



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: TOPAZ LODGE INCORPORATED
1979 HIGHWAY 395 SOUTH
GARDNERVILLE, NV 89410

Permit Number: NS0050003

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: TOPAZ LODGE WASTEWATER TREATMENT PLANT, DOUGLAS
1979 HIGHWAY 395 SOUTH, GARDNERVILLE, NV 89410
LATITUDE: 38.6950, LONGITUDE: -119.546389
TOWNSHIP: 10 N, RANGE: 22 E, SECTION: 29

| Outfall / Well Num | Outfall / Well Name | Location Type | Well Log Num | Latitude | Longitude | Receiving Water |
|--------------------|--------------------------------------|------------------|--------------|-------------|-------------|-----------------|
| 001 | INFLUENT | Internal Outfall | | 38.6950 | -119.546389 | NOT APPLICABLE |
| 002 | EFFLUENT TO LEACH FIELDS | External Outfall | | 38.6950 | -119.546389 | GROUNDWATER |
| 003 | DOWNGRADIENT MONITORING WELL - MW-1A | Monitoring Well | | 38.69643780 | -119.547124 | GROUNDWATER |
| 004 | DOWNGRADIENT MONITORING WELL - MW-2 | Monitoring Well | | 38.69953730 | -119.547117 | GROUNDWATER |
| 005 | UPGRADIENT MONITORING WELL - MW-3 | Monitoring Well | | 38.697001 | -119.546912 | GROUNDWATER |

Permit History/Description of Proposed Action

The Permittee, Topaz Lodge Inc., has applied for the renewal of Permit NS0050003 for their wastewater treatment plant (WWTP), located at 1979 Highway 395 South, in Topaz Lake, being within Douglas County, Nevada. The Permittee proposes to continue discharging denitrified treated effluent to a leach field located onsite.

This permit was first issued on March 16, 1993. The most recent permit was issued on June 1, 2017, and expired on May 31, 2022; the permit has been administratively continued since.

Facility Overview

The WWTP provides tertiary sewage treatment for the Topaz Lodge and Casino. The lodge consists of 103 hotel rooms, three restaurants, a casino, and a year-round 59-space RV park. In 1985, Topaz Lodge had purchased a 0.025 Mgal/d capacity DAVCO Defiance wastewater treatment package plant from the Anaconda Copper Co. Mining Operation (Weed Heights, Yerington). The package plant was relocated to the Topaz Lodge site and now discharges denitrified effluent into the Topaz Lodge's leach field.

The Topaz Lodge WWTP utilizes a 25,000-gallon DAVCO™ package wastewater treatment system equipped with two 10,000-gallon flow equalization tanks, resulting in a maximum plant capacity of 0.035 million gallons per day (MGD). The additional capacity was required to handle peak flows during high-occupancy periods (i.e., holiday weekends). The influent is stored in the tank and gravity fed into the treatment plant during low-flow periods.

Currently, the Topaz Lodge's WWTP consists of two 10,000-gallon equalization tanks, an extended aeration tank with an activated sludge holding compartment, a secondary clarifier, a chlorine disinfection unit, and a denitrification media filter. Methanol is added to the denitrification process stream to serve as a carbon source for nitrogen consuming bacteria. The denitrified effluent is discharged to an open tank equipped with a bubble diffuser to volatilize some of the residual methanol. Effluent is then discharged to groundwater via percolation in a leach field through five parallel distribution trenches. The effluent flow to the leach field is measured and recorded.

Sewage enters the headworks at the treatment plant site. The headworks has a complex flow equalization structure which can be adjusted by a single ball valve. By partially closing the valve, sewage is diverted and bypassed to the main equalization (EQ) basin.

This open tank is equipped with a grinder pump that starts and stops according to the level in the tank. If the tank level is low, the pump will turn off and remain off until the upper float is reached and the pump starts again.

The EQ grinder pump discharges back to the headworks bypass structure through a one inch line. If sewage flows are too high to allow all of the sewage to enter the treatment plant aeration tank, the excess flow will again be bypassed back to the EQ basin. The EQ basin will continue to rise if flows exceed the amount that can pass through the manually adjusted ball valve. During the summer months, and especially during holiday periods, sewage flows can exceed the treatment plants capacity for a prolonged period. A second EQ basin runs parallel to the first basin and is connected by a high-level overflow pipe. The secondary EQ basin will receive the excess sewage flow until the level drops in the primary EQ basin.

