

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-32562
Exam Date: 12/12/2016

1. Current Owner:
LORI ANN MERGES 27205 WING SETTER LN PARMA ID 83660 (208)722-7440 And/Or
DOUG MERGES 27205 WING SETTER LN PARMA ID 83660 (208)722-7440

2. Accompanied by: Doug Merges & Ryan Thorton
Phone No:
Address:
Relationship to Permit Holder: Ryan is a farmer working for Mr. Merges

3. **SOURCE:** ROSS EAST END DRAIN **TRIBUTARY:** SOUTH BOISE DRAIN

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-32166 (irrigation)
2. Other water rights with the same point-of-diversion: 63-32165, 63-32166

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

ROSS EAST END DRAIN L7 (SE¼SW¼) Sec. 17, Twp 05N, Rge 05W, B.M. CANYON County

Method of Determination: GPS coordinates taken in the field

2.

PLACE OF USE: WILDLIFE STORAGE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	05W	17									X L 6								

PLACE OF USE: WILDLIFE

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
05N	05W	17									X L 6								

DIVERSION TO STORAGE same as WILDLIFE

Method of Determination: Observed in the field, confirmed on aerial imagery w/ digital PLS mapping. POU determined to be entirely within Gov Lot 6 according to the original BLM survey

3.

Delivery System Diagram Attached (required). Indicate all major components and distances between components.

 x Indicate weir size/pipe as applicable. x 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). 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
NA	NA	NA	NA	NA	NA

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NA	NA	NA	NA	NA	NA	NA

2. Measurements: We approximated the channel cross-section area by measuring the channel width at the water surface for 3 locations downstream from the weir, taking the average of the three, and multiplying the average width by the average depth of three points in a single cross section. Then, we measured the velocity using the orange-peel test (how long for debris on the surface to travel 12 ft.) and multiplied by the cross-section area to get discharge.

E. FLOW Additional Computation Sheets Attached**CALCULATIONS**

Measured Method:

0.33 ft/sec (from orange peel test) x 2.88 ft² (measured channel dimensions) = 0.96 cfs**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation: NA

 $V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \text{NA}$ $V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{NA}$ $V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \text{NA}$

2. Volume Calculations for Other Uses:

Permitted Volume for Wildlife Storage = 16 afaVolume for Wildlife component = 0.27cfs x 1.9835 x 181 days = 96.9 afa

- 14.5 afa to replace seepage losses
- 1.5 afa to replace evaporative losses
- 80.9 afa for flow-through water for the system

G. NARRATIVE/REMARKS/COMMENTS

While working on the in-office field exam for permit 63-12606, permit holder Doug Merges requested that the Department complete the field exam for this permit (No. 63-32562). In accordance with this request, WRA's Cody Parker and Aaron Skinner went to the property in Parma, Idaho to complete the field exam on 12/12/2016.

Permit 63-32562 authorized the diversion of 1.0 cfs and storage of 16.0 af for wildlife, diversion to storage, and wildlife storage uses. As part of the permit, the permit holder was required to install a measuring device and lockable controlling works. During a phone conversation with Mr. Merges, he indicated that these requirements had been met and were verbally approved by the Watermaster by the time he requested the field exam.

During the field exam, we took GPS points for both the weir and the diversion gate (POD). The locking mechanism found on the diversion gate was a waterman wheel which was approved by the local watermaster. We found that the front plate of the weir was much too short to be of use. Being only a few inches tall, the plate was submerged by even modest flows and provided no dam of diverted water. However, we were able to determine a discharge by: 1-measuring the average dimensions of the wetted perimeter of the channel (assuming rectangular dimensions) and 2- multiplying by the surface velocity of the stream, determined from the orange-peel test; we measured the time taken for debris on the surface of the flow to travel 12 ft. of streamwise distance. The assumed rectangular form of the channel, and the measurement of velocity on the surface of the flow has likely overestimated the water discharge and therefore provides a maximum estimate of flow. As a result, I have reduced the flow rate from the permitted value of 1.00 cfs to 0.96 cfs on the license. The diversion rate for the wildlife use of 0.27 af, comes from the permit, and describes the owners' intent to allow water to flow through the area.

