

State of Idaho
Department of Water Resources
Water Right License

WATER RIGHT NO. 37-08182

Priority: August 02, 1984

Maximum Diversion Rate: 0.99 CFS
Maximum Diversion Volume: 266.0 AF

It is hereby certified that JAMES CASTLE OR
PATRICIA CASTLE
580 BURMAH RD
SHOSHONE ID 83352 has complied with the terms and conditions of the
permit issued pursuant to Application for Permit dated June 28, 1984, and has submitted Proof of Beneficial
Use on July 25, 2000. An examination confirms water is diverted from:

SOURCE

UNNAMED STREAM

Tributary: SINKS

and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL DIVERSION VOLUME</u>
RECREATION STORAGE	01/01 to 12/31		9.5 AF
IRRIGATION STORAGE	01/01 to 12/31		32.4 AF
IRRIGATION	04/01 to 10/31	0.99 CFS	223.3 AF
STOCKWATER	04/01 to 10/31	0.03 CFS	0.8 AF
IRRIGATION FROM STORAGE	04/01 to 10/31		14.7 AF

LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM	SW1/4SE1/4	Sec. 15, Twp 02S, Rge 17E, B.M.	CAMAS County
UNNAMED STREAM	NE1/4NW1/4	Sec. 23, Twp 02S, Rge 17E, B.M.	CAMAS County
UNNAMED STREAM	SW1/4SE1/4	Sec. 15, Twp 02S, Rge 17E, B.M.	CAMAS County

PLACE OF USE: RECREATION STORAGE, IRRIGATION 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	
02S 17E 15															X		

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02S 17E 23		3.8			12.0	25.0	16.0	7.0									63.8

Total Acres: 63.8

PLACE OF USE: STOCKWATER

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02S 17E 23					X												

PLACE OF USE: IRRIGATION FROM 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	
02S 17E 23					12.0	25.0	16.0	7.0									60.0

Total Acres: 60

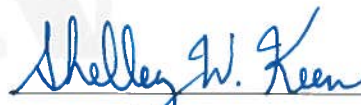
State of Idaho
Department of Water Resources
Water Right License
WATER RIGHT NO. 37-08182

CONDITIONS OF APPROVAL

1. This right is for the use of trust water and is subject to review 20 years after the issuance of the permit to determine availability of water and to re-evaluate the public interest.
2. This right authorizes the diversion of an annual total of 41.9 acre-feet to be used for the initial filling of the pond(s) or reservoir(s) and for the replacement of losses caused by seepage and evaporation.
3. The two reservoirs established by the storage of water under this right shall not exceed a total capacity of 18.5 acre-feet or a total surface area of 5.0 acres.
4. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the place of use.
5. Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 37.
6. Stockwater use is for 100 cattle.

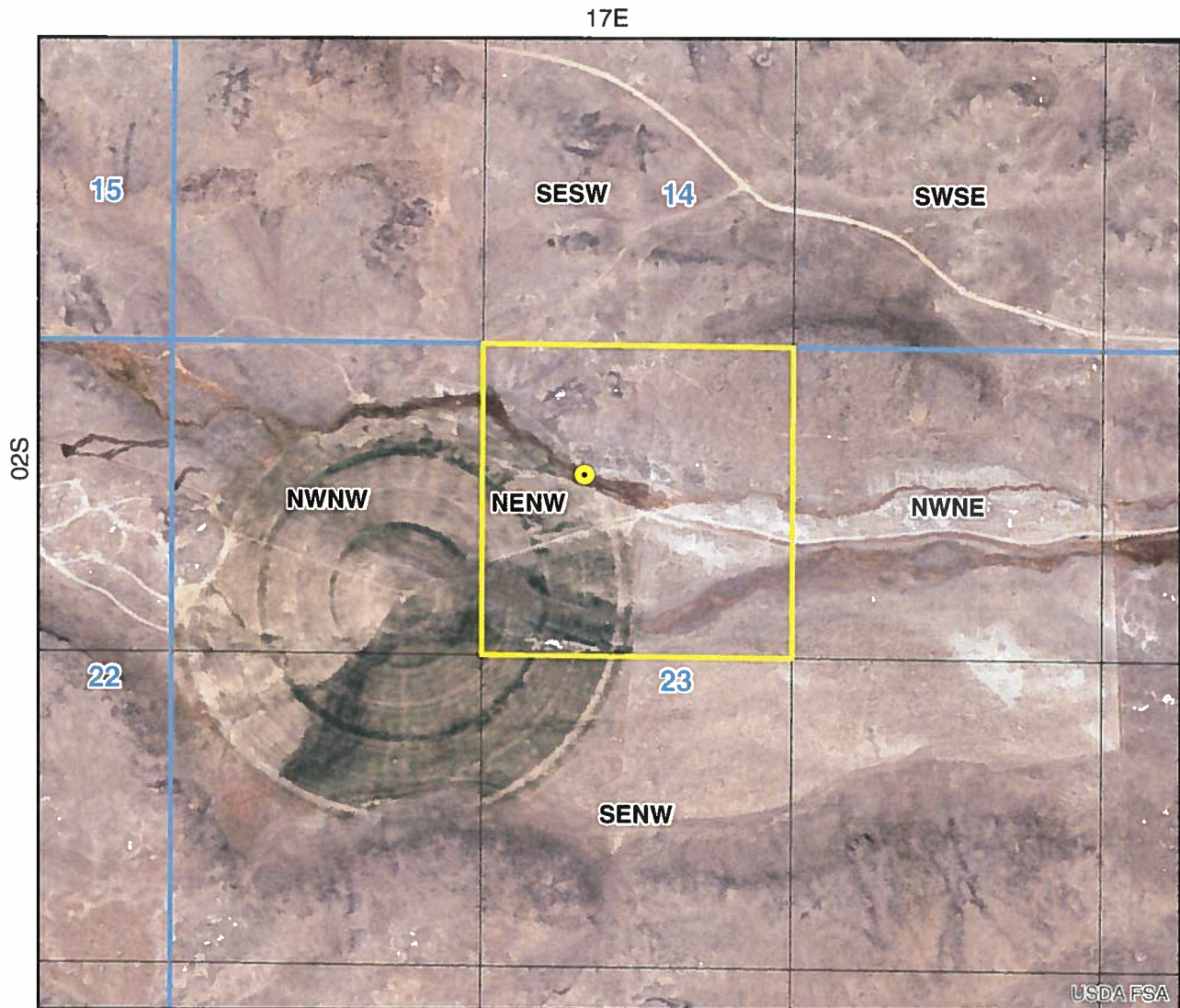
This license is issued pursuant to the provisions of Section 42-219, Idaho Code. The water right confirmed by this license is subject to all prior water rights and shall be used in accordance with Idaho law and applicable rules of the Department of Water Resources.

