

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-12078

Exam Date: 6/15/2016

1. Current Owner:

CARAVELLE FARMS WATER ASSN 3875 N CAROLWOOD CT POST FALLS ID 83854 (509) 496-5471

2. Accompanied by: Bryan Enos gave permission to perform exam with nobody present

3. SOURCE: GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Claim 95-14526

2. Other water rights with the same point-of-diversion: Claim 95-14526

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

GROUND WATER NW¼NE¼ Sec. 29, Twp 51N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS and maps. POD location at 47° 44.672, 116° 51.671 (A0015442)

2.

PLACE OF USE: FIRE PROTECTION STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	04W	29		X															

PLACE OF USE: FIRE PROTECTION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	04W	29		X	X		X			X									

PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	04W	29		X			X												

PLACE OF USE: STOCKWATER

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	04W	29		X	X		X			X									

PLACE OF USE: 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	
51N	04W	29		2.6	0.2		0.7												3.5

Total Acres: 3.5

DIVERSION TO STORAGE same as IRRIGATION

Method of Determination: GPS and maps.

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.

XX

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
95-94-N-227-000	FRANKLIN	20			

*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:

E. FLOW CALCULATIONS

Measured Method: UNABLE TO PERFORM FLOW MEASUREMENT. THEORETICAL PUMPING EQUATION ESTIMATES FLOW AT 144.3 GPM OR 0.32 CFS.

Additional Computation Sheets Attached

$$(20 \text{ HP})(8.8)(0.8) / (300 + (60 \times 2.3087)) = 0.32 \text{ CFS}$$

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.5 \text{ AC} \times 3.0 \text{ AF} = 10.5 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.11 \times 246 \times 1.9835 = 53.7 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 10.5 \text{ AF}$$

2. Volume Calculations for Other Uses:

$$\text{DOMESTIC USE FOR 5 HOMES} = 0.6 \text{ AF} \times 5 \text{ HOMES} = 3.0 \text{ AF}$$

$$\text{STOCKWATER FOR 10 HEAD OF MIXED STOCK} = 10 \times 12 \text{ GPD} \times 365 \text{ DAYS} / 325,850 \text{ GAL/AF} = 0.1 \text{ AF}$$

SEE ATTACHED FOR POND ANALYSIS

G. NARRATIVE/REMARKS/COMMENTS

FIELD EXAM SHOWED APPLICANT HAD WELL THAT SUPPLIED DOMESTIC WATER TO 5 HOMES, THE IRRIGATION OF 3.5 ACRES, DIVERSION TO STORAGE, FIRE PROTECTION STORAGE, AND STOCKWATER. POND WAS MAX DEPTH OF 12 FEET OR AVERAGE DEPTH OF 4.8 FEET WITH 0.3 ACRE SURFACE AREA. OVERALL STORAGE AFTER EVAPORATION AND SEEPAGE IS 4.1 AF. UNABLE TO VERIFY PUMP SIZE DURING EXAM. APPLICANT WAS UNSURE OF PUMP SIZE, SO IDWR CONTACTED UNITED PUMP AND THEY VERIFIED PUMP SIZE WAS 20 HP. THEORETICAL PUMPING EQUATION ESTIMATES MAX FLOW AT 144.3 GPM. DURING EXAM FLOW METER ON SYSTEM WAS SHOWING ABOUT 60 GPM. LICENSE WILL BE ISSUED FOR 0.20 CFS BECUASE SYSTEM IS CAPABLE OF PRODUIING THAT FLOW. AMENDMENT WILL BE SENT TO MOVE 0.2 ACRES INTO SWNE WHERE IRRIGATION WAS OCCURING BUT WAS NOT APPLIED FOR.

