STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
protecting the future for generations
Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Colleen Cripps, Ph.D., Administrator

FACT SHEET

(pursuant to NAC 445A.236)

Applicant: Las Vegas Valley Water District
1001 S. Valley View Blvd.
Las Vegas, NV 89153

Permit Number: NEV2012501

Facility Locations: Alfred Merritt Smith Water Treatment Facility residual solids drying beds
243 Lakeshore Road
Boulder City, Nevada 89005

Discharge Outfalls: **Outfall 001**: Common Discharge to Residual Solids Drying Beds
Latitude: 36° 04' 17.1" N Longitude: 114° 48' 50.6" W

General: The Applicant, Las Vegas Valley Water District (LVVWD), owns and operates a drinking water treatment facility, Alfred Merritt Smith Water Treatment Facility (AMSWTF), located at 243 Lakeshore Road, on Lake Mead, in Boulder City, Nevada. The AMSWTF uses a multi-stage water treatment process that includes ozonation, flocculation, multi-media filtration and chlorination to treat a maximum capacity of 600 million gallons per day (MGD). The AMSWTF routinely performs filter maintenance, which requires back-washing. The AMSWTF operates as a closed-loop facility, but twenty concrete-lined residual solids drying beds are used to collect and store filter backwash water and filter-to-waste from the multi-media filtration system, as well as occasional system overflows and plant drain discharges. As designed, and when constructed, operated, and maintained properly, water in the drying beds either evaporates or is recycled for reuse, with no discharge to groundwater.

The LVVWD has applied for a 5-Year Groundwater Discharge Permit, NEV2012501, to discharge filter backwash, and filter-to-waste (initial water flow to a filter after a backwash), from potable water treatment plant operations at the AMSWTF. Initially the backwash water is discharged to three sedimentation basins and two solids thickeners where suspended solids settle to the bottom, and from which the supernatant water is recycled and reused. The residual solids from the bottom of the thickeners are pumped to one of twenty drying beds that are lined with 6-inch thick concrete. Drainage flows occur only during cleaning or other non-routine activities. Filters are backwashed regularly. The twenty drying beds cover approximately 2 ¾ acres, and have a maximum design treatment capacity of 1.113 MGD. The facility maintains a minimum of 12 inches of freeboard in each of the drying beds at all times.

Flow: The facility's daily maximum discharge rate to the drying beds is requested at 0.25 MGD and the 30-day average flow rate is requested at 0.15 MGD. Current operational daily maximum discharge rate is 0.15 MGD, and the 30-day average discharge rate is 0.15 MGD.

Receiving Water Characteristics: The engineered drying beds, when constructed, operated

and maintained properly, prevent discharges to groundwaters of the State, the potential receiving water body.

Site Groundwater: The water table in the vicinity varies in depth from 12-70 feet below ground surface, and groundwater elevations at the site vary seasonally. Localized flow is primarily to the east, towards Lake Mead.

Well Head and Drinking Water Supply Protection: The facility and drying beds are not within 6,000 feet of any public water supply or drinking water protection area (DWPA). There is no established Wellhead Protection Area (WHPA) for this site.

Corrective Actions Sites: There are no identified Bureau of Corrective Actions (BCA) remediation sites within a one-mile radius of the facility and drying beds.

Proposed Discharge Limitations, Sampling and Monitoring Requirements: Specific sampling requirements are listed below in Table I, including frequency and location of sampling. Sampling shall be conducted at Outfall 001, prior to discharge to the drying beds.

Table I. Discharge Limitations, Sampling and Monitoring Requirements

Parameters & Units		Discharge Limitations		Sampling Locations	Monitoring Frequency	Monitoring Type
		30-Day Avg	Daily Max			
Flow [1]	MGD	0.15	0.25	001	Continuous	Flow meter/ calculation
pH	S.U.	M&R	---	001	Monthly	Discrete
Solids removed [2]	tons	M&R	---	001	Monthly	Field Measurement

NOTES:
1. Monitor daily, and report quarterly, daily maximum flow rate and 30-day average flow rate.
2. Monitor monthly, and report quarterly, the total mass of solids removed from the drying beds monthly.

MGD: Million gallons per day
S.U.: standard pH units
M&R: Monitor and Report

Rationale for Permit Requirements: The Division has established the monitoring requirements in Table 1 above to ensure that the potential receiving water body, groundwaters of the State, is not degraded as a result of permitted activities.

Flow: Flow is monitored and reported to ensure that the drying beds are operated to prevent discharge.

pH: M&R.

Solids removed: M&R. Monitor total mass of solids removed from all drying beds monthly.

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 which the Administrator may

make in approving the schedule of compliance:

- The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

- Within 90 days of the permit effective date (**MM DD, 2012**) the Permittee shall submit to the Division, for review and approval, two copies of an updated **Operations and Maintenance (O&M) Manual**. Before implementing changes to an approved Plan, the Permittee shall submit proposed changes to the Division for review and approval.

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 groundwater discharge permit authorizing the Permittee to discharge to drying beds for a five-year period, subject to the conditions contained within the permit, is being sent to 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 publication of the 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 **April 16, 2012 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: Jeryl R. Gardner, P.E.
Date: March 2012