The storage volume of 16 af was the permitted volume. The permit holder indicated a depth of 4 ft for the pond, which was taken to be the average depth. I assumed that a field flooded to 4 ft is approximately the same as a straight-sided pond 4 ft deep. Surface area of the pond is 4 acres. Multiplying these values yields a "pond" capacity of 16 af. In reality, the POU is less of a pond than it is a saturated wetland area. Pond analysis for the POU estimated seepage losses at ~14.5 afa (rounded, based on average rate of multiple soil types), and evaporative losses of 1.5 afa. The permitted storage volume accounts only for the capacity. It seems like the thinking at the time of the original application was that the volume assigned to the Wildlife component at licensing would account for seepage and evaporation. See the associated memo for more details. The volume suggested for the Wildlife component is 96.6 afa. This is determined by applying the permitted rate of 0.27 cfs continuously over 181 days. Conditioning on the license should specify that this volume includes both flow through water as well as water to replace seepage and evaporative losses.

According to the USGS topo layer, along with information confirmed during the field visit, the source of diverted water is the Ross East End Drain. After diversion, the water is conveyed along a constructed ditch to the developed wetland area, which then drains water into a separate ditch at the western edge before emptying back into the Ross East End Drain. The Ross East End Drain water is ultimately a tributary of the Snake River. The permit holders previously listed the source as the constructed ditch as a tributary to the Ross East End Drain. The Permit is different still, listing the source as the unnamed ditch as a tributary to the Boise River. I have clarified both the source and tributary on the license; the source did not change, so such a clarification needs no formal amendment. However, WD 63 does not regulate the source of this right as the water from the Ross East End Drain does not flow into the Boise River at any point. Therefore, all permit conditions requiring the installation of a measuring device and lockable controlling works have been replaced with the standard condition 01M.

The Place of Use is shared with an irrigation License No. 63-32166. There is a 3-day overlap in period of use between the license and this permit. Other Wildlife and Wildlife storage rights within the same quarter-quarter include right No.s 63-32226, 63-32608, and 63-33643. All three of these other rights are owned by the Thorpe Family Trust and must be associated with the land under the same name bordering the POU for this permit. The POD is shared with Water Right No.s 63-32165 & 63-32166. These two authorize 1.3 cfs total diversion. The ditch observed in the field exam has the capacity to deliver water at a greater rate than the 0.96 for this license so, there should be no combined use limits.

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>
DIVERSION TO STORAGE	09/01 to 02/28	0.96 CFS	
WILDLIFE	09/01 to 02/28	0.27 CFS	96.9 AF
WILDLIFE STORAGE	09/01 to 02/28		16.0 AF

Totals: 0.960 CFS 112.9 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ Other (Clarify source as reflected above)

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ None

I. AUTHENTICATION

Field Examiner's Name Cody Parker Date 12/12/2016

Reviewer [Signature] Date

MEMORANDUM

Date: March 02, 2017
To: Water Right File 63-32562
From: Cody Parker
Re: Volume Requirements

The original application requested additional volume for seepage and evaporative losses, but was later amended to reflect only the capacity of the pond for the storage volume. This pond capacity was authorized on the permit along with a Diversion to Storage component and a Wildlife component for flow through water. It seems like the thinking at the time was that additional volume to replace seepage and evaporation would be covered by the flow-through component when a volume was determined at licensing. Therefore, I have recommended a volume for the Wildlife part of the right of 96.9 afa. This comes from the rate (0.27 cfs) diverted continuously over the period of use. To summarize, the Wildlife Storage component authorizes storage of 16.0 afa for the pond capacity, while the Wildlife component authorizes 96.9 afa which covers the 16 af lost by seepage and evaporation during the period of use, and allows an additional 80.9 afa for flow-through water, for a total diversion volume of 112.9 afa on the license.



A photo of the constructed weir prior to being submerged. The front plate is submerged when water is flowing through weir, rendering it ineffective.



The waterman's wheel at the diversion headgate. The waterman wheel satisfies the lockable works condition according to the local watermaster.



The diversion ditch when submerged under water.



The inlet culvert where water from the diversion ditch enters the POU wetland area.



