

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 65-13720
Exam Date: 09/30/2016

1. Current Owner:
ORVAL G JOHNSTON 1402 E MAIN
PO BOX 513 EMMETT ID 83617-0513 (208)365-3766 And

JOAN L JOHNSTON PO BOX 513 EMMETT ID 83617-0513 (208)365-3766
2. Accompanied by: Shawn Thielges
Phone No: (208) 407-6521
Address: 1440 Loraine Circle, Emmett, ID 83617
Relationship to Permit Holder: Grandson and current property owner

3. **SOURCE:**
WASTE WATER
- TRIBUTARY:**
HAW CREEK

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: Yes, WR 65-12307.

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

WASTE WATER NW¼NW¼ Sec. 10, Twp 07N, Rge 01W, B.M. GEM County

Method of Determination: Field exam and PLS data was used to verify the WR permit legal descriptions

2.

PLACE OF USE: STOCKWATER 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	
07N	01W	9		X															

DIVERSION TO STORAGE same as STOCKWATER STORAGE

Method of Determination: Field exam and PLS data was used to verify the WR permit legal descriptions

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

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

NA 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
NA	NA	NA	NA	NA	NA

*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
NA	NA	NA	NA	NA	NA	NA

2. Measurements:

E. FLOW CALCULATIONS☐ Additional Computation Sheets Attached

Measured Method:

Flow measurements were not completed at the time of exam. Because this permit qualifies as an in-office exam, it is okay to not have a measurement. The water source is wastewater that is a gravity feed diversion reliant on flow from Haw Creek. At the time of the field exam, no water was available at the pond inlet where a bucket test could have been completed.

Permit	0.15 cfs
B.U. Standard Allowance	0.15 cfs
B. U. Proof Fee	\$50 → 0 – 0.20
Measurement or Theoretical Rate	NA
License Recommendation	0.15 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NA

2. Volume Calculations for Other Uses: Seepage and loss calculations were completed and attached to the file.

Stockwater Use: 0.4 af (12 Head of range cattle) per Administrator's Memorandum #3

Pond Analysis Losses

Seepage Loss: 0.2 af

Evaporation Loss: 0.5 af

Pond Capacity: 0.8 af

Total Volume Required: 1.5 af**G. NARRATIVE/REMARKS/COMMENTS**

The field exam was conducted on September 30, 2016 by agents Patrick Kelly and Aaron Skinner. They were accompanied by Shawn and Nicole Thielges at the pond location. Shawn is a grandson of the permit owner, Orval Johnston.

Gem County's Taxlot data indicates Shawn as the property owner and Orval Johnston as the WR permit holder. A change of ownership was received at the Western Region office on 10/27/2016 and is included in this file.

Water is received from Haw Creek waste water via ~2,000' of 3" scheduled 40 piping that runs above ground from the POD to the pond. The system is gravity feed, which diverts water into storage. The storage pond has a surface area of 0.2 acres and an average depth of 4' (max depth of 10' X 0.4). The maximum depth was observed while performing the field exam. A conversation memorandum dated 3/16/1998 was found in the backfile. The memo indicates the average pond depth to be 10 feet. Because physical observation of the pond depth was verified, the average depth of 4' was used in the pond loss calculations. These calculations indicate a total required volume of 1.5 af (see attached calculations). As a result, the permitted 3.0 af is recommended to be changed to 1.5 af.

Stockwater is used as an in storage use for 12 mule and range cattle. There were no stock present at the time of the exam, but assume stock were present at the time the permit was developed and beneficial use was submitted in 2001. The neighbor (Murton Perkel WR no. 63-12307) does pull water from the pond as noted in the field exam pictures. Mr. Perkel's WR license cover does not include diversion to/from storage. This is a separate issue and does not affect this WR. Pond analysis did not include the neighbor's diversion for irrigation and stockwater.

Overlap review of the POD indicates that WR no. 65-12307 also diverts water from the same point. A field exam confirms the overlap and also recognizes that WR no. 65-12307 uses the same system to divert water to the pond and then diverts water from the pond to their property as noted above. A combined use limit condition is not being recommended for this permit since a measurement of the system capacity did not occur and not required for the system.

should be noted that the pond, outline in the attached maps, is close to a different QQ. The overlap is not substantial enough to require an amendment.

