



FACTSHEET
(pursuant to NAC 445A.236)

Permittee Name: BEATTY WATER AND SANITATION DISTRICT
101 N 2ND ST
BEATTY, NV 89003

Permit Number: NS2010501

Permit Type: GROUNDWATER DISCHARGE

Designation: GROUNDWATER

New/Existing: EXISTING

Location: BEATTY WATER & SANITATION DISTRICT - ARSENIC DRINKING WATER TREATMENT PLANT, NYE
1300 A AVENUE NORTH, BEATTY, NV 89003
LATITUDE: 36.914978, LONGITUDE: -116.761536
TOWNSHIP: 12 S, RANGE: 47 E, SECTION: 6

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Latitude	Longitude	Receiving Water
001	EFFLUENT (BACKWASH WATER)	External Outfall		36.875350	-116.823570	NOT APPLICABLE
002	UNLINED DISPOSAL BASINS	External Outfall		36.875350	-116.823570	GROUNDWATER

Permit History/Description of Proposed Action

The Permittee, the Beatty Water and Sanitation District, has applied for the renewal of Permit NS2010501, for their arsenic water treatment plant (WTP), located at 1300 “A” Avenue North, in Beatty, within Nye County, Nevada. The Permittee proposes to continue removing arsenic at their water treatment plant, from the raw water diverted from their public water supply well, to maintain compliance with federal and state drinking water standards, with the backwash slurry being discharged into currently unlined disposal basins located onsite.

This permit was first issued November 8, 1995. The most recent permit was issued on September 1, 2017, and expired on August 31, 2022; the permit has been administratively continued since.

Facility Overview

The Beatty WTP was constructed to provide arsenic removal for the municipal water supply for the residents of Beatty. The arsenic level in the raw water is above the maximum contaminant level (MCL) for drinking water. To meet the drinking water standards, the Beatty WTP was built in order to remove arsenic by using coagulation with ferric chloride, followed by pressure filtration. The backwash water from the pressure filter is routed to a 25,000-gallon settling tank. About 90% of the settled water is returned back to the front end of the treatment plant, leaving about 10% of the settled backwash water to be disposed of in one of three basins. The basins are currently unlined; however, the Permittee will be lining them during this

permit cycle.

The Beatty WTP receives raw water from public water supply well EW4 located southwest of Beatty. The arsenic level in the raw water is around 34 parts per billion (ppb), which is above the MCL of 10.0 ppb for drinking water. The treatment plant uses a combination of coagulation with ferric chloride and filtration with a mixed media filter. Chlorine is added to the treatment stream to help oxidize the arsenic that improves removal with the media. The facility treats about 400-450 gallons per minute (gpm) and runs for an average of 45 hours per week. Treated water is pumped to storage tanks for later use by Beatty's residents.

There are three separate filtration vessels at the treatment plant. After 30 hours of use, a backwash cycle cleans and fluffs the filter media for 10 minutes. The resultant backwash water flows into a storage tank located outside of the process building. Settling occurs in the backwash tank and about 90% of the decanted water is returned to the head of the treatment plant. The remaining 10 percent of the slurry in the backwash settles in the bottom of the tank and is discharged periodically to one of the three unlined disposal basins.

The Beatty WTP's Operation & Maintenance (O&M) Manual was last reviewed and approved in July 2010. 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 December 1, 2026.

Outfall Summary

Outfall 001 - This external outfall is for measuring the flow rate of the backwash water.

Outfall 002 - This external outfall is for monitoring the settled backwash water being discharged into the disposal basins.

Effluent Characterization

Nevada State Network Discharge Monitoring Report (NetDMR) data, as reported from January 2021 to March 2026, was reviewed as part of this permit renewal process.

The Beatty WTP utilizes finished plant effluent water, that is treated to a level which does not cause the groundwater quality to degrade below drinking water standards, for backwashing processes at the plant.

