

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**BENEFICIAL USE FIELD REPORT**

**A. GENERAL INFORMATION**

Permit No: 98-7941

Exam Date: 08/04/2020

## 1. Current Owner:

STEPHEN GALBRAITH 6528 NORTH RIVER DRIVE BONNERS FERRY ID 83805 AND/OR  
DEANNA GALBRAITH 6528 NORTH RIVER DRIVE BONNERS FERRY ID 83805

## 2. Accompanied by: Stephen Galbraith

Phone No: 208-610-6018

Address: Same as above

Relationship to permit Holder: Permit holder

3. SOURCE:

KOOTENAI RIVER

Tributary

COLUMBIA RIVER

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
98-2103	KOOTENAI RIVER	MUNICIPAL	LICENSE
98-2033	MYRTLE CREEK	MUNICIPAL	LICENSE
98-7825	MYRTLE CREEK	MUNICIPAL	LICENSE

Comments: Rights 98-2103, 98-2033, and 98-7825 are licensed municipal rights for City of Bonners Ferry, and while they overlap this right's POU, they are not a concern for overlap.

## 2. Other water rights with the same point-of-diversion:

NO Overlap

Water Right No.	Source	Purpose of Use	Basis
98-7919	KOOTENAI RIVER	IRRIGATION	LICENSE

Comments: right's 98-7919 and 98-7941 are both irrigation rights that use the same point of diversion and diverting water system for the Galbraith's parcels. Condition F06 was added to describe the two rights with same POD.

**C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:

KOOTENAI RIVER SW¼ NE¼, Sec. 27, Twp 62N, Rge 01E, B.M. BOUNDARY County

Method of Determination: GPS. POD is a submersible pump in river, located at -116°19.092, 48°41.932.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
62N	01E	27		0.3	0.2														0.5
62N	01E	27		1.3															1.3

Total Acres: 1.8

Method of Determination: Field exam and Arcmap aerial imagery.

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

X 1:24,000 or greater.

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

X 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
SUBMERSIBLE PUMP		1			

#### D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET						

2. Measurements: Three 5 gallon bucket tests were completed at the first hose bib inline from POD on main water line, with average of three resulting in diversion flow rate of 5 gal / 10.53 sec x 60 sec/min = 28.49 gpm = 0.06 cfs.

#### E. FLOW CALCULATIONS

Measured Method: 5 GAL Bucket Test = (5 gal / 10.53 sec) x 60 sec/min = 28.49 gpm  
 = (5 gal / 10.37 sec) x 60 sec/min = 28.93 gpm  
 = (5 gal / 10.69 sec) x 60 sec/min = 28.06 gpm

Average of 3ea 5 GAL Bucket Tests = (28.49 gpm + 28.93 gpm + 28.06 gpm) / 3 = 28.49 gpm = 0.06 cfs

#### F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.8 \text{ acres} \times 3.0 \text{ afa} = 5.4 \text{ af}$

$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.06 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 25.5 \text{ af}$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 5.4 \text{ af}$

2. Volume Calculations for Other Uses:

This is a surface water right; there will be no annual volume applied to the irrigation component, nor a maximum diversion volumes applied to this water right.

**G. NARRATIVE/REMARKS/COMMENTS**

Field exam conducted on 8/4/2020 with the applicant, Stephen Galbriath, showed water being diverted from the Kootenai River for irrigation purposes. At the POD, the applicant had a 1 HP submersible pump in the river with screened intake pipe. The irrigation system is direct flow, and there are no storage tanks built into the water system. Three 5 gallon bucket tests were completed at the first hose bib inline from POD on main water line, with average of the three resulting in a diversion rate of  $5 \text{ gal} / 10.53 \text{ sec} \times 60 \text{ sec/min} = 28.49 \text{ gpm} = 0.06 \text{ cfs}$ . The derived diversion rate is 0.01 cfs greater than the department standard for 1.8 acres of irrigation, but the applicant uses the same POD for a separate irrigation right 98-7919, which accounts for the excess of diversion associated with this right. As a result, the diversion rate of **0.05 cfs** is recommended for the maximum diversion rate for licensing this water right. Condition X35 was added to describe the limitations between the water rights 98-7919 and 98-7941 with regard to the maximum diversion rate of 0.06 and total acres irrigated of 2.3 acres.

