

Groundwater Application Review Summary Form

Application # G- 19329

GW Reviewer Dennis Orlowski Date Review Completed: April 18, 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

April 18, 2023

TO: Application G- 19329

FROM: GW: Dennis Orlowski
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

- ☐ YES The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries
- ☒ NO
-
- ☐ YES Use the Scenic Waterway Condition (Condition 7J)
- ☒ NO
-
- ☐ 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 April 18, 2023
 FROM: Groundwater Section Dennis Orłowski
 Reviewer's Name
 SUBJECT: Application G- 19329 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 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: YM Enterprises LLC County: Clackamas

A1. Applicant(s) seek(s) 0.045 cfs from one well(s) in the Willamette Basin,
Molalla subbasin

A2. Proposed use Nursery (8.9 acres) Seasonality: 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	Proposed	Well 1	Alluvium	0.045	T4S/R2E-3 NE-NE	285' S, 1075' W fr NE cor S3

* 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	675	TBD	TBD	TBD	450-550 (approx.)	To casing bottom	0-420 (approx.)	--	420-550 (approx.)	TBD	TBD	TBD

Use data from application for proposed wells.

A4. **Comments:** The proposed POA/POU locations are about 7-8 miles due east of Canby, Oregon.

A5. ☒ **Provisions of the** Willamette 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: Proposed Well 1 will produce from a confined alluvial aquifer system, and thus the pertinent Basin rules (OAR 690-502-0240) do not apply.

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
 Name of administrative area: None
 Comments: Not applicable.

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) 7c (7-yr measurements);
 - 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 420 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:** Geologic and hydrogeologic conditions at and near the proposed POA/POU location are very complex. Near the Well 1 location, some wells (CLAC 66465, CLAC 75782) show about 120-180 ft of Boring Lava present just below 10-20 feet of topsoil and clay; the thickness of Boring Lava emplacements can range from about 50 to >600 feet, with the thickest accumulations at/near vent locations. The Boring Lava overlies the eroded surface of the Troutdale Formation, which consists of alternating layers of weakly to moderately-cemented pebble and cobble conglomerate, occasional thin lenses of medium to coarse sandstone, and layers of claystone and siltstone. Beneath the Troutdale Formation is the Columbia River Basalt Group (CRBG) at depths ranging from about 1000-1200 ft bls. (Gannett and Caldwell, 1998; Conlon and others, 2005; Wells and others, 2020). The proposed construction for Well 1 indicates that it will be producing from the Troutdale Formation at estimated depths ranging from 420 to 550 ft bls.

Available groundwater level data is correspondingly highly variable (see hydrograph): groundwater levels in wells within about 1.5 miles of the proposed POA location range from about 100 ft msl to greater than 600 ft msl. In general, the levels tend to correspond to well completion depth/source aquifer: deepest levels are associated with CRBG wells (CLAC 20274), intermediate levels with Troutdale Formation wells (CLAC 13589, CLAC 75782), and the shallowest levels with wells obtaining groundwater solely from Boring Lava emplacements (CLAC 16323, CLAC 72730).

Although there are several wells within about ½ mile of the proposed POA that are completed to similar depth (though not fully penetrating the Troutdale Formation), potential injury is unlikely given the very low requested allocation (0.045 cfs, ~20 gpm).

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: Groundwater levels in nearby wells are above the primary water-bearing zones in each well. Furthermore, in most deeper wells there are many tens of feet of low-permeability clay and silt deposits that overlie (confine) the deeper water-bearing sands and gravels (e.g., CLAC 13589, CLAC 75782). These facts indicate confined conditions are expected for proposed Well 1.

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	Unnamed tributary to Buckner Creek	230-240*	250-300**	5600**	☒	☐	☐	☐	☒

Basis for aquifer hydraulic connection evaluation: * As discussed in Section B3, hydrogeologic conditions are complex in this area, with correspondingly-variable static water level elevations that depend wholly on well completion/open interval depths. The best available information for estimating groundwater elevations for the proposed Well 1 are the range of reported levels from CLAC 75782 (~2200 ft away) and CLAC 13589 (~6900 ft away); CLAC 75782 has a similar total depth/elevation to proposed Well 1, whereas CLAC 13589 is deeper by about 90 feet.