A view of the developed wetland from the southeastern corner of the POU

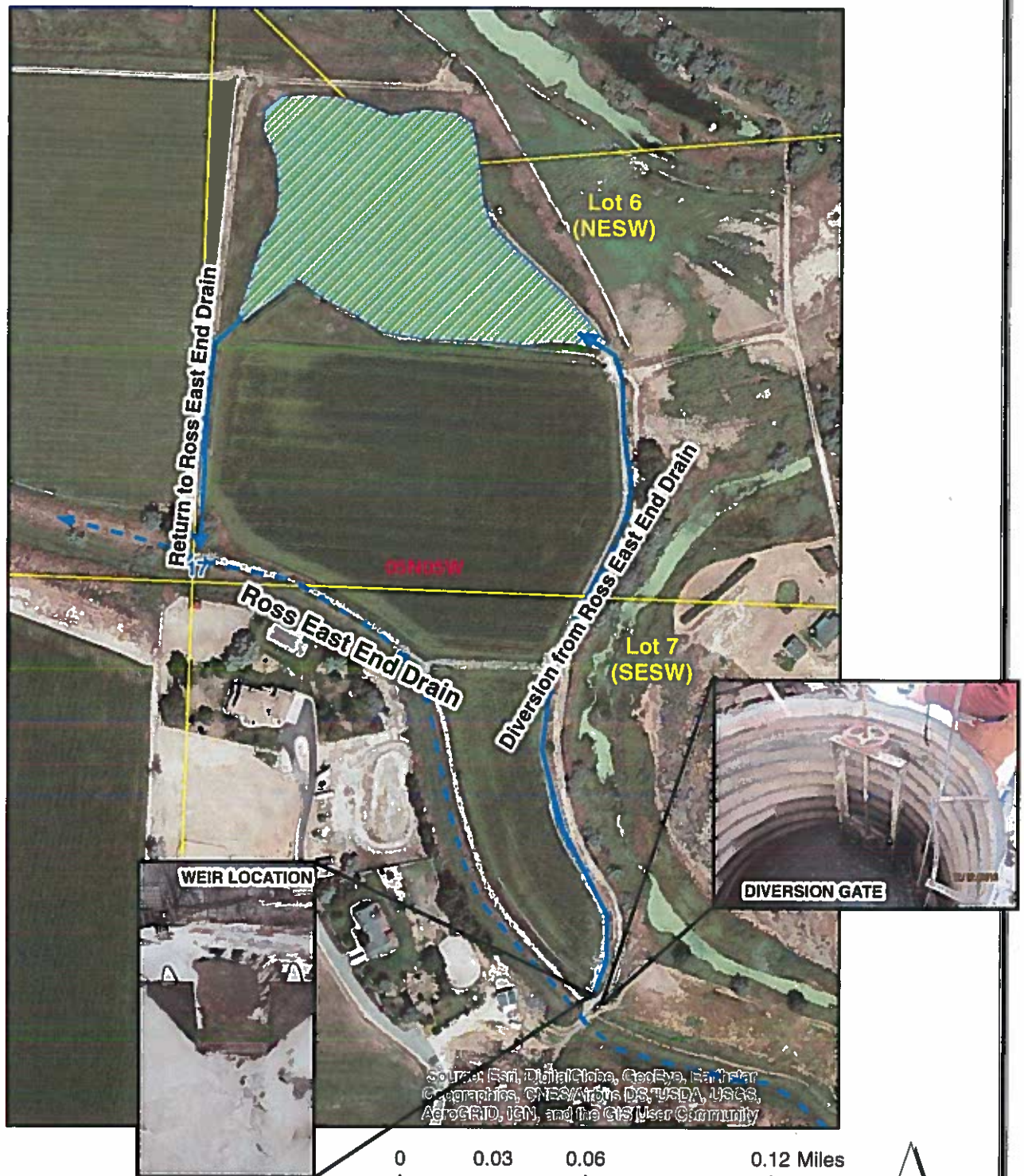


Looking toward the POU from the home of the permit holder.

