

# Completion Checklist for CWRE Claims of Beneficial Use

Application # G-14867  
 Permit # G-15866  
 Transfer # \_\_\_\_\_  
 Date 9-28-2009  
 Reviewer \_\_\_\_\_



Date Received	<u>9-25-2009</u>
CWRE Name	<u>James Newton</u>
Claim Logged	<u>9-28-2009</u>
File Marked	<u>9-28-2009</u>
Oversized Map #	<u>0458</u>
Read the file and attach a copy of the permit or transfer final order. _____	

## Map Review:

- Map on polyester film (OAR 690-014-0170(1) & 310-0050(1)(b))
- Application & permit #; or transfer # (OAR 690-014-0100(1))
- Disclaimer (OAR 690-014-0170(5))
- North arrow (OAR 690-310-0050(2)(c))
- CWRE stamp and signature (OAR 690-014 & 310-0050)
- Appropriate scale (1" = 1320', 1" = 400', or the original full-size scale of the county assessor map) (014 & 310)
- Township, range, section, and tax lot numbers (OAR 690-310-0050(4))
- Source illustrated if surface water (OAR 690-014-0170(3))
- Point(s) of diversion or appropriation (illustrated) (OAR 690-014(4) & 690-310-0050)
- Point(s) of diversion or appropriation (coordinates)(OAR 690-014(4) & 690-310-0050)
- Conveyance structures illustrated (pump, pipelines, ditches, etc.) (OAR 690-310-0050)
- Description of the location, in relation to the point of diversion or appropriation, of any fish screens, by-pass devices, and measuring devices required (OAR 690-014(4))
- Place of use (1/4 1/4, or projected 1/4 1/4 lines within DLCs, or Gov Lots; if irrigation, # of acres in each subdivision; if for domestic or human consumption, location of dwelling or spigot) (OAR 690-310-0050, 690-014, 690-380-6010)

## Report Review:

- On form or format provided by the Department (OAR 690-014-0100(1))
- Application & permit #; or transfer # (OAR 690-014)
- Ownership information (OAR 690-014)
- Date of survey (OAR 690-014)
- Person interviewed (OAR 690-014)
- County (OAR 690-014)
- Tax lot information (OAR 690-014)
- Description of conveyances system (from POD to POU) (OAR 690-014-0100)
- Source(s) of water (OAR 690-014-0100)
- Point of diversion/appropriation location (OAR 690-014-0100)
- Use, period of use, and rate for use (OAR 690-014-0100)
- Place of use location (OAR 690-014-0100)
- Type of use (OAR 690-014-0100)
- Extent of use (OAR 690-014-0100)
- Rate and Duty (OAR 690-014-0100)
- Diversion rate for each use (OAR 690-014-0100)
- Diversion works description (pump make, serial model, capacity, and description) (OAR 690-014-0100)
- System capacity (OAR 690-014-0100)
  - Calculated capacity of system (required)
  - Measured amount of use (optional)
- Permit/Transfer Final Order Conditions (OAR 690-014-0100)
  - Time limits
  - Initial water level measurements
  - Annual static water level measurements
  - Measurement, recording, and reporting
    - Meter/measuring device
    - Water use reporting
  - Fish screening and/or by-pass
  - Pump test (ground water)
  - Other conditions
- CWRE stamp and signature (OAR 690-014-0100)
- Signature(s) of permittee of transfer holder (OAR 690-014-0100)

DEF = deficient  
 N/A = Not Applicable

# Certificate Issuance Processing Checklist

Map and COBU reviewed  
 Conflict check (include copy of plat card printout)      Any Conflicts? \_\_\_\_\_  
 Check for ownership

## Staff Recommendations:

Proof to the Satisfaction has been established to the full extent as described in the permit or transfer order.

Proof to the Satisfaction has been not been established to the full extent as described in the permit or transfer order and the right should be limited as follows: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Proof to the Satisfaction has not been established for the following reasons: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Proposed Actions:

Send letter requesting the following items/information: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Send letter recommending extension to cure deficiencies: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Can certificate be processed further?

Yes

If "Yes":

Proposed  
 Final

Certificate # \_\_\_\_\_

Mailing list:

Proposed:

Final:

## CLAIM OF BENEFICIAL USE

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 numbered item must have a response. If any requested information does not apply to the Claim, insert "n/a." Do not delete 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. **A separate form shall be completed for each permit or transfer final order.**

### I. General Information

1. File Information

Application Number (G, R, S or T)	Permit Number (if applicable)
G-14867	G-15866 (Attachment 1)

2. Property owner (current owner information)

a. Individuals

Name	N/A	N/A
Mailing Address		
City/State/Zip		
Phone #		
Fax #		
e-mail address		

b. Businesses/Organizations

Name	Bentwood Estates Water District
Contact Person and Title	Wes Scales, President
Mailing Address	P.O. Box 41
City/State/Zip	Redmond, OR 97756
Phone	541-548-1818
Fax	N/A
e-mail	wwscales@hotmail.com

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If the current property owner is not the permittee or transfer holder of record, it is recommended that an assignment be filed with the Department. The COBU must be signed by the permit/transfer holder of record.

