Water Right Conditions Tracking Slip
Groundwater/Hydrology Section
FILE # # <u>G-17474</u> ROUTED TO: <u>Water</u> <u>Rights</u> TOWNSHIP/ RANGE-SECTION: <u>55/4w-3/</u>
CONDITIONS ATTACHED?: [Yyes [] no
REMARKS OR FURTHER INSTRUCTIONS: <u>See conditions on page 5, Section</u> <u>CS. Also note remarks in</u> <u>Section AS.</u> Reviewer: <u>Karl Wozniak</u>

WATER RESOURCES DEPARTMENT

MEMO

November 9 200 2011

TO: Application G-17474

FROM: GW: Karl Wozniak (Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

YES

V NO

The source of appropriation is within or above a Scenic Waterway

___YES Use the Scenic Waterway condition (Condition 7J)

Per ORS 390.835, the Ground Water Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

Per ORS 390.835, the Ground Water 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.

DISTRIBUTION OF INTERFERENCE

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.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1.7									

•														
PUB	LIC INTH	ERES	T REVI	EW FO	R GROU	ND W	ATER A	PPLI	CATI	ONS				
TO:	١	Vater	Rights Se	ction					Dat	te N	ovemł	<u>ber 9, 20</u>	11	
FROM	A: (Groun	d Water/H	vdrology	Section	Karl	Vozniek		24		ovenn	<u>/(1), 20</u>	<u></u>	
SUBJ						Rev	iewer's Nam	-						
5015	LCI. P	vppnc	ation G	1/4/4		Su	persedes	review	of			Date of Re		
PUBL	<u>IC INTER</u>	EST	PRESUM	IPTION	GROUN	DWATE	'D					Date of Re	view(S)	
welfare to dete the pre	<i>e, safety and</i> rmine wheth sumption cri	(1) The health of the provident of the p	he Departm h as describ presumption This review	ent shall p ed in ORS n is establ v is based	oresume tha 5 537.525. E ished. OAR	<i>t a propos</i> Departmen 690-310-	<i>sed ground</i> t staff revi	ew grou	ind wat	er applic:	ations a	under OA	R 690-3	10-140
A. <u>GE</u>	NERAL I	NFOF	<u>RMATIO</u>	<u>N</u> : A	pplicant's N	lame:	Robert L	& LeA	Ann R.	McKee	(County:	<u>Yamhil</u>	I
A1.	Applicant(s) seel	k(s)_0.13*	**	cfs fr	om 1		we	ll(s) in 1	the S	Yamhi	ll River		Basin,
														_ Dasin,
A2. A3.	Proposed u	ise	Reser	voir Stora	nge mber logs f	Seas	sonality:	Mar	ch 1 –	October '	31			
Well	Logid Drain Tiles*	Rate(cts) (1/R-S QQ-Q) 2250' N. 1200' E fr NW cor						cor S 36						
2 3						ļ						<u>, 100 E</u>		
	um, CRB, Be	drock												È -
	Well	First			Well	Seal	Casing	Ī	iner	Perfora	tions	Well	Draw	<u> </u>
Well	Elev V	Vater t bls	SWL ft bls	SWL Date	Depth (ft)	Interval (ft)	Intervals (ft)	s Inte	ervals ft)	Or Scr (ft	eens	Yield (gpm)	Down (ft)	Test Type
A4.	years ago, present, the Salt Creek, (applicatio drain tiles reservoir w 30. Other a ** The loc was given captured fr *** The ap during the	s: <u>* Pe</u> that cu e drain . The c n R-87 genera vill be issump ation i for the om the oplicat	er Leland H irrently dra tiles have developmen 7735) which ally only flo 6 gpm with otions that y in table A3 e POA itself e groundwa ion indicate	lardy, PE in a field t an outlet of t plan is t n wll allow w from O a total in vent into t represents which, hy ter system is that the ny be grea	average dra	hat curren from the r nultiple du flow of dr igh May. J acre feet p are unkno the upper y, is the en in tile flow	tly has no eservoir si rain tiles a ain tile wa He estimat ber year as own. reservoir ntire drain w rate is es	irrigatic ite and f t the flo ter into es that t suming f propose tile fiel	on right low into w of the the rese he aver 240 day ed on ap d (the e	s on it an o an unna e propose ervoir. A age flow ys of flow oplication entire area	d is pla med d ed uppe ccordin from t / from n R-877 a over	anted with rainage th er reservo ng to Mr. he drain t October 1 735. No fr which gro	n grass. A nat is trib <u>vir site</u> <u>Leland,</u> iles to th <u>I through</u> ormal loo pundwate	At outary to the n May cation er is
A5. 🛛	Provision	s of th	e Willamet	te			Basin	rules re	lative t	o the dev	elopm	ent, classi	ification	and/or
	manageme (Not all ba Comments was provid	nt of g sin rul : <u>Port</u> led). D	ground wate les contain s <u>ions of the</u> Drain tiles ar	r hydrauli such provi drain fielo re designe	cally conne- isions.) I are assume d to drain go n alluvial sec	ed to be lo roundwate	rface wate cated less er from the	r \boxtimes ar <u>than $\frac{1}{4}$</u> water t	e, <i>or</i>] are not om Salt C ince the v	, activa <u>creek (r</u> vater ta	nted by th no map of able, by d	is applic <u>f the drai</u> efinition	ation. <u>n field</u> , is

