

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 67-14433

Exam Date: 5/31/2017

1. Current Owner:
MARC AGOSTINI 6703 DUME DR MALIBU CA 90265 (310) 457-5007
- MARC AGOSTINI 2301 COVE RD WEISER ID 83672

2. Accompanied by: MARC AGOSTINI
Phone No: (310) 457-5007 or (208) 549-2265
Address: 2301 COVE RD WEISER ID 83672
Relationship to Permit Holder: OWNER

3. **SOURCE:**
COVE CREEK
GROUND WATER

TRIBUTARY:
WEISER RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: None
2. Other water rights with the same point-of-diversion: None

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

GROUND WATER SE¼NE¼ Sec. 11, Twp 10N, Rge 04W, B.M. WASHINGTON County
COVE CREEK NE¼NE¼ Sec. 11, Twp 10N, Rge 04W, B.M. WASHINGTON County

Method of Determination: Field exam and aerial imagery.

2.

PLACE OF USE: WILDLIFE 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	
10N	04W	11	X			X													

Method of Determination: Field exam and aerial imagery.

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

X Photo of Diversion and System Attached

X

4.

Well Tag No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0020511	UNK	5	UNK	UNK	UNK

*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
None	NA	NA	NA	NA	NA	NA

2. Measurements:

No field measurement was obtained. Cove Creek is an intermittent creek that was not running during our visit. Groundwater is a closed system. Cove Creek's diversion rate was calculated using a manipulated version of the Bernoulli's equation. The well's diversion rate was calculated using the theoretical horsepower equation worksheet. Both computations are attached to this file.

E. FLOW CALCULATIONS

Measured Method:

 X Additional Computation Sheets Attached

Bernoulli's Equation (Cove Creek Diversion): A submerged 12" culvert pipe = **6.21 cfs**

Theoretical Horsepower Equation (Groundwater): Three scenarios using various depths and psi average out to equal **0.20 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NA

2. Volume Calculations for Other Uses:

Pond Analysis:

Pond Capacity = 7.4 AF

Seepage Loss = 4.5

Evaporation Loss = 8.5

Total Volume Required = **20.4 AF****Wildlife Storage:**

V_R = IDWR does not have a policy/standard volume for beneficial use developed under these uses. However, based on the pond capacity and annual evaporation losses, a calculated volume being used by the holder is accomplished. (Pond Capacity) + (Estimated Losses) = 7.4 + 4.5 AF seepage + 8.5 AF evaporation loss = **20.4 AF**.

V_{DR} = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = 2.0 cfs X 365 days X 1.9835 = **1,448 AF**

V = Smaller of V_R and V_{DR} = **20.4 AF**

G. NARRATIVE/REMARKS/COMMENTS

Permit No. 67-14433 authorizes a diversion rate of 2.00 cfs with a volume limitation of 20.0 AF for WILDLIFE and WILDLIFE STORAGE purposes. A field exam was conducted by WRA Aaron Skinner and Patrick Kelly on May 31, 2017, who were accompanied by Marc Agostini and his helper, Jim.

BACKGROUND:

The purpose of this right was to alleviate spring runoff from Cove Creek flooding Mr. Agostini's property by developing a pond for year round wildlife and wildlife storage use. The field exam noted that water was not returned to Cove Creek as flow through water satisfying the wildlife component. As such, the wildlife component is not recommended to licensing. Aerial imagery through 2015 shows one pond as being developed. The field exam revealed three different ponds. Because one pond was developed when the proof of beneficial use was submitted, one pond will be recommended for licensing. This will also allow the two different sources to stay on one water right as one system. Conditions 219 and 220 will be recommended for licensing that establish a fixed surface area and pond capacity.

System Description:

Water is diverted from two sources, Cove Creek and groundwater. Groundwater is pumped to the POU via a 5 Hp submersible pump and 4" pipe to the south fountain and middle section of the pond. Pump curve ratings or pump specifics have not been available from the owner or Treasure Valley Drilling. Cove Creek water is conveyed to the POU via an unnamed ditch as outlined on the system diagram map and field exam pictures. There is a 42' 12" PVC pipe with a control gate located in the NENE of Section 11. Spring runoff is diverted through the pipe to the north section of the pond. Once Cove Creek returns to normal flow, the control valve is closed and groundwater is used to maintain pond water levels.

