

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15683
Exam Date: 06/14/2021

1. Current Owner:
CAMAS PRAIRIE PROPERTIES LLC 3546 N RIVERSIDE AVE RIALTO CA 92377
2. Accompanied by: Jeremi Syron
Phone No: 208-816-3959
Address: 2900 Lawyer Creek Road, Kamiah ID 83536
Relationship to permit Holder: Applicant's representative

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
85-7444	LAWYER CREEK	IRRIGATION	DECREED
85-10642	GROUNDWATER	DOMESTIC	DECREED

Comments: Decreed right 85-7444 uses a surface water source for irrigation with a POU that overlaps a portion of this rights irrigation POU. 85-7444's irrigation POU was decreed with a general large acreage POU which includes this Permit's irrigation POU, but review of backfile data (Field Exam Doc date 11/29/2009) illustrates the field examiners findings of the irrigation system. During that exam and subsequent licensing review department staff validated the Lawyer Creek irrigation system is confined to large field areas which were irrigated along the creek frontage, but that the irrigation acreage for 85-7444 does not encompass that of this permit 85-15683. In speaking with Mr. Jeremi Syron, the only irrigation associated with this Permit's POU is from the GW well and irrigation system, and as such I am not recommending an overlap condition between these two rights for irrigation uses and acreage.

Decreed right 85-10642 uses a groundwater source for domestic use of one home that is the same as this right's domestic use for 2 homes. Condition X35 has been added during licensing review to mitigate overlap concerns between the 85-10642 & this permit designating domestic diversion rate combined use limitations for licensing purposes.

2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER SE¼ SE¼, Sec. 7, Twp 33N, Rge 03E, B.M. LEWIS County

Method of Determination: GPS; POD located at -116°7.0839, 46°12.7314 well D0041142.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
33N	03E	8									1.2	3.1	0.8						5.1

Total Acres: 5.1

PLACE OF USE: COMMERCIAL and DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
33N	03E	8									X	X							

PLACE OF USE: RECREATION and RECREATION STORAGE

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
33N	03E	7																X	
33N	03E	8											X						

Method of Determination: Field examination and Arcmap aerial imagery

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.

☒

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☒ 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
D0041142	UNKOWN	25			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform a flow measurement due to inadequate pipe requirements. A Theoretic Pump Equation derived a flow rate of 251.9 gpm or **0.56 cfs** considering department rounding standards.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretic Pump Equation = 25 hp pump installed at depth of 210 with operating pressure of 45 PSI equates to 251.9 gpm or 0.56 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5.1 \text{ ac} \times 3.0 \text{ afa} = 15.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.10 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 48.8 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{15.3 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Domestic annual volume = 2 homes x 0.6 af per home for in-home use only = **1.2 af**
- Commercial (hunting lodge) annual volume = (**note:** 2ea year-round staff associated with the domestic use component and not accounted for under commercial use, as they reside in the 2 homes on the premise).
 - 9 full time staff x 50 gpd x 6 day per week x 52 week per year = 140,400 gal annually
 - 22 part time staff x 50 gpd x [59 days (Feb-March) + 121 days (Sept-Dec)] = 198,000 gal annually
 - 29 guests per day x 100 gpd x 365 day per year = 1,058,500 gal annually
 - Total annual volume = 140,400 gal + 198,000 gal + 1,058,500 gal = 1,396,900 gal / 325,850 gal per af = **4.3 af**
- Recreation (flow through) annual volume = 0.56 cfs = 15,080.69 gph x 2 hrs per day x 152 days per year (May 1st – Sept 31st) = 4,584,529.76 gal annually / 325,850 gal per af = **14.1 af** considering department rounding standards.
- Recreation Storage annual volume = **16.0 af**; see pond analysis worksheet.
- Maximum Diversion Volume = 15.3 af (Irr) + 1.2 af (Dom) + 4.3 af (Com) + 14.1 af (Rec) + 16.0 af (Rec Stor) = **50.0 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/14/2021 with the applicant's representative, Jeremi Syron, showed a groundwater well providing water for irrigation, commercial, domestic, recreation, and recreation storage uses. At the POD, well D0041142 with 25 HP pump motor installed has a main line that routes downgrade a short distance to a pump house. Due to inadequate pipe requirements a flow measurement was not feasible; a Theoretic Pump Equation derived a flow rate of 251.9 gpm or **0.56 cfs** considering department rounding standards which is recommended as the maximum diversion rate for licensing purposes. The pump is installed at a depth of 210 ft, with a 45 PSI operating pressure. The diversion to storage use rate is designated as 0.56 cfs, which accounts for groundwater filling of a pond co-located with the pump station.

The permit approved irrigation up to 150 acres; during the field exam the irrigation POU was observed with Mr. Syron and traced out using field maps. Mr. Syron asserts via email correspondence following the exam that all irrigation is direct from the well to irrigation system and not from the storage pond. I have removed both the irrigation storage & irrigation from storage beneficial use(s) from the permit during licensing review based on this information. From the well a water main line routes to the hunting lodge and continues east to the furthest extent of the water system. Service connection branches are set at intervals to enable irrigation of several different field & lawn areas from the pond/pump station, around the hunt lodge, around each of two homes, and roadside lawn space. Irrigation occurs by pressurized sprinkler and hose-bib to portable sprinklers.

