

[illegible]

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	01E	32		X															

Method of Determination: GIS and field observations (see attached system diagram)

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

x Indicate weir size/pipe as applicable.

Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

x

Aerial Photo Attached (required for irrigation of 10+ acres).

x

Photo of Diversion and System Attached

x

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
1001113		7.5			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
n/a						

2. Measurements: No measurements were possible. Measurements not required (<0.24 cfs)

E. FLOW CALCULATIONS

x Additional Computation Sheets Attached

Measured Method: Brake horsepower equation

Permitted Rate: 0.20 cfs

Proof statement rate: 0.20 cfs

Recommended rate: 0.17 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{LR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.7 \text{ acres} \times 4.5 \text{ acre-ft/acre} = 16.7 \text{ acre-ft}$

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.11 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 56.7 \text{ acre-ft}$

$V = \text{Smaller of } V_{LR} \text{ and } V_{DR} = 16.7 \text{ acre ft}$

2. Volume Calculations for Other Uses:

Stockwater: $14 \text{ chickens} \times 0.19 \text{ gal/day-chicken} \times 365 \text{ days} = 971 \text{ gal/yr} = 0.003 \text{ acre-ft}$

Minimum volume significant figure is 0.1 acre-ft

Recommended volume for stockwater: 0.1 acre-ft

Standard volume for in-house domestic use: 0.6 acre-ft

TOTAL VOLUME: $16.7 \text{ acre-ft} + 0.1 \text{ acre-ft} + 0.6 \text{ acre-ft} = 17.4 \text{ acre-ft annually}$

Source for livestock water usage:

<https://www.miller-mfg.com/blog/watering-backyard-chickens/#:~:text=How%20much%20water%20does%20a,pints%20of%20water%20per%20day.>

G. NARRATIVE/REMARKS/COMMENTS

Permit 63-33804 authorized the diversion of groundwater for domestic, irrigation, and stockwater use in Eagle, Idaho. The original owner of the permit was CCI Construction Inc., who applied for five other permits in the same Township/Range in October of 2013. At the time, the Department was permitting all ground water applications in Eagle with special conditions regarding ground water monitoring plans to avoid a Rule 40 request. Ian Ishii, the current owner, had the ownership changed in October of 2018 through an assignment of permit, likely prompted by a proof due letter sent in September of 2018. Ishii filed an extension of time request in October of 2018, which was granted, and proof was received on September 11, 2023.

Overlap analysis for the POU showed that the permit holders were potentially able to receive irrigation and municipal water from 63-18700 and 63-12448, but conveyance systems do not exist to deliver water to the POD. WRA Dan Nelson came to the same conclusion in the report for 63-33805, a parcel directly west of the POU.

63-33804 qualified for an in-house examination, but after an email correspondence with Ishii documented that aerial imagery did not show the current amount of irrigated acres, a field exam was conducted on October 6, 2023, with the permit holder present. I confirmed the location of the well to be NW¼ NE¼, Sec. 32, Twp 05N, Rge 01E, with a well tag that matched the well driller's report. Ishii told me that his well has a 7.5 horsepower pump. Due to the grass in the south half of the POU being recently planted, I had to estimate the area of the large walking path shown in pictures. The width of the path was 13 ft across. I recommend a rate of 0.11 cfs for irrigation use, based on my estimation that 3.7 acres were being irrigated, and a corresponding volume of 16.7 acre-ft, both based on standards.

The domestic use was developed, and I recommend a standard rate and volume for single-home domestic uses. The permit holder had also installed water lines for an ADU, to be used as a place for guests to stay or as an occasional office. The stockwater portion of the permit was conditioned for 10 head of mixed stock, and 14 chickens were present at the exam. This does not exceed the permitted rate, given the species of stock, and I recommend a volume of 0.1 acre-ft for the use.

Combined, the three developed uses could be licensed at 0.17 cfs. The brake horsepower equation demonstrated that the maximum rate is possible with the installed pump.

Below are recommendations for the conditions of approval:

- 004: Keep – conversation with permit holder indicated possibility in selling southern parcel
- 26A: Remove – standard (no longer applied to authorizations)
- 121: Change to 103 – standard
- X01: Change to 132 – states irrigation is separate right
- X02: Remove – standard to not carry to license
- 046: Remove – standard to not carry to license
- 01M: Remove – No justification as to why it was applied could be found in the file, isn't necessary
- R69: Keep – standard
- 073: Remove – Well driller's report stated that the water temperature was 58 deg F.
- 165: Remove – The well was sealed to 235 ft and the approved water bearing zone is being appropriated
- Unnamed condition: Change to 930 and update WBZ to 235 – 270 ft.
- Unnamed condition requesting ground water monitoring plan: Remove (this was also removed on 63-33805)
- ADD X59 to note lot/block/sub for the POD

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	03/01 to 11/15	0.11 CFS	16.7 AF
STOCKWATER	01/01 to 12/31	0.01 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	0.6 AF
<u>Totals:</u>		0.17 CFS	17.4 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION

Blake Burkard

Field Examiner's Name  Date 11/1/23

Reviewer  Date 10/30/23

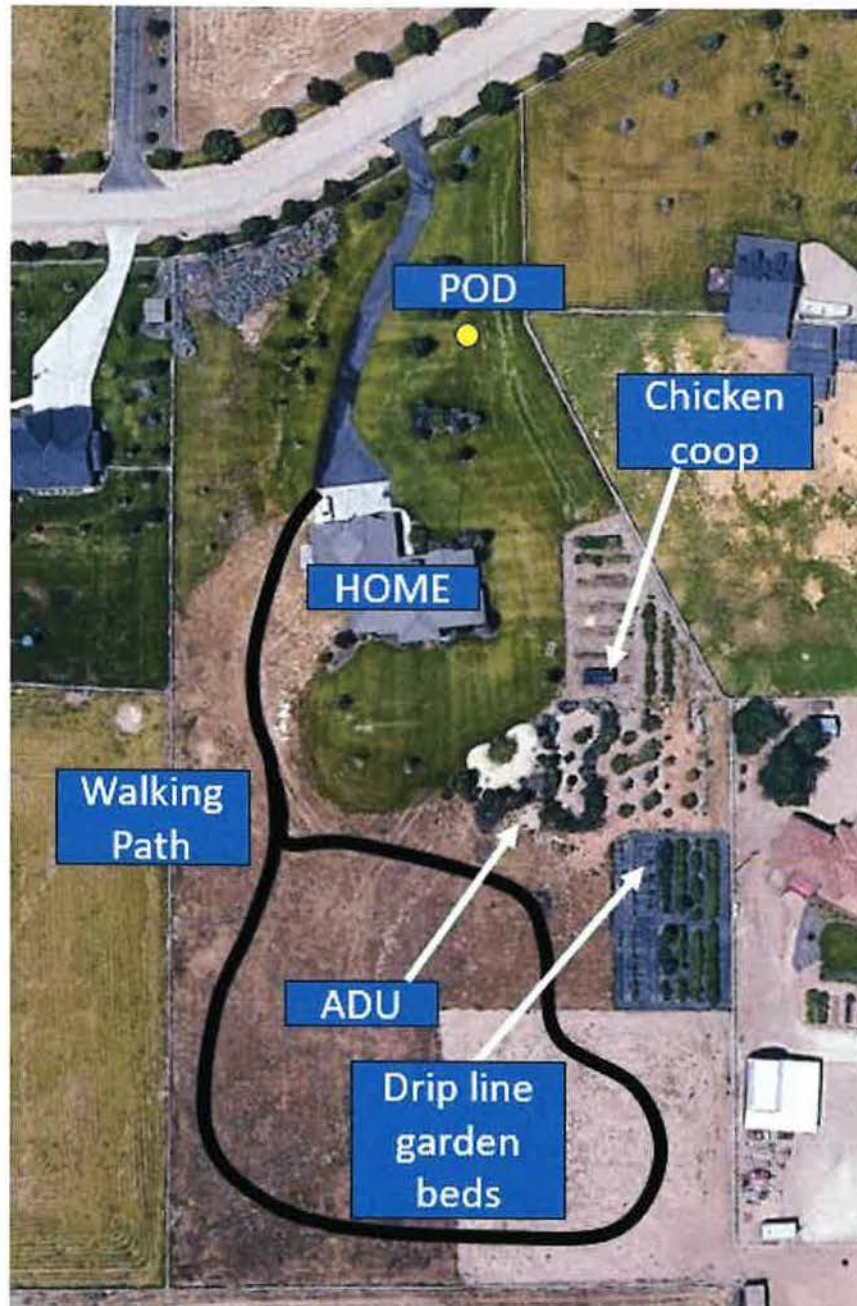


Figure 1: System Diagram



Figure 2: Irrigated acres

PERMITTED FLOW (CFS):	0.17
(GPM):	76.3062

TOTAL DYNAMIC HEAD	
Elevation of water surface (ft):	2554
Elevation of highest sprinkler location (ft):	2705
STATIC HEAD (ft):	151
Sprinkler Pressure (psi):	45
PRESSURE HEAD (ft):	103.95
Linear distance between pump and furthest sprinkler head (ft):	700
Assume friction loss: (psi/100 ft)	0.2
FRICION HEAD (ft):	1.4
SUM (ft):	256.35

EFFICIENCY(%):	70
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BRAKE HORSEPOWER (PUMP):	7.06
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REARRANGE FOR FLOW:	
Pump HP:	7.5

Q (cfs):	0.181
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Figure 3: Attached Calculation Sheet



Figure 4: Path and field irrigation south of the home



Figure 5: Hunter PGP Ultra with blue nozzle



Figure 6: Well and tag



Figure 7: Chicken coop and frost-free hydrant



Figure 8: Unirrigated sage grass along the north end of the parcel

