

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9723
Exam Date: 04/16/2024

1. Current Owner:
SUSEN FAY PO BOX 25 KOOTENAI ID 83840
2. Accompanied by: Susen Fay
Phone No: 208-304-3303
Address: Same as above
Relationship to permit Holder: Permit Holder.

3. SOURCE:
GROUND WATER

Tributary
PACK RIVER

Method of Determination: ArcMap and DRG layer.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-9376	Ground water	Irrigation, Domestic, Stockwater	License with Notice of Claim filed in the CFRPA process.

Comments: Licensed Right 96-9376 authorizes domestic, stockwater, & irrigation from a groundwater well with an irrigation POU that overlaps the majority of this Permit's irrigation from storage POU. 96-9376 authorizes 3.5 acres irrigation and Permit 96-9723 is being recommended for 1.0 acres irrigation. Evaluating the overlap between rights, the total irrigation acres equal 3.6 acres with 0.9 acres of direct overlap occurring between the two WRs. I've recommended condition X35 for licensing this Permit that designates that 96-9376 and 96-9723 when combined shall not exceed 3.6 acres of irrigation at the field headgate. While both WRs have a groundwater source, they are different sources with the ponds associated with this Permit being a shallow groundwater source and the well associated with 96-9376 diverting from a deeper source.

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 SW¼ SW¼, Sec. 24, Twp 58N, Rge 01W, B.M. BONNER County
GROUND WATER SW¼ SW¼, Sec. 24, Twp 58N, Rge 01W, B.M. BONNER County

Method of Determination: Beneficial use field examination validated the two excavated ponds do not receive surface water to fill, indicating in-pond groundwater sources located within the full pool area for each pond.

PLACE OF USE: IRRIGATION STORAGE, WILDLIFE STORAGE, RECREATION STORAGE, FIRE PROTECTION STORAGE, and AESTHETIC 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	
58N	01W	24											X						

PLACE OF USE: IRRIGATION FROM 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	
58N	01W	24											1.0						1.0

Total Acres: 1.0

Method of Determination: Beneficial use 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
2 EA IN-POND GROUND WATER SOURCES					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: NONE

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.0 \text{ ac} \times 3.0 \text{ afa} = 3.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{Ponds qualify as in-stream resulting in no diversion rate applicable for water right licensing.}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 3.0 \text{ af}$$

2. Volume Calculations for Other Uses: See 2ea pond analysis worksheets.

G. NARRATIVE/REMARKS/COMMENTS

Beneficial use field exam conducted on 4/16/2024 with the applicant, Susen Fay, showed two storage ponds with in-pond groundwater sources being used for Aesthetic Storage, Wildlife Storage, Recreation Storage, AWRF Storage) and Irrigation storage & from Storage purposes. The two excavated pond dams are interconnected with an 18-inch corrugated poly pipe that allows the larger pond overflow to discharge into the lower pond. Overflow discharge from the smaller pond routes through a rock device where it flows in an unnamed stream channel about 15 ft to its confluence with another unnamed

stream. The Unnamed stream which flows just west of the two ponds and does receive groundwater from the two ponds flows to the Pack River. I've clarified the Permit's tributary during licensing review designating the source as groundwater which is tributary to the Pack River. The two ponds are considered in-stream and there is no diversion rate associated with this Permit.

Photographs were taken during the field exam illustrating the two (2) storage ponds that serve as the AWRF Storage & Irrigation Storage POU. Following the exam, Arcmap aerial imagery was used to trace out the surface areas of the 2 ponds equaling 0.4 acres in total. I've detailed the storage pond(s) volumetric data below:

- Large pond – maximum depth 10 ft, average depth 4 ft, surface area 0.3 acres, pond capacity 1.2 af, no seepage loss due to groundwater source, 0.3 af estimated evaporation loss and a total volume required of 1.5 af not including multiple fills for irrigation from storage.
- Small pond - maximum depth 10 ft, average depth 4 ft, surface area 0.1 acres, pond capacity 0.4 af, no seepage loss due to groundwater source, 0.1 af estimated evaporation loss and a total volume required of 0.5 af not including multiple fills for irrigation from storage.
- Irrigation storage & from storage annual volume = 1.0 ac x 3.0 afa = 3.0 af. The two pond analysis worksheets calculate 3.0 af for multiple fills, but this volume is not additive toward the maximum diversion volume (only counts one time).
- Maximum diversion volume equals the sum of 2 ponds total volume + irrigation multi-fill requirements = 1.5 af + 0.5 af + 3.0 af = **5.0 af** as recommended for licensing this Permit.