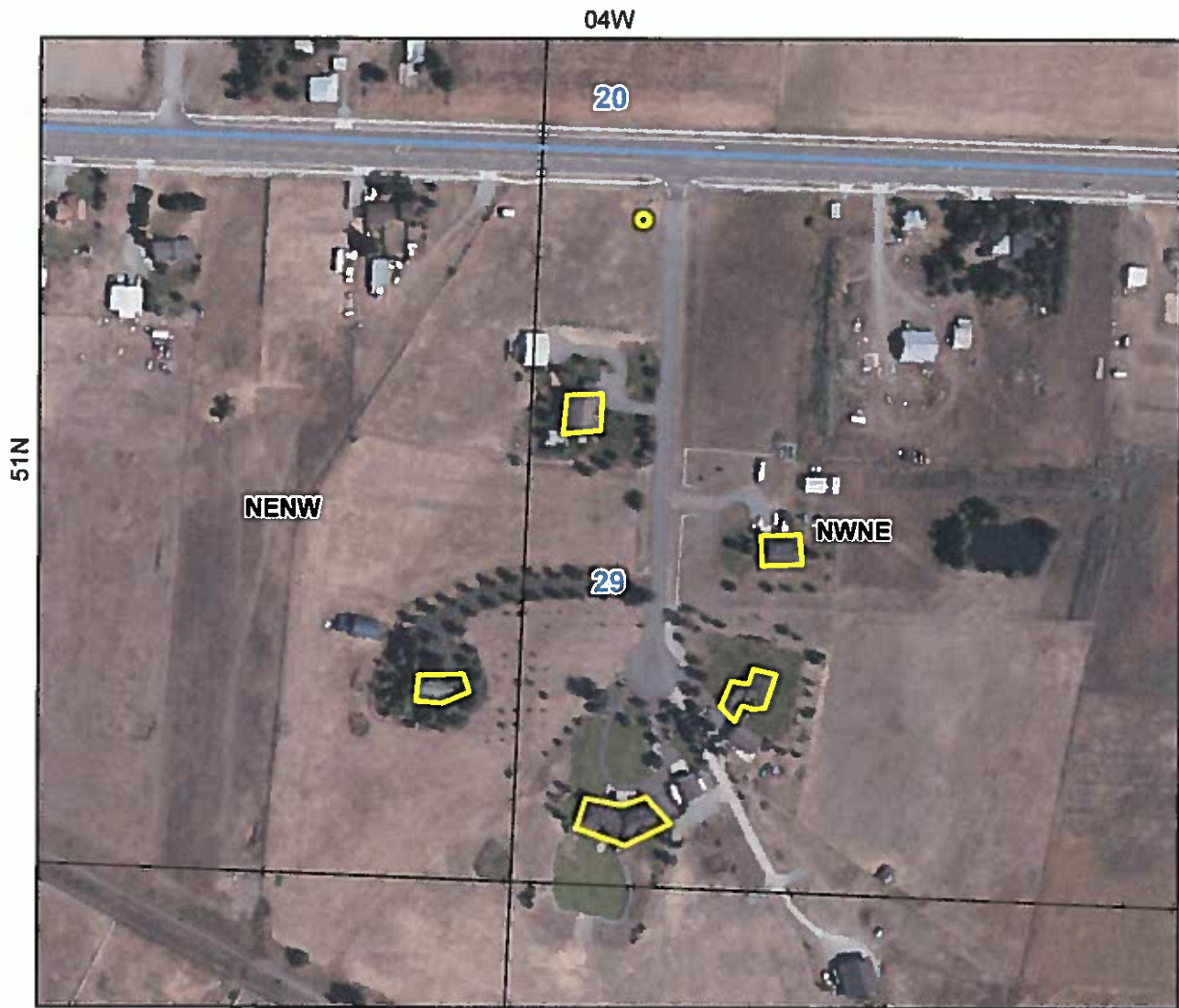
Have conditions of permit approval been met? ☒ Yes ☐ No**H. RECOMMENDATIONS****1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	01/01 to 12/31	0.11 CFS	3.0 AF
IRRIGATION	03/15 to 11/15	0.11 CFS	10.5 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
FIRE PROTECTION	01/01 to 12/31	0.20 CFS	
FIRE PROTECTION STORAGE	01/01 to 12/31		4.1 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.20 CFS	
Totals:		0.200 CFS	17.70 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 ☐ None
I. AUTHENTICATIONField Examiner's Name Adam Funch Date 8-4-16Reviewer Morgan Case Date 10/4/16

