

MEMORANDUM

TO: File 37-8798

FROM: Daniel Nelson – Staff Hydrologist

DATE: January 7, 2017

SUBJECT: Licensing Review for 37-8798

This is the licensing review of the field exam submitted by Sandy Hemenway formerly in our state office. The field exam was done in 2012. The system associated with this permit allowed water to be diverted from a spring to provide heating for the sidewalks and outdoor decking of the Sun Valley Company lodge. The field exam has some issues that need to be addressed to prior to licensing of the permit.

History:

Water right 37-2678 originally supplied water from 2 hot springs to 2 homes for in-house use, heating, and a swimming pool. The total use allowed was 0.45 cfs. No volume was applied to this water right. In 1992, Sun Valley Company filed a water right transfer to change all of the uses to heating use for snow removal and deicing of the outdoor decking of the Sun Valley Company lodge and restaurant. During the review of the transfer, several field visits were performed, and it was discovered that the heating use was only diverted from the spring in the NWSWNW Section 14 in Township 4 North, Range 17 East, and only supplied 0.10 cfs worth of water from a 2 Hp pump.

The transfer was approved in 1992 for 0.10 cfs for heating use described as heating the outdoor decking of the Sun Valley Company lodge and restaurant in the NENW of Section 14 in Township 4 North, Range 17 East. All of the maps and documentation in the transfer only showed a single spring being used for the heating purposes, but both points of diversion were carried over to the approved transfer. The transfer was also approved showing a place of use only around the lodge.

In 1992, an application for permit was filed to bring the diversion rate for this project up to 0.45 cfs. This application described 2 springs in the SWNWNW and NWSWNW in Section 14 in Township 4 North, Range 17 East, and a place of use in the NENW of Section 14 in Township 4 North, Range 17 East. The permit was issued on December 4, 1997 as permit 37-8798.

A field exam was performed on the permit 37-8798 in 2014 and found that only one spring in the NWSWNW in Section 14 in Township 4 North, Range 17 East was being used to supply this permit and the place of use was in the Lot 4 (NWNW) and Lot 10 (NENW) in Section 14 in Township 4 North, Range 17 East.

Diversion Rate and Volume:

The field examiner recommended that system could provide up to 5.20 cfs. Therefore, the field examiner limited the diversion rate to the permitted amount of 0.35 cfs and the volume was calculated based on a continuous use of water for 62 days for a total annual volume of 43 af. These numbers seemed unreasonable, since the water was being pumped to the heat exchanger by a 5 Hp pump. One of the requirements of the permit was that the system have a measurement device installed on the system. There was no measurement device on the system at the time of the field exam.

Department staff then contacted the permit holder and they did install a measurement device on the system. The permit holder provided several photos of the measurement device to provide a maximum flow rate of possible flow rate of the system of 130 gpm or 0.29 cfs. However, the maximum capacity of the heat exchanger is 0.27 cfs. Department staff then complied an analysis of the heating system and found a required volume of 69.6 af. Please see Michele Edl's October 4, 2016 analysis memo for further information and correspondence between the permit holder and Ms. Eld.

Water right 37-2678 already provides 0.10 cfs and some accounted for volume to this system. Therefore, this permit should be limited to a diversion rate of 0.17 cfs. At a diversion rate of 0.17 cfs for the 130 days of continuous pumping described in Ms. Eld's memo, the maximum volume this permit can attribute to the system is 43.8 af ($0.17 \text{ cfs} \times 130 \text{ days} \times 1.9835 = 43.8 \text{ af}$). This permit should be licensed for 0.17 cfs and 43.8 af, with a condition that limits the use when this permit is combined with water right 37-2678 to a total annual volume of 69.6 af.

Point of Diversion and Place of Use:

The field examiner did provide maps showing the accurate placement of the point of diversion and place of use. As was found in the field visits for the water right transfer, the field examiner only found one point of diversion being used for this permit. The point of diversion should be further described in conditions as being in Mineral Survey 529B.

The field examiner provided a map that shows the place of use as being in the Lot 4 (NWNW) and Lot 10 (NENW). However, the field examiner only recommended Lot 10 (NENW) in the field report. An amendment will be sent to permit holder to correct the place of use to show both legal descriptions. This needs to be done to avoid putting the permit holder in non-compliance as soon as the license is issued.

Conditions:

Condition 1 (01J) should be changed to condition R43 as is standard. Condition 2 (027) shall be carried forward to licensing. Condition 4 (R04) will be changed to R05 as is standard. Condition 5 will be changed to better describe the heating use.

The normal practice is to drop condition 3 (09E) at licensing once we have found they are complying with water quality regulations. We will keep this condition on the amendment of permit and ask in cover letter that they show they have met the water quality standards.

Condition X35 will also need to be added to limit the combined volume to 69.6 af. The diversion rate will not need to be added into the condition, since the diversion rates will be additive when the two rights are combined.

Condition F06 will be added to the license to show water right 37-2678 is also diverted from the point of diversion. Condition J02 should be added and altered as follows to better describe the point of diversion:

Point of diversion is located within Mineral Survey 525B.