STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-11019
Exam Date: 09/01/2020

1. Current Owner:
DAVID K SMITH 4689 HIGHWAY 95 N MOSCOW ID 83843-8700 AND/OR
DEBORAH ROBINSON SMITH 4689 HIGHWAY 95 N MOSCOW ID 83843-8700

2. Accompanied by: David Smith
Phone No: 208-874-2244
Address: same as above
Relationship to permit Holder: permit holder

3. **SOURCE:** SURFACE RUNOFF

Tributary FOURMILE CREEK

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
87-7133	GROUNDWATER	IRRIGATION	LICENSE

Comments: right 87-7133 is a groundwater irrigation license that is not associated with the applicant's parcel, nor water source, and is not a concern for overlap.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
SURFACE RUNOFF NW¼ NE¼, Sec. 18, Twp 40N, Rge 05W, B.M. LATAH County

Method of Determination: GPS. Pond earthen dam location -117°00.681, 46°48.759.

PLACE OF USE: IRRIGATION STORAGE, WILDLIFE STORAGE, and FIRE PROTECTION 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	
40N	05W	18		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	
40N	05W	18		0.5															0.5

Total Acres: 0.5

Method of Determination: Field exam and Arcmap 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
X 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	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
N/A					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: N/A

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R}$ = (Acres Irrigated) x (Irrigation Requirement) = 0.5 acres x 3.0 afa = **1.5 af**

$V_{D.R}$ = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = N/A, there is no diversion rate applied.

V = Smaller of $V_{I.R}$ and $V_{D.R}$ = 1.5 af

2. Volume Calculations for Other Uses:

See attached pond analysis sheet.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 9/1/2020 with applicant, David Smith, showed a pond receiving surface runoff water. The applicant uses the pond for irrigation storage, wildlife storage, fire protection storage, and irrigation from storage purposes. The POD was an earthen dam, with an overflow pipe that allowed water to flow downstream when pond overfilled. There is no diversion rate applied to this water right.

The pond has a surface area of 0.3 acres and a pond capacity of 1.2 af. The pond has a maximum depth of 10 feet, an average depth of 4 feet, a seepage rate of 0.3 af, and an evaporation rate of 0.4 af. The pond has a multi fill

component equaling irrigation from storage volume of **1.5 af** annually. The total volume required for pond equals 3.4 af, the sum of afore mentioned pond components. The Maximum diversion volume for this water right will be licensed at **3.4 af**.

The applicant permitted for 1.9 af of both wildlife and fire protection storage annual volume. These are not additive, and the volume added to the overall maximum diversion volume for license equals 1.2 af (pond capacity) + 0.7 af (seepage and evaporate rate) = 1.9 af.

The applicant ran a pvc pipe from the pond to a co-located water transfer pump, which routed water up hill to 4 separate inline hose bibs for irrigation from storage usage. The applicants had established terraced planter boxes that were used to grow crops for sale at the local farmers market. Two small lawn areas were observed and sketched out along with the terraced gardening on field maps. During licensing review, the irrigation area was traced out using Arcmap aerial imagery equaling 0.5 acres. Applicant stated he used above ground sprinklers and hose wands to irrigate, with the primary irrigation occurring in the planter boxes, but there was consistent overspray that hit the areas in between; this justifies the total irrigation acreage of 0.5 acres, which will be carried forward to licensing. Irrigation from storage annual volume equals 0.5 acres x 3.0 afa = 1.5 af, which will be carried forward to license.

All conditions from permit will remain through to licensing. Water right 87-7133 is a groundwater irrigation license that is not associated with the applicant's parcel, nor water source, and is not a concern for overlap. There are no other overlap concerns for this right.