Delivery System Diagram

Beneficial Use Field Exam

Permit No. 63-32562



- Township/Range
- Sections
- QQ

Date: 12/12/2016



State of Idaho
Department of Water Resources
Map of POU/POD
63-32562



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

0 0.05 0.1 0.2 Miles



Total Storage Calculations

FILE NUMBER	63-32562
REVIEWER	Cody Parker
DATE	12/9/2016

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.)	4	"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)	16	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)	14.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	1.5	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	32.0	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.

Seepage Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total annual seepage losses from a pond.

FILE NUMBER	63-32562
REVIEWER	Cody Parker
DATE	12/9/2016

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	4	AC.
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Pond Surface Area (SQ. FT.)	174240	SQ. FT.
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I used the following method to obtain my Soil Classification Information:	NRCS Web Soil Survey	
My Soil Classification is	CL	(Average of CL and ML)
Suggested Seepage Rate (FT./DAY)	0.0100	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	13033	GPD
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Total Seepage Loss (AFA)	14.5	AFA
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Though sand and gravel seepage rates may actually be higher, the maximum allowable rate is 0.2 ft/day, pursuant to Administrative Memo "Seepage Loss Standards for Ponds and Reservoirs."

Suggested Seepage Rates for Different Soil Types:
GW, GP, GM, GC, SW, SP and SM (silty sand, sand silt mixtures and gravel mixtures) = 0.2 ft per day
OL and ML (inorganic silts - very fine sands, silty, or clayey fine sands) = 0.02 ft per day
SC (clayey sands, sand clay mixtures) = 0.007 ft per day
CL (Low to medium plasticity clays) = 0.003 ft per day
MH, OH, PT and CH (high plasticity clays) = 0.0003 ft per day
LINED PONDS (liners can be chemical, fabric, or bentonite) = 0 ft per day
Ponds Intercepting Groundwater (excavated ponds filled by ground water) = 0 ft per day

PLEASE NOTE: The initial basis for the Suggested Seepage Rates in the table above is found on Page 16 of Seepage from Fish Ponds, Bulletin 599, August 1989 Alabama Agricultural experiment Station, Auburn University, Auburn University Alabama. If you don't know the soil type, please refer to the map provided at the NRCS Web Soil Survey (Tab #1), an ArcMap Soil Classification Map (Tab #1.1), or published NRCS Soil Survey (Tab #1.2). Use "0" if the pond fill relies on the water table.

Evaporation Loss Calculations

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the annual evaporation losses from a pond.

FILE NUMBER	63-32562
REVIEWER	Cody Parker
DATE	12/9/2016

User Input
Calculated value
Formula Explanations

The acronyms used on the Kimberly Research Center website are defined below:

P = Precipitation
ET = Evapotranspiration
P _d = Precipitation deficit
P _d = ET - P

USING THIS SPREADSHEET

Use the link below to access the Kimberly Research Center website. This website provides the Precipitation Deficit for a station most representative of the pond under examination. The Precipitation Deficit is the total amount of free water surface evaporation minus the precipitation for a given area, which gives the total amount of evaporative losses incurred by the pond. There are several weather sites that are used throughout the state. IDWR staff can find the nearest site using Arc Map. The shape file containing the sites can be found at <X:/Spatial/Climate/ETIdahostations.shp>.

Instructions:

1. Use the link below to navigate to ET Idaho 2012.
2. Select the station which is most representative to your pond location.
3. Click Submit Query.
4. Under "Land Covers with Evapotranspiration Estimates," select "Open Water - Shallow Systems (ponds, streams)" or "Open Water - small stock ponds" depending on the pond size.
5. Click the link to "Precipitation Deficit."
6. Reference and copy (ctrl + C) the first subheading "Mean" values.
7. Click the "Paste Values from ET Idaho" button. The table will automatically enter a zero (0) for any negative precipitation deficit values.

Found at: <http://data.kimberly.uidaho.edu/ETIdaho/>

Precipitation Deficit

Station: Twin Falls 2 NNE (NWS - 109294)

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.77	31	0.00
Feb	-0.03	28	0.00
March	0.00	31	0.00
April	0.00	30	0.00
May	0.00	31	0.00
June	0.00	30	0.00
July	0.00	31	0.00
August	0.00	31	0.00
September	2.40	30	72.00
October	1.25	31	38.75
November	-0.13	30	0.00
December	-0.64	31	0.00

Total mm/year = 110.75

PLEASE NOTE: The seasonal average for precipitation deficit should not be used for calculations because precipitation often exceeds evaporation during wetter months of the year. If the pond is kept full, excess precipitation during wetter months does not serve to refill the pond during drier months.

