

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 25-7394

Exam Dates: 8/7/2015 and
8/20/1993

1. Current Owner: PARKS & LEWISVILLE IRRIGATION CO INC
368 N 3600 E
LEWISVILLE ID 83431
(208)745-4746
2. Accompanied by: J.Neal Erickson (during 1993 exam)
Phone No: 754-4785
Address: PO Box 96, Lewisville, ID 83431
Relationship to Permit Holder: Commissioner of Jefferson Co. Drainage District #1

3. SOURCE TRIBUTARY
UNNAMED DRAIN SNAKE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 1-142A, 1-143A, 1-144A, 1-145C, and 1-240
2. Other water rights with the same point of diversion: None

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

UNNAMED DRAIN SW1/4SW1/4 Sec. 4, Twp 04N, Rge 38E, B.M.
JEFFERSON County

Method of Determination: POD was found and photographed during the 1993 exam. The POD location was clearly visible in the 2013 aerial photography. Therefore, the POD was digitized based on that imagery.

2. PLACE OF USE: IRRIGATION

Place of use is within the area served by Parks & Lewisville Irrigation Company, Inc. See attached map.

Method of Determination: The place of use was previously confirmed during SRBA review. The use of this water right benefits all the canal company shareholders and the place of use for the company's other rights is described using a digital boundary. It is appropriate that right no. 25-7394 also be described using the same digital boundary because the company delivers 25-7394 and other surface water rights to more than five users.

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</u> <u>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</u> <u>Size</u>
Pump in drain	GE	100	UFG 293023	Prime Pump Corp	9100753

D. FLOW MEASUREMENTS

1. Measurements: A flow measurement was attempted using a Polysonic flow meter during the 1993 field exam, but a good reading could not be obtained (probably because the 36 inch pipe was not running full).

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measurement Method: The California pipe method was used to determine the flow from the pipeline into the canal. The measurement seemed reasonable when compared with the theoretical capacity of the 100 HP pump, with a lift of 17 feet, a 60 percent pump efficiency, and 0 psi. The theoretical capacity of the pump was 31 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5359 \text{ acres} \times 4 \text{ af/ac} = 21,436 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 29.66 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 12,590 \text{ af}$$

$$V = \text{Smaller of } V_{IB} \text{ and } V_{DB} = 12,590 \text{ af}$$

G. NARRATIVE/REMARKS/COMMENTS

Keith Wilson conducted a partial field exam in 1993. He determined the flow rate, took photos, and gathered pump and motor information. However, he did not determine the place of use. Jefferson County Drainage District #1 was the original permit holder, but they recently assigned the permit to Parks & Lewisville Irrigation Co. because the canal company shareholders were the primary beneficiaries of the right. Since the SRBA review has been completed, canal company information was combined with the data Keith collected in order to complete the field exam. Permit 25-7394 required the installation and maintenance of a measuring device and lockable controlling works. A lockable control panel is present, but a measuring device was never installed. However, Water District 1 confirmed that PCC can be used on this system for measurement, so the measuring device condition can be waived.

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>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 to 10/31	29.660 CFS	12,590 AF
	Totals:	29.660 CFS	12,590 AF

2. Recommended Amendments

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

X Change P.U. as reflected above Add P.U. as reflected above Other

I. AUTHENTICATION

AUTHENTICATION
Field Examiner's Name MICHAEL HOLLIDAY Date 8/7/2015

Reviewer _____ Date _____

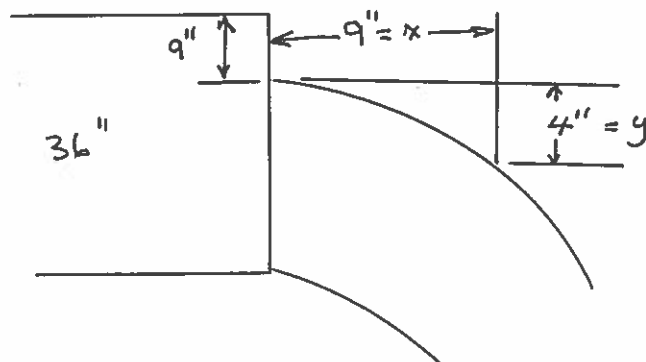
STATE OF IDAHO
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LICENSING REPORT

