

# SIXTH AMENDED

May 11, 2004

OFFICE OF THE STATE ENGINEER

STATE OF NEVADA

PERMIT NO. R-012

PERMIT

TO ESTABLISH AND OPERATE A PROJECT

TO RECHARGE, STORE AND RECOVER

UNDERGROUND WATER

**PERMITTEE:** Las Vegas Valley Water District  
3700 W. Charleston Boulevard  
Las Vegas, Nevada 89153

**SOURCE OF WATER:** Colorado River

**ANNUAL QUANTITY:** 15,000 acre-feet

## LOCATION OF PROPOSED PROJECT/RECHARGE WELLS:

The recharge wells will consist of the following Las Vegas Valley Water District wells:

Well Name	Well Location				
AR-1	T20S	R60E	SEC 23	NW $\frac{1}{4}$	SE $\frac{1}{4}$
AR-2	T21S	R60E	SEC 14	NW $\frac{1}{4}$	NE $\frac{1}{4}$
AR-3	T21S	R60E	SEC 14	NW $\frac{1}{4}$	NE $\frac{1}{4}$
AR-4	T21S	R60E	SEC 17	SW $\frac{1}{4}$	NE $\frac{1}{4}$
AR-6	T20S	R60E	SEC 33	SE $\frac{1}{4}$	SE $\frac{1}{4}$
AR-7	T20S	R60E	SEC 33	SE $\frac{1}{4}$	SE $\frac{1}{4}$
AR-8	T20S	R60E	SEC 34	SW $\frac{1}{4}$	SW $\frac{1}{4}$
AR-9	T20S	R60E	SEC 34	SW $\frac{1}{4}$	SW $\frac{1}{4}$
AR-10	T20S	R60E	SEC 15	NE $\frac{1}{4}$	SW $\frac{1}{4}$
AR-18	T22S	R60E	SEC 01	SE $\frac{1}{4}$	SE $\frac{1}{4}$
AR-74A	T19S	R60E	SEC 28	NE $\frac{1}{4}$	SW $\frac{1}{4}$
AR-74B	T19S	R60E	SEC 28	NE $\frac{1}{4}$	SW $\frac{1}{4}$
AR-93	T20S	R60E	SEC 28	NW $\frac{1}{4}$	NE $\frac{1}{4}$
AR-94	T20S	R60E	SEC 10	NW $\frac{1}{4}$	NW $\frac{1}{4}$
AR-95	T20S	R60E	SEC 08	SW $\frac{1}{4}$	SW $\frac{1}{4}$
AR-98	T20S	R60E	SEC 05	NW $\frac{1}{4}$	SE $\frac{1}{4}$
AR-100	T20S	R60E	SEC 09	SW $\frac{1}{4}$	SW $\frac{1}{4}$
AR-108	T20S	R60E	SEC 05	NE $\frac{1}{4}$	NW $\frac{1}{4}$
AR-109	T20S	R60E	SEC 05	NE $\frac{1}{4}$	NW $\frac{1}{4}$
AR-111	T21S	R60E	SEC 04	SE $\frac{1}{4}$	NE $\frac{1}{4}$
AR-113	T20S	R60E	SEC 07	NE $\frac{1}{4}$	NE $\frac{1}{4}$
WELL-118	T20S	R60E	SEC 08	SW $\frac{1}{4}$	SE $\frac{1}{4}$
WELL-119	T20S	R60E	SEC 08	SW $\frac{1}{4}$	SE $\frac{1}{4}$
WELL-120	T20S	R60E	SEC 08	NE $\frac{1}{4}$	SE $\frac{1}{4}$
WELL-121	T20S	R60E	SEC 08	SE $\frac{1}{4}$	SE $\frac{1}{4}$

The exact locations of these wells are on file in the office of the State Engineer.

### **RECOVERY WELLS:**

The wells listed under the **LOCATION OF PROPOSED PROJECT/RECHARGE WELLS** will serve as the recovery wells for the project. In addition, the following wells will also serve as recovery wells for the project:

<u>Well Name</u>	<u>Well Location</u>				
WELL-AZ0	T18S	R59E	SEC 34	NW¼	NW¼
WELL-AZ1	T18S	R59E	SEC 25	NE¼	SW¼
WELL-AZ2	T18S	R59E	SEC 25	NW¼	SW¼
WELL-AZ3	T18S	R59E	SEC 26	SW¼	NE¼
WELL-AZ4	T18S	R59E	SEC 25	SW¼	SE¼
WELL-AZ5	T18S	R59E	SEC 36	NE¼	NW¼
WELL-AZ6	T18S	R59E	SEC 26	SE¼	SE¼

### **AREA OF ACTIVE MANAGEMENT:**

The Las Vegas Artesian Ground Water Basin as described in State Engineer's Order No. 833, dated December 27, 1983.