Condition 1 (01J) was replaced with O1M and forwarded to license. A waiver was received from Ron Shurtleff and attached to the file. Condition 2 (120) and 5 (R05) were replaced with 103 and R05 respectively and forwarded to license. Condition 3 (26A) was removed for licensing. Condition 4 was assigned code 023 and recommended to be forwarded to licensing. Condition 219 and 220 were added to the license per pond dimensions and loss calculations.

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>
DIVERSION TO STORAGE	1/01 to 12/31	0.15 CFS	
STOCKWATER STORAGE	1/01 to 12/31		1.5 AF
	<u>Totals:</u>	0.150 CFS	1.5 AF

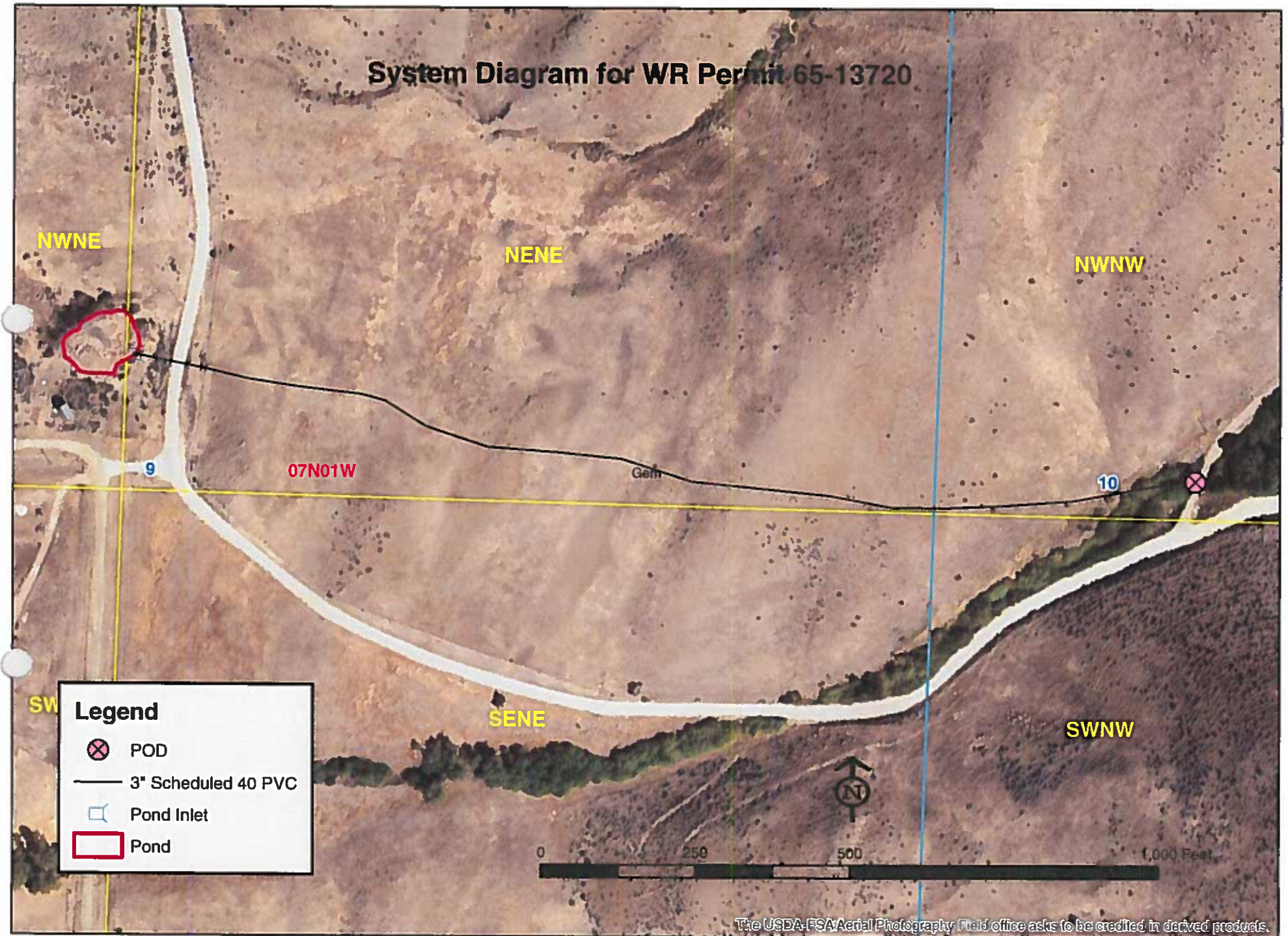
2. Recommended Amendments

☐ 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

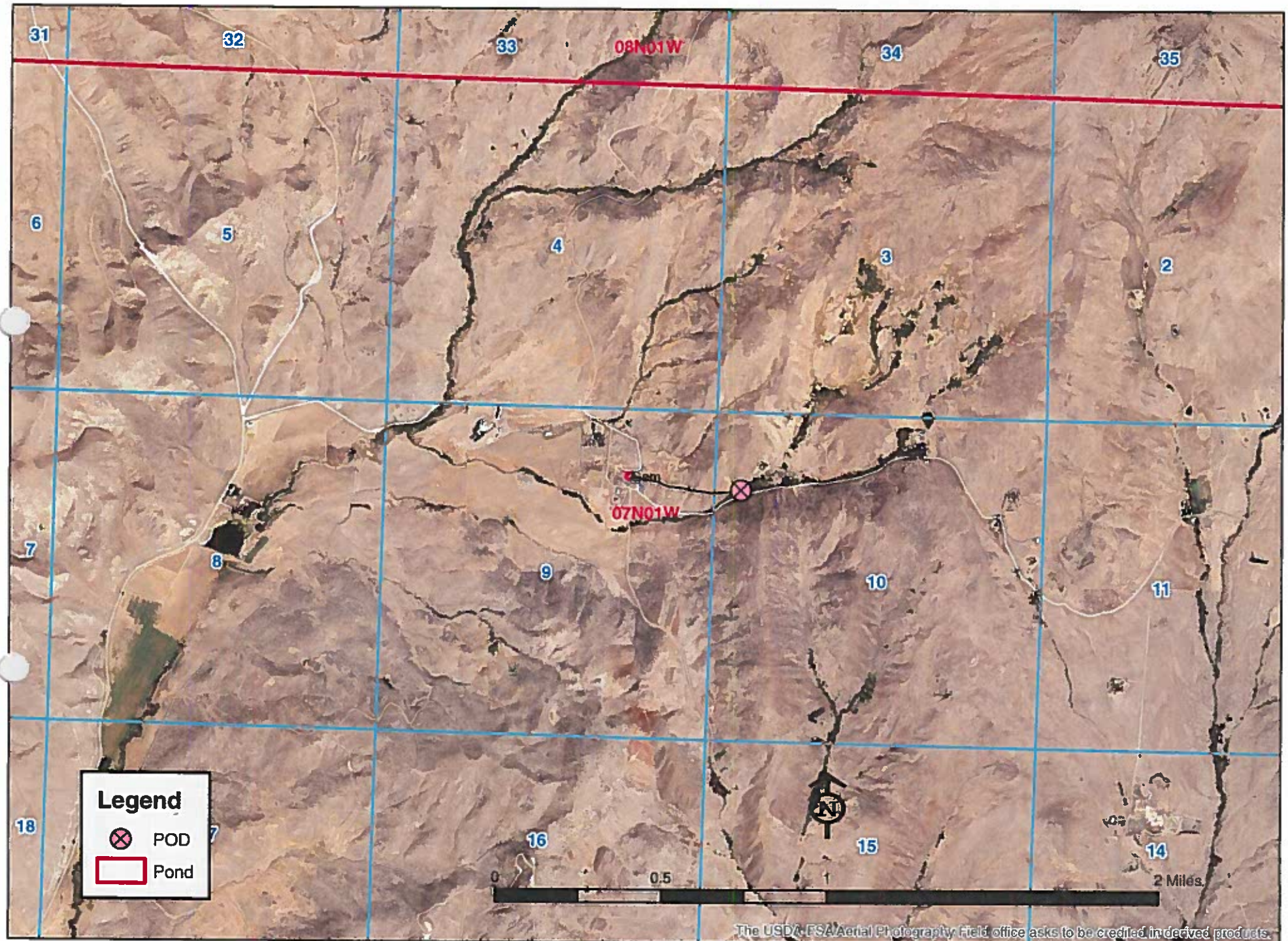
I. AUTHENTICATION

Field Examiner's Name Aaron Skinner Date 9/30/2016
 Reviewer Patrick Kelly Date 12-29-2016