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Measurement Calculations

a) Field Measurement Calculations (Include theoretical capacities and system capacity)



$$\Delta = V_i t + \frac{1}{2} a t^2$$

Δ = change in "x" or "y" direction

V_i = initial velocity

t = time (sec)

a = acceleration = 32.2 ft/sec^2

ΔY = Change in "Y" Direction = 4"
 V_{iy} = initial velocity "Y" Direction = 0

$$\Delta Y = V_{iy} t + \frac{1}{2} a t^2$$

$$\left(\frac{4''}{12''/\text{ft}} \right) = 0 + \frac{1}{2} (32.2 \text{ ft/sec}^2) (t)^2$$

$$t = \left[\frac{\frac{4}{12} \left(\frac{2}{1} \right)}{32.2 \text{ ft/sec}^2} \right]^{1/2} = 0.1438 \text{ sec}$$

ΔX = Change in "X" Direction = 9"
 $\frac{1}{2} a t^2 = 0$ no velocity created by gravity

$$\Delta X = V_{ix} t + \frac{1}{2} a t^2$$

$$\left(\frac{9''}{12''/\text{ft}} \right) = V_{ix} (0.1438 \text{ sec})$$

$$V_{ix} = \left[\frac{9/12 \text{ ft}}{0.1438 \text{ sec}} \right] = 5.212 \text{ ft/sec}$$

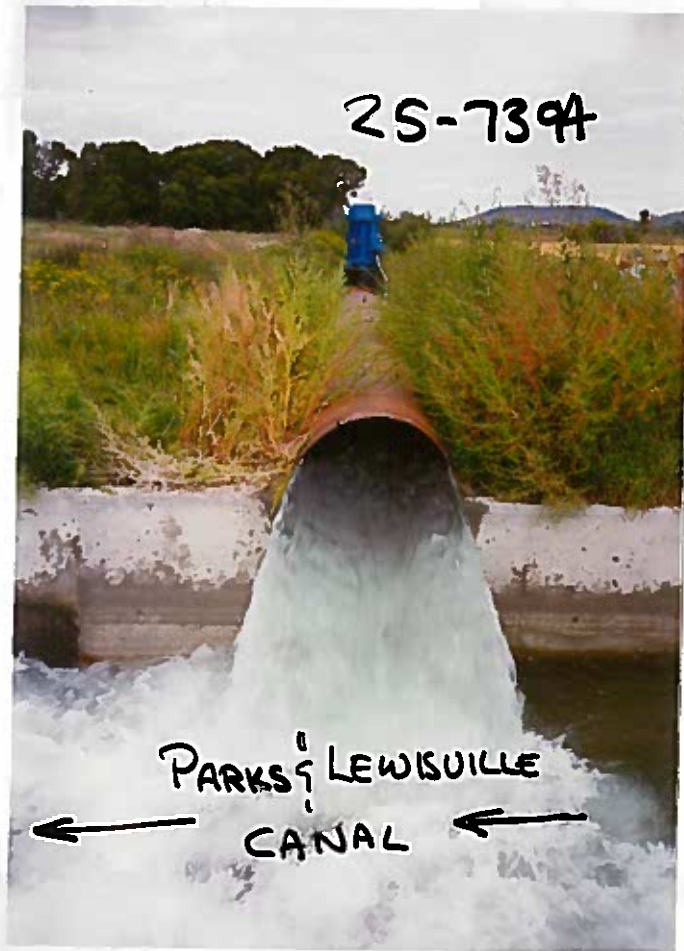
$$Q = AV = \frac{\pi d^2}{4} (V) = \frac{\pi (3')^2}{4} (5.212) = 36.84 \text{ cfs}$$

Correction Factor $q_{36}'' = 25\%$ @ 25% factor = 0.805

$$\therefore \textcircled{1} = 36.84 \text{ cfs} \times 0.805 = 29.659 \text{ cfs} = 29.66 \text{ cfs}$$



