

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

A. GENERAL INFORMATIONExam Date: 12/19/2023

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: Terry Anderson
- Owner of Record Correct? N
- Address of Record Correct? N
- If No Explain: N/A
3. Beneficial Use Fees have been paid: X Y N Receipt No: C117360
4. Source: Tributary:
- Lake Pend Oreille Pend Oreille River

Method of Determination: GIS, Tax Parcel Data, and the permit holders Statement of Completion for Proof of Beneficial Use.

Change in Source: Y X N

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-8953	Lake Pend Oreille	Municipal	License, Claim

Comments: The municipal water right 96-8953 overlaps the proposed place of use. Since the water right is for Municipal use and is not directly appurtenant to the proposed place of use a combined limit between 96-8953 and the permit is not necessary.

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

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: N/A

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Pend Oreille			NE	SE	10	57N	01W	B.M.	Bonner
								B.M.	
								B.M.	

Method of Determination: GIS, a map/diagram provided by the permit holder, and Tax Parcel Data.

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

2. Place of Use: Irrigation, Fire Protection

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	01W	10													0.1 X				0.1
		Lot #																	
Total Acres =																		0.1	

Method of Determination: GIS, Tax Parcel Data, a map/diagram provided by the permit holder, and 2022 Bonner County Aerial Imagery.

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

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

Indicate weir size/pipe as applicable:

X Aerial Photo Attached, including the location of POD/POU (required for irrigation of 10+ acres).

 Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
		1			

*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

2. Measurement Comments: The permit holder provided a pump horsepower of 1 and a lift of 4 ft was determined using Google Earth. Therefore, a diversion rate calculation is possible.

E. FLOW CALCULATIONS

 Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 1 and a lift of 4 ft was determined a diversion rate calculation was possible. According to the calculation the system could handle 0.06 cfs with a 40-psi discharge pressure. According to Administrative Processing Memo #17 the standard diversion rate/acre for the irrigation of 5 acres or less is 0.03 cfs/acre, 0.1 acres * 0.03 cfs/acre = 0.003 cfs or 0.01 cfs rounded. The permit authorized a 0.03 cfs diversion rate for irrigation and 0.20 cfs for fire protection. I am recommending a 0.01 cfs diversion rate for irrigation and 0.06 cfs for fire protection.

$$Q = (1 \text{ hp}) (8.8) (70\% \text{ efficiency}) / (4 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.06 \text{ cfs}$$

Measurement = 0.06 cfs

Permit allowed = 0.20 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (0.1 \text{ acres}) \times (3 \text{ af/acre}) = 0.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = (0.01 \text{ cfs}) \times (214 \text{ days}) \times (1.9835 \text{ af/day}) = 4.2 \text{ af}$$

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

2. Volume Calculations for Other Uses: According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.iv if a permit authorizes fire protection a diversion volume is not required for that use at licensing.

G. PURPOSE OF USEIrrigation X Y N # Stock N/A Domestic # of Homes N/A Change in Purpose of Use? Y X NMethod of Determination: GIS, Tax Parcel Data, a map/diagram provided by the permit holder, and 2022 Bonner County Aerial Imagery.**H. NARRATIVE/REMARKS/COMMENTS**

This permit qualifies for an in-office license. According to Tax Parcel Data the property was developed in 1945. The permit authorizes the irrigation of 0.4 acre and fire protection. After reviewing 2022 Bonner County Aerial Imagery it was difficult to determine how many acres were irrigated. The permit holder was contacted on December 13th, 2023, and confirmed they would provide a map/diagram identifying irrigated acres and a layout of the irrigation system. The document was received on December 15th, 2023. Paring 2022 Bonner County Aerial Imagery and the map/diagram provided by the permit holder the irrigation of 0.1 acres was confirmed. The Tax Parcel Boundary and physical property boundary were inconsistent. The irrigated place of use was determined using the physical property boundary.

