

[illegible]

Method of Determination: Tracks were collected with a Garmin GPSmap 60CSx receiver and downloaded into an ArcMap shapefile that corresponds with 2011 and 2013 aerial photography and verified the place of use is located as recorded. See attached map.

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
Domestic Well		5 Hp			

D. FLOW MEASUREMENTS N/A

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
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2. Measurements:

E. FLOW CALCULATIONS N/A

____ Additional Computation Sheets Attached

Measured Method:

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses: Aesthetic Storage in a flat bottom pond:

$$1.1 \text{ acre surface area} \times 9.0 \text{ feet average pond depth} = 9.9 \text{ Acre Feet of aesthetic storage}$$

G. NARRATIVE/REMARKS/COMMENTS

Permit 37-8836 was permitted 12.3 Acre Feet Aesthetic Storage. Application for permit was submitted on 9/12/1994 and proof of beneficial use was submitted on 4/28/1997.

The initial application for permit was protested by the Idaho Fish and Game, but the protest was withdrawn when the ranch manager agreed to conduct fish salvage operations in the event the ponds on Deer Creek dry up. Condition 020 stating "use of this water may be affected by an agreement between the protestant and the right holder" was placed on the permit as a result. This condition has been updated on the license to the current version which was updated under the direction of Application Processing Memo 68 and Transfer Processing Memo 25 dated July 29, 2003.

Mitigation for this permit was accomplished by removing 0.5 cfs irrigation from the same unnamed stream from claim 37-4294.

The Ranch house at Deer Creek Ranch sits at the base of a small canyon where there is an intermittent stream that used to flow into Deer Creek. The intermittent stream was dammed with a 7.5' dam and an aesthetic pond behind the ranch house with a surface area of 1.1 acres and an average depth of 9' was created by capturing the intermittent flow, which is typically snowmelt and spring runoff. Adjacent to the pond on the south side, there is a culvert that contains control works for the pond. In the culvert there is a recirculation pump that pumps water from the pond into the stream channel above the pond and then flows back down to the pond. There is also an overflow pipe to drain excess water through a buried 6" pipe and deliver it to Deer Creek. Last but not least, there is a float mechanism and valve that regulates an additional input of ground water from the domestic system that is used to keep the pond level constant by offsetting evaporative losses when the unnamed stream is dry. According to Jay Levy, the former ranch manager, the pond is lined, which I wasn't able to verify. He also indicated that in a typical spring there is more than enough runoff from the intermittent stream to fill the pond and provide for evaporative losses into late spring/early summer. He also stated that the float system controlling the ground water input from the domestic well is typically turned on in mid-May and then turned off in mid-October, although water is retained in the pond year-round.

Precipitation deficit data from the University of Idaho ET website indicates a mean of 385 mm (1.3 af) per acre/ per year for open water – small ponds in the Hailey area. Based on the calculated surface area of 1.1 acres, the data indicates that approximately 1.4 af could potentially evaporate from the system each year. This also indicates that averages of 1250 gallons per day are typically provided from the domestic well to offset evaporative loss from the pond when that system is on. The Ranch House is usually only occupied during the winter months and irrigation around the house is provided from a separate irrigation system (water right 37-466). Total domestic uses from the well are typically very low (maid cleaning twice a week) when the system is used to replace evaporative losses in the pond.

When the original permit was filed, Jay Sevy calculated the storage component to be 9.9 af, but his calculation for evaporative losses was based on 2.3 gpm (3.7 afa) which is considerably higher than the 1.4 af the precipitation deficit data from the U. of I. ET website indicates. I've reduced the the acre feet on the license down to 11.3 acre feet to provide for first fill and account for evaporative losses of 1.4 af. I've also placed two additional conditions on the license: a modified condition 220 which defines total capacity (9.9 af), surface area (1.1 acre), and evaporative losses (1.4 af); and condition 221 which requires the installation and maintenance of an impermeable liner.

Recommend licensing 11.3 af for Aesthetic Storage from an unnamed stream.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
AESTHETIC STORAGE	1/01 to 12/31		11.3 AF
<u>Totals:</u>			11.3 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name Bill Mink Date 7-29-2014
 Reviewer Chris Merriam Date 7/31/14



Figure 1: The pond from the northwest edge looking due south.



Figure 2: Recirculation system in culvert.