### **DURATION OF PERMIT:**

This permit is issued for an indefinite period, subject to a periodic review by the State Engineer.

### **TERMS AND CONDITIONS OF PERMIT R-012**

1. The following data during recharge shall be collected and recorded:
  - A. The amount of water recharged at each well location on a daily basis. If electronic equipment is used for the collection of data on a daily basis, said equipment shall be physically checked and calibrated for proper operation on a weekly basis.
  - B. Water level measurements for each recharge well shall be taken prior to the start of any recharge cycle, followed by a water level measurement 24 hours after the start of any recharge cycle and then on a monthly basis thereafter.
  - C. The following water quality constituents shall be reported on a monthly basis: chloride, total dissolved solids (TDS), and electrical conductivity. In the event that more than one recharge well is served from the same reservoir only one sample from the reservoir is necessary.
  
2. The following data during recovery shall be collected and recorded:
  - A. The amount of water pumped from each recovery well on a daily basis. If electronic equipment is used for the collection of data on a daily basis, said equipment shall be physically checked and calibrated for proper operation on a weekly basis.
  - B. Water level measurements for each recharge well shall be taken prior to the start of any recovery/production cycle, followed by a water level measurement 24 hours after the start of any recovery/production cycle and then on a monthly basis thereafter.

- C. The following water quality constituents shall be reported twice a month for the first month of recovery, then on a monthly basis thereafter: chloride, total dissolved solids (TDS), and electrical conductivity.

3. Monitor Wells:

- A. All the wells listed above as recharge or recovery wells are authorized to be used as monitor wells.
- B. The use of any other well, except as stated above as a monitor well must be authorized by the State Engineer. The construction of any new monitor well must be of such a design acceptable to the State Engineer.
- C. Each accessible monitor well shall be sampled during any recharge or recovery period for electrical conductivity, TDS, and chloride on a monthly basis.
- D. Water level measurements for each monitor well shall be taken on a weekly basis during the first thirty (30) days of any recharge or recovery period, then on a monthly basis thereafter.

4. Groundwater Pumping Record:

A groundwater pumping record shall be kept prior to, during and after recharge or recovery of the Las Vegas Valley Water District wells in the immediate vicinity of the recharge project and included in any reports, as specified in item 8, to the State Engineer.

5. Collection of data:

- A. For each water quality sample or water level measurement taken pursuant to this permit, the permittee shall record the following information:
  - 1. The date, time and place of sample or measurement.
  - 2. The date or dates the analyses were performed.
  - 3. The person or persons who performed the analyses or measurements.
  - 4. The analytical techniques or methods used.
  - 5. The results of all the required analyses and measurements.

6. Recharge and Recovery Amount:

This permit for recharge shall be limited to no more than 15,000 acre-feet of recharged water in any calendar year. The amount of water recovered during any calendar year shall not exceed the amount established for this permit pursuant to an annual recovery plan as specified in item 8 and approved by the State Engineer.

7. Additional Monitoring by Permittee:

If the permittee collects any data other than required by the terms of this permit, using approved analytical standard and methods; the results of these analyses or measurements shall be included in any reports, as specified in item 8, to the State Engineer.

8. Annual Report:

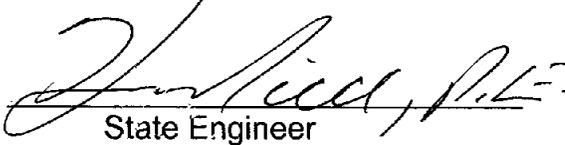
- A. The permittee must file with the State Engineer an annual report as required by NRS 534.280. The first annual report for calendar year 2004 shall be due no later than January 31, 2005. Each subsequent annual report will be no later than January 31 of each year. The annual report shall contain the following information:
1. Total recharge and recovery for each individual well for the calendar year;
  2. Total recharge and recovery for the entire project for the calendar year;
  3. Monitoring results analyzed and summarized for the calendar year;
  4. Hydrographs, which consists of data for the recharge/recovery period since inception of the recharge/recovery project, provided on graphs of adequate size, 8.5" X 11.0" minimum; and copies of all laboratory reports for the required analyses, arranged in chronological order, for each individual well or a statement that the laboratory reports are available to the Division of Water Resources upon request.
  5. A recovery plan for the anticipated amount of water to be recovered during the next calendar year.
  6. Water level projections in areas where recovery is anticipated to occur during the next calendar year.

9. The State Engineer shall levy and collect an annual fee from the permittee as prescribed in NRS 534.310.

10. The State Engineer reserves the right to change, modify or amend the terms and conditions of this permit based on just cause.

IN TESTIMONY WHEREOF, I HUGH RICCI, P.E., State Engineer of Nevada, have hereto set my hand and the seal of my office for approval of this permit.

This 11<sup>th</sup> day of May, A.D., 2004.

  
State Engineer