When sewage flows return to normal, the primary and secondary EQ basins which are connected by a pipe at the bottom of both tanks, and by opening a valve allows both tanks to equalize, and over time the EQ pump will drain both tanks to low level. In the event of an EQ pump failure, the headworks is equipped with a high-level overflow that allows sewage to go directly to the aeration basin.

Aeration and Anoxic Basin Operation

Equalized sewage enters the aeration basin and flows through to the clarifier. The aeration basin is equipped with two main blowers and an additional blower/header system for higher flows. Sewage flows entering the aeration basin are normally adjusted (manual EQ ball valve) for summer and winter flow rates. Aeration is also adjusted for the seasonal difference. Nitrogen removal is accomplished by two methods. Return activated sludge (RAS) flows from the clarifier can either be returned to the head end of the aeration basin or pumped to an anoxic basin. The anoxic basin has a dual purpose in the nitrogen removal and excess biosolids storage are accomplished in the single basin. The stored solids are thickened and hauled away by a septic hauler. The anoxic basin is located at the head end of the treatment plant. When in use, overflow from the anoxic basin (only receives RAS flows) is piped to the main aeration basin where raw sewage and activated sludge are mixed for proper treatment. The second method used for nitrogen removal is on/off aeration. By cycling the blower operation, anoxic conditions are created, allowing nitrate nitrogen to be converted to nitrogen gas. Under low flow conditions, the use of on/off aeration and infrequent use of the anoxic basin is sufficient to lower nitrate levels to less than 10 mg/l.

Secondary Clarifier and Denitrification Upflow Filter

Activated sludge from the aeration basin flows into the secondary clarifier where biosolids are allowed to settle. Settled activated solids are pumped back to the aeration basin and/or anoxic basin to provide additional treatment. The clear supernatant or treated effluent is piped to the denitrification upflow filters for further treatment.

Upflow Filters/Denitrification

Treated effluent from the clarifier is piped to the filter holding tank/backwash supply tank as needed. Methanol is fed to this location. This dual-purpose tank is equipped with a submersible pump that normally serves to pump the contents of the filter holding tank through the denitrification filter. Treated effluent is pumped up through the circular filter and discharges out of the top. Valves are used at the filter discharge to allow a portion of the recycle flows to return to the filter holding tank. As the level in the tank increases to the overflow, it is piped to a final process tank where fine bubble aeration strips away any excess methanol prior to discharge to the leachfield. The denitrification filter serves to further reduce nitrates. Methanol feed greatly enhances nitrogen removal but is expensive and is only employed when needed. Under normal conditions methanol can be cycled on for short periods with the beneficial results lasting for a period of time.

Effluent Pump & Leachfield

The plant is equipped with a small underground storage tank which acts as a wet well for the two pumps that lift the plant effluent to the high end of the leachfield distribution structure. The pumps are alternated manually and are controlled with conductance electrodes, which control the level in the underground tank. A high level alarm is part of the system if a pump failure occurs. The leachfield is equipped with distribution boxes at five different locations. These are alternated monthly to allow even distribution of effluent flows.

Monitoring Wells

There are three groundwater monitoring wells utilized by the Topaz Lodge to monitor potential impacts associated with their treatment operation with all three located north of the treatment plant and east of the Topaz Lodge. There are two topographically downgradient monitoring wells (MW-1 and MW-2) and one upgradient monitoring well (MW-3).

Outfall Summary

Outfall 001 - This internal outfall is for intake of domestic sewage into the WWTP located east of the lodge.

Outfall 002 - This external outfall is for the discharge of treated effluent into the leachfields located northeast of the WWTP.

Outfall 003 - This topographically downgradient monitoring well (MW-1A) outfall is for the monitoring of groundwater conditions north of the WWTP.

Outfall 004 - This topographically downgradient monitoring well (MW-2) outfall is for the monitoring of groundwater conditions north of the WWTP.

Outfall 005 - This topographically upgradient monitoring well (MW-3) outfall is located northeast of both the other two monitoring wells and the WWTP.

Facility Upgrades since last issued permit

There have been no facility upgrades since the last issued permit.

Solids Handling

The stored solids are thickened and hauled away by a septic hauler to a local landfill.