For example, see Sandpoint KSPT (NWS - 108137), the annual precipitation deficit is -106 mm. However, April through September have positive precipitation deficit values. To properly estimate the annual volume of water necessary to refill a pond due to evaporation losses, the table will automatically enter a zero (0) for each month that the precipitation value is reported as a negative value.

As described above, precipitation offsets evaporation in winter months, so the net effect is that wintertime precipitation deficit is usually zero.

$$[(110.75 \text{ mm/yr}) \div (\text{convert to feet})] \times (\text{Surface area of pond, in acres}) = \text{Evaporation Loss in Acre Feet}$$

$$(110.75 \div 304.8) \times 4.00 = 1.5 \text{ AFA}$$

Basin	Seq#	Owner	Source	Use
63-32562	63-32562	MERGES, D	UNNAMED WILDLIFE	
63-32562	63-32562	MERGES, D	UNNAMED WILDLIFE STORAGE	
63-12606	63-12606	MERGES, C	ROSS EAST IRRIGATION	
63-1728	63-1728	ALLEN, C	H BOISE RIVE IRRIGATION	
63-2028	63-2028	ALLEN, CH	BOISE RIVE IRRIGATION	
63-203	63-203	STOCKTON	BOISE RIVE IRRIGATION	
63-2038	63-2038	MARTIN, M	BOISE RIVE IRRIGATION	
63-2048	63-2048	MARTIN, M	BOISE RIVE IRRIGATION	
63-21605	63-21605	MARTIN, M	BOISE RIVE IRRIGATION	
63-21678	63-21678	TREDWAY, G	ROUND V DOMESTIC	
63-21678	63-21678	TREDWAY, G	ROUND V STOCKWATER	
63-2212	63-2212	UNITED ST	PIPE GULCH IRRIGATION	
63-226	63-226	BARKER, A	BOISE RIVE IRRIGATION	
63-227	63-227	BARKER, A	BOISE RIVE IRRIGATION	
63-2279	63-2279	BARKER, A	INDIAN CR IRRIGATION	
63-228	63-228	BARKER, A	BOISE RIVE IRRIGATION	
63-229	63-229	BARKER, A	BOISE RIVE IRRIGATION	
63-2374	63-2374	BARKER, A	INDIAN CR IRRIGATION	
63-2389	63-2389	BARKER, A	ARENA LAK IRRIGATION	
63-26036	63-26036	STUTHEIT, G	ROUND V DOMESTIC	
63-26236	63-26236	STUTHEIT, W	ASTE WA DOMESTIC	
63-26271	63-26271	MARTIN, M	GROUND V DOMESTIC	
63-26271	63-26271	MARTIN, M	GROUND V STOCKWATER	
63-266	63-266	BARKER, A	BOISE RIVE IRRIGATION	
63-267	63-267	BARKER, A	BOISE RIVE IRRIGATION	
63-268	63-268	BARKER, A	BOISE RIVE IRRIGATION	
63-271	63-271	BARTH, G	U BOISE RIVE IRRIGATION	
63-271A	63-271A	BARTH, G	U BOISE RIVE IRRIGATION	
63-272	63-272	BARTH, G	U BOISE RIVE IRRIGATION	
63-2768	63-2768	CRAWFORD	BOISE RIVE IRRIGATION	
63-28129	63-28129	HARROLD, G	ROUND V DOMESTIC	
63-291	63-291	ISLAND HIC	BOISE RIVE IRRIGATION	
63-292	63-292	ISLAND HIC	BOISE RIVE IRRIGATION	
63-293	63-293	ISLAND HIC	BOISE RIVE IRRIGATION	
63-299	63-299	BARKER, A	BOISE RIVE IRRIGATION	
63-300	63-300	BARKER, A	BOISE RIVE IRRIGATION	
63-3001	63-3001	CARLYLE, M	UNNAMED IRRIGATION	
63-3001A	63-3001A	CARLYLE, M	UNNAMED IRRIGATION	
63-3001C	63-3001C	CARLYLE, M	UNNAMED IRRIGATION	
63-31509	63-31509	CARPENTER	ROSS EAST IRRIGATION	
63-32165	63-32165	CARLYLE, M	UNNAMED IRRIGATION	
63-32166	63-32166	CARLYLE, M	UNNAMED IRRIGATION	
63-32226	63-32226	CLASSEN & UNNAMED	WILDLIFE	
63-32226	63-32226	CLASSEN & UNNAMED	WILDLIFE STORAGE	
63-32579	63-32579	UNITED ST	BOISE RIVE IRRIGATION FROM S	
63-32608	63-32608	CLASSEN & UNNAMED	WILDLIFE	
63-32608	63-32608	CLASSEN & UNNAMED	WILDLIFE STORAGE	
63-33252	63-33252	BARKER RC	EAST AREN IRRIGATION	
63-33643	63-33643	PARMA PO	UNNAMED WILDLIFE STORAGE	
63-33682	63-33682	BARKER, A	CHRISTIAN IRRIGATION	
63-33683	63-33683	BARKER, A	GUESS GUL IRRIGATION	
63-33735	63-33735	BARKER, A	WEST END IRRIGATION	
63-33736A	63-33736A	BARKER, A	MAMMEN IRRIGATION	
63-33736B	63-33736B	BARKER, A	MAMMEN IRRIGATION	
63-4007	63-4007	BARKER, A	MEADOWS IRRIGATION	
63-4008	63-4008	BARKER, A	MAMMEN IRRIGATION	
63-4010	63-4010	BARKER, A	WEST END IRRIGATION	
63-5129	63-5129	PARMA IRF	BOISE RIVE IRRIGATION	
63-5130	63-5130	PARMA IRF	WASTE WA IRRIGATION	

