

IN THE OFFICE OF THE STATE ENGINEER

IN THE MATTER OF APPLICATIONS)
47253, 47254, 51455, 51456,)
51457, 52297, 52413, 52691,)
52718 AND 52719, FILED TO)
APPROPRIATE THE PUBLIC WATERS)
OF AN UNDERGROUND SOURCE IN)
TRUCKEE MEADOWS, WASHOE COUNTY,))
NEVADA.)

RULING

GENERAL

I.

Application 47253 was filed on September 19, 1983 by Washoe County to appropriate 3.0 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the S1/2 NW1/4, SW1/4 and E1/2 Section 27; and all of Sections 34 and 28; T.18N., R.20E., M.D.B.&M. The point of diversion is described as being within the SE1/4 NE1/4 Section 19, T.18N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 47253 is 776.375 million gallons annually.¹

Application 47254 was filed on September 19, 1983 by Washoe County to appropriate 3.0 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the S1/2 SW1/4 Section 22; and all of Sections 27, 28, and 34; T.18N., R.20E., M.D.B.&M. The point of diversion is described as being within the SE1/4 SE1/4 Section 19, T.18N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 47254 is 776.375 million gallons annually.¹

¹ Public record in the office of the State Engineer.

Application 51455 was filed on October 23, 1987 by Westpac Utilities to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes within the certified water service territory of Sierra Pacific Power Company as described in the legal description and shown on the supporting map on file in the office of the State Engineer, Division of Water Resources, State of Nevada. The point of diversion is described as being within the NE1/4 NE1/4 Section 15, T.19N., R.19E., M.D.B.&M.¹

The estimated consumptive use under Application 51455 is 2000.0 acre-feet annually.¹

Application 51456 was filed on October 23, 1987 by Westpac Utilities to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes within the certified water service territory of Sierra Pacific Power Company as described in the legal description and shown on the supporting map on file in the office of the State Engineer, Division of Water Resources, State of Nevada. The point of diversion is described as being within the NE1/4 SE1/4 Section 7, T.19N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 51456 is 2000.0 acre-feet annually.¹

Application 51457 was filed on October 23, 1987 by Westpac Utilities to appropriate 3.0 c.f.s. of water from an underground source for municipal purposes within the certified water service territory of Sierra Pacific Power Company as described in the legal description and shown on the supporting map on file in the office of the State Engineer, Division of Water Resources, State of Nevada. The point of diversion is described as being within the NW1/4 SE1/4 Section 31, T.19N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 51457 is 2000.0 acre-feet annually.¹

Application 52297 was filed on July 6, 1988 by Washoe County to appropriate 4.0 c.f.s. of water from an underground source for recreation purposes within portions of Section 1 and Section 12; T.19N., R.18E., M.D.B.&M. and the W1/2 Section 7; T.19N., R.19E., M.D.B.&M. The point of diversion is described as being within the NW1/4 NE1/4 Section 12, T.19N., R.18E., M.D.B.&M.¹

The estimated consumptive use under application 52297 is 574.0 acre-feet annually.¹

Application 52413 was filed on August 12, 1988 by the Board of Trustees, Washoe County School District to appropriate 1.0 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the NE1/2 NE1/4 Section 31, T.18N., R.20E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NE1/4 Section 31, T.18N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 52413 is 100.0 acre-feet annually.¹

Application 52691 was filed on November 4, 1988 by Washoe County to appropriate 3.0 c.f.s. of water from an underground source for recreation purposes within portions of NW1/4 SW1/4 and S1/2 SW1/4 Section 29; SE1/4 SE1/4 Section 30; E1/2 NE1/4 Section 31; and NW1/4 Section 32; T.20N., R.20E., M.D.B.&M. The point of diversion is described as being within the SE1/4 NW1/4 Section 32, T.20N., R.20E., M.D.B.&M.¹

The estimated consumptive use under application 52691 is 550.0 acre-feet annually.¹