System Diagram for WR Permit 65-13720



1:24,000 Scale Map of WR Permit 65-13720



Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	65-13720
REVIEWER	Aaron Skinner
DATE	9/30/2016

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	0.2	AC.
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Pond Surface Area (SQ. FT.)	8712	SQ. FT.
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I used the following method to obtain my Soil Classification information:	PondSoils Layer in GIS	
My Soil Classification is	CL	
Suggested Seepage Rate (FT./DAY)	0.0030	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss		
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Convert to GPD	195	GPD
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Total Seepage Loss (AFA)	0.2	AFA
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Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:

GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.2 ft per day

OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.02 ft per day

SC (clayey sands, sand clay mixtures) = 0.007 ft per day

CL (Low to medium plasticity clays) = 0.003 ft per day

MH, OH, PT and CH (high plasticity clays) = 0.0003 ft per day

LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day

Ponds Intercepting Groundwater (excavated ponds filled by ground water) = 0 ft per day

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	65-13720
REVIEWER	Aaron Skinner
DATE	9/30/2016

User input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET = Evapotranspiration
P _d = Precipitation deficit
P _d = ET - P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station:

Emmett 2 E (NWS - 2942)

Month	mm/day ¹	Days per month	mm/Month
Jan	-1.00	31	0.00
Feb	-0.11	28	0.00
March	0.94	31	29.14
April	2.32	30	69.60
May	3.21	31	99.51
June	3.91	30	117.30
July	4.79	31	148.49
August	4.14	31	128.34
September	2.56	30	76.80
October	1.29	31	39.99
November	-0.58	30	0.00
December	-1.37	31	0.00

Total mm/year = 709.17

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS - 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

$[(\text{mm/yr}) + (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$

$$\left(\frac{709.17}{304.8} \right) \times 0.20 = 0.5 \text{ AFA}$$

Total Storage Calculations

FILE NUMBER	65-13720
REVIEWER	Aaron Skinner
DATE	9/30/2016

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.)	0.2	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"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)	0.8	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)	0.2	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.5	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	1.5	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.

Flow Rate into Pond (CFS)	0.15	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	4.79	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.00	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.00	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	3	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	22	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.

07N01W10

Overlap Analysis of Permit 65-13720 POD

Process	Basin	Seq	Draft	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE
Water Right	65-12219	N		LEGG, RONNIE R; MARCUM LAND CO INC	SPRINGS				X													X
Water Right	65-12222	N		LEGG, KAREN B; LEGG, RONNIE R; MARCUM LAND CO INC	SPRING				X													
Water Right	65-12307	N		PERKEL, MURTON	WASTE WATER								X									
Water Right	65-1310	N		HACKETT, GERTRUDE, HACKETT, WAYNE C	SPRING				X													
Water Right	65-13720	Y		JOHNSTON, JOAN L, JOHNSTON, ORVAL G	WASTE WATER								X									
Water Right	65-1998	N		ENGLISH, AMY E; ENGLISH, ROBERT M; RADANDT, BESSIE; RADANDT, LEC	SPRING								X									
Water Right	65-22995	N		ENGLISH, AMY E	SPRING								X									
Water Right	65-22995	N		ENGLISH, AMY E	UNNAMED STREAM								X									
Water Right	65-7067	N		COX, JEFFREY; COX, KELLY; LANHAM, GORDON THOMAS	GROUND WATER																	
Water Right	65-7069	N		JARMIN, DEAN R; JARMIN, DONNA; THORNTON, GINA MARIE; THORNTON, MICHAEL	SPRING				X													
Water Right	65-9266	N		HACKETT, GERTRUDE, HACKETT, WAYNE C	SPRING					X												

piggy backs system

app upstream of 65-13720's POD
" " " "

