

**NEVADA DIVISION OF ENVIRONMENTAL PROTECTION**

**FACT SHEET  
(Pursuant to NAC 445A.236)**

**Applicant:** Elko County Fair Board  
P.O. Box 2067  
Elko, Nevada 89803

**Permit:** NEV2007509

**Location:** Elko County Fairgrounds  
1090 13<sup>th</sup> Street  
Elko, Elko County, Nevada 89801

Latitude: 40° 50' 40" N  
Longitude: 115° 45' 40" W  
Township 34 N, Range 55 E, Section 10 MDB&M

**Flow:** Daily Maximum and 30-Day Average: 0.10 MGD  
Annual Application Volume: 31.9 acre feet.

**Public Water Supply:**

The facility is located within the 20-year wellhead protection capture zone of the City of Elko public water supply system wells and within the 3000' and 6000' drinking water protection areas of multiple wells. City well 14 is the closest well to the facility.

**General:**

The Elko County Fairgrounds (ECF) encompass approximately 35 acres within the City and is bordered by Golf Course Road on the east, Interstate 80 to the north, Cedar Street to the south, and 13<sup>th</sup> Street to the west. During the growing season, ECF receives secondary treated, chlorinated, reclaimed water from the City of Elko Water Reclamation Facility (EWRF), permit NEV20014, for spray irrigation of an approximately 7 acre alfalfa field located within the ECF race track infield and for dust control on the dirt track. Previously, this use of reclaimed water has been authorized under NEV20014 and for 6 months in 2004 under temporary permit TNEV2004340.

Reclaimed water is conveyed to the ECF via a 12-inch force main. The flow enters the site via a 6-inch connection and is quantified by a totalizing flow meter. ECF is irrigated with a hand-placed spray irrigation system with dispersion nozzles. The frequency of irrigation is dependent on the time of year with daily irrigation being common from March through October. There is little to no irrigation from November through February.

The site also has an overhead truck fill station for use on the dirt track for dust control.

There is no storage of reclaimed water authorized by the proposed permit.

The current effluent management plan (EMP) was approved by the Division in May 1999. This

EMP is required to be updated as a condition for the issuance of this permit.

**Discharge Characteristics:**

Water used for irrigation is treated to meet secondary standards and disinfected. During the 2007 irrigation season, the average and maximum values for selected EWRf reclaimed water parameters were as follows:

PARAMETER	AVERAGE VALUE	MAXIMUM VALUE
Fecal Coliform (CFU/100 mL)	1.85	76
CBOD <sub>5</sub> (mg/L)	9.10	19.7
Total Suspended Solids (TSS, mg/L)	13.3	50.6
Total Dissolved Solids (TDS mg/L)	Not monitored	
Total Nitrogen (mg/L)	24.2	35.0
pH (SU)	7.26	7.77
Nitrate (mg/L)	7.4	8.4
Ammonia (mg/L)	11.3	16.0

CFU: Colony forming units. mg/L: Milligram per liter.  
 mL: Milliliter. SU: Standard units.

**Receiving Water Characteristics:**

The depth to groundwater at the facility is not known. The depth to groundwater at the nearest City well, #14, ranges from approximately 40 feet when not pumping to greater than 100 feet (145 feet in 1999 and 107 feet in 2006) when pumping.

The City well water meets drinking water standards and is only chlorinated prior to distribution.

**Proposed Limitations:**

Proposed limitations are designed to verify the constituent composition of the reclaimed water discharges and to control application and operational parameters to protect groundwaters of the State.

During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge reclaimed water for spray irrigation and dust control at ECF. Samples and/or measurements taken in compliance with the monitoring requirements specified below shall be collected:

- At a flow meter located at a point after treatment and prior to distribution for reuse, and
- Data may be obtained from EWRf to satisfy compliance and reporting requirements confirming effluent quality.