Due to the canyon climate the POU is situated in, irrigation is clearly defined using Arcmap aerial imagery, and supported by field exam findings. Arcmap was used during licensing review to trace out the irrigation POU which equals 5.1 acres. The recommended diversion rate for irrigation equals 0.02 cfs per ac x 5.1 ac = **0.10 cfs**, and the annual volume for irrigation equals 5.1 ac x 3.0 afa = **15.3 af**. Mr. Syron asserts the well pump operates 8 hrs per day during the season of use as it cycles through numerous zones irrigating the POU. The irrigation system is pressurized from the pump house and routes approximately 2,300 ft to the furthest east extent of the POU; while the pump capacity operates at 0.56 cfs, it is reasonable to assume the flow rate is restricted during irrigation by zones or sprinkler components would be failing constantly. Hypothetically, if the applicant used the full 0.56 cfs diversion 8 hrs per day for the entire season, the volume would be derived as 152 days per season / 8 hr per day = 19 day 24/7 pump operation; 0.56 cfs = 361,936.5 gpd x 19 day = 6,876,793.5 gal per season / 325,850 gal per af = 21.1 af. It is reasonable that the 5.8 af difference between 0.10 cfs and 0.56 cfs is mitigated by reduced output flow at sprinkler heads per zone and not a concern for enlargement.

The commercial use by the applicant is for a year-round hunting lodge that can accommodate 29 paying guests each day. For licensing purposes, the maximum guest capacity was used to derive annual volume. Additionally, the applicant employees 9 full time staff and 22 part time staff which work 6 days per week on average in support of the hunt lodge business. Arcmap aerial imagery was used to trace out the hunting lodge and a game wild game rinse off station used by the guests which serve as the commercial POU. The diversion rate recommended for licensing the commercial use is limited to **0.08 cfs** which is the permit approved value. Commercial annual volume has been derived as follows: (**note:** 2ea year-round staff associated with the domestic use component and not accounted for under commercial use, as they reside in the 2 homes on the premise) -

- 9 full time staff x 50 gpd x 6 day per week x 52 week per year = 140,400 gal annually
- 22 part time staff x 50 gpd x [59 days (Feb-March) + 121 days (Sept-Dec)] = 198,000 gal annually
- 29 guests per day x 100 gpd x 365 day per year = 1,058,500 gal annually
- Total annual volume = 140,400 gal + 198,000 gal + 1,058,500 gal = 1,396,900 gal / 325,850 gal per af = **4.3 af**

Commercial use includes full-service lodging/laundry service/spa/lounge/restaurant & extended hunting trips water uses for the guests. As such, 100 gpd is designated for the guests, and 50 gpd for the employed staff for volume computations.

The domestic POU observed during the field exam consist of 2 homes on the property used by ranch managers who live on site year-round. Photographs were taken of each home, and the domestic use is for in-home use only. The recommended diversion rate for domestic use has been reduced from 0.08 cfs permit approved to **0.06 cfs** based on department standard rates. Irrigation around the homes is covered under the irrigation component of the water right. Arcmap aerial imagery was used to trace out the domestic POU during licensing review. Service lines from the main water line connect each home to the water system. The domestic annual volume equals 2 homes x 0.6 af per home = **1.2 af**.

The recreation direct flow beneficial use associated with this right consists of groundwater being drafted into a pond to circulate water, and outflow via an in-pond overflow pipe to a wetland located east of the pond. The recreation storage pond is designated as the POU for the recreation component of this right. The diversion rate for recreation use has been reduced from the 2.0 cfs permit approved to **0.56 cfs** which is the pump capacity for the applicant's water system observed at time of field exam. Mr. Syron asserts it is difficult to isolate pump time annually from the well to the pond, as it is dependent on the canyon land summer temperatures. The pond's seepage and evaporation loss volume(s) are covered under the storage component of this right, so circulation water does not affect these values. Mr. Syron states the ranch pumps water to the pond regularly from May 1st – September 31st annually with an average daily pump time of 2 hrs. The Recreation annual volume recommended for licensing is derived as follows: 0.56 cfs = 15,080.69 gph x 2 hrs per day x 152 days per year (May 1st – Sept 31st) = 4,584,529.76 gal annually / 325,850 gal per af = **14.1 af** considering department rounding standards. Photographs taken illustrate the overflow device that allows water to exit the pond following each daily circulation cycle.

During the exam, the recreation storage POU – pond was observed, and photographs taken for illustrative purposes. Followign the exam Arcmap aerial imagery was used to accurately trace out the POU, and a pond analysis worksheet was developed using pond surface area and depth as follows: the pond has a surface area of 2.3 acres, maximum depth of 12 ft, average depth of 4.8 ft, pond capacity = 11.0 af, seepage & evaporation loss rate of 2.5 af each (5 af total), and total volume required equaling 16.0 af. **16.0 af** is recommended for licensing the recreation storage use of this water right. The storage pond is used by ranch staff & guests for swimming & boating throughout the year and freezes over each winter season. Considering each of this permits beneficial use annual volumes, the maximum diversion volume recommended for licensing purposes equals the sum of all components, or **50.9 af**.