Signed this 28th day of September, 2015.


for GARY SPACKMAN
Director

State of Idaho
Department of Water Resources
Attachment To Water Right License
37-8182

This map depicts the STOCKWATER place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.075 0.15 0.3 Miles

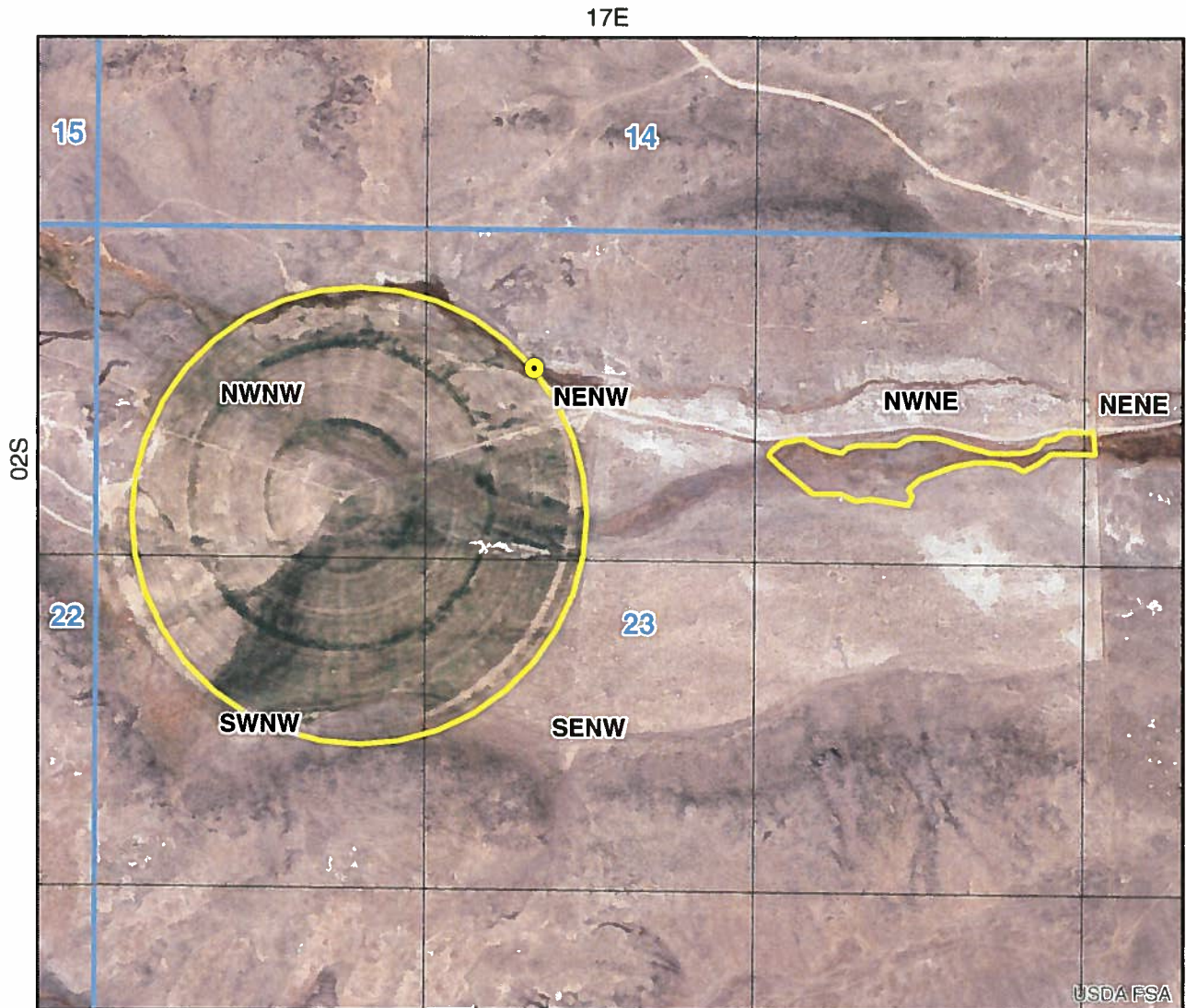


State of Idaho
Department of Water Resources

Attachment To Water Right License

37-8182

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.075 0.15 0.3 Miles