3. Permittee / Transferee of record (this may, or may not, be the current property owner)

c. Individuals

	Individual 1	Individual 2
Name	N/A	N/A
Mailing Address		
City/State/Zip		



d. Businesses/Organizations

Name	Bentwood Estates Water District
Contact Person and Title	Wes Scales, President
Mailing Address	P.O. Box 41
City/State/Zip	Redmond, OR 97756

4. Date of Site Inspection: September 16, 2008

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

Name	Date	Association with the project
Wes Scales	9/16/08 and 6/10/09	President, Bentwood Estates Water District

6. County:

7. Tax Lot Information:

Tax map number	Tax lot number
151319DC	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100,
151319DC	1200, 1201, 1300, 1400, 1401, 1500, 1600, 1700, 1800, 1900, 2000,
151319DC	2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900,
151319DC	3000, 3100, 3200, 3300, 3301, 3400, 3500, 3600, 3700, 3800,
151319DC	3900, 4000, 4100

8. If any property described in the place of use of the permit or transfer final order is excluded from this report, identify the owner of record for that property (ORS 537.230(3)):

\*\*Mark "NA" if there are no owners of property not included in this claim

Name	
Contact Person and Title	N/A
Mailing Address	
City/State/Zip	
Phone #	

Name	N/A
Contact Person and Title	
Mailing Address	
City/State/Zip	
Phone #	

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## II. Points of Diversion/Appropriation and Place of Use

For each point of diversion or appropriation, provide the following information. If the claim is for more than one point of diversion/appropriation, copy and complete this section for each point of diversion or appropriation.

1. Provide a general narrative description of the distribution works. This description must trace the water system from the point of diversion or appropriation to and include the place of use:

This is a community water system that currently provides water to 28 homes for domestic and irrigation purposes. The system consists of a 600 foot deep well (DESC 3931) that pumps water into a 30,000 gallon



above ground concrete reservoir. Water is pumped by 15Hp and 7.5 Hp series mounted booster pumps with a 350 gallon pressure tank. Pressurized water is distributed from the pressure tank through a series of 1,795 feet of 8", 1,650 feet of 6", and 440 feet of 4" PVC pipe. Each of the 28 homes are delivered pressurized water from one of the distribution pipelines.

2. Point of diversion/appropriation name or number (correspond to map):

Point of diversion/appropriation name or number (correspond to map)	Well log ID # for all work performed on the well (if applicable)	Well tag # (if applicable)
Well	DESC 3931 (Attachment 2)	N/A

Attach each well log available for the well (include the log for the original well and any subsequent alterations, reconstructions, and deepenings)

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3. Point of diversion/appropriation source and, if from surface water, the tributary:

Source	Tributary to
Well in Deschutes River Basin	Deschutes River

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4. Point of diversion/appropriation location:

(DLC, Government Lot, 1/4 1/4, Section, Township, Range)	Reference to a recognized public land survey corner by distance and bearing or by coordinates
TL 100, SW/14, SE1/4, Sec. 19, T15S, R13E, W.M	1256.1 ft north, 1085.0 ft east of south 1/4, Sec. 19

5. Actual use(s), period of use, and rate for each use:

Uses	If irrigation, list crop type	When water is used	Rate for use
Quasi-Municipal	N/A	Year Around	0.111 cfs

**Total Quantity of Water**      0.111 cfs

6. Place of use for the point of diversion or appropriation:

DLC	Gov lot	1/4 1/4	Section	Township	Range	Use	# of primary acres	# of supplemental acres
-	-	SW SE	19	15S	13E	Q-M	N/A	N/A

**Total Acres Irrigated**      N/A

**Groundwater Source Information (Well and Sump)**

\*\*If the appropriation is not from ground water (well or sump), this section, items 1-5, can be deleted.

1. Describe the access port (type and location) or other means to measure the water level in the well in the box below:

One inch threaded galvanized open port on top of well on the north side.

2. If well logs are not available, provide as much of the following information as possible:

Casing Diameter	Casing Depth	Total Depth	Completion Date of Original Well	Completion Dates of Alterations	Who the well was drilled for	Well drilled by
	N/A	See well log	DESC 3931			

In addition to the information requested in item "2" above, provide any other information which may help the Department locate any well logs associated with this appropriation.

N/A

**Storage tank data**

\*\*If this system does not include a storage tank as part of the distribution system, this section, item 1, can be deleted.

1. If the system involved a storage tank, complete the table below:

Material (concrete, fiberglass, metal, etc.)	Capacity in gallons	Above ground or buried
Concrete	30,000	Above Ground

**System Information:**

Provide the following information concerning the diversion and delivery system. Trace the flow of water from the point of diversion/appropriation to the place of use.

1. Pump information

Location	Brand	Model	Serial Number	Type (centrifugal, turbine or submersible)	Intake size	Discharge size
Well Pump	Franklin*	*	*	Submersible		
East Distribution Pump	PACO Pump	Cat# 10-12709-03001-1744	1971027352	Centrifugal	2 inch	2 inch
West Distribution Pump	Pacific Pump	Cat # 10-20705-030000-1821	B1HRBP48218	Centrifugal	2 inch	2 inch

\* The pump was installed in the well and not accessible to acquire the details of the pump.

2. Motor information

Location	Brand	Model	Horsepower	Max RPM	Voltage
Well Pump	Groundfos *	135-12	20 hp	-	220
East Distribution Pump	Baldor Reliance	FRAME 184TCz	7.5 hp	3450	208-230/460
West Distribution Pump	Reliance	Frame 2.5TY, Type P	15 hp	3505	230/460

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\* Information on file with Bentwood Estates from pump supplier.