Condition(s) 046, 082 & 106 were removed from the permit during licensing review. Conditions 219 & 220 were revised following the field exam describing pond size & volume metrics. A text condition describing the commercial use was revised

to accurately describe the full-service hunting sportsman lodge. Existing condition X35 was adapted describing combined use limitations for domestic use of 2 homes between rights 85-10642 and 85-15683; the original X35 verbiage at time of permit approval associated combined use between this permit and 85-7444 but overlap use between the two rights were validated to not exist at time of field exam (read below overlap concern discussion). All other permit conditions shall be carried forward to licensing.

Overlap concerns: Decreed right 85-7444 uses a surface water source for irrigation with a POU that overlaps a portion of this rights irrigation POU. 85-7444's irrigation POU was decreed with a general large acreage POU which includes this Permit's irrigation POU, but review of backfile data (Field Exam Doc date 11/29/2009) illustrates the field examiners findings of the irrigation system. During that exam and subsequent licensing review department staff validated the Lawyer Creek irrigation system is confined to large field areas which were irrigated along the creek frontage, but that the irrigation acreage for 85-7444 does not encompass that of this permit 85-15683. In speaking with Mr. Jeremi Syron, the only irrigation associated with this Permit's POU is from the GW well and irrigation system, and as such I am not recommending an overlap condition between these two rights for irrigation uses and acreage.

Decreed right 85-10642 uses a groundwater source for domestic use of one home that is the same as this right's domestic use for 2 homes. Condition X35 has been added during licensing review to mitigate overlap concerns between the 85-10642 & this permit designating domestic diversion rate combined use limitations for licensing purposes. There are no additional overlap concerns for this water right.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	03/15 to 11/15	0.10 CFS	15.3 AF
COMMERCIAL	01/01 to 12/31	0.08 CFS	4.3 AF
DOMESTIC	01/01 to 12/31	0.06 CFS	1.2 AF
RECREATION	01/01 to 12/31	0.56 CFS	14.1 AF
RECREATION STORAGE	01/01 to 12/31		16.0 AF
DIVERSION TO STORAGE	01/01 to 12/31	0.56 CFS	

Totals: 0.56 CFS 50.9 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 Luke Bates -

Field Examiner's Name Luke Bates Date 3/7/2022

Reviewer Ad Fink Date 7/21/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
85-15683

IRRIGATION system diagram.



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

0 0.05 0.1 0.2 Miles



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COMMERCIAL system diagram.



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

0 0.05 0.1 0.2 Miles



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DOMESTIC system diagram.

03E



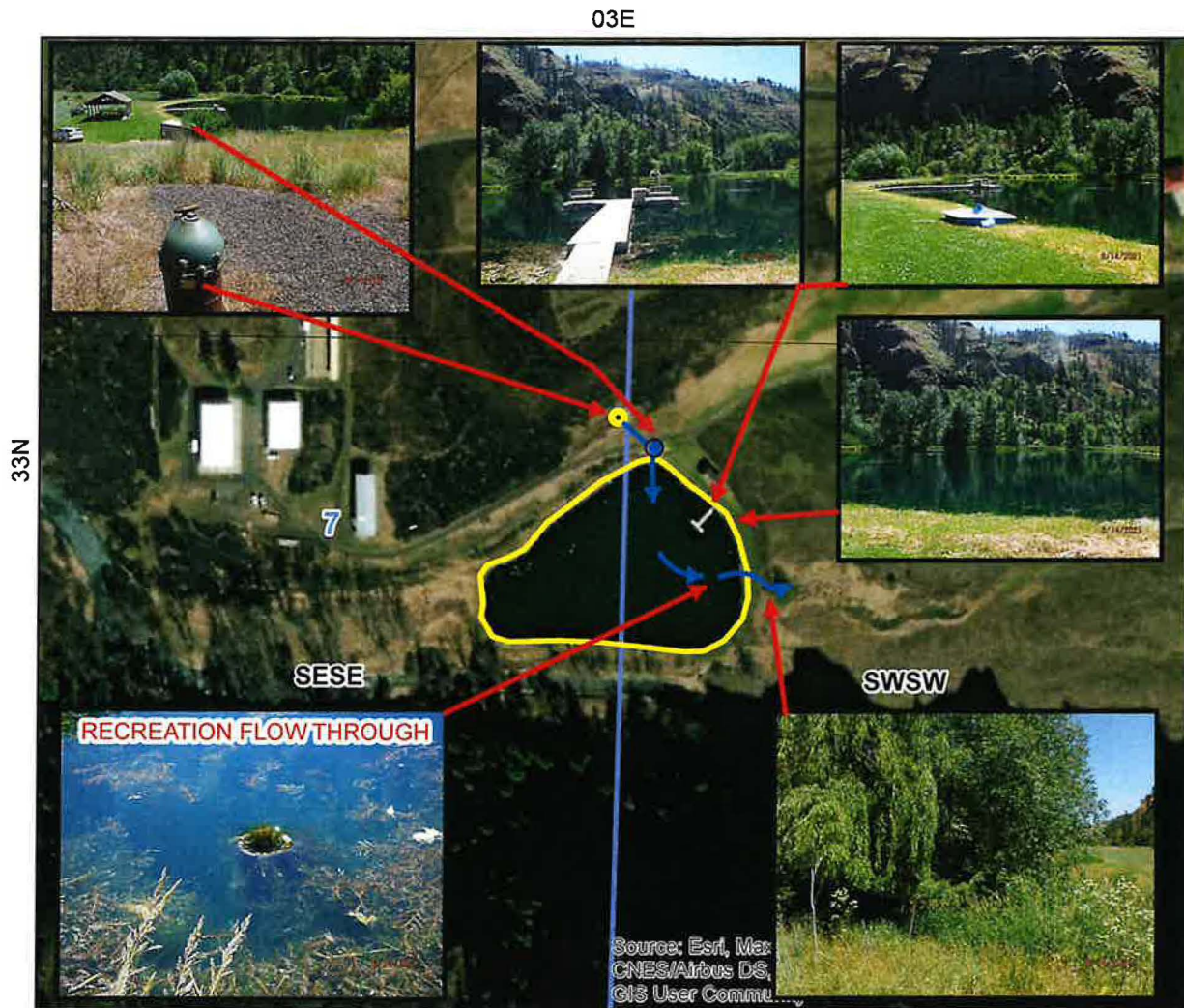
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.05 0.1 0.2 Miles