A department memorandum dated 9/3/2019 identified a concern for overlap of irrigation acreage between right 98-7919 and this right. Mr. Galbriath is the permit holder and licensee for both rights, which irrigate distinctly separate areas on the applicant's property. Field maps were used and the water system interaction for each right was discussed with Mr. Galbriath during the field exam performed on 8/4/2020. This right, 98-7941 was applied for to provide irrigation for portions of the applicant's parcels not captured on the prior right 98-7919. While the water system uses the same source, the POU's are separate and do not overlap.

The permit authorized the irrigation of 4.5 acres; during the field exam, the irrigated area was identified and sketched out on field maps. During licensing review, Arcmap aerial imagery was used to accurately trace out the irrigation POU, which equaled 1.8 acres. The annual volume associated with the irrigated acreage equals  $1.8 \text{ acres} \times 3.0 \text{ afa} = 5.4 \text{ af}$ , but as this is a surface source water right there is no volume metrics applied to the license. The applicant's irrigation system consisted of a 2" poly pipe main line, with multiple 1" poly pipe risers that route water to different zones of the irrigation POU. The applicant's system uses multiple types of sprinklers including automatic pop up sprinklers on fence posts, tripod rainbird sprinklers, and portable ground sprinklers. The applicant irrigated two long stretches of grass, multiple garden areas, and had recently re-seeded the lawn areas within the POU that didn't take the year prior. Aerial imagery does not adequately illustrate the irrigation occurring within the designated POU, but photographs were taken during the field exam more accurately showing that the applicant was irrigating the designated acreage. Applicant stated that throughout the hot periods of the irrigation season, he is not able to keep up with irrigation to keep all the lawn areas green, but has been able to keep the grass from dying using his current sprinkler rotation schedule.

Condition 26A was removed from the permit during licensing review. Condition F06 was added to describe that rights 98-7919 and 98-7941 share the same POD. Condition X35 was added to describe the limitations between the water rights 98-7919 and 98-7941 with regard to the maximum diversion rate of 0.06 and total acres irrigated of 2.3 acres. Rights 98-2103, 98-2033, and 98-7825 are licensed municipal rights for City of Bonners Ferry, and while they overlap this right's POU, they are not a concern for overlap. There are no other overlap concerns for this right.

Have conditions of permit approval been met?   X   Yes        No

**H. RECOMMENDATIONS****1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>
IRRIGATION	04/01 to 10/31	0.05 CFS

Totals: 0.05 CFS

**2. Recommended Amendments**

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

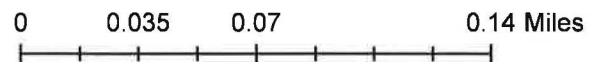
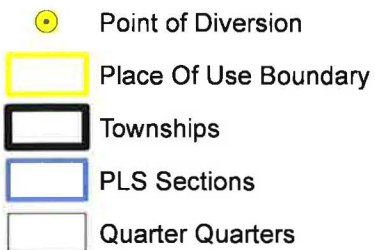
\_\_\_\_\_ Change P.U. as reflected above    \_\_\_\_\_ Add P.U. as reflected above    X None

