

**CLAIM OF  
BENEFICIAL USE  
for Transfer with Multiple  
Changes – Surface Water**



**Oregon Water Resources Department**  
725 Summer Street NE, Suite A  
Salem, Oregon 97301-1266  
(503) 986-0900  
[www.oregon.gov/OWRD](http://www.oregon.gov/OWRD)

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**A fee of \$200 must accompany this form for any Transfer final orders including a water right with a priority date of July 9, 1987, or later.**

Example – A transfer involves 5 rights and one of the rights has a priority date of July 9, 1987, or later, the fee is required.

**A separate form shall be completed for each transfer.**

This form is subject to revision. **Begin each new claim** by checking for a new version of this form at: <https://www.oregon.gov/OWRD/Forms/Pages/default.aspx>

The completion of this form is required by OAR 690-014-0100(1) and 690-014-0110(4).

Please type or print in dark ink. If this form is found to contain errors or omissions, it may be returned to you. **Every item must have a response.** If any requested information does not apply to the claim, insert "NA." **Do not delete or alter any section of this form unless directed by the form.** The Department may require the submittal of additional information from any water user or authorized agent.

"Section 8" of this form is intended to aid in the completion of this form and should not be submitted.

A claim of beneficial use includes both this report and a map. If the map is being mailed separately from this form, please include a note with this form indicating such.

If you have questions regarding the completion of this form, please call 503-986-0900 and ask for the Certificate Section.

The Department has a program that allows it to enter into a voluntary agreement with an applicant for expedited services. Under such an agreement, the applicant pays the cost to hire additional staff that would not otherwise be available. This program means a certificate may be issued in about a month. For more information on this program see:

<https://www.oregon.gov/OWRD/programs/WaterRights/RA/Pages/default.aspx>

**SECTION 1**

**GENERAL INFORMATION**

**Type of Authorized Change**

This Claim is being submitted for a transfer involving multiple changes.

**YES NO**

Mark all that apply:

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Change in POD(s) or Additional POD(s) | 2. <input checked="" type="checkbox"/> Change in Place of Use      |
| 3. <input type="checkbox"/> Change in Character of Use                       | 4. <input type="checkbox"/> Change in Character of Use – Reservoir |

*A separate section will be completed for each type of change authorized in the transfer final order.*

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1. File Information

APPLICATION # <b>T-8680</b>
--------------------------------

2. Property Owner (current owner information)

APPLICANT/BUSINESS NAME <b>ALICEL IRRIGATION DISTRICT</b>		PHONE NO. <b>541-805-9305</b>	ADDITIONAL CONTACT NO.
ADDRESS <b>65101 IMBLER RD.</b>			
CITY <b>COVE</b>	STATE <b>OR</b>	ZIP <b>97824</b>	E-MAIL

If the current property owner is not the transfer holder of record, it is recommended that an assignment be filed with the Department. ***Each transfer holder of record must sign this form.***

3. Transfer holder of record (this may, or may not, be the current property owner)

TRANSFER HOLDER OF RECORD		
ADDRESS		
CITY	STATE	ZIP

4. Date of Site Inspection:

<b>JULY 30, 2020</b>
----------------------

5. Person(s) interviewed and description of their association with the project:

NAME	DATE	ASSOCIATION WITH THE PROJECT
<b>ROBERT BECK</b>	<b>8/04/2020</b>	<b>APPLICANT</b>

6. County:

<b>UNION</b>
--------------

7. If any property described in the place of use of the transfer final order is excluded from this report, identify the owner of record for that property (ORS 537.230(5)):

OWNER OF RECORD		
ADDRESS		
CITY	STATE	ZIP

Add additional tables for owners of record as needed

1. File Information

APPLICATION # T-8680
-------------------------

2. Property Owner (current owner information)

APPLICANT/BUSINESS NAME ALICEL IRRIGATION DISTRICT		PHONE NO. 541-805-9305	ADDITIONAL CONTACT NO.
ADDRESS 65101 IMBLER RD.			
CITY COVE	STATE OR	ZIP 97824	E-MAIL

If the current property owner is not the transfer holder of record, it is recommended that an assignment be filed with the Department. **Each** transfer holder of record must sign this form.