State of Idaho
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RECREATION STORAGE and RECREATION system diagram.



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

0 0.035 0.07 0.14 Miles



THEORETICAL PUMPING EQUATION(S) FOR WR# 85-15683

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 210 ft, and running at 45 psi.

PUMP EQUATIONS

WATER RIGHT No. 85-15683

D0041142	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP * 8.8 * Eff / H$	25	314.0816	0.8	210	45
Q = 0.561 cfs 251.9 gpm					

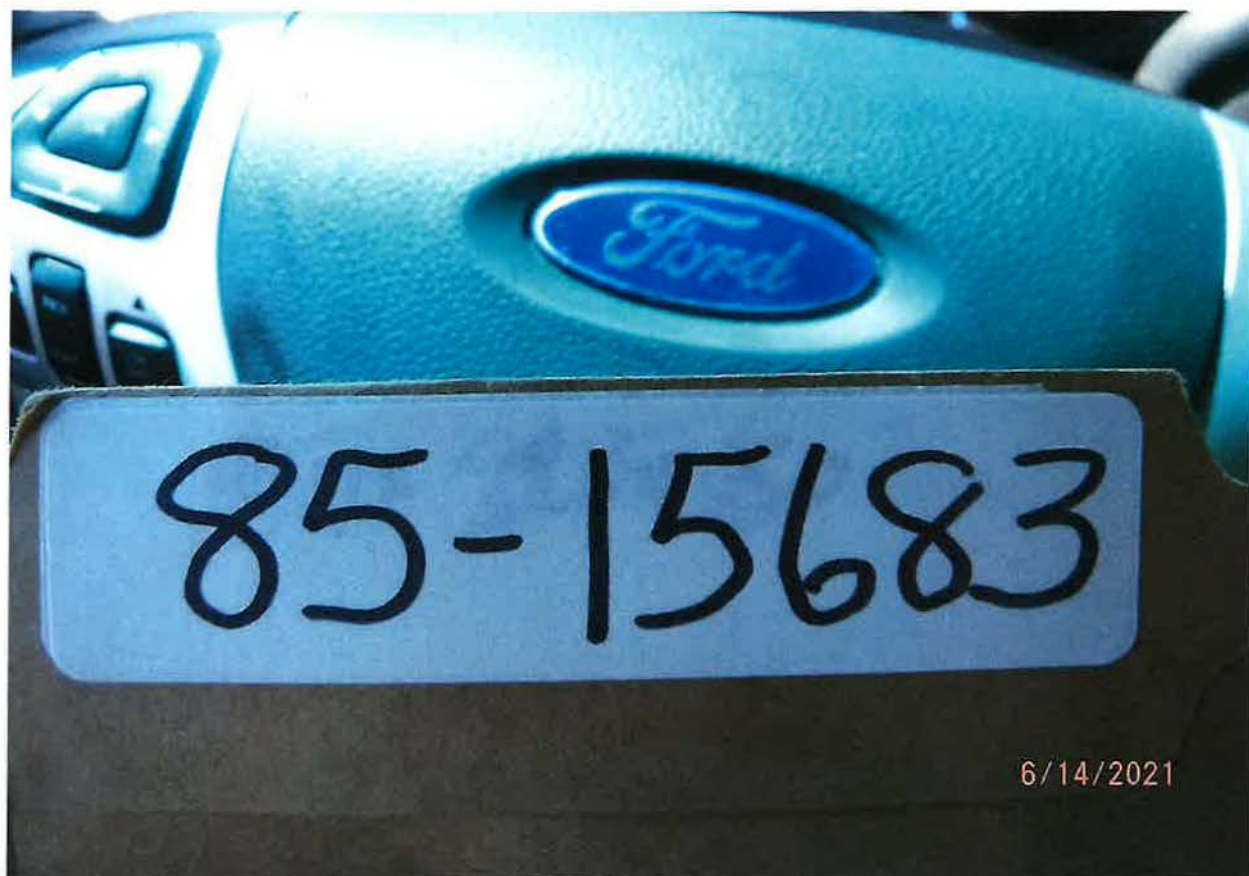
Total Storage Calculations

FILE NUMBER	85-15683
REVIEWER	LUKE BATES
DATE	11/22/2021

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.)	2.3	"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)	11.0	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)	2.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	2.5	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	16.0	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.