Diversion Rate and Volume:

Proof of beneficial use was submitted in October 18, 2005 stating 2.00 cfs had been developed. Because there was no way to obtain a measurement during the field exam, theoretical calculations were used to establish system capacity. A theoretical horsepower equation was used for the groundwater well. Mr. Agostini and Jim suggested the well had a 5 Hp

submersible pump. Roughly two years ago (2015) the well casing was increase 21' because the well was pumping air. That said, pumping levels where adjusted to account for the deeper pump setting. The three scenario depths used in the equation are 125', 130', and 135'. With an open discharge into the pond, discharge pressure used varied from 5 to 15 psi. These parameters produced an average **theoretical flow rate of 0.20 cfs or 90 gpm** (see attached worksheet).

The Cove Creek diversion used a modified version of Bernoulli's equation. With a 12" PVC pipe, a 2' change in elevation, a 42' pipe, and a pipe area of 0.79", a maximum velocity through the pipe was calculated to be 7.91 ft/sec. These parameters using **Bernoulli's equation produced a flow rate of 6.21 cfs** (see attached worksheet). As such, the **recommended flow rate for licensing is 2.00 cfs**.

Volume calculations were performed in Section F of this report totaling 20.4 AF. Because the license is limited to what was permitted, the **recommended volume limit forwarded to licensing will be 20.0 AF**. The proof of beneficial use was submitted with the fee equivalent to 2.00 cfs as outlined on the application/permit. The field exam verified use developed and the attached pond analysis outlines losses as the following;

- Pond Capacity = 7.4 AF
- Seepage Loss = 4.5
- Evaporation Loss = 8.5
- Total Volume Required = 20.4 AF

These calculations were obtained using the soil classification of CL, precipitation deficit station Weiser NWS- 109638, a surface area of 4.1 acres, and a maximum depth of 4.5', which established an average depth of 1.8'.

As mentioned in the background section of this narrative, the wildlife beneficial use will be dropped as that component was not developed. Water is initially filled by Cove Creek and maintained by groundwater, which replaces the seepage and evaporative losses. Water is not returned back to Cove Creek as "flow through" water.

Ownership:

Current taxlot data was used to verify land ownership and confirms that Marc Agostini is the current owner of the associated property. The name on the property is Agostini Family Trust.

Overlap:

An overlap analysis was completed for the POD and POU. There are no overlapping WRs associated to the POD and POU for this right.

Conditions:

Conditions 26A and 046 were removed and not forwarded to licensing. Condition 121 was updated to 103 and forwarded to licensing. Condition R05's language was replaced with "...may be regulated..." and forwarded to licensing. Condition 01R, 086, and 123 were forwarded to licensing. Conditions 219 and 220 were added to outline pond measurements and volume specifics and forwarded to licensing.

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

H. RECOMMENDATIONS

1. Recommended Amounts

BENEFICIAL USE	PERIOD OF USE	DIVERSION RATE	ANNUAL VOLUME
WILDLIFE STORAGE	01/01 to 12/31		20.0 AF
DIVERSION TO STORAGE	01/01 to 12/31	2.00 CFS	
	<u>Totals:</u>	2.000 CFS	20.0 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 9/12/2017

