

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

**A. GENERAL INFORMATION**Exam Date: 03/27/2024

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

2. Current Owner:

**C. RICHARD WENDLE**

Owner of Record Correct? \_\_\_ N

Address of Record Correct? \_\_\_ N

If No Explain:

3. Beneficial Use Fees have been paid: X Y \_\_\_ N Receipt No: C117926

4. Source: Tributary:

**LAKE PEND OREILLE****PEND OREILLE RIVER**Method of Determination: Bonner County Maps, GIS, and Tax Parcel DataChange 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   |
|-----------------|-------------------|----------------|---------|
| 96-8370         | LAKE PEND OREILLE | IRRIGATION     | LICENSE |

Comments: Rights 96-7245 (domestic use) and 96-8603 (domestic) have GIS POU areas overlapping the permit POU, but both divert from different sources and are for different beneficial uses than the permit. Right 96-8370 is for the irrigation of 0.5 acre using surface water. However, the right backfile map locates the place of use (POU) adjacent to the point of diversion, placing the right POU northwest of the permit POU figures 4, 5a & 5b), indicating there is no actual overlap of the irrigation rights. Additionally, there is no claim for the right and no parcel within the NENE is currently listed as owned by the right holder. No rights appear to overlap the permit POU.

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 | 1/4 | 1/4 | 1/4 | Sec. | Twp. | Rge. |      | County |
|-----------------------------|-----------|-----|-----|-----|------|------|------|------|--------|
| Screened Intake at the lake | 1         |     | NE  | NE  | 14   | 56N  | 01E  | B.M. | BONNER |

Method of Determination: GIS, and Tax Parcel 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 |        |
| 56N           | 01E | 14   | 0.1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0.1    |
|               |     | Lot# | 1   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |        |
| Total Acres = |     |      |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 0.1    |

Method of Determination: Bonner County Maps, GIS, and Tax Parcel DataChange in POU? \_\_\_ Y X N Amendment Required? \_\_\_ Y X N

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

Indicate weir size/pipe as applicable:

  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 |
|-----------------------|------------|---------|------------|-----------|-----------------------------------|
| Screened creek intake | 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 did not provide any details on the system pump. A maximum head of about 50ft was estimated to the POU based on the DRG map (figure 4).

#### E. FLOW CALCULATIONS

   Additional Computation Sheets Attached

Measured Method:

A theoretical calculation and Administrative Memos #17, and 6 were used to determine a reasonable rate of diversion.

$$Q = (0.5 \text{ Hp})(8.8)(0.80 \text{ eff})/(50 \text{ ft lift}) + (2.31)(45 \text{ psi}) = 0.02\text{cfs}$$

Theoretical Calculation= 0.02cfs

Permit allowed = 0.03cfs

Recommendation= 0.01cfs

Comments:

Although no details were provided for the pump a theoretical calculation indicates that even a ½ Hp pump can produce a rate of 0.02cfs. However, the total irrigated area identified by the permit holder in the system diagram imagery is 0.1-acre. According to Administrative memo #17 up to 0.03cfs per acre is standard for the irrigation of up to 5 acres. The permit was issued for 0.1-acre of irrigation. Further, the aerial imagery and the maps submitted in the proof of beneficial use support the irrigation of 0.1 acres of lawn. I recommend a diversion rate of 0.01cfs for irrigation of 0.1-acre on the license.

#### F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{0.1\text{-acre} \times 3 \text{ AF} = 0.3\text{AF}}$$

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

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

Comments:

The field headgate calculation in section F.1. above determined that an annual volume as 0.3 AF is reasonable for the irrigation of 0.1-acre. I recommend the license be issued with an annual volume of 0.3 AF for the irrigation of 0.1-acre.

#### G. PURPOSE OF USE

Irrigation   X   Y    N    # Stock   NA   Domestic # of Homes   NA  

Change in Purpose of Use?    Y   X   N

Method of Determination: Bonner County Maps, GIS, and Tax lot Data

**H. NARRATIVE/REMARKS/COMMENTS**

This permit for the irrigation of 0.1 acre qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use, received by IDWR on March 11, 2024, stating in section #3 that the beneficial use was developed 0.2-acre of irrigation. The proof of beneficial use included 2 maps of the irrigation POU and the POD (figures 1 a & 1b). The permit was issued for 0.1-acre of irrigation, which is accurate based on aerial imagery (figures 2 & 3) and a GIS measurement of the areas identified on the proof maps. In 2023 Bonner County imagery the irrigated lawn area is evident on the southwest side of the home (figure 2).

Administrative memo #17 allows 0.03cfs per acre for the irrigation of up to 5 acres of irrigation, and Administrative Memo #6 states that the rate is to be reported to the hundredth place on licenses. Although the permit holder indicated 0.2-acre of irrigation on the statement of completion, the license will be limited to the 0.1-acre of irrigation that the permit was issued for. I recommend a rate of 0.01cfs on the license, as per the usage description and current guidance. Additionally, I recommend the license be issued with an annual volume of 0.3 AF for the irrigation of 0.1-acre, as per the field headgate calculation.