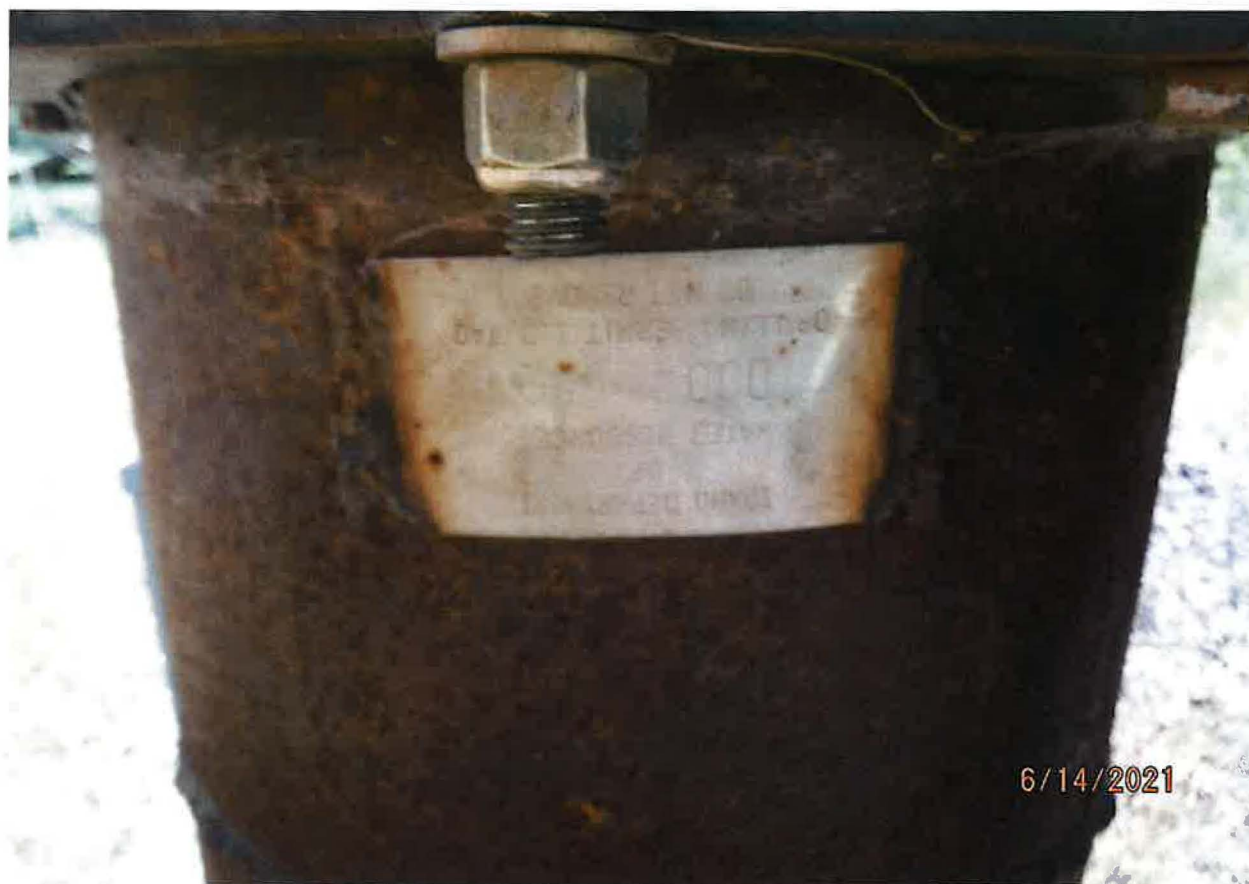


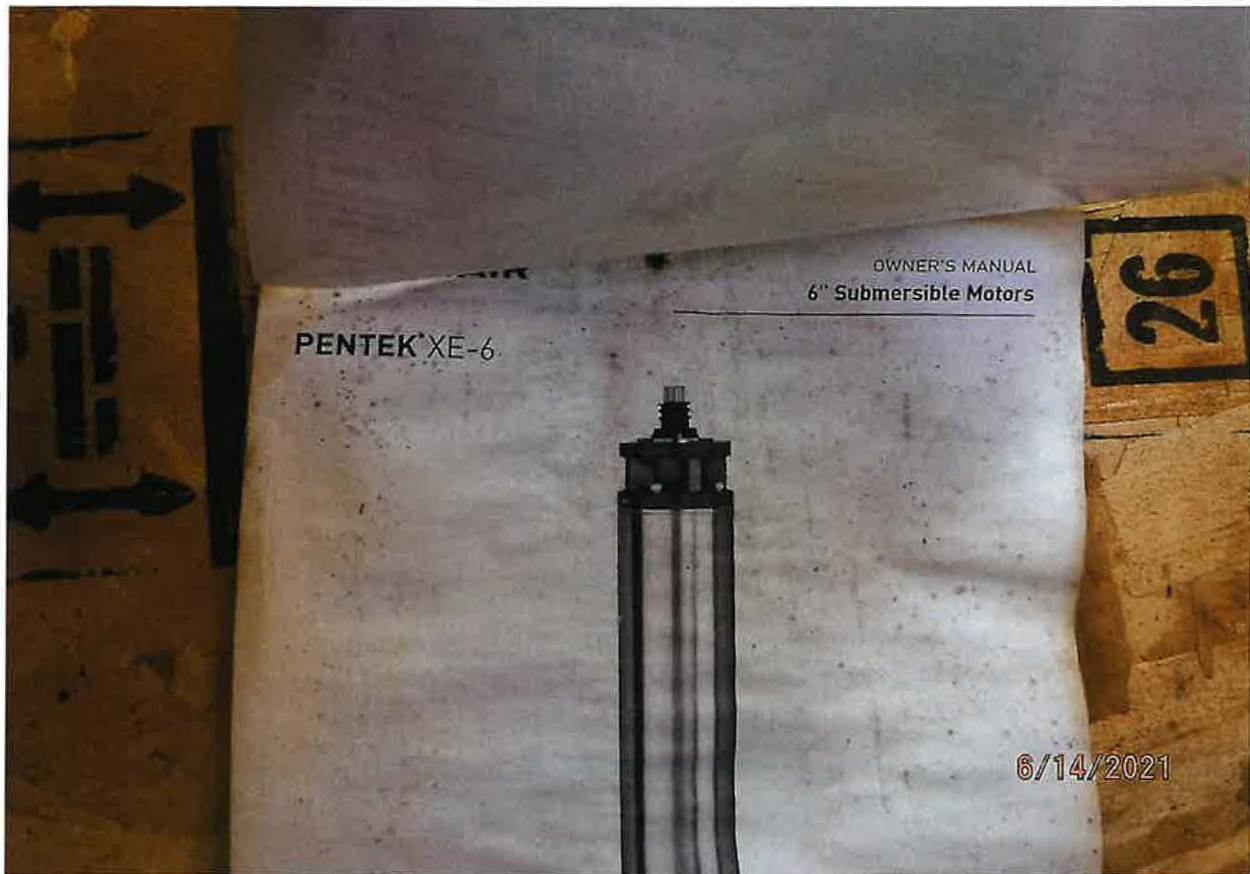
FIELD EXAM DATE 6/14/2021





POD – GROUNDWATER WELL WITH TAG D0041142 (WELDED UPSIDE DOWN TO CASING)





