LRE Water
909 Colorado Avenue
Glenwood Springs, CO 81601
(970)-945-6777 Voice
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Memorandum

To: BWCD BOARD OF DIRECTORS

From: ERIC MANGEOT

CC: CHRIS GEIGER

Date: NOVEMBER 28, 2023

File: APPLICATION

Applicant Name: Roaring Fork Ranch, LLC

Type of Use: Domestic _____ Commercial _____
Industrial _____ Agricultural __X__

Amount: __8.8__AF __0.045__ cfs __20__ gpm

Location: Area A __X__ Area B _____ Inclusion __X__
County: __GARFIELD__ Contiguous: _____
BWCD Division: __5__

Mid Valley Metro District Notice Required? Yes____ No__X__

Blue Creek Water Rights Applied? Yes____ No__X__

02CW77 Umbrella Plan Water Rights Applied? Yes__X__ No_____ **Cost:** __$1,200__

This application covers depletions associated with irrigation from a proposed well (a/k/a Gephardt Well). The total irrigated area is 6.0 acres and includes hay / pasture grass, nursery trees, and landscaping on a property owned by Roaring Fork Ranch, LLC (Applicant). The Blue Creek Lateral Tailwater Ditch North and South (20CW3162) also irrigates some of the same areas when available and in-priority. Total contract depletions are 8.8 acre-feet (AF) as shown on the attached tables. The Applicant's engineer (SGM) has provided a table of the contract depletions that are to be covered under the contract and Gephardt Well. From this table, LRE determined the amount of allowable diversions under the contract each month. LRE also utilized an individual Glover analysis for the lagged depletions.

The Gephardt Well and irrigated area are in Division 5 of the District; however, portions of the property are also within Division 3. The property is located in the SW1/4 of Section 29 and NW1/4 of Section 32, Township 7 South, Range 87 West of the 6th P.M. and totals approximately 70.4 acres, The physical address of the property is 16510 Highway 82, Carbondale, Colorado (Garfield County Parcel No. is 239129300084).

The Gephardt Well (20 gpm) located in the NE1/4 of the NW1/4, Section 32, Township 7 South, Range 87 West, of the 6th P.M. at a point UTM NAD83 Z13: 4364084m N, 315923m E. ***Figure 1*** provides a vicinity map depicting the location of the well. The proposed well shall be drilled at a sufficient depth so the well screen is hydraulically connected to the Roaring Fork River alluvium and not Blue Creek. Based on other nearby wells, including the Applicant's exempt well (Permit No. 317450), this should be the case. However, LRE recommends a term and condition to this effect be added to the water allotment contract.

Water User :	Roaring Fork Ranch, LLC	
Analysis Date :	November 28, 2023	
District Area:	A-4	
Source Series:	4	
Maximum Demand:	20	0.045
	(GPM)	(CFS)

BASALT WATER CONSERVANCY DISTRICT
WATER REQUIREMENTS
(acre feet)

	Gephardt Welll Total Demand						Gephardt Well Consumptive Use							
Month	(1) Domestic In-house	(2) Pond Evap.	(3) Lawn Irrigation	(4) Crop Irrigation	(5) Livestock	(6) TOTAL	(7) Domestic In-house	(8) Pond Evap.	(9) Lawn Irrigation	(10) Crop Irrigation	(11) Livestock	(12)* TOTAL	(13)* Delayed Depletions	(14) Source of Aug/Replace
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	GNM
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	GNM
March	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	GNM
April	0.00	0.00	0.00	0.60	0.00	0.60	0.00	0.00	0.00	0.35	0.00	0.39	0.15	GNM
May	0.00	0.00	0.00	2.28	0.00	2.28	0.00	0.00	0.00	1.44	0.00	1.60	0.67	GNM
June	0.00	0.00	0.00	2.65	0.00	2.65	0.00	0.00	0.00	1.64	0.00	1.82	1.24	GNM
July	0.00	0.00	0.00	2.74	0.00	2.74	0.00	0.00	0.00	1.67	0.00	1.86	1.57	GNM
August	0.00	0.00	0.00	2.74	0.00	2.74	0.00	0.00	0.00	1.66	0.00	1.84	1.72	GNM
September	0.00	0.00	0.00	1.26	0.00	1.26	0.00	0.00	0.00	0.80	0.00	0.89	1.47	GNM
October	0.00	0.00	0.00	0.33	0.00	0.33	0.00	0.00	0.00	0.23	0.00	0.26	0.94	GNM
November	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.05	0.00	0.06	0.50	GNM
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	GNM
TOTALS -->	0.00	0.00	0.00	12.68	0.00	**12.69**	0.00	0.00	0.00	7.84	0.00	8.71	**8.71**	

Area A-4
Roaring Fork River
Individual Glover

Assumptions

(1)	NUMBER OF RESIDENCES	0		(5)	# of Livestock @ 11 gals/day 0
	# persons/residence	3.5			
	# gallons/person/day	100		(7)	% CU for Domestic/Commercial 15
(2)	Commercial/Other Demand (af)	0.000	Office	(9)	% Lawn Irrig. Efficiency Varies
					Consumption of Irrig. (af/ac) 0.000
					(See SGM Calc)
(3)	Sq. Ft. of Lawn Irrigated	4,000		(10)	% Crop Irrig. Efficiency 80
	Lawn Application Rate (af/ac)	N/A			Consumption of Irrig. (af/ac) 2.058
(4)	Acres of Crop Irrigated (Total)	6.00		(9-10)	Elevation (feet) 6300
	Hay / Pasture Grass	1.30			
	Nursery Trees	1.80			
	Landscaping (grass and trees)	2.90			
	Crop Application Rate (af/ac)	See SGM Calc			

*(12), (13) Total Includes 5% Transit Loss
10% from Green Mtn.

