

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-11100
Exam Date: 09/19/2023

1. Current Owner:
JIM HANCE 11633 LAKESHORE DR SAGLE ID 83860-8535 AND/OR
PAMELA HANCE 11633 LAKESHORE DR SAGLE ID 83860-8535
2. Accompanied by: Jim Hance
Phone No: 208-597-4953
Address: Same as above
Relationship to permit Holder: Permit Holder

3. **SOURCE:**
GROUND WATER

Method of Determination: ArcMap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
96-11543	GROUNDWATER	DOMESTIC	Notice of Claim filed in the CFPRBA

Comments: Notice of Claim 96-11543 is a beneficial use claim proposing groundwater from a well for domestic use. The POU overlaps this Permit's irrigation from storage POU but there is no concern for overlap between the two water rights. I don't recommend adding condition 928 during licensing review as the claim is a separate source, separate system, and separate beneficial use.

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

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NW¼ SE¼, Sec. 21, Twp 56N, Rge 03W, B.M. BONNER County

Method of Determination: GPS. POD is an in-pond groundwater source located at approximately -116°42.4, 48°11.201 based on aerial imagery lat/long data.

PLACE OF USE: IRRIGATION STORAGE & AESTHETIC STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	03W	21														X			

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	03W	21														0.4			0.4

Total Acres: 0.4

Method of Determination: Beneficial use field examination and ArcMap aerial imagery.

- 3.
- ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. 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.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Water Transfer Pump w/intake pipe	GE MOTORS	2	5KCR39UN2990X		

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: Water is pumped from the pond to 2ea pressurized irrigation zone(s). Irrigation from storage does not require a diversion rate for licensing purposes.

E. FLOW CALCULATIONS

Measured Method: Irrigation from Storage beneficial use doesn't incorporate a flow measurement.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.4 \text{ ac} \times 3.0 \text{ afa} = 1.2 \text{ af}$$

$$V_{D.R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{N/A no diversion rate associated with WR.}$$

$$V = \text{Smaller of } V_{I.R} \text{ and } V_{D.R} = 1.2 \text{ af}$$

2. Volume Calculations for Other Uses: see attached pond analysis worksheet.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 9/19/2023 with the applicant, Mr. Jim Hance, showed a small groundwater filled pond being used for irrigation storage/from storage & aesthetic storage purposes. The POD is an in-pond groundwater source that was designated using ArcMap aerial imagery during licensing review. I asked if the water level in the pond responded to the nearby Pend Oreille River water levels, and Mr. Hance asserts that in the fall when the river levels drop the pond levels stay full. This indicates the groundwater source is separate and not necessarily hydraulically connected to the river. Irrigation from storage doesn't require a diversion rate for licensing purposes.

The irrigation storage and aesthetic storage POU consists of a small pond situated downgrade from the applicant's primary residence. A pond analysis worksheet was developed during licensing review which illustrates the pond's size and volume

metrics as detailed below:

- The pond's surface area is 0.3 acres, maximum depth equals 10 ft, average depth equals 4 ft, evaporation loss rate equals 0.2 acres and total quantity required to keep the pond full year-round equals 0.6 af. **0.6 af** is recommended as the Aesthetic Storage annual volume for licensing purposes. A multi-fill volume is added to the pond's volume based on irrigation acreage equaling 1.2 af, making the maximum diversion volume recommended for licensing = **1.8 af**.

From the pond, a 2 hp GE Motors water transfer pump conveys water to the irrigation from storage system, which incorporates two pressurized sprinkler zones used for lawn, garden, & landscape watering around the primary residence with coverage in all three parcels owned by the applicant. I used field maps to sketch out the irrigation from storage POU during the exam, and ArcMap aerial imagery coupled with photographs taken during the exam were used to accurately trace out the POU. Irrigation from storage acreage equals 0.4 acres and receives an annual volume of **1.2 af** based on 3 acre-feet per acre department standards. At my request, the irrigation system was activated, and I observed watering from rainbird 360-degree pop up sprinklers & micro emitters at the furthest reaches from the transfer pump. Mr. Hance asserts he uses the pond to irrigate, allowing him to conserve his groundwater well for domestic in-home use.

I adapted condition 259 during licensing review to accurately describe the pond's volumetric data as derived post field exam. Condition R58 was replaced with a similar text condition that accurately describes the volume limitation based on small acreage of less than 1 acre in size. Condition 220 was removed based on licensing guidance from Shelley Keen – IDWR Deputy Director. All other conditions on the permit shall be carried forward to licensing. There are no overlapping water right concerns toward licensing this permit.