GOULDS PUMP WITH PENTEK 25 HP MOTOR INSTALLED IN WELL



RECREATION & RECREATION STORAGE POU – POND

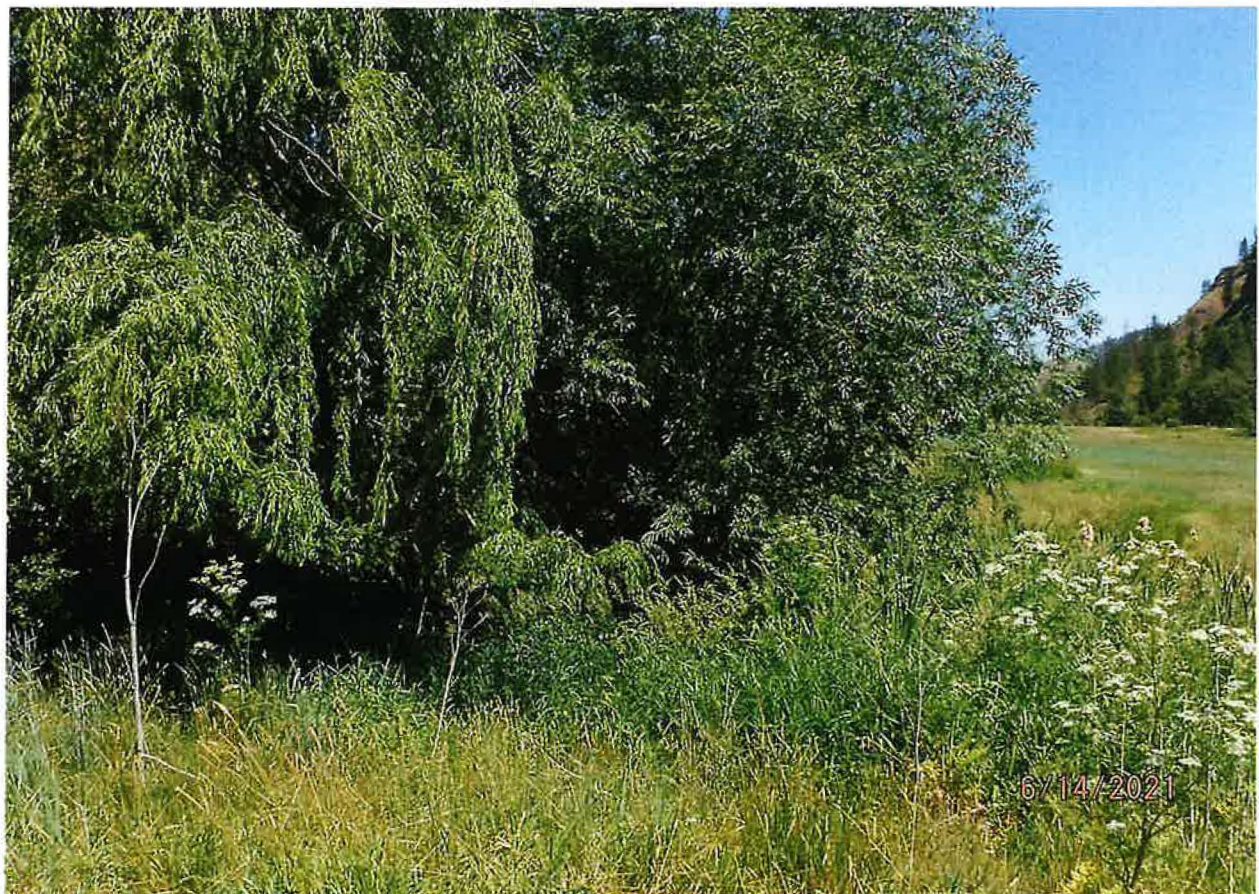


RECREATION STORAGE POU





