

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

IN THE MATTER OF APPLICATION 84721, )  
FILED TO APPROPRIATE THE UNDERGROUND )  
WATERS WITHIN THE ELKO SEGMENT )  
HYDROGRAPHIC BASIN (49), ELKO COUNTY, )  
NEVADA. )

**RULING**  
**#6358**

**GENERAL**

**I.**

Application 84721 was filed on January 16, 2015, by ESM 2, LLC to appropriate 1.10 cubic feet per second (cfs), not to exceed 400.0 acre-feet annually (afa), of groundwater for quasi-municipal purposes within the Elko Segment Hydrographic Basin. The proposed point of diversion is described as being located within the NW¼ SW¼ of Section 20, T.34N., R.55E., M.D.B.&M. The proposed place of use is described as being located within portions of the W½ of Section 17, the W½ NW¼ and the NW¼ SW¼ of said Section 20.<sup>1</sup>

**II.**

Application 84721 was timely protested by the City of Elko, in part, on the grounds that the Elko Segment Hydrographic Basin is currently over appropriated and that there is no unappropriated water at the proposed source, additional appropriations would conflict with existing rights, conflict with protectable interests in existing domestic wells and threaten to prove detrimental to the public interest.<sup>1</sup>

**FINDINGS OF FACT**

**I.**

Nevada Revised Statute § 533.365(4) provides that it is within the State Engineer's discretion to determine whether a public administrative hearing is necessary to address the merits of a protest to an application to appropriate the public waters of the state of Nevada. The State Engineer finds that there is sufficient information contained within the records of the Office of the State Engineer to gain a full understanding of the issues and a hearing on this matter is not required.

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<sup>1</sup> File No. 84721, official records in the Office of the State Engineer.

## II.

The Applicant filed an Answer to the protest by the City of Elko on June 10, 2015, asserting that the City of Elko is not currently using the total amount of water rights that it has acquired for municipal purposes. The Answer states that there are approximately 3,142 acre-feet of remaining duty that are not being placed to beneficial use by the City of Elko and this water should be available for appropriation by the Applicant.<sup>1,2</sup>

## III.

The perennial yield of a groundwater reservoir may be defined as the maximum amount of groundwater that can be withdrawn each year over the long term without depleting the groundwater reservoir. Perennial yield is ultimately limited to the maximum amount of natural discharge that can be utilized for beneficial use. The perennial yield cannot be more than the natural recharge to a groundwater basin and in some cases is less. If the perennial yield is exceeded, groundwater levels will decline and steady-state conditions will not be achieved, a situation commonly referred to as groundwater mining. Additionally, withdrawals of groundwater in excess of the perennial yield may contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, and land subsidence.<sup>3</sup>

The Division of Water Resources estimates that the perennial yield of the Elko Segment Hydrographic Basin is approximately 13,000 acre-feet combined with the Mary's Creek Area, Hydrographic Basin (52).<sup>4</sup> The committed groundwater resource in the form of permits and certificates issued by the State Engineer to appropriate underground water from the Elko Segment Hydrographic Basin currently totals about 20,494 afa.<sup>3</sup> The State Engineer finds that the existing

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<sup>2</sup> NRS § 533.360(3) requires that an applicant for quasi-municipal use whose reasonably expected rate of diversion is one-half cubic foot per second or more is required to mail a copy of the notice of application to each owner of real property containing a domestic well within 2,500 feet of the proposed well. In its Answer, the Applicant stated it was attempting to resolve the protest with the Protestant prior to performing the required notification to domestic well owners. The Applicant never complied with NRS § 533.360(3) despite being aware of the requirement. Because the application is subject to denial on other grounds, the State Engineer finds it would be futile to require the Applicant notify domestic well owners at this point, prior to the issuance of the ruling.

<sup>3</sup> Office of the State Engineer, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13, Oct. 1971.

<sup>4</sup> Nevada Division of Water Resources' Water Rights Database, Special Hydrographic Basin Abstract, Elko Segment Hydrographic Basin (49), accessed July 6, 2016, official records in the Office of the State Engineer, available at <http://water.nv.gov/data/underground/>.

groundwater rights in the Elko Segment Hydrographic Basin exceed the perennial yield of the groundwater basin.

#### IV.

Pumping from wells located near a surface-water source can induce recharge in excess of naturally occurring stream infiltration by increasing the hydraulic gradient between the stream channel and the well. This occurs regardless of when the stream is flowing, because groundwater storage depletion caused by pumping in one season will be replaced by enhanced recharge in the following season.

The proposed point of diversion is located close to the Humboldt River - a fully decreed surface-water source; therefore, the amount of any water that may be captured from the Humboldt River was estimated using Glover's solution.<sup>5</sup> For this analysis, transmissivity was estimated to be between 100 and 400 ft<sup>2</sup>/day and is best represented by a value of 250 ft<sup>2</sup>/day, the specific yield was estimated to be 0.15 for the proposed point of diversion.<sup>1</sup> The State Engineer finds that the Glover's analysis demonstrates that after a period of five years, reduction in stream flow caused by pumping from the proposed well under Application 84721 would be 54% of the pumped rate.

### CONCLUSIONS OF LAW

#### I.

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.<sup>6</sup>

#### II.

The State Engineer is prohibited by law from granting a permit under an application to appropriate the public waters where:<sup>7</sup>

- A. there is no unappropriated water at the proposed source;
- B. the proposed use or change conflicts with existing rights;

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<sup>5</sup> Glover, R. E., and C.G. Balmer, 1954, *River depletion resulting from pumping a well near a river*. Am. Geophysical Union Trans. v. 35; no. 3: 468-470; and see also, Jenkins, C.T., 1968, *Techniques of water-resources investigations of the United State Geological Survey* (Computation of rate and volume of stream depletion by wells). United States Geological Survey. Book 4, ch. D1; p. 17.

<sup>6</sup> NRS Chapter 533 and 534.

<sup>7</sup> NRS § 533.370(2).

- C. the proposed use or change conflicts with protectable interests in existing domestic wells as set forth in NRS § 533.024; or
- D. the proposed use or change threatens to prove detrimental to the public interest.

**III.**

The committed groundwater resource of the Elko Segment Hydrographic Basin exceeds the groundwater basin's estimated perennial yield. The State Engineer concludes that there is no unappropriated water available at the source.

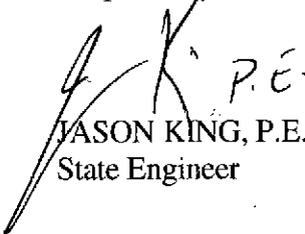
**IV.**

Glover's analysis demonstrates that after a period of five years, a well pumped under Application 84721 would capture 54% of the pumped rate from the surface-water source, which has existing senior decreed rights; therefore, the State Engineer concludes that Application 84721 will conflict with existing rights and threaten to prove detrimental to the public interest.

**RULING**

Application 84721 is hereby denied on the grounds that there is no unappropriated water available at the source and approval of the application would conflict with existing rights and threaten to prove detrimental to the public interest.

Respectfully submitted,

  
JASON KING, P.E.  
State Engineer

Dated this 1st day of  
September, 2016.