

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Exam Date: 05/03/2024

1. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y N
- X Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: **RIVERHOUSE HOLDINGS LLC**

Owner of Record Correct? X Y N

Address of Record Correct? X Y N

If No Explain:

3. Beneficial Use Fees have been paid: X Y N Receipt No: C118220

4. Source: Tributary:

PEND OREILLE RIVER

COLUMBIA RIVER

Method of Determination: GIS, Aerial Imagery, and Taxlot data.

Change in Source: Y X N

B. OVERLAP REVIEW

1. Other water rights with the same place of use: X No Overlap

Water Right No.	Source	Purpose of Use	Basis
96-8657	GROUND WATER	DOMESTIC, IRRIGATION	LICENSE

Comments: The only right overlapping the permit place of use (POU) is right 96-8657, which the Department records list as currently owned by Pinewood & Pinewood West HOA. Right 96-8657 diverts groundwater for domestic and irrigation use. The permitted use is from a different source than the overlapping irrigation right, and the permit holder stated that the HOA does not allow homeowners in newly developed lots, such as this one, to use groundwater for irrigation.

2. Other water rights with the same point of diversion: X NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: There are no rights sharing the permit point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Pend Oreille River	1		NE	NE	2	55N	04W	B.M.	BONNER

Method of Determination: GIS and Taxlot data.

Change in POD? Y X N Amendment Required? Y X N

2. Place of Use: IRRIGATION

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	04W	2	0.1																0.1
		Lot #	1																
																Total Acres =			0.1

Method of Determination: Bonner County Maps, GIS, and Taxlot data.Change in POU? Y X N Amendment Required? Y X N X Delivery System Diagram Description Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.(information included with application was confirmed) X 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). Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Pump Model	Pump Make	Pump Serial No. or Discharge Size
Footvalve on inlet in river	Unknown	Unknown	Unknown	Unknown	Unknown

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE	NA	NA	NA	NA	NA	NA

2. Measurement Comments: The permit holder stated the system operates on a small electric pump. A maximum head of about 15ft was estimated to the licensed POU using the DRG map.**E. FLOW CALCULATIONS** Additional Computation Sheets Attached

Measured Method:

A theoretical calculation and Administrative Memo #17 were used to determine a reasonable rate of diversion.

$$Q = (1/2 \text{ Hp})(8.8)(0.80 \text{ efficiency})/(15 \text{ ft lift}) + (2.31)(45 \text{ psi}) = 0.03\text{cfs}$$

Theoretical Calculation= 0.03cfs

Permit allowed = 0.03cfs

Recommendation= 0.01cfs

BU limited rate= 0.01cfs

Comments:

Approximately 0.1 acre of irrigation was measured via GIS aerial imagery. The system was described by the permit holder as a small electric pump (used small 1/2 Hp for calculation) with a 1 1/2" inlet, which conveys water to an inground sprinkler system on timers that delivers water throughout the POU.

Approximately 0.03 cfs is possible with even a small 1/2 Hp pump. According to Administrative memo #17 up to 0.03cfs per acre is standard for the irrigation of up to 5 acres. According to Administrative memo #6 the reported rate of diversion should be rounded to the hundredth place. I recommend a diversion rate of 0.01cfs for the license.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{0.1\text{-acre} \times 3.5 \text{ AF} = 0.3 \text{ AF}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \underline{0.01\text{cfs} \times 214 \text{ days} \times 1.9835 = 4.3 \text{ AF}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{0.3 \text{ AF}}$$

Comments:

This permit was issued for irrigation use from a natural stream/river source. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.viii a diversion volume is not required for irrigation if water is diverted from a natural flowing stream/river or spring. However, as the POU is less than 1 acre condition X31 should be on the license stating the annual volume as 0.3 AF.

G. PURPOSE OF USEIrrigation X Y N # Stock NA Domestic # of Homes Change in Purpose of Use? Y X N Method of Determination: Bonner County Maps, GIS, and Taxlot Data**H. NARRATIVE/REMARKS/COMMENTS**

This permit for the irrigation of 0.7-acre qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use with photos of the pump and intake, received by IDWR on April 29, 2024, stating in section #3 that the beneficial use was developed for 1/3-acre of irrigation. I was able to confirm approximately 0.1 acres irrigation was developed using aerial imagery (see Figures 1 & 2). No Map was included with the proof, so I contacted the permit holder on May 3, 2024, to discuss the documentation submitted. In that conversation we also discussed the HOA irrigation right to divert groundwater for irrigation. The permit holder explained that the HOA stated that groundwater was not available for irrigation on his lot as the right is already fully allocated among the previously developed lots. While reviewing the imagery with the permit holder he noted that the parcel lines are offset to the image; he explained that the actual property lines are further to the northeast. The permit holder stated that the only irrigated area is between the home and rock wall at the riverside, and the strip along the east side of the home. The phone conversation was followed up with an email requesting additional information including a map outlining the irrigated area and POD. I received an email May 3, 2024, with imagery identifying the irrigated POU and a brief system description (Figure 3).

