

Montana Department of Natural Resources and Conservation Water Resources Division Water Rights Bureau
<b>ENVIRONMENTAL ASSESSMENT</b> <b>For Routine Actions with Limited Environmental Impact</b>

**Part I. Proposed Action Description**

1. *Applicant/Contact name and address:* 4CALVS  
345 Spring Prairie Rd.  
Whitefish, MT 59937
2. *Type of action:* Permit to Appropriate Water 76LJ 30044584
3. *Water source name:* Groundwater
4. *Location affected by project:* E<sup>1</sup>/<sub>2</sub> SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub>, Section 6, Township 28N, Range 21W,  
Flathead County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*

This application is to obtain a water use permit for a groundwater appropriation of 94 gpm up to 35 AF/yr. The proposed use of water is for an open loop geothermal heat exchange system consisting of two wells that are completed in the same aquifer and are separated by a distance of 195 ft. One well will serve as the extraction (supply) well, while the other serves to inject (return well) the heat exchanged water back into the aquifer. This proposed appropriation will service the heating and cooling needs of the 16,000 ft<sup>2</sup> 4CAVS professional office building located in Kalispell, MT, which is approximately 23 miles north of the Flathead Indian Reservation’s most northern boundary. The proposed period of diversion is from January 1 – December 31, inclusive of each year.

6. *Agencies consulted during preparation of the Environmental Assessment:  
(include agencies with overlapping jurisdiction)*

Montana Natural Resource Program ..... Species of Concern  
 Montana Historical Society ..... Cultural Records Search  
 US Fish and Wildlife Service ..... Wetlands Mapper  
 Natural Resource Conservation Service ..... Web Soil Survey

## **Part II. Environmental Review**

### **1. Environmental Impact Checklist:**

<b>PHYSICAL ENVIRONMENT</b>
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#### **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

*Determination:* N/A.

**Water quality** - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

*Determination:* N/A

**Groundwater** - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

The proposed appropriation includes the use of two wells; a supply well and a return well. Both wells are completed in a confined alluvial aquifer. The supply well has a total depth of 320 ft., a static water level of 171.19 ft. below top of casing (TOC), and consists of an eight-inch casing with perforations from a depth of 306 ft. to 316 ft below TOC. The return well has a total depth of 260 ft., a static water level of 145.59 ft. below TOC, and consists of an eight-inch casing with perforations from a depth of 245 ft. to 255 ft below TOC.

The supply well will pump water at a rate of 94 gpm and pass 35 acre-feet of water through the heat exchanger each year. The water will return into the aquifer within minutes of being extracted, and therefore will not impact groundwater or surface water supply within the area. The water does not come into contact potential contaminants while passing through the mechanical system, however, the temperature of the water will either increase or decrease depending on the season.

*Determination:* The temperature of the water will be changed slightly prior to injection into the aquifer. This will likely not impair water quality within the aquifer.

**DIVERSION WORKS** - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

The water system consists of an 8-inch diameter, 320 ft. deep extraction well containing a 7.5 hp pump and an 8-inch, 260 ft injection well. Water diverted from the extraction well is to be routed through the heat exchanger and back to the injection well. The maximum design flow rate is 94 gpm as detailed in the mechanical specifications outlined by a professional engineer, which are included in the application. The project will utilize groundwater, therefore, there are no known significant impacts to channels, barriers, dams, riparian areas or modifications in flow.

*Determination:* No impact

**UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

**Endangered and threatened species** - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”*

The Montana Natural Heritage Program website was referenced to determine if there are any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern” in vicinity of Township 28N and Range 21W, that could be impacted by the proposed project. The US Fish and Wildlife Service identified the threatened Canada Lynx (*Lynx canadensis*) and Bull Trout (*Salvelinus confluentus*), and the delisted Gray Wolf (*Canis lupus*) and Bald Eagle (*Haliaeetus leucocephalus*). In addition the State of Montana, US Forest Service, and Bureau of Land Management identified the following species of special concern: Wolverine (*Gulo gulo*); Fisher (*Martes pennanti*); and Westslope Cutthroat (*Oncorhynchus clarkia lewisi*).

*Determination:* This proposed project will not change land use characteristics of the landscape because it is in the city limits of Kalispell. The source of the water is groundwater and therefore will not impact the listed aquatic species.

**Wetlands** - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

*Determination:* The proposed point of diversion and place of use are not within the boundaries of wetlands mapped by the national wetlands inventory program.

**Ponds** - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

*Determination:* N/A

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination:* This project is for a ground-source heating and mechanical system and therefore will not impact soil conditions in the area.

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination:* There will be no change in land-use characteristics associated with this permit.

**AIR QUALITY** - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

*Determination:* No impact.

**HISTORICAL AND ARCHEOLOGICAL SITES** - Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.

*Determination:* There will be no change in land-use characteristics associated with this change so there will be no significant impact.

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - Assess any other impacts on environmental resources of land, water and energy not already addressed.

*Determination:* None

<b>HUMAN ENVIRONMENT</b>
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**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

*Determination:* The project is consistent with planned land use.

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

*Determination:* The project is within the city limits of Kalispell, and therefore will not impact recreational and wilderness activities

**HUMAN HEALTH** - Assess whether the proposed project impacts on human health.

*Determination:* No impact.

**PRIVATE PROPERTY** - Assess whether there are any government regulatory impacts on private property rights.

Yes \_\_\_ No X \_\_\_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

*Determination:* No impact.

**OTHER HUMAN ENVIRONMENTAL ISSUES** - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

Impacts on:

- (a) Cultural uniqueness and diversity? No
- (b) Local and state tax base and tax revenues? No
- (c) Existing land uses? No
- (d) Quantity and distribution of employment? No
- (e) Distribution and density of population and housing? No
- (f) Demands for government services? No
- (g) Industrial and commercial activity? No
- (h) Utilities? No
- (i) Transportation? No
- (j) Safety? No
- (k) Other appropriate social and economic circumstances? No

**2. Secondary and cumulative impacts on the physical environment and human population:**

Secondary Impacts: None

Cumulative Impacts: None

**3. Describe any mitigation/stipulation measures:** None

**4. Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:**

The “no action” alternative to this proposed project will result in the landowner not having access to water for domestic purposes.

**PART III. Conclusion**

- 1. Preferred Alternative:** As proposed
- 2. Comments and Responses:** None

**3. Finding:**

Yes \_\_\_ No **X** Based on the significance criteria evaluated in this EA, is an EIS required?

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:* No significant impacts have been identified; therefore, no EIS is necessary.

*Name of person(s) responsible for preparation of EA:*

*Name:* Tim Eichner

*Title:* Water Resources Specialist

*Date:* August 6, 2009