3. Meter information (if required in permit or transfer final order)

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Make	Serial #	Condition (working or not)	Current meter reading	Notes
Badger-Recordal Turbo 450	62759-003	Working	6603400 gallons	

4. Measurement device description

Device description	Condition (working or not)	Notes
Instantaneous meter with totalizer	Running	In working condition

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
See Attachment 3 and Well Pump Test Waiver Request dated 7/24/09 and Approval from Mike Zwart, OWRD dated 7/28/09.			



6. Theoretical pump capacity

Horsepower	Operating psi	Lift from source to pump *If a well, the water level during pumping (see pump test results)	Lift from pump to place of use	Total pump output
20 hp	0*	N/A	517 feet	0.27 cfs

\*Theoretical pump calculations assume that water is pumped to the top of a full reservoir. At this point, the pressure is zero and the pump only needs to overcome the elevation head of 517 feet.

7. Provide pump calculations in the box below:

$$Q = (7.04 \text{ ft}^4/\text{sec}/\text{hp}) \times 20 \text{ hp} / (481 + 27.7 + 8) \text{ feet} = 0.27 \text{ cfs}$$

Where: 481 feet is the static water level  
 27.7 feet is the measured drawdown, and  
 8 feet is the maximum operating level of the reservoir above the well head.

8. Mainline information

Mainline size	Length	Type of pipe	Buried or above ground
8"	1795 feet	PVC	Buried
6"	1650 feet	PVC	Buried
4"	440 feet	PVC	Buried

11. Additional notes or comments related to the system:

N/A

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**III. CONDITIONS**

Please pay special attention to this section. All conditions contained in the permit or transfer final order shall be addressed. Reports that do not address all performance related conditions will be returned.

1. **Time Limits:**

a. Permits or transfer Final Orders contain any or all of the following dates; the date when the actual construction work was to begin, the date when the construction was to be completed, and the date when the complete application of water to the proposed use is to be completed by. These dates may be referred to as ABC dates. Describe how the water user has complied with each of the development timelines established in the permit or transfer final order:

	Dates from permit or transfer final order	Date accomplished	Description of actions taken by water user to comply with the time limits
Begin construction	10-01-05	8/01/1979	Well constructed as per log (DESC 3931)
Complete construction		By 1999	Last home to be serviced was constructed in 1999.
Complete application of water	10-01-08	9/16/09	COBU inspection conducted by Newton Consultants, Inc.

**2. Initial Water Level Measurements:**

\*\*If the Claim is for surface water or a reservoir, or if the water user was not required to submit static water level measurements, items b through e relating to this section can be deleted.

- a. Was the water user required to submit an initial static water level measurement? **NO**
- b. What month was the initial measurement to be taken in? **N/A**
- c. Did an authorized individual (as stated in the permit or transfer final order) make the initial static water level measurement in the month required? **N/A**
- d. If "YES", was the measurement submitted to the Department? **N/A**
- e. If the initial measurement not been submitted, provide that measurement now if available:

Date of measurement	Who made measurement	Method	Measurement
N/A			

**3. Annual Static Water Level Measurements:**

\*\*If the Claim is for surface water or a reservoir, or if the water user was not required to submit static water level measurements, items b through e relating to this section can be deleted.

- a. Was the water user required to submit annual static water level measurements? **NO**

**4. Measurement, recording, and reporting conditions:**

- a. Does the permit or transfer final order require the installation of a meter or approved measuring device?  
**YES**

If a meter or approved measuring device was required, the COBU map must indicate the location of the device in relation to the point of diversion or appropriation.

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\*\*If "NO", items b through g relating to this section can be deleted.

- b. Has a meter been installed? **YES**

- c. Provide the date the meter was installed:

The exact date of installation is not currently known, however, the system has been in use since 1979 and a meter was likely installed at the time of the system installation.

- d. If a meter has not been installed, has a suitable measuring device been installed and approved by the Department? **N/A**

- 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
Jeremy Giffin	Watermaster, District 11	7/22/09*

\*See attached email approving the installed meter, Attachment 3.

- f. Is the water user required to report the water use to the Department? **YES**



g. Have the reports been submitted? **YES**

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

#### 5. Fish Screening and/or By-pass Devices

a. Are any points of diversion required to be screened and/or have a by-pass device to prevent fish from entering the point of diversion? **NO**

6. **Pump Test** (Required for ground permits prior to issuance of a certificate, but not a requirement of permit development)

a. Did the permit require the submittal of a pump test? **YES**

b. Has the pump test been previously submitted to the Department? **NO**

c. Has the pump test been approved by the Department? **N/A** A pump test waiver was granted by the Department, See Attachment 4.

d. If no, is the pump test attached to this Claim? **NO**

7. **Other Permit Conditions** (examples: special well construct standards, water conservation plans, no obstructions to fish without a fishway, etc.; number as appropriate.)

### IV. Variations, Attachments, Conclusions, Map and Signatures

#### Variations

Include a description of variations from the permit or transfer final order

- The permit required a well pump test. A pump test waiver was granted as included in Attachment 4.
- A variance was granted by Gerry Clark, OWRD Certificates Division, allowing the Final Proof map to only include the well, reservoir, and main distribution pipelines with the approved POU services area. See Attachment 5.