Table 1: Demands and Augmentation Needs																
	Consumptive Use (CU)							Demand					Augmentation			
Crop:	*Pasture Grass*		*Nursery Trees*		*Berm Landscaping Grass & Trees*			*Pasture Grass*	*Nursery Trees*	*Landscaping Grass & Trees*			**Demands met:**		**CU of Demands Met by Non Exempt Well**	**BWCD Contract Water Needed** (including transit loss)
Month	Unit IWR Pasture Grass	IWR on Gebhardt Property *1.3 acres*	Unit IWR Orchard with Cover	IWR on Gebhardt Property *1.8 acres*	Unit IWR Orchard with Cover	IWR on Gebhardt Property *2.9 acres*	Total CU *6.0 acres*	*Sprinkler: efficiency of 75%*	*Micro-emitters: efficiency of 43%*	*Drip: efficiency of 85%*	**Total Crop Demand**		By Non Exempt Well	By Other or Not Met		*10% loss*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)
Units	AF/acre	AF	AF/acre	AF	AF/acre	AF	AF	AF	AF	AF	AF	gpm	gpm	gpm	AF	AF
Nov	-	-	0.01	0.02	0.01	0.03	0.05	-	0.04	0.04	0.08	0.6	0.6	-	0.05	0.05
Dec	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Jan	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Apr	0.02	0.02	0.07	0.13	0.07	0.20	0.35	0.03	0.29	0.28	0.60	4.6	4.6	-	0.35	0.39
May	0.42	0.54	0.19	0.34	0.19	0.55	1.44	0.72	0.80	0.76	2.28	16.6	16.6	-	1.44	1.58
Jun	0.64	0.83	0.41	0.74	0.41	1.19	2.76	1.11	1.72	1.64	4.46	33.7	20.0	13.7	1.64	1.80
Jul	0.60	0.78	0.49	0.88	0.49	1.42	3.08	1.03	2.05	1.96	5.05	36.8	20.0	16.8	1.67	1.84
Aug	0.32	0.42	0.33	0.59	0.33	0.96	1.97	0.56	1.38	1.32	3.26	23.8	20.0	3.8	1.66	1.82
Sep	0.26	0.33	0.10	0.18	0.10	0.29	0.80	0.44	0.42	0.40	1.26	9.5	9.5	-	0.80	0.88
Oct	0.14	0.19	0.01	0.02	0.01	0.03	0.23	0.25	0.04	0.04	0.33	2.4	2.4	-	0.23	0.26
Annual	**2.39**	**3.11**	**1.61**	**2.90**	**1.61**	**4.67**	**10.68**	**4.15**	**6.74**	**6.44**	**17.33**	**NA**	**NA**	**NA**	**7.84**	**8.62**

Notes CU = Consumptive use; IWR = Irrigation water requirement

(1) Modified Blaney-Criddle method for Pasture Grass Crop using TR-21 elevation adjusted coefficients

(2) =(Column 1) * 2.6 acres

(3) Modified Blaney-Criddle method for Orchard with Cover using TR-21 elevation adjusted coefficients

(4) =(Column 3) * 1.72 acres

(5) Modified Blaney-Criddle method for Orchard with Cover using TR-21 elevation adjusted coefficients

(6) =(Column 5) * 3.4 acres

(7) Total of (Column 2) + (Column 4) + (Column 6).

(8) =(Column 2)/[efficiency]. Typical efficiency for spinkler irrigation methods is 75%.

(9) =(Column 4)/[efficiency]. Trees in nuseries have contained roots which must have consistent irrigation to maintain soil moisture to allow for proper root absorption and to prevent disease, pests, and branch dieback. Additional water is also often applied to leaves as pest control. Irrigation efficiency is estimated at 43%: (60% of water applied reaches the root-ball or container) * (80% of water retained by the plant) * (90% to reflect an additional 10% application for pest control).

(10) =(Column 6)/[efficiency]. Typical efficiency for drip irrigation methods is 85%.

(11) Total of (Column 9) + (Column 10) + (Column 11).

(12) = Minimum of [(Column 11) or 20 gpm]. Permit Application was submitted requesting 45 gpm and 22 acre-feet annually. During stipulations, Applicant has agreed to a reduced rate of 20 gpm and an annual volumetric limitation of 17.6 AF/year.

(13) Applicant anticipates a maximum requirement of 36 gpm for all planned irrigation during peak demand season. Up to 20 gpm will be met by this non-exempt well. The remaining crop demand will be met from Applicant's water right for 0.99 cfs in the Blue Creek Lateral Tailwater Ditch North and South in Case No. 20CW3162 (when available). Or, if necessary, Applicant will deficit irrigate certain areas.

(14) = (Column 7) * (Column 12) / (Column 11)

(15) = (Column 14) with 10% to account for transit loss from BWCD replacement sources.

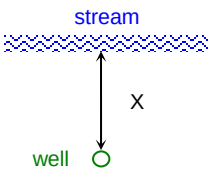
Well Pumping Depletion Model (WPDM)

1. Enter Project Description:

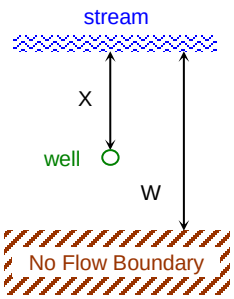
Roaring Fork Ranch, LLC
Individual Glover for Gephardt Well (pending)

2. Select One of the Following Four Aquifer Options:

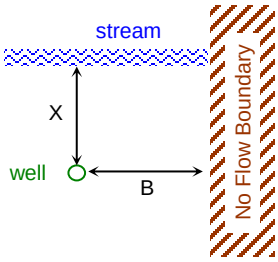
Option No. 1



Option No. 2



Option No. 3



Option No. 4

Boundary affects approximated by use of an effective stream depletion factor (sdf).

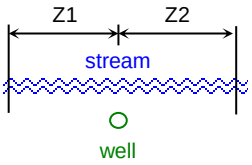
Option No. 2

3. Enter Physical Characteristics:

Clear Data: **Click to Clear Data**

Aquifer Transmissivity (gpd/ft):	100,000	(Required for Option Nos. 1, 2, or 3 only)
Aquifer Specific Yield:	0.20000	(Required for Option Nos. 1, 2, or 3 only)
Distance X (feet):	1,312	(Required for Option Nos. 1, 2, or 3 only)
Distance W (feet):	2,620	(Option No. 2 only)
Distance B (feet):		(Option No. 3 only)
sdf:		(Option No. 4 only)

For Option Nos. 1, 2, or 3, do you want to compute depletion for a segment of the stream? **No**



*Distance Z1 (feet):		(enter -99999 for negative infinity)
*Distance Z2 (feet):		(enter 99999 for infinity)

* Z1 can not exceed Z2, and Z2 can not exceed B.

Developed by Western Water Consulting, Inc.
Littleton, Colorado

303.794.9337
www.WesternWaterConsulting.com

Project Data Summary	
Aquifer Option:	Option No. 2
Transmissivity (gpd/ft):	100,000
Specific Yield:	0.20
Distance X (ft):	1,312
Distance W (ft):	2,620
Distance B (ft):	0
sdf:	0
Compute Depletion for Stream Segment?:	No
Distance Z1 (ft):	0
Distance Z2 (ft):	0

1. Clear All Previous Pumping Data and Depletion Results (including Item Nos. 3 and 4):

Click to Clear Previous Data & Results

2. Select Time Units:

3) Months

3. Enter Number of Pumping Periods: 360

Notes: a) Can not be greater than 3,600 periods.
b) execution time is faster if fewer pumping periods used.

