



Expert Witness Report in Support of Application for Transfer No. 85639

IMH Boise Cimmaron, LLC

Project: 10346993

Canyon County, Idaho
December 7, 2023



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Application for Transfer 85639

Application for Transfer No. 85639 (the Application) proposes to change a portion of decreed ground water right 63-3298 from irrigation to domestic use for the Cimarron Ridge Subdivision located south of Caldwell in Canyon County, Idaho. The changed quantity is 0.52 cfs / 82.2 afa. Other changes include:

- Type of use is changed from irrigation to domestic.
- Season of use is changed from March 15 – November 15 to January 1 – December 31.
- Points of diversion are changed from two existing wells at T02N R03W Section 8 SESW to two new wells at T02N R03W Section 17 NWNW.
- Place of use is changed from 26 acres of irrigation at T02N R03W Section 7 SE1/4SE1/4, Section 8 S1/2SW1/4, and Section 17 N1/2NW1/4, SW1/4NW1/4 to domestic in the same tracts. The changed places of use represent lands that will be no longer be irrigated such as roads, rooftops, and other impervious areas.

The property subject to development is currently being irrigated under decreed water right 63-3298 and Permit 63-34320. Right 63-3298 authorizes diversion of 3.28 cfs and 738 acre-feet annually (afa) for primary irrigation of 164 acres. Permit 63-34320 authorizes diversion of 1.00 cfs for irrigation of 50 acres. In combination, 63-3298 and 63-34320 authorize irrigation of 214 acres with a diversion rate of 4.28 cfs.

Domestic use is proposed for 240 homes to be developed on the currently irrigated farm ground. The annual domestic demand for 240 homes, assuming 300 gpd per home, is approximately 81 afa. Using IDEQ criteria, peak-day domestic demand is approximately 200 gpm (0.45 cfs), and peak-hour domestic demand is 440 gpm (0.99 cfs). Peak-hour demands in excess of 0.52 cfs are provided from storage. Storage refills daily during peak use periods.

The potable water supplies for the homes will come from two new 8-inch diameter wells constructed to Public Drinking Water Supply standards and regulated by Idaho Department of Environmental Quality (IDEQ). The wells will each be designed to provide the peak day demand for the subdivision. Although one well could sufficiently meet the subdivision's domestic demands, a second well is required for redundancy. The domestic system will be separate from the irrigation system serving the subdivision. The domestic wells will be able to pump directly into the water distribution system, or to a storage tank and booster pump system if fire flows are required. Wastewater will be treated and disposed through community drain field systems or treated and reused for irrigation.

The unchanged portion of right 63-3298, being 2.76 cfs and 621 afa for irrigation of 138 acres, along with permit 63-34320, will serve the development's anticipated irrigation needs of 145 irrigated acres using the two existing irrigation wells and a new pressurized irrigation system.

Protests

Beranna Dairy (Beranna) and Western Farms, Inc. (Western Farms) filed protests against the Application. Both present basis of protest as nearly identical, stating the proposed use change:

- will injure protestant's water rights;
- will result enlargement in use under the Applicant's existing water rights;
- is contrary to the conservation of water resources within the State of Idaho; and
- will conflict with the local public interest.
- The proposed change from agricultural use to develop 240 residential lots adjacent to Beranna Dairy, in the midst of productive agricultural land, will significantly adversely affect the agricultural base of the local area.
- The Applicant is not entitled to develop its property as described in the transfer application.

Water Rights

Applicant's Water Rights

Water rights associated with the IMH Boise Cimarron, LLC property include:

- Decreed water right no. 63-3298 authorizes 3.28 cfs and 738 afa of ground water with a June 12, 1962 priority date for irrigation of 164 acres within a 240-acre place of use. The right describes two points of diversion and a season of use from March 15 to November 15. This right is changed by the Application.
- Water permit no. 63-34320 authorizes development of 1 cfs of ground water with a November 10, 2016 priority date for irrigation of 50 acres within a 214-acre place of use. The permit describes five points of diversion and a season of use from March 1 to November 15. This permit is unchanged by the Application.