Reviewer Angela Agostini Date 10/24/2017

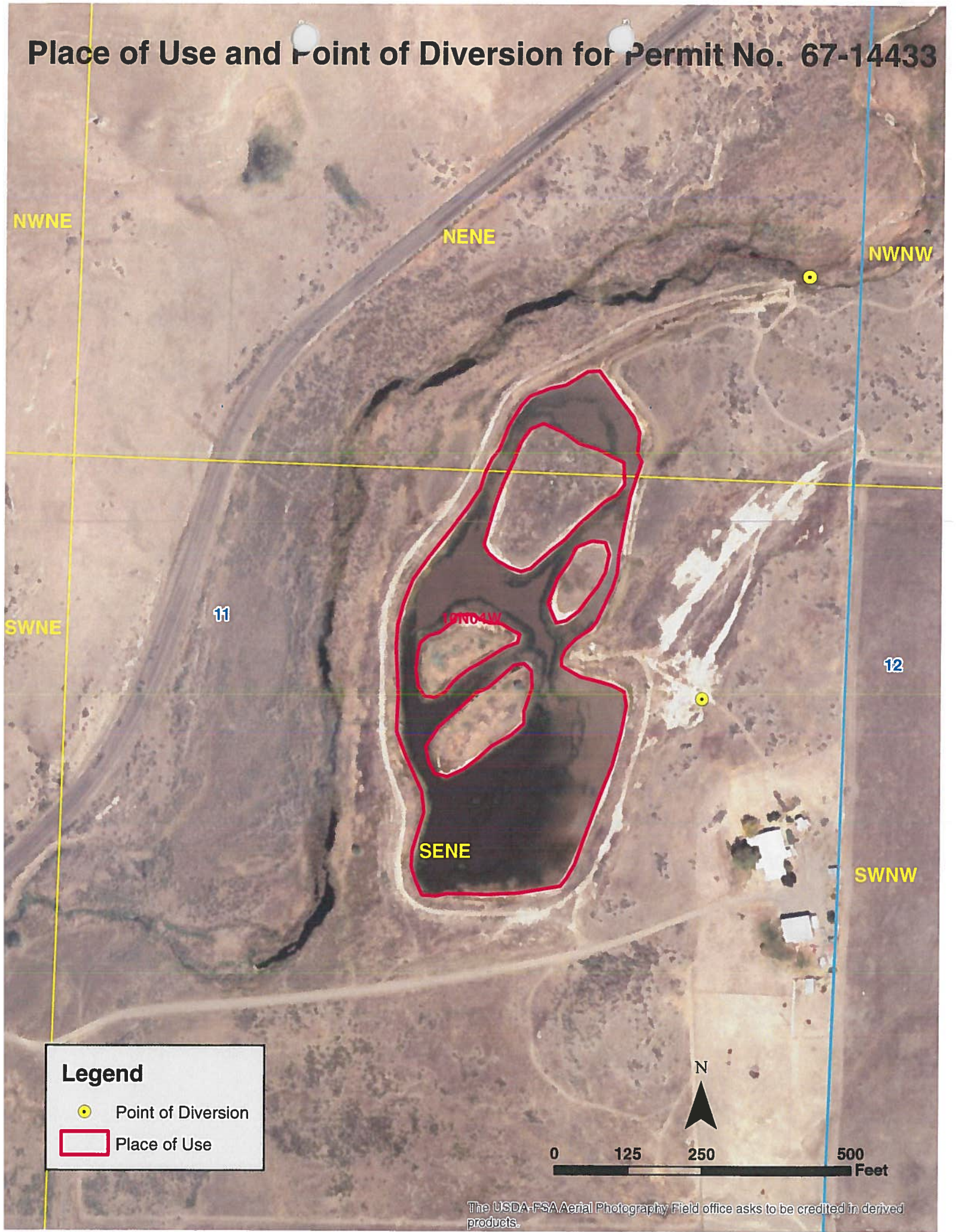
System Diagram for Permit No. 67-14433

Legend

- Point of Diversion
- ▲ Fountain
- Conveyance Ditch
- 12" PVC Pipe
- Buried PVC Line
- Place of Use



Place of Use and Point of Diversion for Permit No. 67-14433



Legend

● Point of Diversion

□ Place of Use

N

0 125 250 500 Feet

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 67-14433
 Reviewer: Aaron Skinner
 Date of Review: 8/23/2017

P/D No.:D0020551	Scenario 1	Scenario 2	Scenario 3
PUMP HORSEPOWER	5	5	5
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	125	130	135
DISCHARGE PRESSURE	5	10	15
RATE OF FLOW (cfs)	0.23	0.20	0.18 0.20

The above calculates the formula =
$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.
 No Friction

Examiners Notes:

A 5 Hp submersible pump is used to divert water to the ponds. Pumping level was estimated from the well log. Marc and Jim stated the pump was lowered 21 feet in 2015 from the original pumping level and was taken into consideration when establishing a pumping level. As an open discharge system, pressure was estimated at 5-15 psi. This produces a theoretical average flow rate of 0.20 cfs or 90 gpm.

