

RECEIVED

NOV 18 2020

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT
To appropriate the public waters of the State of Idaho

Ident. No. 63-34977WATER RESOURCES
WESTERN REGION

1. Name of applicant(s) Ducks End LLC Phone _____
Name connector (check one): ☐ and ☐ or ☐ and/or
Mailing address 51 Dapplegray Lane City Rolling Hills Estates
State CA ZIP 90274 Email david@dcjohnstoncpa.com
2. Name of representative, if any Lori Graves, SPF Water Engineering LLC Phone 208-383-4140
Mailing address 300 East Mallard Drive, Suite 350 City Boise
State ID ZIP 83706 Email lgraves@spfwater.com
- a. ☐ Send all correspondence for this application to the representative and not to the applicant OR
☒ Send original correspondence to the applicant and copies to the representative.
- b. ☒ The representative may submit information for the applicant but is not authorized to sign for the applicant OR
☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation.
3. Source of water supply Boise River which is a tributary of Snake River
4. Location of point(s) of diversion:

Twp	Rge	Sec	Govt Lot	1/4	1/4	1/4	County	Source	Local name or tag #
5N	5W	35			NE	NE	Canyon	Boise River	

5. Water will be used for the following purposes:
- Amount 0.30 cfs for irrigation purposes from 3/1 to 11/15 (both dates inclusive)
(cfs or acre-feet per year)
- Amount 0.60 cfs for wildlife purposes from 3/1 to 9/30 (both dates inclusive)
(cfs or acre-feet per year)
- Amount 2.25 cfs for wildlife/recreation purposes from 10/1 to 2/29 (both dates inclusive)
(cfs or acre-feet per year)
- Amount 778 af for wildlife/recreation storage purposes from 1/1 to 12/31 (both dates inclusive)
(cfs or acre-feet per year)
6. Total quantity to be appropriated is (a) 2.85 cubic feet per second (cfs) and/or (b) 778 acre-feet per year (af).
7. Proposed diverting works:
- a. Describe type and size of devices used to divert water from the source. electric pump and pipelines to places of use. Gated pipe for irrigation
- b. Height of storage dam 5 feet feet; active reservoir capacity 10 acre-feet; total reservoir capacity 10 acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 12. For dams 10 feet or more in height AND having a storage capacity of 50 acre-feet or more, submit a separate [Application for Construction or Enlargement of a New or Existing Dam](#). Application required? ☐ Yes ☐ No
- c. Proposed well diameter is NA inches; proposed depth of well is NA feet.
- d. Is ground water with a temperature of greater than 85°F being sought? ☐ Yes ☒ No
- e. If well is already drilled, when? NA; drilling firm _____; well was drilled for (well owner) _____; Drilling Permit No. _____

For Department Use

Received by LE Date 11/18/2020 Time 10:15 AM Preliminary check by TS
Fee \$ 530.00 Receipted by LE Receipt No. W046666 Date 11/18/2020

8. Description of proposed uses (if irrigation only, go to item 9):
- Hydropower; show total feet of head and proposed capacity in kW. _____
 - Stockwatering; list number and kind of livestock. _____
 - Municipal; must complete and attach the Municipal Water Right Application Checklist.
 - Domestic; show number of households _____
 - Other; describe fully. Year-round wildlife use on 4 acres of wetlands and pond. Seasonal flooding of 15 acres of irrigated lands for waterfowl hunting and resting.
9. Description of place of use:
- If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
 - If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
5N	5W	35	15																15

Total number of acres to be irrigated: 15

10. Describe any other water rights used for the same purposes as described above. Include water delivered by a municipality, canal company, or irrigation district. If this application is for domestic purposes, do you intend to use this water, water from another source, or both, to irrigate your lawn, garden, and/or landscaping? None
11. a. Who owns the property at the point of diversion? Applicant
b. Who owns the land to be irrigated or place of use? Applicant
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: _____
12. Describe your proposal in narrative form, and provide additional explanation for any of the items above. Attach additional pages if necessary. See attached narrative.
13. Time required for completion of works and application of water to proposed beneficial use is 5 years (minimum 1 year).
14. **MAP OF PROPOSED PROJECT REQUIRED** - Attach an 8½" x 11" map or maps clearly identifying the proposed point of diversion, place of use, section #, township & range. The map scale shall not be less than two (2) inches equal to one (1) mile.