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

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Annual Volume
IRRIGATION STORAGE	01/01 to 12/31	0.6 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	0.6 AF
AESTHETIC STORAGE	01/01 to 12/31	1.2 AF

Totals: 1.8 AF

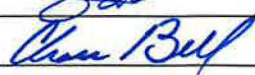
2. Recommended Amendments

☐ 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

Luke Bates -

Field Examiner's Name  Date 1/3/2024

Reviewer  Date 6/2/2024

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-11100

This map depicts the IRRIGATION STORAGE and AESTHETIC STORAGE pond,
which has an in-pond groundwater source.

03W

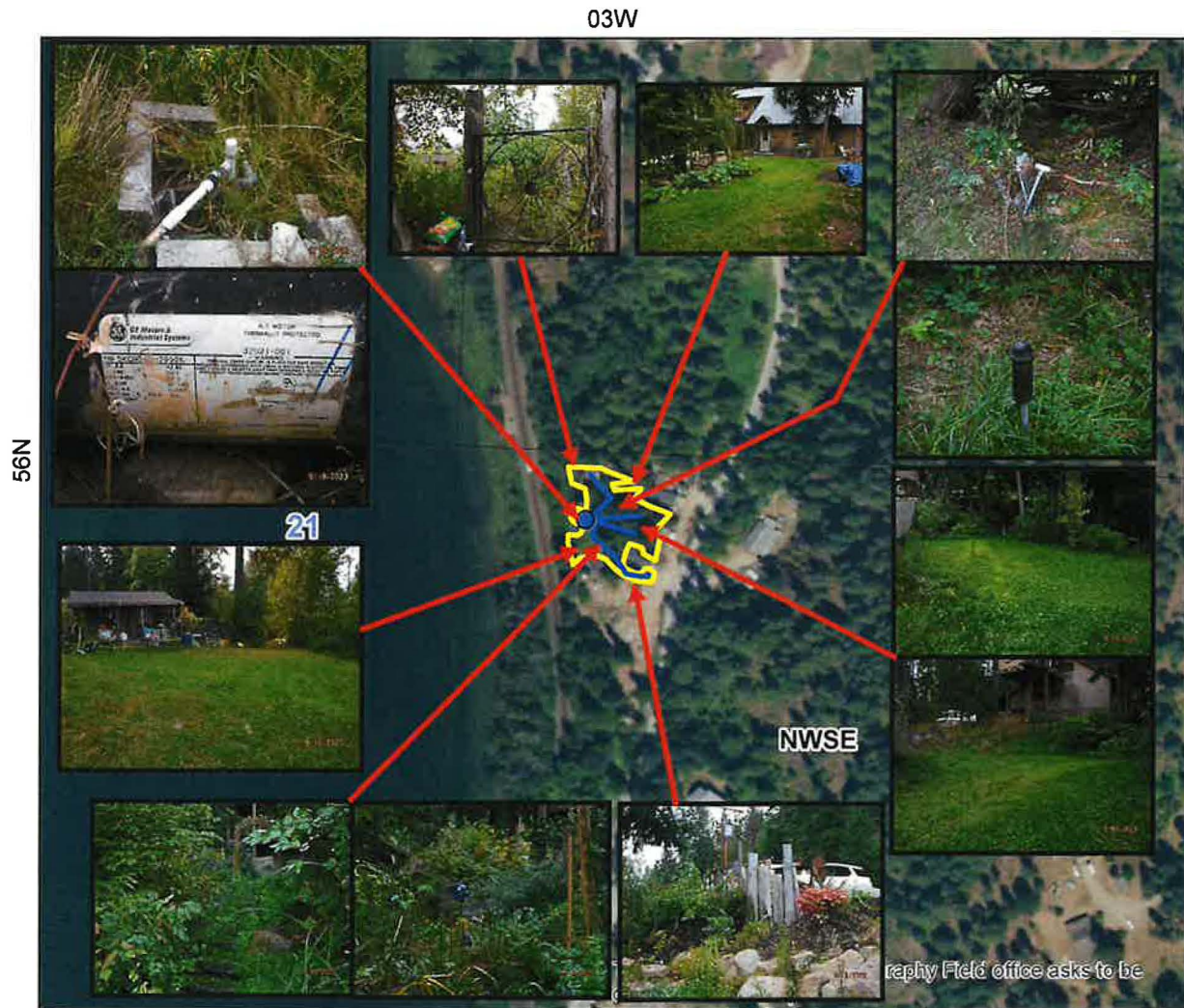


-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters
-  Point of Diversion



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This map depicts the IRRIGATION FROM STORAGE system diagram.