Effluent Management and Reuse

Denitrified, tertiary-treated effluent is discharged to an onsite leach field for percolation into the groundwater. There is no reuse.

Design Flow (and basis) and Measurement & Current Capacity

The long-term average discharge (effluent) flow rate for Outfall 002 was 0.014 Mgal/d, being permitted for 0.03 Mgal/d. The daily maximum discharge flow rate for Outfall 002 was 0.022 Mgal/d based on a permitted limit of 0.035 Mgal/d. There were no exceedances of the permitted flow rates.

Based on the reported flow rate numbers, the plant is at approximately 47% capacity.

Pretreatment Program

The Topaz Lodge WWTP 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 Topaz Lodge WWTP's Operation & Maintenance Manual (O&M Manual) was last reviewed and approved by the Division on February 23, 2018. The Technical, Compliance and Enforcement Branch of the BWPC requires O&M Manuals to be updated every ten (10) years from the time of the last approved O&M Manual, with an updated O&M Manual due on February 23, 2028.

Effluent Characterization

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from January 2020 to December 2025, was reviewed as part of this permit renewal process. The Topaz Lodge discharges secondary treated wastewater to evaporative ponds for disposal.

The following reported averages were taken from January 2020 to December 2025 reporting period:

Abbreviations:

BOD5 – Biochemical Oxygen Demand, 5-day
 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
 ug/L – Micrograms per Liter

Outfall 001 (Influent):

BOD5: 173.92 mg/L
 TSS: 144.67 mg/L

Outfall 002 (Effluent):

Flow Rate: 0.022 Mgal/d
 Arsenic: 8.66 ug/L
 BOD5: 10.04 mg/L
 Nitrogen: 3.39 mg/L
 pH: 7.87 S.U.
 TSS: 6.67 mg/L

Outfall 003 (Monitoring Well MW-1):

Arsenic: 17.21 ug/L
 Chloride: 41.08 mg/L
 Depth: 133.42 Feet
 Nitrogen: 3.58 mg/L
 TDS: 472.5 mg/L
 Water Level: 5,029 Feet

Outfall 004 (Monitoring Well MW-2):

Arsenic: 31.96 ug/L
 Chloride: 13.07 mg/L
 Depth: 138 Feet
 Nitrogen: 2.17 mg/L
 TDS: 274.17 mg/L
 Water Level: 5,027 Feet

Outfall 005 (Monitoring Well MW-3):

Arsenic: 26.01 ug/L
Chloride: 12.80 mg/L
Depth: 142.75 Feet
Nitrogen: 1.00 mg/L
TDS: 257.92 mg/L
Water Level: 5,037 Feet

The average rates of removal, after treatment, for BOD5 was 94%, while TSS was approximately 95%.

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 the treated wastewater are Arsenic, BOD5, Nitrogen, pH, TSS, along with potential inorganic chemicals and metals (Profile 1 contaminants).

Receiving Water

Receiving water is groundwater of the State.

Compliance History

The Permittee has been in compliance with the permit requirements.

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) To Be Reported Quarterly^[2]

| Discharge Limitations | | | | Monitoring Requirements | | | |
|-------------------------|-------------------|----------|---------------------------------|-------------------------|--------------------|-----------------------|-------------|
| Parameter | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| BOD, 5-day | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Raw Sewage Influent | 001 ^[1] | Quarterly | COMPOS |
| BOD, 5-day | Quarterly Average | | M&R Milligrams per Liter (mg/L) | Raw Sewage Influent | 001 | Quarterly | COMPOS |
| Solids, total suspended | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Raw Sewage Influent | 001 ^[1] | Quarterly | COMPOS |
| Solids, total suspended | Quarterly Average | | M&R Milligrams per Liter (mg/L) | Raw Sewage Influent | 001 | Quarterly | COMPOS |

Notes (WWTP Discharge Limitations Table):

1. Samples shall be taken at the point of introduction to the first equalization tank.
2. Sampling should be conducted concurrently when the effluent is sampled (Outfall 002) to determine the actual removal rates achieved for Biochemical Oxygen Demand, 5-Day (BOD5) and Total Suspended Solids (TSS).