OVERFLOW DISCHARGE PIPE – RECREATION FLOW THROUGH DISCHARGES TO WETLAND AREA



DISCHARGE PIPE EXITS POND INTO WETLAND AREA



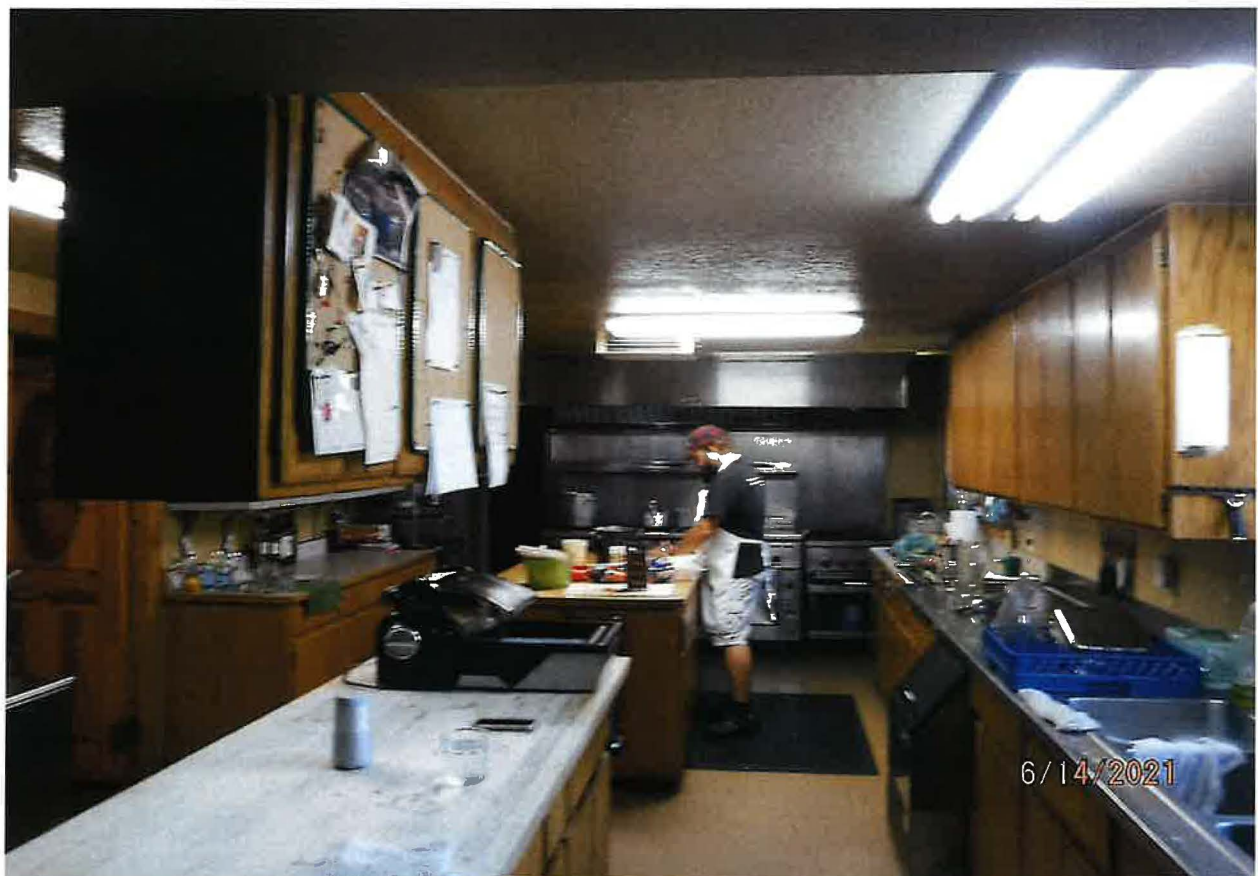
DOMESTIC POU – HOUSE CO-LOCATED WITH LODGE