State of Idaho
Department of Water Resources

Attachment To Water Right License

37-8182

This map depicts the IRRIGATION STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



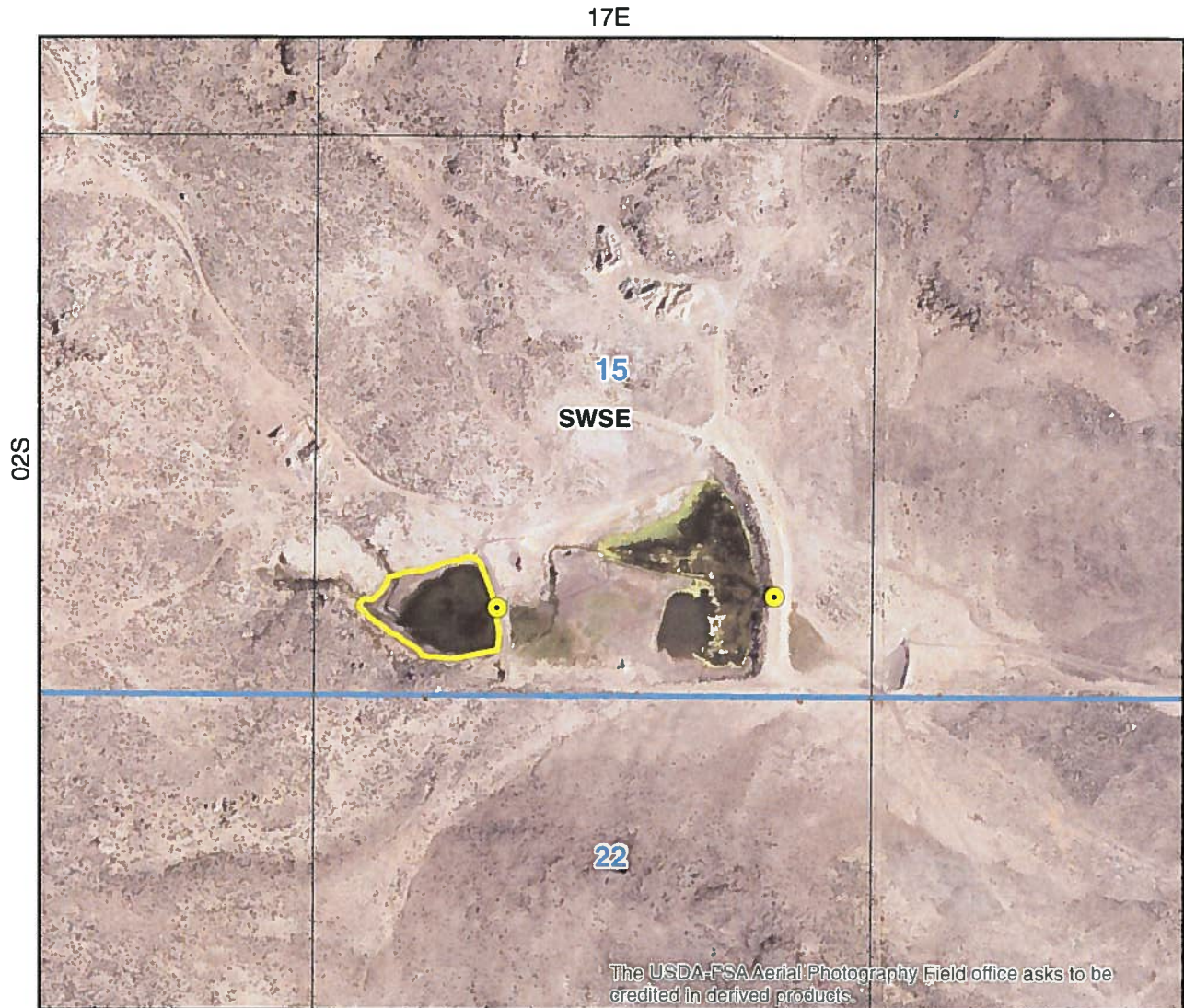
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.05 0.1 0.2 Miles



State of Idaho
Department of Water Resources
Attachment To Water Right License
37-8182

This map depicts the RECREATION STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



