

IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA

IN THE MATTER OF APPLICATION 57988 FILED)  
TO APPROPRIATE UNDERGROUND WATER IN THE )  
STAGECOACH SUB-AREA IN DAYTON VALLEY, )  
LYON COUNTY, NEVADA. )

RULING

# 3933

GENERAL

I.

Application 57988 was filed on August 20, 1992 by Ronald W. Barton to appropriate 0.022 c.f.s. (cubic feet per second) of water from an underground source for quasi-municipal purposes to serve two houses in the NW1/4 NE1/4 Section 5, T.17N., R.23E., M.D.B.&M. The point of diversion is described as being within the NW1/4 NE1/4 Section 5 T.17N., R.23E., M.D.B.&M. Application 57988 became ready for the State Engineer's action November 22, 1992.<sup>1</sup>

II.

Water Resource-Reconnaissance Series Report #59, titled "Water Resources Appraisal of the Carson River Basin, Western Nevada", was prepared cooperatively by the Geological Survey, U.S. Department of the Interior and State of Nevada, Department of Conservation and Natural Resources. For the purposes of that report, the Carson River Basin was divided into seven hydrologic subareas; Carson Valley (Nevada part only), Eagle Valley, Dayton Valley, Churchill Valley, Carson Desert, Packard Valley and White Plains.<sup>2</sup>

III.

By order No. 487 dated January 22, 1973, the State Engineer designated and described the Dayton Valley Ground Water Basin as a ground water basin coming under the provisions of NRS 534.120.

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<sup>1</sup> Public record in the office of the State Engineer, Application 57988.

<sup>2</sup> Water Resources-Reconnaissance Series Report #59, public record in the office of the State Engineer.

FINDINGS OF FACT

I.

The potential estimated ground water recharge to Dayton Valley by precipitation is 7,900 acre-feet per year. An additional 1545 acre-feet is added from subsurface flow through alluvium from Eagle Valley and Carson Valley.<sup>2</sup> Therefore, the perennial yield of Dayton Valley is 9,445 acre-feet per year.

II.

The perennial yield of a hydrologic system is the maximum amount of water of usable chemical quality that can be consumed economically each year for an indefinite period of time. Perennial yield cannot exceed the natural replenishment to an area indefinitely is limited to the maximum amount of natural recharge that can be salvaged for beneficial use.<sup>3</sup>

If the perennial yield is continually exceeded, ground water levels will decline until the ground water reservoir is depleted. Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, reduced pumpage, uneconomical pumping lifts, land subsidence and reversal of ground water gradients which could result in significant changes in the recharge-discharge relationship. These conditions have developed in several other ground water basins within the State of Nevada where storage depletion and declining water levels have been recorded and documented.<sup>4</sup>

III.

Estimates of pumpage of ground water in Dayton Valley have been made by the division in 1977, 1979 and 1984. These years represent a below average water year, an average water year and a

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<sup>3</sup> Nevada State Engineer's Office, Water for Nevada, Report No. 3, p. 13.

<sup>4</sup> See attached Appendix of References.

good water year, respectively.<sup>5</sup>

The 1977 inventory estimated total pumpage to be 14,300 acre-feet in Dayton Valley while the 1979 inventory estimated that pumpage to be 15,930 acre-feet. The methodology used in deriving the estimates consisted of well power readings supplied by Sierra Pacific Power Company converted to pumpage of water.<sup>5</sup>

The 1984 pumpage of ground water in Dayton Valley, excluding the Stagecoach Sub-Basin, was determined to be approximately 6,000 acre-feet. This estimate was based on a survey of the houses, mining activity, water systems, and irrigated acreage in Dayton Valley. The Stagecoach Sub-Area is more difficult to estimate because of the rapid changeover from agricultural to quasi-municipal use. An estimate of the water use in the Stagecoach Sub-Area is 1600 acre-feet per year. Therefore, the total pumpage in Dayton Valley for 1984 is estimated to be 7600 acre-feet. This figure is almost 50% less than was estimated in the average water year of 1979, due to decreased amount of groundwater pumpage used for irrigation.<sup>5</sup>

#### IV.

The State Engineer finds that permits and certificates have been issued under existing rights for more than 30,000 acre-feet annually of ground water within Dayton Valley.<sup>6</sup>

#### V.

The State Engineer finds that permitted ground water appropriations in the Dayton Valley Ground Water Basin exceeds the perennial yield of the basin.

#### VI.

If additional water is appropriated and the resultant development causes detrimental effects, the State Engineer may order ground water withdrawals be restricted to conform to priority

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<sup>5</sup> Public record in the office of the State Engineer, Dayton Valley Pumpage Inventory.

<sup>6</sup> Public record in the office of the State Engineer, Hydrographic Basin Abstract 8-103.

rights.<sup>7</sup>

#### VII.

The State Engineer has previously denied applications to appropriate ground water from Dayton Valley for irrigation, quasi-municipal and municipal uses on the grounds that "Withdrawals of additional ground water in a basin in which appropriations of ground water substantially exceed the perennial yield of the basin would, therefore, adversely affect existing rights and be detrimental to the public interest and welfare."<sup>8</sup>

#### VIII.

By letter September 25, 1980, the State Engineer advised the Lyon County Department of Public Works that the Division of Water Resources has recommended disapproval of tentative subdivision maps within the Stagecoach Sub-Area of Dayton Valley where the source of water was to be individual domestic wells. The reasons for recommending disapproval are stated in the letter.<sup>1</sup>

In the same letter, the State Engineer expressed the following concerns regarding parceling:

As you know, land may be divided into 4 or less lots by the parceling procedure which is done at the county level and does not involve review with respect to water quantity by the Nevada Division of Water Resources. Because of the critical situation with regard to the ground water resource, I respectfully suggest that careful consideration be given before allowing parcel maps. Parceling should only be allowed where the public welfare can be served, such as in hardship cases, and should not be allowed where the intention is to circumvent the subdivision laws.<sup>1</sup>

#### IX.

By letter June 18, 1986, to the Lyon County Commissioners, the

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<sup>7</sup> NRS 534.110(6).