State of Idaho
Department of Water Resources
Water Right License
95-12078

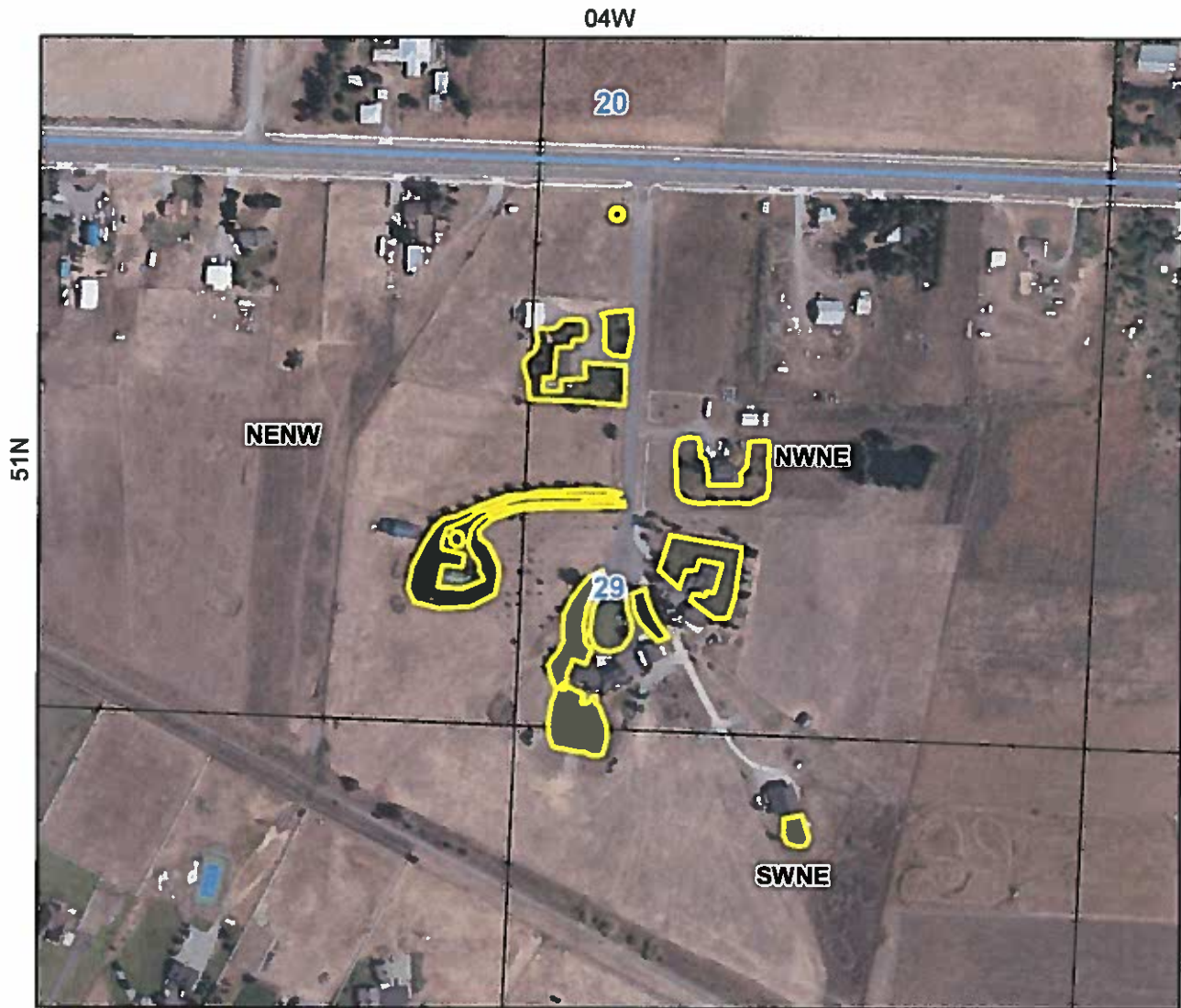


-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections

0 0.04 0.08 0.16 Miles



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

0 0.05 0.1 0.2 Miles



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04W



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

0 0.035 0.07 0.14 Miles



FIRE PROTECTION and STOCKWATER

20

NENW

NWNE

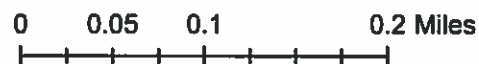
29

SENW

SWNE

The USDA FSA Aerial Photography Field office asks to be credited in derived products.