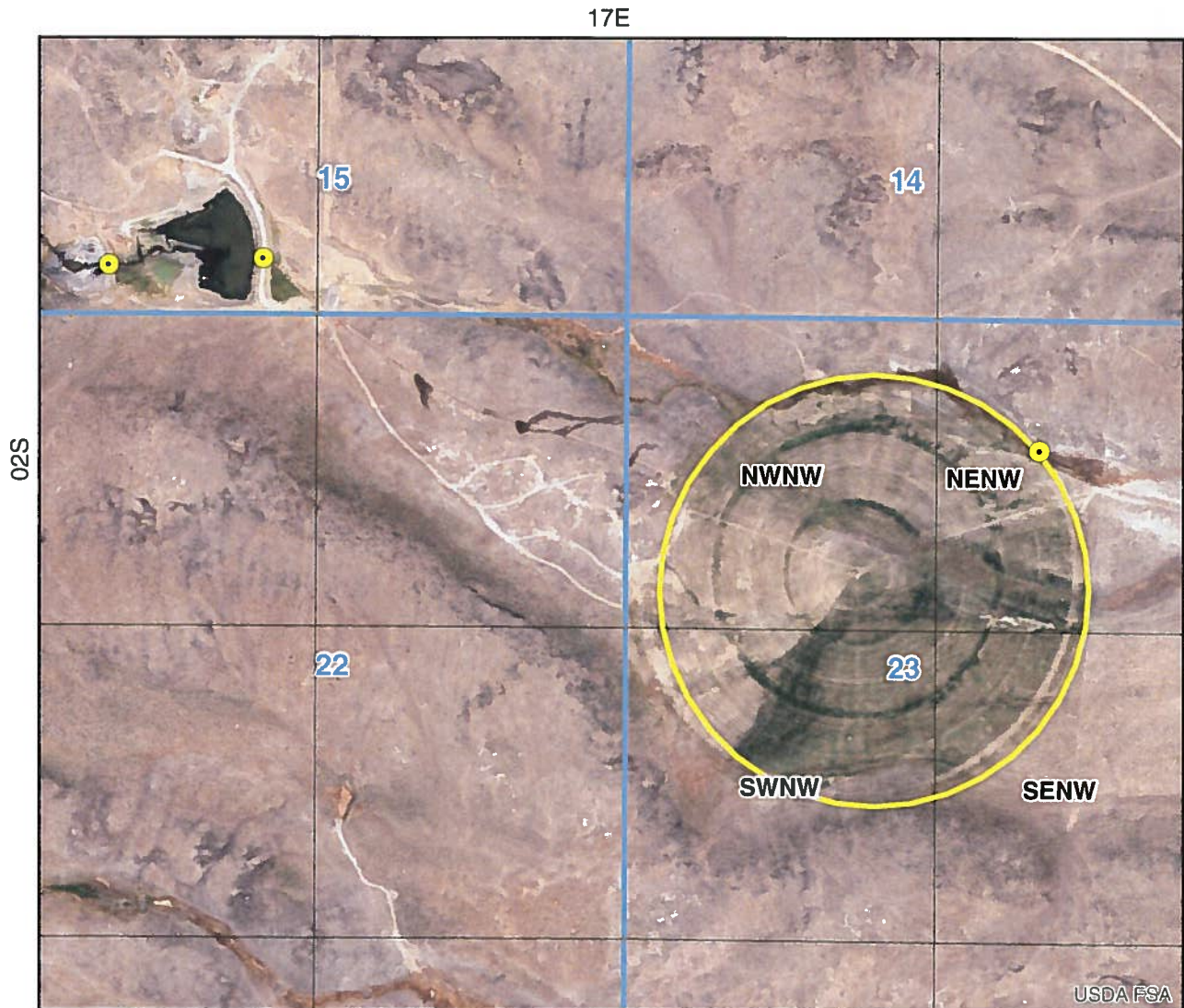
-  Point of Diversion
-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters

0 0.05 0.1 0.2 Miles



State of Idaho
Department of Water Resources
Attachment To Water Right License
37-8182

This map depicts the IRRIGATION FROM STORAGE place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.



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

0 0.075 0.15 0.3 Miles





State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

September 30, 2015

JAMES CASTLE
PATRICIA CASTLE
580 BURMAH RD
SHOSHONE ID 83352

RE: License No. 37-8182

Issuance of License

Dear Water Right Holder(s):

The Department of Water Resources has issued the enclosed Water Right License confirming that a water right has been established in accordance with your permit. Please be sure to thoroughly review the conditions of approval and remarks listed on your license. Also enclosed is a copy of the approved application for amendment

The license is a PRELIMINARY ORDER issued by the Department pursuant to section 67-5243, Idaho Code. It can and will become a final order without further action by the Department unless a party petitions for reconsideration or files an exception and/or brief within fourteen (14) days of the service date as described in the enclosed information sheet.

Please note that water right owners are required to report any change of water right ownership and/or mailing address to the Department within 120 days of the change. Failure to report these changes could result in a \$100 late filing fee. Contact any office of the Department or visit the Department's homepage on the Internet to obtain the proper forms and instructions.

If you have any questions, please contact me at 208-287-4951.