4. Enter Starting Date: 1/1/2023

(e.g., enter 12/01/1950 for December 1, 1950)

5. Pumping Schedule and Depletion Results:

a) Below, enter the Pumping Rate (Col C, yellow cells) corresponding with the associated Pumping Period.

b) Cyclical Data Entry Option (not required):

Enter the number of pumping periods to cycle: 12

Enter the number of cycles: 10

Enter the pumping rates to cycle (Col C, yellow cells).

Click button to cycle data: Cycle Data

c) After the data have been entered, click on the button below to calculate the resulting stream depletion.

Calculate Stream Depletion

6. Graph:

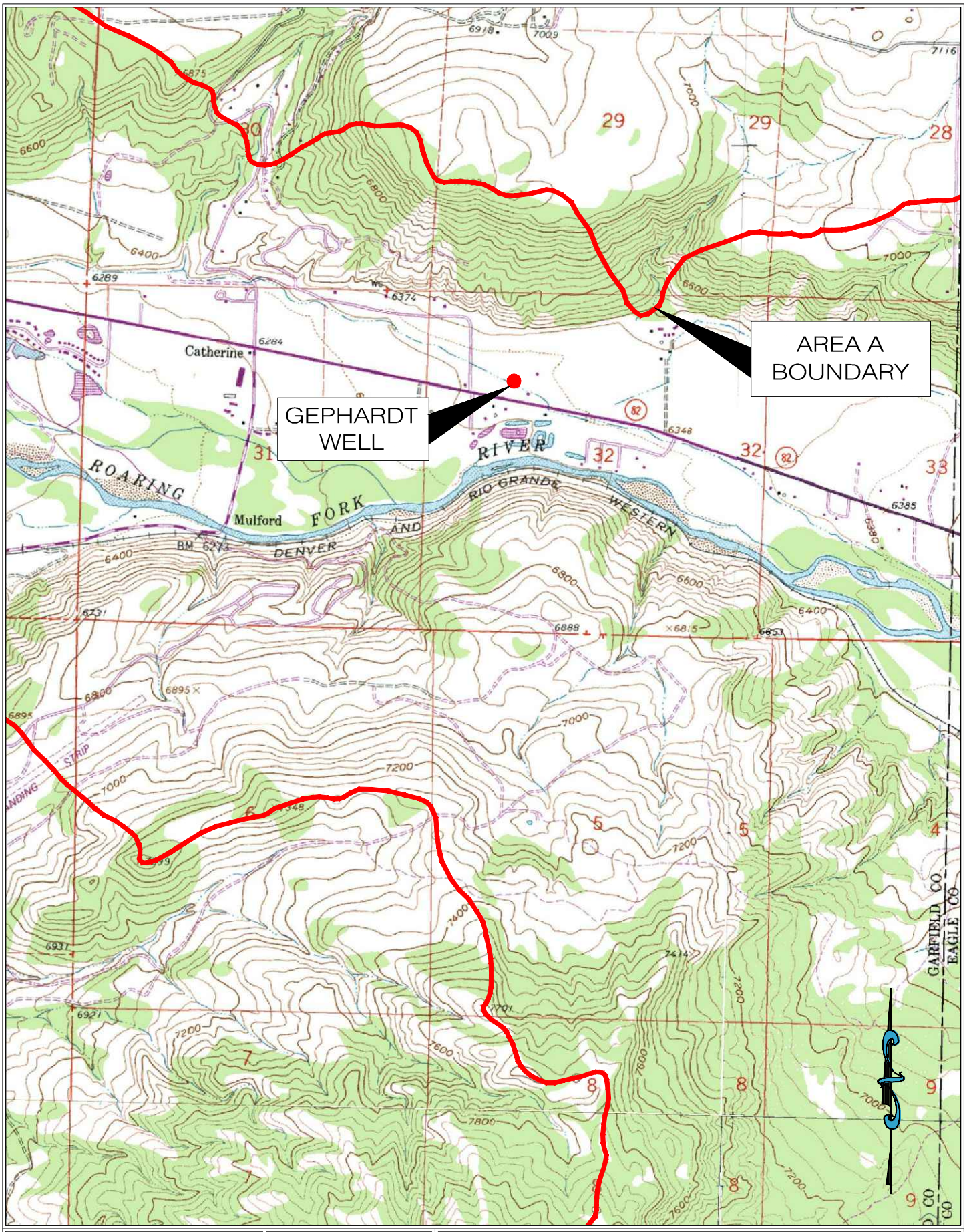
Select Data to Graph - 4) Depletion Rate

Click Button to Create Graph - Create Graph

Pumping Schedule			Pumping Summary		Depletion Summary		
Date	Pumping Period (months)	Pumping Rate (gpm)	Volume Pumped This Period (acre-feet)	Cumul. Volume Pumped (acre-feet)	Depletion Rate (gpm)	Volume of Depletion (acre-feet)	Volume of Depletion This Period (acre-feet)
1/1/2023	1	0.00	0.00	0.00	0.00	0.00	0.00
2/1/2023	2	0.00	0.00	0.00	0.00	0.00	0.00
3/1/2023	3	0.00	0.00	0.00	0.00	0.00	0.00
4/1/2023	4	4.60	0.62	0.62	2.60	0.20	0.20
5/1/2023	5	16.60	2.23	2.85	10.42	1.16	0.95
6/1/2023	6	20.00	2.69	5.54	15.55	2.95	1.79
7/1/2023	7	20.00	2.69	8.23	17.86	5.21	2.26
8/1/2023	8	20.00	2.69	10.91	18.97	7.70	2.48
9/1/2023	9	9.50	1.28	12.19	13.57	9.82	2.13
10/1/2023	10	2.40	0.32	12.51	7.44	11.18	1.35
11/1/2023	11	0.60	0.08	12.59	3.81	11.90	0.72