After reviewing the permit holder's response to the information request, an area of approximately 0.1-acre of irrigation can be confirmed within the permitted POU. A theoretical calculation confirmed that the pump can provide the 0.03cfs rate on the permit. However, the measured irrigated area actually developed is approximately 0.1-acre. I recommend the license be issued with a diversion rate of 0.01cfs (as per Administrative Memos #17 and 6). As the diversion is from natural streamflow the volume should not reported on the license (IDAPA Rules 37.03.02.35. 01j.viii). However, as the irrigated area is less than 1 acre the license should carry condition X31, stating the annual volume as 0.3 AF for the irrigation of 0.1-acre.

I am recommending the license be issued with a rate of 0.01cfs and conditions X60, 004, and X31. Condition 029 was removed at licensing as the permit holder confirmed there is a foot valve (screened) installed at the intake and no comments were received from IDFG regarding the permit.

Have conditions of permit approval been met? X Yes No**I. RECOMMENDATIONS**

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
<u>IRRIGATION</u>	<u>04/01 TO 10/31</u>	<u>0.01CFS</u>	
	<u>Totals:</u>	<u>0.01CFS</u>	

2. Recommended Amendments:

 Change P.D. as reflected above Add P.D. as reflected above X None Change P.U. as reflected above Add P.U. as reflected above X None

Other: < >

J. AUTHENTICATION- Bob Howe- Water Resource AgentField Examiner's Bob Howe Date 8/2/24Reviewer PH Date 8/2/24

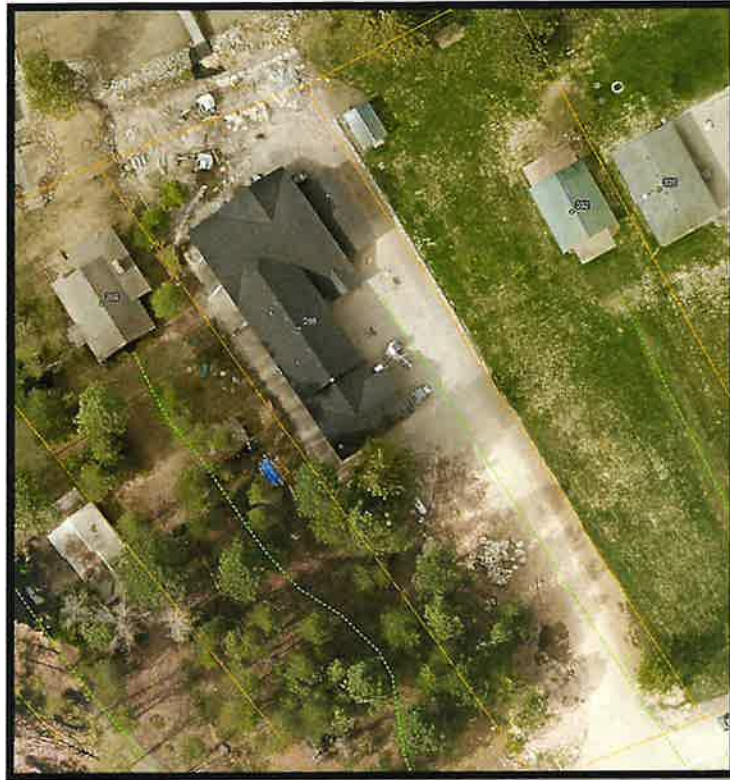


Figure 1- Bonner County GIS- imagery of the parcel appurtenant to the permit POU (centered in image). Note that the parcel lines are offset from the imagery. The permit holder confirmed that the property boundaries are further to the northwest than indicated in the parcel layer on GIS. The Bonner County imagery predates the landscaping being completed.



Figure 2- GIS 2023-Imagery of the irrigation POU (outlined in blue) and POD (blue point).



Figure 3- Diagram of irrigated POU and POD outlined with details including system type and non-irrigated areas.