Protestant's Water Rights

Beranna Water Rights

Beranna owns 15 decreed or licensed groundwater rights with 14 authorized points of diversion within 1.6 miles of the property involved in the Application. Beranna's wells are located primarily to the north and east of IMH property (Figure 1). The rights authorize use of water for irrigation, stockwater, and commercial uses associated with Beranna's dairy facilities and surrounding crop fields (Table 1). According to IDWR's online water right database, Beranna's nearest point of diversion to the IMH property is shown in the NWSE of Section 8, T2N R3W, roughly 1,200 feet from the IMH property's northeast corner. There are three more diversion points within a half-mile of the IMH property boundary. The remainder of Beranna's diversion points are more than 3,000 feet from the edge of the IMH property.

Table 1. Beranna Dairy Water Rights Near IMH

Water Right	Basis	Priority Date	Div. Rate (cfs)	Source	Water Use	Owner
63-2839	Decreed	9/14/1955	1.35	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-2921	Decreed	1/2/1953	1.04	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-3031	Decreed	3/14/1955	1.8	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-3329	Decreed	2/16/1963	2.06	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-3366	Decreed	8/26/1963	2.09	GROUND WATER	COMMERCIAL, IRRIGATION, STOCKWATER	BERANNA DAIRY
63-3396	Decreed	12/13/1963	1.2	GROUND WATER	COMMERCIAL, IRRIGATION, STOCKWATER	BERANNA DAIRY
63-8232	Decreed	10/28/1975	2.73	GROUND WATER	COMMERCIAL, IRRIGATION, STOCKWATER	BERANNA DAIRY
63-8253	Decreed	1/16/1976	1.16	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-10268	License	10/3/1984	1.54	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-11615	License	12/6/1991	1.47	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-11865	License	6/19/1992	1.47	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-21323	Decreed	3/15/1960	0.78	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-29025	Decreed	8/15/1960	0.64	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-32447	Decreed	4/13/1967	0.24	GROUND WATER	IRRIGATION	BERANNA DAIRY
63-33744	License	2/12/2013	0.3	GROUND WATER	IRRIGATION	BERANNA DAIRY; NORTHWEST FARM CREDIT SERVICES FLCA