According to the permit holders Statement of Completion for Proof of Beneficial Use a fish screen was installed meeting the fish screening and passage requirements of the Idaho Department of Fish and Game. Since the permit holder provided a pump horsepower of 1 and a lift of 4ft was determined using Google Earth a diversion rate calculation was possible. The calculation determined the system can handle 0.06 cfs with a 40-psi discharge pressure. The permit authorized a 0.20 cfs total diversion rate and 0.20 cfs for fire protection. Since the system capacity is 0.06 cfs the total diversion rate and rate for fire protection should be reduced to 0.06 cfs. The standards set in Administrative Processing Memo #17 was used to recommend an irrigation use diversion rate. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.iv if a permit authorizes fire protection is not required to have a diversion volume for that use at licensing. All of the conditions have been met and it was confirmed a beneficial use was developed within authorization on the permit. Therefore, I am recommending a 0.06 cfs total diversion rate and 0.3 diversion volume for irrigation.

Conditions 077, X31 and 004 should remain on the license. Condition 029 should be removed because the permit holder installed a fish screen meeting the fish screening and passage requirements of the Idaho Department of Fish and Game. All other conditions should be removed as standard with licensing.

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	04/01-10/31	0.01 CFS	
Fire Protection	01/01-12/31	0.06 CFS	0.3 AF
	<u>Totals:</u>	0.06 CFS	

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. AUTHENTICATIONField Examiner's  Date 12/19/2024Reviewer  Date 8/2/24

Field Exam Map

Map showing the authorized point of diversion (yellow point), irrigated place of use (orange outline) and fire protection place of use (green outline).



2022 Bonner County Aerial Imagery

Imagery along with a map/diagram provided by the permit holder confirmed 0.1 acres were irrigated.

96-12741 2022 Bonner County Aerial Imagery



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-12741
Examiner: Skyler C.
Date of Field Exam: 12/18/2023

Option 1

P/D No.:

PUMP HORSEPOWER	1
BOOSTER HORSEPOWER	0
PUMPING LEVEL	4
DISCHARGE PRESSURE	40
FRICITION	0
RATE OF FLOW (cfs)	0.06
(gpm)	28.7

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

Lift was determined from Google Earth. Hp was provided by the permit holder on their Statement of Completion for Proof of Beneficial Use. A standard psi for domestic use of 40 to 60 psi was used to estimate the

