# **Groundwater Application Review Summary Form**

Application # G- 17898 Re-Review  GW Reviewer J. Hackett	Date Review Completed: 5/4/2018
Summary of GW Availability and Injury Review:	
[ ] Groundwater for the proposed use is either over a amounts requested without injury to prior water right capacity of the groundwater resource per Section B of	its, OR will not likely be available within the
Summary of Potential for Substantial Interference R	eview:
There is the potential for substantial interference	per Section C of the attached review form.
Summary of Well Construction Assessment:	
[ ] The well does not appear to meet current well conversely form. Route through Well Construction and Const	

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

## PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO:	: Water Rights Section						DateMay 4, 2018						
FROM	:	Grou	ndwater Sec	tion									
PUBLI OAR 69	PUBLIC INTEREST PRESUMPTION; GROUND OAR 690-310-130 (1) The Department shall presume that welfare, safety and health as described in ORS 537.525. Experiments to determine whether the presumption is established. OAR					Suj DWATE	<u>R</u> ed ground	review of	ensure th	e prese		view(s)  of the pub	
to deter	mine who	ether th	e presumptio	n is establi	ished. OAR	690-310-	140 allow		use be m	odified	or condi	tioned to	meet
-	-		ORMATIO!					Land, Ltd					
A1.	Applica	ant(s) se	eek(s) <u>1.783</u>	cfs from	m <u>1</u>	well(		Willamette Quad Map: R					_Basin,
A2. A3.			Irriga fer data ( <b>attac</b>		mber logs f	Seas	sonality:	March 1 – mark proposed	October (		ınder log	gid):	
Well 1 2	Logid Applicant's Well #  Proposed			Proposed Aquifer*  Alluvium		osed (cfs) /83	(T/R-S QQ	Location (T/R-S QQ-Q) 12S/Q5W-13 NE/NE		tion, mete ' N, 1200' )' N, 2957'	E fr NW	cor S 36	
3 4													
5   * Alluvii	um, CRB,	Bedroc	k										
Well	Well Elev ft msl 223	First Wate ft bls	r SWL ft bls	SWL Date	Well Depth (ft) 30' est.	Seal Interval (ft) Unk	Casing Interval (ft) Unk		Perfora Or Scr (ft	eens	Well Yield (gpm)	Draw Down (ft)	Test Type
Use data			for proposed v		aced the ori	ginal POA	As with a	Proposed Well.					
A5. 🛛	Comments: Revised application replaced the original POAs with a Proposed Well.  Provisions of the Willamette Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water □ are not, activated by this application. (Not all basin rules contain such provisions.)  Comments: The proposed well is located less than ¼ mile from the nearest surface water source so the pertinent rules (OAR 690-502-0240) apply.												
A6. 🗌	Name o	of admi	nistrative area	ı:				tap(s) an aquif					triction.

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

B1.	Bas	ed 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.	$\square$ will not or $\square$ will likely to be available within the capacity of the groundwater resource; or
	d.	<ul> <li>will, if properly conditioned, avoid injury to existing groundwater rights or to the groundwater resource:         <ol> <li>i.</li></ol></li></ul>
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.	<ul> <li>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.</li> <li>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):</li> </ul>
B3.	Riv and tied Sind min as p	bundwater availability remarks: The proposed well will be located within the Holocene floodplain of the Willamette er. The floodplain sediments has productive sand and gravel beds that probably range up to 40 feet thick in the local area are capable of high well yields. Published reports show that the water table elevation in the floodplain aquifer is closely to stream stage in the Willamette River. Irrigation and domestic well densities are quite low in the surrounding area. Cee the aquifer is unconfined and likely to have a high specific yield, hydraulic interference with nearby wells should be simal. Observation wells are not available in the immediate area but groundwater levels are unlikely to decline over time bumping from the well will be buffered by capture from nearby ponds and streams. These factors indicate that undwater is unlikely to be over appropriated in the area and should be available within the capacity of the resource mout injury to prior rights.
	-	

#### 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	Alluvial Aquifer		$\boxtimes$
	)		

Basis for aquifer confinement evaluation:	General knowledge indicates that the Holocene flood deposits are 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 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? YES NO ASSUMED	Potential Subst. Inte Assume YES	erfer.
1	1	Willamette River Main Ch	205	205	900			
1	2	East Channel Willamette R	205	205	1900			$\boxtimes$

Basis for aquifer hydraulic connection evaluation: Published water table maps indicate that groundwater flows toward and discharges into the Willamette River and nearby tributary and distributary channels. Seasonal groundwater levels are known to respond to stream stage in the floodplain aquifer.

Water Availability Basin the well(s) are located within: WILLAMETTE R> COLUMBIA R- AB PERIWINKLE CR AT GAGE 14174

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 < 1/4 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	$\boxtimes$		MF 184	1750		2540		<25%	$\boxtimes$
1	2						2540		<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: A number of gravel quarries occur in the area between the proposed well and the river. This complex geometry
precludes the use of a simple analytical model for stream depletion estimates. The quarries are filled with water at the level of
the water table and should be efficiently connected to the floodplain aquifer. As the cone of depression from the pumping well
reaches these quarries, the well should be able to capture most of their production from the water in the quarries. Therefore, it is
unlikely that pumping from the well will result in >25% of stream depletion after 30 days. Ultimately, however, all water
pumped from the well will be produced at the expense of surface water flows.