3. Transfer holder of record (this may, or may not, be the current property owner)

TRANSFER HOLDER OF RECORD <i>Alicel Irrigation dist.</i>			
ADDRESS <i>65101 Imbler Rd</i>			
CITY <i>Cove</i>	STATE <i>OR</i>	ZIP <i>97824</i>	

4. Date of Site Inspection:

JULY 30, 2020
---------------

5. Person(s) interviewed and description of their association with the project:

NAME	DATE	ASSOCIATION WITH THE PROJECT
ROBERT BECK	8/04/2020	APPLICANT

6. County:

UNION
-------

7. If any property described in the place of use of the transfer final order is excluded from this report, identify the owner of record for that property (ORS 537.230(5)):

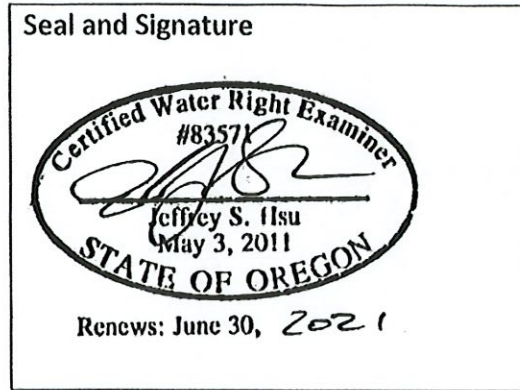
OWNER OF RECORD		
ADDRESS		
CITY	STATE	ZIP

Add additional tables for owners of record as needed

SECTION 2  
SIGNATURES

CWRE Statement, Seal and Signature

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge.



CWRE NAME JEFFREY S HSU		PHONE NO. 541-963-6092	ADDITIONAL CONTACT NO.
ADDRESS 2006 ADAMS AVE.			
CITY LA GRANDE	STATE OR	ZIP 97850	E-MAIL jeff@bgbsurveyors.com

Transfer Holder of Record Signature or Acknowledgement

Each transfer holder of record must sign this form in the space provided below.

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge. I request that the Department issue a water right certificate.

SIGNATURE	PRINT OR TYPE NAME	TITLE	DATE
	Robert A. Beck	aliced Irr. dist Pres	11/9/21

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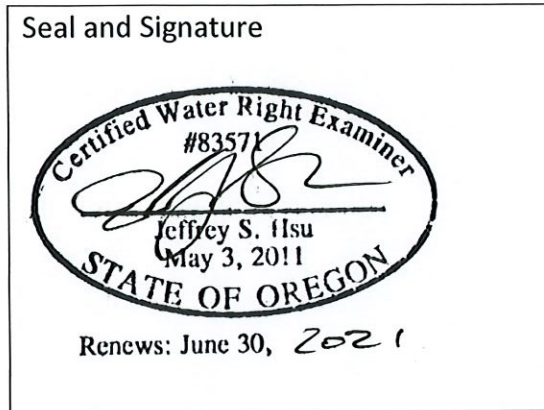
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**SECTION 2**  
**SIGNATURES**

CWRE Statement, Seal and Signature

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge.



CWRE NAME <b>JEFFREY S HSU</b>	PHONE NO. <b>541-963-6092</b>	ADDITIONAL CONTACT NO.
ADDRESS <b>2006 ADAMS AVE.</b>		
CITY <b>LA GRANDE</b>	STATE <b>OR</b>	ZIP <b>97850</b>
E-MAIL <b>jeff@bgbsurveyors.com</b>		

Transfer Holder of Record Signature or Acknowledgement

***Each*** transfer holder of record must sign this form in the space provided below.

The facts contained in this Claim of Beneficial Use are true and correct to the best of my knowledge. I request that the Department issue a water right certificate.

SIGNATURE	PRINT OR TYPE NAME	TITLE	DATE

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**SECTION 3**  
**Changes Made**

**Note: The Claim only needs to describe the changes that were authorized in the transfer final order.**

**Change #1**

**New or Additional Point of Diversion**  
**Change in POD(s) or Additional POD(s)**

Did the transfer order authorize a change in the points of diversion or additional points of diversion? YES    NO

*If "NO", this Section can be deleted.*

**1. New or additional point of diversion name or number:**

POINT OF DIVERSION (POD) NAME OR NUMBER (CORRESPOND TO MAP)	SOURCE
<b>POD#2</b>	<b>GRANDE RONDE RIVER</b>
<b>POD#3</b>	<b>GRANDE RONDE RIVER</b>

**2. Variations:**

Was the use developed differently from what was authorized by the transfer final order, or extension final? YES    NO

If yes, describe below.

