

MEMO

May 5, 2016

FROM: GW: M. Thomas
(Reviewer's Name)

☐ YES☒ NO☐ YES☒ NO

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.**

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is unable to make a Preponderance of Evidence finding.

Exercise of this permit is calculated to reduce monthly flows in _____ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

[illegible]

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date May 5, 2016

FROM: Groundwater Section Michael J Thoma
Reviewer's Name

SUBJECT: Application G- 18214 Supersedes review of _____
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525. Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. This review is based upon available information and agency policies in place at the time of evaluation.*

A. GENERAL INFORMATION: Applicant's Name: Felix Portocarrero-Maisch County: Lane

A1. Applicant(s) seek(s) 0.045 cfs from 1 well(s) in the Willamette Basin,
Coast Fork Willamette River subbasin

A2. Proposed use Nursery (2 ac) Seasonality: year-round

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	LANE 73063	1	Bedrock	0.045	21S/03W-17 SENE	10'N, 1330'E of ctr S 17
2						
3						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	~1120	235	144	3/27/2014	263	0-118	+2-118	3-263	203-263	30		A

Use data from application for proposed wells.

A4. Comments: _____

A5. ☒ Provisions of the Willamette (OAR 690-502) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ are, or ☒ are not, activated by this application. (Not all basin rules contain such provisions.)

Comments: _____

A6. ☐ Well(s) # _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.

Name of administrative area: _____
Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

- a. ☐ is over appropriated, ☐ is not over appropriated, or ☒ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;
- b. ☐ **will not** or ☒ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;
- c. ☐ **will not** or ☒ **will** likely to be available within the capacity of the groundwater resource; or
- d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
 - i. ☒ The permit should contain condition #(s) 'Medium Water-use Reporting';
 - ii. ☐ The permit should be conditioned as indicated in item 2 below.
 - iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

- B2. a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;
- b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;
- c. ☐ **Condition** to allow groundwater production only from the _____ groundwater reservoir between approximately _____ ft. and _____ ft. below land surface;
- d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

- B3. **Groundwater availability remarks:** The applicant's proposed POA is located in an area where there has been little groundwater development – mostly semi-forested, rural landscape. The closest well that OWRD has water level data on is located over 3 miles to the north and likely in a separate aquifer. The nearest permitted groundwater POA is over 2 miles away and will likely not experience any impacts from the proposed use. Domestic well use in the immediate area is also fairly low and mostly restricted to lower in the valley of the Coast Fork Willamette River.
- _____
- _____
- _____
- _____
- _____
- _____

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040**C1. 690-09-040 (1): Evaluation of aquifer confinement:**

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	Volcanic and Volcanoclastic Rocks of Fisher Fm.	☒	☐
		☐	☐

Basis for aquifer confinement evaluation: the applicant's well log (LANE 73063) reports SWL ~100 ft above 'first water'; many other well logs in the vicinity also report SWLs above 'first water'

C2. 690-09-040 (2) (3): Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Lane Cr	976	700-1000	3350	☒	☐	☐	☐	☒
1	2	Coast Fk Willamette	976	~600	3900	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: similar GW and SW elevations suggest that water can flow between both sources freely and higher GW elevation compared to SW elevations suggest that groundwater is flowing toward and discharging to surface water; aquifer system is a confined, fractured system where water is recharged at higher elevations and discharges to lower, regional discharge points such as large river systems (i.e., Coast Fork Willamette River)

Smaller, unnamed creeks immediately to the south of the proposed POA that are mapped on the USGS Topographic maps where, upon inspection of aerial imagery, determined not to be perennial nor significant sources of surface water in the context of OAR 690-009 and so were not evaluated against.