Pumping Schedule			Pumping Summary		Depletion Summary		
Date	Pumping Period (months)	Pumping Rate (gpm)	Volume Pumped This Period (acre-feet)	Cumul. Volume Pumped (acre-feet)	Depletion Rate (gpm)	Volume of Depletion (acre-feet)	Volume of Depletion This Period (acre-feet)
12/1/2023	12	0.00	0.00	12.59	1.80	12.26	0.36
1/1/2024	13	0.00	0.00	12.59	0.87	12.43	0.17
2/1/2024	14	0.00	0.00	12.59	0.42	12.52	0.08
3/1/2024	15	0.00	0.00	12.59	0.20	12.56	0.04
4/1/2024	16	4.60	0.62	13.21	2.70	12.78	0.22
5/1/2024	17	16.60	2.23	15.44	10.47	13.74	0.96
6/1/2024	18	20.00	2.69	18.13	15.57	15.54	1.80
7/1/2024	19	20.00	2.69	20.82	17.87	17.80	2.27
8/1/2024	20	20.00	2.69	23.51	18.97	20.29	2.48
9/1/2024	21	9.50	1.28	24.78	13.57	22.42	2.13
10/1/2024	22	2.40	0.32	25.11	7.44	23.77	1.35
11/1/2024	23	0.60	0.08	25.19	3.81	24.49	0.72
12/1/2024	24	0.00	0.00	25.19	1.81	24.85	0.36
1/1/2025	25	0.00	0.00	25.19	0.87	25.03	0.17
2/1/2025	26	0.00	0.00	25.19	0.42	25.11	0.08
3/1/2025	27	0.00	0.00	25.19	0.20	25.15	0.04
4/1/2025	28	4.60	0.62	25.80	2.70	25.37	0.22
5/1/2025	29	16.60	2.23	28.04	10.47	26.33	0.96
6/1/2025	30	20.00	2.69	30.72	15.57	28.13	1.80
7/1/2025	31	20.00	2.69	33.41	17.87	30.40	2.27
8/1/2025	32	20.00	2.69	36.10	18.97	32.88	2.48
9/1/2025	33	9.50	1.28	37.38	13.57	35.01	2.13
10/1/2025	34	2.40	0.32	37.70	7.44	36.36	1.35
11/1/2025	35	0.60	0.08	37.78	3.81	37.09	0.72
12/1/2025	36	0.00	0.00	37.78	1.81	37.45	0.36
1/1/2026	37	0.00	0.00	37.78	0.87	37.62	0.17
2/1/2026	38	0.00	0.00	37.78	0.42	37.70	0.08
3/1/2026	39	0.00	0.00	37.78	0.20	37.74	0.04
4/1/2026	40	4.60	0.62	38.40	2.70	37.96	0.22
5/1/2026	41	16.60	2.23	40.63	10.47	38.93	0.96
6/1/2026	42	20.00	2.69	43.32	15.57	40.72	1.80
7/1/2026	43	20.00	2.69	46.00	17.87	42.99	2.27
8/1/2026	44	20.00	2.69	48.69	18.97	45.47	2.48
9/1/2026	45	9.50	1.28	49.97	13.57	47.60	2.13
10/1/2026	46	2.40	0.32	50.29	7.44	48.96	1.35
11/1/2026	47	0.60	0.08	50.37	3.81	49.68	0.72
12/1/2026	48	0.00	0.00	50.37	1.81	50.04	0.36
1/1/2027	49	0.00	0.00	50.37	0.87	50.21	0.17
2/1/2027	50	0.00	0.00	50.37	0.42	50.30	0.08
3/1/2027	51	0.00	0.00	50.37	0.20	50.34	0.04
4/1/2027	52	4.60	0.62	50.99	2.70	50.56	0.22
5/1/2027	53	16.60	2.23	53.22	10.47	51.52	0.96
6/1/2027	54	20.00	2.69	55.91	15.57	53.32	1.80
7/1/2027	55	20.00	2.69	58.60	17.87	55.58	2.27
8/1/2027	56	20.00	2.69	61.29	18.97	58.07	2.48
9/1/2027	57	9.50	1.28	62.56	13.57	60.20	2.13
10/1/2027	58	2.40	0.32	62.88	7.44	61.55	1.35
11/1/2027	59	0.60	0.08	62.97	3.81	62.27	0.73
12/1/2027	60	0.00	0.00	62.97	1.81	62.63	0.36
1/1/2028	61	0.00	0.00	62.97	0.87	62.81	0.17
2/1/2028	62	0.00	0.00	62.97	0.42	62.89	0.08
3/1/2028	63	0.00	0.00	62.97	0.20	62.93	0.04
4/1/2028	64	4.60	0.62	63.58	2.70	63.15	0.22
5/1/2028	65	16.60	2.23	65.81	10.47	64.11	0.96
6/1/2028	66	20.00	2.69	68.50	15.57	65.91	1.80
7/1/2028	67	20.00	2.69	71.19	17.87	68.17	2.27
8/1/2028	68	20.00	2.69	73.88	18.97	70.66	2.48
9/1/2028	69	9.50	1.28	75.15	13.57	72.79	2.13
10/1/2028	70	2.40	0.32	75.48	7.44	74.14	1.35
11/1/2028	71	0.60	0.08	75.56	3.81	74.87	0.73
12/1/2028	72	0.00	0.00	75.56	1.81	75.23	0.36