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

Signature of Applicant

David C. Johnston
Print Name (and title, if applicable)

Signature of Applicant

Print Name (and title, if applicable)

Application Narrative – Ducks End LLC

Irrigation will be developed on 15 acres. Year-round wetland and open water wildlife habitat will be developed on 4 acres. During the fall and winter months, the irrigated lands will be flooded to provide waterfowl resting areas and hunting.

The diversion rate for flooding of fields and wetlands is 0.15 cfs per acre to prevent freezing and offset seepage loss. Diversion rates will be 0.90 cfs (4 acres ponds and wetlands @ 0.15 cfs acre and 15 acres irrigation at 0.02 cfs per acre) between March 1 and September 30, and 2.85 cfs (19 acres ponds, wetlands, and flooded fields @ 0.15 cfs/ac) between October 1 and February 29.

Soils are fine sandy loams with an estimated seepage loss rate of 0.2 feet per day.

Evaporation loss is 12.9 afa. Seepage loss is 748 afa. Storage volume is 17.5 afa. Separate calculations are provided for year-round pond seepage and evaporation and for seasonal field flooding.

Legend

-  Proposed point of diversion
-  Proposed seasonal irrigation - 15 acres
-  Proposed seasonal wildlife & recreation - 15 acres
-  Proposed year-round wildlife habitat - 4 acres

T5N1R5W
S35 NENE



SPF WATER
ENGINEERING

300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

Permit Application Map

Ducks End LLC

DATE: 11/3/2020

CREATOR: Igraves

PROJECT: 1605.0010



Absolute Scale: 1:5,000

0 250 500
Feet

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	TBD
REVIEWER	SPF Water Engineering
DATE	11/3/2020

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	SW	
Suggested Seepage Rate (FT./DAY)	0.2000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	260663	GPD
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Total Seepage Loss (AFA)	292.0	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	TBD
REVIEWER	SPF Water Engi
DATE	11/3/2020

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: Caldwell

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.84	31	0.00
Feb	0.12	28	3.36
March	1.17	31	36.27
April	2.54	30	76.20
May	3.69	31	114.39
June	4.21	30	126.30
July	4.81	31	149.11
August	4.05	31	125.55
September	2.86	30	85.80
October	1.73	31	53.63
November	-0.08	30	0.00
December	-0.75	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 = 770.61

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

(770.61 ÷ 304.8) X 4.00 = 10.1 AFA

Total Storage Calculations

FILE NUMBER	TBD
REVIEWER	SPF Water Engineer
DATE	11/3/2020

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.)	4	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	2.5	"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)	10	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)	292.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	10.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	312.1	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.

Flow Rate into Pond (CFS)	0.60	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	4.81	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	0.86	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.44	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	31	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	-12	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.

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	TBD
REVIEWER	SPF Water Engineering
DATE	11/3/2020

User Input
Calculated value
Formula Explanations

INPUTS

Pond Surface Area (AC.)	15	AC.
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Pond Surface Area (SQ. FT.)	653400	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	SW	
Suggested Seepage Rate (FT./DAY)	0.2000	FT./DAY

Formula: (Surface Area X Seepage Rate) X 7.48 = Gallons Per Day Loss
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Convert to GPD	977486	GPD
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Total Seepage Loss (AFA)	456.0	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
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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

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FILE NUMBER	TBD
REVIEWER	SPF Water Engi
DATE	11/3/2020

User Input
Calculated value
Formula Explanations

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

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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: Caldwell