A6. 🗌 Well(s) # ____

Well(s) # _____, ____, ____, ____, tap(s) an aquifer limited by an administrative restriction. Name of administrative area: ______, ____, ____, tap(s) an aquifer limited by an administrative restriction.

Comments:

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

- B1. Based upon available data, I have determined that ground water* for the proposed use:
 - a. is over appropriated, is not over appropriated, or is cannot be determined to be over appropriated during any period of the proposed use. * This finding is limited to the ground water 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 ground water 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 ground water resource; or
 - d. will, if properly conditioned, avoid injury to existing ground water rights or to the ground water resource:
 - i. The permit should contain condition #(s)
 - 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 ground water production from no deeper than _______ ft. below land surface;

- b. Condition to allow ground water production from no shallower than ______ ft. below land surface;
- c. Condition to allow ground water production only from the _____ ground water 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 Ground Water 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. Ground water availability remarks: <u>There are no permitted groundwater diversions up-gradient of the proposed drain field (between the drain field and Salt Creek) and the OWRD well log database shows only two wells of record in section 31. Also, the drain tiles will only extract groundwater from the water table during those times of the year when the water table is sufficiently high to intercept the drains, most likely from November through March. Therefore, it is very unlikely that groundwater is over-appropriated in the area and likely that groundwater will be available in the amounts requested without injury to prior groundwater rights.</u>

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

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

Well	Aquifer or Proposed Aquifer		
	Aquiter of Proposed Aquiter	Confined	Unconfined
Aluvi	al aquifer system (Willamette Silt)		
			<u>\</u>

Basis for aquifer confinement evaluation: ______The water table occurs within the Willamette Silt which is composed largely of fine-grained sediments. Deeper parts of the silt unit will be confined but the drain tiles are designed to extract water from the water table which, by definition, is unconfined______

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 ¹/₄ 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? YES NO ASSUMED	Potential for Subst. Interfer. Assumed? YES NO
1	1	Salt Creek	130-160	130	<1320		

Basis for aquifer hydraulic connection evaluation: <u>Published water table maps indicate that groundwater flows toward, and discharges into, Salt Creek. In addition, drain tiles are designed to discharge groundwater to the surface water system. It was assumed that drain tile water, if not captured for use, would discharge into Salt Creek which implies a direct hydraulic connection to the creek.</u>

Water Availability Basin the well(s) are located within: <u>Salt Cr ? S Yamhill R – At Mouth (#73562)</u>

C3a. **690-09-040 (4):** Evaluation of stream impacts for <u>each well</u> 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			IS73562A	0.40	\square	9.68		100	\square

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Page

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 > Water 5 cfs? Right ID	Instream Water Right Q (cfs)	Flow	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
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Comments: _Since drain tile water would discharge instantaneously to Salt Creek if no water was diverted from the drain tiles, stream depletion will be 100% of the diversion rate whenever diversions are made from the drain tiles.

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.