*(e.g. "The order allowed three new/additional points of diversion. The water user only developed one of the points.")*

**CERTIFICATE 91331(ISSUED FEB 2016) PLACED PRIMARY RIGHTS (PRIORITY DATE JULY 25, 1911) IN SAME LOCATION THAT THIS PERMIT HAS ORIGINALLY PROPOSED TO TRANSFER PRIMARY RIGHTS. THE TRANSFER OF PLACE OF USE OF THE RIGHTS WITHIN THIS APPLICATION ARE THEREFORE INTENDED TO BE CONSIDERED SUPPLEMENTAL.**

**3. Claim Summary:**

NEW OR ADDITIONAL POD NAME OR #	MAXIMUM RATE AUTHORIZED IN ORDER	CALCULATED THEORETICAL RATE BASED ON SYSTEM	AMOUNT OF WATER MEASURED
<b>POD#2</b>	<b>2.62</b>	<b>6.58</b>	<b>4.45</b>
<b>POD#3</b>	<b>4.78</b>	<b>5.95</b>	<b>5.35</b>

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### System Description

Are there multiple new or additional Points of Diversion (POD)? YES NO

If "YES" you will need to copy and complete Sections A, B, or C in this Section for each POD.

POD Name or Number this section describes (only needed if there is more than one):

POD#2

#### A. POD System Information

Provide the following information concerning the point of diversion. Information provided must describe the equipment used to appropriate water from the point of diversion.

##### 1. Pump Information

MANUFACTURER	MODEL	SERIAL NUMBER	TYPE (CENTRIFUGAL, TURBINE OR SUBMERSIBLE)	INTAKE SIZE	DISCHARGE SIZE
MEURET	-	-	TURBINE	-	-

##### 2. Motor Information

MANUFACTURER	HORSEPOWER
FAIRBANK – MORSE	150 HP

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##### 3. Theoretical Pump Capacity

HORSEPOWER	OPERATING PSI	LIFT FROM SOURCE TO PUMP	LIFT FROM PUMP TO PLACE OF USE	TOTAL PUMP OUTPUT (IN CFS)
150	60	8'	0	6.58 CFS

##### 4. Provide pump calculations:

7.04 X 150  
----- = 6.58 CFS  
8 + 152.4

##### 5. Measured Pump Capacity (using meter if meter was present and system was operating)

INITIAL METER READING	ENDING METER READING	DURATION OF TIME OBSERVED	TOTAL PUMP OUTPUT (IN CFS)
2000 GPM	2000 GPM	INSTANTANEOUS	4.45 CFS

Reminder: For pump calculations use the reference information at the end of this document.

##### 6. Additional notes or comments related to the system:

### System Description

POD Name or Number this section describes (only needed if there is more than one):

POD#3

#### A. POD System Information

Provide the following information concerning the point of diversion. Information provided must describe the equipment used to appropriate water from the point of diversion.

**1. Pump Information**

MANUFACTURER	MODEL	SERIAL NUMBER	TYPE (CENTRIFUGAL, TURBINE OR SUBMERSIBLE)	INTAKE SIZE	DISCHARGE SIZE
BERKELEY	JBRKTH107	55105	CENTRIFUGAL	-	-

**2. Motor Information**

MANUFACTURER	HORSEPOWER
FAIRBANK – MORSE	150 HP

**3. Theoretical Pump Capacity**

HORSEPOWER	OPERATING PSI	LIFT FROM SOURCE TO PUMP	LIFT FROM PUMP TO PLACE OF USE	TOTAL PUMP OUTPUT (IN CFS)
150	60	14'	0	5.95 CFS

**4. Provide pump calculations:**

6.61 X 150  
 ----- = 5.95 CFS  
 14 + 152.4

**5. Measured Pump Capacity (using meter if meter was present and system was operating)**

INITIAL METER READING	ENDING METER READING	DURATION OF TIME OBSERVED	TOTAL PUMP OUTPUT (IN CFS)
2400 GPM	2400 GPM	INSTANTANEOUS	5.35 CFS

Reminder: For pump calculations use the reference information at the end of this document.

**6. Additional notes or comments related to the system:**

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**B. Gravity Flow Pipe**

(THE DEPARTMENT TYPICALLY USES THE HAZEN-WILLIAM'S FORMULA FOR A GRAVITY FLOW PIPE SYSTEM)

1. Does the diversion involve a gravity flow pipe?

YES NO

If "NO", items 2 through 4 relating to this section may be deleted.