Month	mm/day ¹	Days per month	mm/Month
Jan	-0.84	31	0.00
Feb	0.12	28	3.36
March	1.17	0	0.00
April	2.54	0	0.00
May	3.69	0	0.00
June	4.21	0	0.00
July	4.81	0	0.00
August	4.05	0	0.00
September	2.86	0	0.00
October	1.73	31	53.63
November	-0.08	30	0.00
December	-0.75	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 = 56.99

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

(56.99) ÷ 304.8) X 15.00 = 2.8 AFA

Total Storage Calculations

FILE NUMBER	TBD
REVIEWER	SPF Water Engineer
DATE	11/3/2020

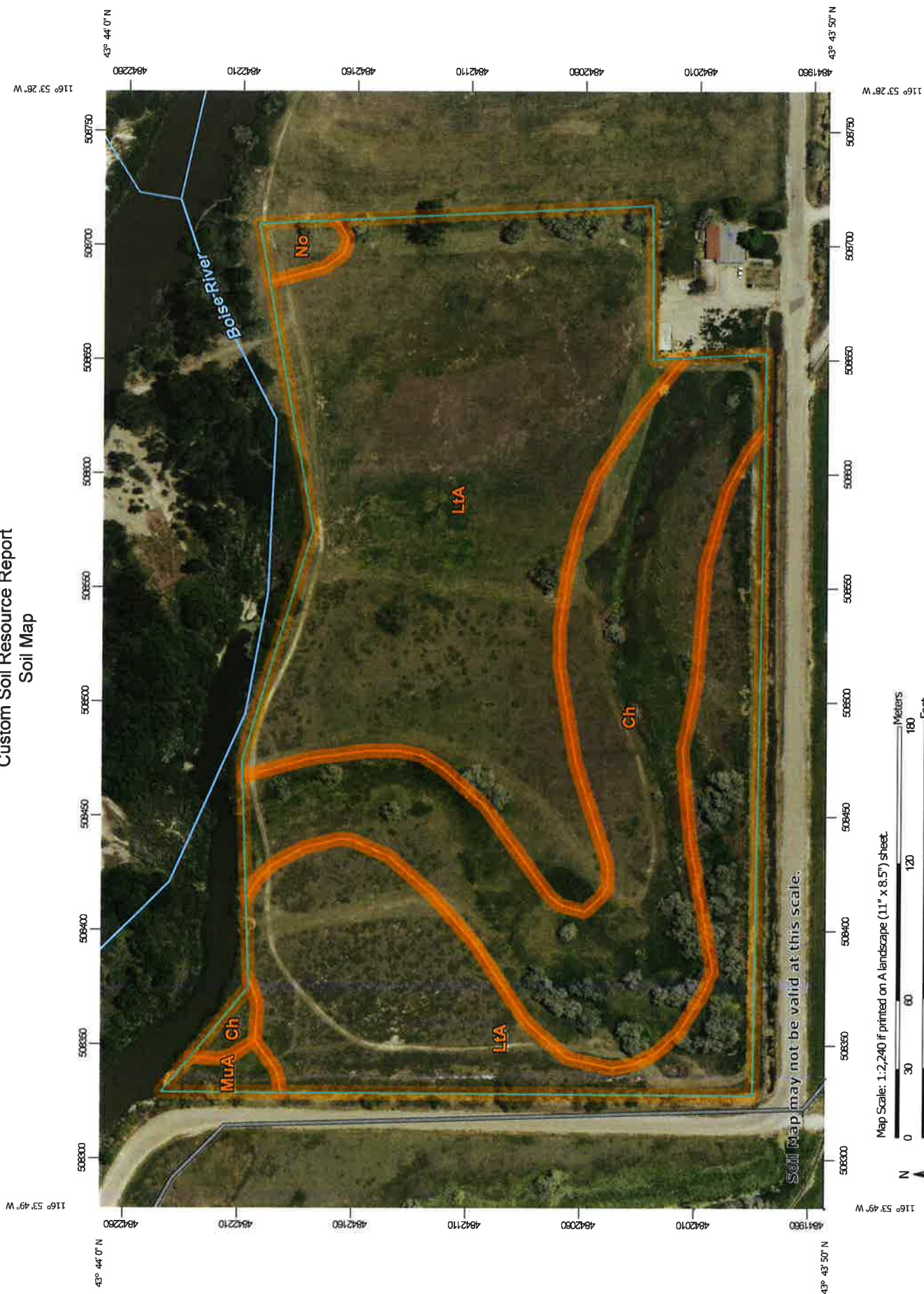
This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	15	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	0.5	"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)	7.5	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 " <u>From Storage</u> " component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	456.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	2.8	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	466.3	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.

