

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9718
Exam Date: 05/25/2021

1. Current Owner:
CRAIG M ELLISON 85 CORBETT GLN SANDPOINT ID 83864-0598
NONA L ELLISON 85 CORBETT GLN SANDPOINT ID 83864-0598
2. Accompanied by: Craig M Ellison
Phone No: 503-508-5198
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
SAND CREEK

Tributary
LAKE PEND OREILLE

Method of Determination: DGR and Arcmap.

B. OVERLAP REVIEW

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

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

SAND CREEK SE¼ SE¼, Sec. 26, Twp 58N, Rge 02W, B.M. BONNER County

Method of Determination: GPS. POD is located at -116°33.110, 48°20.678.

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	
58N	02W	26															0.1	0.3	0.4

Total Acres: 0.4

Method of Determination: Field exam and Arcmap aerial imagery.

3.
 - X 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).
 - 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		GOULDS	

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to complete flow measurements due to inadequate pipe size & length requirements.

E. FLOW CALCULATIONS

Measured Method: Applicant provided pump make/model that identifies 18 GPM flow rate at peak performance. Due to the service pipe run of 375 ft over a 25-30 ft elevation gain the pump pushed water from the POD, it is reasonable to assume the peak performance of 18 gpm is not achieved by the pumping system. The department standard diversion rate for the irrigation of 0.4 acres is being recommended for licensing purposes, which equals **0.02 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.4 \text{ acres} \times 3.0 \text{ afa} = 1.2 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 8.5$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 1.2 \text{ af}$$

2. Volume Calculations for Other Uses:

This right uses a surface water source, and does not receive an annual volume nor maximum diversion volume.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 5/25/2021 with the applicant, Craig Ellison, shows water being diverted from Sand Creek for irrigation purposes. At the POD, a screened inlet pipe was placed in the creek, housing a 1 HP Goulds submersible pump. From the POD, the applicant routed approximately 375 ft of buried 1 inch poly pipe to the POU, where it fed direct to a 6 lb pressure tank before distribution to the irrigation system. Applicant provided pump make/model that identifies 18 GPM flow rate at peak performance. Due to the service pipe run of 375 ft and elevation gain of 25-30 ft that the pump pushed water from the POD, it is reasonable to assume the peak performance of 18 gpm is not achieved by the pumping system. The department standard diversion rate for the irrigation of 0.4 acres is being recommended for licensing purposes, which equals **0.02 cfs**.

Using the 2019 Arcmap aerial imagery layer when assigning the POD centroid, the GPS location shows the POD and creek being just outside the applicant's property boundary. Referencing Bonner County tax parcel maps (attached to B.U. Report),

the applicant's property line is Sand Creek within the location of the POD. The Arcmap imagery layer is likely shifted slightly from the DRG layer, and there is no concern for the POD not being within the applicant's surveyed property line(s).

During the exam, the irrigation POU was walked and photographs were taken to assist in accurately defining the irrigation acreage at the POU. Due to tree canopy and a newly built garage/shop with landscaping, Arcmap aerial imagery does not accurately depict the irrigation POU. From the pressure tank located on the NE side of a newly built garage/shop, system water lines are routed to 3ea frost free hydrants that the applicant uses to irrigate by hose and sprinklers. The irrigation POU consists of landscape plants, lawn, and garden area around the applicant's house and garage. Field maps were used to sketch out the irrigation POU, and during licensing review Arcmap aerial imagery was used to trace out the POU which equals 0.4 acres. This value is considerably less than that which was applied for, but much of the permit approved acreage was not developed by the applicant in the development period of the permit. The annual volume associated with the irrigation beneficial use equals $0.4 \text{ acres} \times 3.0 \text{ afa} = 1.2 \text{ af}$, but as this is a surface source water right no volume metrics are applied to this right for licensing purposes.

Condition 227 was removed from the permit during licensing review; the MSF associated with 227 for the Pend Oreille River is directly influenced by the Albeni Falls Dam seasonal operation. As a result, the MSF for right 96-8730 shall not be considered with regard to licensing this right. Condition R66 was replaced with X31 to accurately describe irrigation occurring of less than 1 acre. All other conditions on the permit will be carried forward to licensing. There are no 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	0.02 CFS

Totals: 0.02 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 J. B. D. Date 5/27/2021

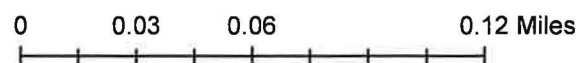
Reviewer Adv. Fink Date 5/28/2021

IRRIGATION system diagram.