**The nearest perennial stream reach (SW1, unnamed tributary to Buckner Creek) is approximately 1140 ft from the proposed Well 1 location. However, the elevation of SW1 at that nearest point, and continuing outward from Well 1 for several thousand feet, ranges from ~700 to 300 ft msl, far above the estimated groundwater elevation range for Well 1. Thus, the distance shown is where the SW1 elevation range is coincident with, and below, the estimated groundwater elevations: this nearest point of likely hydraulic connection is about ~5600 feet from Well 1, which is greater than one mile from the proposed well location.

Note: to ensure that the proposed well does not establish a hydraulic connection nearer to SW1, it is important that Well 1 be continuously cased and sealed at least to the minimum depth proposed (420 ft bls).

Water Availability Basin the well(s) are located within: WID 131: Milk Creek > Molalla River – at mouth.

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 #		Q _w > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Q _w > 1% ISWR?	80% Natural Flow (cfs)	Q _w > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: Not applicable.

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													
(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: Not applicable.

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:
- ☐ The permit should contain condition #(s) _____;
 - ☒ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:** To prevent undue interference with SW1 (unnamed tributary to Buckner Creek), the proposed Well 1 needs to be continuously cased and sealed to at least 420 ft below land surface (as proposed in the application).

References Used: Application G-19329; groundwater reviews G-18275, G-17220, G-15343.

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, 32 p.

OWRD Groundwater Database and well logs

Wells, R.E., Haugerud, R.A., Niem, A.R., Niem, W.A., Ma, L., Evarts, R.C., O'Connor, J.E., Madin, I.P., Sherrod, D.R., Beeson, M.H., Tolan, T.L., Wheeler, K.L., Hanson, W.B., and Sawlan, M.G., 2020, Geologic map of the greater Portland metropolitan area and surrounding region, Oregon and Washington: U.S. Geological Survey Scientific Investigations Map 3443, pamphlet 55 p., 2 sheets, scale 1:63,360, <https://doi.org/10.3133/sim3443>.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