Water Availability Basin the well(s) are located within: Coast Fk Willamette R > Willamette R – AB Row R (ID# 533)

C3a. 690-09-040 (4): Evaluation of stream impacts for each well that has been determined or assumed to be hydraulically connected and less than 1 mile from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% natural flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	1	☐	☐	None	NA	☐	26.1	☐	**	☐
1	2	☐	☐	MF533A	15	☐	26.1	☐	**	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

Comments: No instream right was evaluated against for SW #1 because Lane Cr is only tributary to a section where there is an instream right. There is a second instream right on the Coast Fork Willamette (Cert. 75623), in addition to MF533A which is only for partial-year flows (Nov 16 – Mar 31) so Cert. 59762 (ID MF533A) was used as the pertinent adopted instream right.

** Interference @ 30 d could not be estimated because the terrain (high-relief slopes) and geology (fractured bedrock aquifer) do not meet model assumptions of the widely accepted techniques for determining stream depletion (e.g., Hunt 1999, 2003).

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells.** Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐

Comments: _____

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: _____

C4b. **690-09-040 (5) (b)** The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.

- C5. ☐ If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:
- ☐ The permit should contain condition #(s) _____;
 - ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:**

The applicant's proposed POA (LANE 73063) has been found to be hydraulically connected to nearby surface water sources Lane Cr and the Coast Fork Willamette River. The applicant's proposed rate is below the threshold where the Department assumes PSI under OAR 690-009.

References Used:

Hunt, B. 1999. *Unsteady Stream Depletion from Ground Water Pumping*. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19

Hunt, B. 2003. *Unsteady Stream Depletion when Pumping from a Semiconfined Aquifer*. Journal of Hydrologic Engineering, Vol 8(1), pp 12-19

McClaghry, J. D., T. J. Wiley, M. L. Ferns, and I. P. Madin. 2010. *Digital Geologic Map of the Southern Willamette Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon*. Oregon Dept. of Geology and Mineral Industries. Open File Report O-10-13.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

D2. THE WELL does not appear to meet current well construction standards based upon:

- a. ☐ review of the well log;
- b. ☐ field inspection by _____;
- c. ☐ report of CWRE _____;
- d. ☐ other: (specify) _____

D3. THE WELL construction deficiency or other comment is described as follows: _____

D4. ☐ Route to the Well Construction and Compliance Section for a review of existing well construction.

Well Log(s)

Page 1 of 1

STATE OF OREGON
WATER SUPPLY WELL REPORT
 (as required by ORS 537.765 & OAR 690-205-0210)

LANE 73063
3/31/2014

WELL I.D. LABEL # 113934
START CARD # 1022574
ORIGINAL LOG #

(1) **LAND OWNER** Owner Well I.D. 2
 First Name DOROTHY Last Name ODELL
 Company HARRIS/ODELL 2A LLC
 Address PO BOX 243
 City N. BONNEVILLE State WA Zip 98539

(2) **TYPE OF WORK** ☒ New Well ☐ Deepening ☐ Conversion
 Alteration (complete 2a & 10) ☐ Abandonment (complete 5a)

(2a) **PRE-ALTERATION**
 Dia + From To Gauge Std Plstc Wld Thrd
 Casing: ☐ Material From To Amt sacks/lbs
 Seal: ☐

(3) **DRILL METHOD**
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud
☐ Reverse Rotary ☐ Other

(4) **PROPOSED USE** ☒ Domestic ☐ Irrigation ☐ Community
☐ Industrial/ Commercial ☐ Livestock ☐ Dewatering
☐ Thermal ☐ Injection ☐ Other

(5) **BORE HOLE CONSTRUCTION** Special Standard ☐ (Attach copy)
 Depth of Completed Well 263.00 ft.
BORE HOLE

Dia	From	To	Material	SEAL	From	To	Amt	sacks/lbs
10	0	118	Bentonite	0	118	62	S	
6	118	263						

 How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other **POURED AND TAMPED**
 Backfill placed from 50 ft. to 118 ft. Material BENTONITE
 Filter pack from ft. to ft. Material Size
 Explosives used: ☐ Yes Type Amount