Western Farms Water Rights

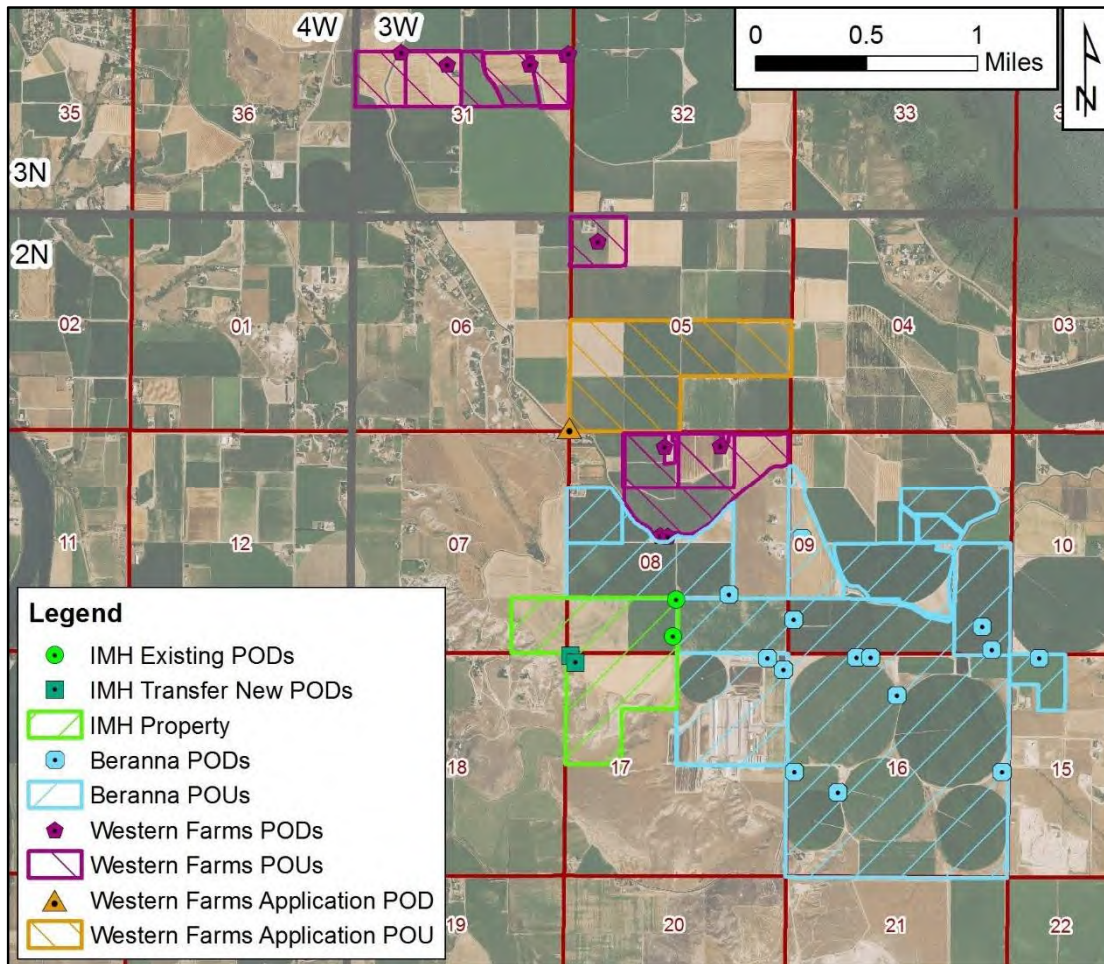
Western Farms owns 13 decreed or licensed rights and one application for permit, all with ground water as the source. Western Farms' wells are located primarily to the north of IMH property, within approximately 6.5 miles of the property involved in the Application. The rights authorize use of groundwater for irrigation, stockwater, and domestic uses (Table 2). IDWR's online database indicates Western Farms nearest diversion being approximately 1,450 feet from the IMH property and the furthest more than 6 miles distant from IMH property and northwest of Lake Lowell. Figure 1 includes Western Farms' wells that are within approximately 2.5 miles of the IMH property.



Table 2. Western Farms' Water Rights

Water Right	Basis	Priority Date	Div. Rate (cfs)	Source	Water Use	Owner
63-2903	Decreed	5/29/1952	1.1	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-3253	Decreed	8/4/1961	1.92	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-4840	Decreed	4/1/1916	0.04	GROUND WATER	DOMESTIC	WESTERN FARMS INC
63-8444	Decreed	2/14/1977	1.45	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-8453	Decreed	2/16/1977	1.44	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-10463	Decreed	4/27/1987	1.38	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-20644	Decreed	1/1/1955	0.08	GROUND WATER	DOMESTIC	WESTERN FARMS INC
63-20646	Decreed	1/1/1945	0.04	GROUND WATER	DOMESTIC	WESTERN FARMS INC
63-22089	Decreed	9/1/1952	0.04	GROUND WATER	DOMESTIC	WESTERN FARMS INC
63-22090	Decreed	8/1/1963	0.04	GROUND WATER	DOMESTIC	WESTERN FARMS INC
63-28191	Decreed	1/1/1908	0.08	GROUND WATER	DOMESTIC, STOCKWATER	WESTERN FARMS
63-33592	License	10/20/2011	0.02	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-33596	Decreed	4/23/1978	0.87	GROUND WATER	IRRIGATION	WESTERN FARMS INC
63-33900	WR App	1/16/2014	4.8	GROUND WATER	IRRIGATION	WESTERN FARMS INC

Figure 1. Water Rights Overview Map



Transfer Analysis

Injury

IMH has two existing PODs for irrigation uses associated with water right 63-3298, which is the right affected by the Application, and permit 63-34320, which is not affected by the Application. The Application also proposes to add two new points of diversion further into the interior of the IMH property which will be used solely to divert water for the proposed domestic uses. The existing points of diversion will be retained to supply irrigation water for the new subdivision.

