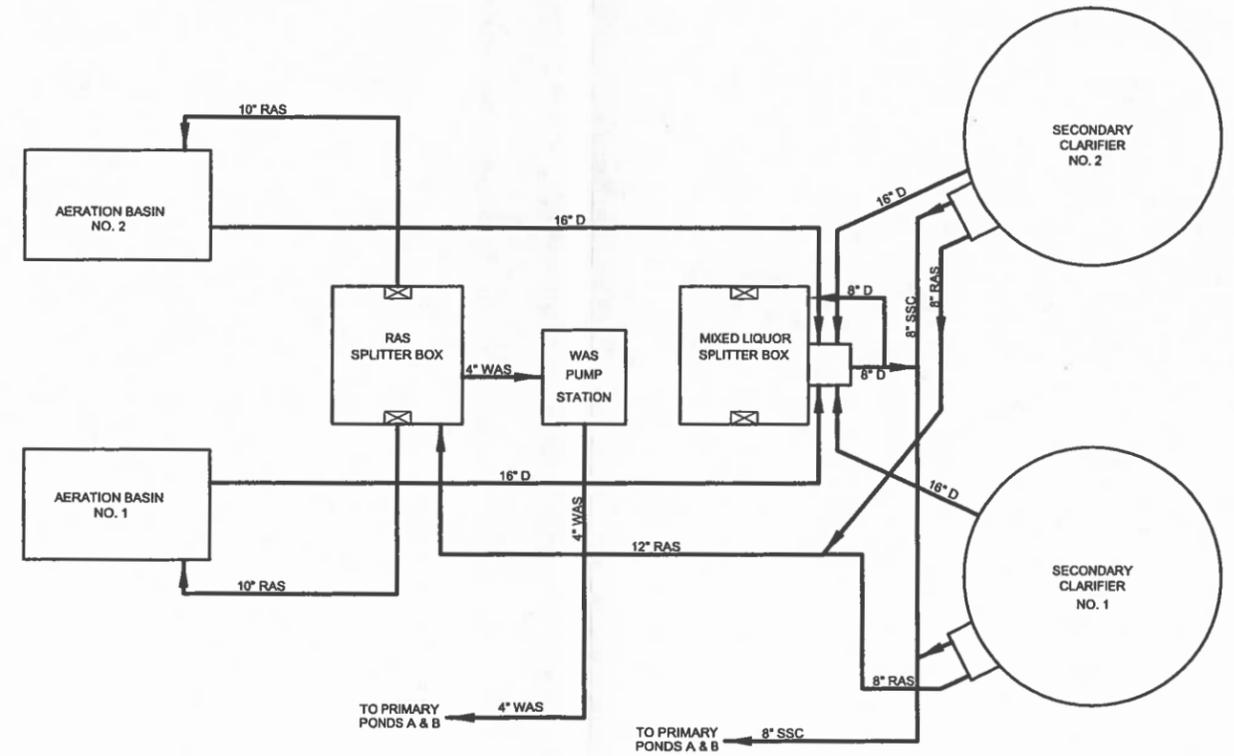
1. SCHEMATICS ARE SHOWN FOR REFERENCE ONLY. REFER TO DRAWINGS FOR CONSTRUCTION DETAILS.

**ABBREVIATIONS:**

D, DCT	DRAIN
GR	GRIT
GWO	GRIT WASHER OVERFLOW
PD	PUMPED DRAIN
RAS	RETURN ACTIVATED SLUDGE
SSC	SECONDARY SCUM
WAS	WASTE ACTIVATED SLUDGE



PRELIMINARY TREATMENT



SECONDARY TREATMENT

**SOLIDS FLOW SCHEMATIC**

**FIGURE 1.7**

CLARK COUNTY WATER RECLAMATION DISTRICT  
MOAPA VALLEY WATER RESOURCE CENTER