Flow Rate into Pond (CFS)	2.25	The "Flow Rate into Pond" depicts the actual flow, either measured or estimated, into the pond. For offstream facilities, this will be equivalent to "diversion to storage" rate.
Highest Daily Evaporation Rate From Evaporation Tab. (mm/Day)	4.81	This number is carried over from the "Evaporation Loss" sheet. It is the highest recorded number in the "Precipitation Deficit Table".
Required Daily Maintenance Volume (AF/Day)	1.49	"Required Daily Maintenance Volume" is the maximum volume of water needed on any given day during the year to maintain pond volume. It is calculated by adding the highest daily evaporation loss to the average daily seepage loss in acre feet. The average daily seepage loss is calculated by dividing the "Estimated Seepage Loss" by 365 days. This is acceptable, since the seepage rate shouldn't vary throughout the season unless the pond completely freezes over during the winter months. The highest daily evaporation loss is calculated by dividing the Highest Daily Evaporation Rate by the 304.8 conversion factor and multiplying this number by the pond surface area to attain a combined daily acre feet requirement.
Minimum Maintenance Flow (CFS)	0.75	The "Minimum Maintenance Flow" is the minimum amount of flow required to maintain the level of the pond. This number is determined by dividing the "Maximum Required Daily Maintenance Volume" by 1.9835. This flow can be used to determine if the flow rate into the pond is adequate to maintain the pond level.
Days Required to Fill the Pond	3	The "Days Required to Fill the Pond" is calculated by dividing the "Pond Capacity" by the "Flow Rate" minus "Minimum Maintenance Flow" multiplied by 1.9835. This section will assist you in determining if the flow rate being diverted to the pond is adequate to fill the pond while maintaining the pond level. The length of time to fill the pond will help determine if the flow rate is adequate for the size of pond being proposed. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond.
Days Required to Fill the Pond at 13,000 Gallons per Day	-5	Some water users may want to fill a pond under the 13,000 gallons per day domestic exemption. The "Days Required to Fill the Pond at 13,000 Gallons per Day" is calculated by converting the "Pond Capacity" and the "Required Daily Maintenance Volume" to gallons. The "Pond Capacity" is then divided by 13,000 gallons minus the "Required Daily Maintenance Volume" in gallons to determine the number of days to fill pond. If this number is approximately 6 months (180 days) or more, the reviewer should have a discussion with the applicant to make sure he/she understands that it will take a significant length of time to fill the pond. Negative values indicate that the supply of 13,000 gallons per day is not enough volume to overcome the required daily maintenance volume; the pond will never fill.

Custom Soil Resource Report Soil Map



Map Scale: 1:2,240 if printed on A landscape (11" x 8.5") sheet.
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

MAP INFORMATION

- Area of Interest (AOI)**

 - Area of Interest (AOI)
- Soils**

 - Soil Map Unit Polygons
 - Soil Map Unit Lines
 - Soil Map Unit Points
- Special Point Features**

 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features**

 - Streams and Canals
- Transportation**

 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**

 - Aerial Photography
- Other**

 - Spill Area
 - Stony Spot
 - Very Stony Spot
 - Wet Spot
 - Other

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Canyon Area, Idaho
Survey Area Data: Version 17, Jun 3, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 10, 2020—Jun 26, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Chance fine sandy loam	6.1	30.3%
LtA	Letha fine sandy loam, strongly saline-alkali, 0 to 1 percent slopes	13.6	67.8%
MuA	Moulton fine sandy loam, saline, 0 to 1 percent slopes	0.2	0.9%
No	Notus soils	0.2	0.9%
Totals for Area of Interest		20.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Canyon Area, Idaho