The AWRF Storage beneficial uses are each recommended for an annual volume of **2.0 af** (sum of two pond's total volume); each beneficial use is not additive toward the maximum diversion volume recommended for licensing. Viewing the ponds from the residence overlooking the meadow in which they reside supports aesthetic value. Elk, deer, moose, and waterfowl regularly use the two ponds indicating wildlife storage use; geese and ducks were present at time of exam. I discussed the fire protection storage beneficial use that enables drafting of water for that purpose only for active fire suppression.

I walked the irrigation from storage POU with the Permit Holder, which consists of lawn & landscape along the 2 ponds and up slope to a large, manicured lawn space around the residence. The Permit Holder uses a ¾ HP electric irrigation pump with ¾ garden hose discharge and multiple 100 ft hose runs to portable tripod sprinklers to rotate irrigation use in the POU. I sketched the POU on field maps and during licensing review used ArcMap aerial imagery to accurately trace out the irrigation from storage POU equaling 1.0 acres. The annual volume (multiple fill volume) equals 1.0 ac x 3.0 afa = **3.0 af** for licensing purposes. I took a few photographs to illustrate active irrigation using the portable pump and sprinkler system during the exam.

I removed conditions 26A and a text condition describing the recreation storage water use which isn't required to license this Permit. I revised condition 259 to reflect pond(s) volumetric data post-beneficial use exam. I removed condition 220 based on guidance received from the Department's Deputy Director Shelley Keen. A text hybrid version of 928/X35 was added to describe that current license 96-9376, which has an active Notice of Claim based on license in the CFPRBA process, when combined with 96-9723 shall not exceed the irrigation of 3.6 acres. All other conditions on the Permit have been carried forward to licensing. Besides overlap concerns between 96-9376 & 96-9723 that I've described on PG1 above and by condition of approval (text 928/X35), there are no additional overlapping water right concerns toward licensing this Permit.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31	3.0 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	3.0 AF
WILDLIFE STORAGE	01/01 to 12/31	2.0 AF
RECREATION STORAGE	01/01 to 12/31	2.0 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	2.0 AF
AESTHETIC STORAGE	01/01 to 12/31	2.0 AF