Application 52718 was filed on November 18, 1988 by the Board of Trustees, Washoe County School District to appropriate 0.5 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the SW1/4 Section 21, T.18N., R.20E., M.D.B.&M. The point of diversion is described as being within the NW1/4 SW1/4 Section 21, T.18N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 52718 is 10.0 acre-feet annually.¹

Application 52719 was filed on November 18, 1988 by the Board of Trustees, Washoe County School District to appropriate 0.6 c.f.s. of water from an underground source for quasi-municipal and domestic purposes within the NE1/4 NW1/4 Section 27, T.18N., R.20E., M.D.B.&M. The point of diversion is described as being within the NE1/4 NW1/4 Section 27, T.18N., R.20E., M.D.B.&M.¹

The estimated consumptive use under Application 52719 is 12.0 acre-feet annually.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.

Water-Supply Paper 1779-S title "Evaluation of Hydrogeology and Hydrogeochemistry of Truckee Meadows Area, Washoe County, Nevada", by Philip Cohen and Omar J. Loeitz, 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

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.

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.

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

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 titled Hydrology Evaluation of the Truckee Meadows Basin, Washoe County, 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 also, "Hydrologic Evaluation of the Truckee Meadows Basin, Washoe County, Nevada", by LeRoy Crandall and Associates, public record in the office of the State Engineer.

⁵ See attached Appendix of References.

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 over 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

VI.

Previous applications for additional underground appropriations from the Truckee Meadows Ground Water Basin have been denied by the State Engineer.⁶

CONCLUSIONS

I.

The State Engineer has jurisdiction of the parties and the subject matter of this action and determination.⁷

II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:⁸

- 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.

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 and 49035 public record in the office of the State Engineer.

⁷ NRS 533.025 and NRS 533.030, subsection 1.

⁸ NRS 533.370.

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:

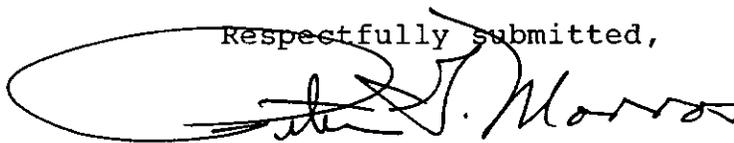
- A. Would not be replaced resulting in depletion of the ground water reservoir, or
- B. Would be replaced by infiltrating surface water that would otherwise remain in or return to the stream system.

The additional withdrawal and consumption of underground water as applied for would, therefore, conflict with and tend to impair the value of existing rights and threaten to prove detrimental to the public interest and welfare.

RULING

Applications 47253, 47254, 51455, 51456, 51457, 52297, 52413, 52691, 52718 and 52719 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.

Respectfully submitted,



PETER G. MORROS
State Engineer

PGM/HR/pm

Dated this 28th day of

December, 1989

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.

Effects of Irrigation Development on the Water Supply Quinn River Valley area, Nevada and Oregon, 1950-1964, C.J. Huxel, Jr., Water Resource Bulletin No. 34, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1966.

Hydrologic Response to Irrigation Pumping in Hualapai Flat, Washoe, Pershing and Humboldt Counties, Nevada, 1960-1967, J.R. Harrill, Water Resource Bulletin No. 37, United States Geological Survey and State of Nevada, State Engineer's Office, Division of Water Resources, Department of Conservation and Natural Resources, 1969.

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 Resources 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.

Effects of Ground-Water Development on the Water Regimen of Paradise Valley, Humboldt County, Nevada, 1948-1968, and Hydrologic Reconnaissance of the Tributary Areas, J.R. Harrill and D.O. Moore, Water Resource Bulletin No. 39, United States Geological Survey, 1970.

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.

Appendix of References
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Development of a Relation for Steady State Pumping Rate for Eagle Valley Ground-Water Basin, Nevada, F.E. Arteaga, T.J. Durbin, United States Geological Survey, 1978, prepared in cooperation with Nevada Division of Water Resources.

Basic Ground-Water Hydrology, Ralph C. Health, U.S. Geological Survey Water Supply Paper 2220, 1983.

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.

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