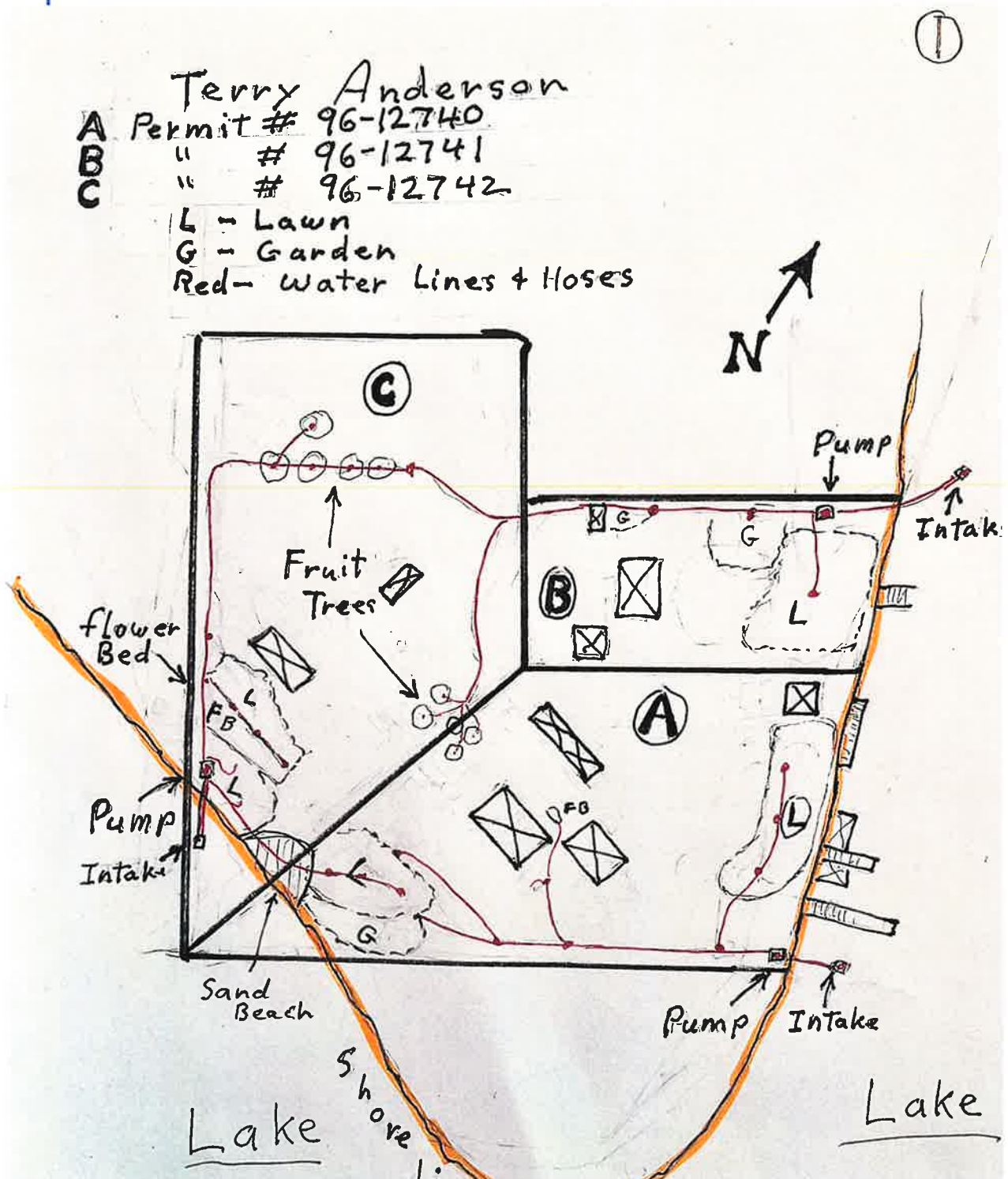
RECEIVED

Dec 15, 2023

DEPARTMENT OF
WATER RESOURCES



From: Devon dchapwoman@hotmail.com
Subject: Fwd: Terry Anderson Permit drawings
Date: December 15, 2023 at 8:59 AM
To: Skyler.Cheever@idwr.idaho.gov



②

Hand-drawn map of a property with various features and a legend.

Legend:

- L - Lawn
- S - Sprinkler
- R - Rain Bird

Map Features:

- Property Boundary:** A dashed line outlines the property.
- Neighboring Properties:** Properties labeled A, B, and C are shown adjacent to the main property.
- Internal Features:**
 - Tall Trees:** A cluster of trees is labeled "Tall Trees All Over Property".
 - Sand Beach:** A shaded area is labeled "Sand Beach".
 - Lawn:** A shaded area is labeled "Lawn".
 - Garden:** A shaded area is labeled "Garden".
 - Hose for fire:** A line is labeled "Hose for fire".
 - Pump:** A small square is labeled "Pump".
 - Intake:** A small square is labeled "Intake".
- Watering System:**
 - Rain Bird (R):** Three circular symbols are labeled "R".
 - Sprinkler (S):** One circular symbol is labeled "S".
 - Lawn (L):** One circular symbol is labeled "L".
- Other Labels:**
 - SOFB:** A label near the "Hose for fire" line.
 - Garden watered by Hand with Hose:** A note at the bottom left.

