

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

Permittee Name: Nevada Department of Corrections
3955 W. Russell Road
Las Vegas, NV 89118

Permit Number: NEV94017

Facility Location: Pioche Conservation Camp
#1 Hard Times Road
Pioche, Lincoln County, Nevada 89043

Latitude: 37° 57' 16"N
Longitude: 114° 24' 49"W
Township 1N, Range 67E, Section 12

General: The Nevada Department of Corrections (NDOC) operates the Pioche Conservation Camp (PCC), a minimum-security men's prison camp, which is located in Hamlight Flat, approximately one and one-half miles northeast of Pioche, Nevada. PCC is designed for an inmate population of 196 inmates and is presently operating at a population of 155 (December 2011). Kitchen waste flows into an 8,000 gallon grease interceptor and then to a lift station, while all other domestic waste flows directly to the lift station. Raw sewage from the lift station is pumped to a 1.1 acre, 12-foot deep, high-density polyethylene (HDPE) lined pond that is divided into two sections by means of a baffle curtain to provide primary treatment and then polishing. Each compartment is equipped with a three horse power aerator. The effluent from the polishing section of the treatment pond flows into three Rapid Infiltration Basins (RIBs). The 2007 permit renewal stated that RIBs #1 and #2 were not being used due to their very slow percolation rates. In 2009, the State Public Works completed a capital improvement project, which expanded the capacity of RIBs #1 and #2 and replaced a dry monitoring well. In a 2011 inspection, the inspector noted that the public works project appears to have resolved the effluent disposal issue. As a precautionary measure, RIB #3 was constructed with an overflow to a subsurface leach field. Effluent from the polishing pond can also be diverted to an emergency holding pond that is equipped with a wind-driven mixer. The emergency pond is used when insufficient capacity is available in the RIBs; however, due to the recent rehabilitation of RIBs #1 and #2, there should be no need to use this emergency pond.

Receiving Water Characteristics: The receiving water for secondary-treated effluent is the groundwater of the State via percolation in the three RIBs and leachfield. In 2009, a new monitoring well was constructed to replace the old monitoring well. Monitoring well MW-1 is screened from 180 to 195 feet and is down gradient of the RIBs. Depth to groundwater ranges from 148 to 229 feet. General groundwater flow

direction is in an easterly direction. The town's supply wells are upgradient of the RIBs and leachfield.

Effluent Flow and Characteristics: The design treatment capacity is 0.02 million gallons per day (MGD). The 0.02 MGD limit reflects water conservation measures enacted by the camp and corresponds to an approximate wastewater production rate of 100 gpcd. Flow has been reported to exceed the design limit in the summer months of June, July, August, and September over the last two years (see table 1). This exceedance is a probable reflection of a malfunctioning flow meter, resulting in potable water use (including irrigation) being reported instead of sewage. NDOC has acknowledged the problem, but has yet to fix the flow meter. A schedule of compliance item has been added to address this issue.

During the period from January 2010 to present, effluent characteristics were reported as the following:

Table 1 - Effluent Characteristics

Parameter	Permit Limit	Average	Maximum Reported	Minimum Reported
30-day Avg. Flow (MGD) for June, July, Aug., and Sept.	0.020	0.024	0.032	0.020
30-day Avg. Flow (MGD) for All Other Months	0.020	0.016	0.020	0.009
CBOD (mg/L)	30	17.35	33	4
TSS (mg/L)	90	42.7	79	2
pH (Standard Units)	6 to 9	7.82	8.38	7.53
Total Nitrogen (mg/L)	Monitor & Report	29.9	54	12

MGD: million gallons per day

mg/L: milligrams per liter

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

Well Head and Drinking Water Supply Protection: The facility is within 2000 feet of a United States Geological Survey (USGS) water supply well. A Wellhead Protection Area has not been established for this area.

Proposed Effluent Limitations and Special Conditions: The Nevada Division of Environmental Protection (NDEP) proposes the following permit limitations and monitoring requirements:

Discharge samples and measurements, taken in compliance with the monitoring requirements specified below, shall be taken at the following locations:

- i. The flow meter on the influent line;
- ii. After the headworks, but prior to discharge to the treatment cells; and
- iii. After the secondary treatment, prior to disposal in RIBs.

Table 2: Plant Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Location	Measurement Frequency	Sample Type
Flow, MGD (Influent)	0.02	0.02	i.	Continuous	Flow Meter
CBOD, mg/L (Influent)	Monitor & Report		ii.	Quarterly	Discrete
CBOD, mg/L (Effluent)	30	45	iii.	Quarterly	Discrete
TSS, mg/L (Influent)	Monitor & Report		ii.	Quarterly	Discrete
TSS, mg/L (Effluent)	90		iii.	Quarterly	Discrete
Total Nitrogen, mg/L (Influent)	Monitor & Report		ii.	Quarterly	Discrete
Total Nitrogen, mg/L (Effluent)	Monitor & Report		iii.	Quarterly	Discrete
pH, Std. Units (Effluent)	Between 6.0 & 9.0		iii.	Quarterly	Discrete
Inmate Population, per capita	Report		---	Quarterly	Population Count

Table 2: Groundwater Monitoring

PARAMETER	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
TDS, mg/L	Monitor & Report	Quarterly	Discrete
Chlorides, mg/L	Monitor & Report	Quarterly	Discrete
Nitrate as N, mg/L	Monitor & Report	Quarterly	Discrete
Total Nitrogen, mg/L	10.0	Quarterly	Discrete
Depth to Groundwater, feet	Monitor & Report	Quarterly	Field Measurement

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance.

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- b. **By Month Day, 2012 (60 days)**, the Permittee shall submit two (2) copies of an updated Operations & Maintenance (O&M) Manual for review and approval by the Division.
- c. **By Month Day, 2012 (60 days)**, the Permittee shall repair the influent flow meter. Photos shall be submitted to NDEP, confirming the flow meter has been repaired and operating.

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

- **Flow:** Flow is monitored to ensure that the design capacity of the treatment system is not exceeded and reporting to the Division is made at 85% of the 30-day design capacity limit.
- **CBOD:** The Division requires the monitoring of influent and effluent Carbonaceous Biochemical Oxygen Demand (CBOD or Inhibited BOD), as an indication of treatment performance in the cells. The Division's secondary-treatment CBOD standards for ponds are 30 and 45 mg/, for the 30-day average and daily maximum values, respectively.

- **TSS:** The Division's secondary-treatment standard for Total Suspended Solids (TSS) in pond system effluent is 90 mg/L.
- **Total Nitrogen:** Nitrogen monitoring is needed to determine the influent nitrogen concentration and whether the new treatment system can achieve any degree of denitrification to reduce nitrate loading into the receiving groundwater. Groundwater nitrogen levels are measured to ensure the Division's limit for total nitrogen of 10 mg/L in groundwater is not exceeded.
- **pH:** The Division requires the pond effluent to meet a pH limitation of between 6.0 and 9.0 standard units.

Procedures for Public Comment: The Notice of the Division's intent to renew a permit authorizing the facility to discharge to the groundwaters of the State of Nevada subject to the conditions contained within the permit is being sent to the **Lincoln County Record** and the **Las Vegas Review Journal** for publication. The notice is also 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 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **5:00 PM, May 21, 2012**.

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 the proposed groundwater discharge permit for a period of five (5) years.

Prepared by: Jason Ferrin
Bureau of Water Pollution Control
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