Permit No 97-7411

STATE OF IDAHO DEPARTMENT OF WATER RESOURCES BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

1. Current Owner: LARRY D MC CORMICK 1014 N PINES RD SPOKANE WA 99206

 Accompanied by: Jeffrey Pence Phone No: 509-990-8097 Address: 188 S Loy Larson RD Relationship to permit Holder: Homeowner at property

3. SOURCE: FENTON CREEK

Tributary PRIEST LAKE

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

 Other water rights w 	with the same place of use:	YES Overlap		
Water Right No.	Source	Purpose of Use	Basis	
97-7147	POND	WILDLIFE STORAGE	LICENSE	_
97-7059	COUGAR CREEK	DOMESTIC	LICENSE	
97-7140	PRIEST LAKE	IRRIGATION	LICENSE	

Comments: WR 97-7147 is licensed to same permit holder of this water right, and uses water from sinks to fill pond up to 2.0 af for wildlife storage. WR 97-7059 is licensed to Cougar Creek Water Assn Inc., and uses water from Cougar Creek for domestic purposes tied to a subdivision not related to this water right. WR 97-7140 is licensed to the State of Idaho, for irrigation water use out of Priest Lake, not associated with this water right.

2. Other water rights w	vith the same point-of-diver	sion: <u>NO</u> Overlap		
Water Right No.	Source	Purpose of Use	Basis	

Comments: ____

C. DIVERSION AND DELIVERY SYSTEM

1. LOCATION OF POINT(S) OF DIVERSION:

FENTON CREEK NE¼ SW¼, Sec. 26, Twp 60N, Rge 04W, B.M. BONNER County

Method of Determination: Arcmap and GPS. POD is a pump in creek located at -116º49.333, 48º31.187.

PLACE OF USE: V	VILDLIFE STORAGE and RECREATION STORAGE
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Two Dog	Den Se			N	E			N١	N			SV	N			SI	=		Totals	
wp	wp King Sec	King Sec	Ring Sec	NE	NW	SW	SE													
60N	04W	26										Х	Х				-			

Method of Determination: Arcmap and Field Exam.

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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 Aerial Photo Attached (required for irrigation of 10+ acres).
- X Photo of Diversion and System Attached

4.							
Well or Diversion ID No.*	Motor Make	Нр	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size		
N/A							

D. FLOW MEASUREMENTS

Measurement Equipment	Туре	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements:

Measured Method: Applicant used a portable generator driven pump to divert water from Fenton Creek at POD. 5 gallon bucket tests were performed to determine diversion rates in units = gpm as listed below:

- Flow from pump at intake pipe to pond = 3 consecutive tests performed, and average used to determine diversion
 rate
 - Test 1 = (5 gal / 5.0 sec) x 60 sec = 60 gpm
 - Test 2 = (5 gal / 5.1 sec) x 60 sec = 61.2 gpm
 - Test 3 = (5 gal / 5.0 sec) x 60 sec = 60 gpm
 - Average diversion rate from pump = (60 gpm + 61.2 gpm + 60 gpm) / 3 = 60.4 gpm = 0.13 cfs.

DIVERSION TO STORAGE rate for license = 0.13 cfs.

E. FLOW CALCULATIONS N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: N/A

- V_{LR} = (Acres Irrigated) x (Irrigation Requirement) =
- V_{D.R} = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 =
- V = Smaller of V $_{LR}$ and V $_{D.R}$ =

2. Volume Calculations for Other Uses:

See attached pond analysis sheet.

G. NARRATIVE/REMARKS/COMMENTS

Field exam was performed with a subdivision homeowner, Jeffery Pence, and showed water being drawn from Fenton Creek to fill a pond for wildlife storage and for recreation storage purposes. Applicant had a generator driven pump drawing water from Fenton Creek for diversion to storage. Applicant had constructed a pond with two island located within it supporting wildlife storage, and recreation storage for swimming and fishing.