2. Complete the table:

PIPE SIZE	PIPE TYPE	"C" FACTOR	AMOUNT OF FALL	LENGTH OF PIPE	SLOPE	COMPUTED RATE OF WATER FLOW (IN CFS)

3. Provide calculations:

4. If an actual measurement was taken, provide the following:

DATE OF MEASUREMENT	WHO MADE THE MEASUREMENT	MEASUREMENT METHOD	MEASURED QUANTITY OF WATER (IN CFS)

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Attach measurement notes.

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**C. Gravity Flow Canal or Ditch**

(THE DEPARTMENT TYPICALLY USES MANNING'S FORMULA FOR CANALS AND DITCHES)

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1. Does the diversion involve a gravity flow ditch or canal?

YES NO

If "NO", items 2 through 4 relating to this section may be deleted.

2. Complete the table:

CANAL OR DITCH TYPE (MATERIAL)	TOP WIDTH OF CANAL OR DITCH	BOTTOM WIDTH OF CANAL OR DITCH	DEPTH	"N" FACTOR	AMOUNT OF FALL	LENGTH OF CANAL / DITCH	SLOPE	COMPUTED RATE (IN CFS)

3. Provide calculations:

4. If an actual measurement was taken, provide the following:

DATE OF MEASUREMENT	WHO MADE THE MEASUREMENT	MEASUREMENT METHOD	MEASURED QUANTITY OF WATER (IN CFS)

Attach measurement notes.

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**Change #2**

**Change in Place of Use**

Did the transfer order authorize a change in the place of use?

**YES NO**

*If "NO", this Section can be deleted.*

**1. Claim Summary – Authorized Use:**

If Irrigation or Nursery Use:

THE # OF ACRES ALLOWED	THE # OF ACRES DEVELOPED
<b>13.1 ACRES</b>	<b>13.1 ACRES</b>

**2. Variations:**

Was the use developed differently from what was authorized by the transfer final order? **YES NO**

If yes, describe below.

*(e.g. "The order authorized a change in place of use for 40 acres. The water user only developed 38 acres.")*

**CERTIFICATE 91331 (ISSUED FEB 2016) PLACED PRIMARY RIGHTS (PRIORITY DATE JULY 25, 1911) IN SAME LOCATION THAT THIS PERMIT HAS ORIGINALLY PROPOSED TO TRANSFER PRIMARY RIGHTS. THE TRANSFER OF PLACE OF USE OF THE RIGHTS WITHIN THIS APPLICATION ARE THEREFORE INTENDED TO BE CONSIDERED SUPPLEMENTAL.**

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**Change #3**

**Change in Character of Use**

Did the transfer order authorize a change in character of use?

**YES**   **NO**

*If "NO", this Section can be deleted.*

**1. Claim Summary – New Use(s):**

Provide the new uses authorized by the transfer final order:

NEW USE(S) AUTHORIZED

**2. Variations:**

Were all the uses developed from what was authorized by the transfer final order?

**YES**   **NO**

If no, describe below.

*(e.g. "The order authorized changes in character of use to industrial, commercial, and livestock. The water user did not develop the commercial use.")*

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**Change #4**

**Change in Character of Use – Reservoir**

Did the transfer order authorize a change in character of use for a reservoir?

**YES**   **NO**

*If "NO", this Section can be deleted.*

**1.**      Provide the date that the water was stored for the new character of use:

	DATE FROM TRANSFER	DATE STORAGE MADE THIS DATE MUST FALL BETWEEN THE "ISSUANCE DATE" AND THE "FULL USE MADE DATE"
ISSUANCE DATE		
FULL USE MADE (C)		

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d. If a meter has not been installed, has a suitable measuring device been installed and approved by the Department? **YES NO**

e. If "YES", provide a copy of the letter approving the device, if available. If the letter is not available provide the name and title of the Water Resources Department employee approving the measuring device, and the approximate date of the approval:

NAME	TITLE	APPROXIMATE DATE

f. Measurement Device Description

DEVICE DESCRIPTION	CONDITION (WORKING OR NOT)	DATE INSTALLED

4. Recording and reporting conditions

a. Is the water user required to report the water use to the Department? **RECEIVED YES NO**

If "NO", item b relating to this section may be deleted.

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b. Have the reports been submitted? **OWRD YES NO**

If the reports have not been submitted, attach a copy of the reports if available.