0 0.035 0.07 0.14 Miles

- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters
- Point of Diversion



Total Storage Calculations

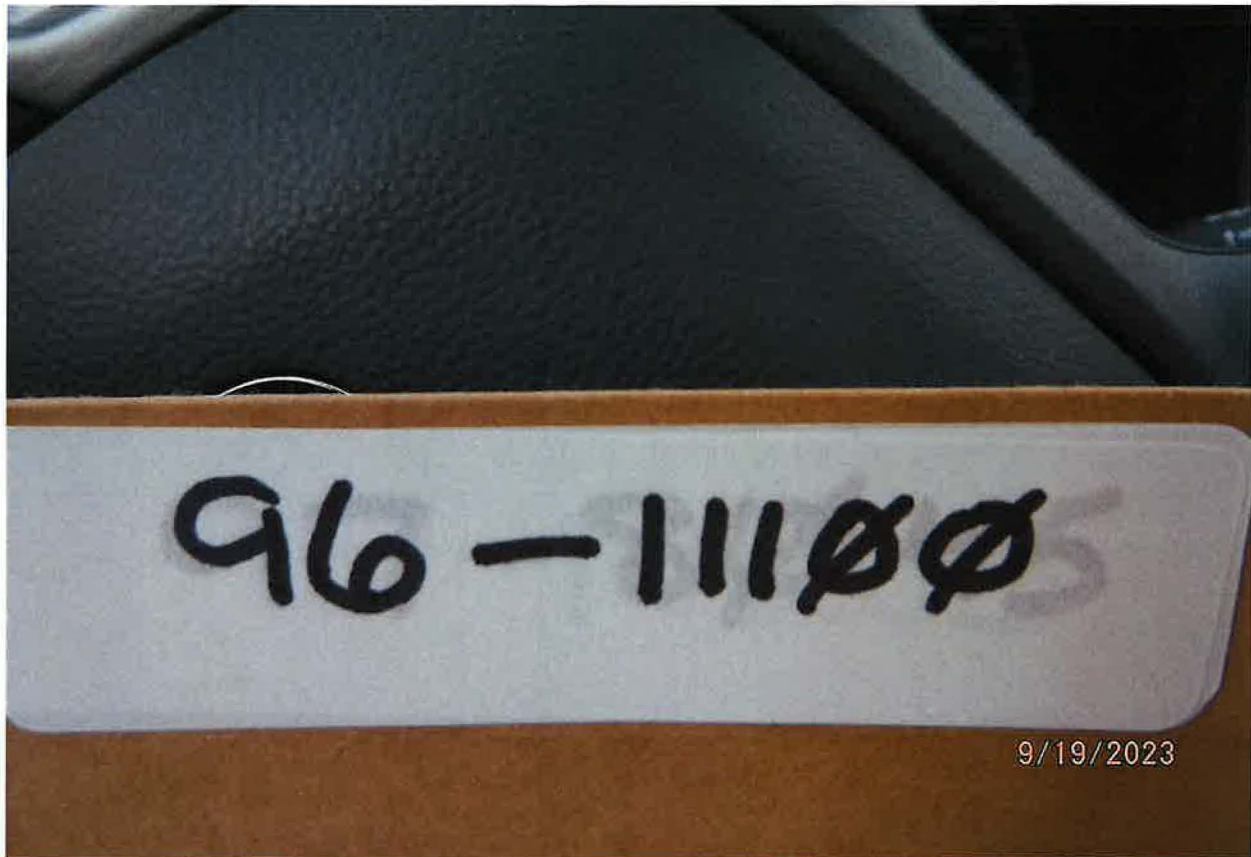
FILE NUMBER	95-11100
REVIEWER	Luke Bates
DATE	9/21/2023

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	0.4	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.

Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	1.2	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	1.8	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.



