

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Beatty Water & Sanitation District
P.O. Box 99
Beatty, NV 89003

Permit Number: NEV70010

Location: Nye County, Nevada

Treatment Facility Location

Treatment facility is $\frac{3}{4}$ mile south of Beatty on U.S. Hwy 95
Latitude: 36° 53' 42"N, Longitude: 116° 45' 10"W
Township 12S, Range 47E, Section 18

Rapid Infiltration Basin (RIB) Location

RIBs are $2\frac{1}{4}$ miles south of Beatty on U.S. Hwy 95
Latitude: 36° 52' 15"N, Longitude: 116° 45' 20"W
Township 12S, Range 47E, Sections 19-30

Wellhead Protection

The Beatty treatment facility and the disposal sites are not within a wellhead protection zone or within 7000 feet of any public water supply wells. Wells within the town limits (e.g., ball fields) are presently only used for irrigation and other non-potable uses due to high fluoride levels.

General:

Beatty Water & Sanitation District provides sewer service to 450 connections in Beatty, which presently has approximately 1,150 residents. The wastewater influent is derived from domestic and commercial (e.g., restaurants, bars, and casino) sources with no reported industrial facilities. Wastewater flows via gravity sewer to the treatment facility, which is located approximately $\frac{3}{4}$ mile south of town. U.S. Hwy. 95 and the Amargosa River are located due east of the treatment facility.

Current Treatment System

The current treatment method consists of a screening and facultative treatment in an aerated lagoon. Screening is accomplished at the headworks with a manually cleaned bar screen. The headworks also includes a Parshall flume and a flowmeter.

The original treatment system facility plot plan indicates that the treatment process originally consisted of three treatment ponds flowing in series (ponds #1-3) and three emergency storage lagoons. The treatment ponds are not lined. Treatment pond #2 was eventually abandoned as a wastewater treatment pond since it receives infiltration from a groundwater spring, which is indicated on the USGS topographic map. According to the topographic map, spring flow apparently is in an easterly direction towards the Amargosa River, where it surfaces beneath pond #2. Currently, pond #2 is used as a freshwater storage basin for this spring and is no longer usable for wastewater treatment. In 1991, additional treatment capacity in the primary pond (pond #1) was required. The berm between ponds #1 and #3 was removed, and a portion of pond #3 was excavated an additional 3 ft. The combined area of the enlarged treatment pond is in excess of 2.1 acres. The

resulting treatment pond is now the principal facultative treatment and settling pond for Beatty. The pond is aerated by one (1) 15 Hp and three (3) 5 Hp aerators. One (1) 7.5 Hp aerator is maintained as a spare unit. Operating depth in this treatment pond varies from 9 ft. (center) to 4 ft. (near shoreline).

Proposed Treatment System

Beatty Water and Sanitation District has submitted a plan for modification to the treatment system to NDEP, which NDEP has approved for implementation. The District has proposed the construction of a new facultative treatment system, consisting of 2 trains of 2 aerated ponds each (total of 4 ponds), immediately north of the existing treatment system. Each pond will be approximately 0.6 acre in area, and will be lined with High Density Polyethylene (HDPE). Wastewater will be received at the site via gravity flow, and will be screened through the existing bar screen apparatus prior to discharge to a new lift station. The lift station will discharge to a splitter box, which will split the flow between Ponds 1 and 2. Pond 1 then discharges to Pond 3, and Pond 2 discharges to Pond 4. Treated effluent from Ponds 3 and 4 combine in a common conveyance system. A monitoring well will be installed immediately downgradient of the lined ponds.