I recommend the license be issued with conditions X31 and 004. Condition 029 should be removed at licensing, the permit holder confirmed a fish screen (foot valve strainer) is installed at the intake.

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> |
|-----------------------|----------------------|-----------------------|----------------------|
| IRRIGATION            | 04/01 TO 10/31       | 0.01CFS               | 0.3 AF               |
|                       | <u>Totals:</u>       | 0.01CFS               | 0.3 AF               |

## 2. Recommended Amendments:

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

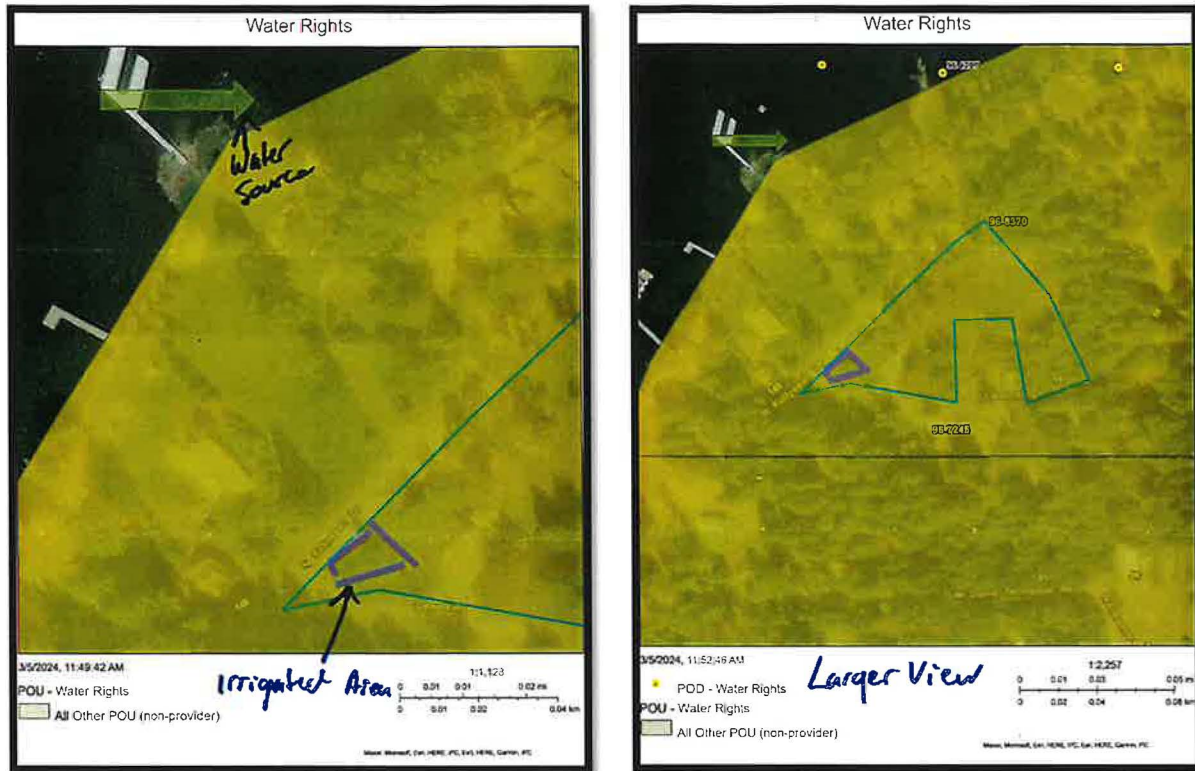
       Change P.U. as reflected above        Add P.U. as reflected above   X   None

Other: < >

**J. AUTHENTICATION- Bob Howe- Water Resource Agent**

Field Examiner's Bob Howe Date 4/18/24

Reviewer PL Date 4/18/24



Figures 1a & 1 b-Maps of POU and POD submitted with the statement of completion by the permit holder.