Totals: 5.0 AF 5.0 AF

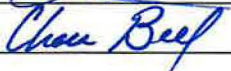
2. Recommended Amendments

☐ 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

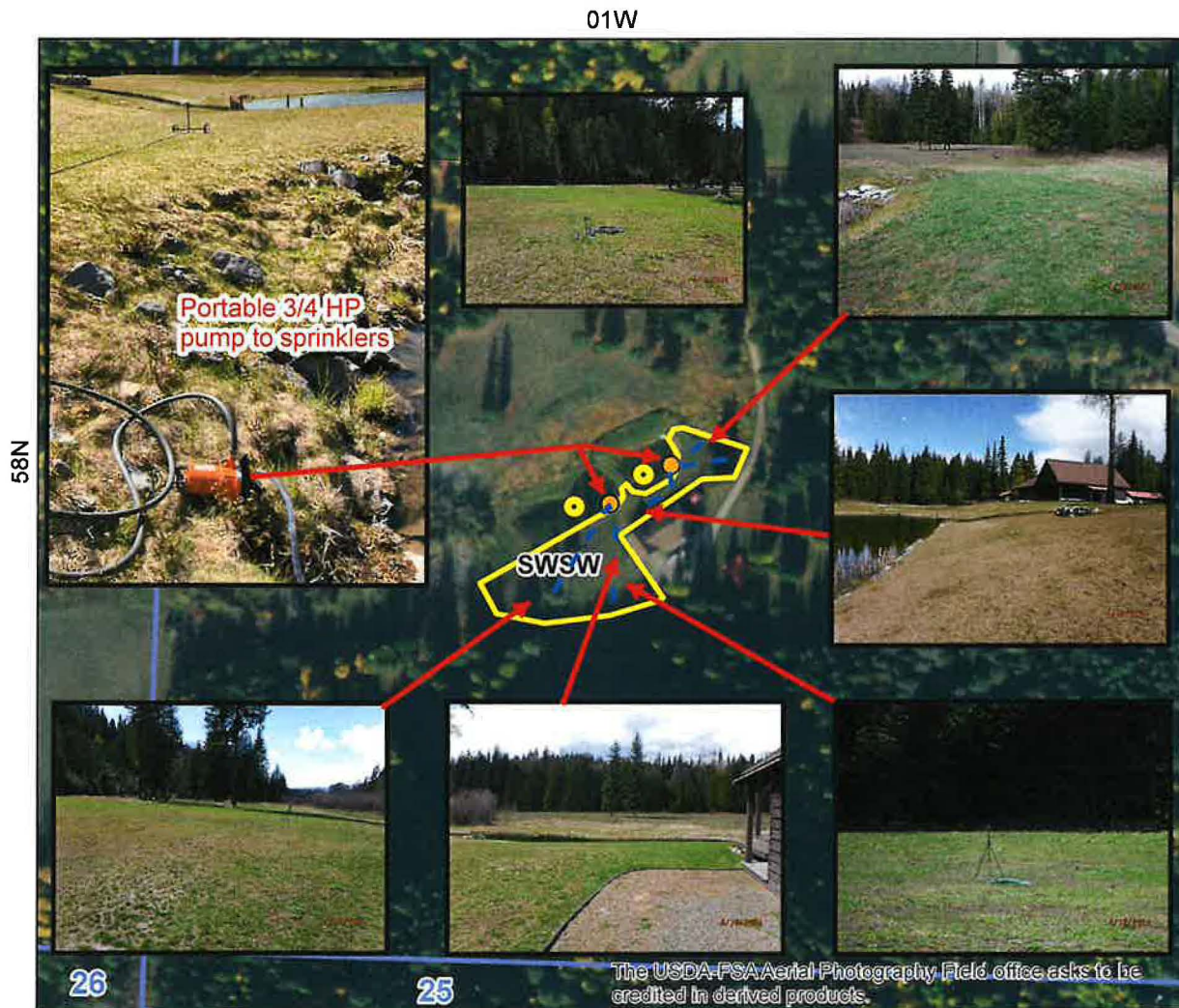
I. AUTHENTICATION Luke Bates – Sr. Water Resource Agent

Field Examiner's Name  Date 4/29/2024

Reviewer  Date 2/4/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9723

This map depicts the IRRIGATION FROM STORAGE system diagram.