WWTP Discharge Limitations Table for Sample Location 002 (Effluent To Leach Fields) To Be Reported Monthly

| Discharge Limitations | | | | Monitoring Requirements | | | |
|-----------------------|-------------------|---|---------------|-------------------------|------------|-----------------------|-------------|
| Parameter | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| Flow rate | Daily Maximum | <= 0.035 Million Gallons per Day (Mgal/d) | | Effluent Gross | 002 | Continuous | METER |
| Flow rate | 30 Day Average | <= 0.03 Million Gallons per Day (Mgal/d) | | Effluent Gross | 002 | Continuous | METER |

WWTP Discharge Limitations Table for Sample Location 002 (Effluent To Leach Fields) To Be Reported Quarterly^[2]

| Discharge Limitations | | | | Monitoring Requirements | | | |
|-----------------------------------|-------------------|----------|-----------------------------------|-------------------------|--------------------|-----------------------|-------------|
| Parameter | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| Arsenic, total (as As) | Daily Maximum | | <= 20 Micrograms per Liter (ug/L) | Effluent Gross | 002 ^[1] | Quarterly | DISCRT |
| BOD, 5-day | Daily Maximum | | <= 45 Milligrams per Liter (mg/L) | Effluent Gross | 002 ^[1] | Quarterly | COMPOS |
| BOD, 5-day | Quarterly Average | | <= 30 Milligrams per Liter (mg/L) | Effluent Gross | 002 ^[1] | Quarterly | COMPOS |
| Nitrogen, total | Daily Maximum | | <= 10 Milligrams per Liter (mg/L) | Effluent Gross | 002 ^[1] | Quarterly | DISCRT |
| pH, maximum | Daily Maximum | | <= 9 Standard Units (SU) | Effluent Gross | 002 ^[1] | Quarterly | DISCRT |
| pH, minimum | Daily Minimum | | >= 6 Standard Units (SU) | Effluent Gross | 002 ^[1] | Quarterly | DISCRT |
| Solids, total suspended | Daily Maximum | | <= 45 Milligrams per Liter (mg/L) | Effluent Gross | 002 ^[1] | Quarterly | COMPOS |
| Solids, total suspended | Quarterly Average | | <= 30 Milligrams per Liter (mg/L) | Effluent Gross | 002 ^[1] | Quarterly | COMPOS |
| BOD, 5-day, percent removal | Quarterly Minimum | | > 85 Percent (%) | Effluent Gross | 002 | Quarterly | CALCTD |
| Solids, suspended percent removal | Quarterly Minimum | | > 85 Percent (%) | Effluent Gross | 002 | Quarterly | CALCTD |

Notes (WWTP Discharge Limitations Table):

1. Samples shall be taken at the discharge of the methanol strip tank, prior to introduction to the leachfield.
2. Sampling should be conducted concurrently with the influent (Outfall 001) to determine the actual removal rates achieved for Biochemical Oxygen Demand, 5-day (BOD5) and Total Suspended Solids (TSS).

WWTP Discharge Limitations Table for Sample Location 002 (Effluent To Leach Fields) To Be Reported Once During The Permit Term

| Discharge Limitations | | | | Monitoring Requirements | | | |
|---|---------------|----------|---------------------------------|-------------------------|------------|-----------------------|-------------|
| Parameter | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| Alkalinity, bicarbonate (as CaCO ₃) | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Effluent Gross | 002 | Once Per Permit Term | DISCRT |
| Alkalinity, total (as CaCO ₃) | 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 To Leach Fields) 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 To Leach Fields) 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 |
| Uranium, natural, total | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Effluent Gross | 002 | Once Per Permit Term | DISCRT |
| Cyanide, weak acid, dissociable | 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 (Downgradient Monitoring Well - Mw-1A) To Be Reported Quarterly

| Parameter | Discharge Limitations | | | Monitoring Requirements | | | |
|--|-----------------------|---------------|-----------------------------------|-------------------------|------------|-----------------------|-------------|
| | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| Arsenic, total (as As) | Daily Maximum | | M&R Micrograms per Liter (ug/L) | Groundwater | 003 | Quarterly | DISCRT |
| Chloride (as Cl) | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Groundwater | 003 | Quarterly | DISCRT |
| Depth to water level ft below landsurface ^[1] | Daily Minimum | M&R Feet (ft) | | Groundwater | 003 | Quarterly | VISUAL |
| Nitrogen, total | Daily Maximum | | <= 10 Milligrams per Liter (mg/L) | Groundwater | 003 | Quarterly | DISCRT |
| Solids, total dissolved | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Groundwater | 003 | Quarterly | DISCRT |
| Water level relative to mean sea level ^[2] | Daily Maximum | M&R Feet (ft) | | Groundwater | 003 | Quarterly | CALCTD |

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater, ft.
2. Groundwater elevation, ft. AMSL.