5. Fish Screening

a. Are any points of diversion required to be screened to prevent fish from entering the point of diversion? **YES NO**

If "NO", items b through e relating to this section may be deleted.

**Reminder: If fish screening devices were required, the COBU map must indicate their location in relation to the point of diversion.**

b. Has the fish screening been installed? **YES NO**

c. When was the fish screening installed?

DATE	BY WHOM
<b>1997</b>	<b>Rob Beck</b>

**Reminder: If the permit or transfer final order was issued on or after February 1, 2011, the fish screen is required to be approved by the Oregon Department of Fish and Wildlife regardless of the rate of diversion.**

d. If the diversion involves a pump *and* the total diversion rate of all rights at the point of diversion is less than 225 gpm (0.5 cfs) and the permit was issued prior to February 1, 2011:

- Has the self-certification form previously been submitted to the Department? **NA YES NO**

If not, go to <https://www.oregon.gov/OWRD/Forms/Pages/default.aspx>, complete and attach a copy of the 'ODFW Small Pump Screen Self Certification' form to this claim, and send a copy of it to the Oregon Department of Fish and Wildlife (ODFW).

**Reminder: Failure to submit evidence of a timely installed fish screen may result in an unfavorable determination. The ODFW self certification form needs to have been previously submitted or be attached to this form.**

e. If the diversion does **not involve a pump** or the **total** diversion rate of all rights at the point of diversion is 225 gpm (0.5 cfs) or greater:

- Has the ODFW approval been previously submitted?

If not, contact and work with ODFW to ensure compliance. To demonstrate compliance, provide signed documentation from ODFW. A form is available at:

<https://www.oregon.gov/OWRD/Forms/Pages/default.aspx>

**Reminder: Failure to submit evidence of a timely installed fish screen may result in an unfavorable determination. In order to receive a favorable approval, the ODFW/WRD "Fish Screen Inspection" form needs to have been previously submitted or be attached to this form.**

**6. By-pass Devices**

a. Are any points of diversion required to have a by-pass device to prevent fish from entering the point of diversion? **YES NO**

*If "NO", items b and c relating to this section may be deleted.*

**Reminder: If by-pass devices were required, the COBU map must indicate their location in relation to the point of diversion.**

b. Have by-pass devices been installed? **YES NO**

c. Describe the diversion works as related to whether a by-pass device is installed or unnecessary:

(Provide a letter from ODFW indicating the device is approved or is unnecessary. If there is no letter from ODFW, explain whether or not a by-pass device is necessary.)

DESCRIPTION (E.G. "ODFW HAS APPROVED THE BY-PASS DEVICE" OR "NO BY-PASS DEVICE IS NECESSARY BECAUSE THERE IS A DIRECT DIVERSION FROM THE STREAM VIA A PUMP ON RIVER LEFT STREAM BANK WITH FOOT VALVE DESCENDING DIRECTLY INTO NATURAL POOL.") IN ADDITION, YOU MAY ATTACH PHOTOS TO THIS CLAIM.	IF INSTALLED (DATE)	IF INSTALLED, BY WHOM

**7. Other conditions required by the transfer final order or extension final order:**

- a. Was the water user required to restore the riparian area if it was disturbed? **YES NO**
- b. Was a fishway required? **YES NO**
- c. Other conditions? **YES NO**

If "YES" to any of the above, identify the condition and describe the water user's actions to comply with the condition(s):

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**SECTION 5**  
**ATTACHMENTS**

Provide a list of any additional documents you are attaching to this report:

ATTACHMENT NAME	DESCRIPTION
ODFW Fish Screen Inspection	ODFW Fish Screen Inspection Form

**SECTION 6**  
**CLAIM OF BENEFICIAL USE MAP**

The Claim of Beneficial Use Map must be submitted with this claim. Claims submitted without the Claim of Beneficial Use map will be returned. The map shall be submitted on polyester film at a scale of 1" = 1320 feet, 1" = 400 feet, or the original full-size scale of the county assessor map for the location.

For the purpose of this Claim, the map identifying the location of the place of use does not require a new survey. The location of the place of use identified on the Claim map should be based on the original right of record at the time the transfer final order was issued. In transfers approved for additional points of diversion, the original points must be identified the map based on the original right of record at the time the transfer final order was issued.

Provide a general description of the survey method used to prepare the map. Examples of possible methods include, but are not limited to, a traverse survey, GPS, or the use of aerial photos. If the basis of the survey is an aerial photo, provide the source, date, series and the aerial photo identification number.