Estimating Pipeline Flow Rates for WR Permit No. 67-14433 (System Capacity)

	POD	End of 12" Pipe
Pipe Diameter (in.)	12	
Elevation (ft.)	2,242	2,240
$(z_1 - z_2)$ (ft.)	2	
Length (ft.)	42	
Velocity (ft/sec)	7.91	
Area of Pipe (ft ²)	0.79	
Q (cfs)	6.21	

Maximum velocity through a 12" PVC pipe for 42'		
Velocity; v=	7.91	
Pipe Length; L=	42	
Pipe Diameter; D=	1	
f(x)=	2	

Manipulated Bernoulli Equation

$$(z_1 - z_2) = (0.0232919) * (v^2) + (0.0002816) \left(\frac{L}{D^{1.167}} \right) (v^{1.852})$$

10N04W11

10N04W11

Process

[illegible]

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	67-14433
REVIEWER	Aaron Skinner
DATE	5/31/2017

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	4.1	AC.
-------------------------	-----	-----

Pond Surface Area (SQ. FT.)	178596	SQ. FT.
-----------------------------	--------	---------

I used the following method to obtain my Soil Classification information:	NRCS Web Soil Survey	
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
--

Convert to GPD	4008	GPD
----------------	------	-----

Total Seepage Loss (AFA)	4.5	AFA
--------------------------	-----	-----

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	67-14433
REVIEWER	Aaron Skinner
DATE	5/31/2017

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: Weiser (NWS -- 109638)			
Month	mm/day ¹	Days per month	mm/Month
Jan	-1.06	31	0.00
Feb	-0.27	28	0.00
March	0.96	31	29.76
April	2.13	30	63.90
May	2.96	31	91.76
June	3.42	30	102.60
July	4.27	31	132.37
August	3.51	31	108.81
September	2.39	30	71.70
October	1.09	31	33.79
November	-0.31	30	0.00
December	-1.11	31	0.00

Total mm/year = 634.69

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.

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

$$(634.69 \div 304.8) \times 4.10 = 8.5 \text{ AFA}$$

Total Storage Calculations

FILE NUMBER	67-14433
REVIEWER	Aaron Skinner
DATE	5/31/2017

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.)	4.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	1.8	"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)	7.38	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)	4.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	8.5	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	20.4	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)	2.00	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)	4.27	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)	0.07	"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)	0.04	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	2	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. <i>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.</i>
Days Required to Fill the Pond at 13,000 Gallons per Day	-247	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. <i>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.</i> 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.

ET_{Idaho} 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison at kimberly dot uidaho dot edu Copyright 2012, University of Idaho.

Weiser (NWS -- 109638)

Statistics based on thirty year normal spans 1956 to 2007 years

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean ^j	mm/day												mm	
Monthly ^c	-1.06	-0.27	0.96	2.13	2.96	3.42	4.27	3.51	2.39	1.09	-0.31	-1.11	551	0
15-Day Moving Average ^d	-1.08	-0.38	1.02	2.14	2.88	3.49	4.35	3.47	2.26	1.17	-0.37	-1.18		
7-Day Moving Average ^e	-1.08	-0.31	0.96	2.12	2.92	3.46	4.32	3.49	2.35	1.11	-0.37	-1.15		
3-Day Moving Average ^f	-1.07	-0.27	0.97	2.13	2.95	3.45	4.28	3.51	2.38	1.10	-0.34	-1.11		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	1.13	0.99	1.28	0.65	1.64	0.79	0.62	0.75	0.67	1.14	0.75	1.45	102	0
15-Day Moving Average ^d	1.15	1.16	1.03	0.81	1.54	0.97	0.50	0.76	1.00	0.91	1.02	1.23		
7-Day Moving Average ^e	1.51	1.46	1.33	1.20	1.94	1.48	0.69	0.99	1.26	1.34	1.34	1.70		
3-Day Moving Average ^f	2.12	1.86	1.73	1.75	2.38	2.14	1.08	1.28	1.71	1.82	1.83	2.36		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	-0.39	0.58	1.70	2.72	3.68	3.93	4.60	3.94	2.80	1.64	0.31	-0.20	639	0
15-Day Moving Average ^d	0.16	0.86	2.32	3.23	4.47	4.57	4.87	4.26	3.26	2.22	0.88	0.22		
7-Day Moving Average ^e	0.43	1.16	2.68	3.85	4.99	5.08	5.11	4.53	3.58	2.52	1.17	0.42		