Have conditions of permit approval been met? __X__ Yes ____ No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Annual Volume
IRRIGATION STORAGE	01/01 to 12/31	1.5 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	1.5 AF
WILDLIFE STORAGE	01/01 to 12/31	1.9 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	1.9 AF
	Totals:	3.4 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above __X__ None

____ Change P.U. as reflected above ____ Add P.U. as reflected above __X__ None

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name _____ Date 9/10/2020

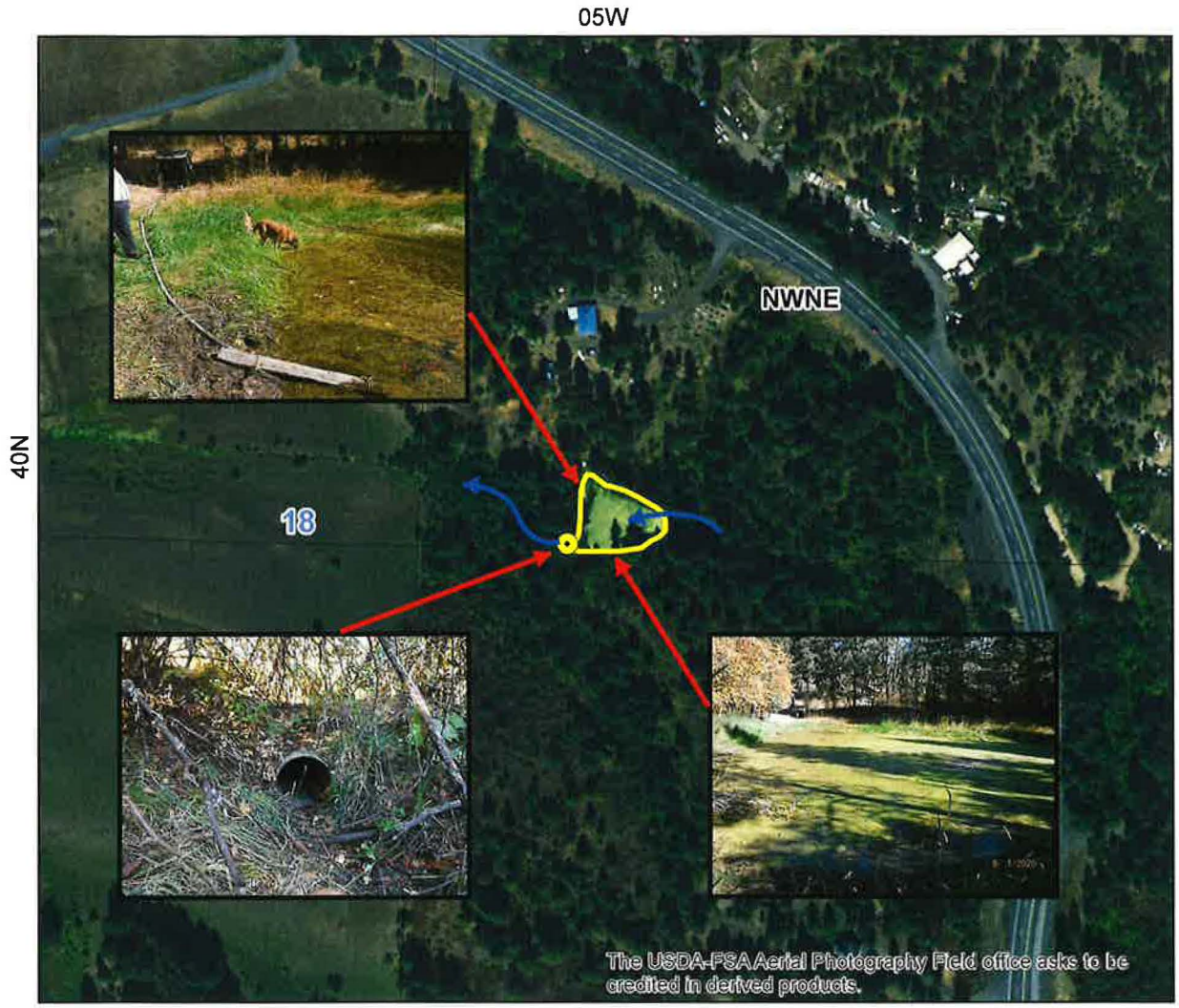
Reviewer _____ Date 9/15/2020

State of Idaho
Department of Water Resources

Attachment to Field Exam

87-11019

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



State of Idaho
Department of Water Resources

Attachment to Field Exam

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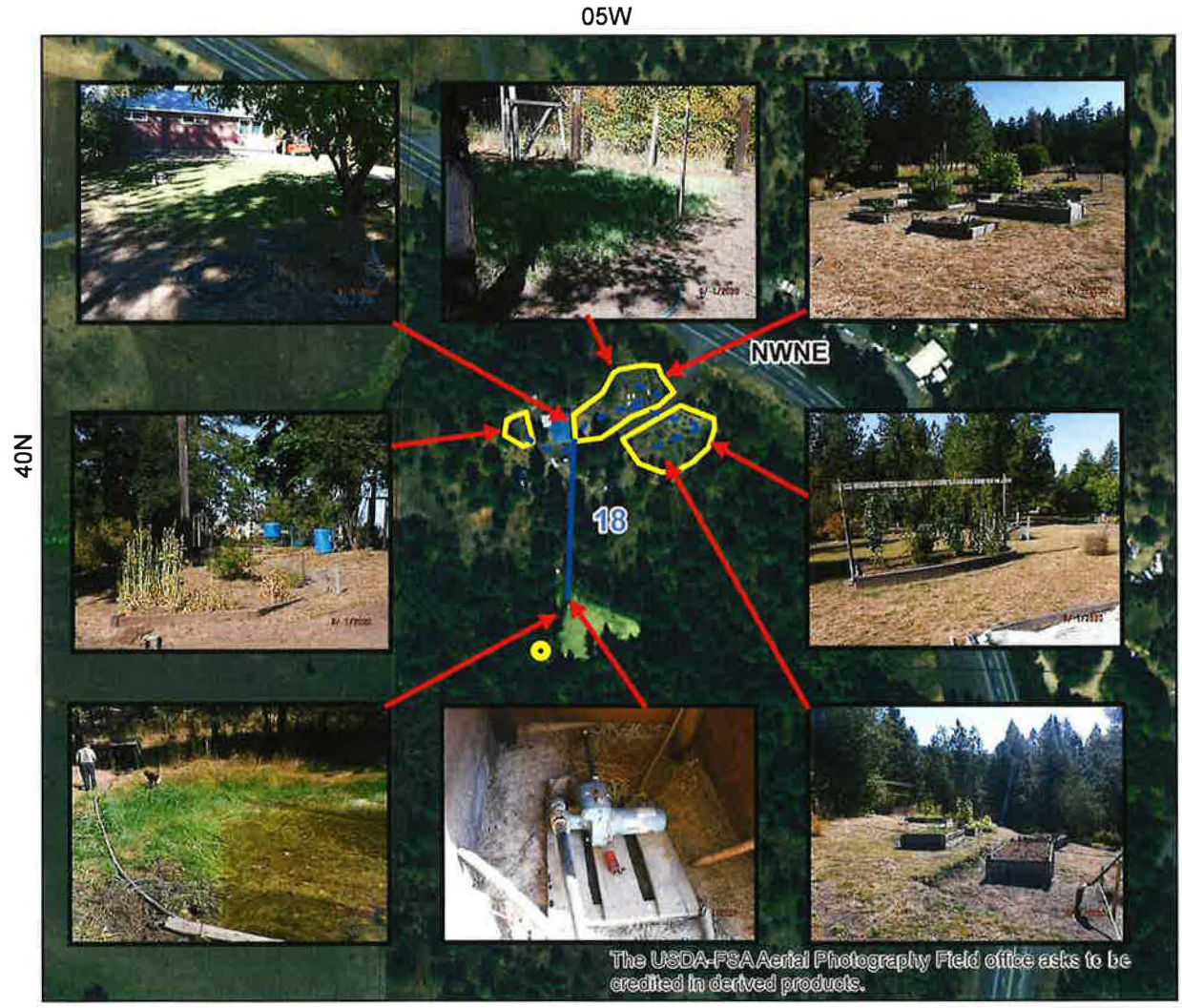
IRRIGATION FROM STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles

N

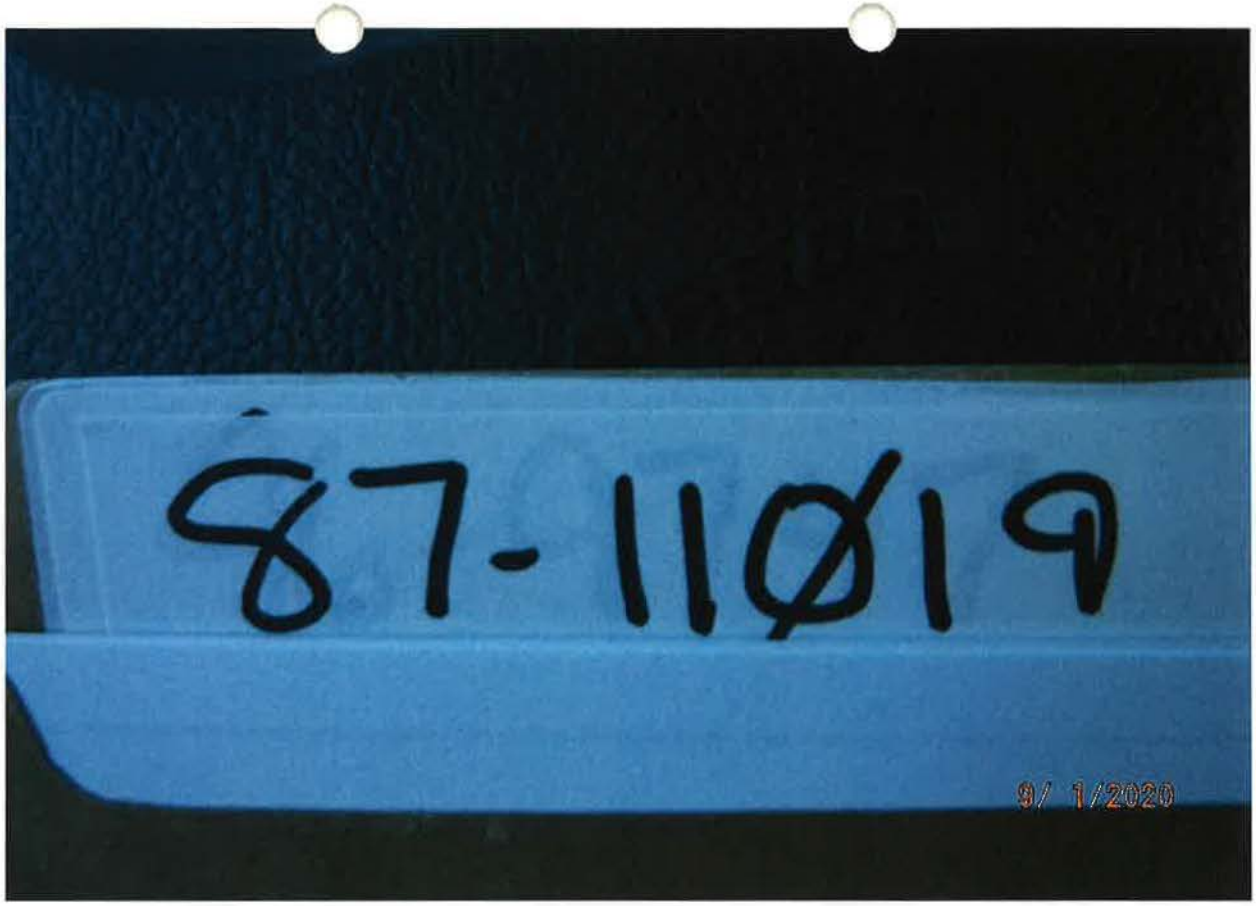
Total Storage Calculations

FILE NUMBER	87-11019
REVIEWER	Luke Bates
DATE	9/10/2020

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.)	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)	1.5	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a *from storage* component if the *from storage* 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)	0.3	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.4	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	3.4	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.



