

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date June 28, 2010

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

SUBJECT: Application G- 17320 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:** Katherine & Roy Stubbs, SR **County:** Marion

A1. Applicant(s) seek(s) 0.433 cfs from 2 well(s) in the Willamette Basin,
Irrigation & Nursery subbasin Quad Map: Salem East

A2. Proposed use: Irrigation & Nursery Seasonality: March 1 – October 31, 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	MARI 63100	1	alluvium	0.433	7S/2W-22 SW-SW	275' N, 60' E fr SW cor S 22
2	MARI 7601	2	alluvium	0.433	7S/2W-22 SW-SW	550' N, 350' E fr SW cor S 22
3						
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	223		44	03/18/2008	125	?	?	?	?	35	?	P
2	223	70	47	02/11/1980	230	0-19	0-210		85-185	350	73	P

Use data from application for proposed wells.

A4. **Comments:** _____

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	☒	☐
2	alluvium	☒	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: The applicant's wells produce water from sands and gravels that are confined by 50-60 feet of saturated silt. This is confirmed by static water levels that rise above the level of the producing sand and gravel.

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	Little Pudding River	180	170-180	2900	☒	☐	☐	☐	☒
2	1	Little Pudding River	180	170-180	2450	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: Water elevations in the alluvial aquifer are essentially equivalent to nearby perennial creeks. Water table maps in the area indicate that ground water discharges to streams in the area. Because nearby tributaries of the Pudding River do not fully penetrate the confining layer above the aquifer, the efficiency of the connection between these streams and the groundwater system will be quite low.

Water Availability Basin the well(s) are located within: _____

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	☐	☐			☐	67.30	☐	<<25%	☐
2	1	☐	☐			☐	67.30	☐	<<25%	☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

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: Modeling in similar circumstances suggests impacts due to pumping will be much less than 25% of the pumping rate 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.

Basis for impact evaluation: _____

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

PUDDING R > MOLALLA R - AB MILL CR
WILLAMETTE BASIN

Water Availability as of 6/22/2010

Watershed ID #: 151

Exceedance Level:

Date: 6/22/2010

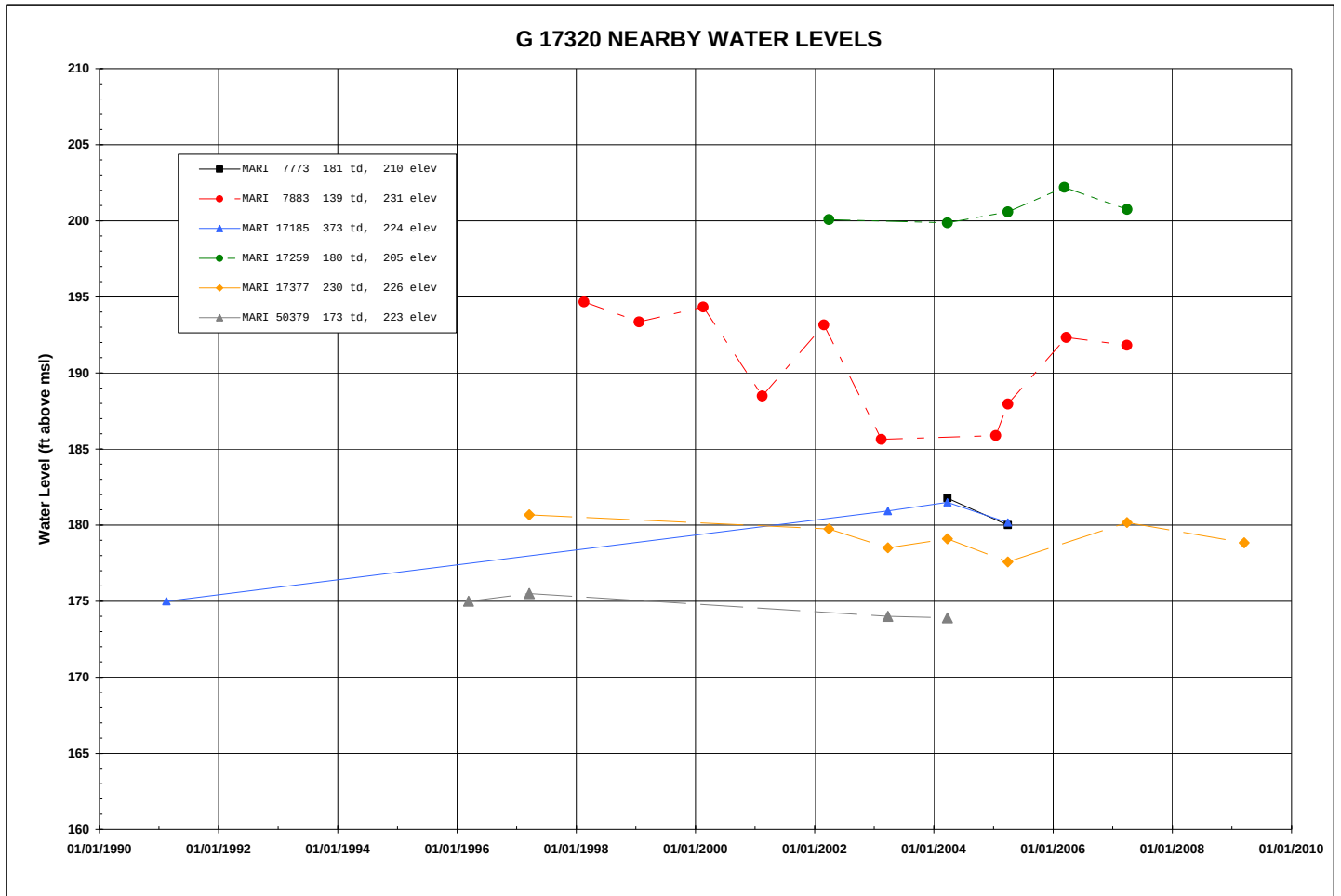
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Water Availability Calculation

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	1,040.00	76.70	963.00	0.00	36.00	927.00
FEB	1,180.00	74.30	1,110.00	0.00	36.00	1,070.00
MAR	1,010.00	50.90	959.00	0.00	36.00	923.00
APR	787.00	46.40	741.00	0.00	36.00	705.00
MAY	425.00	56.50	368.00	0.00	36.00	332.00
JUN	224.00	76.50	148.00	0.00	36.00	112.00
JUL	109.00	117.00	-8.33	0.00	36.00	-44.30
AUG	71.00	97.50	-26.50	0.00	36.00	-62.50
SEP	67.30	58.50	8.83	0.00	36.00	-27.20
OCT	91.60	17.90	73.70	0.00	36.00	37.70
NOV	363.00	42.70	320.00	0.00	36.00	284.00
DEC	957.00	75.90	881.00	0.00	36.00	845.00

Water Levels in Nearby Wells

G-17320, Stubbs

