STATE OF NEVADA

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Department of Conservation & Natural Resources

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DIVISION OF ENVIRONMENTAL PROTECTION

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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Virgin Valley Water District
500 Riverside Road
Mesquite, NV 89027

Permit Number: NEV2004509

Location: Virgin Valley Water District, Arsenic Removal Plant #31
Latitude: 36° 46' 22" N, Longitude: 114° 04' 41" W
T13S, R71E, Section 29, MDB&M

Discharge Outfalls: **001**: 4" Backwash Recovery Basin discharge to the partitioned concrete-lined sludge drying bed

General: The applicant, Virgin Valley Water District (VVWD), has applied for a 5-Year Groundwater Discharge Permit, NEV2004509. VVWD supplies drinking water to the Mesquite and Bunkerville communities in Southern Nevada. The applicant proposes to use finished plant effluent to backwash a granular iron media (GIM) based arsenic removal system located at VVWD Arsenic Removal Plant #31, approximately two (2) miles south of Mesquite, in Clark County, Nevada. The arsenic removal system is necessary to lower arsenic levels in the drinking water to less than 0.010 mg/L. The arsenic removal process is achieved by adding ferric chloride (a coagulating compound) to the well water which adsorbs the arsenic to the floc particles. These floc particles are then removed in dual media pressure filters. These filters need to be cleaned periodically by backwashing the filter media. The backwash wastewater is sent to a backwash recovery basin to settle out the sludge and to recycle the supernatant to the head of the plant. The remaining sludge is then pumped periodically to a partitioned concrete-lined sludge drying bed (Drying Bed) where it will be further concentrated, dried, and later disposed of in a municipal landfill.

Flow: The facility's daily maximum flow is requested at 0.300 million gallons per day (MGD); the 30-day average flow rate is requested at 0.005 MGD.

Receiving Water Characteristics: Discharge is to the Drying Bed, with the potential to reach groundwaters of the state via percolation.

Site Groundwater: Depth to groundwater in the area is approximately 300 feet below ground surface. A public water supply (PWS) well located on-site is screened at a depth of 600 feet below ground surface. Groundwater flow direction is north, toward the Virgin River.

Corrective Action Sites: There are no Bureau of Corrective Actions remediation sites within a one-mile radius of the facility.

Well Head and Drinking Water Supply Protection: The facility is not located within an established Wellhead Protection Area (WHPA). The facility is not located within a Drinking Water Protection area (DWPA) however a public water supply (PWS) well (W13, PWS #NV0000167) is located approximately 6800 feet east of the facility. Backwash effluent discharged by this facility in accordance with permit limitations is not expected to adversely impact groundwater or the PWS well.

Proposed Discharge Limitations, Sampling and Monitoring Requirements: During the period beginning on the effective date of this permit and lasting until the permit expires, the Permittee is authorized to discharge filter backwash wastewater sludge to the Drying Bed.

Quarterly reporting is required by the permit.

Effluent samples and measurements for the discharge to the Drying Bed, Outfall 001, taken in compliance with the monitoring requirements specified below shall be collected at the following locations:

i. Backwash recovery basin discharge flow meter;
ii. Within the Drying Bed;
iii. Discharge from the backwash recovery basin to the Drying Bed.

The effluent discharge shall be limited and monitored by the Permittee in accordance with the following specifications:

Table I. Discharge Limitations, Sampling, and Monitoring Requirements

Parameters	Units	Discharge Limitations		Monitoring Requirements		
		30-Day Average	Daily Maximum	Sampling Locations	Monitoring Frequency	Monitoring Type
Discharge Flow Rate	MGD	M&R	0.300	i	Each Event	Flow Meter
Sludge Removed	tons	---	M&R	ii	Quarterly	Calculation
Arsenic	mg/l	---	M&R	iii	Quarterly	Discrete
Iron	mg/l	---	M&R	iii	Quarterly	Discrete
TDS	mg/l	---	M&R	iii	Quarterly	Discrete

Permittee must monitor and report the total event discharge to the Drying Bed. Report flow as daily maximum and 30-day average.

If there is no discharge to the Drying Bed during the reporting period, the Permittee shall enter "No Discharge" on the report for Discharge Flow Rate, Arsenic, Iron, and TDS.

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Nevada Division of Environmental Protection (Division), including in said implementation and compliance, any additions or modifications which the Division 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 **MMM DD, 2011**, the Permittee shall submit for review and approval, an Operations and Maintenance (O&M) Manual, compiled in accordance with appropriate sections of guidance document WTS-2, "*Minimum Information Required for an Operation and Maintenance Manual for a Wastewater Treatment Plant*", and signed by a Professional Engineer registered in the State of Nevada.

c. By **MMM DD, 2011**, the Permittee shall submit a set of "As Built" plans of the completed arsenic treatment plant, stamped by a Professional Engineer registered in the State of Nevada.

All schedule of compliance submittals and evidence of compliance documents shall be submitted to the Bureau of Water Pollution Control Compliance Coordinator at the address listed below:

Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701

Before implementing changes to an approved O&M Manual, the Permittee shall submit proposed changes to the Division for review and approval.

Rationale for Permit Requirements: The Division has established the monitoring requirements in Table I. to ensure that waters of the State are not degraded as a result of project activities.

Flow Limits: Maximum daily flow is 0.300 MGD; 30-day average flow is M&R.

Sludge Removed: M&R. Report quarterly, if applicable.

Arsenic: M&R. Sample and report quarterly, if applicable, to gain information on impoundment supernatant quality should a catastrophic leak in the Drying Bed occur.

Iron: M&R. Sample and report quarterly, if applicable, to gain information on impoundment supernatant quality should a catastrophic leak in the Drying Bed occur.

TDS: M&R. Sample and report quarterly, if applicable, to gain information on impoundment supernatant quality should a catastrophic leak in the Drying Bed occur.

Proposed Determination: The Division has made the tentative determination to issue the proposed permit for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue a new groundwater discharge permit authorizing this facility to discharge to a partitioned concrete-lined sludge drying bed for a five-year period, subject to the conditions contained within the permit, is being sent to the **Moapa Valley Progress** 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 for a period of thirty (30) days following the date of 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 comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **November 25, 2011 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.

Prepared by: Robert Wimer, Jr., E.I.
Date: October, 2011