Groundwater Monitoring Wells Table for Sample Location 004 (Downgradient Monitoring Well - Mw-2) To Be Reported Quarterly

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

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater, ft.
2. Groundwater elevation, ft. AMSL.

Groundwater Monitoring Wells Table for Sample Location 005 (Upgradient Monitoring Well- Mw-3) To Be Reported Quarterly

| Parameter | Discharge Limitations | | | Monitoring Requirements | | | |
|--|-----------------------|---------------|---------------------------------|-------------------------|------------|-----------------------|-------------|
| | Base | Quantity | Concentration | Monitoring Loc | Sample Loc | Measurement Frequency | Sample Type |
| Arsenic, total (as As) | Daily Maximum | | M&R Micrograms per Liter (ug/L) | Groundwater | 005 | Quarterly | DISCRT |
| Chloride (as Cl) | Daily Maximum | | M&R Milligrams per Liter (mg/L) | Groundwater | 005 | Quarterly | DISCRT |
| Depth to water level ft below landsurface ^[1] | Daily Minimum | M&R Feet (ft) | | Groundwater | 005 | Quarterly | VISUAL |
| Nitrogen, total | Daily Maximum | | M&R Milligrams per Liter (mg/L) | 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 ^[2] | Daily Maximum | M&R Feet (ft) | | Groundwater | 005 | Quarterly | CALCTD |

Notes (Groundwater Monitoring Wells Table):

1. Depth to groundwater, ft.
2. Groundwater elevation, ft. AMSL.

Summary of Changes From Previous Permit

Updated coordinates for monitoring wells to reflect actual location and are as follows:

MW-1: Lat. 38.6964378 N, Long. -119.5471243 W

MW-2: Lat. 38.6965373 N, Long. -119.5471176 W

MW-3: Lat. 38.6970010 N, Long. -119.5469124 W

Under Outfall 001 (Influent), To be Reported Quarterly, the following additions or changes were made:

CHANGED – BOD, 5-day, from a “Quarterly Maximum” Base to a “Daily Maximum” Base, with the remaining discharge limitations remaining the same, and the Sample Type being changed from a “Compos” to a “DisCRT” Sample Type. The other monitoring requirements were unchanged.

ADDED – BOD, 5-day, with a “Quarterly Average” Base, an “M&R Milligrams per Liter (mg/L)” Concentration, a “Raw Sewage Influent” Monitoring Location, a “001” Sample Location, a “Quarter” Measurement Type, and a “DisCRT” Sample Type.

CHANGED – Solids, total suspended, from a “Quarterly Maximum” Base to a “Daily Maximum” Base, with the remaining discharge limitations remaining the same, and the Sample Type being changed from a

“Compos” to a “Discret” Sample Type. The other monitoring requirements were unchanged.

ADDED – Solids, total suspended, with a “Quarterly Average” Base, an “M&R Milligrams per Liter (mg/L)” Concentration, a “Raw Sewage Influent” Monitoring Location, a “001” Sample Location, a “Quarter” Measurement Type, and a “Discret” Sample Type.

ADDED – Footnote 2.

2. Sampling should be conducted concurrently when the effluent is sampled (Outfall 002) to determine the actual removal rates achieved for Biochemical Oxygen Demand, 5-day (BOD5) and Total Suspended Solids (TSS).

Under Outfall 002 (Effluent to Leach Fields) To Be Reported Quarterly, the following parameters were added:

ADDED - BOD, 5-Day, percent removal, with a “Quarterly Average Minimum” Base, a “>85 Percent (%)” Concentration, an “Effluent Gross” Monitoring Location, a “002” Sample Location, an “Quarterly” Measurement Frequency, and a “Calcd” Sample Type.

ADDED - Solids, total suspended, percent removal, with a “Quarterly Average Minimum” Base, a “>85 Percent (%)” Concentration, an “Effluent Gross” Monitoring Location, a “002” Sample Location, an “Quarterly” Measurement Frequency, and a “Calcd” Sample Type.