The averaged discharge characteristics were as follows:

Abbreviations:

Mgal/d = Million Gallons per Day

mg/L = Milligrams per Liter

Outfall 001:

Flow Rate: 0.16 Mgal/d

Outfall 002:

Arsenic: 3.73 mg/L

Iron, Total: 17.84 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 are Arsenic, Iron, and Total Dissolved Solids (TDS) along with potential inorganic chemicals and analytes.

Receiving Water

The receiving water is groundwater underlying the basin site. Depth to groundwater is 600 feet below ground surface. Due to the depth to groundwater, monitoring wells are not required.

Compliance History

The Beatty WTP was in compliance during the period reviewed.

Proposed Effluent Limitations

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

NS OTHER - Discharge Limitations Table for Sample Location 001 (Effluent - Backwash Water) To Be Reported Monthly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 0.005 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	001	Continuous	METER
Flow rate	30 Day Average	<= 0.005 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	001	Continuous	METER

Notes (NS OTHER - Discharge Limitations Table):

1. Effluent line to basins.

Ponds / Rapid Infiltration Basins for Sample Location 002 (Unlined Disposal Basin) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Arsenic, total (as As)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Iron, total (as Fe)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Solids, total dissolved	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT

Ponds / Rapid Infiltration Basins for Sample Location 002 (Unlined Disposal Basin) 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) ^[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Alkalinity, total (as CaCO ₃) ^[1]	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
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) ^[1]	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
Copper, dissolved (as Cu)	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
			M&R				

Ponds / Rapid Infiltration Basins for Sample Location 002 (Unlined Disposal Basin) To Be Reported Once During The Permit Term

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Fluoride, total (as F) [1]	Daily Maximum		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
Nitrogen, total	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
pH, maximum	Daily Maximum		M&R Standard Units (SU)	Effluent Gross	002	Once Per Permit Term	DISCRT
pH, minimum	Daily Minimum		M&R Standard Units (SU)	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

Ponds / Rapid Infiltration Basins for Sample Location 002 (Unlined Disposal Basin) 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		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Sulfate, total (as SO ₄) ^[1]	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
Uranium, natural, total ^[1]	Daily Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Once Per Permit Term	DISCRT
Cyanide, weak acid, dissociable ^[1]	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

Notes (Ponds / Rapid Infiltration Basins):

1. To be analyzed to the dissolved fraction.

Summary of Changes From Previous Permit

Updated coordinates for facility and outfalls to exact location:

Lat. 36.87535 N, Long. -116.82357 W.

Under Outfall 002, To be Reported Quarterly, the following parameters were added:

ADDED – Solids, total dissolved, with a “Daily Maximum” Base, an “Effluent Gross” Monitoring Location, an “002” Sample Location, a “Quarterly” Measurement Frequency, and a “DisCRT” Sample Type.

ADDED – Outfall 002, To be Reported Once During the Permit Term, with the following parameters:

ADDED – Profile 1 , with a “Daily Maximum” Base, an “Effluent Gross” Monitoring Location, a “002” Sample Location, a “Once During Permit Term” Measurement Frequency, and a “DisCRT” Sample Type.

ADDED - Footnote 1.

1. To be analyzed to the dissolved fraction.

CHANGED – SOC Schedule of Compliance Table, Item 3.

From:

3. The Permittee shall submit a revised Operation and Maintenance (O&M) Manual to the Division. The O&M Manual shall be prepared in accordance with guidance document WTS2.

To:

3. 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, and be prepared and wet stamped by a licensed, qualified Nevada professional engineer (P.E.)

DELETED – SOC Schedule Compliance Table, Item 4.

Technology Based Effluent Limitations

Technology based effluent limitations are not applicable as this is an arsenic treatment plant and not a wastewater treatment plant.

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 limits are not applicable to this permit.

