

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 75-14827
Exam Date: 11/5/2020

1. Current Owner:
STATE OF IDAHO
DEPT OF FISH AND GAME
PO BOX 25
BOISE, ID 83707-0025

2. Accompanied by: None

3. **SOURCE:**
CARMEN CREEK

Tributary
SALMON RIVER

Method of Determination: Field exam and GIS

B. OVERLAP REVIEW

1. Other water rights with the same place of use:

Water Right No.	Source	Purpose of Use	Basis
75-4337	Carmen Creek	Irrigation	Decreed
75-77A	Carmen Creek	Irrigation	Decreed
75-10061K	Carmen Creek	Irrigation	Decreed
75-10296	Carmen Creek	Irrigation	Decreed

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

Water Right No.	Source	Purpose of Use	Basis
75-62	Carmen Creek	Irrigation	Decreed
75-68B	Carmen Creek	Irrigation	Decreed
75-69F	Carmen Creek	Irrigation	Decreed
75-69K	Carmen Creek	Irrigation	Decreed
75-69Q	Carmen Creek	Irrigation	Decreed
75-69W	Carmen Creek	Irrigation	Decreed
75-69X	Carmen Creek	Irrigation	Decreed
75-70F	Carmen Creek	Irrigation	Decreed
75-70K	Carmen Creek	Irrigation	Decreed
75-70Q	Carmen Creek	Irrigation	Decreed
75-70X	Carmen Creek	Irrigation	Decreed
75-70Y	Carmen Creek	Irrigation	Decreed
75-2025C	Carmen Creek	Irrigation	Decreed
75-2025D	Carmen Creek	Irrigation	Decreed
75-2025E	Carmen Creek	Irrigation	Decreed
75-2025F	Carmen Creek	Irrigation	Decreed
75-2025G	Carmen Creek	Irrigation	Decreed
75-2025H	Carmen Creek	Irrigation	Decreed
75-2025J	Carmen Creek	Irrigation	Decreed
75-2025L	Carmen Creek	Irrigation	Decreed
75-2025M	Carmen Creek	Irrigation	Decreed
75-4333	Carmen Creek	Irrigation	Decreed
75-10061AA	Carmen Creek	Irrigation	Decreed
75-10061AC	Carmen Creek	Irrigation	Decreed
75-10061AM	Carmen Creek	Irrigation	Decreed
75-10061B	Carmen Creek	Irrigation	Decreed

75-10061J	Carmen Creek	Irrigation	Decreed
75-10061N	Carmen Creek	Irrigation	Decreed
75-10061T	Carmen Creek	Irrigation	Decreed
75-10061V	Carmen Creek	Irrigation	Decreed
75-10061X	Carmen Creek	Irrigation	Decreed
75-10062AA	Carmen Creek	Irrigation	Decreed
75-10062AL	Carmen Creek	Irrigation	Decreed
75-10062H	Carmen Creek	Irrigation	Decreed
75-10062L	Carmen Creek	Irrigation	Decreed
75-10062R	Carmen Creek	Irrigation	Decreed
75-10062T	Carmen Creek	Irrigation	Decreed
75-10062V	Carmen Creek	Irrigation	Decreed
75-10062Y	Carmen Creek	Irrigation	Decreed
75-10136A	Carmen Creek	Irrigation	Decreed
75-10136B	Carmen Creek	Irrigation	Decreed
75-10137A	Carmen Creek	Irrigation	Decreed
75-10137B	Carmen Creek	Irrigation	Decreed
75-10678	Carmen Creek	Irrigation	Decreed
75-14023	Carmen Creek	Irrigation	Decreed
75-14025	Carmen Creek	Irrigation	Decreed
75-14027	Carmen Creek	Irrigation	Decreed
75-14029	Carmen Creek	Irrigation	Decreed
75-14042	Carmen Creek	Irrigation	Decreed
75-14044	Carmen Creek	Irrigation	Decreed
75-14046	Carmen Creek	Irrigation	Decreed
75-14048	Carmen Creek	Irrigation	Decreed
75-14053	Carmen Creek	Irrigation	Decreed
75-14054	Carmen Creek	Irrigation	Decreed
75-14055	Carmen Creek	Irrigation	Decreed
75-14056	Carmen Creek	Irrigation	Decreed
75-14057	Carmen Creek	Irrigation	Decreed
75-14058	Carmen Creek	Irrigation	Decreed
75-14059	Carmen Creek	Irrigation	Decreed
75-14060	Carmen Creek	Irrigation	Decreed
75-14225	Carmen Creek	Irrigation	Decreed
75-14233	Carmen Creek	Irrigation	Decreed
75-14235	Carmen Creek	Irrigation	Decreed
75-14236	Carmen Creek	Irrigation, Stockwater	Decreed
75-14337	Carmen Creek	Irrigation	Decreed
75-14387	Carmen Creek	Irrigation	Decreed
75-14388	Carmen Creek	Irrigation	Decreed
75-14389	Carmen Creek	Irrigation	Decreed
75-14393	Carmen Creek	Irrigation	Decreed
75-14591	Carmen Creek	Irrigation	Decreed
75-14592	Carmen Creek	Irrigation	Decreed
75-14593	Carmen Creek	Irrigation	Decreed
75-14698	Carmen Creek	Irrigation	Decreed