07N01W9

Overlap Analysis of Permit 65-13720 POU

Process	Basin	Seq	Draft	Owner	Source	Use	NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SESW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total Acres
Water Right	65-12307	N		PERKEL, MURTON	WASTE WATER	IRRIGATION			4														4
Water Right	65-1270	N		HACKETT, GERTRUDE, HACKETT, WAYNE D; PERKEL, MURTON	SPRING	IRRIGATION			1														1
Water Right	65-1271	N		HACKETT, GERTRUDE, HACKETT, WAYNE D; PERKEL, MURTON	GROUND WATER	DOMESTIC			X														
Water Right	65-1272	N		HACKETT, GERTRUDE, HACKETT, WAYNE D; PERKEL, MURTON	SPRING	STOCKWATER			X														
Water Right	65-13604	N		HYDE, JANICE A; HYDE, N BRENT	SPRING	DOMESTIC			X														
Water Right	65-13604	N		HYDE, JANICE A; HYDE, N BRENT	SPRING	IRRIGATION			5														5
Water Right	65-13604	N		HYDE, JANICE A; HYDE, N BRENT	SPRING	STOCKWATER			X														
Water Right	65-13720	Y		JOHNSTON, JOAN L, JOHNSTON, ORVAL G	WASTE WATER	STOCKWATER STORAGE			X														

neighbor with different POD

neighbors with different POU



POD. 10" pipe reduced to 3" scheduled 40 PVC pipe. A rubber gasket is C-clamped to the 10" pipe.



The 3" pipe continues on through the brush roughly 2,000' to the pond with an 82' change in elevation.



Looking northwest at the pond. The pond is estimated to have a 10' maximum depth .



Bank full of the pond is located where the bush is along the edge.



Diverted water is gravity feed to the pond by a 3" pipe.



Discharge location where the neighbor pulls irrigation water from storage pond. There is a shut off valve on the west side of the berm that controls the discharge rate for the neighbors. This is WR no. 65-12307 that piggy backs off the same system.

Payette River Basin, State of Idaho
State, Water District No. 65

Watermaster,
Ron Shurtleff

102 N. Main
Payette, ID 83661

Phone: 208-642-4465
Fax: 208-642-1042
E-mail: wd65@srvinet.com

December 14, 2016

Western Region
Idaho Department of Water Resources
2735 Airport Road
Boise, Id 83705

Attn. Aaron Skinner

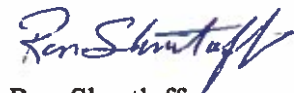
Re: Measuring and locking device waiver for Permit No. 65-13720

Dear Mr. Skinner

I visited with Mr. Shawn Thielges on the phone recently and have met with him on site about two years ago. I am familiar with his waste water diversion and would be agreeable to recommend waiving the requirements for a measuring device and locking device. I also recommend reserving the right to re-instate these requirements in the future, in the event it might become necessary to properly administer the water rights on Haw Creek.

If you have any questions please do not hesitate to contact me at 208-642-4465.

Sincerely,



Ron Shurtleff

Cc: Shawn and Nicole Thielges
1440 Loraine Circle
Emmett, ID 83617



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

May 3, 2013

Orval G. & Joan L. Johnston
1402 E. Main
Emmett, ID 83617

RE: Scheduling Field Exam for Water Right Permit No. 65-13720

We are planning to **conduct water right field examinations** in the vicinity of the above-referenced permit **during the week of May 13, 2013**. An examination is needed to verify your water use in order to issue a water right license.

Please be advised that you will need to operate your system under normal operating conditions during the examination. The permit authorizes the diversion of 0.15 cfs of waste water for 3.0 AF of stock water storage.

In order to conduct your exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by May 10, 2013, to conduct the exam during the week of May 13, 2013.** If there is a problem with scheduling or conducting the examination at this time, please let me know so we can reschedule or make other arrangements.

I appreciate your attention to this matter and I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Rick Collingwood". The signature is written in a cursive, flowing style.

Rick Collingwood, P.E.
Water Resource Agent, Sr.