Well	stributed SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Ana	Sep	Oct	Nov	Dec
wen	<u> </u>	<u> </u>	<u>100</u>	1v1a1 %	<u>Api</u> %	wiay %	<u> </u>	<u> </u>	Aug %	%	<u> </u>	<u>%</u>	Dec %
Wall O	as CFS	70	70	70		70	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	%	%	%	%	%	
	ence CFS												
mertere	the Cr3										State State of Long	STORE ALLON TO T	The Easter
Distrib	uted Well	s											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												5.00
		%	%	%	%	%	%	%	%	%	%	%	%
	as CFS												
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
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Interfere	ence CFS												
		%	%	%	%	_%	%	%	%	%	%	%	%
	as CFS												
Interfere	ence CFS												-
$(\mathbf{A}) = \mathbf{T}0$	tal Interf.												
(B) = 80	% Nat. Q												
(C) = 1	% Nat. Q												
(D) = ((A) > (C)	1	1	1	1	1	~	~	~	1	~	~	~
	/ 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 Wat	er
	Rights Section.		

C5. If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or ground water use under this permit can be regulated if it is found to substantially interfere with surface water:

C6. SW / GW Remarks and Conditions

Special Condition: All drain tiles that are used as a source of water on this permit shall be tied to a common diversion point which shall be equipped with a suitable measuring device as approved by the Director. In addition, if discharge from the drain tiles occurs when surface water is not available, the diversion point shall be equipped with a method of diverting water into the stream drainage below the reservoir, or the reservoir shall be equipped to allow drain tile water to pass through the reservoir. If reservoir pass through is used, the reservoir shall be equipped with suitable measuring devices to measure in-flow to and out-flow from the reservoir.

References Used:

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2005-5168.

Gannett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-A, 32p.

Woodward, D.G., Gannett, M.W., and Vaccaro, J.J., 1998, Hydrogeologic framework of the Willamette Lowland aguifer system, Oregon and Washington: U.S. Geological Survey Professional Paper 1424-B, 82p.

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D.	WELL CONSTRUCTION	N, OAR 690-200		
D1.	Well #:	Logid:		
D2.	 a review of the well lo b field inspection by c report of CWRE 	current well construction standards g;		;
D3.	 b commingles water fr c permits the loss of an d permits the de-water 	hreat under Division 200 rules; om more than one ground water reserv	voirs;	
D4.				
D5.	THE WELL a. 🗌 w		ing to the standards in effect at the time of	
		don't know if it met standards at the ti		
D6. 🗌		Section. I recommend withholding issund approved by the Enforcement Section	uance of the permit until evidence of well on and the Ground Water Section.	reconstruction
THIS	SECTION TO BE COMP	LETED BY ENFORCEMENT P	ERSONNEL	
D7.	Well construction deficiency	has been corrected by the following ac	tions:	
	(Enforcement Sectio	n Signature)		, 200
D8.		ion (attach well reconstruction logs	to this page).	

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Application G-17474

Water Availability Tables

SALT CR > S YAMHILL R - AT MOUTH WILLAMETTE BASIN

Water Availability as of 11/9/2011

Watershed ID #: 73562 Date: 11/9/2011

Exceedance Level: 80%

Time: 3:53 PM

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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	345.00	16.80	328.00	0.00	0.40	328.00
FEB	295.00	14.50	280.00	0.00	0.40	280.00
MAR	239.00	12.20	227.00	0.00	0.40	226.00
APR	142.00	4.93	137.00	0.00	0.40	137.00
MAY	59.70	6.66	53.00	0.00	0.40	52.60
JUN	28.00	15.50	12.50	0.00	0.40	12.10
JUL	19.90	19.30	0.62	0.00	0.40	0.22
AUG	10.20	15.50	-5.28	0.00	0.40	-5.68
SEP	9.68	7.78	1.90	0.00	0.40	1.50
OCT	13.30	1.21	12.10	0.00	0.40	11.70
NOV	53.50	3.77	49.70	0.00	0.40	49.30
DEC	314.00	15.40	299.00	0.00	0.40	298.00
ANN	92,000.00	8,060.00	84,200.00	0.00	290.00	84,000.00

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