Water Consumption

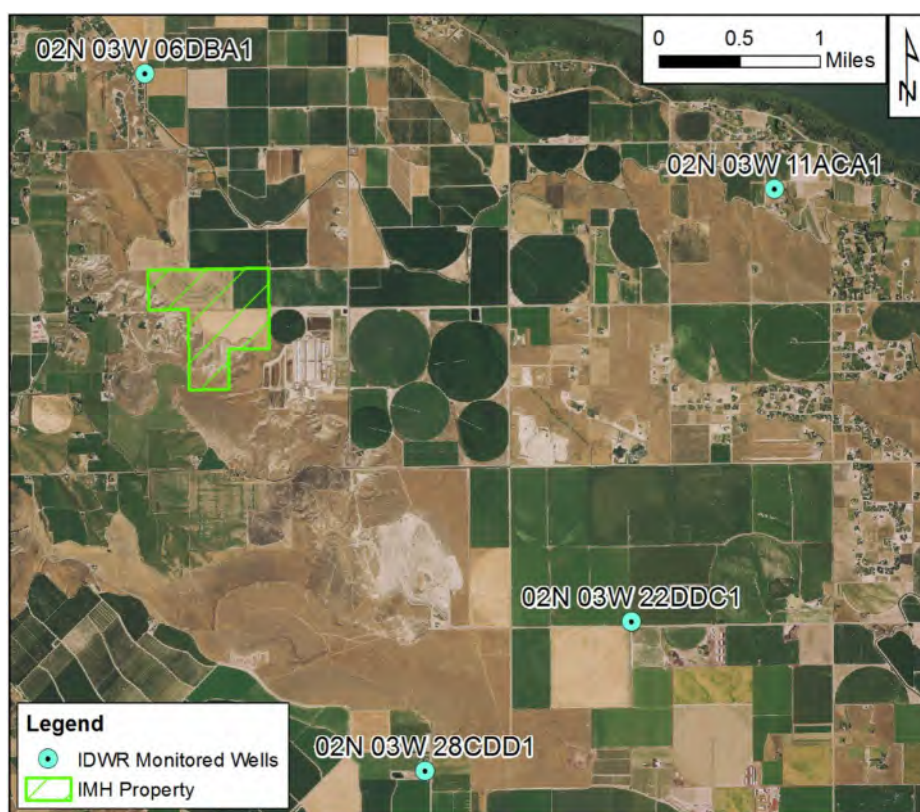
Water right 63-3298 associated with the IMH property currently allows the diversion of up to 3.28 cfs of groundwater to irrigate up to 164 acres within a 240-acre permissible place of use at a maximum application of 4.5 afa/acre. Permit 63-34320 allows an additional 1 cfs on 50 acres within the same permissible place of use at a maximum application of 4.5 afa/acre. The permit will not be changed by the Application. Water right 63-3298 will have its allowable irrigation diversion rate reduced by 0.52 cfs and the acre limit will be reduced from 164 acres to 138

acres. A domestic use diversion limit of 0.52 cfs will be added to the right with new points of diversion specifically for the domestic use. The net change in allowable diversion rate under the water right will be zero. The proposed domestic diversion rate of 0.52 cfs is less than the anticipated peak-day demand for the proposed subdivision, so diversions at 0.52 cfs will only occur sporadically (if ever) and typical water use will be much lower. This will lead to an overall reduction in groundwater diversion volume compared to when the 26 converted acres are irrigated for a full season. The transfer proposes to reduce the annual diversion volume for the 26 acres from 117 acre feet (at 4.5 acre feet per acre) to 82.2 acre feet (3.16 acre feet per acre), which is the consumptive use associated with 26 acres of irrigated land. Application attachment 8A provides a water balance documenting these calculations.