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#### Attachments

If you are attaching any documents to this report, provide a list below:

Attachment name	Description
Attachment 1	Current permit for water use, Permit G-15866
Attachment 2	Well log DESC 3931
Attachment 3	Meter approval e-mail from Jeremy Griffin indicating water meter is approved dated 7/22/09.
Attachment 4	Well test waiver request and response from Mike Zwart, OWRD
Attachment 5	Map variance request and response from Gerry Clark, OWRD
Figure 1	Claim of Beneficial Use – Permit G-15866

**Permit and Transfer Final Order Rates and System Rates Comparisons:**

POD or POA name or #	Maximum rate allowed by permit or transfer final order	Calculated theoretical rate of water based on system	Actual amount of water measured (if measured)	Developed use	# of acres allowed by permit or transfer final order	# of acres developed
#1	0.111 cfs	0.27 cfs		44 lot subdivision	Approx. 30 acres	30

**Claim of Beneficial Use Map**

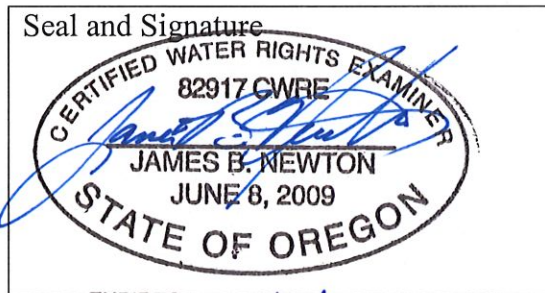
The Claim of Beneficial Use Map must be submitted with this Claim. Claims submitted without the Claim of Beneficial Use map will be returned. The map shall be submitted on poly film at a scale of 1" = 1320', 1" = 400', or the original full-size scale of the county assessor map for the location.

In the following box, 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.

The map was taken from the original final plat map on file with Deschutes County. The well location was determined by traverse survey from the quarter section corner. The locations of the water system itself were from an engineering drawing of the system and were transferred to the final plat map.

CWRE Statement, Seal and Signature

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




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Permit or Transfer Holders Signature or Acknowledgement

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.


Print or type name
Date

\_\_\_\_\_  
 Signature Print or type name Date



**ATTACHMENT 1**

**Permit G-15866**

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STATE OF OREGON  
COUNTY OF DESCHUTES  
PERMIT TO APPROPRIATE THE PUBLIC WATERS

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THIS PERMIT IS HEREBY ISSUED TO

BENTWOOD ESTATES WATER DISTRICT  
PO BOX 41  
REDMOND, OREGON 97756-0007

The specific limits and conditions of the use are listed below.

APPLICATION FILE NUMBER: G-14867

SOURCE OF WATER: A WELL IN DESCHUTES RIVER BASIN

PURPOSE OR USE: QUASI-MUNICIPAL USE

MAXIMUM RATE: 0.111 CUBIC FOOT PER SECOND

PERIOD OF USE: YEAR ROUND

DATE OF PRIORITY: NOVEMBER 16, 1998

WELL LOCATION: SW ¼ SE ¼, SECTION 19, T15S, R13E, W.M.; 1250 FEET  
NORTH & 1062.5 FEET EAST FROM SOUTH 1/4 CORNER, SECTION 19

THE PLACE OF USE IS LOCATED AS FOLLOWS:

SW 1/4 SE 1/4  
SECTION 19  
TOWNSHIP 15 SOUTH, RANGE 13 EAST, W.M.

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Measurement, recording and reporting conditions:

- A. Before water use may begin under this permit, the permittee shall install a meter or other suitable measuring device as approved by the Director. The permittee shall maintain the meter or measuring device in good working order, shall keep a complete record of the amount of water used each month and shall submit a report which includes the recorded water use measurements to the Department annually or more frequently as may be required by the Director. Further,

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the Director may require the permittee to report general water use information, including the place and nature of use of water under the permit.

- B. The permittee shall allow the watermaster access to the meter or measuring device; provided however, where the meter or measuring device is located within a private structure, the watermaster shall request access upon reasonable notice.

Mitigation Obligation: 32.2 acre-feet in the General Zone of Impact (anywhere in the Deschutes basin above the Madras gage below Lake Billy Chinook)

Mitigation Source: 32.2 Temporary Mitigation Credits from a chartered mitigation bank, or suitable replacement mitigation that meets the requirements of OAR 690-505-0610(2)-(5), within the General Zone of Impact.

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Mitigation water must be legally protected instream for instream use within the General Zone of Impact and committed for the life of the permit and subsequent certificate(s). Regulation of the use and/or cancellation of the permit, or subsequent certificate(s), will occur if the required mitigation is not maintained.

The permittee shall provide additional mitigation if the Department determines that average annual consumptive use of the subject appropriation has increased beyond the originally mitigated amount.

If mitigation is from a secondary right for stored water from a storage project not owned or operated by the permittee the use of water under this right is subject to the terms and conditions of a valid contract, a copy of which must be on file in the records of the Water Resources Department prior to use of water.

Failure to comply with these mitigation conditions shall result in the Department regulating the ground water permit, or subsequent certificate(s), proposing to deny any permit extension application for the ground water permit, and proposing to cancel the ground water permit, or subsequent certificate(s).



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The use of ground water allowed under the terms of this permit will not be subject to regulation for Scenic Waterway flows so long as mitigation as required herein is maintained.

#### STANDARD CONDITIONS

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to determine water level elevation in the well at all times.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

By law, the land use associated with this water use must be in compliance with statewide land use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

Actual construction of the well shall begin by October 1, 2005. Complete application of water to the use shall be made on or before October 1, 2008. If the water is not completely applied

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before this date, and the permittee wishes to continue development under the permit, the permittee must submit an application for extension of time, which may be approved based upon the merit of the application.