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.

	istributed	Wells											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well (	Q as CFS												
Interfer	rence CFS												
D:-4-'1	41 337-1	1_					William E. C. C.						
Well	outed Well SW#	Jan	Feb	Mar	A no.	May	Jun	Jul	A	Can	Oct	Nov	Dec
WCII	SWπ	7411	%	%	Apr		7un %	7 U1 %	Aug	Sep			
Wall	Q as CFS	%	%	%	%	%	%	%	%	%	%	%	%
	rence CFS												
Titteriei		%	%	%	%	%	%	%	%	%	%	67	C/
Well (	Q as CFS	70	70	%	%	%	%	%	%	%	%	%	%
	rence CFS												
Interier	CHCC CI'S	%	%	%	67	67	CI	C/	67	67	61	64	
Wall (	Q as CFS	%	%	%	%	%	%	%	%	%	%	%	%
	rence CFS												
interier	Chec Cr 5	%	%	%	%	%	%	%	%	%	%	%	%
Well (	Q as CFS	70	70	70	70	76	76	70	76	%	%	%	%
	rence CFS			2							,		
Interior		%	%	%	%	%	%	%	%	%	67	67	%
Well (	Q as CFS	70	70	70	70	70	70	70	76	%	%	%	96
	rence CFS		196	. 10									
	T	%	%	%	%	%	%	%	%	%	%	%	%
Well (	Q as CFS	7.0	7.0	70	70	70	70	70	70	70	70	70	70
	ence CFS												
										TOTAL TEXTS			
$(\mathbf{A}) = \mathbf{T}\mathbf{c}$	otal Interf.												
(B) = 80	% Nat. Q												
(C) = 1	% Nat. Q												
<b>D</b>	(1) (6)												
	(A) > (C)	V.	- V	ν'	- V	¥		V	V	- 1/	∀	· · · · ·	¥
$(\mathbf{E}) = (\mathbf{A}$	/B) x 100	%	%	%	%	%	%	%	%	%	%	%	%

_	
_	
_	
_	
_	
6	90-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the W Rights Section.
	If properly conditioned, the surface water source(s) can be adequately protected from interference, and/or groundwater under this permit can be regulated if it is found to substantially interfere with surface water:  i.   The permit should contain condition #(s)
	ii. The permit should contain special condition(s) as indicated in "Remarks" below;
CIII	CW Down by and Condition
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW .	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
SW	/ GW Remarks and Conditions
Refe	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and
Refe	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and de, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigatio
Refe	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and
Refe	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and tle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigation of the 2005-5168.
Refe Hink Repo Ganı U.S.	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and de, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigatio prt 2005-5168.  nett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washing Geological Survey Professional Paper 1424-A, 32 p.
Refe Hink Repo Gann U.S.	erences Used: Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and cle, S.R., 2005, Ground-water hydrology of the Willamette Basin, Oregon: U.S. Geological Survey Scientific Investigatio ort 2005-5168.  nett, M.W. and Caldwell, R., 1998, Geologic framework of the Willamette Lowland aquifer system, Oregon and Washing

### D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:	
D2.	<ul><li>a.  review of the</li><li>b.  field inspecti</li><li>c.  report of CW</li></ul>	ot appear to meet current well construction standards based upon: e well log; ion by	;
D3.		action deficiency or other comment is described as follows:	
D4.		Construction and Compliance Section for a review of existing well construction.	
D1.	Well #:	Logid:	
D2.	<ul> <li>a.  review of the</li> <li>b.  field inspectic.</li> <li>c.  report of CW</li> </ul>	ot appear to meet current well construction standards based upon:  e well log; ion by	;
D3.		action deficiency or other comment is described as follows:	
D4.	Route to the Well C	Construction and Compliance Section for a review of existing well construction.	

Date: 5/4/2018

# WILLAMETTE R > COLUMBIA R - AB PERIWINKLE CR AT GAGE 14174 WILLAMETTE BASIN

Water Availability as of 5/4/2018

•

Exceedance Level:

80% ▼

Time: 4:18 PM

Watershed ID #: 30200321 (Map)

#### 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	10,100.00	1,370.00	8,730.00	0.00	1,750.00	6,980.00
FEB	11,600.00	4,290.00	7,310.00	0.00	1,750.00	5,560.00
MAR	11,000.00	4,560.00	6,440.00	0.00	1,750.00	4,690.00
APR	9,760.00	4,260.00	5,500.00	0.00	1,750.00	3,750.00
MAY	8,430.00	2,550.00	5,880.00	0.00	1,750.00	4,130.00
JUN	5,360.00	856.00	4,500.00	0.00	1,750.00	2,750.00
JUL	3,270.00	662.00	2,610.00	0.00	1,750.00	858.00
AUG	2,560.00	602.00	1,960.00	0.00	1,750.00	208.00
SEP	2,540.00	518.00	2,020.00	0.00	1,750.00	272.00
OCT	2,860.00	270.00	2,590.00	0.00	1,750.00	840.00
NOV	4,170.00	355.00	3,820.00	0.00	1,750.00	2,070.00
DEC	8,150.00	380.00	7,770.00	0.00	1,750.00	6,020.00
ANN	7,460,000.00	1,240,000.00	6,230,000.00	0.00	1,270,000.00	4,960,000.00

#### **Detailed Report of Instream Flow Requirements**

Instream Flow Requirements in Cubic Feet per Second

Applicatio n #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MF184A	APPLICATI ON												
Maximum		1,750. 00											

## G-17898, WK&K Land, Ltd

1:24,000 scale