**I. AUTHENTICATION**      Luke Bates - Water Resource Agent

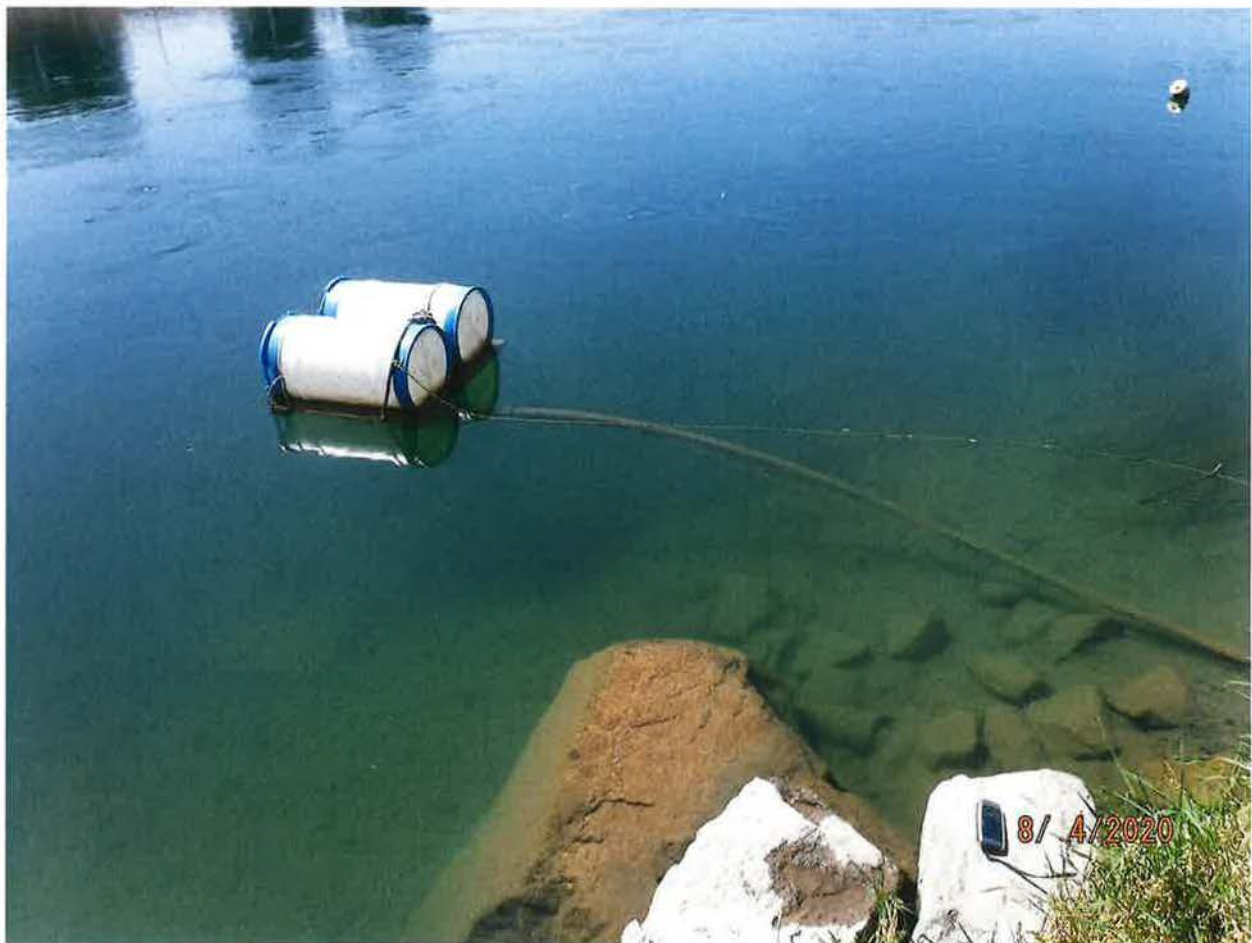