BENEFICIAL USE FIELD EXAMINATION DATE 9/19/2023



POD – IN-POND GROUNDWATER SOURCE



POU – AESTHETIC STORAGE & IRRIGATION STORAGE POND





IRRIGATION FROM STORAGE DIVERTING WORKS – 2 HP WATER TRANSFER PUMP TO PRESSURIZED SPRINKLERS





IRRIGATION FROM STORAGE POU





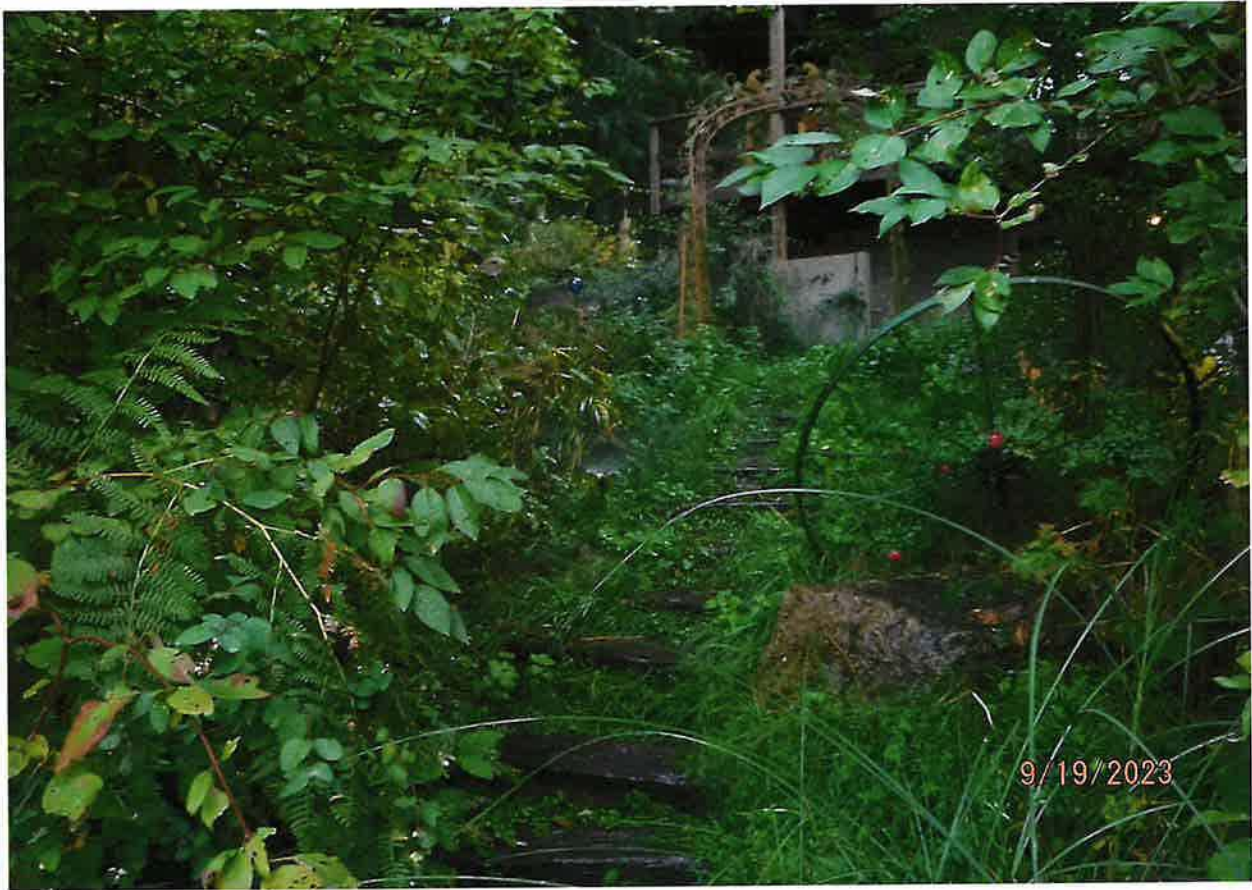
IRRIGATION FROM STORAGE POU – GARDEN SPACE





IRRIGATION FROM STORAGE POU – LAWN SPACE





IRRIGATION FROM STORAGE – MICRO 360 DEGREE NOZZLES FOR LANDSCAPE AREAS





IRRIGATION FROM STORAGE – ROADSIDE SMALL LANDSCAPE & VEGETABLE WATERING AREA





IRRIGATION FROM STORAGE -- LAWN SPACE BETWEEN TWO HOMES