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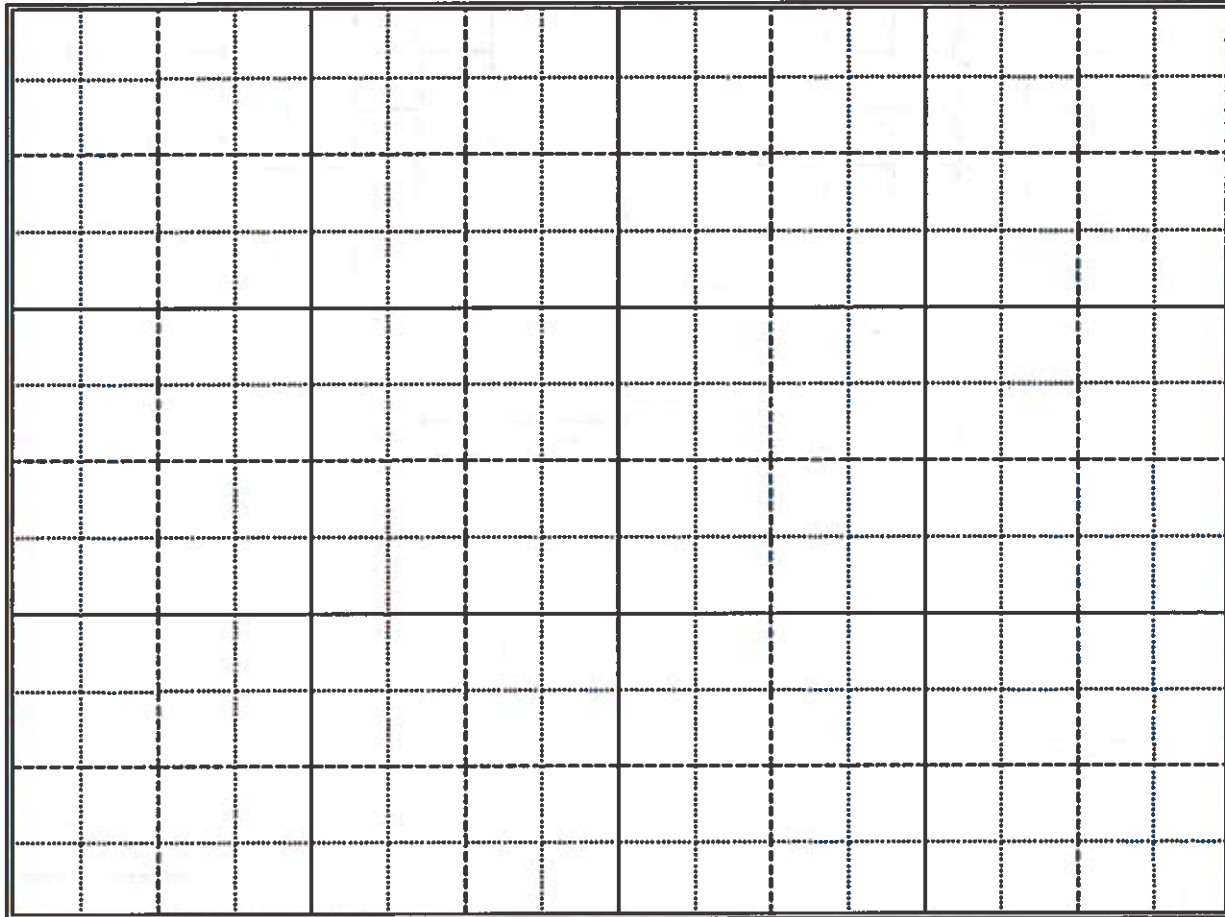
25-7394



→ FLOW OF
DRAINAGE
DITCH

25-7394

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe I.d. as applicable.



Scale: 1" = _____

____ Copy of USGS Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).

____ 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
REDIVERSION	GE	100	UF6 293032	Prime Pump Corp	9106753

*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: 113.2" Circ 0.204" wall thickness

Blank lined paper with horizontal ruling lines.

Have conditions of permit approval been met? ☐ yes ☐ no

F. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:

G. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:** $V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____ $V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____ $V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} =$ _____**2. Volume Calculations for Other Uses:****H. RECOMMENDATIONS****1. Recommended Amounts**

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
Totals:			_____	_____

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. AUTHENTICATIONField Examiner's Name KEITH C WILSON Date _____

Reviewer _____ Date _____

SEAL