0 0.035 0.07 0.14 Miles

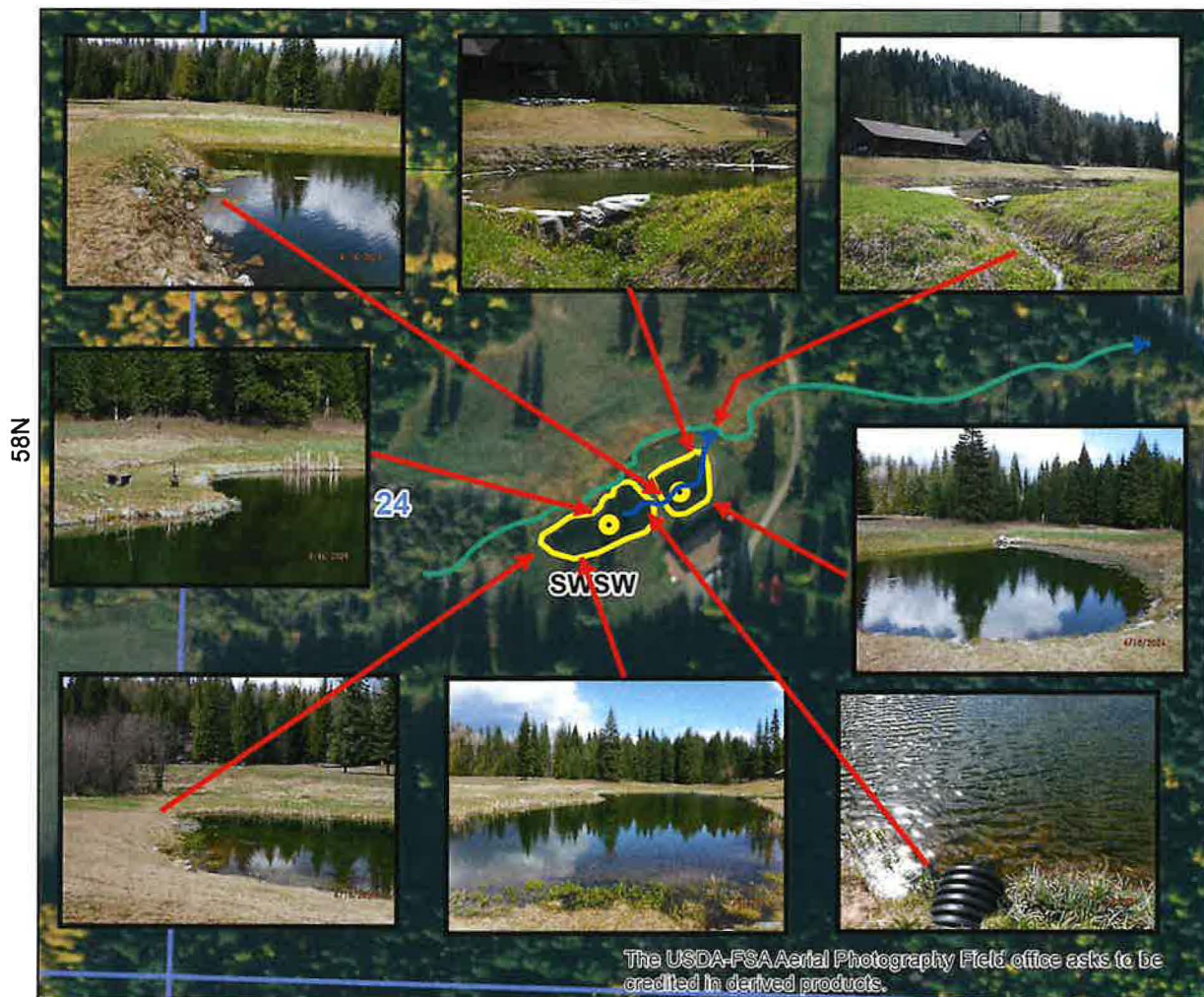
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters
-  Point of Diversion



State of Idaho
Department of Water Resources
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96-9723

IRRIGATION STORAGE, WILDLIFE STORAGE, RECREATION STORAGE, and
FIRE PROTECTION STORAGE system diagram.

01W



0 0.035 0.07 0.14 Miles

Place Of Use Boundary

Townships

PLS Sections

Quarter Quarters

Point of Diversion

Unnamed Stream flowing near ponds, and tributary of groundwater sources



Total Storage Calculations

FILE NUMBER	96-9723
REVIEWER	Luke Bates
DATE	4/17/2024

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

UPPER (LARGE) POND

Surface Area (AC.)	0.3	"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)	1.2	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.
Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	3	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)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.3	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	4.5	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.