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## Map Checklist

Please be sure that the map you submit includes ALL the items listed below.  
(Reminder: Incomplete maps and/or claims may be returned.)

- Map on polyester film
- Appropriate scale (1" = 400 feet, 1" = 1320 feet, or the original full-size scale of the county assessor map)
- Township, Range, Section, Donation Land Claims, and Government Lots
- If irrigation, number of acres irrigated within each projected Donation Land Claims, Government Lots, Quarter-Quarters
- Locations of fish screens and/or fish by-pass devices in relationship to point of diversion
- Locations of meters and/or measuring devices in relationship to point of diversion or appropriation
- Conveyance structures illustrated (pumps, reservoirs, pipelines, ditches, etc.)
- Point(s) of diversion or appropriation (illustrated and coordinates)
- Tax lot boundaries and numbers
- Source illustrated if surface water
- Disclaimer ("This map is not intended to provide legal dimensions or locations of property ownership lines")
- Application and permit number or transfer number
- North arrow
- Legend
- CWRE stamp and signature

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## SECTION 7

### REFERENCE INFORMATION FOR CWRE USE

*(Please DO NOT submit these pages.)*

Additional information is available at:

<https://www.oregon.gov/OWRD/programs/WaterRights/COBU/Pages/default.aspx>

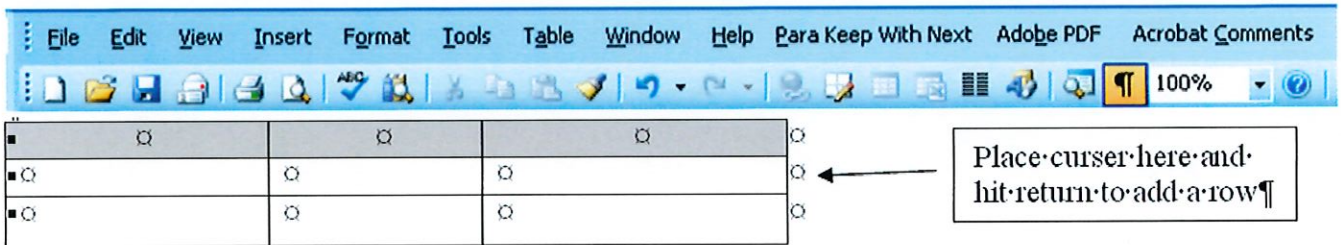
Go to "Resources for Certified Water Right Examiners (CWRE)" Page

### MS Word Hints

To add rows to a table, click outside the table on the far right and hit enter.


Place cursor here and hit return to add a row

If you are having difficulty placing the cursor outside the table, click on the Show/Hide (Paragraph) icon ¶. This is found on the Standard toolbar (View => Toolbars => Standard) of some versions of Word.



To resolve page numbering issues, go to print preview. Page through the entire document (while in print preview), then print from print preview.

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## Common Calculations

The Department typically uses the following calculations to determine system capacities; many of which are available to download from the Department's Web Site.

### Pumps:

$$Q \text{ Pump} = \frac{(\text{horsepower})(\text{pump efficiency})}{(\text{total head in feet})} = Q \text{ in cfs}$$

Efficiency factors:

NOTE: Pump efficiency factor for centrifugal pump (75%) = 6.61  
 Pump efficiency factor for turbine pump (80%) = 7.04

Centrifugal Pump, 75% eff.  $\frac{(550 \text{ ft lb/sec/Hp})(.75)}{(62.4 \text{ lb/cu ft})} = 6.61 \text{ ft}^4/\text{sec/Hp}$

Turbine & Submersible Pumps, 80% eff.  $\frac{(550 \text{ ft lb/sec/Hp})(.80)}{(62.4 \text{ lb/cu ft})} = 7.04 \text{ ft}^4/\text{sec/Hp}$

Total head is the sum of suction lift, pressure head, and discharge lift.

If the operating pressure is not measured, varying the assumed operational pressure in the above formulas until the calculated outputs are equal, or nearly so, will generally give the most correct theoretical capacity of the system.

