

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

A. GENERAL INFORMATION

Permit No: 78-12415

Exam Date: 8/28/2014

1. Does this qualify for an in-office field exam (IDAPA 035.02.r)? ☒ Yes ☐ No
- Irrigation of 5 acres or less
 - Storage of up to 14.6 AF for stockwater purposes only
 - Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 - Other < >

2. Current Owner: Name: David Perkins, Kristin Perkins
 Owner of Record Correct? ☒ Yes ☐ No
 Address of Record Correct? ☒ Yes ☐ No
 If No: Address

3. Beneficial Use Fees have been paid: ☒ Yes ☐ No Receipt No: CO99298

4. **SOURCE** **TRIBUTARY**
 Elk Creek Little Salmon River

Method of Determination: Applicant submitted an aerial photo map that outlined POD & POU.

Change in Source: ☐ Yes ☒ No

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Overlap? ☒ Yes ☐ No

Water Right No.	Source	Purpose of Use	Basis
78-12416	Groundwater	Irrigation, Domestic	

Comments: 78-12416 is a water permit that has been submitted with 78-12415 which serves the same parcel of land but from a different point of diversion.

2. Other water rights with the same point of diversion: Overlap? ☐ Yes ☒ No

Water Right No.	Source	Purpose of Use	Basis

Comments: No POD overlap.

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

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Elk Creek			NW	NW	26	22N	01E		Idaho

Method of Determination: Legal Description in permit validated by PLS data and mapping.

Change in POD? ☐ Yes ☒ No

Amendment Required? ☐ Yes ☒ No

2. **PLACE OF USE:** Use: Domestic & Irrigation

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
22N	01E	26					1.3	2.0											3.3

Method of Determination: Map of property submitted by land owner identifies POU clearly. PLSS data through ArcMap match.

Change in POU? ☐ Yes ☒ No Amendment Required? ☐ Yes ☒ No

☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.
Indicate weir size/pipe as applicable.

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

☐ Photo of Diversion and System Attached

4. Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
Unk.	Unk	Unk	Unk	Unk	Unk

*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. Measurements: In-office field exam so flow measurements not taken.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method:

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

Efficiency = 0.70

Depth to water = 10 ft.

psi = 40-60

hp= 5

See attached theoretical sheet.

Average flow rate is 0.25 cfs

Measurement = 0.25 cfs

Permit allowed = 0.04 cfs

License recommend for 0.04 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.3 * 3.0 = 9.9 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.04 * 214 * 1.9835 = 17.0 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 9.9 \text{ af}$$

2. Volume Calculations for Other Uses:

G. PURPOSE OF USE

Irrigation ☒ Yes ☐ No # Stock 0 Domestic # of Homes 0

Other: < >

Change in Purpose of Use? ☐ Yes ☒ No

Method of Determination: Information in the water right file is consistent with aerial photography of the property.

If Yes: From Use _____ To Use _____ Amount _____ CFS _____ AFA _____

H. NARRATIVE/REMARKS/COMMENTS

Permit 78-12415 authorized the diversion of 0.04 cfs from Elk Creek for irrigation purposes. Based on the permitted diversion rate and small POU, this qualifies for an in-office field exam. The exam was completed on Aug, 28, 2014 by WRA Patrick Kelly.

Legal description of POU & POD were used to locate the property in the name of David Perkins. 3.3 acres of land were found able to be irrigated from the well. A map outlining the POU and POD was submitted and I found no errors in the information that was presented.

Application 78-12415 was submitted contemporaneously with application 78-12416. Applicant stated that 78-12415 would substitute water that was being used from the domestic well under application 78-12416 to irrigate the property.

Overlap review showed statutory claim 78-4002 is an irrigation and stock water right that covers a number of QQ in the area. The NW ¼ NW ¼ of section 26 T22N R01E included. This right was superseded by decree and divided into parts A and B, neither of them are associated with the Perkins property

Horsepower was recorded on the application for permit. Lift was assumed based on topographic maps and a reasonable stream bank channel levels. Discharge pressure ranges of 40 - 60 psi accounts for sprinkler system expected requirements in use. Theoretical average flow rate of 0.25 cfs exceeds the permitted diversion rate of 0.04 cfs.

I found no evidence to suggest a lesser diversion rate be placed on the license.

