

LICENSE REVIEW CHECKLIST

Permit No. 08-7827 Date: 10/18/11 Reviewer: CPD/MR

Name/Address: Change/OK

Source: 1 Does change clarify original intended source? If no, void permit

Point of Diversion: 2 Change? 2 Add? 2 F06 (overlap POD) 2 F06 (Subdivision description) 2

Place of Use:

Change 2 X60? (subdivision description) 2 X60 2 Place of use is located w/i <Lots 1-10, Blk. 3 and Lots 1-10, Blk. 6, Mountain Ridge Subdivision>. 2 E55? (PPU acre limit) 2 E55 2 Right Nos. 2 and 2 are limited to the irrigation of a combined total of 2 acres in a single irrigation season.

Diversion Rate:

Permitted Rate: 1.2 cfs af Diversion rate from rights with same POD: 7
 Fee Limit: 0.16 cfs af Recommended Total Diversion Rate: 7
 Measured: 0.16 cfs af Total = 7
 * Theoretical: 1.2 cfs af

Water Uses:

4 Change? 4 Irrigation 7 cfs af SOU: year round
 Stockwater 7 cfs af
 Domestic 7 cfs af
 Rec Storage 1.2 cfs af
 Total = 1.2 cfs af

Volume Determination

NA cfs x 1.9835 x days = af
acres x vs. (FHR) af

Remarks:

update source, confirmed trib. is Cow Creek

Additional Conditions

Watermaster Control 7 GW Dist? 7
 GW Measurement/Measuring devices Water Mgmt. Dist? 7
 Other 7 Crit. GWMA? 7
 GWMA? 7
 Govt Lots? 7

Amendment?

None required

* cl calculated the pond as follows:
 Surface area = 0.18 acre from aerial imagery
 Depth = 5' pursuant to FE
 Slope factor = 0.16 pursuant to FE
 Example = 0.26 acre (see attached worksheet)
 $0.18 \times 5' \times 0.16 = 0.54$
 0.54
 $+ 0.26$ evaporation
 0.8 acre
 $+ 0.1$ ab for seepage
1.24 (see Claytons Calc.)

Quad maps indicate source is an unnamed stream not Spring as indicated on permit. Source clarified on license

The following rights are diverted through point(s) of diversion described above:
 Point of diversion is located within <Lot 4, Blk. 3, Wilderness Subdivision>.

FILE NUMBER ----- 98-07827
REVIEWER ----- Craig Saxton
DATE ----- 10/19/2011

Seepage Calculation

<u>INPUTS</u>	<u>NOTES/SUGGESTED VALUES</u>	<u>RESULTS</u>
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POND

SURFACE AREA (SQFT) ----- (0.18 acres)

SEEPAGE RATE (FT/DAY) -----

SUGGESTED VALUES FOR DIFFERENT SOIL TYPES:

0 = NATURALLY FILLED FROM GW, OR LINED

0.5 = CLAY SOILS

1.5 = LOAMS

3.0 = GRAVELS

CONVERT TO GPD -----

GPD

FORMULA: SA * SEEPAGE LOSS = POND SEEPAGE (CUFT/D)

CONVERSION: 1 CUFT = 7.48 G

NOTE: ASSUMES CONTINUOUS REPLACEMENT RATE

TOTAL Seepage Loss (AFA) -----

The pond is for onstream storage so there is probably isn't a lot of seepage losses. However, if we use a very low seepage rate of .01 feet per day we still calculate yearly seepage losses of 0.7 AFA. 98-7827 was permitted for 1.2 AFA. 0.6 AF for fill, 0.4 AF for evaporative losses, leaves 0.4 AF of permitted volume that could be allocated for seepage losses. Because the pond is not lined, even with a clay bottom, there will be some seepage. It appears justifiable to allocate that last 0.4 AF to seepage losses.

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

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Bonniers Ferry (NWS --101079)

Statistics based on thirty

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 - small stock ponds															
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	Annual
Mean	mm/day												mm		
Monthly ^c	-1.86	0.84	0.54	1.81	2.79	3.21	4.56	4.27	2.33	0.32	-1.89	-2.41	393	0	393
15-Day Moving Average ^d	-2.01	1.05	0.60	1.76	2.75	3.15	4.61	4.34	2.25	0.42	-1.86	-2.35	393mm or 1.3aba/acre x 0.2 acre = 0.26aba total evap for 98-7827		
7-Day Moving Average ^e	-1.95	0.94	0.57	1.77	2.79	3.15	4.59	4.31	2.29	0.35	-1.83	-2.37			
3-Day Moving Average ^f	-1.87	0.87	0.55	1.81	2.78	3.18	4.56	4.29	2.32	0.33	-1.83	-2.41			
Standard Deviation	mm/day												mm		
Monthly	1.52	1.05	1.15	0.86	1.59	0.90	1.23	1.34	0.93	1.37	1.57	1.81	137	0	137
15-Day Moving Average	1.62	1.47	1.15	1.22	1.73	1.37	1.10	1.29	1.39	1.27	2.03	1.76			
7-Day Moving Average	2.26	1.99	1.60	1.90	2.32	2.00	1.51	1.70	1.84	1.90	2.48	2.53			
3-Day Moving Average	3.18	2.60	2.23	2.62	3.06	2.85	2.07	2.34	2.40	2.49	3.26	3.49			
20% Exceedance	mm/day												mm		
Monthly	-0.97	0.03	1.20	2.71	3.60	3.96	5.07	5.00	3.19	1.14	-0.73	-1.41	512	0	512
15-Day Moving Average	0.09	0.42	2.00	3.57	5.03	5.36	6.06	5.69	4.31	2.23	0.09	0.00			
7-Day Moving Average	0.36	1.02	2.63	4.42	6.05	6.03	6.50	6.33	4.95	2.77	0.65	0.19			
3-Day Moving															