Basis for Effluent Limitations

There are currently no specific water quality standards that have been formally adopted by the State for groundwater. However, the Division has the discretion to implement effluent limitations outside water quality standards per Nevada Administrative Code (NAC) 445A.243, which states, "In establishing an effluent limitation to carry out the policy of this State set forth in NRS 445A.305, consideration must be given to, but is not limited by the following: ... (2) the need for standards that specify by chemical, physical, biological or other characteristics the extent to which pollution by various substances will not be tolerated."

The requirement to monitor the effluent for Profile 1 pollutants for once during the permit term is included to evaluate the quality of the effluent and determine whether the effluent has potential to impact the receiving water. Although cyanide and uranium are not expected to be present in the effluent, the proposed permit requires the Permittee sample these constituents once during the permit term as they are included in the Profile 1 list and they have not been sampled before.

The 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 Nevada Revised Statute (NRS) 445A.490, "No permit may be issued which authorizes any discharge or injection of fluids through a well into any waters of the State: ...(3) which would result in the degradation of existing or potential underground sources of drinking water."

Arsenic needs to be monitored in the backwash water of an arsenic removal WTP primarily to ensure proper disposal, protect the environment from concentrated contaminants, and adhere to environmental regulations. Backwash water from these plants is a concentrated byproduct—often containing elevated iron-arsenic solids—that can pose environmental risks if not managed properly.

The proposed permit requires the monitoring of iron in the backwash water of their arsenic removal plant, as iron acts as a primary carrier for arsenic, creating a concentrated hazardous waste sludge. Testing ensures the removal of high arsenic-bearing iron solids, preventing regulatory violations, and checks that excessive iron isn't breaking through the filters, which would indicate media fouling.

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 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. As this permit is for potential discharges to groundwater, and not surface water, the new antidegradation rule is not applicable.

Special Conditions

See the Special Approvals / Conditions Table under the permit:

SA – Special Approvals / Conditions Table

Item #	Description
1	Once the lined basins are constructed and in use, the permit will undergo a minor modification. The requirement to monitor and report the total iron and total arsenic discharged into the evaporation basins each quarter will be removed and the requirement to monitor and report any sludge that was actually removed from the basins during each quarter will be added.

Discharges From Future Outfalls/ Planned Facility Changes

There are no planned discharges from future outfalls or facility changes, with the exception of the Division's required lining of the disposal basins, for which an extension of time was filed in 2024. Beatty is currently under contract with the engineering firm, who is doing the design for this project.

Corrective Action Sites

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

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 public water supply (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, and be prepared and wet stamped by a licensed, qualified Nevada professional engineer (P.E.).	12/1/2026
2	The Permittee shall submit final design plans, wet-stamped by a Nevada Professional Engineer, of the lined basins at least 60 days prior to the start of construction or by May 1, 2027.	5/1/2027

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
2	Once during the Permit Term DMRs	Once during the permit term	7/28/2031

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. **8/8/2026**, 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.

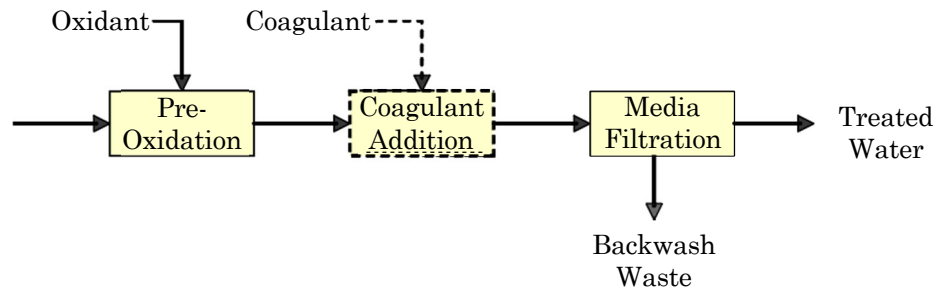
Proposed Determination:

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

Prepared by: **Melissa Hanson**

Date: **7/1/2026**

Title: **Staff II Engineer**



**Basic Design Flow Chart of a Arsenic Water Treatment Plant
utilizing Coagulation and Filtration**