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Options

Include minor soils? ☐

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Soil Map

Scale: [\(not to scale\)](#)



Report — Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Adams-Washington Area, Parts of Adams and Washington Counties, Idaho

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth In	USDA texture	Classification		Pct Fragments		Percentage passing sieve number--			
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200
							L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
1—Abo silt loam, 0 to 2 percent slopes												
Abo	95	C	0-4	Silt loam	CL-ML, CL	A-6, A-4	0-0-0	0-0-0	100-100-100	100-100-100	95-98-100	75-85-95
			4-11	Silty clay loam	CL	A-6, A-7	0-0-0	0-0-0	100-100-100	100-100-100	95-98-100	75-80-85
			11-60	Silt loam	CL	A-6	0-0-0	0-0-0	100-100-100	100-100-100	95-98-100	75-80-85
95—Haw silt loam, 12 to 30 percent slopes												

Adams-Washington Area, Parts of Adams and Washington Counties, Idaho													
Haw	85	C	0-17	Silt loam	CL, CL-ML, ML	A-4, A-6	0-0-0	0-0-0	100-100-100	95-98-100	85-93-100	60-75-90	
			17-38	Clay loam, sandy clay loam, loam	CL, SC	A-6, A-7, A-2	0-0-0	0-0-0	100-100-100	95-98-100	70-85-100	35-58-80	
			38-60	Coarse sandy loam, loam, sandy loam	CL, SC, SC-SM	A-2, A-4, A-6	0-0-0	0-3-5	100-100-100	90-95-100	60-78-95	30-53-75	
116—Lanktree loam, 0 to 2 percent slopes													
Lanktree	90	C	0-10	Loam	CL	A-4, A-6, A-7	0-0-0	0-0-0	100-100-100	100-100-100	85-93-100	60-75-90	
			10-26	Clay loam, clay, sandy clay	CL, CH	A-7	0-0-0	0-0-0	90-95-100	90-95-100	85-93-100	55-75-95	
			26-60	Loam, silt loam, sandy loam	CL, SC, SC-SM	A-4, A-6, A-2	0-0-0	0-0-0	90-95-100	90-95-100	60-75-90	35-55-75	

Description — Engineering Properties

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 Issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