*Efficiencies have been assumed to be 75% for centrifugal pump installations and 80% for turbine or submersible pumps. See the list below of converted psi's to feet of head. These figures account for minor friction losses. If the system involves unusually long pipelines friction losses should be accounted for by using standard charts and formulas.*

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**Refer to the conversion table below to compute PSI to head for pump pressure in feet.**

$$[(\text{psi}/.433)(1.1)] = \text{head (in feet/psi)} = 2.54 \text{ feet head/psi}$$

PSI	HEAD	PSI	HEAD
25	63.5	55	139.7
30	76.2	60	152.4
35	88.9	65	165.1
40	101.6	70	177.8
45	114.3	75	190.5
50	127.0	80	203.2

## Ditches/Canals:

Manning's Formula:

$$v = \frac{1.486}{n} r^{2/3} s^{1/2}$$

v = mean velocity of flow in feet per second  
 r = hydraulic radius in feet  
 s = slope of the energy gradient  
 n = coefficient of roughness

Type of Conduit and Description Pipe	Coefficient of Roughness	
	Minimum	Maximum
Cast Iron, Coated	0.01	0.014
Cast Iron, Uncoated	0.011	0.015
Wrought Iron, Galvanized	0.013	0.017
Wrought Iron, Black	0.012	0.015
Steel, Riveted and Spiral	0.013	0.017
Corrugated	0.021	0.0255
Wood Stave	0.01	0.014
Neat Cement Surface	0.01	0.013
Concrete	0.01	0.017
Vitrified Sewer Pipe	0.01	0.017
Clay, Common Drainage Tile	0.011	0.017
<b>Lined Channels</b>		
Metal, Smooth Semicircular	0.011	0.015
Metal, Corrugated	0.0228	0.0244
Wood, Planed	0.01	0.015
Wood, Unplaned	0.011	0.015
Neat Cement-Lined	0.01	0.013
Concrete	0.012	0.018
Cement Rubble	0.017	0.03
<b>Vegetated, Small Channels, Shallow Depths</b>		
Bermuda Grass; Long - 13", Green	0.042	
Bermuda Grass; Long - 13", Dormant	0.035	
Bermuda Grass; Short - 3", Green	0.034	
Bermuda Grass; Short - 3", Dormant	0.034	
<b>Unlined Channels</b>		
Earth; Straight and Uniform	0.017	0.025
Dredged	0.025	0.033
Winding and Sluggish	0.0225	0.03
Stoney Bed, Weeds on Bank	0.025	0.04
Earth Bottom, Rubble Sides	0.028	0.035
Rock Cuts; Smooth and Uniform	0.025	0.035
Rock Cuts; Jagged and Irregular	0.035	0.045

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## Gravity flow pipe systems

Hazen-William's Formula:

$$v = 1.31(c)(r^{0.63})(s^{0.54})$$

v = mean velocity of flow in feet per second

c = coefficient of roughness

r = hydraulic radius in feet

s = slope of energy gradient

Material	Coefficient of Roughness
Asbestos Cement	140
Brass	135
Brick sewer	100
Cast-Iron - new unlined (CIP)	130
Cast-Iron 10 years old	110
Cast-Iron 20 years old	95
Cast-Iron 30 years old	82
Cast-Iron 40 years old	74
Concrete	130
Copper	135
Ductile Iron Pipe (DIP)	140
Galvanized iron	120
Glass	140
Lead	135
Plastic	145
PVC, CPVC	150
Smooth Pipes	140
Steel new unlined	145
Steel	130
Steel riveted	110
Tin	130
Wood Stave	120

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**Fish Screen Inspection Form**

**Applicant**

Name: Robert Beck	Phone: 541-805-9305	541-963-6092
Applicant: Robert Beck	E-mail: rob@alicel.com	
Application Number: 43147	Water Right Permit Number: 32231	T-8680
Water Right Amount (cfs): 7.86		

**Diversion**

Stream: Grande Ronde River	Tributary to: Snake River
Address (if different from applicant): 65101 Imbler Road	Gravity Type (gravity or pump): Pump
Location: T1S, R39 E, S33	GPS Coordinates (UTM): 45.43167 N 117.93583 W
SATS:	

**Pump Information**

Brand: Electric	Horsepower: 25	Intake Size: 10"
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**Screen Information**

Type/Brand: Floating baffled screen 3/32 perf	Installed By: Rob Beck
Date Installed: annually	Date of Inspection: 5/16/2019
Inspected by: Chuck Simpson	Agency: ODFW
Comments: Screen meets criteria after baffles were installed, modifications recommended by Joel Watts and Ken Loffink, cleaning brushes and water flow for cleaning device.	