Groundwater Levels

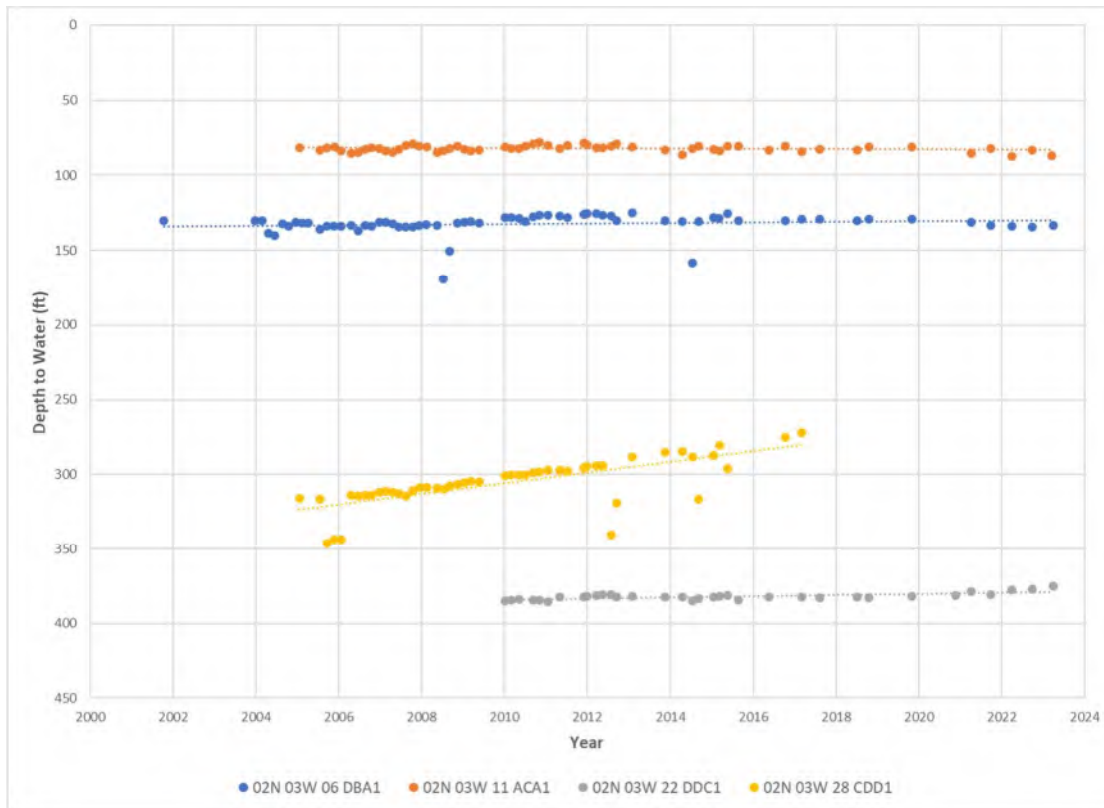
The Idaho Department of Water Resources (IDWR) maintains an online database of groundwater-level measurements taken from various wells within the state. Consistent records are available from four wells in the area surrounding the IMH property (Figure 2). The wells represent a variety of completion and target aquifer depths.

Figure 2. Groundwater Level Monitoring Wells



The available water level data for the four water-level monitoring wells is shown in Figure 3. Linear trendlines are provided to visually demonstrate water-level variations over an extended period and indicate that groundwater levels in the area have remained stable overall with at least two of the wells indicating a rising trend. These results suggest that the current quantity of groundwater diversion in the area is not negatively affecting aquifer storage.

