

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-8475

Exam Date: 10/27/2014

1. Current Owner: THE CHRISTENSEN 1987 TRUST
HC 64 BOX 8288
KETCHUM ID 83340
(208)726-4421

2. Accompanied by: Dave Wheelock

Phone No: (208) 726-4421

Address: 162 Barlow Rd, Ketchum ID 83340

Relationship to Permit Holder: Caretaker

3. SOURCE

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: N/A
2. Other water rights with the same point of diversion: N/A

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

GROUND WATER

NW1/4NE1/4

Sec. 10, Twp 05N, Rge 17E, B.M.

BLAINE County

Method of Determination: Waypoint collected with a Garmin GPSmap 60CSx receiver and manually entered into ArcMap. Aerial imagery from 2011 and 2013 was used to verify that the point of diversion is located as recorded. See attached map.

2.

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
05N	17E	10		X															

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
05N	17E	10		2.4				.1											2.5

Total Acres: 2.5

Method of Determination: Aerial imagery from 2011 and 2013 was used to verify that the place of use is located as recorded. See attached map. Tracks were made of perimeter of irrigated acres using a Garmin GPSmap 60CSx receiver to verify the place of use.

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
A0007837		3 Hp			

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurements: No measurements; permit meets the requirements exempting it from on-site examination and direct measurement specified in the Beneficial Use Examination Rules (IDAPA 37.03.02).

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

Measured Method: Theoretical Yield:

$$Q = \frac{8.8 \times (Hp) \times (Eff)}{H}$$

Where Hp = 3 Hp (per Wood River Drilling)

Eff = Efficiency = 70% assumed

H = total head = pumping level + (2.31 x system pressure)

H = 12 + (50 x 2.31) = 127.5

$$Q = \frac{8.8 \times 3 \times .70}{127.5} = 0.15 \text{ cfs}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.5 \text{ acres} \times 3.5 \text{ AF/acre} = 8.8 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.08 \text{ cfs} \times 215 \text{ days} \times 1.9835 = 34.1$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 8.8 \text{ AF}$$

2. Volume Calculations for Other Uses: Domestic: 0.6 af x 2 homes = 1.2 af

G. NARRATIVE/REMARKS/COMMENTS

Application for permit was filed in the name of the Christensen 1987 Trust for 0.08 cfs irrigation; 0.04 cfs for domestic and 0.12 cfs combined on 12/2/1988. Proof of beneficial use was filed 6/22/1989.

On 12/2/1998 Georgia Satterlee performed a beneficial use field exam and found that in addition to the permitted uses, the property owner had also developed three ponds for aesthetic uses. She recommended licensing the additional use as aesthetic storage and diversion to storage but the permit was never amended to include the additional uses. I picked up the file in 2014, and returned to verify her findings on 10/27/2014. Apparently, very little had changed in regards to water use, as my visit verified everything she had reported in the original field exam.

There are two homes on the property with manicured lawn around both homes. The sprinkler system has 12 zones, with 6 used to irrigate the lawn area and 6 irrigating native grass areas in the trees around the property. All twelve zones serve to irrigate the permitted acreage of 2.5 acres.

The pond system consists of three ponds. The first is a large pond with 0.3 acre surface area and a 5' average depth. The pond is excavated below the water table with only 20% of the volume used to fill the pond provided by ground water from the well. The other two ponds are small, one is approximately 0.01 acres by 2.5 feet deep and the other is 0.02 acres by 2.5 deep. I considered the possibility of licensing the ponds as part of the domestic use. On a daily basis, replacing the evaporative losses from the pond system could be included under domestic use limitations (approximately 1.26 acre feet of evaporation per year for this system). However, the ponds are drained in the late fall/early winter and then are filled again in the early spring. There is a ½ Hp recirculation pump and float system that fills the large pond with ground water and then fills the other ponds. Once the ponds are filled, water is then recirculated through the pond system. The yearly initial fill requires 0.175 acre feet or approximately 57,000 gallons. Since the water supply lines are all buried, making a direct measurement virtually impossible and the theoretical yield indicates the system has the potential to produce more than the 13,000 gallon per day limitation for domestic use, I'm not recommending the pond system be licensed under the domestic portion of this permit.

The original application for permit indicated that the domestic use was for one household. However, there are actually two homes on the property as noted by the 1998 field exam. Since there were no domestic limitations for volume placed upon the original permit and there are actually two homes on the property, I'm recommending a volume of 1.2 af to cover in-house use for both homes.