Within one year after complete application of water to the proposed use, the permittee shall submit a claim of beneficial use, which includes a map and report, prepared by a Certified Water Rights Examiner (CWRE).

Issued March 10, 2005

  
Phillip C. Ward, Director  
Water Resources Department

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**ASSIGNMENT OF PERMIT:** Pursuant to ORS 537.220, this permit may be assigned to a party other than the permittee named hereon, if the land the permit is associated with changes ownership, or if the permittee is an organization whose name changes as a result of sale or merger. Request for Assignment forms are available from the Oregon Water Resources Department web site at <http://www.wrd.state.or.us/>, or may be requested from the Department at 503-986-0801 or Water Right Application Section, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR 97301-1271.

**MAILING ADDRESS CHANGES:** If the mailing address of the permittee named hereon changes, it is important that the Oregon Water Resources Department be informed of the change. Address changes must be submitted in writing with the permittee's signature to Water Right Application Section, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR 97301-1271.

**REAL ESTATE TRANSACTIONS:** Pursuant to ORS 537.330, in any transaction for the conveyance of real estate that includes any portion of the lands described in this permit, the seller of the real estate shall, upon accepting an offer to purchase that real estate, also inform the purchaser in writing whether any permit, transfer approval order, or certificate evidencing the water right is available and that the seller will deliver any permit, transfer approval order or certificate to the purchaser at closing, if the permit, transfer approval order or certificate is available.

**CULTURAL RESOURCES PROTECTION LAWS:** Permittees involved in ground-disturbing activities should be aware of federal and state cultural resources protection laws. ORS 358.920 prohibits the excavation, injury, destruction or alteration of an archeological site or object, or removal of archeological objects from public and private lands without an archeological permit issued by the State Historic Preservation Office. 16 USC 470, Section 106, National Historic Preservation Act of 1966 requires a federal agency, prior to any undertaking to take into account the effect of the undertaking that is included on or eligible for inclusion in the National Register. For further information, contact the State Historic Preservation Office at 503-378-4168, extension 232.

Application G-14867 Water Resources Department  
Basin 5  
huffmaam

PERMIT G-15866  
District 11



**ATTACHMENT 2**

**Well Log DESC 3931**

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WATER RESOURCES DEPT  
SALEM, OREGON



NOTICE TO WATER WELL CONTRACTOR  
The original and first copy of this report  
are to be filed with the

WATER RESOURCES DEPARTMENT,  
SALEM, OREGON 97310  
within 30 days from the date  
of well completion.

**WATER WELL REPORT**

STATE OF OREGON

(Please type or print)

(Do not write above this line)

State Well No. 155/13E-19dc

State Permit No. \_\_\_\_\_

**DESC**  
**3931**

**(1) OWNER:**

Name Jim Kitchell  
Address Rt. 1, Box 365  
Terrebonne, Oregon 97760

**(2) TYPE OF WORK (check):**

New Well  Deepening  Reconditioning  Abandon   
If abandonment, describe material and procedure in Item 12.

**(3) TYPE OF WELL:**

Rotary  Cable  Dug   
Driven  Jetted  Bored

**(4) PROPOSED USE (check):**

Domestic  Industrial  Municipal   
Irrigation  Test Well  Other

**CASING INSTALLED:**

Threaded  Welded   
8" Diam. from 1 1/2 ft. to 30 1/2 ft. Gage 250  
" Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Gage \_\_\_\_\_  
" Diam. from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Gage \_\_\_\_\_

**PERFORATIONS:**

Perforated?  Yes  No.

Type of perforator used \_\_\_\_\_

Size of perforations \_\_\_\_\_ in. by \_\_\_\_\_ in.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
\_\_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

**(7) SCREENS:**

Well screen installed?  Yes  No

Manufacturer's Name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Diam. \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

**(8) WELL TESTS:**

Drawdown is amount water level is lowered below static level

Was a pump test made?  Yes  No If yes, by whom?  
Yield: \_\_\_\_\_ gal./min. with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Blow Test- 30 G.P.M. " " "  
" " " " "  
Bailer test 10 gal./min. with 0 ft. drawdown after 1 hrs.  
Artesian flow \_\_\_\_\_ g.p.m.  
Temperature of water 53\* Depth artesian flow encountered \_\_\_\_\_ ft.

**(9) CONSTRUCTION:**

Well seal—Material used cement  
Well sealed from land surface to 30 1/2 ft.  
Diameter of well bore to bottom of seal 12 in.  
Diameter of well bore below seal 8 in.  
Number of sacks of cement used in well seal 11 sacks  
How was cement grout placed? pressure grout

Was a drive shoe used?  Yes  No Plugs \_\_\_\_\_ Size: location \_\_\_\_\_ ft.  
Did any strata contain unusable water?  Yes  No  
Type of water? \_\_\_\_\_ depth of strata \_\_\_\_\_  
Method of sealing strata off \_\_\_\_\_  
Was well gravel packed?  Yes  No Size of gravel: \_\_\_\_\_  
Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

**(10) LOCATION OF WELL:**

County Deschutes Driller's well number \_\_\_\_\_  
SW 1/4 SE 1/4 Section 19 T. 15S R. 13E W.M.  
Bearing and distance from section or subdivision corner  
( Forked Horn Butte )

**(11) WATER LEVEL: Completed well.**

Depth at which water was first found 550 ft.  
Static level 560 ft. below land surface. Date 8-1-79  
Artesian pressure \_\_\_\_\_ lbs. per square inch. Date \_\_\_\_\_