Figure 3. Groundwater Level Data and Trends



Well Interference

The existing irrigation points of diversion for 63-3298 and 63-34320 are two wells located along the east edge of the IMH property (Figure 1). These points will continue to be used for irrigation within the proposed subdivision but will not be used to deliver water for domestic use. Two new wells located approximately ½-mile east of the existing wells will be constructed to public water system standards and used as the sole sources of supply for the domestic water system. No cross-connection between the domestic and irrigation systems is proposed. The Application will reduce the allowable diversion rate from the existing wells from 4.28 cfs to 3.76 cfs. This reduction will directly result in reduced interference between the existing wells on IMH property and Beranna's and Western Farms' existing points of diversion, and therefore will not cause injury to Beranna's or Western Farms' water rights.

The new wells proposed by IMH will have a combined maximum diversion rate of 0.52 cfs. Beranna's nearest point of diversion to the proposed domestic supply wells is associated with water right 63-3031 approximately 4,000 feet (~¾-miles) to the northeast. Western Farms' nearest point of diversion to the proposed domestic supply wells is associated with water right 63-8444 approximately 5,500 feet to the northeast (Figure 1).

Given that 1) the existing points of diversion for IMH irrigation will have a reduced pumping rate after the change, 2) the IMH irrigation wells are nearer to both Beranna's and Western Farms'

existing wells than the new IMH domestic wells, 3) the new IMH domestic well are more distant from the Beranna and Western Farms than the IMH irrigation wells, and 4) that the combined domestic and irrigation pumping rate will not exceed the currently authorized rate from the existing wells, the drawdown caused by the proposed domestic wells is unlikely to cause any noticeable change in water levels for Beranna's or Western Farms' points of diversion. Our analysis suggests an approximately 1-foot benefit. Changes proposed by the Application will not injure Beranna's or Western Farms' water rights.

The Application moves the aquifer stress away from the existing irrigation wells and towards the new domestic supply wells, which is expected to decrease water level interference to the north and east, while increasing water level interference to the south and west. The nearest home, expected to have a domestic well, is about 1000 feet southwest of the proposed domestic supply wells. We project a net 1 foot decrease in water levels to the southwest in the vicinity of this domestic well. This projected decrease in water levels in a domestic well does not rise to the level of injury.

Enlargement

The Application does not enlarge the quantity of water authorized for diversion, nor does it enlarge the place of use. The change does not enlarge the diversion rate, annual diversion volume, or consumptive use of water right 63-3298.

Water Conservation within the State of Idaho

The Application changes a portion of water right 63-3298 from irrigation use to domestic use. Diverting water for domestic use is a recognized beneficial use, and such use is consistent with the conservation of water resources within the State of Idaho.

Local Public Interest

The Application proposes no increase in diversion rate, annual diversion volume, or consumptive volume, is expected to have no adverse impact on the local public water resource, and is therefore in the local public interest. Wastewater will be treated and disposed through community drain field systems or treated and reused for irrigation, measures that will help protect the public water resource.

Canyon County has approved a development agreement for the proposed use, thereby further demonstrating that the Application is in the local public interest.

Local Economy

Local economic conditions impacted by the Application are anticipated to be positive (Moffett, 2023).

Local Agricultural Base

The Application will not significantly affect the agricultural base of the local area (Moffett, 2023).

Beneficial Use

The Application changes a portion of water right 63-3298 from irrigation use to domestic use. Domestic use is a recognized beneficial use in the State of Idaho.

Conclusions and Recommendations

The Application passes the water right transfer conditions of Idaho Code §42-222 and therefore should be approved.

References

Moffett, J. L. 2023. *Estimating the Effect of Cimarron Ridge on the Agricultural Base of Canyon County – Canyon County, Idaho*. Unpublished, Crested Butte: Triple Point Strategic Consulting.