Groundwater Application Review Summary Form

Application # G- <u>18300</u>

GW Reviewer __Joe Kemper_ Date Review Completed: __10/26/2023_

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

10/26/2023

TO: Application G-<u>18300</u>

FROM: <u>GW: Joe Kemper</u> (Reviewer's Name)

SUBJECT: Scenic Waterway Interference & General/Local Surface Water Evaluation for Deschutes Ground Water Study Area

The source of appropriation is within or above the <u>Lower Crooked River</u> Scenic Waterway

Use the Scenic Waterway condition (Condition 7J).

PREPONDERANCE OF EVIDENCE FINDING UNDER ORS 390.835:

Department has found that there is a preponderance of evidence that the proposed use of groundwater will measurably reduce the surface water flows necessary to maintain the free-flowing character of the <u>Deschutes</u> Scenic Waterway in quantities necessary for recreation, fish and wildlife.

LOCALIZED IMPACT FINDING

The proposed use of groundwater will have a localized impact to surface water in the <u>[River Name]</u> River/Creek Subbasin.

If the localized impact box above is checked, then the water use under any right issued pursuant to this application is presumed to have a localized impact on surface water within the identified subbasin. Mitigation of the impact, originating from within the Local Zone of Impact identified by the Department, will be required before a permit may be issued for the proposed use.

If the localized impact box above is not checked, then the water use under any right issued pursuant to this application is presumed to have a general (regional) impact on surface water. Mitigation of the impact, originating anywhere within the Deschutes Basin above the Madras gage, will be required before a permit may be issued for the proposed use.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

	Wat	n Diahta C	a ati a m				Dat	. 1	0/26/	2022			
D: Water Rights Sec			ection	on Date <u>10/26/2023</u>									
OM: Groundwater Sec			ection										
UBJECT: Application G- <u>18</u>			<u>18300</u>	Reviewer's Name Supersedes review of 8/25/2016 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: Legacy Ranches LLC County: Crook													
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CROO 53361 53361				Deschutes Fm			15S/15E-4 NW-SW		1960' N, 665' E fr SW cor S 4				
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A5. A5. Provisions of the <u>Deschutes</u> 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: The wells are within the USGS Deschutes Groundwater Study Area.

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

Comments:

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

- B1. **Based upon available data**, I have determined that <u>groundwater</u>* 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) **7RLA, large water use reporting**

 - 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:** The applicant's wells access groundwater hosted in lavas and sediment of the eastern extent of the Deschutes Formation, specifically the plateau SW of the city of Prineville. Since the original groundwater review for this application was completed, the City of Prineville commissioned their pilot ASR project just east of the applicant's wells, which involved extensive groundwater level data collection. A review of these data indicate that water levels in the vicinity have shown 1) positive response to the ASR recharge 2) relatively stable trends despite increased groundwater pumpage in the area and 3) localized wells with declining trends. Two wells on the airport plateau (CROO 53726 and CROO 53878) have shown more than 50 feet of declines since monitoring began. However, multiple lines of evidence suggest these two wells are completed within an intracanyon lava flow that is bounded by mostly low permeability material (Groundwater review for App G-17338) (see hydrograph below). The high magnitude decline appears to be confined to CROO 53726 and CROO 53878, but CROO 54287 and CROO 53956 may show a lower magnitude, diffused response to those local declines.

The hydrogeologic data in the area indicate that there are sharp permeability boundaries that are likely to exacerbate interference and water supply problems. There is also concern that the requested rates are higher than expected yields in the applicant's wells. Considering water level trends and available water budget estimates for the area, there is not a preponderance of evidence that the target aquifer is over-appropriated. The above permit conditions are recommended to address potential interference or decline issues. See the table in page 1 for reference level information.

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

Impacts to surface water are addressed by the Deschutes Basin Rules (OAR 690-505)

References Used:

Application file: G-18300, and nearby G-16877, G-16900 (including T-11685), and G-17338.