Lake

Shore Line

(3)

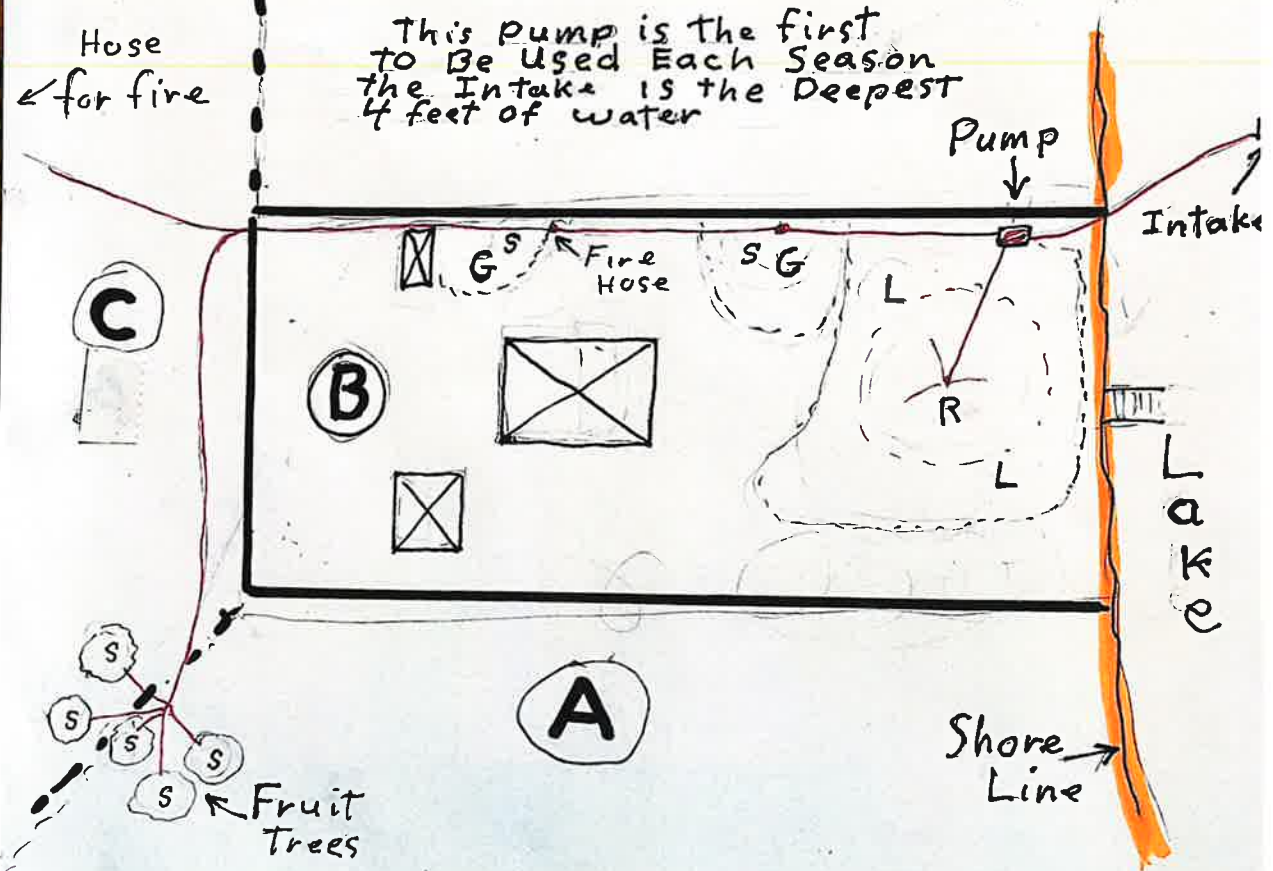
Terry Anderson
B - Permit # 96-12741

L - Lawn
G - Garden
S - Sprinkler
R - Rain bird



Hose
← for fire

This pump is the first
to be used each season
the intake is the deepest
4 feet of water



Terry Anderson
[C] Permit # 96-12742
L-Lawn Grass
S-Sprinkler
R-Rain Bird

(4)

