

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 21, 2010

FROM: Ground Water/Hydrology Section Josh Hackett
Reviewer's Name

SUBJECT: Application G- 17369 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 ground water 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: Jerry Lasselle County: Clackamas

A1. Applicant(s) seek(s) 0.32575 cfs from 3 well(s) in the Willamette Basin,
 _____ subbasin Quad Map: Canby

A2. Proposed use: Irrigation Seasonality: April 1 – October 1

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	CLAC 9599	1	alluvium	0.32575	3S/1E-25 NE-NW	40' S, 1480' E fr NW cor S 25
2	CLAC 51243**	2	alluvium	0.32575	3S/1E-25 NW-NW	650' S, 680' E fr NW cor S 25
3	Proposed***	3	alluvium	0.32575	3S/1E-25 NE-NW	175' S, 2490' E fr NW cor S 25
4						
5						

* 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	195	65	28	07/28/1988	164	1-20	0-120		112-152 152-164	36	17	P
2	179	258	46	05/11/1998	270	0-20 188-196	1-197			35	40	B
3	230				?	?	?	?	?			

Use data from application for proposed wells.

A4. **Comments:** **The alteration/deepening log for this well is CLAC 53399.

***The applicant did not provide any proposed well construction information for this well. However, the applicant did specify alluvium as the proposed aquifer. This review will assume the intended aquifer is alluvium.

A5. **Provisions of the** Willamette Basin rules relative to the development, classification and/or management of ground water hydraulically connected to surface water **are, or** **are not**, activated by this application. (Not all basin rules contain such provisions.)
 Comments: The applicant's wells produce from a confined aquifer, so the pertinent basin rules do not apply.

A6. **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: _____
 Comments: _____

C. GROUND WATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. 690-09-040 (1): Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	alluvium	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Nearby well logs show a thick sequence of silts and clays which encase a few thin sand and gravel beds that produce water to wells. This suggests that the productive water-bearing zones are likely to be confined.

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	Parrott Creek	150	80-130	3000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Parrott Creek	150	80-130	2500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Parrott Creek	150	80-130	2800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1	2	Unnamed trib. to Parrott Creek	150	130-250	2400	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	2	Unnamed trib. to Parrott Creek	150	130-250	3300	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	2	Unnamed trib. to Parrott Creek	150	130-250	1500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The perennial nature of Parrott Creek and its local tributary indicate a component of groundwater discharge that sustains surface water flows. Also, heads in nearby wells are coincident with or above the elevation of local streams. These facts indicate that the alluvial groundwater system is hydraulically connected to local streams. However, the high proportion of clay and silt in the alluvial sediments should reduce the efficiency of the connection.

Water Availability Basin the well(s) are located within: 181: Willamette R > Columbia R – At Mouth

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	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
2	1	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
3	1	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
1	2	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
2	2	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
3	2	<input type="checkbox"/>	<input type="checkbox"/>	n/a		<input type="checkbox"/>	4890.00	<input type="checkbox"/>	<<25%	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
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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?
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: Because of uncertainty regarding the spatial distribution and occurrence of productive water-bearing zones, a model was not used to estimate the interference at 30 days. However, nearby well logs indicate that productive water-bearing zones are generally thin beds of sand and gravel that are encased in a thick sequence of silt and clays. These water-bearing zones are not likely to have extensive lateral continuity. Therefore, any given productive zone is likely to be vertically separated from nearby streams by many feet of clay or silt over most stream reaches. Models run in similar scenarios indicate impacts that are much less than 25% after 30 days.

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													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
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.

D. WELL CONSTRUCTION, OAR 690-200

D1. Well #: _____ Logid: _____

D2. **THE WELL does not 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:**

- a. constitutes a health threat under Division 200 rules;
- b. commingles water from more than one ground water reservoir;
- c. permits the loss of artesian head;
- d. permits the de-watering of one or more ground water reservoirs;
- e. other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

- D5. **THE WELL**
- a. was, or was not constructed according to the standards in effect at the time of original construction or most recent modification.
 - b. I don't know if it met standards at the time of construction.

D6. **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. Well construction deficiency has been corrected by the following actions: _____

_____, 200____.
(Enforcement Section Signature)

D8. **Route to Water Rights Section (attach well reconstruction logs to this page).**

Water Availability Tables

WILLAMETTE R > COLUMBIA R - AT MOUTH
WILLAMETTE BASIN

Water Availability as of 6/21/2010

Watershed ID #: 181

Exceedance Level: 

Date: 6/21/2010

Time: 10:22 AM

Water Availability Calculation

Monthly Streamflows in Cubic Feet per Second
Storage 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	27,500.00	2,720.00	24,800.00	0.00	1,500.00	23,300.00
FEB	30,000.00	8,000.00	22,000.00	0.00	1,500.00	20,500.00
MAR	28,500.00	7,570.00	20,900.00	0.00	1,500.00	19,400.00
APR	25,400.00	7,200.00	18,200.00	0.00	1,500.00	16,700.00
MAY	20,700.00	4,460.00	16,200.00	0.00	1,500.00	14,700.00
JUN	11,000.00	2,610.00	8,390.00	0.00	1,500.00	6,890.00
JUL	6,280.00	2,550.00	3,730.00	0.00	1,500.00	2,230.00
AUG	4,890.00	2,320.00	2,570.00	0.00	1,500.00	1,070.00
SEP	4,930.00	1,950.00	2,980.00	0.00	1,500.00	1,480.00
OCT	5,990.00	746.00	5,240.00	0.00	1,500.00	3,740.00
NOV	12,700.00	1,030.00	11,700.00	0.00	1,500.00	10,200.00
DEC	24,800.00	1,380.00	23,400.00	0.00	1,500.00	21,900.00

Detailed Report of Instream Flow Requirements

Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MF181A	APPLICATION	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Maximum		1,500.00											

Well Location Map