**(12) WELL LOG:**

Diameter of well below casing 8"

Depth drilled 600 ft. Depth of completed well 595 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Sandy Top-Soil	0	2	
Brown Conglomerate	2	200	
Red Cinders	200	260	
Lava	260	400	
Red Cinders	400	410	
Broken Sandstone Conglomerate	410	550	
Water-Bearing Brwn. Sandstone	550	600	

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SALEM, OREGON**

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**WATER RESOURCES DEPT  
SALEM, OREGON**

Work started 8-22 19 78 Completed 8-1 19 79  
Date well drilling machine moved off of well 8-1 19 79

**Drilling Machine Operator's Certification:**

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] William D. Ken Date 8-1, 19 79  
(Drilling Machine Operator)

Drilling Machine Operator's License No. 803

**Water Well Contractor's Certification:**

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Orvail Buckner Well Drilling, Inc.  
(Person, firm or corporation) (Type or print)

Address 1686 N.E. Negus Way, Redmond, Ore. 97756

[Signed] Orvail Buckner  
(Water Well Contractor)

Contractor's License No. 608 Date 8-1, 19 79



**ATTACHMENT 3**

**Meter Approval Documentation**

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WATER RESOURCES DEPT  
SALEM, OREGON



**Dick Nichols**

---

**From:** Jeremy Giffin [giffinjt@wrд.state.or.us]  
**Sent:** Wednesday, July 22, 2009 9:41 AM  
**To:** Dick Nichols  
**Subject:** RE: Emailing: rts-t-3-pdf.pdf

Dick, I looked at the meter specs and this model would work great.

--Jeremy

---

**From:** Dick Nichols [mailto:dnichols@newtonconsultants.com]  
**Sent:** Wednesday, July 22, 2009 9:07 AM  
**To:** Jeremy Giffin  
**Subject:** Emailing: rts-t-3-pdf.pdf

<<...>> As you and I discussed yesterday, you indicated that if the flow meter at Bentwood Estates provided both a totalizer and flow rate it was approvable. It does. Please confirm by e-mail that it is approved on this basis. Thanks.

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**WATER RESOURCES DEPT  
SALEM, OREGON**

**Cold Water  
Recordall®  
Turbo 450 Meter**

**Size 3" (DN 80 mm)**

**Technical  
Brief**

**DESCRIPTION**

Badger Meter offers the 3" Turbo Series meter in Cast Bronze and a Low Lead Alloy. The Low Lead Alloy (Trade Designation: Turbo Series LL-NS) version complies with NSF/ANSI Standard 61 and carries the NSF-61 Mark on the product.

**APPLICATIONS:** For use in measurement of potable cold water in commercial and industrial services where flow is in one direction only.

**OPERATION:** Water flows into the meter's measuring element contacting the multi-vaned rotor. Flow readings are obtained by rotor revolutions transmitted by magnetic drive coupling through the meter's cover plate to the sealed register. Magnetic drive is achieved by a right angle worm drive, coupling the rotor to a vertical transmission spindle, driving a gear set rotating the magnet carrier. A ceramic magnet in a carrier rotates around a vertical axis. Through the magnetic coupling, rotor rotation is transmitted to a follower magnet which transmits rotation to the register gearing.

The turbo measuring element is designed to greatly reduce wear by reducing friction potential between the moving parts of the rotor and bearing system. Less wear, in this critical area of the design, provides the utility manager with a lower life cycle cost for meter application. Throughout the normal operating range of the meter, the rotor floats between the thrust bearing system.

**OPERATING PERFORMANCE:** The Badger® Recordall Turbo 450 meter meets and exceeds registration accuracy for the low flow rate, normal operating flow rate, and maximum continuous operation flow rate as specifically stated in AWWA Standard C701.

**CONSTRUCTION:** The Badger Recordall Turbo 450 meter construction which complies with ANSI and AWWA C701 standards, consists of three basic components: meter housing, measuring element and permanently sealed register. The housing is bronze, with round flanges. The measuring element consists of the transmission coupling, measuring element insert, rotor, inlet and outlet straightening vanes with nose cones, and calibration ring assembly. The unique inlet and outlet straightening vanes minimize swirl from piping arrangements upstream as well as downstream.

To simplify maintenance, the register and measuring element can be removed without removing the meter housing from the installation. No change gears are required for accuracy calibration. Interchangeability of certain parts between 1 1/2" - 4" like-sized meters also minimizes spare parts inventory investment.

**MAGNETIC DRIVE:** Direct magnetic drive, through the use of high-strength magnets, provides positive, reliable and dependable register coupling for straight-reading, remote or automatic meter reading options.

**SEALED REGISTER:** The standard register consists of a straight-reading odometer-type totalization display, 360° test circle with center sweep hand and flow finder to detect leaks. Register gearing consists of self-lubricating thermoplastic gears to minimize friction and provide long life. Permanently sealed; dirt, moisture, tampering and lens fogging problems are eliminated. Multi-position register simplifies meter installation and reading. Automatic meter reading and close proximity systems are available for all Recordall Turbo meters. (See back of sheet for additional information.) All reading options are removable from the meter without disrupting water service.