Sincerely,

Pamela Skaggs
Water Rights Supervisor

Enclosure(s)

c: WATER DISTRICT #37

CERTIFICATE OF SERVICE

I hereby certify that on October 1, 2015, I mailed a true and correct copy, postage prepaid, of the foregoing PRELIMINARY ORDER (Approved License) to the person(s) listed below:

RE: WATER RIGHT NO.

37-8182

**JAMES CASTLE
580 BURMAH RD
SHOSHONE ID 83352**

**PATRICIA CASTLE
580 BURMAH RD
SHOSHONE ID 83352**

**WATER DISTRICT #37
KEVIN D LAKEY
107 W 1ST
SHOSHONE ID 83352**



**Darla Block
Technical Records Specialist**

EXPLANATORY INFORMATION TO ACCOMPANY A PRELIMINARY ORDER

(To be used in connection with actions when a hearing was not held)

(Required by Rule of Procedure 730.02)

The accompanying order or approved document is a "Preliminary Order" issued by the department pursuant to section 67-5243, Idaho Code. **It can and will become a final order without further action of the Department of Water Resources ("department") unless a party petitions for reconsideration, files an exception and brief, or requests a hearing as further described below:**

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a preliminary order with the department within fourteen (14) days of the service date of this order. **Note: the petition must be received by the department within this fourteen (14) day period.** The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3) Idaho Code.

EXCEPTIONS AND BRIEFS

Within fourteen (14) days after: (a) the service date of a preliminary order, (b) the service date of a denial of a petition for reconsideration from this preliminary order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this preliminary order, any party may in writing support or take exceptions to any part of a preliminary order and may file briefs in support of the party's position on any issue in the proceeding with the Director. Otherwise, this preliminary order will become a final order of the agency.

REQUEST FOR HEARING

Unless a right to a hearing before the Department or the Water Resource Board is otherwise provided by statute, any person aggrieved by any final decision, determination, order or action of the Director of the Department and who has not previously been afforded an opportunity for a hearing on the matter may request a hearing pursuant to section 42-1701A(3), Idaho Code. A written petition contesting the action of the Director and requesting a hearing shall be filed within fifteen (15) days after receipt of the denial or conditional approval.

ORAL ARGUMENT

If the Director grants a petition to review the preliminary order, the Director shall allow all parties an opportunity to file briefs in support of or taking exceptions to the preliminary order and may schedule oral argument in the matter before issuing a final order. If oral arguments are to be heard, the Director will within a reasonable time period notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the preliminary order shall be served on all other parties to the proceedings in accordance with IDAPA Rules 37.01.01302 and 37.01.01303 (Rules of Procedure 302 and 303).

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The Director may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

Section 67-5246(5), Idaho Code, provides as follows:

Unless a different date is stated in a final order, the order is effective fourteen (14) days after its service date if a party has not filed a petition for reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

- (a) The petition for reconsideration is disposed of; or
- (b) The petition is deemed denied because the agency head did not dispose of the petition within twenty-one (21) days.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, if this preliminary order becomes final, any party aggrieved by the final order or orders previously issued in this case may appeal the final order and all previously issued orders in this case to district court by filing a petition in the district court of the county in which:

- i. A hearing was held,
- ii. The final agency action was taken,
- iii. The party seeking review of the order resides, or
- iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days of this preliminary order becoming final. See section 67-5273, Idaho Code. The filing of an appeal to district court does not itself stay the effectiveness or enforcement of the order under appeal.

RECEIVED

AUG 26 2015

DEPT OF WATER RESOURCES
SOUTHERN REGION

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT

(For Licensing Purposes)

WATER RIGHT NO. 37-08182**Date of Priority:** August 02, 1984

Maximum Diversion Rate: 0.99 CFS

Maximum Diversion Volume: 266.0 AF

Comes now JAMES CASTLE OR
PATRICIA CASTLE
580 BURMAH RD

SHOSHONE ID 83352 and represents to the Director of the Idaho Department of Water Resources that he is the owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No. 37-08182, and requests that the permit be changed as follows:

Source: UNNAMED STREAM**Tributary:** SINKS

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
RECREATION STORAGE	01/01 to 12/31		9.5 AF
IRRIGATION STORAGE	01/01 to 12/31		32.4 AF
IRRIGATION	04/01 to 10/31	0.99 CFS	223.3 AF
STOCKWATER	04/01 to 10/31	0.03 CFS	0.8 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	0.99 CFS	14.7 AF

LOCATION OF POINT(S) OF DIVERSION:

UNNAMED STREAM	SW1/4SE1/4	Sec. 15, Twp 02S, Rge 17E, B.M.	CAMAS County
UNNAMED STREAM	NE1/4NW1/4	Sec. 23, Twp 02S, Rge 17E, B.M.	CAMAS County
UNNAMED STREAM	SW1/4SE1/4	Sec. 15, Twp 02S, Rge 17E, B.M.	CAMAS County

PLACE OF USE: RECREATION 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	
02S 17E 15															X		

PLACE OF USE: IRRIGATION 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	
02S 17E 15															X		

PLACE OF USE: IRRIGATION

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02S 17E 23			3.8		12.0	25.0	16.0	7.0									63.8

Total Acres: 63.8

PLACE OF USE: STOCKWATER

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02S 17E 23					X												

PLACE OF USE: IRRIGATION FROM 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	
02S 17E 23					12.0	25.0	16.0	7.0									60.0

Total Acres: 60

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT

(For Licensing Purposes)

WATER RIGHT NO. 37-08182

Permit holder asserts that no one will be injured by such change and that such change will be made at permit holder's own risk. Signed this 26 day of August, 20 15.