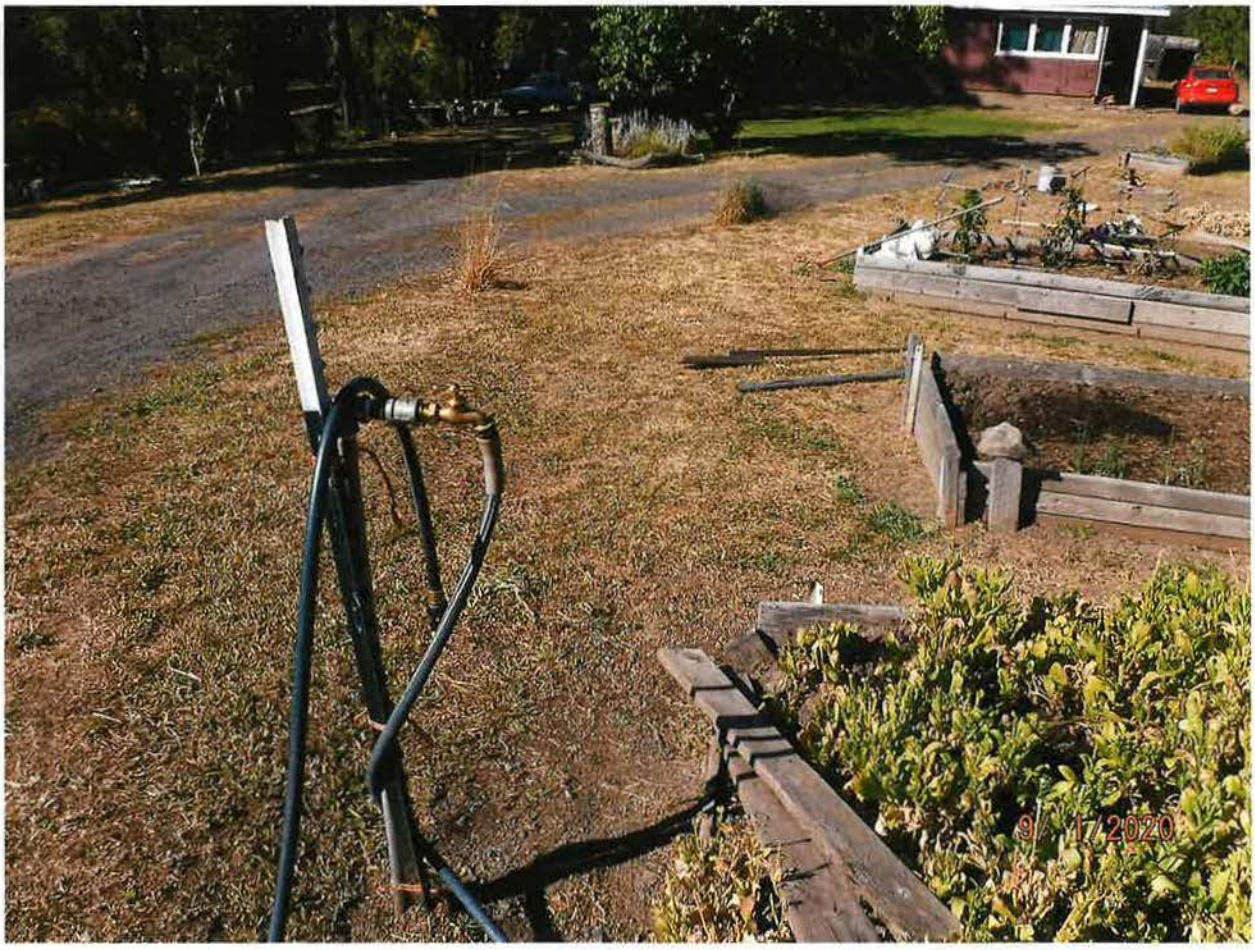
POD – EARTHEN DAM ON POND WITH OVERFLOW DISCHARGE PIPE

POU – POND: IRRIGATION STORAGE, WILDLIFE STORAGE, AND FIRE PROTECTION STORAGE

IRRIGATION FROM STORAGE WATER CONVEYANCE SYSTEM