ADDED – Footnotes 2 and 3.

2. Sampling should be conducted concurrently with the influent (Outfall 001) to determine the actual removal rates achieved for Biochemical Oxygen Demand, 5-day (BOD5) and Total Suspended Solids (TSS).

3. Quarterly Average Minimum.

ADDED – Outfall 002 (Effluent to Leach Fields) To Be Reported Once During the Permit Term along with the following parameters:

ADDED - Profile 1 Parameters, with a “M&R Milligrams per Liter (mg/L)” Concentration, an “Effluent Gross” Monitoring Location, a “002” Sample Location, an “Once Per Permit Term” Measurement Frequency, and a “Discret” Sample Type.

Under Outfall 005 (MW-3), To Be Reported Quarterly, the following change was made:

CHANGED - Nitrogen, total, with a "Daily Maximum" Base, was changed from a "10 Milligrams per Liter (mg/L)" Concentration to a "M&R Milligrams per Liter (mg/L)" Concentration, due to this being upgradient from the wastewater treatment plant and the Permittee can not control the levels of Nitrogen in that area.

Under the SOC – Schedule of Compliance Table the following items were deleted.

DELETED – Item 2. All Discharge Monitoring Reports (DMRs) shall be submitted electronically through the Nevada NetDMR website, <https://netdmr.ndep.nv.gov/public/home.htm>.

DELETED – If, after six months from permit issuance, the Permittee does not meet the 20 ug/L Arsenic effluent limit, the Division may proceed with enforcement actions and/or require the facility to completely disconnect from the Arsenic Treatment Plant.

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 for all treatment works (TWs) both privately and publicly owned. 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: Quarterly average limit: ≤ 30 mg/L; Daily maximum limit: ≤ 45 mg/L.

TSS: Quarterly 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.

Limits Based on Facility's Design Criteria Review:

Permitted 30-day average flow rate for effluent is limited to ≤ 0.030 Mgal/d.

Permitted daily maximum flow rate for effluent is limited to ≤ 0.035 Mgal/d.

Water Quality Based Effluent Limitations

Water quality based effluent limitations are not applicable.

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

Water quality based effluent limitations are not applicable.

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 requirement to monitor the effluent for Profile 1 pollutants once per permit term is included to evaluate the quality of the effluent and to 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 permit requires the Permittee to sample these constituents once per term because they are included in the Profile 1 list and have not been previously tested.

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.”

Influent and Effluent Monitoring Requirements:

Quarterly influent and effluent monitoring for BOD5 and TSS are included to assess the treatment performance of the Topaz Lodge WWTP. A quarterly 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, weekly 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, with the exception of changing of the limit for total nitrogen under Monitoring Well MW-3 from a 10 milligrams per liter concentration to a monitor and report (M&R) milligrams per liter concentration. This was done as the Permittee has no control of the levels of Nitrogen occurring at the upgradient monitoring well. This is a Division reporting requirement for monitoring wells located up from a treatment plant.

Antidegradation

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

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/Condition 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 no planned future outfalls or facility changes.

Corrective Action Sites

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

Wellhead Protection Program

There are four (4) Public Water Supply (PWS) wells located approximately 300 to 1500 feet southwest, northwest and west upgradient of the outfall. A fifth well is located 1190 feet east downgradient of the outfall that has a depth of approximately 510 feet, with a sanitary seal at 50 feet, and a screen from 200 feet to 560 feet. The outfall is located in the Drinking Water Protection Area of the wells, which is defined by a 3,000-foot radius around a PWS well and in a Wellhead Protection Area (WHPA), which represents an approximate 10-year capture zone of a well. The recent chemical history of the well reports that the well has

been having exceedances of tetrachloroethylene and Arsenic. Based on the well structure and chemical history, the well that is downgradient is at risk of contamination.

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 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 engineer (P.E.). | 2/23/2028 |

Deliverable Schedule:

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

| Item # | Description | Interval | First Scheduled Due Date |
|--------|----------------|-----------|--------------------------|
| 1 | Quarterly DMRs | Quarterly | 10/28/2026 |

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. **6/5/2026**, 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: **5/1/2026**

Title: **Staff II Engineer**

TOPAZ LODGE
SEWAGE TREATMENT PLANT

PROCESS SCHEMATIC DIAGRAM