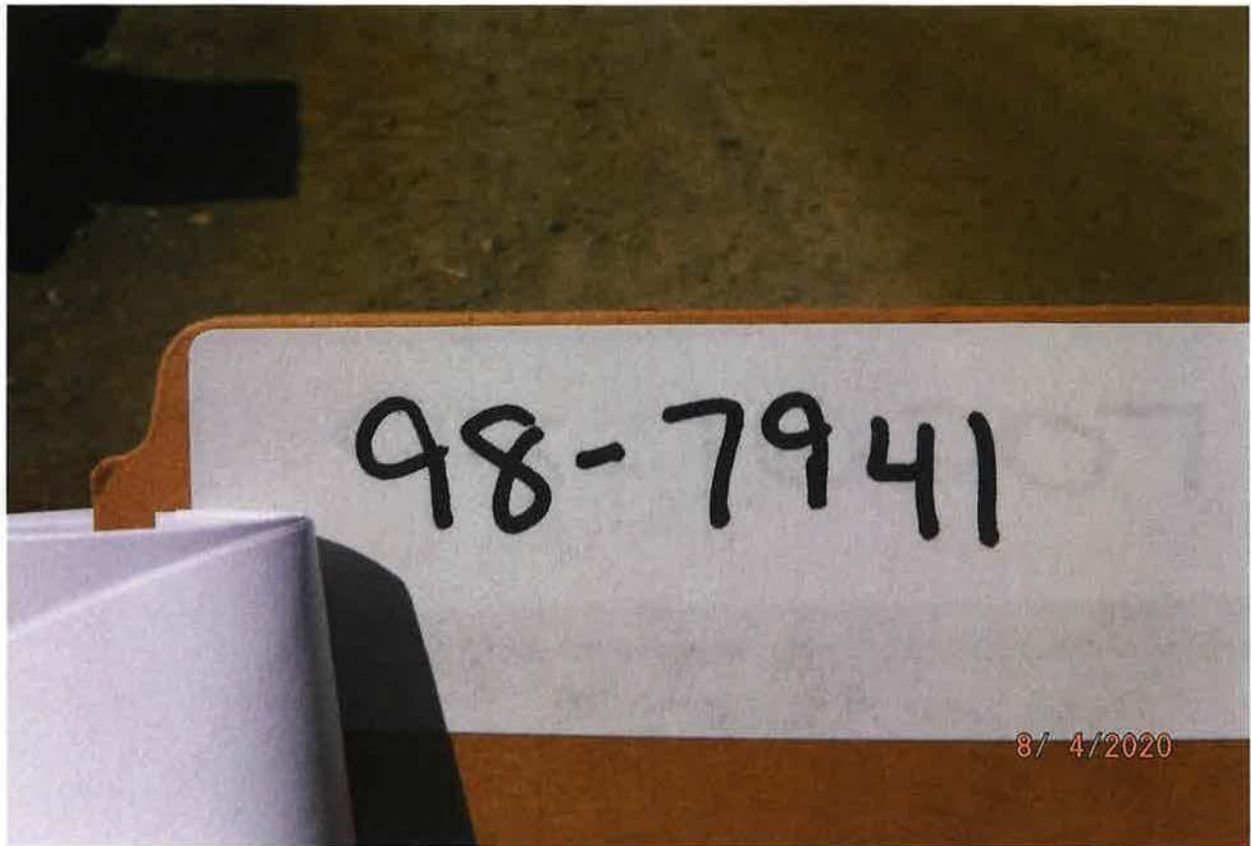
Field Examiner's Name  Date 10/30/2020