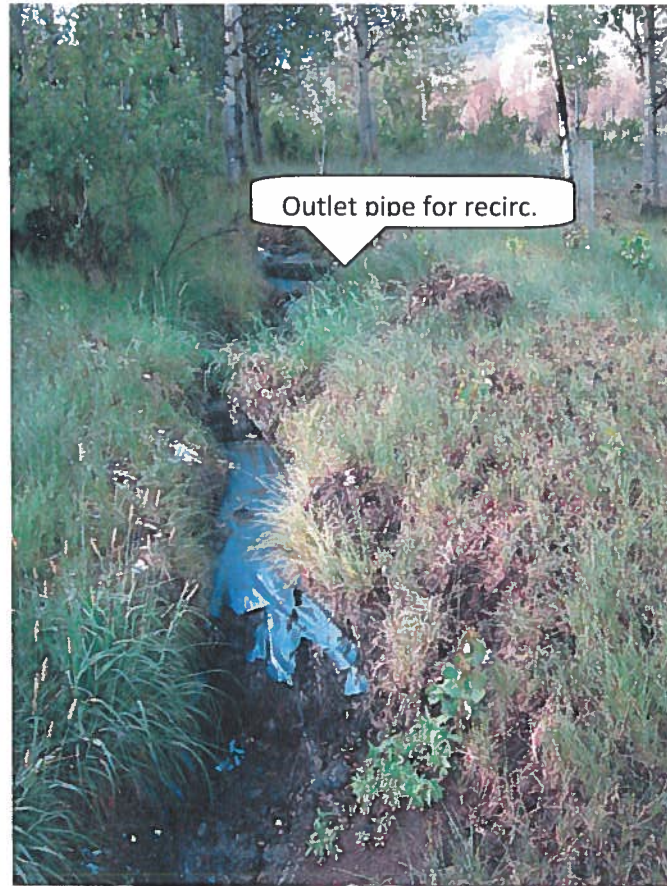
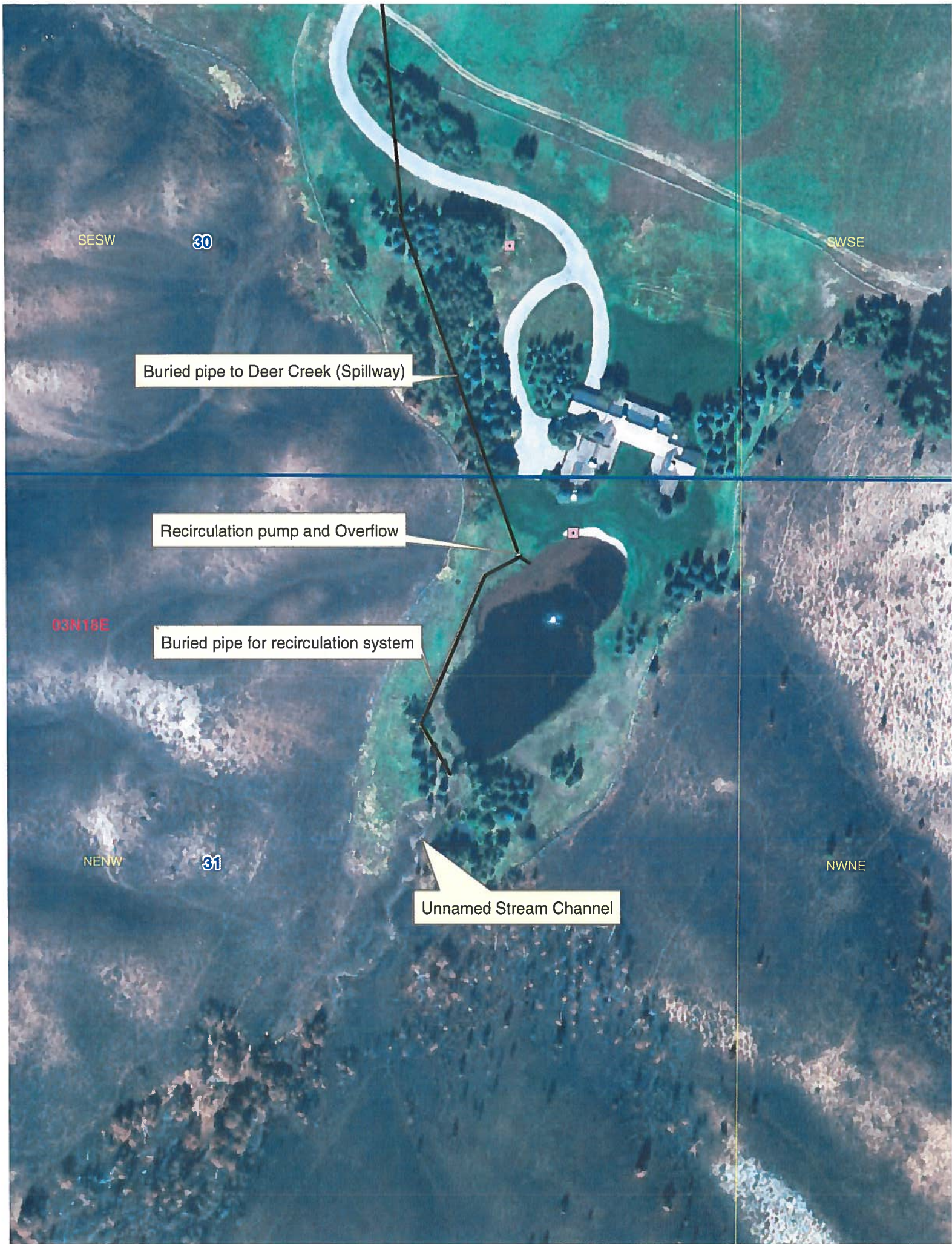


Figure 3: Stream channel just above pond where water is pumped for recirculation through pond.



Figure 4: Hydrant at northwest corner of pond.



SESW

30

SWSE

Buried pipe to Deer Creek (Spillway)

Recirculation pump and Overflow

03N18E

Buried pipe for recirculation system

NENW

31

NWNE

Unnamed Stream Channel