Gannett, M.W. and Lite, K.E., Jr. 2004. Simulation of regional ground-water flow in the Upper Deschutes Basin, Oregon: U.S. Geological Survey Water-Resources Investigations Report WRI 2003-4195.

Gannett, M.W. and Lite, K.E., Jr. 2013. Analysis of 1997-2008 Groundwater Level Changes in the Upper Deschutes Basin, Central Oregon: U.S. Geological Survey Scientific Investigations Report 2013-5092.

Gannett, M.W., Lite, K.E., Jr., Morgan, D.S., and Collins, C.A. 2001. Ground-water hydrology of the upper Deschutes basin, Oregon: U.S. Geological Survey Water-Resources Investigations Report WRI 2000-4162.

Lite, K.E., Jr. and Gannett, M.W. 2002. Geologic framework of the regional ground-water flow system in the upper Deschutes Basin, Oregon: U.S. Geological Survey Water-Resources Investigations Report WRI 2002-4015.

Well logs and hydrographs for State Observation Well 1314 (CROO 1954), and nearby wells: CROO 498, CROO 532, CROO 1894, CROO 1895, CROO 50802, CROO 50990, CROO 53265, CROO 53361, CROO 53453, CROO 53726, CROO 53878, CROO 53965, CROO 54003, CROO 54191and CROO 54287.

Page

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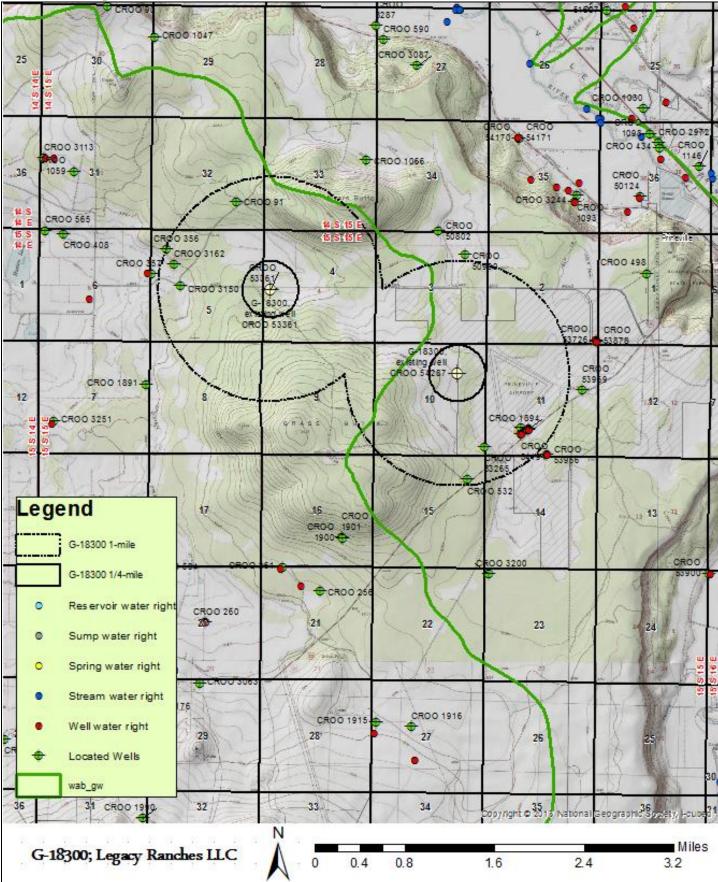
D. WELL CONSTRUCTION, OAR 690-200

D1.	Well #:	Logid:
D2.	a. revi b. field c. repo	L does not appear to meet current well construction standards based upon: iew of the well log; d inspection by
D3.		L construction deficiency or other comment is described as follows:
D4.] Route to th	e Well Construction and Compliance Section for a review of existing well construction.

Water Availability Tables

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Well Location Map



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Water-Level Trends in Nearby Wells