IRRIGATION FROM STORAGE POU

IRRIGATION FROM STORAGE POU – HOSE BIBS



IRRIGATION FROM STORAGE POU

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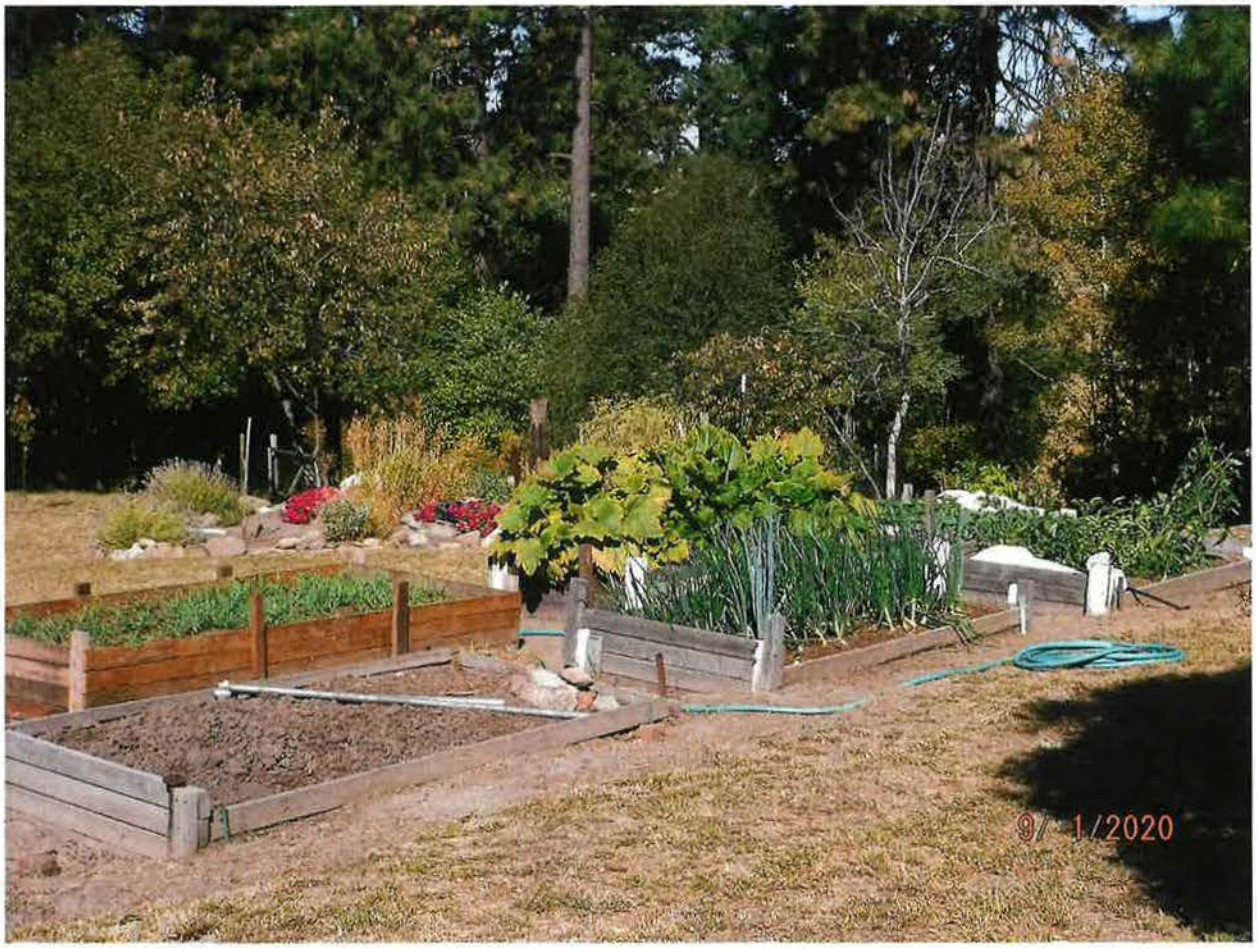

IRRIGATION FROM STORAGE POU