Pumping Schedule			Pumping Summary		Depletion Summary			
Date	Pumping Period (months)	Pumping Rate (gpm)	Volume Pumped This Period (acre-feet)	Cumul. Volume Pumped (acre-feet)	Depletion Rate (gpm)	Volume of Depletion (acre-feet)	Volume of Depletion This Period (acre-feet)	
1/1/2029	73	0.00	0.00	75.56	0.87	75.40	0.17	
2/1/2029	74	0.00	0.00	75.56	0.42	75.48	0.08	
3/1/2029	75	0.00	0.00	75.56	0.20	75.52	0.04	
4/1/2029	76	4.60	0.62	76.18	2.70	75.74	0.22	
5/1/2029	77	16.60	2.23	78.41	10.47	76.71	0.96	
6/1/2029	78	20.00	2.69	81.10	15.57	78.50	1.80	
7/1/2029	79	20.00	2.69	83.78	17.87	80.77	2.27	
8/1/2029	80	20.00	2.69	86.47	18.97	83.25	2.48	
9/1/2029	81	9.50	1.28	87.75	13.57	85.38	2.13	
10/1/2029	82	2.40	0.32	88.07	7.44	86.73	1.35	
11/1/2029	83	0.60	0.08	88.15	3.81	87.46	0.73	
12/1/2029	84	0.00	0.00	88.15	1.81	87.82	0.36	
1/1/2030	85	0.00	0.00	88.15	0.87	87.99	0.17	
2/1/2030	86	0.00	0.00	88.15	0.42	88.08	0.08	
3/1/2030	87	0.00	0.00	88.15	0.20	88.11	0.04	
4/1/2030	88	4.60	0.62	88.77	2.70	88.34	0.22	
5/1/2030	89	16.60	2.23	91.00	10.47	89.30	0.96	
6/1/2030	90	20.00	2.69	93.69	15.57	91.10	1.80	
7/1/2030	91	20.00	2.69	96.38	17.87	93.36	2.27	
8/1/2030	92	20.00	2.69	99.06	18.97	95.85	2.48	
9/1/2030	93	9.50	1.28	100.34	13.57	97.97	2.13	
10/1/2030	94	2.40	0.32	100.66	7.44	99.33	1.35	
11/1/2030	95	0.60	0.08	100.74	3.81	100.05	0.73	
12/1/2030	96	0.00	0.00	100.74	1.81	100.41	0.36	
1/1/2031	97	0.00	0.00	100.74	0.87	100.59	0.17	
2/1/2031	98	0.00	0.00	100.74	0.42	100.67	0.08	
3/1/2031	99	0.00	0.00	100.74	0.20	100.71	0.04	
4/1/2031	100	4.60	0.62	101.36	2.70	100.93	0.22	
5/1/2031	101	16.60	2.23	103.59	10.47	101.89	0.96	
6/1/2031	102	20.00	2.69	106.28	15.57	103.69	1.80	
7/1/2031	103	20.00	2.69	108.97	17.87	105.95	2.27	
8/1/2031	104	20.00	2.69	111.66	18.97	108.44	2.48	
9/1/2031	105	9.50	1.28	112.93	13.57	110.57	2.13	
10/1/2031	106	2.40	0.32	113.26	7.44	111.92	1.35	
11/1/2031	107	0.60	0.08	113.34	3.81	112.64	0.73	
12/1/2031	108	0.00	0.00	113.34	1.81	113.01	0.36	
1/1/2032	109	0.00	0.00	113.34	0.87	113.18	0.17	0.01
2/1/2032	110	0.00	0.00	113.34	0.42	113.26	0.08	0.01
3/1/2032	111	0.00	0.00	113.34	0.20	113.30	0.04	0.00
4/1/2032	112	4.60	0.62	113.96	2.70	113.52	0.22	0.02
5/1/2032	113	16.60	2.23	116.19	10.47	114.49	0.96	0.08
6/1/2032	114	20.00	2.69	118.87	15.57	116.28	1.80	0.14
7/1/2032	115	20.00	2.69	121.56	17.87	118.55	2.27	0.18
8/1/2032	116	20.00	2.69	124.25	18.97	121.03	2.48	0.20
9/1/2032	117	9.50	1.28	125.53	13.57	123.16	2.13	0.17
10/1/2032	118	2.40	0.32	125.85	7.44	124.51	1.35	0.11
11/1/2032	119	0.60	0.08	125.93	3.81	125.24	0.73	0.06
12/1/2032	120	0.00	0.00	125.93	1.81	125.60	0.36	0.03
1/1/2033	121		0.00	125.93	0.87	125.77	0.17	12.59



LRE WATER

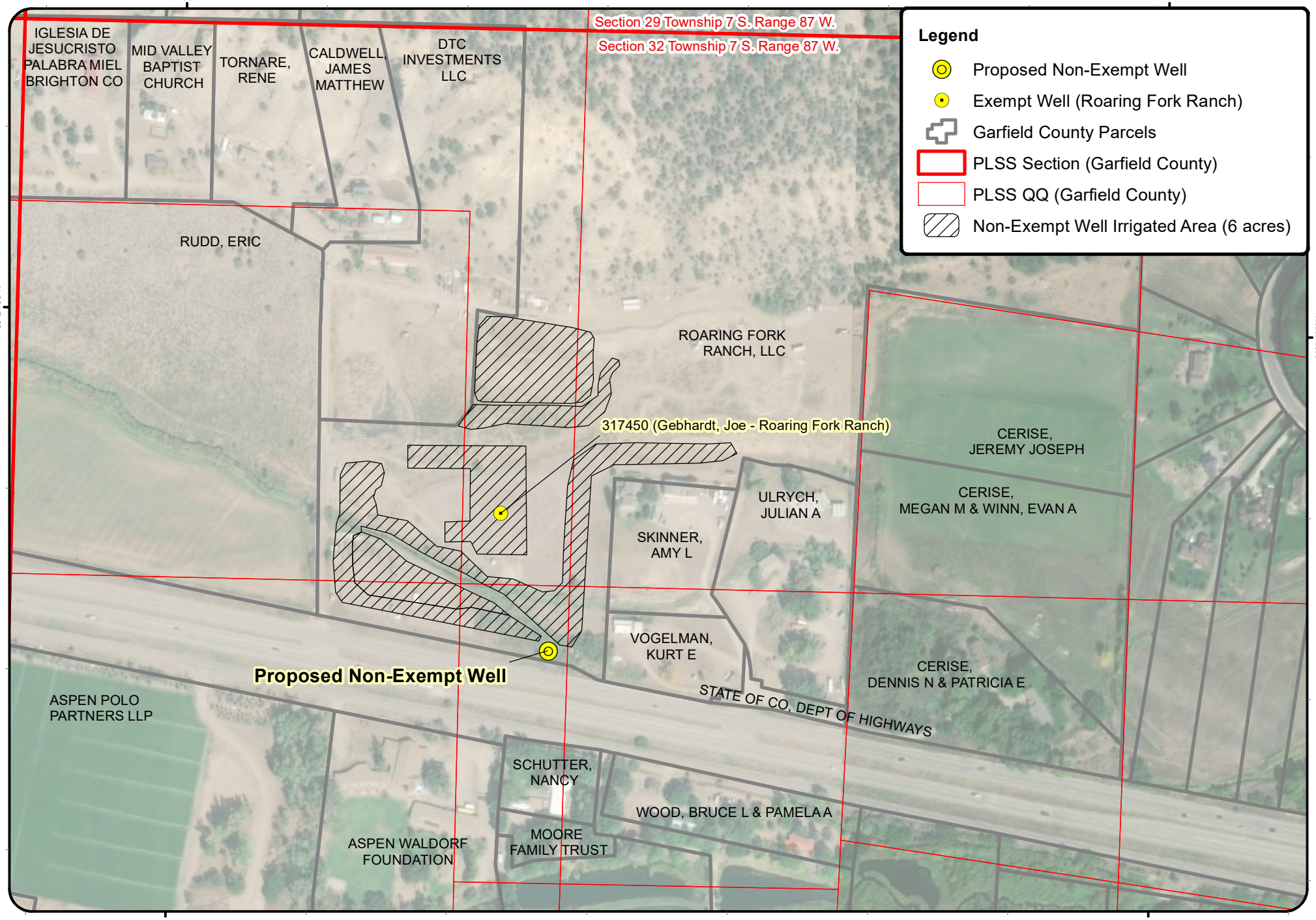
0 1,000 2,000

Scale: 1"=2,000'

Figure 1: Roaring Fork Ranch, LLC

Water Allotment Contract Application
Basalt Water Conservancy District

Job No. 20033BWCD1-20(4)
Date: 11/28/2023



SGM

Proposed Non-Exempt Well Location & Irrigation

Roaring Fork Ranch

Date: 11/22/2023	Job No. 2019-192.002	Map by: BRL		Scale: 1:3,600

Data Sources: Roaring Fork Ranch, CDSS, Garfield County, SGM, ESRI

I:\2019\2019-192-GebhardtWell\001\H-Dwgs\GIS\MXDs\NonExemptWellLocation_Revised.mxd

The information displayed above is intended for general planning purposes. Refer to legal documentation/data sources for descriptions/locations.