Total Storage Calculations

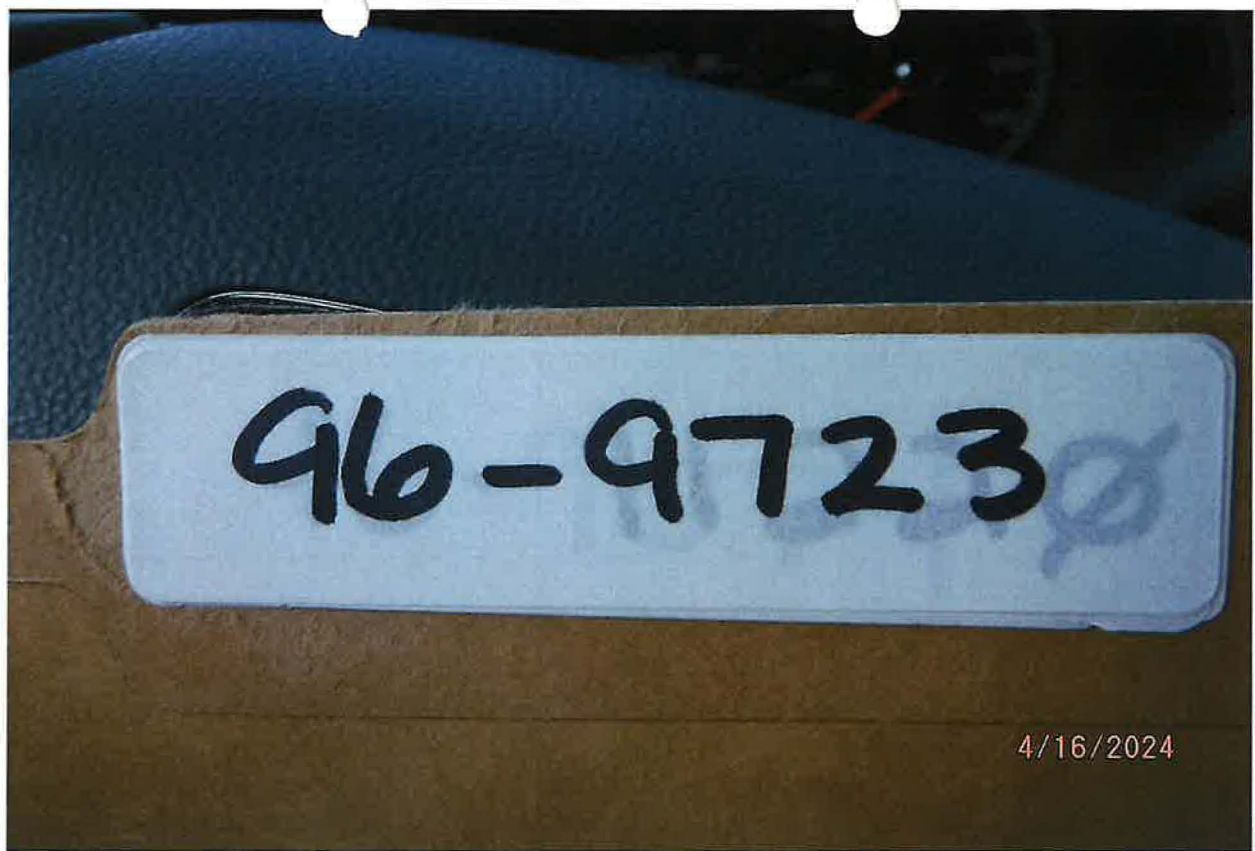
FILE NUMBER	96-9723
REVIEWER	Luke Bates
DATE	4/17/2024

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

LOWER (SMALL) POND

Surface Area (AC.)	0.1	"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)	0.4	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)	3	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)	0.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	3.5	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.



BENEFICIAL USE FIELD EXAM DATE 4/16/2024



POD/POU – IN-POND GROUNDWATER SOURCE STORAGE POND (UPPER)



POD/POU – IN-POND GROUNDWATER SOURCE STORAGE POND & (LOWER)



18 INCH CORRUGATED PIPE ALLOWS WATER FROM UPPER POND TO FLOW INTO LOWER POND



POU – AESTHETIC, WILDLIFE, RECREATION, FIRE PROTECTION, & IRRIGATION STORAGE POND(S)



OVERFLOW WATER FROM UPPER POND INFLOWING TO LOWER POND



ROCKED OVERFLOW CHANNEL FROM LOWER POND ROUTES TO NEARBY STREAM





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU





IRRIGATION POU - PORTABLE ELECTRIC PUMP WITH FLEXIBLE SCREENED INTAKE & HOSE TO SPRINKLER