Ch—Chance fine sandy loam

Map Unit Setting

National map unit symbol: 2q0f
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 8 to 13 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Chance and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chance

Setting

Landform: Depressions, swales, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
Oe - 1 to 2 inches: moderately decomposed plant material
Ag - 2 to 14 inches: fine sandy loam
Bg - 14 to 25 inches: sandy loam
2Cg - 25 to 62 inches: sand, gravel

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Riverwash

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

LtA—Letha fine sandy loam, strongly saline-alkali, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2q26
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 8 to 13 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Letha, strongly saline-alkali, and similar soils: 75 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Letha, Strongly Saline-alkali

Setting

Landform: Stream terraces, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 5 inches: fine sandy loam
C1 - 5 to 40 inches: fine sandy loam
2C2 - 40 to 58 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 2.00 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 25.0
Available water capacity: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Hydric soil rating: No

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Minor Components

Chance

Percent of map unit: 5 percent

Landform: Depressions

Hydric soil rating: Yes

MuA—Moulton fine sandy loam, saline, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2q2s

Elevation: 2,100 to 4,500 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 160 days

Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Moulton, saline, and similar soils: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moulton, Saline

Setting

Landform: Stream terraces, flood plains, fan remnants

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from igneous rock

Typical profile

A - 0 to 3 inches: fine sandy loam

Bg - 3 to 21 inches: fine sandy loam

2C - 21 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)

Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 4w

Land capability classification (nonirrigated): 6c

Hydrologic Soil Group: B

Custom Soil Resource Report

Hydric soil rating: No

No—Notus soils

Map Unit Setting

National map unit symbol: 2q2y
Elevation: 2,000 to 4,500 feet
Mean annual precipitation: 7 to 13 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Notus and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Notus

Setting

Landform: Fan remnants, terraces
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed alluvium

Typical profile

A - 0 to 1 inches: sandy loam
C1 - 1 to 14 inches: fine sandy loam
2C2 - 14 to 60 inches: stratified sand to gravel

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water capacity: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Hydric soil rating: No



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region • 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Website: www.idwr.idaho.gov

BRAD LITTLE
Governor

GARY SPACKMAN
Director

November 24, 2020

RIVERSIDE IRRIGATION DISTRICT LTD
PO BOX 1080
PARMA ID 83660

Re: Application for Permit No. 63-34977

Dear Interested Party:

The above referenced application may be of interest to you. I would like to inform you that the application has been submitted to the *Idaho Press Tribune* for advertising. I enclosed a copy of the application for your convenience. This information is also available on our website www.idwr.idaho.gov.

If you wish to formally protest the approval of the application, you must submit a protest with the \$25.00 protest fee to this office by **5:00 p.m., December 21, 2020**. You must also send a copy of your protest to the applicant.

If you have any questions regarding the application, please contact this office at 208-334-2190.

Sincerely,

Anna Kaiser
Water Resource Agent
Western Regional Office

Enclosures

Kaiser, Anna

From: Kaiser, Anna
Sent: Tuesday, November 24, 2020 4:14 PM
To: 'waterdistrict63@qwestoffice.net'; 'mikemeyerswd63@gmail.com'
Subject: Application for Permit No. 63-34977
Attachments: Watermaster Recommendation Form.docx; 63-34972.pdf; 84105.pdf

November 24, 2020

WATER DISTRICT #63

RE: Application for Permit No. 63-34977

Dear Watermaster:

The Idaho Department of Water Resources (IDWR) is seeking written comment and/or recommendations from you regarding the above referenced water right applications. Copies of the application are enclosed with this email for your reference. Please review the applications, complete a recommendation form, and submit your reply, if any, to this office by **December 21, 2020**.

IDWR will assume you do not object to these applications if a timely response is not received. Please contact me if you have any questions in this matter. Thank you for your help.

