

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-8995

Exam Date: 07/19/2001

1. Current Owner:
FRANCIS T JOHNSON JR 3734 N BEAVER LAKE RD ATHOL ID 83801
2. Accompanied by: Francis Johnson Jr
Relationship to permit Holder: Applicant

3. **SOURCE:**
UNNAMED STREAM

Tributary SINKS

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-2033	Unnamed Streams	Domestic & Irrigation	License

Comments: _____

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM SW¼ SE¼, Sec. 25, Twp 55N, Rge 04W, B.M. BONNER County

Method of Determination: Arcmap and GPS. POD located at -116° 46.497, 48° 04.740

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	
55N	04W	25														3.0	27.0		30.0

Total Acres: 30.0

PLACE OF USE: IRRIGATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	04W	25																	
55N	04W	36					X							X			X		

PLACE OF USE: IRRIGATION FROM STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	04W	25														3.0	27.0		30.0

Total Acres: 30.0

PLACE OF USE: WILDLIFE STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	04W	25												X			X		
55N	04W	36					X												

PLACE OF USE: RECREATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
55N	04W	25												X			X		
55N	04W	36					X												

Method of Determination:

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

☒ X 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.

☒ X☒ 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
	UNKOWN				

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
GE FLOWMETER	PANEMETRIC		PT878	PCC1316134		4/2/2019

2. Measurements: Flow measured for 10 minutes.

Total Ending – 183363.3

Total Beginning – 180694.4

183363.3 – 180694.4 = 2668.9 gallons / 10 minutes = 266.9 gpm or 0.59 cfs.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 30 \text{ AC} \times 3.0 \text{ AF} = 90 \text{ AF}$$

$$V_{D.R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.59 \text{ CFS} \times 214 \times 1.9835 = 250.4$$

$$V = \text{Smaller of } V_{I.R} \text{ and } V_{D.R} = 90 \text{ AF}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

Northern Region was tasked with licensing permits that had been examined during the late 1990's and early 2000's. This file required a 2nd field exam to try and verify the diversion rate and place of use. The original field exam was performed on 7/19/2001 and was conducted by Wayne Baldwin.

The 2nd field exam was performed on 7/26/2019 with the applicant Francis Johnson Jr. The exam showed a pump diverting water from a natural pond for the irrigation of 30 acres. The pump was an unknown size as it did not have any markings or tags that were visible. There was a 6 inch diameter aluminum main line that distributed water to multiple wheel lines and hand lines. The heads on the sprinklers were of varying sizes. There was adequate space to perform a flow measurement using the GE Panametric Flowmeter. The measurement showed a diversion of 2,668.9 gallons during the ten minute test which was equal to 266.9 gpm or 0.59 cfs. The original examiner said they measured a diversion of 0.3 cfs using a Poly Sonic Meter. It was discussed with staff who worked at the department during the time of original exam that the examiner had never been trained on that device. So it was unclear how he had come up with a diversion rate which he recommended in original exam. The measurement conducted at the 2nd exam will be used to license this permit. The actual irrigated acres was equal to the 30 acres which was applied for. The shape was drawn to match the 2004 aerial imagery which would be the closest we have to when proof was submitted.

The pond had a surface area of 2.2 acres with a maximum depth of 8 feet. The permit listed 3 uses related to storage that were all for 8.6 acre-feet. This permit was issued and didn't identify a place of use for all of the storage uses. The application map identifies the pond though the place of use grid did not identify any storage uses. It was decided that we should properly identify the storage uses on the license so the entire pond will have a shape and description on the place of use. The applicant doesn't own a small portion of the pond, but the shape and legal description will identify the entire pond. The reason for this is because when the applicant is pumping water we cannot say if he is only pumping water from his part of the pond or water from the entire pond. The applicant has been pumping from the pond for some time and there has been no issue to date with the neighbor and any other parties.

Pond conditions were not added to this license because they were not on the permit. It would be difficult to properly add conditions because when this was applied for, they did not factor in evaporation or seepage. It can be looked at that the applicant has applied for the storage of water in the pond and is just pumping the inflow into the pond with the direct irrigation flow. The applicant would then be able to draw down the pond for irrigation if inflow ceased. The pond capacity was equal to 7.0 acre feet but the evaporation was equal to 3.0 acre-feet. Condition 219 and 220 could be added, but would be inaccurate in the description of what was actually occurring. The license will just move over the values that were applied for and permitted for.