(5a) **ABANDONMENT USING UNHYDRATED BENTONITE**
 Proposed Amount Actual Amount

(6) **CASING/LINER**

Casing	Liner	Dia	+	From	To	Gauge	Std	Plstc	Wld	Thrd
☒	☒	6	☒	2	118	250	☒	☒	☒	☒
☐	☐	4.5	☐	3	263	sd526	☐	☐	☐	☐

 Shoe ☐ Inside ☒ Outside ☐ Other Location of shoe(s) 118
 Temp casing ☐ Yes Dia From To

(7) **PERFORATIONS/SCREENS**
 Perforations Method saw
 Screens Type Material

Perf	Casing/Screen	Screen Liner	Dia	From	To	Scr/slot width	Slot length	# of slots	Tele/pipe size
Perf	Liner		203	263	.125	2	600	4.5	

(8) **WELL TESTS: Minimum testing time is 1 hour**
☐ Pump ☐ Bailor ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem Pump depth	Duration (hr)
30		263	1

 Temperature 56 °F Lab analysis ☐ Yes By
 Water quality concerns? ☐ Yes (describe below) TDS amount

From	To	Description	Amount	Units

(9) **LOCATION OF WELL (legal description)**
 County LANE Twp 21.00 S N/S Range 3.00 W E/W WM
 Sec 17 SE 1/4 of the NE 1/4 Tax Lot 1000
 Tax Map Number Lot
 Lat " or DMS or DD
 Long " or DMS or DD
☐ Street address of well ☒ Nearest address
TO END UP HARRIS DRIVE, UP HILL COTTAGE GROVE

(10) **STATIC WATER LEVEL**

Date	SWL (psi)	+ SWL (ft)
Existing Well / Pre-Alteration		
Completed Well	3/27/2014	144

 Flowing Artesian? ☐ Dry Hole? ☐
WATER BEARING ZONES Depth water was first found 235.00

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
3/27/2014	235	252	30		144

(11) **WELL LOG** Ground Elevation

Material	From	To
brown clay	0	29
light brown clay	29	42
sandy brown claystone	42	78
brown sandstone conglomerate	78	109
basalt	109	148
blue sandstone	148	235
basalt	235	252
hard blue sandstone	252	263

Date Started 3/26/2014 Complete 3/27/2014

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
 License Number 1839 Date 3/28/2014
 Signed MICHAEL J HOLLEY (E-filed)

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
 License Number 1541 Date 3/31/2014
 Signed CASEY JONES JR (E-filed)
 Contact Info (optional) Casey Jones Well Drilling Co., Inc. 541-747-2806

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version:

Water Availability Tables

Water Availability Analysis Detailed Reports

COAST FK WILLAMETTE R > WILLAMETTE R - AB ROW R
WILLAMETTE BASIN

Water Availability as of 5/5/2016

Watershed ID #: 533 ([Map](#))

Exceedance Level: 80%

Date: 5/5/2016

Time: 1:12 PM

Water Availability Calculation

Consumptive Uses and Storages

Instream Flow Requirements

Reservations

Water Rights

Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	241.00	30.10	211.00	0.00	125.00	85.90
FEB	274.00	103.00	171.00	0.00	125.00	46.30
MAR	271.00	142.00	129.00	0.00	125.00	4.27
APR	218.00	102.00	116.00	0.00	15.00	101.00
MAY	129.00	77.30	51.70	0.00	15.00	36.70
JUN	67.30	5.47	61.80	0.00	15.00	46.80
JUL	38.80	6.82	32.00	0.00	15.00	17.00
AUG	27.50	6.10	21.40	0.00	15.00	6.40
SEP	26.10	4.67	21.40	0.00	15.00	6.43
OCT	31.40	2.07	29.30	0.00	15.00	14.30
NOV	77.20	12.10	65.10	0.00	125.00	-59.90
DEC	191.00	2.04	189.00	0.00	125.00	64.00
ANN	176,000.00	29,500.00	147,000.00	0.00	43,900.00	103,000.00

Well Location Map