58N



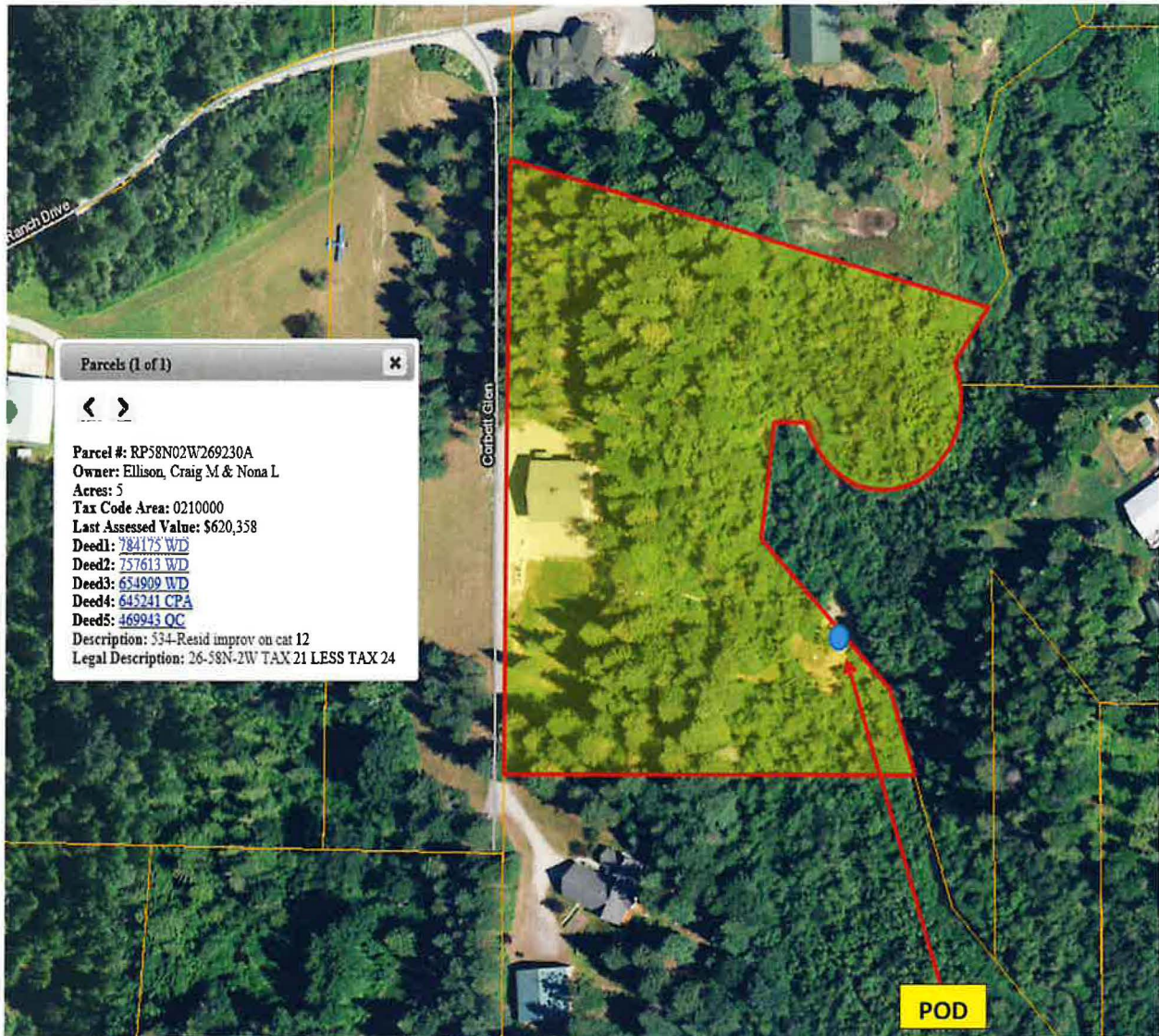
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters



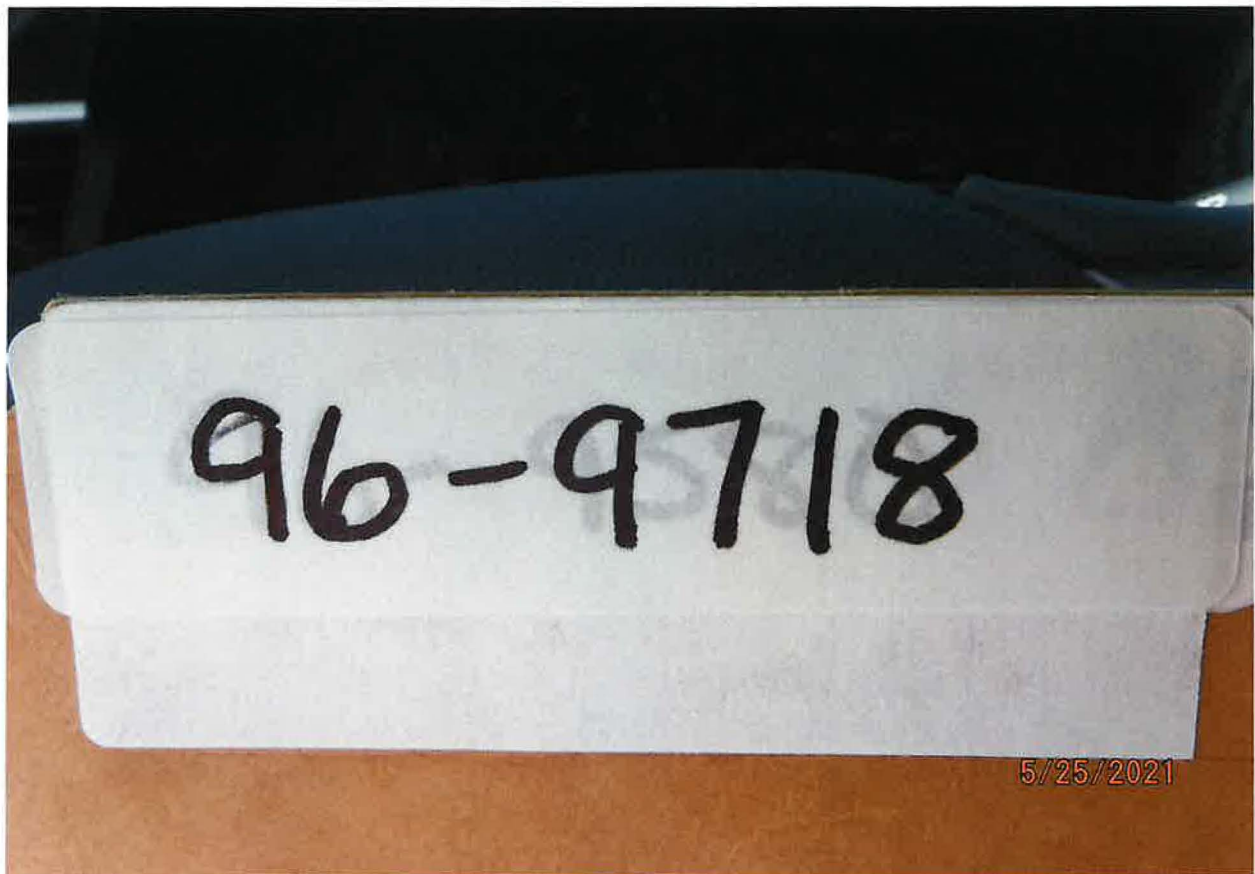
96-9718

TAX PARCEL MAP

<https://cloudgisapps.bonnercountyyid.gov/public/>



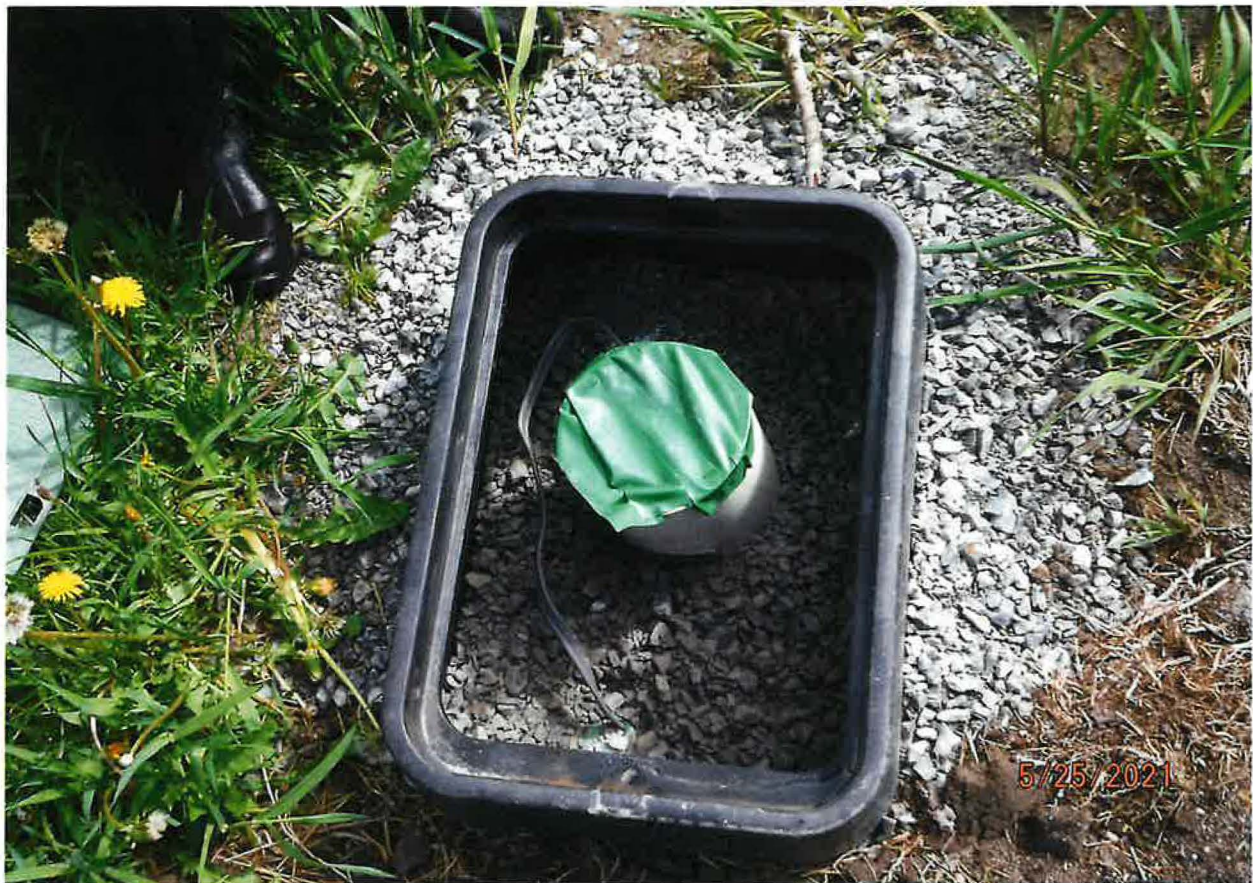
NOTE: SMALL MEADOW IN LOWER R/H PORTION OF PARCEL HAS SAND CREEK SERVING AS THE PARCEL BOUNDARY LINE FOR THAT LOCATION OF THE PROPERTY. PROPERTY OWNER'S POINT OF DIVERSION (**POD**) IS IN SAND CREEK ON THE WEST SIDE OF THE CREEK, WITHIN THEIR PROPERTY BOUNDARY.



FIELD EXAM DATE 5/25/2021



SCREENED INTAKE PIPE IN SAND CREEK



POD – SAND CREEK DIVERSION BY SUBMERSIBLE PUMP – PUMP CONTROL WIRING



18 GPM, 1 HP GOULDS PUMP INSTALLED IN SYSTEM

 est 1882		1500 N BRADLEY RD SPOKANE VALLEY WA 99212-1 Phone: 509-534-0343 FAX 509-53	
Website: www.mitchellewis.com			
Bill To: 10446	SANDPOINT PUMP AND POWER 188 SKYRANCH DR SANDPOINT ID 83864-7502	Ship To: SAME	SANDPOIN 188 SKYRA SANDPOIN
Reference #	Ordered	Requested	Slsp
DAVE	04/06/21	04/13/21	902 ADR
Terms		NET 30 DAYS	
Item	Description		Commit
Ordered By DAVE BAN 18GS10 M10432	GLE GOULDS GS SERIES LIQUID END 18GPM 1HP Pr 809.00 EA Disc: 55.00% Ex 364.05 CENTRIPRO 3W 4" 1HP 230V 3PH Pr 601.00 EA Disc: 55.00% Ex 270.45		5/25/2021