The discharge shall be limited and monitored as specified below:

**TABLE I.1**

PARAMETERS	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Annual Total	Measurement Frequency	Sample Type
Flow <sup>1</sup> (mgd)	0.10	0.10	---	Continuous	Flow Meter
Annual Application Volume (ac-ft/yr)	---	---	31.9 <sup>2</sup>	Annually	Calculation
Annual Nitrogen Load (lb/ac/yr)	400 <sup>3,4</sup>		---	Quarterly	Calculation
Fecal Coliform <sup>5</sup> (CFU or MPN/100 mL)	23	240	---	Twice Weekly	Discrete
Total Nitrogen as N <sup>5</sup> (mg/L)	Monitor & Report		---	Monthly	Composite
Nitrate as N <sup>5</sup> (mg/L)	Monitor & Report		---	Monthly	Composite
Ammonia as N (mg/L)	Monitor & Report		---	Monthly	Composite
Crop Yield (tons/ac/yr)	Monitor & Report			Annually	Estimate

*Notes:*

1. Report irrigation and dust control flow separately; the 0.10 mgd limitation is the sum of these two flows, the meter reading.
  2. Determined from the irrigation requirements of the Effluent Management Plan (EMP).
  3. Report cumulative total in each discharge monitoring
  4. Annual nitrogen load limit includes reclaimed water and fertilizer. This load is from the EMP and may be adjusted as a minor modification based on the revised EMP.
  5. Sample results may be obtained from NEV20014 and reported by the Permittee.
- mgd: Million gallons per day.  
 lb/ac/yr: Pounds per acre per year.  
 as N: As nitrogen.  
 ac-ft/yr: Acre feet per year.  
 tons/ac/yr: Tons per acre per year.

**Rationale for Permit Requirements:**

Reclaimed water monitoring is required to assess the level of treatment being provided by EWRP, to assess the management of reclaimed water usage, and to protect groundwater quality. Fecal coliform and nitrogen species are required for monitoring the quality of reclaimed water being applied, and for protection of human health and the environment.

Flow: Flow is limited by the volume of reclaimed water requested in the permit application.

Total Application Volume: This parameter is required to be recorded and reported because it is a variable that is used to calculate the total mass of nitrogen applied to the cropland on a quarterly basis, which is used to reconcile the annual nitrogen balance.

Annual Nitrogen Load: The annual nitrogen load (lb/ac/yr) shall not be greater than the total annual nitrogen uptake. Calculations and monitoring data shall use the total nitrogen in the applied reclaimed water, total nitrogen from fertilizer applications, nitrogen uptake by crops or vegetation, etc.

Quarterly accounting of nitrogen load is required to track and verify timely management of nitrogen application throughout the progression of a calendar year. Each quarter, the cumulative annual amount of total nitrogen applied (January through December) shall be increased by the incremental amount of nitrogen applied during the reported quarter. Data provided in the fourth quarter annual report must demonstrate compliance with the annual nitrogen load allocated (January through December).

Fecal Coliform: The concentration of fecal coliform in reclaimed water discharged for irrigation is restricted in accordance with NAC 445A.276 for a 100-foot buffer zone.

Total Nitrogen: The total nitrogen concentration in the reclaimed water is required to determine the mass discharge to the irrigated areas.

Nitrate and Ammonia: Nitrate and ammonia are two of the nitrogen species used to calculate total nitrogen.

Crop Yield: The annual nitrogen load in the 1998 EMP was calculated based on the maximum nitrogen agronomic rate for alfalfa. Crop yield monitoring will confirm that using the maximum value was appropriate.

#### **Schedule of Compliance:**

The Permittee shall implement and comply with the provisions of the schedule of compliance, including in said implementation and compliance, any additions or modifications that the Division may make in approving the schedule of compliance.

- a. Upon issuance of the permit, the Permittee shall achieve compliance with all discharge limitations.
- b. **By MMM DD, 2008**, the Permittee shall submit to the Division for review and approval a revised Effluent Management Plan stamped by a Nevada licensed professional engineer.
- c. **By MMM DD, 2008**, the Permittee shall submit current cross-connection control documentation required by Part I.B.10. of the permit and annually thereafter, due with the fourth quarter report. The cross-connection control inspection shall be conducted by an American Water Works Association certified cross-connection control specialist.

#### **Proposed Determination:**

The Division has made the tentative determination to issue the proposed permit for a period of five (5) years. Under NAC 445A.232, this permit is classified as a Discharge of Treated Effluent

for Irrigation - 50,000 gallons or more but less than 250,000 gallons daily.

**Procedures for Public Comment:**

Notice of the Division's intent to issue a permit authorizing the facility to discharge reclaimed water to groundwater of the State via irrigation and dust control, subject to the conditions contained within the permit, is being sent to the **Elko Daily News** for publication. Notice is also 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, and must be postmarked, faxed, or e-mailed by **5:00 p.m. on April 18, 2008**. 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; 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 reason(s) why a hearing is warranted. Public hearings granted by the Division are 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.

Prepared by: Bruce Holmgren  
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February-March, 2008