0 250 500 Feet

1 inch = 300 feet

N W E S

Rev. 03/13

APPLICATION FOR WATER ALLOTMENT CONTRACT
BASALT WATER CONSERVANCY DISTRICT

1. Applicant(s) Contact Information

   a. Name: Roaring Fork Ranch, LLC

   b. Mailing Address: ~~16704~~ 16510 82 Hwy Carbondale, CO 81623

   c. Street Address: ~~16704~~ 16510 82 Hwy Carbondale, CO 81623

   d. Telephone Numbers: (970) 456-9709

   e. Email Address: jpg@huntercreekgroup.com

   f. If Applicant is represented by an Attorney, please provide the Attorney's contact information, including name, address, telephone, and email:
   Ed Olszewski
   Olszewski, Massih & Maurer, P.C.
   1204 Grand Ave
   Glenwood Springs, CO 81601
   (970) 928-9100
   ed@ommpc.com

   g. Emergency Local Contact Information, including name, address, telephone, and email:
   Applicants Attorney (contact information above)

   h. Contact Information of property manager, caretaker, irrigator, system operator, or agent who should be provided a copy of this contract, including name, address, telephone, and email: Joe Gebhardt; (970) 456-5477; 16704 82 Hwy Carbondale, CO 81623; jpg@huntercreekgroup.com

2. Type of land use (development) proposed for water allotment contract (i.e. single family home, subdivision, gravel pit, etc.):
   Plant and tree nursery and pasture irrigation

3. Legal description and address of property on which District's water rights and/or contract water will be used (attach map and vesting deed with proof of ownership)*:
   Parcel No. 239129300084
   ~~16704~~ 16510 82 Hwy Carbondale, CO 81623

4. Elevation of property: ___X___ 6–7,000 ft., _____ 7–8,000 ft., _____ 8–9,000 ft.

5. Name and legal description of water supply diversion point(s):

   Name of Diversion: Gebhardt Well.
   Type of Diversion: Well (e.g., a well, spring, ditch, pipeline, etc.)

   Legal Description: NE Quarter, NW Quarter, Section 32 Township 7 S, Range 87 W, of the 6th Principal Meridian, at a location 1,313 feet from the N. Section line and 1,416 feet from the W Section line.
   UTM Coordinates (NAD 83): Northing: 4364084. Easting: 315923. Zone 13.

   If diversion point is a well, please provide the Well Permit No. TBD.
   Is the well operational/active? _____ Yes, X No
   Is there currently an operating well meter? _Yes, X No (well meter will be installed)

   Notice: A valid well permit with operating well meter will be required under the contract.

6. Legal Water Supply: (please check one)

   X Applicant requests consideration by the District to be included in the District's Umbrella Plan for Augmentation decreed in Case No. 02CW77.*

   *Note: Certain applicants may qualify to be included in the District's Umbrella Plan at the District's discretion. In order to be included in the District's Umbrella Plan, the Applicant's depletions must occur within the District's defined "Area A" and the Applicant must reimburse the District its *pro rata* share of the District's expenses in obtaining the Umbrella Plan decree. Costs of reimbursement are contingent upon location and intensity of the uses, and range from $1,200 for contractees with less than 2 units (EQRs) in certain areas, to $5,000 for more than 8 EQRs in Area A-3 (generally the Roaring Fork drainage above its confluence with the Fryingpan Rivers).

   _____ Applicant will obtain its own plan for augmentation by applying to the Water Court, Water Division 5 within 2 years of this application. If Applicant has already applied for its own change/approval of plan for augmentation, the Water Court Case Number is: _____.

7. Proposed waste water treatment system: (please check)
   _____ Tap to central waste water treatment facility
   _____ Septic tank/leachfield system
   _____ Evapotranspiration system
   X Other: None, water to be used for irrigation only (no indoor use).

8. Proposed use of water (please check)

   _____ Domestic/Municipal (single family home(s), duplex(s), condominium(s), mobile home(s), apartment). Please complete page four of this application.
   _____ Commercial (hotel, office, warehouse, restaurant, bar, retail). Please complete page five of this application.
   _____ Industrial (gravel pit, manufacturing). Please complete page six of this application.
   __X__ Agricultural (crop irrigation, stock watering). Please complete page seven of this application.

Date on which the county or other applicable governmental entities approved the land use for which you seek legal water service: Since Mr. Gebhardt purchased the property, the parcel (Garfield County Parcel ID 239129300084) has been zoned for 4147 and 4167 (Grazing Land-Agricultural) and 4117 (Irrigated Land-Agricultural). (Note: Copy of the Resolution of other documentation evidencing such approval should be submitted with application.) A copy of the November 8, 2018 Bargain and Sale Deed transferring the property to Roaring Fork Ranch, LLC is attached.

317450 Ex

9. What other water rights are associated with or used on the property?
   - Well Permit ~~317~~240 (Exempt) has been granted for 15 gpm for fire protection, domestic inside three single family dwellings, livestock, and 1 acre of irrigation, on 35 acres.
   - Applicant has a water right for 0.99 cfs for the Blue Creek Lateral Tailwater Ditch North and South in Case No. 20CW3162.

10. What other uses of water occur on the property?
   - Well Permit 317450 (Exempt) has been granted for 15 gpm for fire protection, domestic inside 3 single family dwellings, livestock, and 1 acre of irrigation, on 35 acres.
   - Applicant has a water right for 0.99 cfs for the Blue Creek Lateral Tailwater Ditch North and South in Case No. 20CW3162.
   - Applicant anticipates a maximum requirement of 45 gpm for all planned irrigation during peak demand season. 20 gpm will be met by this non-exempt well, and the remainder will be met with the pending Blue Creek Tailwater Ditch, when available. When water is not available, Applicant will deficit irrigate certain areas.
   - A map has been attached showing the location of area to be irrigated by the Non-Exempt Well as augmented by this contract.