The place of use and point of diversion are located on a parcel legally described as Lot 2 of the Barlow Subdivision of Homestead Entry Survey (HES) No. 124. HES 124 is an unsurveyed location, located in Sections 3, 10 and 11 of Twp 05N, Rge 17E. At the time the permit was filed (1988) the application indicated the POU was in the SWNE1/4 of Sec 10. The Beneficial Use Field Exam in 1998 indicated it was located in the SESE1/4 of Sec 10. Currently the GCDB layer in ArcMap indicates the parcel is located in the NENW1/4 and the NWNE1/4 of Sec 10. The license will be changed to reflect the current location(s) indicated in by the GCDB layer in ArcMap and a condition will be placed on the license describing the legal location as Lot 2 of the Barlow Subdivision of Homestead Entry Survey (HES) No. 124.

Recommend licensing 0.04 cfs and 1.2 af for domestic; and 0.08 cfs and 8.8 af for irrigation; with a total of 0.120 cfs and 10.0 af.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.040 CFS	1.20 AF
IRRIGATION	04/01 to 11/01	0.080 CFS	8.80 AF
<u>Totals:</u>		0.120 CFS	10.00 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name

Paul Miller

Date

5-8-2015

Reviewer

Douglas Jones

Date

9/18/15



Figure 1: Manicured Lawn north side of main residence

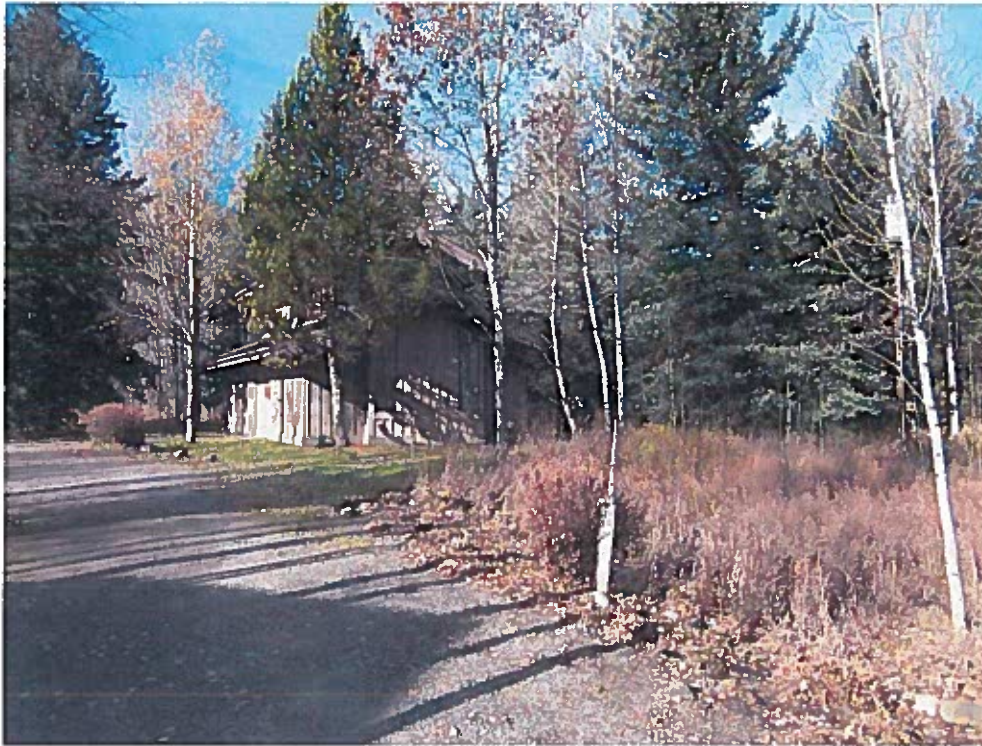


Figure 2: Example of manicured lawn and native grasses that are irrigated



Figure 3: Irrigated native grasses northeast side of property



Figure 4: Manicured lawn west side of main residence



Figure 5: Large pond on south end of property

System Diagram 37-8475



PLAT OF
HOMESTEAD ENTRY SURVEY No. 124
in the
SAWTOOTH NATIONAL FOREST

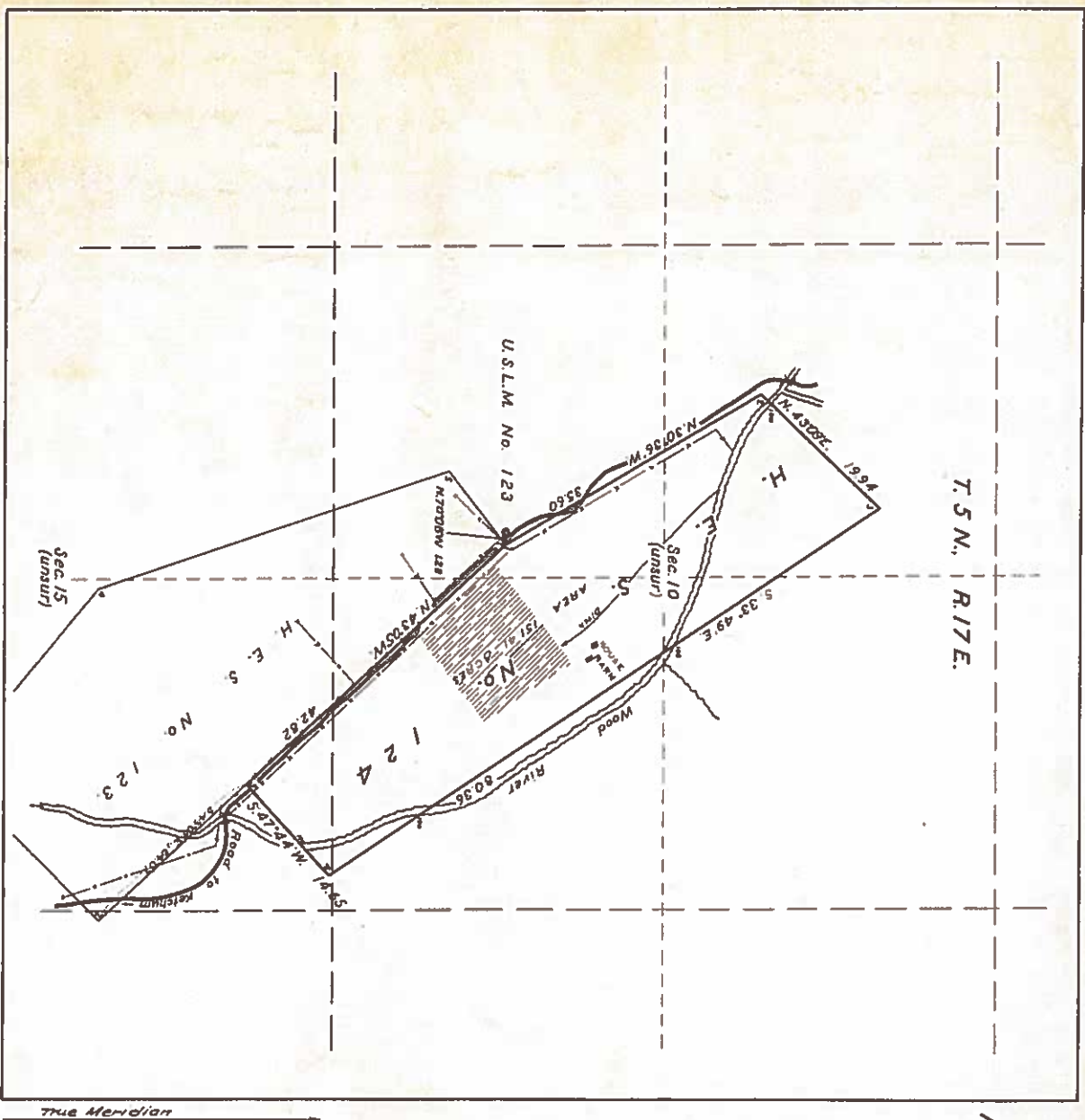
Section 10, unsurveyed. T. 5N., R. 17E.,
Section 15, unsurveyed. T. 5N., R. 17E.,

of the
Boise Meridian
IDAHO
W. E. DAVIS
Claimant

This plot of Homestead Entry Survey No. 124 situated in Section 10, unsurveyed, in Township 5 North, of Range 17 East and in Section 15, unsurveyed, in Township 5 North, of Range 17 East, and in Section _____ Surveyed, in Township _____ of Range _____ and in Section _____ Surveyed, in Township _____ of Range _____ of the Boise Base and Meridian is strictly conformable to the field notes of the Survey thereof, and file in this office, which have been examined and approved.

Office of U.S. Survey General
Boise, Idaho. April 6th 1914.