James Coote
(Signature)

State of Idaho
Department of Water Resources
APPLICATION FOR AMENDMENT
(For Licensing Purposes)
WATER RIGHT NO. 37-08182

FOR DEPARTMENT USE ONLY

Preliminary check by A.N. Fee = 100.00 Received by B.W. # 5034894 Date 7/8/15

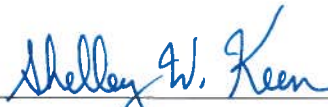
ACTION OF THE DEPARTMENT OF WATER RESOURCES

I, GARY SPACKMAN, of the Department of Water Resources hereby approve the above Application for Amendment for Permit No. 37-08182 with the following:

CONDITIONS OF APPROVAL

1. This right is for the use of trust water and is subject to review 20 years after the issuance of the permit to determine availability of water and to re-evaluate the public interest.
2. This right authorizes the diversion of an annual total of 41.9 acre-feet to be used for the initial filling of the pond(s) or reservoir(s) and for the replacement of losses caused by seepage and evaporation.
3. The two reservoirs established by the storage of water under this right shall not exceed a total capacity of 18.5 acre-feet or a total surface area of 5.0 acres.
5. This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor more than 3.5 afa per acre at the field headgate for irrigation of the place of use.
6. Use of water under this right will be regulated by a watermaster with responsibility for the distribution of water among appropriators within a water district. At the time of this approval, this water right is within State Water District No. 37.
7. Stockwater use is for 100 cattle.

Witness my hand this 28th day of September, 2015.


for GARY SPACKMAN
Director

MEMORANDUM

TO: File 37-8182

FROM: Ashley Newbry

DATE: August 14, 2015

RE: Potential Enlargement Issue: Irrigation Storage

Permit 37-8182 was issued for the following uses: irrigation, recreation, and stockwater. At the time of licensing, the permit needed to be amended to reflect the actual beneficial use developed: irrigation, irrigation storage, irrigation from storage, recreation storage, and stockwater. Such an amendment required a change in nature of use analysis.

According to the application for permit and the field examination, the irrigation storage reservoir is consumed each year for irrigation. Once it is consumed, the reservoir refills the remainder of irrigation season and the remainder of the year. Therefore, the "irrigation storage" use is in need of a year-round season-of-use. Would this be an enlargement from the original "irrigation" use on the permit?

The nature of use analysis in this file shows that permit 37-8182 was issued for a greater amount of water than was developed. Furthermore, the unnamed stream (Tom Gooding Spring), which is the source for this permit, is tributary to sinks. Therefore, no downstream users should be injured.



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

August 14, 2015

JAMES CASTLE
PATRICIA CASTLE
580 BURMAH RD
SHOSHONE ID 83352

RE: WATER PERMIT 37-8182

Dear Mr. and Mrs. Castle:

I am writing to you about Water Right Permit 37-8182, which was originally issued to Willis Castle. The permit is being reviewed for licensing. Before a water right license can be issued, the permit must be amended to depict the water right as it has actually been developed. The Department received your previous Application for Amendment form on July 8, 2015.

A second review revealed a calculation error made by the Department on the previous form. We respectfully request that you carefully review the *revised* form enclosed. If you concur with the information presented, sign the form and return it as soon as possible. There is no need for you to submit an additional filing fee.

This is your opportunity to complete the process necessary to obtain a water right license. Water appropriation permits are considered personal property, however, once the license is issued, the water right becomes appurtenant to the land. Please respond by September 15, 2015 or your permit may be at risk to become void.

If you have any questions about this information, please contact me at (208) 287-4800.

Thank you,

Ashley Newbry
Associate Engineer

Enclosure

MEMORANDUM

TO: File 37-8182

FROM: Ashley Newbry

DATE: July 30, 2015

RE: Deviation from Field Exam Recommendations

In May 2015, IDWR formally released the Pond Loss Memorandum and Spreadsheet for the calculation of recommended pond volumes. The field exam for permit 37-8182 was conducted prior to the release of the Pond Loss tools; the examiner calculated a much higher loss due to seepage than is currently permissible with the Pond Loss Spreadsheet.

I used the Pond Loss Spreadsheet to more closely estimate the allowable losses associated with each of the small reservoirs covered by this water right. See attached.