- Screen meets current state criteria for fish protection
- Screen does not meet current state criteria for fish protection
- Another screen inspection should be done before water use begins
- Fish passage meets current criteria
- Fish passage does not meet current criteria
- Fish passage not required
- Another fish passage inspection should be completed before water use begins
- Bypass structure meets current state criteria
- Bypass structure does not meet current state criteria
- Bypass structure not required



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Fish Screen Inspection Form

Applicant

Name: Robert Beck	Phone: 541-805-9305	541-963-6092
Applicant: Robert Beck	E-mail: rob@alichel.com	
Application Number: 43147	Water Right Permit Number: 32231	T-8680
Water Right Amount (cfs):7.86		

Diversion

Stream: Grande Ronde River	Tributary to: Snake River
Address (if different from applicant): 65101 Imbler Road	Gravity Type (gravity or pump): Pump
Location: T2S, R39 E, S3	GPS Coordinates (UTM):45.41972 N 117.93417W
SATS:	

Pump Information

Brand: Electric	Horsepower:25	Intake Size: 10"
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Screen Information

Type/Brand: CTC 3600	Installed By: Rob Beck
Date Installed: annually	Date of Inspection: 5/16/2019
Inspected by: Chuck Simpson	Agency: ODFW
Comments:	

- Screen meets current state criteria for fish protection
- Screen does not meet current state criteria for fish protection
- Another screen inspection should be done before water use begins
- Fish passage meets current criteria
- Fish passage does not meet current criteria
- Fish passage not required
- Another fish passage inspection should be completed before water use begins
- Bypass structure meets current state criteria
- Bypass structure does not meet current state criteria
- Bypass structure not required





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**Fish Screen Inspection Form**

**Applicant**

Name: Robert Beck	Phone: 541-805-9305	541-963-6092
Applicant: Robert Beck	E-mail: rob@alichel.com	
Application Number: 43147	Water Right Permit Number: 32231	T-8680
Water Right Amount (cfs):7.86		

**Diversion**

Stream: Grande Ronde River	Tributary to: Snake River
Address (if different from applicant): 65101 Imbler Road	Gravity Type (gravity or pump): Pump
Location: T2S, R39 E, S4/3	GPS Coordinates (UTM):45.41972 N 117.93417E
SATS:	

**Pump Information**

Brand: Electric	Horsepower:250	Intake Size: 10"
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**Screen Information**

Type/Brand: CTC 3600	Installed By: Rob Beck
Date Installed: annually	Date of Inspection: 5/16/2019
Inspected by: Chuck Simpson	Agency: ODFW
Comments:	

- Screen meets current state criteria for fish protection
- Screen does not meet current state criteria for fish protection
- Another screen inspection should be done before water use begins
- Fish passage meets current criteria
- Fish passage does not meet current criteria
- Fish passage not required
- Another fish passage inspection should be completed before water use begins
- Bypass structure meets current state criteria
- Bypass structure does not meet current state criteria
- Bypass structure not required



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**Fish Screen Inspection Form**

**OWRD**

**Applicant**

Name: Robert Beck	Phone: 541-805-9305	541-963-6092
Applicant: Robert Beck	E-mail: rob@alichel.com	
Application Number: 43147	Water Right Permit Number: 32231 T-8680	
Water Right Amount (cfs): 7.86		

**Diversion**

Stream: Grande Ronde River	Tributary to: Snake River
Address (if different from applicant): 65101 Imbler Road	Gravity Type (gravity or pump): Pump
Location: T1S, R39 E, S33/34	GPS Coordinates (UTM): 45.43167 N, 117.93583 E
SATS:	

**Pump Information**

Brand: Merrett	Horsepower: 25	Intake Size: 7"
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**Screen Information**

Type/Brand: Floating baffled screen 3/32" perf	Installed By: Rob Beck
Date Installed: annually	Date of Inspection: 5/16/2019
Inspected by: Chuck Simpson	Agency: ODFW
Comments: Screen meets criteria after baffles were installed, recommended by Joel Watts and Ken Loffink, Cleaning by brushes and water flow.	

- Screen meets current state criteria for fish protection
- Screen does not meet current state criteria for fish protection
- Another screen inspection should be done before water use begins
- Fish passage meets current criteria
- Fish passage does not meet current criteria
- Fish passage not required
- Another fish passage inspection should be completed before water use begins
- Bypass structure meets current state criteria
- Bypass structure does not meet current state criteria
- Bypass structure not required