Groundwater Application Review Summary Form

Application # G- <u>19215</u>
GW Reviewer Phillip I. Marcy Date Review Completed: 09/08/2022
Summary of GW Availability and Injury Review:
Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.
Summary of Potential for Substantial Interference Review:
\square 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 construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.
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).

WATER RESOURCES DEPARTMENT

MEM	0							_(09/08/20	22_		
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FRON	И:	GW: <u>P</u>	hillip I. I Reviewer									
SUBJ	ECT: S	cenic Wa	aterway	Interf	erence l	Evaluat	ion					
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Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	7

Reviewer's Name Supersedes review of 12/15/2021 Date of Review(s)	TO:														
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 low to determine whether the presumption is established. OAR 690-310-140 low the proposed use be modified or 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: Spies Trust County: Benton A. Applicant(s) seck(s) 0.91 cfs from 4 well(s) in the will will will will be subbasin A2. Proposed use Irrigation (73 acres): Pond Maintenance Seasonality: March 1 st October 31 st (245 days): vear-round A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid): Well Logid Applicant's Proposed Aquifer* Restord, CRR 50Q-Q, 2550 N, 1200 N, 1309 Fe fw Hot or S 18 1 Proposed Well * Proposed Aquifer* Restord, CRR 50Q-Q, 2550 N, 1200 N, 1309 Fe fw Hot or S 18 2 Proposed 3 Alluvium 0.91 1184W-18 NN-NW 1209 N, 1309 Fe fw Hot or S 18 3 Proposed 4 Alluvium 0.91 1184W-18 NN-NW 1300 N, 1309 Fe fw Hot or S 18 4 Proposed 4 Alluvium 0.91 1184W-18 NN-NE 1750 N, 330 Fe fw Hot or S 18 *Alluvium, CRB, Bedrock Well First SWL SWL SWL Well Seal Casing Linery Perforations Well Draw from the first fit bis Date (ft) (ft) (ft) (ft) (ft) (gpm) (ft) Type (ft) (ft) (ft) (ft) (gpm) (ft) (ft) (ft) (ft) (ft) (ft) (ft) (ft	FROM	:	Grou	nawater Sec	tion										
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Application G-19215 Date: 09/08/2022

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.	\square will not or \square 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.	 i. □ The permit should contain 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;
D2.		
	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):
В3.	leve loca in th prol stag allu for	bundwater availability remarks: The applicant's proposed wells will develop water from unconfined, predominately rese-grained Quaternary alluvial deposits that have a saturated thickness of 20-40 feet (Conlon et al., 2005, P. 9). Water also in the aquifer are closely tied to stream stage in the Willamette River (Conlon et al., 2005, P. 50). The wells will be noted adjacent to the floodplain of the Willamette River where the Willamette Silt has been removed. Since the water levels have system are closely tied to the Willamette River stage, the long-term stability of the aquifer is not likely to be a polem, but the saturated thickness of the aquifer could drop substantially in late summer in conjunction with lower stream the end of the seasonal fluctuations are unknown at this time. The nearest well similarly located within the unconsolidated vial sediments, with long-term water level reporting is BENT 1558 (located ~ 6.9 miles to the northeast). The hydrograph BENT 1558 shows no long-term decline and a correlation to the flow of the Willamette River as measured at the station albany.
		en the stability of long-term water levels in the target aquifer at the proposed location, it has been determined that indwater for the proposed use is not over-appropriated.

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	Alluvium		
2	Alluvium		

Basis for aquifer confinement evaluation: Proposed POA wells will target unconfined Quaternary sediments (Qalc unit of O'Conner, 2001) adjacent to the floodplain of the Willamette River.

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 ½ 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)		Conne	ulically ected? ASSUMED	Potentia Subst. Int Assum YES	terfer.
1	1	Asbahr Lake	200-210	192	4885	\boxtimes				\boxtimes
2	1	Asbahr Lake	200-210	192	5750	\boxtimes				\boxtimes
3	1	Asbahr Lake	200-210	192	3630	\boxtimes				\boxtimes
4	1	Asbahr Lake	200-210	192	3000	\boxtimes				\boxtimes
1	2	Mountain View Creek	200-210	215	2585	\boxtimes				\boxtimes
2	2	Mountain View Creek	200-210	215	3760	\boxtimes				\boxtimes
3	2	Mountain View Creek	200-210	215	3460	\boxtimes				\boxtimes
4	2	Mountain View Creek	200-210	215	2930	X				\boxtimes

Basis for aquifer hydraulic connection evaluation: Water table maps indicate that ground water discharges to streams in the area. Additionally, water levels in nearby wells are coincident with the elevation of the Willamette River. These factors indicate a hydraulic connection between local surface water sources and the alluvial ground water system.

