

**BEFORE THE DEPARTMENT OF  
NATURAL RESOURCES AND CONSERVATION  
OF THE STATE OF MONTANA**

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| <b>APPLICATION FOR BENEFICIAL<br/>WATER USE PERMIT NO. 43B 30070969<br/>BY LIVINGSTON HEALTHCARE</b> | )<br>)<br>) | <b>PRELIMINARY DETERMINATION TO<br/>GRANT PERMIT</b> |
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On 10/10/2014, Livingston HealthCare (Applicant) submitted Application for Beneficial Water Use Permit No. 43B 30070969 to the Billings Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC), and the application was routed to the Bozeman Water Resources Office for processing. The applicant has applied for 2.45 cubic feet per second (CFS), up to 1774 acre-feet (AF) of groundwater for geothermal heating and cooling of a new hospital. The Department published receipt of the Application on its website. The Application was determined correct and complete as of 4/8/2015. An Environmental Assessment for this Application was completed on 4/14/2015.

**INFORMATION**

The Department considered the following information submitted by the Applicant.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Attachments
- Maps:     Site Plan C-01 provided by Tetra Tech (consultant)  
              Figure 1: Site Map, Aerial Image with Section, Township, and Range  
              Figure 2: Point of Diversion and Place of Use, Aerial Image  
              Figure 3: Well and Infiltration Trench Locations, Aerial Image
- Aquifer Testing Addendum, Form 600-ATR
- Aquifer Test Data Form, Form 633
- Design Plans – Infiltration Trench and Groundwater Well
- Pump Specifications

- Well logs for test Wells A and B, drilled by Hayes Drilling and logged by Paul Lemire (Tetra Tech)

#### Information Received after Application Filed

- Aquifer Test Report dated 12/17/2014, Attila Fohnagy – DNRC Water Management Bureau
- Depletion Report dated 12/18/2014, Attila Fohnagy – DNRC Water Management Bureau

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

- Aquifer Test Variance dated 8/4/2015, Kerri Strasheim

### **PROPOSED APPROPRIATION**

#### FINDINGS OF FACT

1. The applicant proposes to divert groundwater year-round, by means of four production wells in the NWNWSW, Section 8, T2S, R10E, Park County, at rates up to 2.45 CFS and 1774 AF per year for geothermal heating and cooling a hospital. At any time, three wells may be operating while the fourth provides system redundancy. The appropriation will be non-consumptive as water will be returned to the aquifer through an infiltration trench. The hospital (place of use) will be located east of Livingston and the Yellowstone River in Section 8, T2S, R10E, Park County. Figure 1 shows the general project location.
2. The production wells will be located approximately 2,300 feet east of the Yellowstone River. Two test wells were completed to depths of 33.7 and 31 feet in an unconfined sand and gravel alluvial aquifer directly overlying a sandstone unit.
3. Water will be returned to the aquifer through a 100-foot, 8-inch diameter perforated plastic pipe installed 6 feet deep within an infiltration trench.



**Figure 1:** Site map provided by Applicant (callouts added by DNRC). Hospital is located east of Livingston and the Yellowstone River (not pictured). Blue squares indicate production wells, and the infiltration trench is located immediately north of the wells (drawn in blue).

**§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA**

**GENERAL CONCLUSIONS OF LAW**

4. The Montana Constitution expressly recognizes in relevant part that:
- (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
  - (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
  - (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

- (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
- (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

5. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

... the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:

(a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, “the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies.” § 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is “more probably than not.” Hohenlohe v. DNRC, 2010 MT 203, ¶¶33, 35.

6. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

(1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, “uncontrolled development of a valuable natural resource” which “contradicts the spirit and purpose underlying the Water Use Act.”); see also, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

7. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starnier (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court,

*Memorandum and Order* (2011). The Supreme Court likewise explained that:

.... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

8. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

9. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

## Physical Availability

### FINDINGS OF FACT

10. Applicant has requested groundwater up to 2.45 CFS and 1774 AF per year from a productive alluvial aquifer for geothermal heating and cooling.
11. Applicant requested a variance from the Aquifer Testing Rules because production wells were not completed at the time of application. The variance was granted because data submitted from two test wells were adequate for determining aquifer characteristics.
12. Forward modeling was used to predict aquifer drawdown (Aquifer Test Report, Fohnagy) based on the Applicant's pumping test results, constant pumping rates from the production wells (2.45 CFS total), recharge rate of the infiltration trench (2.45 CFS), a constant head boundary for the Yellowstone River, and a no-flow boundary for the Telegraph Creek Formation outcrop. The groundwater flux through the irregularly-shaped, 0.01-foot zone of influence was calculated as 14,464.3 AF.
13. Test Well A was completed to 33.7 feet with a static water level of 10.37 feet. Maximum drawdown was calculated as 1.4 feet (Aquifer Test Report, Fohnagy). After experiencing maximum drawdown, Well A would have 21.93 feet of available drawdown ( $33.7 - 10.37 - 1.4 = 21.93$  feet). Based on the Department's evaluation of the applicant's aquifer test and subsequent aquifer modeling, the requested flow and volume are physically available.

### CONCLUSIONS OF LAW

14. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate."
15. It is the applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-411 by Anson* (DNRC Final Order 1987)(applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

16. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

17. The Applicant has proven that water is physically available at the proposed points of diversion in the amount Applicant seeks to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF 10-16)

### **Legal Availability:**

#### **FINDINGS OF FACT**

18. Applicant has requested up to 2.45 CFS and 1774 AF per year for geothermal heating and cooling.

19. The proposed production wells will be located approximately 2,300 feet east of the Yellowstone River, which is the only surface water source hydraulically connected to the source aquifer. Depletions to the Yellowstone River will not occur because the proposed use is non-consumptive (Depletion Report, Fohnagy). Pumping and aquifer recharge rates are equal and the distance between the production wells and the infiltration trench (less than 700 ft) is small compared to the distance to the Yellowstone River (2,300 ft). Therefore, depletions will not manifest in the Yellowstone River.

20. Legal demands within the 0.01-foot zone of influence are 3.8 AF per year (Aquifer Test Report, Fohnagy). Groundwater Certificate 43B 107428-00 (Owners: Watson) is the only water right within the 0.01-foot zone of influence. This right is for 10 GPM up to 3.83 AF for stock from November 1 to May 1 with a priority date of February 24, 1999.

21. The aquifer within the zone of influence contains 14,460.5 AF of legally available water ( $14,464.3 - 3.8 = 14,460.5$  AF), which is sufficient to provide the requested 1774 AF.

#### **CONCLUSIONS OF LAW**

22. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

23. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005) (it is the applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

24. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility*

*Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing* Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing* Loyning v. Rankin (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No. 63997-42M by Joseph F. Crisafulli* (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage.) Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. § 85-2-311(a)(ii), MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ;

Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

25. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007)(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 (“DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator”; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-*

30045578 by *GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for “historic beneficial use” in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, supra.

26. Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. § 85-2-311(1)(a)(ii), MCA. (FOF 18-25).

### **Adverse Effect**

#### **FINDINGS OF FACT**

27. Applicant has requested up to 2.45 CFS and 1774 AF per year for geothermal heating and cooling. The proposed design returns diverted water to the aquifer through an infiltration trench located within 700 feet of the proposed production wells. The proposed appropriation is non-consumptive.

28. Surface water depletions will not occur as a result of this appropriation (Depletion Report, Folsnag). The Yellowstone River is the only surface water hydraulically connected to the source aquifer. Depletions will not manifest in the river because the appropriation is non-consumptive, and the land surface distance between the production wells and the infiltration trench is much smaller (500 to 700 feet) than the distance from the wells to the river (2,300 feet).

29. Forward modeling of potential aquifer drawdown indicates zero water rights within the zone of influence would experience drawdown greater than one foot. According to the well log submitted with the Notice of Completion for 43B 107428-00 (the only well water right located within the zone of influence), this well has 13 feet of available drawdown. Therefore, the owners

of 43B 107428-00 will be capable of reasonably exercising their diversion if this permit is granted.

30. Adverse effect to existing water users will not occur because the Yellowstone River will not be depleted and drawdown in the well of 43B 107428-00 will not exceed one foot.

#### CONCLUSIONS OF LAW

31. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected.

Analysis of adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co. (1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

32. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(8).

33. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 4.

34. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their “historic beneficial use.” See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

35. It is the applicant’s burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7

(legislature has placed the burden of proof squarely on the applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

36. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 8.

37. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b), MCA. (FOF 27-36)

### **Adequate Diversion**

#### **FINDINGS OF FACT**

38. Applicant has requested up to 2.45 CFS and 1774 AF per year for geothermal heating and cooling.

39. At any one time, water will be pumped from three of four production wells, each capable of pumping approximately 367 GPM. The HVAC system is designed for a maximum flow of 1100 GPM. The fourth well provides system redundancy during maintenance of wells/pumps.

40. Production wells will be completed in the sand and gravel alluvial aquifer, approximately 30 feet below ground surface. Wells will be completed with 10 feet of 12-inch diameter slotted screen at the bottom of the hole. Each well will be equipped with a 20 HP electric submersible pump. Applicant submitted pump curves demonstrating the capacity to pump 367 GPM.

41. Modeling the proposed pumping schedule indicates maximum drawdown in the production wells would be 1.4 feet (Aquifer Test Report, Fohnagy). Measurements of Test Well A indicate 23 feet of available drawdown.

42. Two, six-inch diameter test wells were pump tested at 295 GPM. Production wells will be larger than the test wells at 12-inch diameter, and therefore will likely be capable of producing

the requested 367 GPM per well. Pump curves supplied by the applicant indicate the pump design is capable of producing the requested flow rate.

43. Test wells have been drilled by a licensed well driller (Will Hayes, License #WWC-361). Pumping and geothermal systems have been designed by an engineer (Tetra Tech, consultant).

#### CONCLUSIONS OF LAW

44. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

45. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

46. Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. *In the Matter of Application for Beneficial Water Use Permit No. 41I-105511 by Flying J Inc.* (DNRC Final Order 1999).

47. Information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies, based upon project complexity design by licensed engineer adequate. *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002).

48. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. § 85-2-311(1)(c), MCA (FOF 38-47).

#### **Beneficial Use**

#### FINDINGS OF FACT

49. Applicant has requested up to 2.45 CFS and 1774 AF per year for geothermal heating and cooling of a 125,000 square-foot hospital. The requested flow rate and volume are based on an

engineer's HVAC design for the maximum rate of cooling during the summer, projected over 365 days.

50. The requested appropriation is non-consumptive as the diverted flow will be returned to the aquifer through an infiltration trench.

#### CONCLUSIONS OF LAW

51. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

52. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds, Dee Deaterly v. DNRC et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

53. It is the applicant's burden to produce the required evidence. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); see also Royston; Ciotti.

54. Applicant proposes to use water for geothermal heating and cooling which is a recognized beneficial use. § 85-2-102(4), MCA. Applicant has proven by a preponderance of the evidence geothermal heating and cooling is a beneficial use and that 2.45 CFS up to 1774 AF of diverted volume is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA, (FOF 49-53)

### **Possessory Interest**

#### **FINDINGS OF FACT**

55. The applicant signed the affidavit on the application form affirming the applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

#### **CONCLUSIONS OF LAW**

56. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

57. Pursuant to ARM 36.12.1802:

(1) An applicant or a representative shall sign the application affidavit to affirm the following:

(a) the statements on the application and all information submitted with the application are true and correct and

(b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.

(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the

authority of the representative to sign the application, such as a copy of a power of attorney.

(3) The department may require a copy of the written consent of the person having the possessory interest.

58. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. § 85-2-311(1)(e), MCA. (FOF 55-57)

### **PRELIMINARY DETERMINATION**

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 43B 30070969 should be GRANTED.

The Department determines the applicant may divert groundwater year-round, by means of four production wells, at 2.45 CFS up to 1774 AF, from points in the NWNWSW of Section 8, T2S, R10E, Park County, for year-round geothermal heating and cooling. The place of use is to be a new hospital located east of Livingston and the Yellowstone River in the NWNWSW of Section 8, T2S, R10E, Park County.

**NOTICE**

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §§ 85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the department preliminarily determined to grant the permit or change in appropriation right, the department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 4th day of August 2015.

/Original signed by Kerri Strasheim/  
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Kerri Strasheim, Manager  
Bozeman Regional Office  
Department of Natural Resources and Conservation