Condition 26a will be removed from the license. Conditions X15, X35, and 004 will be added to the license. Condition 004 will address any concern over the portion of pond that is not owned by the applicant. Condition X35 will address the existing water 96-2033 which is for the irrigation of 40 acres of the same land with a diversion rate 0.80 cfs. It was stated in the application that this right had not been used in 11 years and thus the reason for the new application. However, according to IDWR records, it is still a current valid right until the adjudication occurs in the 96 basin. Because it is still a current right, X35 will limit the two diversions to 0.80 cfs and the irrigation of 40 acres.

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>	<u>Annual Volume</u>
IRRIGATION	04/01 to 10/31	0.59 CFS	
IRRIGATION STORAGE	1/01 to 12/31		8.6 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		8.6 AF
WILDLIFE STORAGE	1/01 to 12/31		8.6 AF
RECREATION STORAGE	1/01 to 12/31		8.6 AF

Totals: 0.59 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

Adam Frederick - Water Resource Agent, Senior

Field Examiner's Name Adam Frederick Date 8/14/19
 Reviewer Douglas Jones P.E. Date 9/30/19

Total Storage Calculations

FILE NUMBER	96-8995
REVIEWER	Adam Frederick
DATE	8/13/2019

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

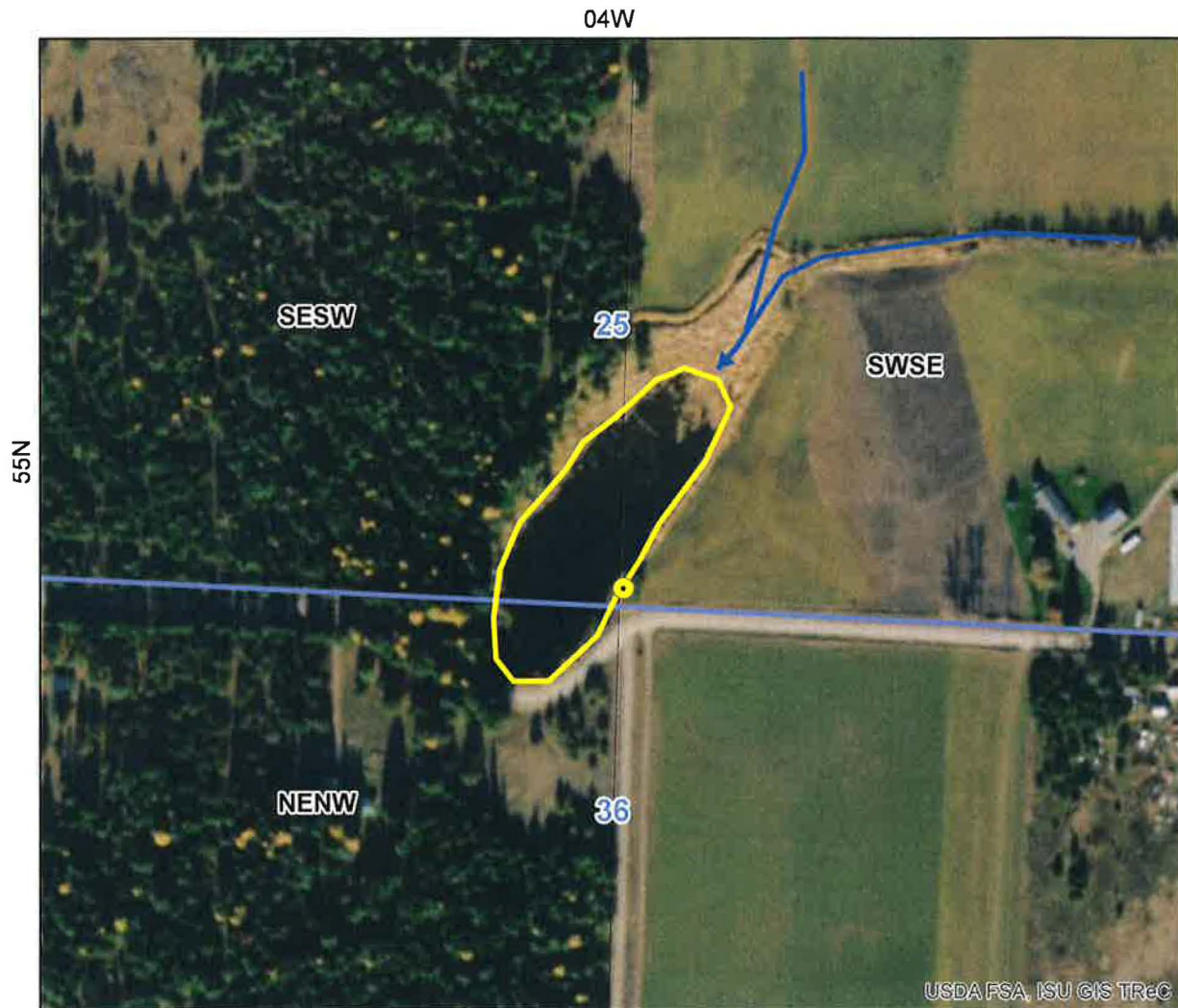
User Input
Calculated value
Formula Explanations