<sup>8</sup> Rulings 2084, 2493, 2583, 2588, 2593, 3022, 3708 and 3874, public records in the office of the State Engineer.

State Engineer re-stated his concern with parceling in the Stagecoach Sub-Area and strongly recommended that Lyon County not approve the division of large parcels or parcel maps in the Stagecoach area of Dayton Valley without a relinquishment of a certified water right or a withdrawal of a permitted water right equal to the amount allowed for domestic wells under the provisions of NRS 534.180.<sup>1</sup>

The State Engineer also stated in this letter that his office is continuing to request that Lyon County not approve any parceling in the Stagecoach Sub-Area without existing water rights being available to support that additional demand.<sup>1</sup>

X.

On May 11, 1992, the State Engineer received information pertaining to the parceling of the NW1/4 NE1/4 Section 5, T.17N., R.23E., M.D.B.&M. by Mr. Ronald W. Barton, the applicant of Application 57988. Mr. Barton's letter states:

The Lyon County Planning Commission "unanimously approved" the Split subject to your approval. We certainly recognize the water problem in Nevada and want to assure you that the "Lot Split" of the track is for residential use only. We are not planning to engage in a business or farming project.<sup>1</sup>

Recommendation to the Lyon County Planning concerning Mr. Barton's parcel map was made on July 23, 1992. The recommendation states:

The Nevada Division of Water Resources cannot endorse the parcel split of Lot 2, Section 5, T.17N., R.23E., M.D.B.&M. If Lot 2 is parceled, this office recommends that 2.02 acre-feet of water from a valid, certificated groundwater right in the Stagecoach Sub-Area be relinquished to the source, to compensate for the creation of the additional parcel. The reason for this is that since the Nevada Statute NRS 534.180 that allows for the use of water from a domestic well is a specific exemption of the Appropriation Procedures, every existing

parcel and every parcel created represents an appropriation of water that is otherwise unregulated.<sup>1</sup>

Please find enclosed copies of letters from this office dated September 25, 1980 and June 18, 1986. The State Engineer's view of the situation remains unchanged. This office is still concerned that present groundwater commitments exceed the perennial yield in the Stagecoach Sub-Area of the Dayton Valley Groundwater Basin and again recommends that Lyon County give this fact careful consideration before allowing parceling without the relinquishment of an existing water right.<sup>1</sup>

#### CONCLUSIONS

##### I.

The State Engineer has jurisdiction under the provisions of NRS Chapters 533 and 534.<sup>9</sup>

##### II.

The State Engineer is prohibited by law from granting a permit where:

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use conflicts with existing right, or
- C. The proposed use threatens to prove detrimental to the public interest.<sup>10</sup>

##### III.

The State Engineer concludes that existing ground water rights exceed the estimates of perennial yield in the Dayton Valley Ground Water Basin and in the Stagecoach Sub-Area, and that to approve an additional appropriation under Application 57988 from the limited ground water reservoir would adversely affect existing rights and be detrimental to the public interests.

##### IV.

The State Engineer concludes that development caused by the

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<sup>9</sup> NRS 533.025 and 533.030 subsection 1.

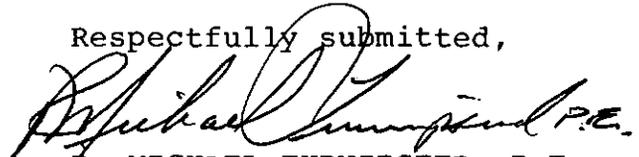
<sup>10</sup> NRS 533.370 subsection 3.

division of large parcels or the parceling into 4 or less lots in the Stagecoach Sub-Area without consideration of the ground water resource and without a relinquishment of a certified water right, or a withdrawal of a permitted water right equal to 2.02 acre-feet for each additional parcel created, would adversely affect existing rights and be detrimental to the public interest.

**RULING**

Application 57988 is denied on the grounds that the granting of this application for an appropriation of ground water in a basin where the water rights of record exceed the perennial yield would conflict with existing rights and be detrimental to the public interest.

Respectfully submitted,

  
R. MICHAEL TURNIPSEED, P.E.  
State Engineer

RMT/CAB/pm

Dated this 4th day of  
February, 1993.

## APPENDIX OF REFERENCES

Land subsidence in Las Vegas Valley, 1935-63, Information Series No. 5 U.S.G.S.

State of Nevada, Department of Highways, Report on Land subsidence in Las Vegas Valley.

Evaluation of the Water Resources of Lemmon Valley with Emphasis on Effects of Ground-Water Development to 1971, J.R. Harrill, Water Resources Bulletin No. 42, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1972.

Hydrologic Response to Irrigation Pumping in Diamond Valley, Eureka and Elko Counties, Nevada, 1950-65, J.R. Harrill, Water Resources Bulletin No. 35, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1968.

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Appendix of References

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Methods of Determining Permeability, Transmissibility and Drawdown, U.S. Geological Survey Water Supply Paper 1536-1, R.H. Brown, J.G. Ferris C.E. Jacob, D.B. Knowles, R.R. Meyer, H.E. Skibitzke and C.F. Theis, 1963.

Subsidence in Las Vegas Valley, John W. Bell, Nevada Bureau of Mines and Geology Bulletin 95.

Subsidence in United States due to Ground-Water Overdraft - A Review, J.F. Poland, Proceedings of the Irrigation and Drainage Division Specialty Conference, April 1973, American Society of Civil Engineers.