Please complete the section below if you selected domestic/municipal use on Page 3, No. 8

DOMESTIC/MUNICIPAL WATER USES

In-House

Single family residential home(s) Number of Units: _____

Duplex(s) Number of Units: _____

Condominium(s) Number of Units: _____

Apartment(s) Number of Units/Rooms: _____

Mobile Home(s) Number of Units: _____

Irrigation (lawns, parks, open space)

Total area to be irrigated _____ Sq. Ft. or _____ Acres

Type of irrigation system (please check)

_____ Sprinkler

_____ Flood (irrigation ditch)

Domestic stock watering (cattle, horses)

Number of animals:

Period of use (months):

Other domestic/municipal uses not listed:

Please complete this page if you selected commercial use on Page 3, No. 8

COMMERCIAL WATER USES

In-House

Hotel: _____

Office(s), square footage: _____

Warehouse/distributor, square footage: _____

Retail, square footage: _____

Restaurant, number of seats: _____

Bar, number of seats: _____

Irrigation (lawns, parks, open space)

Total area to be irrigated _____ Sq. Ft. or _____ Acres

Type of irrigation system (please check)

_____ Sprinkler

_____ Flood (irrigation ditch)

Other Commercial Uses Not Listed:

Please complete this page if you selected industrial use on Page 3, No. 8

INDUSTRIAL WATER USES

Please describe your industrial development in some detail:

Irrigation (lawns, parks, open space)

Total area to be irrigated _____ Sq. Ft. or _____ Acres

Type of irrigation system (please check)

_____ Sprinkler
_____ Flood (irrigation ditch)

Please complete this page if you selected agricultural use on Page 3, No. 8.

AGRICULTURAL WATER USE

Irrigation

Type of crop(s) (pasture, alfalfa, beans, etc.) and irrigation system:

Crop: Hay / Pasture: 1.3 acres (Sprinkler Irrigation)

Crop: Nursery Trees: 1.8 acres (Micro-emitter Irrigation)

Crop: Landscaping (grass & trees): 2.9 acres (Drip Irrigation)

Total: 6.0 acres

- A map has been attached showing the location of the 6.0 acres to be irrigated by the Non-Exempt Well as augmented by this contract.

Note: Permit Application was submitted requesting 45 gpm and 22 acre-feet annually. During stipulations, Applicant has agreed to a reduced rate of 20 gpm and an annual volumetric limitation of 17.6 AF/year.

Stock Watering (cattle, horses)

Number of animals: 0 (stock watering covered by Exempt Well Permit 317250).

Months of use:

Other agricultural uses not listed:

VERIFICATION

STATE OF Colorado)
) ss.
COUNTY OF Garfield)

I, Bailey Leppek (name of Applicant or Applicant's duly authorized representative), being first duly sworn, upon oath, depose and state as follows:

1) I am the Applicant or a duly authorized officer, manager, agent or attorney-in-fact for the Applicant for this Application for Water Allotment Contract;
2) I have read and know the contents of this Application;
3) The information contained herein is an accurate and complete description of the Applicant's intended use of the Basalt Water Conservancy District's water rights;
4) The Applicant acknowledges that the accuracy and truth of all statements in this Application are conditions of approval of this Application by the Basalt Water Conservancy District and of the Contract to be made pursuant to such approval; and
5) I acknowledge that this application shall be subject to the District's Water Allotment Contract as approved and issued by the District.

Date: 11-22-23

By: _____

Print Name: Bailey Leppek

Title: Engineer for the Applicant

Subscribed and sworn before me this 22 day of November, 2023 by Bailey Leppek

Witness my hand and seal.

_____
Notary Public

My commission expires:
June 23, 2026

CASSIE COPPERSMITH
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20224024595
MY COMMISSION EXPIRES JUNE 23, 2026

Table 1: Demands and Augmentation Needs

	Consumptive Use (CU)							Demand					Augmentation			
Crop:	*Pasture Grass*		*Nursery Trees*		*Berm Landscaping Grass & Trees*			*Pasture Grass*	*Nursery Trees*	*Landscaping Grass & Trees*			**Demands met:**		**CU of Demands Met by Non Exempt Well**	**BWCD Contract Water Needed** (including transit loss)
Month	Unit IWR Pasture Grass	IWR on Gebhardt Property *1.3 acres*	Unit IWR Orchard with Cover	IWR on Gebhardt Property *1.8 acres*	Unit IWR Orchard with Cover	IWR on Gebhardt Property *2.9 acres*	Total CU *6.0 acres*	*Sprinkler: efficiency of 75%*	*Micro-emitters: efficiency of 43%*	*Drip: efficiency of 85%*	**Total Crop Demand**		By Non Exempt Well	By Other or Not Met		*10% loss*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)
Units	AF/acre	AF	AF/acre	AF	AF/acre	AF	AF	AF	AF	AF	AF	gpm	gpm	gpm	AF	AF
Nov	-	-	0.01	0.02	0.01	0.03	0.05	-	0.04	0.04	0.08	0.6	0.6	-	0.05	0.05
Dec	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Jan	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-
Apr	0.02	0.02	0.07	0.13	0.07	0.20	0.35	0.03	0.29	0.28	0.60	4.6	4.6	-	0.35	0.39
May	0.42	0.54	0.19	0.34	0.19	0.55	1.44	0.72	0.80	0.76	2.28	16.6	16.6	-	1.44	1.58
Jun	0.64	0.83	0.41	0.74	0.41	1.19	2.76	1.11	1.72	1.64	4.46	33.7	20.0	13.7	1.64	1.80
Jul	0.60	0.78	0.49	0.88	0.49	1.42	3.08	1.03	2.05	1.96	5.05	36.8	20.0	16.8	1.67	1.84
Aug	0.32	0.42	0.33	0.59	0.33	0.96	1.97	0.56	1.38	1.32	3.26	23.8	20.0	3.8	1.66	1.82
Sep	0.26	0.33	0.10	0.18	0.10	0.29	0.80	0.44	0.42	0.40	1.26	9.5	9.5	-	0.80	0.88
Oct	0.14	0.19	0.01	0.02	0.01	0.03	0.23	0.25	0.04	0.04	0.33	2.4	2.4	-	0.23	0.26
Annual	**2.39**	**3.11**	**1.61**	**2.90**	**1.61**	**4.67**	**10.68**	**4.15**	**6.74**	**6.44**	**17.33**	**NA**	**NA**	**NA**	**7.84**	**8.62**

Notes CU = Consumptive use; IWR = Irrigation water requirement

(1) Modified Blaney-Criddle method for Pasture Grass Crop using TR-21 elevation adjusted coefficients

(2) =(Column 1) * 2.6 acres

(3) Modified Blaney-Criddle method for Orchard with Cover using TR-21 elevation adjusted coefficients

(4) =(Column 3) * 1.72 acres

(5) Modified Blaney-Criddle method for Orchard with Cover using TR-21 elevation adjusted coefficients

(6) =(Column 5) * 3.4 acres

(7) Total of (Column 2) + (Column 4) + (Column 6).

