

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS 49473,) 49474 AND 49475 FILED TO APPROPRIATE) THE PUBLIC WATERS OF AN) UNDERGROUND SOURCE IN TRUCKEE) MEADOWS, WASHOE COUNTY, NEVADA.)

RULING

GENERAL

I.

Application 49473 was filed on October 23, 1985, by Washoe County to appropriate 1.0 c.f.s. of water from an underground source for quasi-municipal purposes within portions of T.18N., R.18E.; T.17N., R.18E.; T.17N., R.19E.; T.18N., R.19E.; T.18N., R.20E.; T.19N., R.20E.; T.18N., R.21E.; and T.17N., R.20E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 6, T.18N., R.20E., M.D.B.&M.¹

Application 49474 was filed on October 23, 1985, by Washoe County to appropriate 2.0 c.f.s. of water from an underground source for quasi-municipal purposes within portions of T.18N., R.18E.; T.17N., R.18E.; T.17N., R.19E.; T.18N., R.19E.; T.18N., R.20E.; T.19N., R.20E.; T.18N., R.21E.; and T.17N., R.20E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 7, T.18N., R.20E., M.D.B.&M.¹

Application 49475 was filed on October 23, 1985, by Washoe County to appropriate 2.0 c.f.s. of water from an underground source for quasi-municipal purposes within portions of T.18N., R.18E.; T.17N., R.18E.; T.17N., R.19E.; T.18N., R.19E.; T.18N., R.20E.; T.19N., R.20E.; T.18N., R.21E.; and T.17N., R.20E., M.D.B.&M. The point of diversion is described as being within the SW1/4 SE1/4 Section 8, T.18N., R.20E., M.D.B.&M.¹

II.

In 1973, Water Resources Reconnaissance Series Report 57, "A Brief Water Resources Appraisal of the Truckee River Basin, Western Nevada", by A. S. Van Denburgh, R. D. Lamke and J. L. Hughes, was prepared cooperatively by the Nevada Department of Conservation and Natural Resources, Division of Water Resources, and the U.S. Department of the Interior, Geological Survey. This report is available from the office of the State Engineer.

Nevada Bureau of Mines and Geology Report 25 (1975) titled "Evaluation of Geothermal Activity in the Truckee Meadows, Washoe County, Nevada". This report is available in the office of the State Engineer.

¹ Public record in the office of the State Engineer.

Water-Supply Paper 1779-S titled "Evaluation of Hydrogeology and Hydrogeochemistry of Truckee Meadows Area, Washoe County, Nevada", by Philip Cohen and Omar J. Loeltz, was prepared cooperatively by the U.S. Geological Survey and the Nevada Department of Conservation and Natural Resources. This report is available in the office of the State Engineer.

III.

Hearings in the matter of pending applications to divert water from the Truckee Meadows Ground Water Basin were held by the State Engineer on May 24, 1978, and on August 17, 1978.²

FINDINGS OF FACT

I.

By an order dated March 1, 1978, the State Engineer designated and described the Truckee Meadows Ground Water Basin as a ground water basin coming under the provisions of NRS Chapter 534.³

II.

It is estimated that the potential annual recharge to the ground water basin from precipitation is 27,000 acre-feet. The estimated annual sub-surface inflow of ground water is less than 1,200 acre-feet.⁴ Any consumptive withdrawal in excess of the natural recharge will either deplete the ground water reservoir or cause additional surface water to percolate into the ground water reservoir.

² See transcripts of hearings dated May 24, 1978, and August 17, 1978, public record in the office of the State Engineer.

³ Order No. 708 dated March 1, 1978, public record in the office of the State Engineer.

⁴ Water Resources Reconnaissance Series Report 57, pp. 38, 44 and 45, public record in the office of the State Engineer. In a preliminary report prepared by LeRoy Crandall and Associates, the perennial yield of the basin was estimated on the order of 25,000 acre-feet. The report further concluded, based on qualitative methods, that the "permissible" yield of the basin was 8,000 acre-feet, assuming all pumped ground water meets drinking water standards. The report also estimated that the total ground water in storage had decreased approximately 16,000 acre-feet in the period 1960 to 1977. See "Hydrologic Evaluation of the Truckee Meadows Basin, Washoe County, Nevada", by LeRoy Crandall and Associates, public record in the office of the State Engineer.