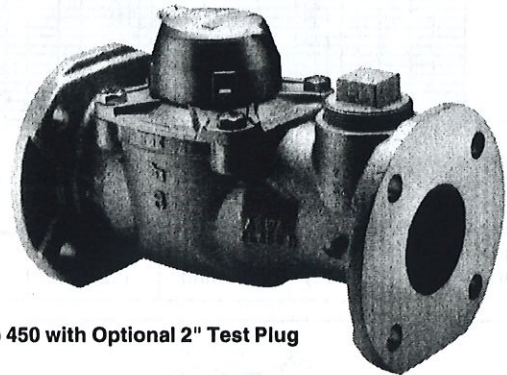
**TAMPER-RESISTANT FEATURES:** Customer removal of the register to obtain free water can be prevented if the tamper detection seal wire screw or TORX® tamper resistant seal screw is added to the meter. Both can be installed at the meter site or at the factory. A tamper resistant calibration plug seal provides protection from unauthorized personnel.

**STRAINER:** A separate strainer is recommended to protect the measuring element. See Technical Brief PS-T-1 for strainer dimensions.

**MAINTENANCE:** Badger Recordall Turbo meters are designed and manufactured to provide long-term service with minimal maintenance. When maintenance is required, it can be performed easily either at the meter installation or at any other convenient location. As an alternative to repair by the utility, Badger offers various maintenance and meter component exchange programs to fit the needs of the utility.

**CONNECTIONS:** Companion flanges for installation of meters on various pipe types and sizes are available in cast iron or bronze as an option.

**TEST PLUG:** An optional 2" NPT test plug puts an end to removing and reinstalling meters during field accuracy and pressure testing.



**Turbo 450 with Optional 2" Test Plug**

**SPECIFICATIONS**

<b>Typical Operating Range (100% ± 1.5%)</b>	5 - 550 GPM (1.1 to 124.9 m³/h)
<b>Maximum Continuous Operation</b>	450 GPM (102.2 m³/h)
<b>Maximum Intermittent Flow</b>	550 GPM (124.9 m³/h)
<b>Typical Low Flow (Min. 95%)</b>	4 GPM (0.9 m³/h)
<b>Pressure Loss at Maximum Continuous Operation</b>	1.8 PSI (.12 bar at 102.2 m³/h)
<b>Maximum Operating Temperature</b>	120°F (49°C)
<b>Maximum Operating Pressure</b>	150 PSI (10 bar)
<b>Meter Flanges</b>	3" Round AWWA 125 pound class
<b>Register</b>	Straight reading, permanently sealed magnetic drive standard. Automatic Meter Reading and Close Proximity units optional.
<b>Registration</b>	100,000,000 Gallons 100 gallons/sweep hand revolution. 10,000,000 Cubic Feet 10 cubic ft./sweep hand revolution. 1,000,000 m³ 1 m³/sweep hand revolution. 100,000,000 Imperial Gallons 100 Imperial Gallons/sweep hand revolution.
<b>MATERIALS</b>	
<b>Housing</b>	Cast Bronze (B81), Low Lead Alloy
<b>Turbo Head</b>	Cast Bronze (B81), Low Lead Alloy
<b>Nose Cone and Straightening Vanes</b>	Thermoplastic
<b>Rotor</b>	Thermoplastic
<b>Rotor Radial Bearings</b>	Lubricated Thermoplastic
<b>Rotor Thrust Bearings</b>	Sapphire Jewels
<b>Rotor Bearing Pivots</b>	Passivated 316 Stainless Steel
<b>Calibration Mechanism</b>	Stainless Steel and Thermoplastic
<b>Magnet</b>	Ceramic
<b>Register Lid and Shroud</b>	Thermoplastic, Bronze
<b>Trim</b>	Stainless Steel

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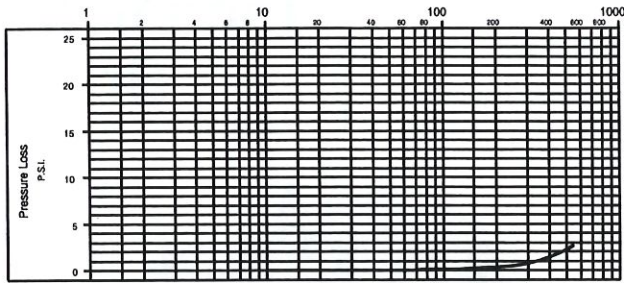
**BadgerMeter, Inc.**