DOMESTIC POU – RANCH HAND HOUSE



COMMERCIAL POU – 29 GUEST HUNTING LODGE



COMMERCIAL POU – FULL KITCHEN IN LODGE



COMMERCIAL POU



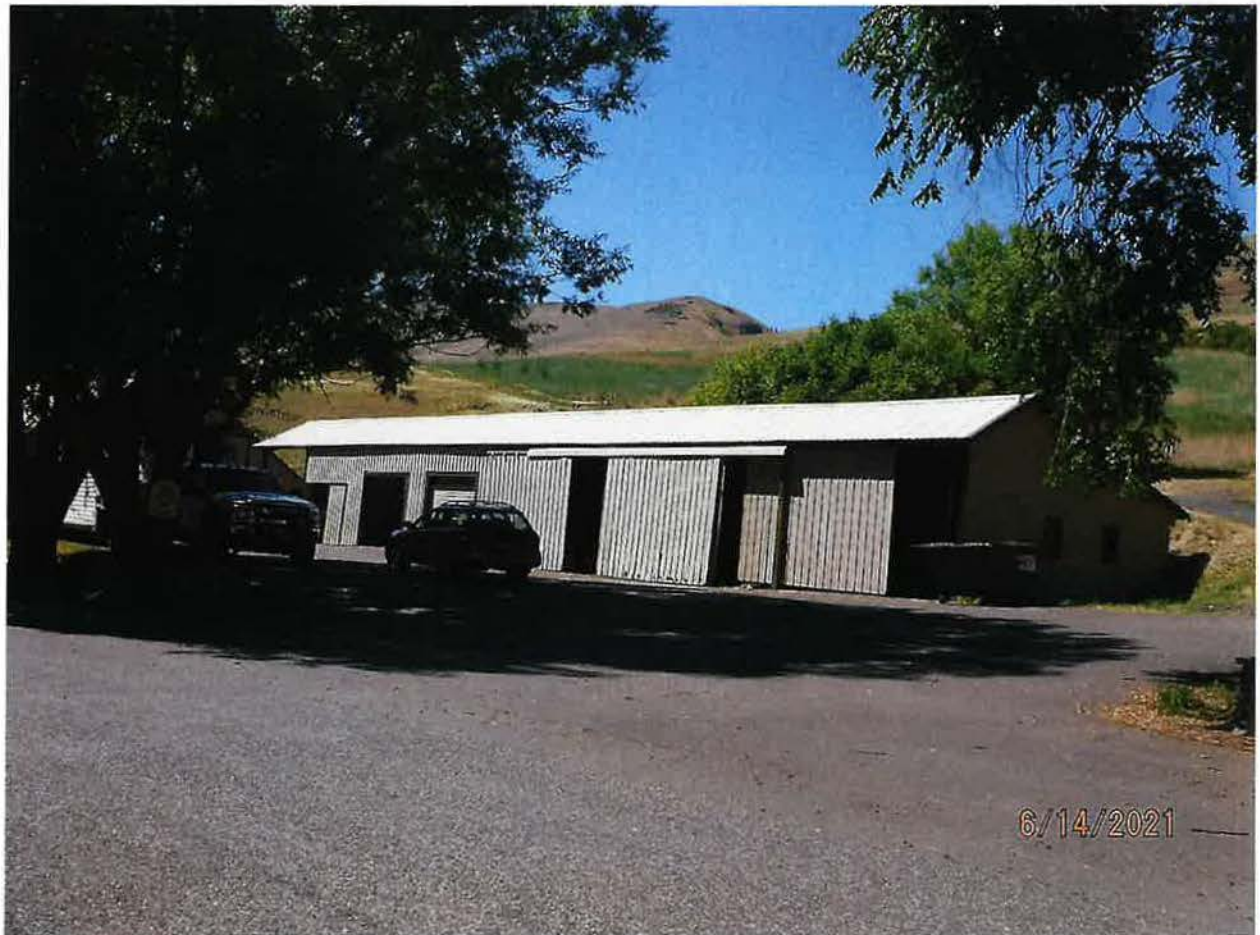


COMMERCIAL – BANQUET AND DINING ROOMS





COMMERCIAL POU – GAME STATION AND WASH-OUT FACILITY





IRRIGATION POU – APRON AREA AROUND PORTION OF POND



IRRIGATION POU – GRASS AREA BETWEEN POND AND LODGE



IRRIGATION POU – LAWN SPACE AROUND LODGE





IRRIGATION POU – LANDSCAPING AND LAWN SPACE AROUND HOME/SHOP



IRRIGATION POU – LANDSCAPING AND LAWN SPACE AROUND RANCH HOUSE



IRRIGATION POU