Sincerely,

Anna Kaiser | Water Resource Agent
IDWR-Western Region
2735 W Airport Way, Boise ID 83705
(208).334.2190 | anna.kaiser@idwr.idaho.gov

Kaiser, Anna

From: Kaiser, Anna
Sent: Tuesday, November 24, 2020 4:13 PM
To: 'casey.pozzanghera@idfg.idaho.gov'
Subject: Application for Permit No. 63-34977
Attachments: IDFG Recommendation Form.docx; 63-34977.pdf

November 24, 2020

STATE OF IDAHO
DEPT OF FISH & GAME
3101 S POWERLINE RD
NAMPA, ID 83686

RE: Application for Permit No(s). 63-34977

Dear IDFG:

The Idaho Department of Water Resources (IDWR) requests written comment and/or recommendation from your agency regarding the above referenced water right application. A copy of the application is enclosed with this email for your reference. Please review the application, complete the enclosed recommendation form, and submit your reply, if any, to this office by the December 21, 2020.

if you do not respond before December 21, IDWR will assume your agency does not object to the application(s). Please contact me if you have any questions regarding the applications. Thank you for your help.

Sincerely,

Anna Kaiser | Water Resource Agent
IDWR-Western Region
2735 W Airport Way, Boise ID 83705
(208).334.2190 | anna.kaiser@idwr.idaho.gov



State of Idaho

DEPARTMENT OF WATER RESOURCES

WESTERN Region • 2735 W AIRPORT WAY • BOISE, ID 83705-5082

Phone: (208)334-2190 • Fax: (208)334-2348 • Website: www.idwr.idaho.gov

Brad Little
Governor

Gary Spackman
Director

November 24, 2020

DUCKS END LLC
51 DAPPLEGRAY LN
RLLNG HLS EST, CA 90274-4239

RE: Application for Permit No. 63-34977

Dear Applicant(s):

The Department of Water Resources has received your water right application. Please refer to the number referenced above in all future correspondence regarding this application.

A legal notice of the application has been prepared and is scheduled for publication in the PRESS TRIBUNE on 12/3/2020 and 12/10/2020. Protests to this application may be submitted for a period ending ten (10) days after the second publication.

If the application is protested, you will be sent a copy of each protest. All protests must be resolved before the application can be considered for approval. If the protest(s) cannot be resolved voluntarily, the Department will conduct a conference and/or hearing on the matter.

If the application is not protested, the Department will process your application and notify you of any action taken on the application. If your application is approved, the Department will send you a copy of the permit.

Please contact this office if you have any questions regarding the application.

Sincerely,

Anna Kaiser
Water Resource Agent

CC:
SPF WATER ENGINEERING LLC
C/O LORI GRAVES
300 E MALLARD DR STE 350
BOISE, ID 83706-6660

Kaiser, Anna

From: Kaiser, Anna
Sent: Tuesday, November 24, 2020 2:59 PM
To: 'IDAHO PRESS TRIBUNE'
Subject: CANYON Legal Notice
Attachments: Cover Letter.docx; Legal Notice.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Good Afternoon Legal Clerk,

Please see the attached ad for publication on 12/3/2021 and 12/10/2021.

Please confirm this is okay to publish as shown and send confirmation and all other correspondence to this email.

Thank you,

Anna Kaiser | Water Resource Agent
IDWR-Western Region
2735 W Airport Way, Boise ID 83705
(208).334.2190 | anna.kaiser@idwr.idaho.gov



State of Idaho

DEPARTMENT OF WATER RESOURCES

WESTERN Region • 2735 W AIRPORT WAY • BOISE, ID 83705-5082

Phone: (208)334-2190 • Fax: (208)334-2348 • Website: www.idwr.idaho.gov

Brad Little
Governor

Gary Spackman
Director

November 24, 2020

LEGAL NOTICE DEPARTMENT
PRESS TRIBUNE
PO BOX 9399
NAMPA, ID 83652

RE: Application for Permit No. 63-34969, 63-34976, 63-34977

Dear Legal Notice Department:

Please publish the enclosed legal notice on the dates indicated (once a week for two consecutive weekly issues). If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Please send the affidavit and bill to this office before 12/21/2020. Your cooperation is appreciated.