**WATER RESOURCES DEPT  
SALEM, OREGON**

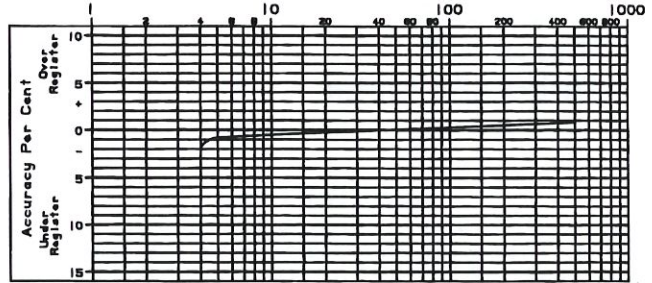
**RTS-T-3**



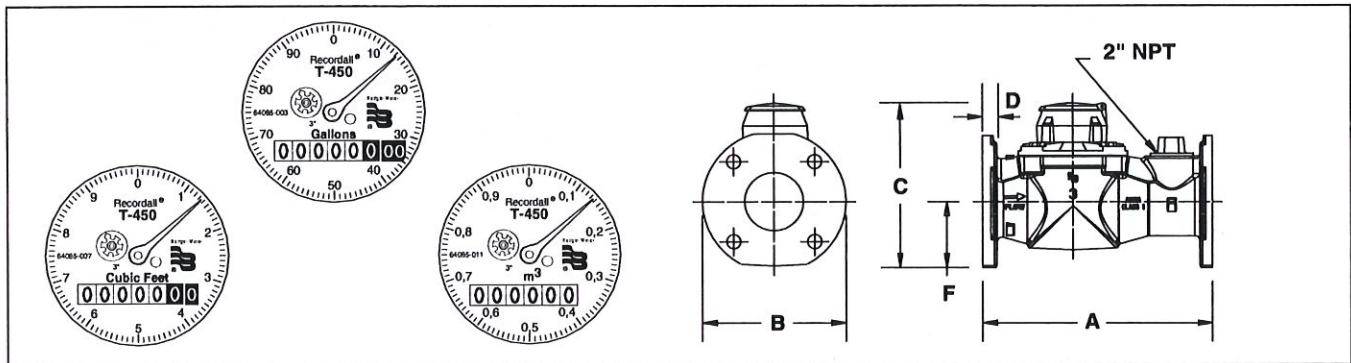
**PRESSURE LOSS CHART**  
Rate of Flow, in Gallons per Minute



**ACCURACY CHART**  
Rate of Flow, in Gallons per Minute



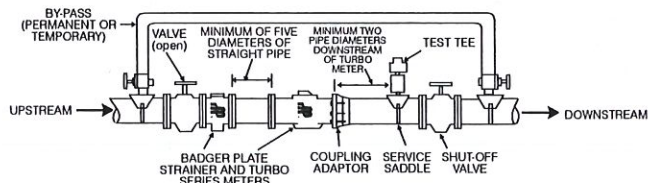
Meter & Pipe Size	DIMENSIONS								
	Length A	Width B	Height C	Flange D	Bolt Circle E	Centerline F	No. Bolts	Net Weight	Shipping Weight
3" RD (DN 80)	12" (305mm)	7 1/2" (191mm)	8 11/16" (220mm)	3/4" (19mm)	6" (152mm)	3 11/32" (85mm)	4	31 lb. (14.1kg)	34 lb. (15.4 kg)



**PROPER INSTALLATION:** The following installation guidelines will insure optimum field performance and reliability when installing a Badger Turbo meter.

1. A strainer is recommended to insure optimum flow conditioning and protection for the turbo meter measuring element.
2. When using a strainer, five (5) diameters of straight pipe separating the strainer upstream of the meter is recommended.
3. **ONLY** full-open gate valves should be used immediately upstream of the meter. Butterfly valves **MUST** be five (5) pipe diameters or more upstream of the meter. Full-open gate or butterfly valves can be used downstream.
4. **DO NOT** install pressure reducing devices or check valves upstream of the meter.

5. Unweighted check valves **MUST** be located at least three (3) pipe diameters downstream of the meter.
6. Pressure reducing devices and externally weighted check valves **MUST** be located at least five (5) pipe diameters downstream of the meter.



Badger® and Recordall® are registered trademarks of Badger Meter, Inc.



Please see our website at  
[www.badgermeter.com](http://www.badgermeter.com)  
for specific contacts.

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Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.



**BadgerMeter, Inc.**

P.O. Box 245036, Milwaukee, WI 53224-9536

(800) 876-3837 / Fax: (888) 371-5982

[www.badgermeter.com](http://www.badgermeter.com)



**ATTACHMENT 4**

**Well Test Waiver Documentation**

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**WATER RESOURCES DEPT  
SALEM, OREGON**





# Oregon

Theodore R. Kulongoski, Governor

## Water Resources Department

North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1266  
503-986-0900  
FAX 503-986-0904

July 1, 2009

David J. Newton  
Newton Consultants, Inc.  
521 SW 6<sup>th</sup> Street, Suite 100  
Redmond, OR 97756

**RE: APP. #: G-14867, PERMIT #: G-15866, Bentwood Estates Water District**

Dear David:

I received your letter requesting an exemption from the pump test requirements for the above permit. I consulted with Ken Lite in our Bend office and we agreed to grant the request. The Department requires no further testing of this well at this time.

If you have any questions, please contact me at (503) 986-0844.

Sincerely,

Michael J. Zwart  
Hydrogeologist

cc: Water Rights File

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SALEM, OREGON



**ATTACHMENT 5**

**Map Variance Documentation**

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SALEM, OREGON**





# Oregon

Theodore R. Kulongoski, Governor

## Water Resources Department

North Mall Office Building  
725 Summer Street NE, Suite A  
Salem, OR 97301-1271  
503-986-0900  
FAX 503-986-0904

June 23, 2009

David Newton  
Newton Consultants Inc.  
521 SW 6<sup>th</sup> Street, Ste. 100  
Redmond, OR 97756

RE: Application G-14867, Permit G-15866

Dear Mr. Newton,

We have received your request for a waiver of certain reporting and mapping standards for the above referenced file and permit.


You requested that the Department waive the requirement to identify the tax lot numbers on the report. In addition, you requested that the Department waive the requirement to identify the tax lots of the place of use, and pipelines servicing the place of use on the Claim of Beneficial Use map.

Your request for a waiver has been approved as requested.

Place a copy of this approval letter with the Claim when submitted.

If you have any additional questions, please feel free to contact me at 503-986-0811.

Sincerely,

  
Gerry Clark  
Water Right Specialist  
Certificates

cc: file

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SALEM, OREGON