Groundwater Application Review Summary Form

Application # G- _19173_

GW Reviewer _Travis Brown_ Date Review Completed: _4/17/2023_

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:

☐ 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

MEMO **_4/17/2023_**

TO: **Application** G-**_19173_**

FROM: **GW:** **_Travis Brown_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ **YES**
☒ **NO**

The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☐ **YES**
☒ **NO**

Use the Scenic Waterway Condition (Condition 7J)

☐ Per ORS 390.835, the Groundwater 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 Groundwater 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 _[Enter]_ 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

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date **4/17/2023**

FROM: Groundwater Section **Travis Brown**
Reviewer's Name

SUBJECT: Application G- **19173** Supersedes review of 12/6/2021
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 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: **Jilinda Lewis** County: **Lane**

A1. Applicant(s) seek(s) 0.292 cfs from 1 well(s) in the Willamette Basin, Upper Willamette subbasin

A2. Proposed use Irrigation (23.46 ac) Seasonality: March 1 – October 31 (244 d)

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	NOLOG	1	Alluvium	0.292	16.00S-4.00W-6-NW NE	200 FEET SOUTH AND 2760 FEET EAST FROM NW CORNER, SECTION 6
2						
3						
4						

* 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	330	-	8.96	June 2021	110	-	-	-	-	-	-	-

Use data from application for proposed wells.

A4. **Comments:** The proposed POA is an existing well that is not associated with a well log; well depth and SWL were provided on the application

A5. ☐ **Provisions of the** Willamette (OAR 690-502) Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments:

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

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

B1. **Based 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. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:

i. ☒ The permit should contain condition #(s) **7N (Annual SWL); Medium Water-Use Reporting**;

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 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. ☐ **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): _____

B3. **Groundwater availability remarks:** Water levels in the area indicate relative stability (see attached Hydrograph). Unconfined aquifer in this area would be anticipated to receive high rates of recharge, reducing potential for overdraft.

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**	☐	☒
		☐	☐

Basis for aquifer confinement evaluation: wells in the area typically report similarly shallow SWL regardless of depth implying a single, unconfined aquifer

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 for Subst. Interfer. Assumed? YES	NO
1	**1**	**Amazon Cr**	**320**	**305-315**	**8100**	☒	☐	☐	☐	☒
1	**2**	**Willamette River**	**320**	**310-325**	**14600**	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: similar GW and SW elevations; unconfined nature of aquifer

Water Availability Basin the well(s) are located within:
WILLAMETT R > COLUMBIA R – AB PERIWINKLE CR AT GAGE 14174 (ID# 30200321)

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 (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 < 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?
		☐	☐			☐		☐		☐

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:

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
1	**1**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Well Q as CFS				**0.292**	**0.292**	**0.292**	**0.292**	**0.292**	**0.292**	**0.292**	**0.292**		
Interference CFS				**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**
(A) = Total Interf.		**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**	**< 0.3**
(B) = 80 % Nat. Q		**568**	**697**	**596**	**373**	**215**	**105**	**50.6**	**35.4**	**32.1**	**35.3**	**82.5**	**364**
(C) = 1 % Nat. Q		**5.68**	**6.97**	**5.96**	**3.73**	**2.15**	**10.5**	**0.51**	**0.35**	**0.32**	**0.35**	**0.83**	**3.64**
(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: 1% of the 80%-exceedance natural flows for the encompassing WAB are greater than the maximum proposed rate of appropriation and so PSI is not assumed and stream-depletion modeling was not necessary. WAB values for SW#2 are higher than SW#1 and so the 1% threshold would not be exceeded for that WAB either.

C4b. **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. ☐ 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:** The applicant's proposed POA would be producing from an unconfined aquifer that is found to be hydraulically connected to surface water. However, the distance between the POA and the surface water source is greater than 1 mile and the proposed rate is less than 1% of the 80%-exceedance natural flows in the encompassing WAB for all months and so the Potential for Substantial Interference is not assumed.

REFERENCES USED:

Gannett, M. W. and R. R. Caldwell. 1998. Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington. USGS Professional Paper 1424-A.

Herrera, N. B., Burns, E. R., and T. D. Conlon. 2014. Simulation of Groundwater Flow and the Interaction of Groundwater and Surface Water in the Willamette Basin and Central Willamette Subbasin, Oregon. USGS Scientific Investigations Report 2014-5136.

McClaughry, J. D., T. J. Wiley, M. L. Ferns, and I. P Madin. 2010. Digital Geologic Map of the Southern Willamette Valley, Benton, Lane, Linn, Marion, and Polk Counties, Oregon. Oregon Dept. of Geology and Mineral Industries. Open File Report O-10-13.

O'Conner, J. E., A. Sarna-Wojcicki, K. C. Wozniak, D. J. Polette, and R. J. Fleck. Origin, Extent, and Thickness of Quaternary Geologic Units in the Willamette Valley, Oregon. USGS Professional Paper 1620

OWRD Well Log Database, Accessed 12/06/2021 [https://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx]

OWRD Groundwater Information System Database, Accessed 12/06/2021 [https://apps.wrd.state.or.us/apps/gw/gw_info/gw_info_report/gw_search.aspx]

Woodward, D. G., M. W. Gannett, and J. J. Vaccaro. 1998. Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington. USGS Professional Paper 1424-B.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #**: **1** **Logid:** **No Log**

D2. **THE WELL does not appear to 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 or other comment is described as follows:**
There is no well log associated with the proposed POA, which is listed as an existing well

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

LONG TOM R > WILLAMETTE R - AB MOUTH

Watershed ID #: 114 Basin: WILLAMETTE Exceedance Level: 80

Time: 3:42 PM Date: 12/06/2021

Monthly values are in cfs.