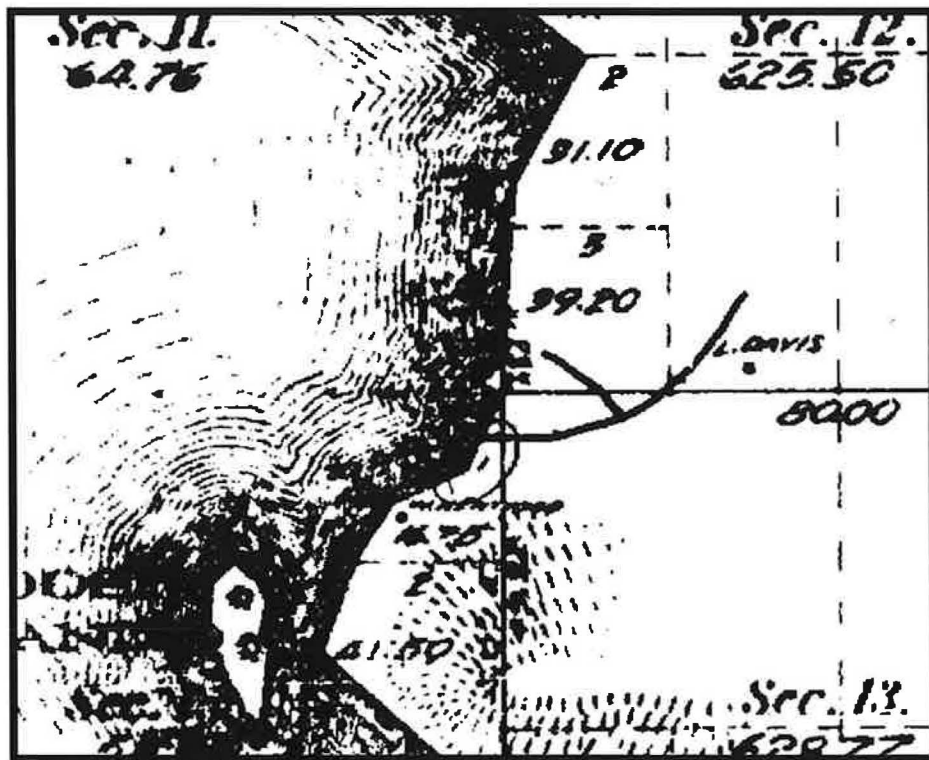
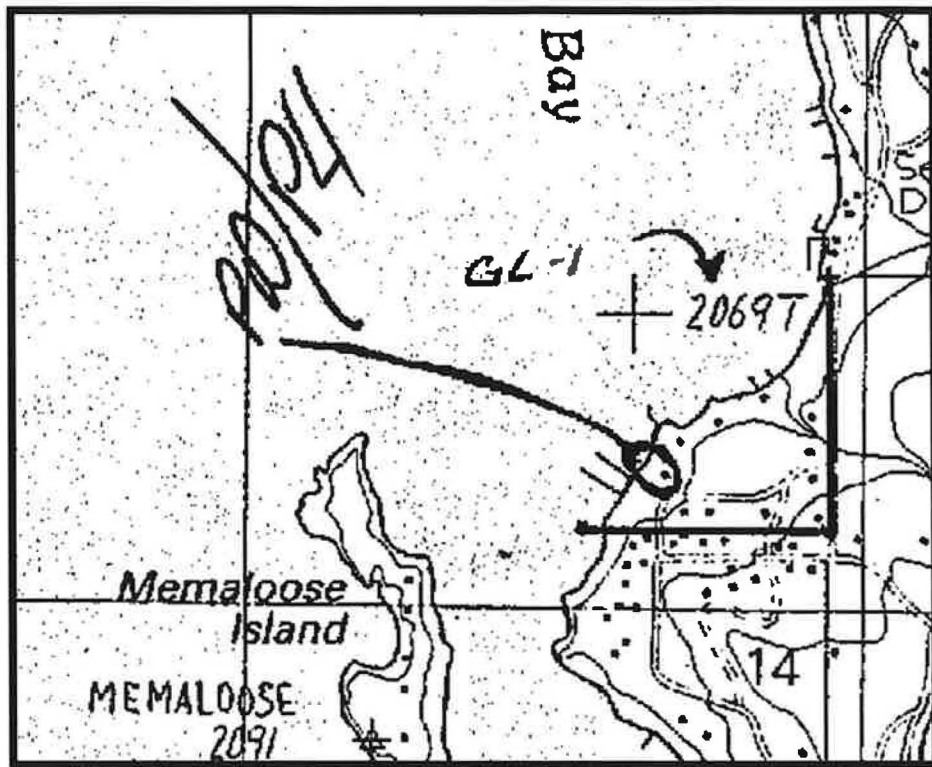
Figure 2 - Bonner County GIS Imagery of the appurtenant parcel. Lawn irrigated is to the southwest of the home (100 N Kullyspell Dr)



Figure 3- GIS 2023-NAIP imagery- Irrigated areas are outlined in yellow. POD at the lake is indicated by the blue point.



Figure 4- GIS-DRG Map of the POU (outlined in blue) and the POD (blue point).



Figures 5a & 5b- Right 96-8370 backfile maps. As noted in section B.1. of this report, the right GIS shapefile is for the entire NENE of Gov Lot 1. However, the right is only for ½ acre of irrigation and the backfile maps indicate that the POU is adjacent to the right POD at the lake, which places the right POU northwest of the permit POU.