III.

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. If the perennial yield is continually exceeded, ground water levels will decline until the ground water reservoir is depleted of water of usable quality or until the pumping lifts become uneconomical to maintain. Perennial yield cannot exceed the natural replenishment to an area indefinitely, and ultimately is limited to the maximum amount of natural discharge that can be salvaged for beneficial use.⁵

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible 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 tables have been recorded and documented.⁵

IV.

Existing certificated and permitted ground water rights in the Truckee Meadows Ground Water Basin for municipal, wildlife, commercial, irrigation and other purposes now equal 68,000 acre-feet annually which exceeds the perennial yield of the basin of 25,000 acre-feet annually.¹

V.

The State Engineer, pursuant to NRS Chapter 534, has limited Sierra Pacific Power Company's annual underground pumpage within the Truckee Meadows Ground Water Basin to 12,000 acre-feet. Sierra Pacific Power Company holds permitted water rights in excess of 43,000 acre-feet annually.¹

⁵ See attached Appendix of References.

VI.

Previous applications for additional underground appropriations from the Truckee Meadows Ground Water Basin have been denied by the State Engineer.⁶ Where previous applications for similar use of water within the same basin have been rejected on the same grounds, the new applications may be rejected without publication.⁷

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action and determination.⁸

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁹

- A. There is no unappropriated water at the proposed source, or
- B. The proposed use conflicts with existing rights, or
- C. The proposed use threatens to prove detrimental to the public interest.

III.

Existing water rights for ground water in the Truckee Meadows Ground Water Basin exceed the annual recharge from precipitation and underflow. To grant additional appropriations would result in additional consumptive use in this designated basin. The additional withdrawals and consumption would remove water from the ground water reservoir which:

- A. Would not be replaced resulting in depletion of the ground water reservoir, or
- B. Would be replaced by infiltrating surface water that would otherwise remain in or return to the stream system.

⁶ See denied Applications 29430, 29442, 30923, 30924, 30925, 31503, 31504, 31505, 31823, 31824, 32539, 33124, 33125, 33126, 33289, 33357, 34548, 34549, 34550, 34551, 34552, 34553, 34554, 34555, 34556, 34641, 34642, 34683, 34684, 34717, 34718, 34719, 34723, 34756, 34895, 34896, 34943, 34972, 35034, 35035, 35036, 35037, 35071, 35076, 35132, 35205, 35485, 35514, 35635, 36184, 38037, 38038, 39399, 39878, 40988, 40989, 40990, 40991, 41034, 41035, 41036, 41826, 43788, 48038, 48522, 49035 and 49817 public record in the office of the State Engineer.

⁷ NRS 533.370(3)

⁸ NRS 533.025 and NRS 533.030, subsection 1.

⁹ NRS 533.370, subsections 1 and 4.

RULING

Applications 49473, 49474 and 49475 are herewith denied on the grounds that the appropriation of additional ground water as applied for would conflict with and tend to impair the value of existing rights and threaten to prove detrimental to the public interest and welfare.

Respectfully submitted,



PETER G. MORROS
State Engineer

PGM/DL/jjk

Dated this 20th day of

November, 1986.

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.

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The Effects of Pumping on the Hydrology of Kings River Valley, Humboldt County, Nevada, 1957-1964, G.T. Malmberg and G.F. Worts, Jr., Water Resource Bulletin No. 31, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

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Ground-Water Storage Depletion in Pahrump Valley, Nevada-California, 1962-75, J.R. Harrill, Open File Report 81-635, United States Geological Survey, 1982, prepared in cooperation with Nevada Division of Water Resources.

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Basic Ground-Water Hydrology, Ralph C. Heath, United States Geological Survey Water Supply Paper 2220, 1983.

Methods of Determining Permeability, Transmissibility and Drawdown, United States 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.

Appendix of References

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

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Ground-Water Hydraulics, S.W. Lohman, U.S. Geological Survey Professional Paper 708, 1979.