NENE	NWNE	SWNE	SENE	NENW	NWNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	TotalAcres
								X								
								X								
											1.1					1.1
		X	X			X	X					X	X		X	
		X	X			X	X					X	X		X	
X																
10																10
10																10
37.5																37.5
			X													
			X													
									X	X	X					
									X	X	X					
									X	X	X					
									X	X	X					
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									X	X	X					
									X	X	X					
									X							
X																
X																
									X	X	X					
									X	X	X					
									X	X	X					
		10		X												
	40	5.5	34.5	30												40
					1.5											80
																1.5
						X	X		X							
						X	X		X							
						X	X		X							
									X	X	X					
									X	X	X					
							9	30	33			6				78
							9					4				4
																9
											0.7					0.7
								18.6	33							51.6
								11.4			2					13.4
								X	X		X					
								X	X		X					
								X		X	X					
								X	X		X					
								X	X		X					
								X	X	X	X					
									X	X	X					
									X	X	X					
									X	X	X					
40	40	20	30	30					X	X	X					160





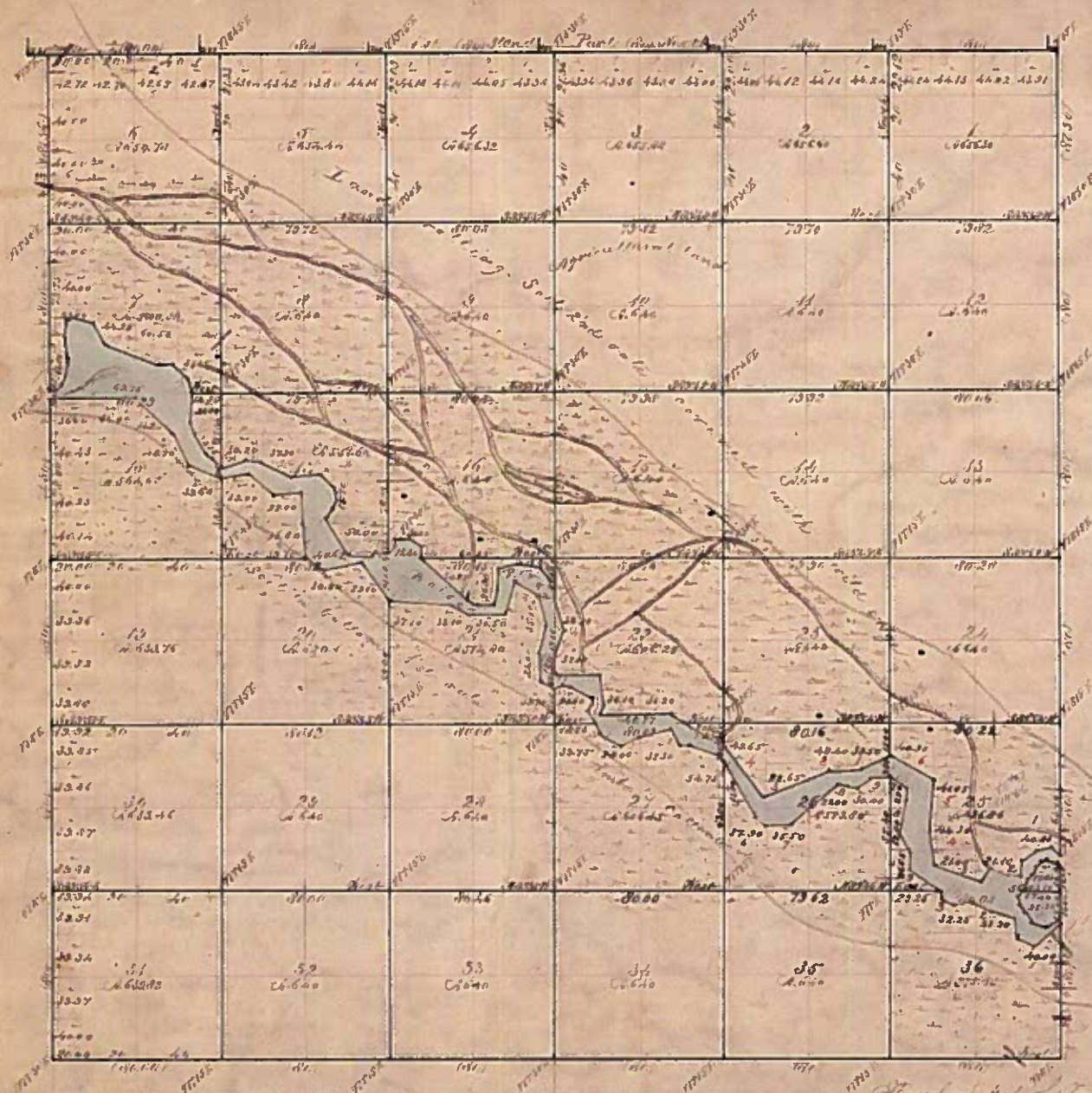