JUL 12 2004

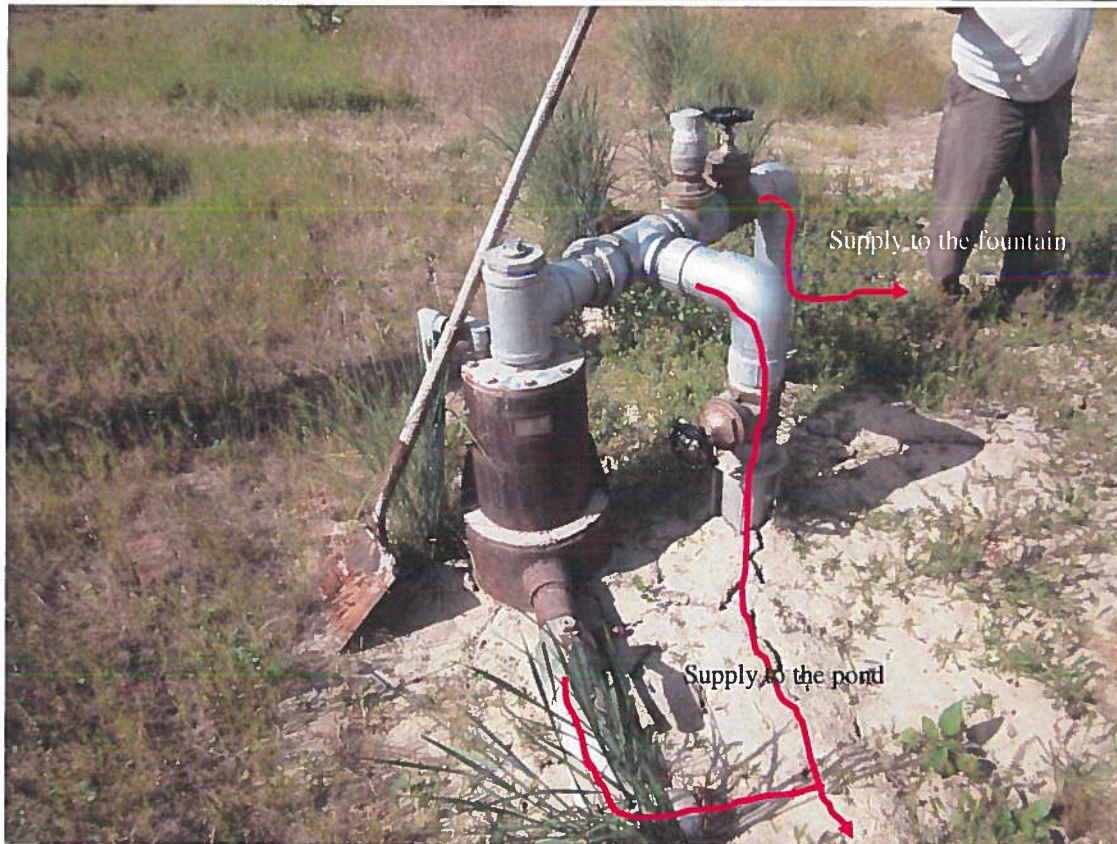
Form 238-7
3/95-C96IDaho DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

Office Use Only
 Inspected by _____
 Twp _____ Rge _____ Sec _____
 _____ 1/4 _____ 1/4 _____ 1/4
 Lat: _____ Long: _____

Date: 7/7/2004 Time:12:34 PM



Well tag
D0020551. Well
was completed on
7/6/2004 by
Treasure Valley
Drilling.



Well and different
supply lines to the
pond.



Fountain in the
SENE of Section
11. Flow is control
at the well.



Close up of the
fountain.



Discharge into the pond from the well.



Wildlife habitat along the pond edge.



Control gate at the head of Cove Creek. Water runs through the 12" pipe to the pond.



Discharge from Cove Creek into a natural channel that flow to the pond in the background.



Photo of the
SENE section of
the pond taken
from up on the hill
by the house.



Photo of the
NENE section of
the pond taken
from up on the hill
by the house.



State of Idaho

DEPARTMENT OF WATER RESOURCES

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

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

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

April 4, 2017

COPY

MARC AGOSTINI
2301 COVE ROAD
WEISER, IDAHO 83672

RE: Scheduling Field Exam for Water Right Permit No. 67-14433

Dear Permit Holder:

We are planning to conduct water right examinations in the vicinity of the above-referenced permit **during the weeks of May 8th – May 28, 2017**. An examination is needed to verify the water use in order to issue a water right license.

The above-referenced permit authorizes a **diversion rate of 2.0 cfs from groundwater and Cove Creek a tributary of Weiser River for Wildlife use**. If you have developed a beneficial use and still own the place of use property, please contact me at your earliest convenience to schedule an examination.

If you did not develop a beneficial use of water under the permit or if you did develop that use, but subsequently abandoned it, a license cannot be issued. Please relinquish the permit by submitting the enclosed Relinquishment of Permit form (no fee required). The permit will be voided if beneficial use under the permit was not developed or was developed, but is now abandoned and you do not relinquish the permit.

If you did develop a beneficial use of water under the permit, but you no longer own the place of use property identified in the permit, please submit the enclosed Assignment of Permit form with the applicable \$25 processing fee.

Please contact me within the next thirty (30) days to either schedule an examination, submit a relinquishment, or submit an assignment. If you no longer own the place of use property and/or do not respond to this letter, the department will work with the current property owner to issue a license or void the permit.

Please call me at (208) 334-2190 if you have any questions. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

Aaron Skinner
Water Resource Agent

Enclosures: Relinquishment of Permit form
Assignment of Permit form
Water Permit Report and Map