Sincerely,

Anna Kaiser
Water Resource Agent

Enclosure(s)

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

63-34969

IDAHO YOUTH RANCH
5465 W IRVING ST
BOISE, ID 83706-1213
Point of Diversion SENE S9 T05N R03W CANYON County Source GROUND WATER
Use: DOMESTIC 01/01 to 12/31 0.67 CFS
Total Diversion: 0.67 CFS
Date Filed: 10-21-2020
Place Of Use: DOMESTIC
T05N R03W S9 NESE NWSE SWNE SENE
Water bearing zone to be appropriated is from 120 to 320 feet.

63-34976

SKYLINE HOMES & DEVELOPMENT LLC
3516 BLACK BUTTE CT
NAMPA, ID 83687-5197
Point of Diversion NESE S36 T05N R02W CANYON County Source GROUND WATER
Point of Diversion SWSE S36 T05N R02W CANYON County Source GROUND WATER
Use: IRRIGATION 03/01 to 11/15 0.14 CFS
Total Diversion: 0.14 CFS
Date Filed: 11-18-2020
Place Of Use: IRRIGATION
T05N R02W S36 NESE NWSE SWSE SESE
Total Acres: 7 within a 113-acre ppu
Water bearing zone to be appropriated is from 200 to 500 feet.

63-34977

DUCKS END LLC
51 DAPPLEGRAY LN
RLLNG HLS EST, CA 90274-4239
Point of Diversion NENE S35 T05N R05W CANYON County Source BOISE RIVER Tributary SNAKE RIVER
Use: IRRIGATION 03/01 to 11/15 0.3 CFS
Use: WILDLIFE 03/01 to 09/30 0.6 CFS
Use: RECREATION 10/01 to 02/29 2.25 CFS
Use: WILDLIFE STORAGE 01/01 to 12/31 778 AF
Total Diversion: 2.85 CFS 778 AF
Date Filed: 11-18-2020
Place Of Use: IRRIGATION, RECREATION, WILDLIFE, WILDLIFE STORAGE
T05N R05W S35 NENE
Total Acres: 15

Permits will be subject to all prior water rights. For additional information concerning the property location, contact the Western office at (208)334-2190; or for a full description of the right(s), please see <https://idwr.idaho.gov/apps/ExtSearch/WRAApplicationResults/>. Protests may be submitted based on the criteria of Idaho Code § 42-203A. Any protest against the approval of this application must be filed with the Director, Dept. of Water Resources, Western Region, 2735 W AIRPORT WAY, BOISE ID 83705-5082 together with a protest fee of \$25.00 for each application on or before 12/21/2020. The protestant must also send a copy of the protest to the applicant.
GARY SPACKMAN, Director

Published on 12/3/2020 and 12/10/2020



RECEIVED

NOV 18 2020

WATER RESOURCES
WESTERN REGION

November 16, 2020

Patrick Kelly
Western Region Water Right Supervisor
Idaho Department of Water Resources
2735 Airport Way
Boise, ID 83705

Subject: Application for Permit – Ducks End LLC

Dear Patrick,

On behalf of Ducks End LLC, enclosed please find an application for permit proposing appropriation of water from the Boise River for irrigation, wildlife, and recreation uses.

Irrigation is proposed on 15 acres and year-round wildlife use is proposed on 4 acres. The 15 irrigated acres will be flooded during the fall and winter months for recreation (waterfowl hunting) and wildlife purposes.

A check for the \$530.00 filing fee is enclosed. The filing fee is based on a volume of 778 acre feet (17.5 af storage, 12.9 evaporation, 748 af seepage).

Please contact me with any questions.

Sincerely,

Terry M. Scanlan, P.E., P.G.

Enclosures: Application, \$530 Filing Fee

Cc: David Johnston – Ducks End LLC

SPF file number: 1605.0010