1 HP PUMP RECEIPT



IRRIGATION SYSTEM CONTROL PANEL



IRRIGATION POU



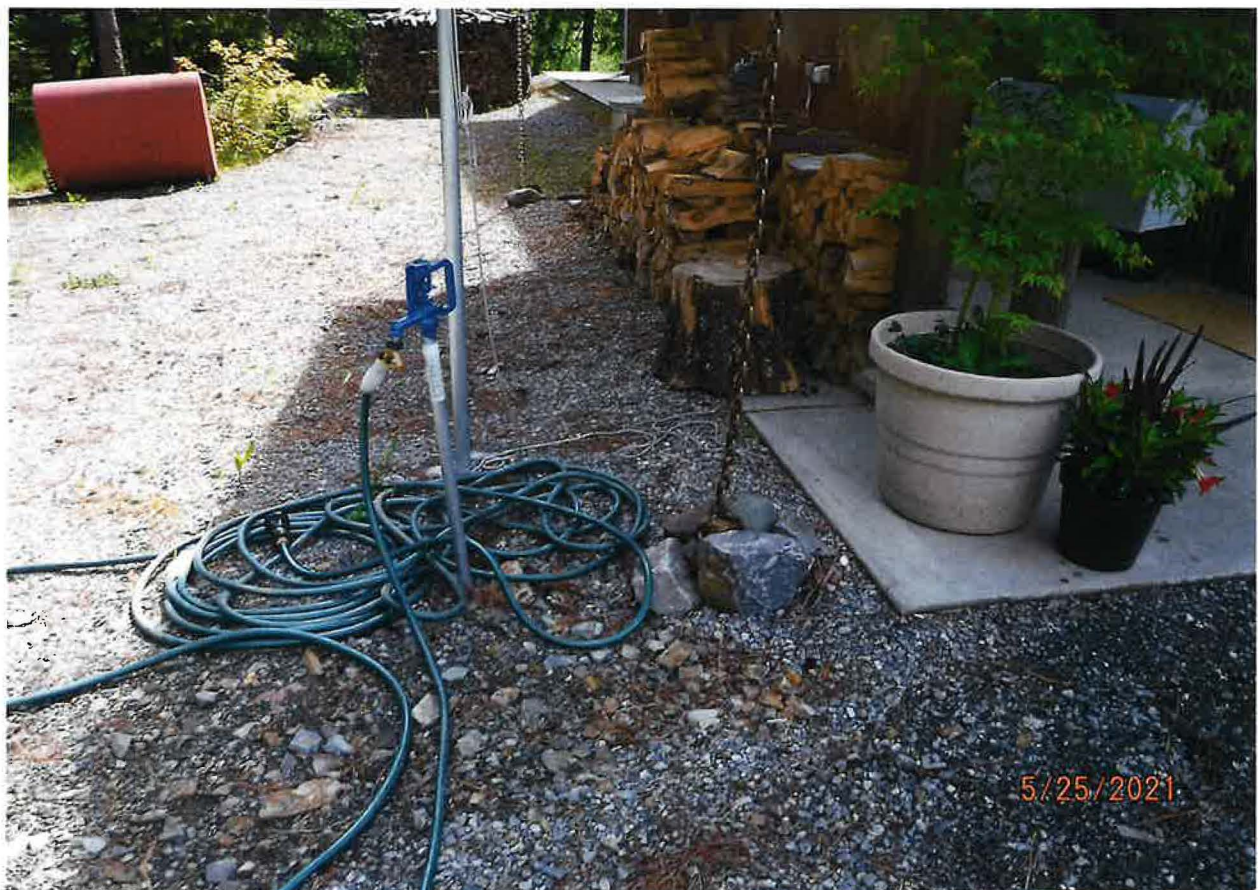


IRRIGATION POU





3 EA FROST FREE HYDRANTS INSTALLED IN SYSTEM, WITH 6 LB PRESSURE TANK (VAULTED IN IMAGE)



IRRIGATION BY HOSE AND PORTABLE SPRINKLERS