Surface Area (AC.)	2.2	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	3.2	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	7.0	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. <i>Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.</i>

Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). <i>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</i>
Estimated Seepage Loss (AF)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	3.0	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	10.0	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-8995

IRRIGATION STORAGE, WILDLIFE STORAGE, and RECREATION STORAGE / SYSTEM DIAGRAM



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

0 0.035 0.07 0.14 Miles



State of Idaho
Department of Water Resources
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96-8995

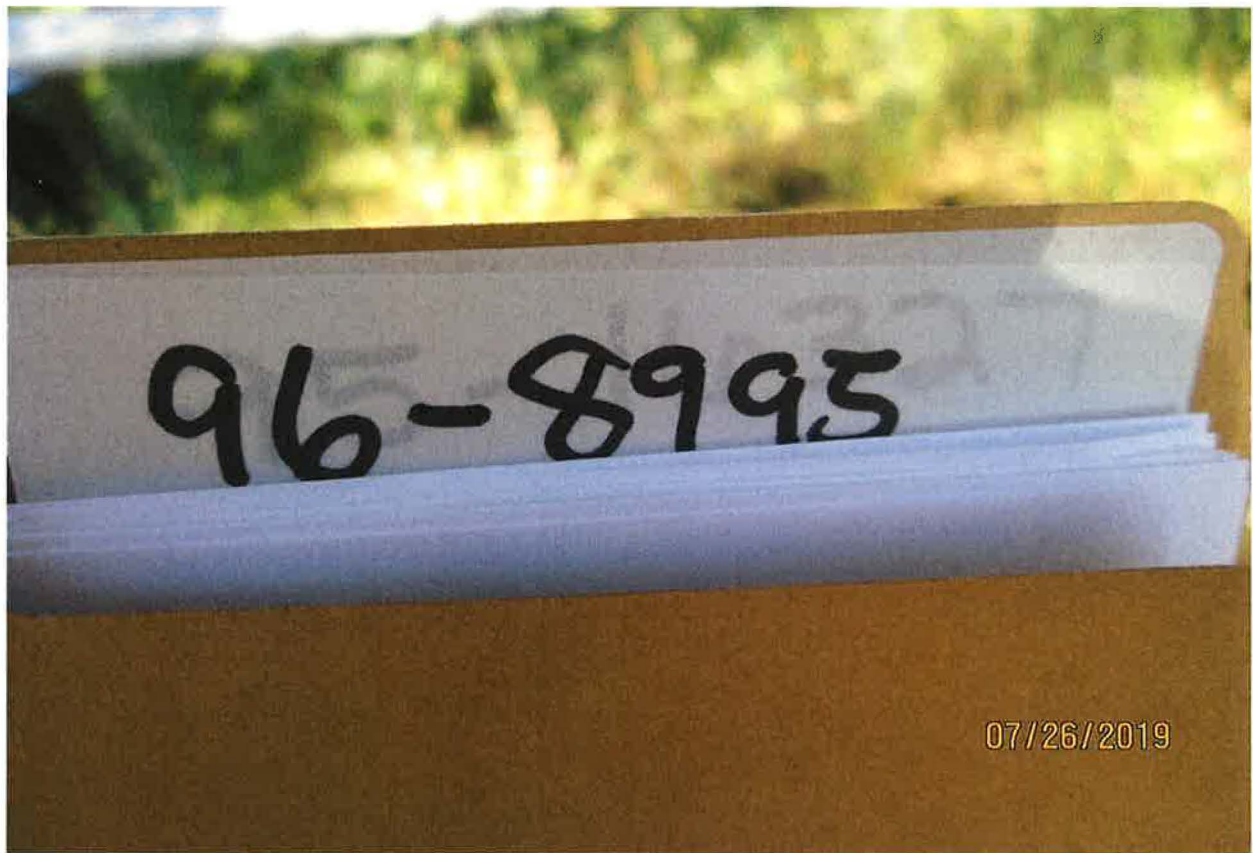
IRRIGATION and IRRIGATION FROM STORAGE / SYSTEM DIAGRAM



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

0 0.05 0.1 0.2 Miles





Point of diversion extending out into pond.



Pump of unknown size.



Aluminum pipe mainline where measurement was performed used GE Panemetric Flowmeter. Flow was measured at 266.9 gpm or 0.59 cfs.



Storage POU.





Irrigation POU.





Irrigation POU.





Irrigation POU.