(8) =(Column 2)/[efficiency]. Typical efficiency for spinkler irrigation methods is 75%.

(9) =(Column 4)/[efficiency]. Trees in nuseries have contained roots which must have consistent irrigation to maintain soil moisture to allow for proper root absorption and to prevent disease, pests, and branch dieback. Additional water is also often applied to leaves as pest control. Irrigation efficiency is estimated at 43%: (60% of water applied reaches the root-ball or container) * (80% of water retained by the plant) * (90% to reflect an additional 10% application for pest control).

(10) =(Column 6)/[efficiency]. Typical efficiency for drip irrigation methods is 85%.

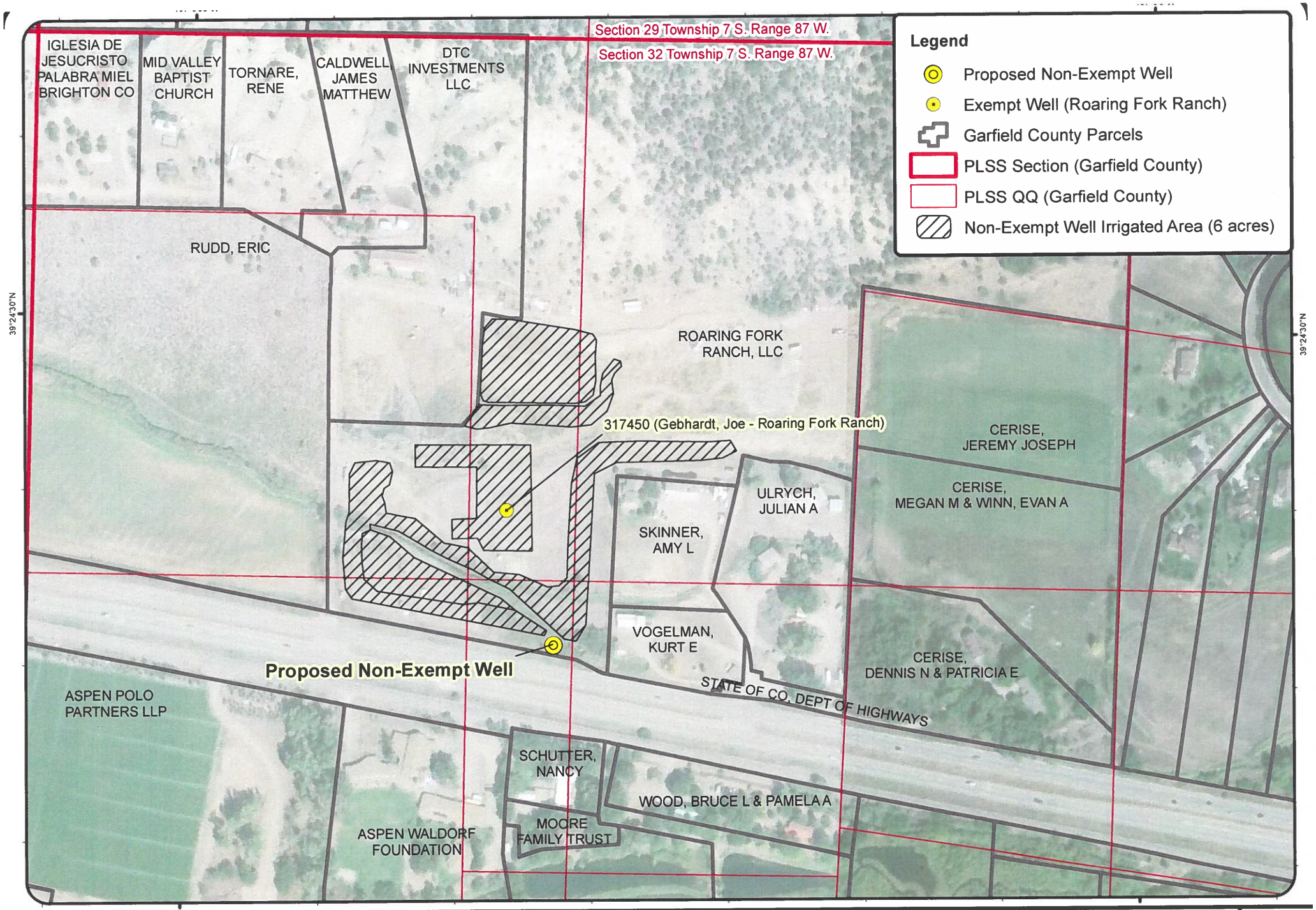
(11) Total of (Column 9) + (Column 10) + (Column 11).

(12) = Minimum of [(Column 11) or 20 gpm]. Permit Application was submitted requesting 45 gpm and 22 acre-feet annually. During stipulations, Applicant has agreed to a reduced rate of 20 gpm and an annual volumetric limitation of 17.6 AF/year.

(13) Applicant anticipates a maximum requirement of 36 gpm for all planned irrigation during peak demand season. Up to 20 gpm will be met by this non-exempt well. The remaining crop demand will be met from Applicant's water right for 0.99 cfs in the Blue Creek Lateral Tailwater Ditch North and South in Case No. 20CW3162 (when available). Or, if necessary, Applicant will deficit irrigate certain areas.

(14) = (Column 7) * (Column 12) / (Column 11)

(15) = (Column 14) with 10% to account for transit loss from BWCD replacement sources.



SGM

Proposed Non-Exempt Well Location & Irrigation

Roaring Fork Ranch

Date: 11/22/2023	Job No. 2019-192.002	Map by: BRL		Scale: 1:3,600
Data Sources: Roaring Fork Ranch, CDSS, Garfield County, SGM, ESRI				
I:\2019\2019-192-GebhardtWell\001\H-Dwgs\GIS\MXDs\NonExemptWellLocation_Revised.mxd				

0 250 500 Feet

1 inch = 300 feet

N W E S