51N



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



Total Storage Calculations

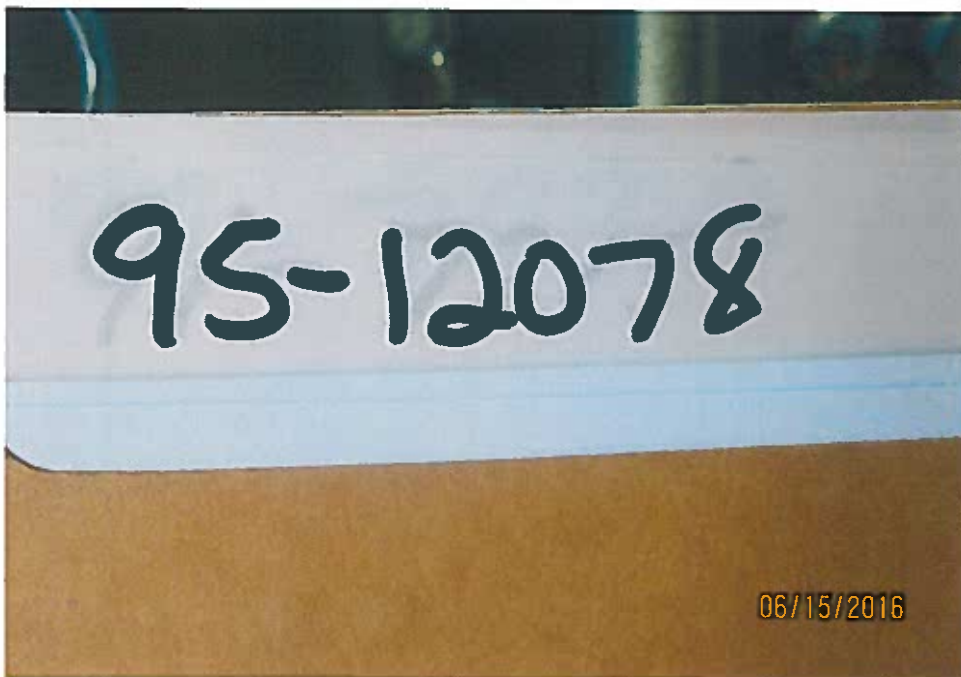
FILE NUMBER	95-12078
REVIEWER	Adam Frederick
DATE	7/13/2016

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

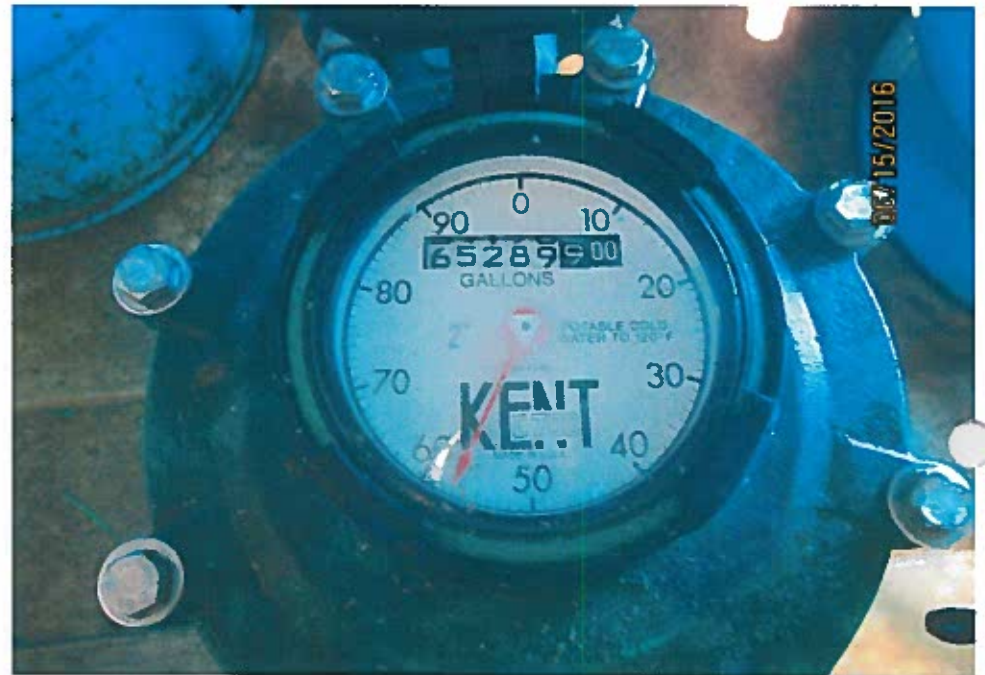
Surface Area (AC.)	0.3	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4.8	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook 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)	1.44	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. 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.
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). Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	2.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.4	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	4.1	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.

PUMP EQUATIONS WATER RIGHT No. 95-12078						
		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	$\frac{HP \cdot 8.8 \cdot \text{Eff}}{H}$	20	$\frac{438.775}{5}$	0.8	300	60
Q = 0.321 cfs 144.3 gpm						



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06/15/2016

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