T5N R5W S17

NESW
LT 6

SESW
LT 7

Pipe water from
lwn. drain over
Ross East End
Drain, return
flow to Ross East
End Drain

Township CP5 North Range CP5 West Base Meridian.



No.	Designated	By whom surveyed	Date of completion	Area of survey		When commenced	When completed	Remarks
				Acres	Sq. Rods			
1	Section 1	John Thompson	Feb. 22, 1864	36	121	1864	1864	Bound to the
2	Section 2	"	July 25, 1864	37	121	"	1864	"
3	Section 3	"	"	38	121	"	1864	"
Total area of the township				1337.5	43.30			

The above map of Township CP5 North Range CP5 West Base Meridian, Town of Oshawa or Oshawa is submitted to the field notes of the Survey Commission and the Commission have been examined and approved.
 La Famille Sauter
 Com. Eng. Oshawa
 Dated 15th 1864.

WHIP 2005 Plan Map

Date: 4/13/2005

Customer(s): DOUGLAS M MERGES
District: CANYON SOIL CONSERVATION DISTRICT

Field Office: CALDWELL SERVICE CENTER
Agency: USDA-NRCS
Assisted By: Pamela L Scheinost
State and County: ID, CANYON

Legal Description: T5N R5W Sec 17



Legend

- ⊙ Structure for Water Control
- Irrigation Water Conveyance, Pipeline, Steel

▨ Welland Creation

□ WHIP05

Image: Topographic



125 0 125 250 375 500 Feet



63-32562