Change in Nature of Use Analysis

37-8182

Permit

	Flow Rate	Acres	Consumptive Use	Volume
Recreation	1.00	x	0	
Stockwater	0.03	x	0	0.8
Irrigation	1.00	120.00	300	420

Sum: 1.00 300 420

Developed

	Flow Rate	Acres	Storage Volume	Seepage	Evaporation	Consumptive Use	Total License Volume
	CFS	AC	AF	AF	AF	AF	AF
Recreation Storage	x		3.8	3.1	2.6	6.4	9.5
Stockwater	0.03					0.8	0.8
Irrigation	0.99	63.8				159.5	223.3
Irrigation Storage	x		14.7	9.5	8.2	22.9	32.4
Irrigation from Storage	0.99		14.7			10.5	14.7

Sum: 190 266

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	37-8182
REVIEWER	Ashley Newbry
DATE	7/30/2015

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	3.7	AC.
-------------------------	-----	-----

Pond Surface Area (SQ. FT.)	161172	SQ. FT.
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I used the following method to obtain my Soil Classification information:	PondSoils Layer in GIS	
My Soil Classification is	SC	
Suggested Seepage Rate (FT./DAY)	0.0070	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss		
--	--	--

Convert to GPD	8439	GPD
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Total Seepage Loss (AFA)	9.5	AFA
--------------------------	-----	-----

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.

East Pond/Irrigation

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	37-8182
REVIEWER	Ashley Newbry
DATE	7/30/2015

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	-2.61	31	0.00
Feb	0.12	28	3.36
March	1.18	31	36.58
April	2.33	30	69.90
May	3.44	31	106.64
June	3.14	30	94.20
July	4.11	31	127.41
August	3.94	31	122.14
September	2.12	30	63.60
October	1.38	31	42.78
November	0.20	30	6.00
December	-1.30	31	0.00

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.

Total mm/year = 672.61

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

(672.61 ÷ 304.8) X 3.70 = 8.2 AFA

East Pond/Irrigation

Total Storage Calculations

FILE NUMBER	37-8182
REVIEWER	Ashley Newbry
DATE	7/30/2015

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.)	3.7	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	3.96	"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)	14.652	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. <i>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.</i>

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). <i>Note: You must have a "From Storage" component exceeding the initial fill on the permit to include a volume in this space.</i>
Estimated Seepage Loss (AF)	9.5	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	8.2	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	32.3	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.

East Pond/
Irrigation

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	37-8182
REVIEWER	Ashley Newbry
DATE	7/30/2015

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	1.2	AC.
-------------------------	-----	-----

Pond Surface Area (SQ. FT.)	52272	SQ. FT.
-----------------------------	-------	---------

I used the following method to obtain my Soil Classification information:	PondSoils Layer in GIS	
My Soil Classification is	SC	
Suggested Seepage Rate (FT./DAY)	0.0070	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
--

Convert to GPD	2737	GPD
----------------	------	-----

Total Seepage Loss (AFA)	3.1	AFA
--------------------------	-----	-----

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.

West Pond/Recreation

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	37-8182
REVIEWER	Ashley Newberry
DATE	7/30/2015

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	-2.61	31	0.00
Feb	0.12	28	3.36
March	1.18	31	36.58
April	2.33	30	69.90
May	3.44	31	106.64
June	3.14	30	94.20
July	4.11	31	127.41
August	3.94	31	122.14
September	2.12	30	63.60
October	1.38	31	42.78
November	0.20	30	6.00
December	-1.30	31	0.00

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.

Total mm/year = 672.61

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

(672.61 ÷ 304.8) X 1.20 = 2.6 AFA

West Pond
Recreation

Total Storage Calculations

FILE NUMBER	37-8182
REVIEWER	Ashley Newbry
DATE	7/30/2015

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.)	1.2	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	3.16	"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)	3.792	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)	3.1	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	2.6	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	9.5	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.

West Pond /
Recreation

RECEIVED

JUL 08 2015

DEPT OF WATER RESOURCES
SOUTHERN REGIONSTATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR AMENDMENT OF A PERMIT

Fee is \$100 per § 42-221C, Idaho Code

Applicant(s) James or Patricia Castle (Willis Castle Estate) Phone 208-487-2295Name connector (check one) ☐ and ☒ or ☐ and/orMailing address 580 BURMAH RD City SHOSHONEState IDAHO Zip 83352 Email: _____I am the owner of Water Appropriation Permit No. 37-8182 and request that the permit be amended as follows:☒ Change point of diversion☒ Add point of diversion☐ Change period of use☒ Change nature of use☒ Change place of use☐ Other _____1. Point of diversion: ☐ No changes to point(s) of diversion. Skip item #1 and proceed to #2.☐ Attach Eastern Snake Plain Aquifer analysis if this proposes to change a point of diversion affecting the ESPA.

Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or tag #
02S	17E	15		SW	SE		CAMAS	UNNAMED STREAM	
02S	17E	23		NE	NW		CAMAS	UNNAMED STREAM	
02S	17E	15		SW	SE		CAMAS	UNNAMED STREAM	

2. Period and nature of use:

☐ No changes to period and/or nature of use. Skip item #2 and proceed to #3.Amount 9.5 AF for Recreation Storage purposes from 01/01 to 12/31 (both dates inclusive)
(cfs or acre-feet per year) (water use) (month/day) (month/day)Amount 32.3 AF for Irrigation Storage purposes from 01/01 to 12/31 (both dates inclusive)
(cfs or acre-feet per year) (water use) (month/day) (month/day)Amount 223.3 AF/0.99 cfs for Irrigation purposes from 04/01 to 10/31 (both dates inclusive)
(cfs or acre-feet per year) (water use) (month/day) (month/day)Amount 0.80 AF/0.03 cfs for Stockwater purposes from 04/01 to 10/31 (both dates inclusive)
(cfs or acre-feet per year) (water use) (month/day) (month/day)Amount: 210.0 AF/0.99 cfs for Irrigation from Storage purposes from 04/01 to 10/31 (both dates inclusive)3. Place of use or land to be irrigated: ☐ No changes to place of use. Skip item #3 and proceed to #4.

Twp	Rge	Sec	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02S	17E	15	recreation storage														RS		
02S	17E	15	irrigation storage														IS		
02S	17E	23		3.8			12.0	25.0	16.0	7.0	irrigation								63.8
02S	17E	23					S				stockwater								
02S	17E	23	irrigation from storage				12.0	25.0	16.0	7.0									

Total number of acres to be irrigated 63.8

4. **Property ownership:** ☐ No changes to point of diversion and/or place of use. Skip item #4 and proceed to #5.
- a. Who owns the property at the point of diversion? James Castle
- b. Who owns the land to be irrigated or place of use? James Castle
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing:
- _____
- _____
- _____

5. **Describe the proposed change in narrative form:**

Although the permit only contained stockwater, recreation, and irrigation, the intent of the applicant was clear in the approved application, and should have had the following components: recreation storage, irrigation storage, irrigation, stockwater, irrigation from storage. Since the time the permit 37-8182 was filed in 2000, the place-of-use and points of diversion have been developed differently. In addition, Willis Castle's estate has been inherited by James Castle, current owner.

6. **Map:** ☐ The point(s) of diversion and/or the place of use are not amended, therefore a map is not attached. see system diagram
- Attach a map showing the proposed point(s) of diversion and/or place(s) of use. Clearly label the map with township, range, section, and $\frac{1}{4}$ $\frac{1}{4}$ of section information. A photocopy of a USGS 7.5 minute topographic quadrangle is commonly used, or the *Map Tool* available on the Department website provides a satisfactory template for creating the required map (<http://maps.idwr.idaho.gov/TransferApplicationLayouts/Map>).

7. **Signature:**

The information in this application is true to the best of my knowledge. I understand that any willful misrepresentations in this application may result in rejection of the application or cancellation of an approval.

James Castle James Castle owner 7-8-15
Signature of applicant or authorized agent Print name (and title, if applicable) Date

Signature of applicant or authorized agent Print name (and title, if applicable) Date

FOR DEPARTMENT USE ONLY

Received by _____ Date _____

Received by B Walker Date 7/8/15 Receipt No. 5034894

Reviewed by _____ Date _____



State of Idaho

DEPARTMENT OF WATER RESOURCES

322 East Front Street • P.O. Box 83720 • Boise, Idaho 83720-0098

Phone: (208) 287-4800 • Fax: (208) 287-6700 • Website: www.idwr.idaho.gov

C.L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Director

June 30, 2015

JAMES CASTLE
PATRICIA CASTLE
580 BURMAH RD
SHOSHONE ID 83352

RE: WATER PERMIT 37-8182

Dear Mr. and Mrs. Castle:

I am writing to you about Water Right Permit 37-8182, which was originally issued to Willis Castle. The permit is being reviewed for licensing. Before a water right license can be issued, the permit must be amended to depict the water right as it has actually been developed. I have enclosed an Application for Amendment form.

The enclosed Application for Amendment contains information that will be included on the license when it is issued. When a Department representative conducted a field examination on your property in 2008, he noticed that the permit holder developed two storage reservoirs. Therefore, the enclosed Amendment of Permit form proposes to add the "recreation storage" and "irrigation storage" beneficial uses of water. Please review the amendment form carefully. If you concur with the information presented, sign the form and return it with the filing fee as soon as possible.

This is your opportunity to complete the process necessary to obtain a water right license. Water appropriation permits are considered personal property, however, once the license is issued, the water right becomes appurtenant to the land. Please respond by July 31, 2015 or your permit may be at risk to become void.

If you have any questions about this information, please contact me at (208) 287-4800.

Thank you,

Ashley Newbry
Associate Engineer

Enclosure

Change in Nature of Use Analysis

37-8182

Permit	Flow Rate	Acres	Volume	Consumptive Use
Recreation	1.00	x		0
Stockwater	0.03	x	0.8	0
Irrigation	1.00	120.00	420	300
	1.00		420	300

Developed	Flow Rate CFS	Acres AC	Volume AF	Consumptive Use AF
Recreation Storage	x		9.5	~~6.89~~
Stockwater	0.03		0.8	0.8
Irrigation	0.99	63.8	223.3	159.5
Irrigation Storage	x		32.3	22.85
Irrigation from Storage	0.99		210	
			265.89	190.03

error

Capacity 3.79 AF

Capacity 14.7 AF

error

* Not sent to permit holder