

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T  
(pursuant to NAC 445A.236)

**Permittee Name:** University of Nevada (UNR), Reno Fire Science Academy  
100 University Avenue  
P. O. Box 877  
Carlin, Nevada 89822

**Permit Number:** NEV98016

**Description of Discharge:**

**Location:** The University of Nevada, Reno Fire Sciences Academy campus is located on the north side of Interstate 80 about four miles east of Carlin, Elko County, Nevada. The University of Nevada, Reno Fire Science Academy campus facility encompasses an Administration building, staff residence, a fire station, turnout building, food service building, classroom buildings, building & grounds facility, a fuel station, cabanas, a security kiosk, concrete fire exercise burn and other prop training pads, recycled fire water treatment system with storage ponds # 1 and #3, and wastewater treatment facilities with storage pond #2 for effluent reuse irrigation. Latitude: 40E 44' 10"N; Longitude: 116E 02' 30"W; Section 20, T. 33N., R. 53E. MDB&M.

**Characteristics:** Domestic wastewater generated within the facility is treated in an activated sludge, extended aeration package treatment plant which discharges tertiary treated, denitrified disinfected effluent into the HDPE double lined evaporation - storage pond #2. The Pond #1 is a double lined (HDPE) equalization basin which receives pretreated firewater from an oil-water separator system; pond #3 is a storage and polishing pond, which is double lined with HDPE and which receives firewater that has been chemically conditioned and further treated in a dissolved air flotation (DAF) system. Pond #1 and #3 have leak detection and collection systems. Treated effluent will be mixed with fresh water (supplemental) if needed, and then disinfected a second time, prior to seasonal reuse for campus landscape irrigation, or to approved rapid infiltration basins. Water from Pond #3 is pumped via the fire water pump station, and delivered to the fire suppression training exercise prop pads. Wash water from the fire station maintenance bay and truck wash is passed through a oil/sand/water separator before discharge into the force main.

**Treatment Plant Flow:**

Outfall 001: 0.020 MGD 30-Day Average; Maximum Daily 0.044 MGD

**Return Flow to Pond 1:**

Outfall 002: Monitor and Report

Limitations: **Outfall 001** is from the package wastewater treatment plant to Pond #2 for reuse storage. **Outfall 001a** is reuse water to the emergency rapid infiltration basins/wetlands. **Outfall 002** is return flow to pond 1 (equalization basin) after fire training use and pretreatment via oil - water separators. **Outfall 003** is the discharge to Polishing Pond #3. following treatment via chemical conditioning and a Dissolved Air Flotation (DAF) system treatment. **Outfall 004** is reuse campus irrigation **Outfall 004a** to RIBs/wetlands **Outfall 005** is reuse for dust suppression **Outfall 006** is a bleed stream not to exceed 10 GPM from Pond #3 to the wastewater treatment plant headworks for treatment such that water quality standards set for the wastewater treatment plant are not exceeded.

<u>EFFLUENT LIMITATIONS</u>	<u>DISCHARGE LIMITATIONS</u>	<u>MONITORING REQUIREMENTS</u>
	<u>30-day Ave.</u>	<u>Daily Max</u>
		<u>Measurement Frequency</u>

<b>INFLUENT FLOW:</b>	0.020 MGD	0.044 MGD	Daily
<b><u>OUTFALL 001:</u></b>			

<b>EFFLUENT:</b>			
<b>BOD<sub>5</sub>:</b>	30 mg/L	45 mg/L	Monthly
<b>TSS:</b>	30 mg/L	45 mg/L	Monthly
<b>Total Nitrogen as N:</b>	10 mg/L	M & R mg/L	Monthly
<b>NITRATE as N: mg/L</b>	M & R	M & R	Monthly
<b>FECAL COLIFORM:</b>	2.2 CFU/100 ml	23 CFU/100 ml	Monthly
<b>pH:</b>	Between 6.0 and 9.0 SU		Monthly

FOOTNOTE: CFU = Colony Forming Unit; M & R = Monitor and Report

1. Compliance point for reuse for Fecal Coliform applies at Outfall 001 (NAC 445A.276).

<b><u>FLOW 001a:</u></b> MGD	M & R	M & R	Each Event Calculate
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OUTFALL 002: - When discharges are active

<b>FLOW: GPD</b>	M & R	M & R	Weekly
<b>TPH: ppm</b>	M & R	M & R	Weekly field test
<b>8015 Modified</b>	M & R	M & R	Monthly lab test

OUTFALL 003 - POLISHING POND #3: - When discharges are active

<b>TPH: (method 1664)</b>	M & R mg/L	M & R mg/L	Weekly field test
	100 mg/L	M & R mg/L	Monthly lab test
<b>pH: SU</b>	M & R	M & R	Weekly
<b>TDS: mg/L</b>	M & R	M & R	Weekly



The fire training/burn/prop pads have a containment system using perimeter block barriers which serve as a berm. This system should ensure that no runoff of fire water occurs. Flows returning off of the exercise pads are directed into the dedicated collection sump system for conveyance to the treatment systems. The overspray area is underlined with a synthetic liner with a collection and conveyance system to remove any collected waters and carry these flows to the same treatment system.

**Receiving Water Characteristics:** Depth to groundwater is within 15 feet and is potable. There is no permitted discharge from the treated fire suppression waters to groundwater or surface water from this facility. Treated effluent is discharged to groundwater via reuse irrigation and other discharges.

**Procedures for Public Comment:**

The Notice of the Division's intent to renew the existing permit authorizing the facility to discharge treated waters from fire training exercises to lined ponds as a "Zero" Discharge facility subject to the conditions contained within the permit, and to discharge treated wastewater effluent for reuse irrigation and other uses is being sent to the Elko Daily Free Press 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 30 days following the date of the public notice, by **MM/DD 2007**. 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 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 reissue the proposed permit for a five (5) year period.

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**Proposed Schedule of Compliance and Special Conditions**

Any revisions to the O & M Manuals or to the Effluent Management Plan (EMP) shall be submitted to the Division on or before December 30, 2007.

**Rationale for Permit Requirements**

Monitoring is required to ensure that the package treatment plant provides the quality of effluent for reuse, that the ponds are operated and maintained properly, and that reuse and recycling of treated firewater suppression waters are conducted properly so that waters of the State are not degraded. Flows are monitored to track the quantities of water discharged from the various wastestreams.

Prepared by: Icycl C. Mulligan, ES MS  
April 2007  
July 2007