Water Availability Basin the well(s) are located within: $\underline{30200321}$: 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 (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, 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			NA			2540.0		<25%	
3	1			NA			2540.0		<25%	
4	1			NA			2540.0		<25%	
1	2			NA			2540.0		<25%	
2	2			NA			2540.0		<25%	
3	2			NA			2540.0		<25%	
4	2			NA			2540.0		<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: Modelling in similar circumstances suggests that due the distance from the well to nearby streams and the unconfined nature of the aquifer, impacts will be less than 25% of the pumping rate after 30 days of pumping.

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-Di	stributed	Wells											
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
Interfere	ence CFS												
	uted Well												
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												1
Interfere	ence CFS												
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q	as CFS												
	ence CFS												
								'	'				
$(\mathbf{A}) = \mathbf{To}$	tal Interf.												Ì
(B) = 80	% Nat. Q												1
(C) = 1	% Nat. Q												
	- 1	·				l l		·	·	l l		l l	
$(\mathbf{D}) = ($	$(\mathbf{A}) > (\mathbf{C})$	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	✓	\checkmark	√	√	√	\checkmark
$(\mathbf{E}) = (\mathbf{A})$	/ 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:

Application G-19215 Date: 09/08/2022 Page 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: i. \square The permit should contain condition #(s) ii.

The permit should contain special condition(s) as indicated in "Remarks" below; C6. SW / GW Remarks and Conditions: References Used: O'Connor, J. E., Sarna-Wojcicki, A., Wozniak, K. C., Polette, D. J., and Fleck, R. J., 2001, Geologic map of Quaternary units in

the Willamette Valley, Oregon: Reston, Va., U.S. Geological Survey, Professional Paper 1620, map scale 1:250,000.

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 Report 2005-5168.

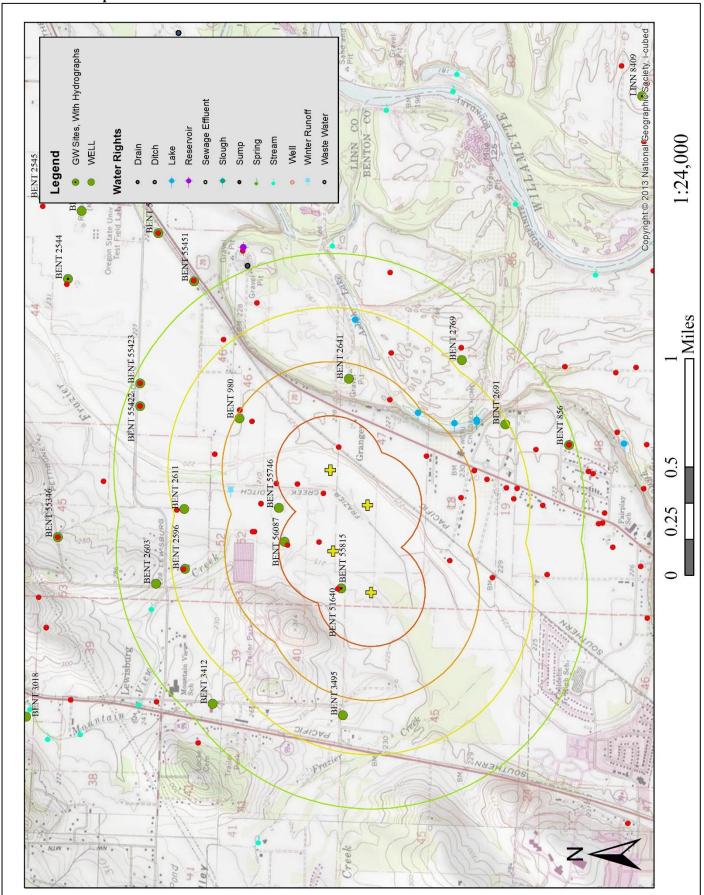
D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #: _	Logid:										
D2.	THE WELL does not appear to meet current well construction standards based upon:											
	a. 🗆 1	review of the well log;										
	b. 🗆 1	field inspection by;										
		report of CWRE;										
		other: (specify)										
D3.	THE WI	ELL construction deficiency or other comment is described as follows:										
	_											
D4.	☐ Route to	o the Well Construction and Compliance Section for a review of existing well construction.										

Water Availability Tables

		DETAILED REPORT	ON THE WATER AVAILA	ABILITY CALCULATION	ON	
Watershed ID #: 30200321 Fime: 3:27 PM		WILLAMETTE R > COLUMBIA R - AB PERIWINKLE CR AT GAGE 1. Basin: WILLAMETTE			4174 Exceedance Level: 80 Date: 12/15/2021	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
		Storage is	Monthly values a	******	in ac-ft.	
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	2,560.00	5,870.00	0.00	1,750.00	4,120.00
JUN	5,360.00	857.00	4,500.00	0.00	1,750.00	2,750.00
JUL	3,270.00	667.00	2,600.00	0.00	1,750.00	853.00
AUG	2,560.00	605.00	1,950.00	0.00	1,750.00	205.00
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	1,240,000	6,230,000	0	1,270,000	4,960,000

Well Location Map



Water-Level Measurements in Nearby Wells

