



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

**Permittee Name:** NEVADA DEPARTMENT OF CORRECTIONS - ELY MAXIMUM STATE PRISON  
3955 W. RUSSELL ROAD  
LAS VEGAS, NV - 89118

**Permit Number:** NS0087034

**Location:** ELY STATE PRISON, WHITE PINE  
4569 N. STATE ROUTE 490, ELY, NV - 89301  
LATITUDE: 39.3775, LONGITUDE: -114.936389  
TOWNSHIP: 18 N, RANGE: 62 E, SECTION: 36

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
000	OUTFALL 001	External Outfall		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
001	INFLUENT	Influent Structure		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
002	POND OUTLET	External Outfall		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
003	LYSIMETER	External Outfall		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
004	MONITORING WELL # 1	Monitoring Well		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
005	MONITORING WELL # 2	Monitoring Well		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER
006	POLISHING PONDS	External Outfall		ELY	NV	89301	WHITE PINE	39.3775	-114.936389	GROUNDWATER

**General:**

The wastewater treatment facility at the Ely Maximum State Prison, run by the Nevada Department of Corrections, uses a submerged fixed-film reactor to treat wastewater from approximately 1,750 inmates and staff. The submerged fixed-film reactor has separate aerobic (nitrification) and anoxic (denitrification) zones to provide treatment to reduce total nitrogen (TN) levels, total suspended solids (TSS) and biochemical oxygen demand (BOD). The former treatment ponds will be used as polishing ponds to settle microbial growth that sloughs off the fixed-film media. Lysimeters were installed in the rapid infiltration basins (RIBs) to demonstrate denitrification below 10 mg/L. The RIBs also uses alternate loading and drying cycles to further reduce nitrogen in the soil strata prior to groundwater percolation. Two down-gradient monitoring wells are sampled to demonstrate compliance with State groundwater requirements.

**Discharge Characteristics:**

The wastewater must be treated to achieve the following limits at the pond outlet: 45 mg/L BOD5, 90 mg/L TSS and 13 mg/L TN. Recent water quality results show that the treated effluent has the following values: 4 mg/L BOD5, 5 mg/L TSS and 5.7 mg/L TN. Values sampled from the lysimeter are still lower, so the treated effluent meets permit limits.

**Receiving Water:**

The depth to groundwater in monitoring well (MW-1) has been reported at 112.5 feet below ground surface. Groundwater flows in the southwest direction. During the past year MW-1 has been dry and MW-2 is read between sampling events, but not reported. Since MW-1 has been dry, there have been no samples drawn. Samples have been drawn from MW-2, but the amount of water does not allow the normal purging of the well prior to collecting samples. The samples do show that TN is below 10 mg/L.

**Summary of Changes From Previous Permit:**

There are two one minor changes to this permit. First, sludge depth monitoring in the treatment ponds will be reported in the 3rd quarter DMRs. Monitoring sludge depth allows NDEP to determine whether the depth exceeds 20-percent of the total depth of the ponds and needs to be removed. Second, due to the new naming conventions at the Nevada Division of Environmental Protection (NDEP), Bureau of Water Pollution Control, the permit number has been changed from NEV87046 to NS0087046. This change does not reflect a change in the type of permit being issued.

**Proposed Effluent Limitations:**

The Permittee is authorized to discharge in accordance with the limitations, requirements and conditions of this permit. The discharge shall be limited, sampled and monitored by the Permittee as specified below:

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

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= .9 Million Gallons per Day (Mgal/d)		Internal Monitoring Point	001	Continuous	METER
Flow rate	30 Day Average	<= .45 Million Gallons per Day (Mgal/d)		Internal Monitoring Point	001	Continuous	METER

**WWTP Discharge Limitations Table for Sample Location 001 (Influent Structure) To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Solids, total suspended	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	001	Quarterly	DISCRT
BOD, 5-day	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Internal Monitoring Point	001	Quarterly	DISCRT

**WWTP Discharge Limitations Table for Sample Location 002 (External Outfall) To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, maximum	Quarterly Maximum		<= 9 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT
pH, minimum	Quarterly Minimum		>= 6 Standard Units (SU)	Effluent Gross	002	Quarterly	DISCRT
Nitrogen, total	Quarterly Maximum		<= 13 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
Solids, total suspended	Quarterly Maximum		<= 90 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT
BOD, 5-day	Quarterly Maximum		<= 45 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT

**WWTP Discharge Limitations Table for Sample Location 003 (External Outfall) To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
pH, maximum	Quarterly Maximum		<= 9 Standard Units (SU)	Effluent Gross	003	Quarterly	DISCRT
pH, minimum	Quarterly Minimum		>= 6 Standard Units (SU)	Effluent Gross	003	Quarterly	DISCRT
Nitrogen, total	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	003	Quarterly	DISCRT
Solids, total suspended	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	003	Quarterly	DISCRT
BOD, 5-day	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Effluent Gross	003	Quarterly	DISCRT

**Groundwater Monitoring Wells Table for Sample Location 004 (Monitoring Well) To Be Reported Quarterly<sup>[1]</sup>**

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

Notes (Groundwater Monitoring Wells Table):

1. Groundwater samples shall be taken only after purging at least three (3) well volumes of groundwater from the monitoring well.
2. Depth to groundwater.

**Groundwater Monitoring Wells Table for Sample Location 005 (Monitoring Well) To Be Reported Quarterly<sup>[1]</sup>**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Depth to water level ft below landsurface <sup>[2]</sup>	Quarterly Maximum		M&R Feet (ft)	Groundwater	005	Quarterly	DISCRT
Nitrogen, total	Quarterly Maximum		<= 10 Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Chloride (as Cl)	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT
Solids, total dissolved	Quarterly Maximum		M&R Milligrams per Liter (mg/L)	Groundwater	005	Quarterly	DISCRT

Notes (Groundwater Monitoring Wells Table):

1. Groundwater samples shall be taken only after purging at least three (3) well volumes of groundwater from the monitoring well.
2. Depth to groundwater.

**Ponds / Rapid Infiltration Basins for Sample Location 006 (Polishing Ponds) To Be Reported Annually<sup>[1]</sup>**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Sludge/Solids, depth <sup>[2]</sup>	Maximum Value	M&R Feet (ft)		See Footnote <sup>[3]</sup>	006	Annual <sup>[4]</sup>	VISUAL

**Notes (Ponds / Rapid Infiltration Basins):**

1. The Permittee shall use a method approved by NDEP to determine the sludge depth in its ponds. The plan for monitoring the sludge depths shall be submitted with O&M Manual.
2. The Permittee shall report the total depth of the pond and the depth of sludge.
3. The Permittee shall test the sludge depths at various spots in the pond that have been approved by NDEP.
4. The Permittee shall sample the sludge depths during the 3rd quarter and report in 3rd quarter DMRs.

**Rationale for Permit Requirements:**

Monitoring is required to ensure that groundwaters of the State of Nevada are not degraded. Monitoring is also required to assess the level of treatment being provided, and to determine compliance with discharge permit limits. The Permittee is in substantial compliance with its current discharge permit.

**Special Conditions:**

SA – Special Approvals / Conditions Table

There are no Special Approval / Condition items
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**Flow:**

The flow limits in the permit are 0.45 million gallons per day (MGD) 30-day average and 0.90 MGD maximum daily flow. In addition to raw sewage the facility also receives a considerable amount of blow-down water from evaporative coolers during the summer months.

**Corrective Action Sites:**

There are no remediation sites managed by the NDEP Bureau of Corrective Actions that are located within a one-mile radius of the Ely Prison WWTF.

**Wellhead Protection Program:**

The effluent discharge point of the Ely Prison WWTF is located within a 3,000-foot radius of Safe Drinking Water Protection Area 3. Two wells owned and operated by NDOC supply potable water to the prison and are located within this zone. The wellhead-capture zones for these two supply wells have not yet been delineated or modeled.

**Schedule of Compliance:**

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of its revised O&M Manual to NDEP's Bureau of Water Pollution Control (BWPC) for review. If no changes have been made to the O&M Manual since March 2010, the Permittee shall submit a letter stating that no changes have occurred since that date.	7/1/2016

**Deliverable Schedule:**

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

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	7/28/2016
2	Annual Report	Annually	1/28/2017

**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 sent to the **Ely Times and the 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 until 5:00 P.M. **3/14/2016**, 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 to 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: **Steve McGoff**  
Date: **3/28/2013**  
Title: **Staff Engineer III**