During field exam, multiple 5 gallon bucket tests were performed to determine the maximum diversion rate. 5 gallon bucket tests were performed to determine diversion rates in gpm as listed below:

- Flow from pump at intake pipe to pond = 3 consecutive tests performed, and average used to determine diversion
 rate
 - Test 1 = (5 gal / 5.0 sec) x 60 sec = 60 gpm
 - o Test 2 = (5 gal / 5.1 sec) x 60 sec = 61.2 gpm
 - Test 3 = (5 gal / 5.0 sec) x 60 sec = 60 gpm
 - Average diversion rate from pump = (60 gpm + 61.2 gpm + 60 gpm) / 3 = 60.4 gpm = 0.13 cfs.

The Maximum Diversion Rate of 0.13 cfs will be applied to license.

The Wildlife Storage and Recreation Storage POU was identified as a pond without a dam. Arcmap was used to trace out surface area, subtracting surface area of 2ea small islands, equaling = 1.98 acres (pond) – 0.7 acres (islands) = 1.28 total acres. This value was rounded to 1.3 acres to conform to department significant figures (Application Process No.6, department administrative memo). The current department's Pond Analysis Worksheet was completed, and the pond has a max depth of 8 feet, an average depth of 3.2 feet, an estimated seepage loss of 0.1 af, and an estimated evaporation loss of 0.7 af. From the pond analysis worksheet, 5.0 af is the total diversion volume required based on afore mentioned factors, but the applicant is limited to 2.0 af authorized at time of permitting, and the Maximum Diversion Volume of 2.0 af will be carried forward to licensing.

The pond analysis sheet used for licensing provides more accurate figures than those used at time of permitting, resulting in a variance between 2.0 af permitted for, and 5.0 af annual volume determined by pond analysis sheet. Applicant has a preexisting water right, 97-7147, that licensed 2.0 af fill from pond source (GW) from sinks. Combining water rights 97-7147 and 97-7411, the applicant will have a combined total of 4.0 af annual volume for pond, that with addition of 0.8 af for seepage and evaporation, is still less annual volume than the 5.0 af described in pond analysis sheet.

The permit requires a fish screen, and at time of field exam applicant stated it was installed.

Condition 219 and 220 were added to describe combined annual storage volume, total pond capacity, and total surface area for water rights 97-7411 and 97-7147. Condition X60 was added to describe the ponds location within Cavanaugh Bay Airport Estates Subdivision. All other condition will remain on license from permit. WR 97-7147 overlaps this water right POU, and is used for the same pond, but does not cause an enlargement of this water right and is not a concern. WR 97-7059 overlaps this water right POU, but is used for domestic purposes out of nearby Cougar creek and not associated with flow from Fenton Creek, and is not a concern for overlap. WR 97-7140 overlaps this water right POU, but is used for irrigation purposes out Priest River, and is not a concern for overlap.

Have conditions of permit approval been met? X Yes No

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
WILDLIFE STORAGE	01/01 to 12/31		2.0 AF
RECREATION STORAGE	01/01 to 12/31		2.0 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.13 CFS	
	<u>Totals:</u>	0.13 CFS	2.0 AF
2. Recommended Amendments Change P.D. as reflected abov	e Add P.D.	as reflected above X	None
Change P.U. as reflected abov	e Add P.U.	as reflected above X	None
I. AUTHENTICATION Luke	Bates - Water Resour	ce Agent	
Field Examiner's Name ad F	m	Date/	30/2020
Reviewer BOB P		Date_ 4/2	\$2828



Total Storage Calculations

FILE NUMBER	97-7411
REVIEWER	Luke Bates
DATE	4/22/2020

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.)	1.3	"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)	4.2	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.
		The "RAUtiple Fill Values Above Initial Fill" is the case fact of water required to mach a from downed
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	0	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)	0.1	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.7	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	5.0	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.



FLOW MEASUREMENT - 5 GALLON BUCKET TEST





PUMP FILLING POND FROM POD







POU - POND





OUTFLOW PIPE FROM POND