Samuel A. Mather
U.S. Surgeon General



Scale
10 Chairs equal 1 inch

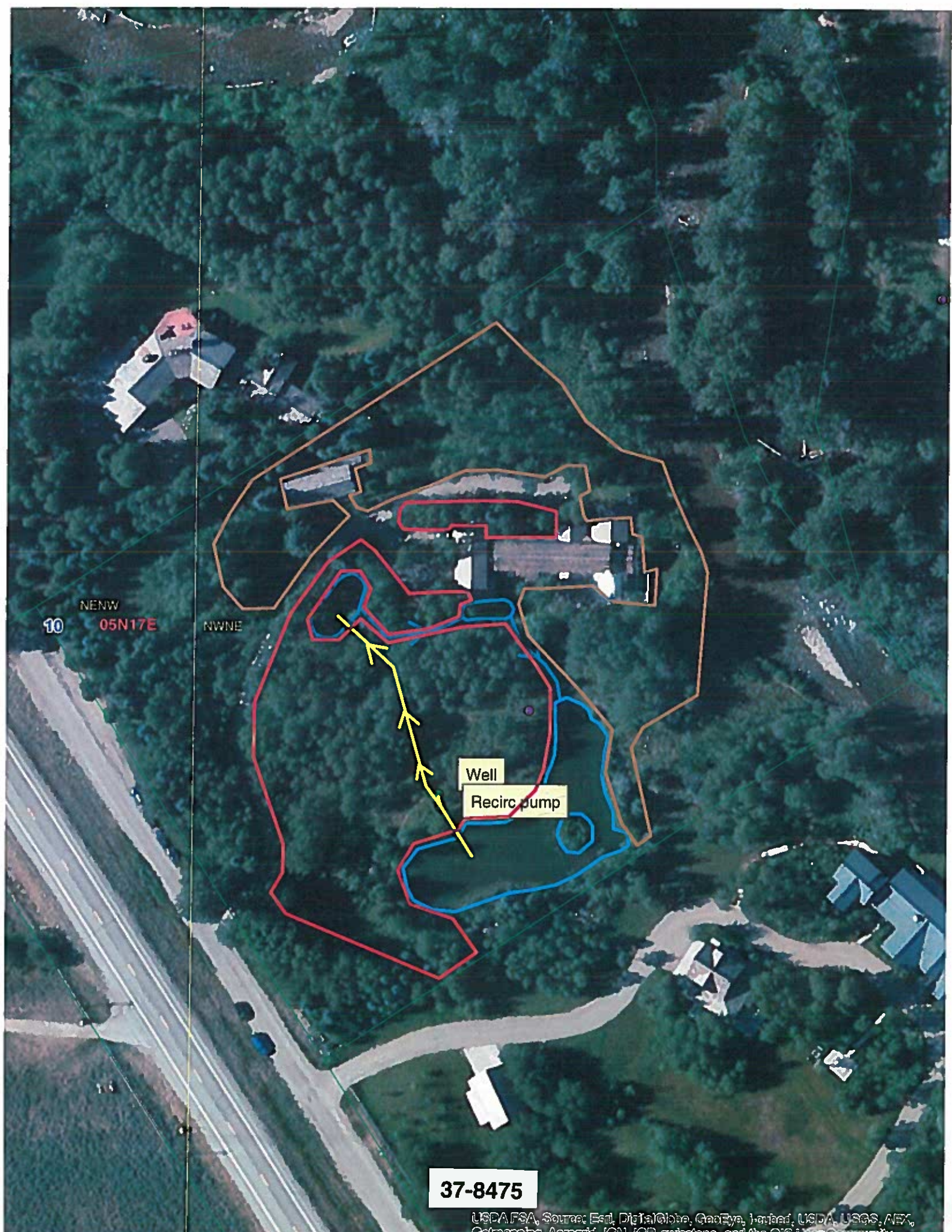
Initials W. B. R.

[illegible]

Areas		Conflicts
H. E. Survey No. 124		
In Section		
In Section		
In Section		
In Section		
Page 1	151.41	

Accl April 7, 1915
List No 4-399 Date July 25, 1910.
Act of June 11, 1906, Act of March 4, 1913.
Latitude 43° 47' 4" N. } At
Longitude 114° 25' W. } Corner 1.
Mean Mag Decr. 19° 47' E.

37 - 08475



10

NENW
05N17E

NWNE

Well
Recirc pump

37-8475

USDA FSA, Source: Esri, DigitalGlobe, GeoEye, IGN, IGP, swisstopo, and the GIS User Community