Effluent Disposal System

On a weekly basis, the current facultative pond discharges effluent via gravity pipeline to one of two rapid infiltration basins (RIBs). The RIBs are located approximately 2¼ miles south of Beatty, due west of U.S. Hwy. 95. The distance between the treatment facility and the RIBs is approximately 1½ mile. The plot plan indicates that each RIB is approximately 1.8 acres. Since the treatment pond discharges once per week, each RIB is dosed twice per month. When an RIB is dosed, the liquid level in the treatment pond drops by 2-3 ft. It is proposed to continue use of the RIBs with the new treatment ponds

Effluent Flow and Characteristics:

The current average monthly influent flow into the treatment pond is approximately 0.1 MGD. The current permit limits the flow to 0.25 MGD, which is the requested flow limitation for the upgraded treatment system.

Effluent CBOD₅/TSS levels are sampled once per month. Based on this sampling frequency, the respective CBOD₅/TSS effluent limits are 45/90 mg/L, consistent with other pond systems discharging to RIBs. An analysis of this facility's DMR data for the past five years indicates frequent exceedance of both CBOD₅ and TSS limits. Effluent from the new treatment system is to meet secondary treatment standards of maximum 45 mg/l CBOD₅ and 90 mg/l Total Suspended Solids.

Receiving Water Characteristics:

There are two groundwater components for this permit. In both components, the receiving water body is groundwater of the State. First, at the treatment facility, it is evident that groundwater has surfaced from a spring causing abandonment of treatment pond #2. In addition, the remaining treatment pond is not lined. The Division's concern with the remaining treatment pond is for the potential cross-contamination of groundwater (spring) with wastewater in the treatment pond due to the close proximity of the current treatment pond with the freshwater spring pond (formerly treatment Pond 2). Until construction of the new treatment ponds is complete, the current treatment pond must be operated in a manner so as to avoid groundwater contamination. As stated, a

monitoring well will be installed immediately downgradient of the lined ponds. Beatty’s drinking water is supplied by wells located 2-3 miles northwest of the town. Supply wells within the town limits (e.g., ball fields) are presently only used for irrigation and other non-potable uses due to high fluoride levels.

The second groundwater component occurs at the RIBs, which are located approximately 1½ mile south of the spring and treatment facility, as stated previously. At the RIBs, the groundwater level is reported to be in excess of 200 ft. below ground surface. Based on this depth to groundwater, monitoring wells are not proposed by the Division at this time for the RIB location.

Proposed Effluent Limitations and Special Conditions:

Permit limitations and monitoring requirements shall apply to both the current treatment system and the proposed treatment system. Effluent from the Beatty wastewater treatment facility will be limited and monitored according to the following:

Table 1: Effluent Discharge Limitations

PARAMETER		DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
		Quarterly Average	Daily Maximum	Measurement Frequency	Sample Type
Influent	Flow (MGD)	0.250	---	Continuous	Flow Meter
	CBOD ₅ (mg/L)	Monitor & Report		Quarterly	Discrete
	TSS (mg/L)	Monitor & Report		Quarterly	Discrete
Effluent	CBOD ₅ (mg/L)	30	45	Monthly	Discrete
	CBOD ₅ Removal	At least 85%		Monthly	Calculate
	TSS (mg/L)	---	90	Monthly	Discrete
	TSS Removal	At least 85%		Monthly	Calculate
	pH (Standard Units)	Between 6.0 & 9.0		Monthly	Discrete
	Total Nitrogen (mg/l)	Monitor and Report		Monthly	Discrete
	Nitrate (mg/l)	Monitor and Report		Monthly	Discrete

TSS = Total Suspended Solids

The monitoring well shall be monitored according to the following:

Table 2: Monitoring Well Limitations and Requirements

PARAMETER	PERMIT LIMITATION	MONITORING FREQUENCY
Total Nitrogen (mg/l)	Monitor & Report	Quarterly
Nitrate (mg/l)	10	Quarterly
Chloride (mg/l)	Monitor & Report	Quarterly
Total Dissolved Solids (mg/l)	Monitor & Report	Quarterly

Rationale for Permit Requirements: The Division's rationale for the proposed monitoring conditions is as follows:

- *Flow:* Flow is tracked to ensure that the design capacity of the treatment pond(s) is not exceeded.
- *CBOD₅:* The Division requires the monitoring of influent and effluent Carbonaceous Biochemical Oxygen Demand (CBOD₅ or Inhibited BOD), as an indication of treatment performance in the facultative pond. The Division's secondary-treatment CBOD₅ standards for ponds are 30 and 45 mg/L, respectively, for the 30-day average and daily maximum values. Currently, the influent is sampled on a quarterly basis and the effluent on a monthly basis. Influent is monitored on a quarterly basis only, since influent characteristics have been demonstrated to be fairly consistent from one month to the next. Removal of CBOD₅ is required to be at least 85%.
- *TSS:* The Division's secondary-treatment standard for Total Suspended Solids (TSS) in pond system effluent is 90 mg/L. Currently, the influent is sampled on a quarterly basis and the effluent on a monthly basis. Removal of TSS is required to be at least 85%.
- *pH:* The Division requires the pond effluent to meet a pH limitation of between 6.0 and 9.0 standard units, consistent with other regulated pond systems in Nevada. pH shall be sampled in the effluent on a monthly basis.
- *Nitrate:* The Division requires that Permittee monitor and limit the nitrate level of groundwater below the treatment site to less than the State standard of 10 mg/l.

Schedule of Compliance: The permittee shall submit the following items to the Division for review and approval:

- a. **By July 1, 2006,** the Permittee shall provide NDEP with a construction schedule for the proposed and approved wastewater treatment facility.
- b. **By July 1, 2006,** the Permittee shall install the proposed monitoring well downgradient of the new treatment system location, at an approved site, drilled and completed by a Nevada licensed well driller.
- c. **By July 15, 2006,** the Permittee shall submit a groundwater sample from the newly installed well to a Nevada certified laboratory for background analytical testing. The sample shall be tested for the following: Total Nitrogen, Nitrate,

Ammonia, CBOD5, Chloride, and Total Dissolved Solids.

- d. **By July 30, 2006**, the Permittee shall submit the analytical results of the sample collected in Part (c) above.
- e. **By August 1, 2006**, the Permittee shall submit a second groundwater sample from the newly installed well to a Nevada certified laboratory for the analyses listed in Item (c) above.
- f. **By August 15, 2006**, the Permittee shall submit the analytical results of the sample collected in Part (e) above.
- g. **No less than fourteen (14) days prior to the first introduction of fluid to the proposed new wastewater treatment system**, the Permittee shall notify NDEP of impending operation of the newly constructed system.
- h. **No less than seven (7) days prior to first introduction of fluid to the proposed new wastewater treatment system**, the Permittee shall provide NDEP with documentation, stamped by a Nevada registered professional engineer, that the new treatment system has been constructed according to Division approved plans, and that the system is deemed operational.
- i. **No less than sixty (60) days of first introduction of fluid to the proposed new treatment system**, the Permittee shall provide NDEP with a copy of the Operations and Maintenance Manual, stamped by a Nevada registered professional engineer, for review and approval. The manual shall include information on operations and maintenance of both the wastewater treatment system and the effluent disposal system (RIBs).
- j. **No less than sixty (60) days of first introduction of fluid to the proposed new treatment system**, the Permittee shall provide NDEP with as-built drawings of the new treatment system.

Procedures for Public Comment:

The Notice of the Division's intent to issue (renew) a permit authorizing the facility to discharge secondary-treated effluent into groundwaters of the State, subject to the conditions contained within the permit is being sent to the **Pahrump Valley Times** and **Las Vegas Review-Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all written comments are to be postmarked (via mail) or transmitted to the Division via fax or e-mail is **July 7, 2006 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator 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 determines 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 (renew) the proposed groundwater discharge permit for a period of five (5) years with specific requirements for achieving effluent compliance and protection of State groundwater resources.

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