Storage is the annual amount at 50% exceedance in ac-ft.

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
JAN	568.00	149.00	419.00	0.00	0.00	419.00
FEB	697.00	389.00	308.00	0.00	0.00	308.00
MAR	596.00	555.00	40.70	0.00	0.00	40.70
APR	373.00	250.00	123.00	0.00	0.00	123.00
MAY	215.00	64.10	151.00	0.00	0.00	151.00
JUN	105.00	29.90	75.10	0.00	0.00	75.10
JUL	50.60	48.30	2.32	0.00	0.00	2.32
AUG	35.40	39.20	-3.80	0.00	0.00	-3.80
SEP	32.10	21.70	10.40	0.00	0.00	10.40
OCT	35.30	5.93	29.40	0.00	0.00	29.40
NOV	82.50	5.68	76.80	0.00	0.00	76.80
DEC	364.00	106.00	258.00	0.00	0.00	258.00
ANN	362,000	99,600	262,000	0	0	262,000

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

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

Watershed ID #: 30200321 Basin: WILLAMETTE Exceedance Level: 80

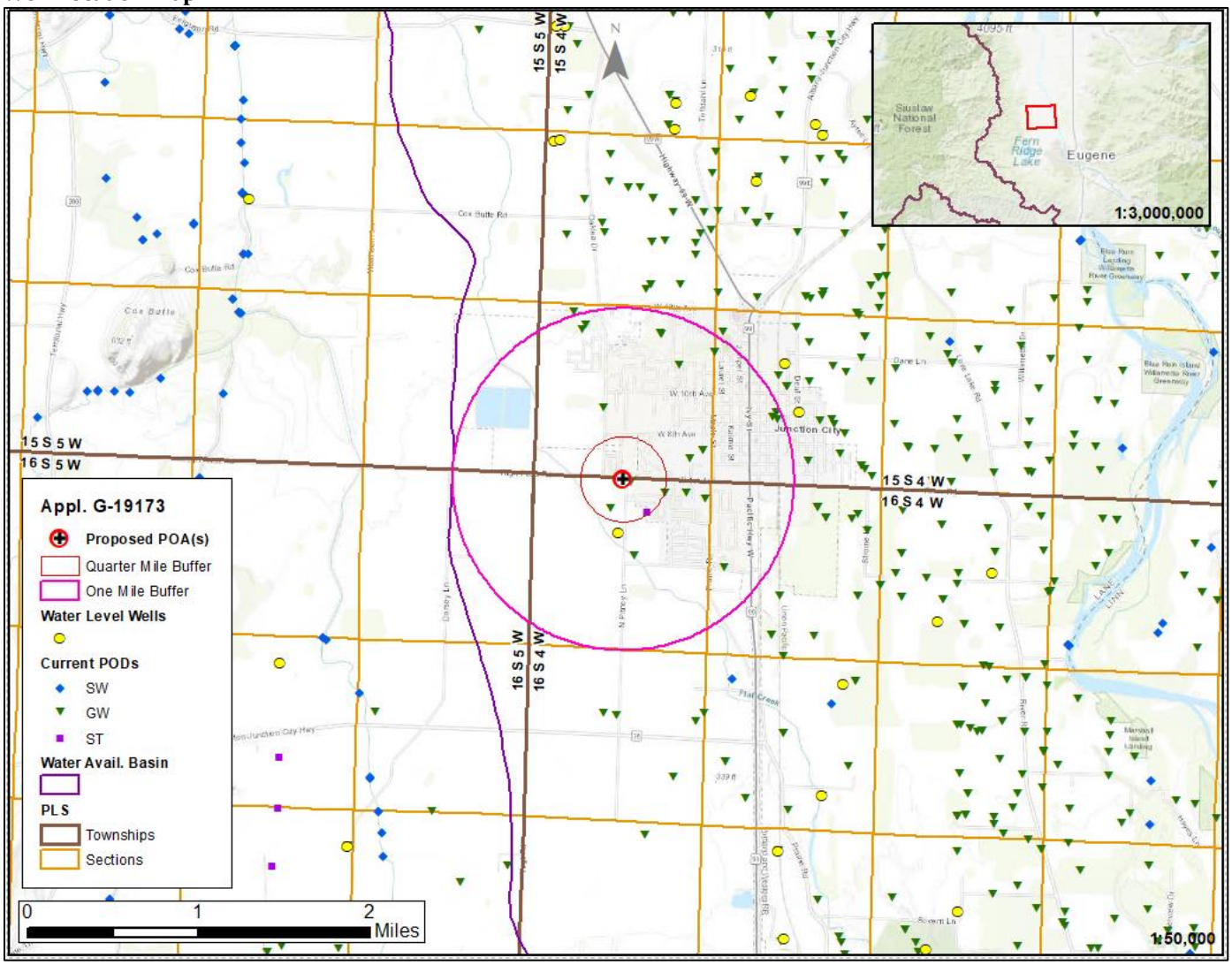
Time: 3:16 PM Date: 12/06/2021

Monthly values are in cfs.

Storage is the annual amount at 50% exceedance in ac-ft.

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	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	2,560.00	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