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) _____

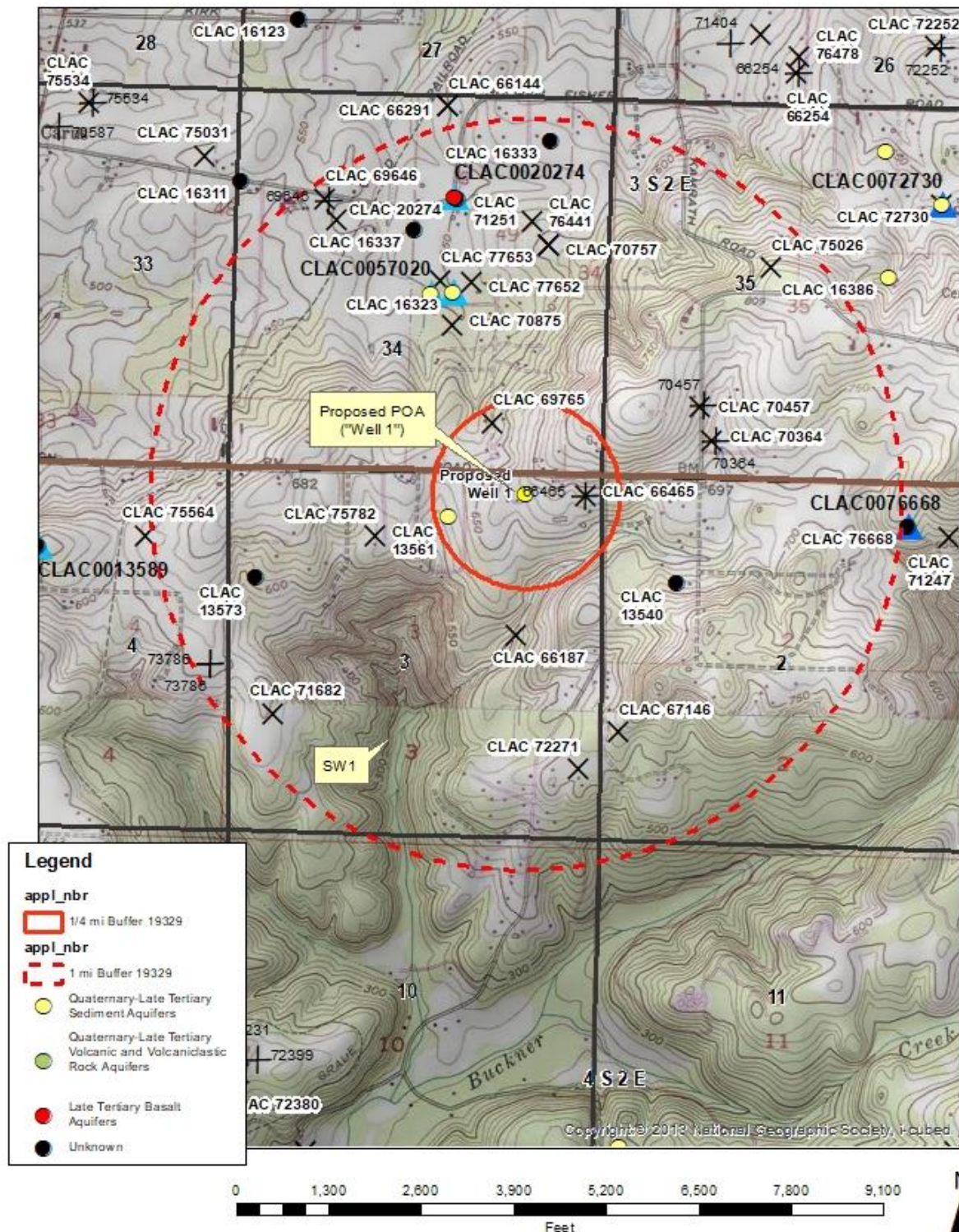
D3. **THE WELL construction deficiency or other comment is described as follows:** _____

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

Well Location Map

Application G-19329, YM Enterprises LLC

T4S, R2E, Section 3



Water Availability Tables



Oregon Water Resources Department
Water Availability Analysis

[Main](#) [Help](#)
[Return](#) [Contact Us](#)

Water Availability Analysis

Detailed Reports

MILK CR > MOLALLAR - AT MOUTH
WILLAMETTE BASIN
Water Availability as of 4/18/2023

Watershed ID #: 131 [\(Map\)](#)
Date: 4/18/2023

Exceedance Level: 80%
Time: 2:00 PM

- Water Availability Calculation
- Water Rights
- Consumptive Uses and Storages
- Instream Flow Requirements
- Watershed Characteristics
- Reservations

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	124.00	2.49	122.00	0.00	85.00	36.50
FEB	117.00	2.37	115.00	0.00	85.00	29.50
MAR	121.00	2.07	119.00	0.00	85.00	33.90
APR	91.50	2.32	89.20	0.00	85.00	4.18
MAY	59.20	5.12	54.10	0.00	85.00	-30.90
JUN	26.50	7.59	18.90	0.00	60.00	-41.10
JUL	10.80	12.80	-2.02	0.00	40.00	-42.90
AUG	8.92	10.60	-1.64	0.00	20.00	-21.60
SEP	8.95	4.74	4.21	0.00	20.00	-15.80
OCT	15.20	1.78	13.40	0.00	40.00	-26.60
NOV	32.20	1.63	30.60	0.00	85.00	-54.40
DEC	92.00	2.59	89.40	0.00	85.00	4.41
ANN	93,600.00	3,400.00	90,200.00	0.00	46,700.00	48,600.00

Water-Level Measurements in Nearby Wells