Have conditions of permit approval been met? ☒ 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	0.04 cfs	
<u>Totals</u>		0.04 cfs	

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

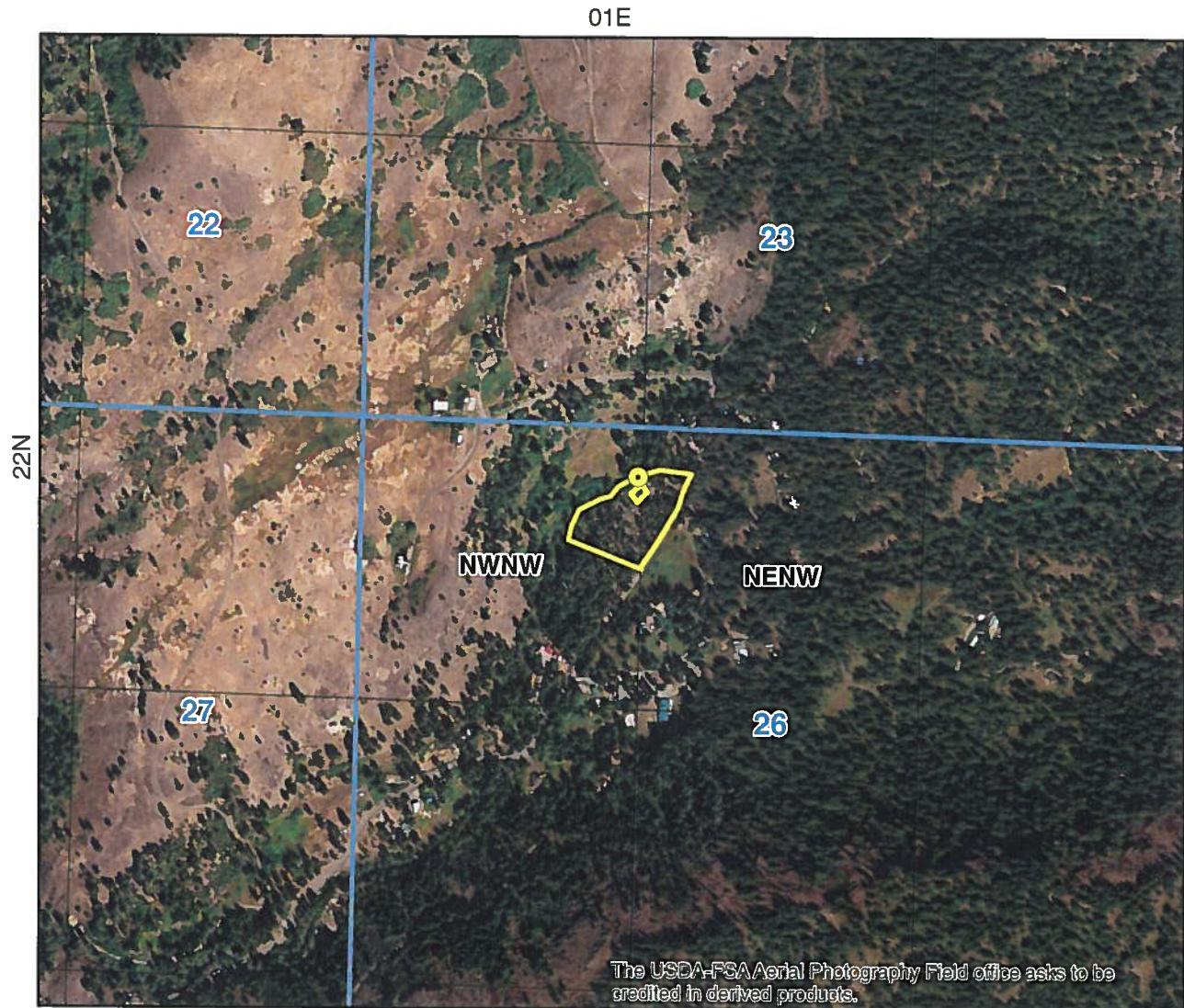
Other: < >

J. AUTHENTICATION

Field Examiner's Name Patrick Kelly Date 9/5/2014Reviewer Carmela S. Kruggs Date 9-8-2014

State of Idaho
Department of Water Resources
Field Exam Map
78-12415

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.1 0.2 0.4 Miles



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 78-12415
 Reviewer: Patrick Kelly
 Date of Review: 8/28/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	5	5	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	10	10	10
DISCHARGE PRESSURE	40	50	60
RATE OF FLOW (cfs)	0.30	0.25	0.21 0.25

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.
 No Friction

Examiners Notes:

Horsepower was recorded on the application for permit. Lift was assumed based on topographic maps and a reasonable stream bank channel levels. Discharge pressure ranges of 40 - 60 psi accounts for sprinkler system expected requirements in use. Theoretical average flow rate os 0.25 cfs exceeds the permitted diversion rate of 0.04 cfs.

78-12415 System Diagram

▲ Point of Diversion

□ Place of Use



78-12415 is a surface water irrigation water right diverted from Elk Creek. Permit owner suggested a 2" PVC pipe using gravity or up to a 5 hp pump would be used. This water is used to irrigate oaks and various tree and shrub on the property.