Comments: The purpose of this fish propagation right is to allow IDFG to provide a screened diversion with fish bypass to satisfy the water rights listed above.

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

CARMEN CREEK NE¼ NE¼, Sec. 35, Twp 23N, Rge 22E, B.M. LEMHI County

Method of Determination: Field exam and GIS

PLACE OF USE: FISH PROPAGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
23N	22E	35	X																

Method of Determination: Field exam and GIS

D. FLOW MEASUREMENTS

1. Measurements: None taken. The configuration of this diversion does not allow for the direct measurement of only the Fish Propagation portion of the water being diverted.

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

The following equation has been used historically by IDWR for similar IDFG fish bypass structures:

$$Q = C_d A_o \sqrt{(2gh)}$$

Where:

Q = flowrate (cfs)

 C_d = coefficient of discharge A_o = Area of orifice opening (ft²)g = gravitational acceleration $\left(32.2 \frac{\text{ft}}{\text{s}^2}\right)$

h = Measured head above center of orifice opening (ft)

The orifice diameter for this structure is 4.5 inches, which results in $A_o = 0.11 \text{ ft}^2$.

The high water mark measured above the orifice center was 1.5 ft.

The standard coefficient of discharge used by IDWR for similar IDFG diversion structures is 0.67.

$$Q = 0.72 \text{ cfs}$$

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

2. Volume Calculations for Other Uses: $0.72 \text{ cfs} \times 1.9835 \text{ AF/cfs/day} \times 229 \text{ days/season} = 327 \text{ AF/season}$

G. NARRATIVE/REMARKS/COMMENTS

This diversion structure is similar to many other diversions built by Fish & Game throughout the Lemhi and Salmon River basins to protect fish from entering the irrigating works. The calculated flowrate does not meet the permitted rate. It is recommended the calculated rate replace the permitted rate on the license.

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

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual volume</u>
FISH PROPAGATION	04/01 to 11/15	0.72 CFS	327 AF