Reviewer  Date 10/30/2020

IRRIGATION system diagram.







POD – SUBMERSIBLE PUMP IN RIVER





POD – PUMP IN RIVER, PIPE LEADING TO IRRIGATION SYSTEM







POU – IRRIGATION SYSTEM MAIN POLY PIPE WITH NUMEROUS RISERS FOR ZONES



POU – IRRIGATION PRESSURIZED SPRINKLERS





IRRIGATION POU







IRRIGATION POU





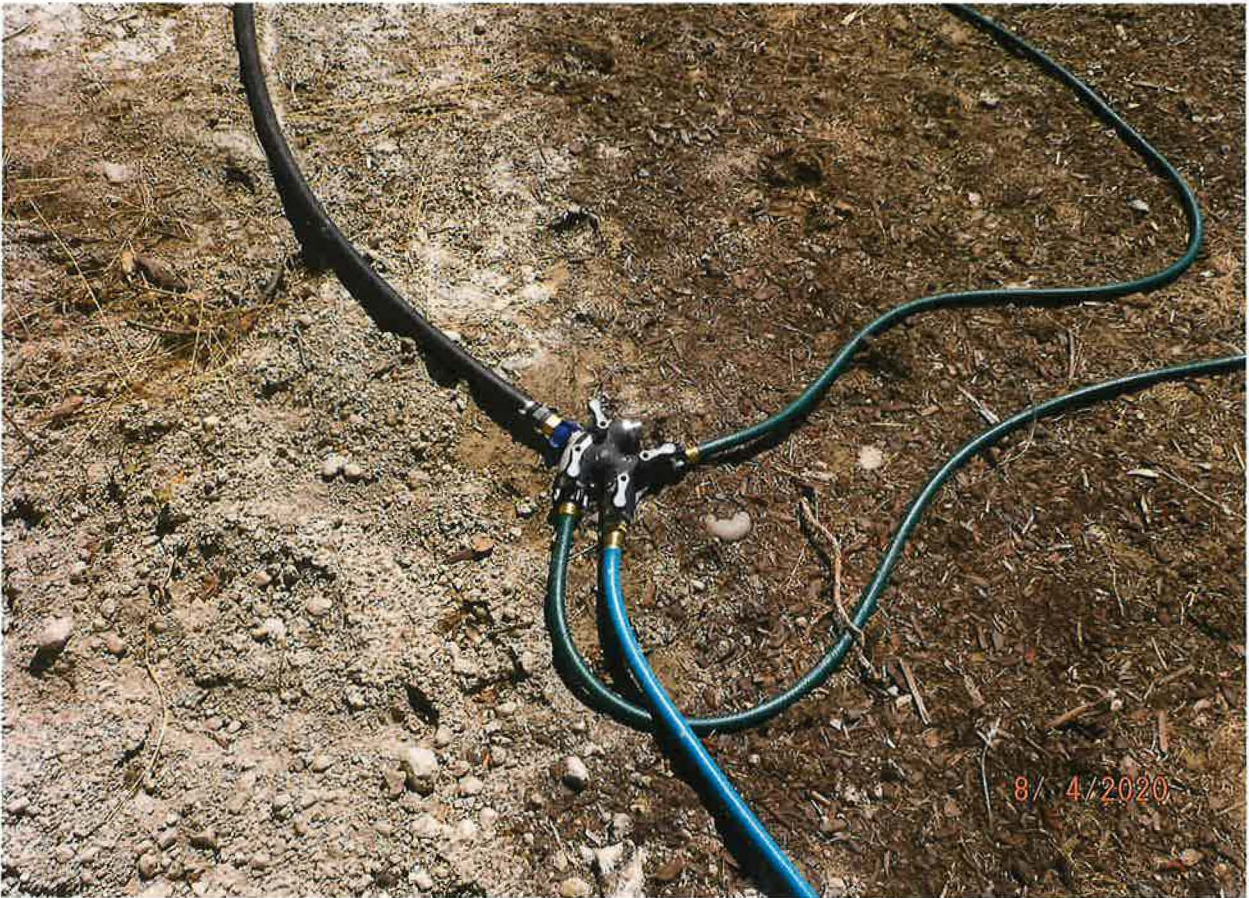


IRRIGATION SYSTEM – SEVERAL STYLE OF SPRINKLERS USED BY APPLICANT



IRRIGATION POU – NEWLY SEEDD LAWN SECTION





IRRIGATION HOSE SPLITTER



IRRIGATION POU





IRRIGATION POU







IRRIGATION POU



IRRIGATION POU – NEWLY SEEDD LAWN SECTION





IRRIGATION SPLITTER BETWEEN LOWER SECTION AND ABOVE ROAD SECTION



IRRIGATION POU – NEWLY SEEDD LAWN SECTION