Totals: 0.72 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 ☒ None

I. AUTHENTICATION

Brian Normandeau – Associate Engineer

Field Examiner's Name: Brian Normandeau

Date: 12/4/2020

Reviewer _____ Date _____



Photo 1: Diversion on Carmen Creek



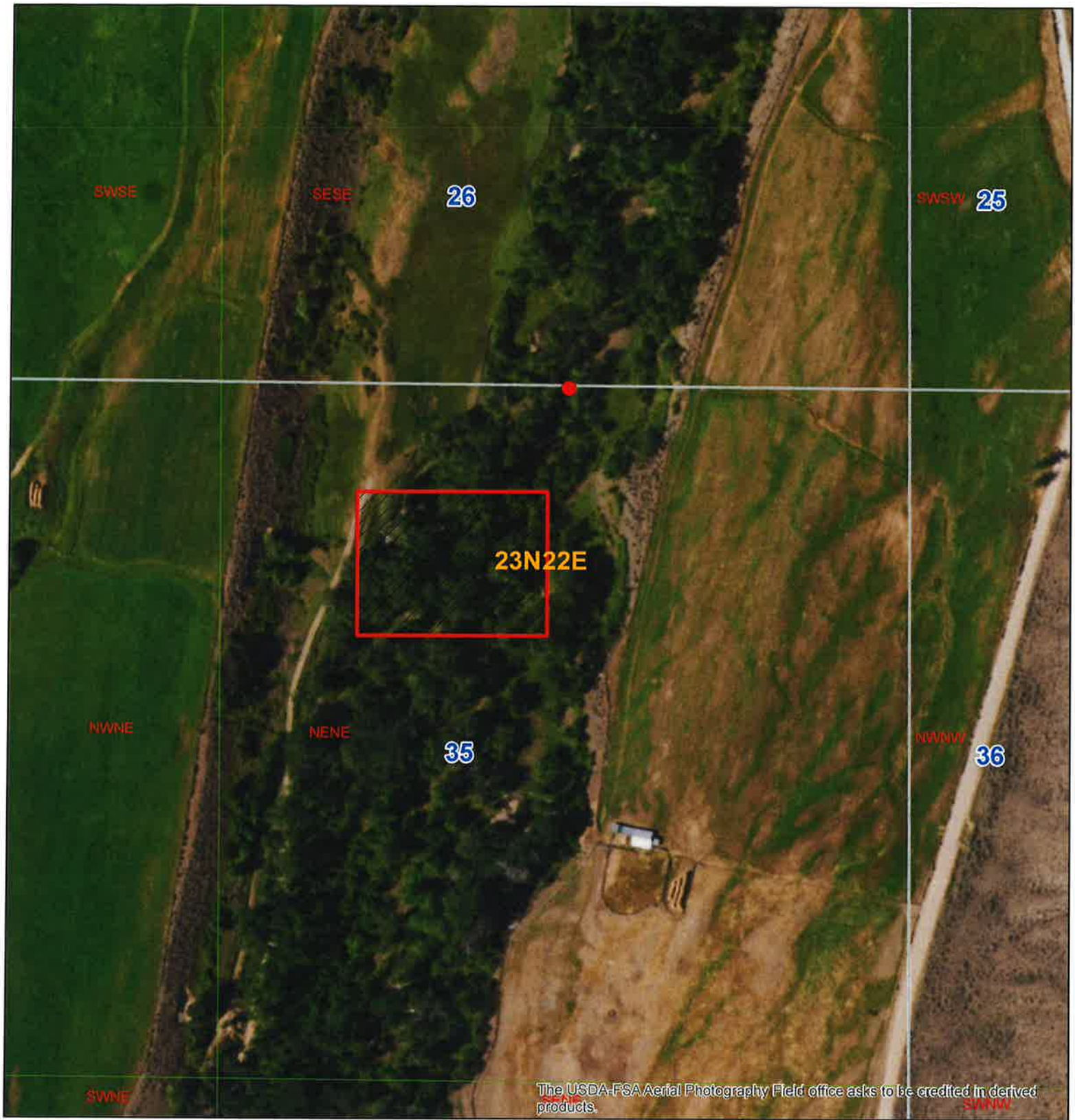
Photo 2: Fish screen/bypass approach



Photo 3: Fish screen structure



Photo 4: Fish bypass return to Carmen Creek



Legend

- Point of Diversion
- Place of Use
- Township/Range
- Sections
- QQ

0 170 340 680 Feet

1 inch = 250 feet

