

Groundwater Application Review Summary Form

Application # G- 19400

GW Reviewer Joe Kemper Date Review Completed: 7/17/2024

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

7/17/2024

TO: Application G- 19400

FROM: GW: Joe Kemper
(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 Deschutes 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 Deschutes 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 Crooked 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

TO: Water Rights Section Date 7/17/2024
 FROM: Groundwater Section Joe Kemper
Reviewer's Name
 SUBJECT: Application G- 19400 Supersedes review of NA
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: Westridge HOA I County: Crook

A1. Applicant(s) seek(s) 0.245 cfs from 2 well(s) in the Deschutes Basin,
Lower Crooked subbasin

A2. Proposed use Quasi-Municipal (35 AF) Seasonality: Year-Round

A3. Well and aquifer data (attach and number logs for existing wells; mark proposed wells as such under logid):

POA 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	CROO 3226	1	Alluvium	0.25	14S/15E-28 NE-NE	709' S, 160' W fr NE cor S 28
2	Proposed	2	Alluvium	0.25	14S/15E-28 NE-NE	709' S, 170' W fr NE cor S 28
3						
4						

* Alluvium, CRB, Bedrock

POA Well	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Drawdown (ft)	Test Type
1	160	0-25	0-110	NA	70-110	400	Unknown	Air
2	100	0-25	Similar	Similar	Similar	NA	NA	NA
3								
4								

POA Well	Land Surface Elevation at Well (ft amsl)	Depth of First Water (ft bls)	SWL (ft bls)	SWL Date	Reference Level (ft bls)	Reference Level Date
1						
2						
3						
4						

Use data from application for proposed wells.

A4. **Comments:** Reference levels to be set after permit issuance.

A5. **Provisions of the** Deschutes (OAR 690-005) 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: Impacts to surface water are addressed by the Mitigation program as defined in Deschutes basin program rules.

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) 7RLN (25 feet, period = March); Large WUR;
 - 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:** The applicant's well, CROO 3226, is drilled through quaternary alluvium and fine-grained volcanogenic sediment then accesses a highly permeable zone within a weathered lava flow and its associated sediments from 71-110 feet BLS. The shallow water level reported on the well report suggests that there is some hydraulic influence of the adjacent Crooked River and adjacent irrigation ditch.

Water level data from adjacent observation wells indicates the presence of multiple distinct local groundwater flow systems within a five-mile radius including the deep alluvial aquifer in the Prineville Valley, the airport ASR sediment package, and shallow, recently deposited alluvium. The applicant's well appears to access an aquifer consisting of both volcanics and the overlying recent sediments with hydraulic connection with the adjacent Crooked River and irrigation ditch (see hydrograph 1). Considering the proximity, geologic formations encountered, and water level elevations, CROO 961 is likely the best representation of water levels at the applicant's well. CROO 961 shows 5-10 feet of seasonal fluctuation and no long-term declines from 1970-1995. Annual highs occur in mid-summer, likely due to canal leakage (see hydrograph 2). Because of the apparent influence of the adjacent surface water sources, it is unlikely that water levels have declined in the applicant's well despite not having recent water level data from CROO 3226 or CROO 961. The only available water level data for CROO 3226 is a driller's measurement from July 1995. The reference level shall be set after a permit is issued and water level measurements are submitted to satisfy permit conditions. The measurement date of March is chosen to measure the aquifer levels more accurately before pumping and canal leakage occurs.

The target aquifer likely has lateral boundaries caused by geologic structure, creating a higher potential for well-to-well interference. However, because the well has already been providing for the HOA at a similar volume to this request and no problematic interference has been reported to the Department, it is not likely that the proposed use would injure adjacent senior groundwater users.

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

C6. **SW / GW Remarks and Conditions:** The proposed use is assumed to have PSI. Impacts to surface water are addressed by the Mitigation program as defined in Deschutes basin program rules.

References Used:

Gannett, M. W. and Lite, K. E., 2004, Simulation of Regional Ground-Water Flow in the Upper Deschutes Basin, Oregon, USGS Water Resources Investigation Report 2003-4195, 84 p., <https://pubs.er.usgs.gov/publication/wri034195>

Gannett, M. W. and Lite, K. E., 2013, Analysis of 1997-2008 Groundwater Level Changes in the Upper Deschutes Basin, Central Oregon, USGS Scientific Investigations Report 2013-5092, 34p., <https://pubs.er.usgs.gov/publication/sir20135092>

Gannett, M. W., Lite Jr, K. E., Morgan, D. S., and Collins, C. A., 2001, Ground-Water Hydrology of the Upper Deschutes Basin, Oregon, USGS Water-Resources Investigations Report 00-4162, 74 p., <https://pubs.usgs.gov/wri/wri004162/pdf/WRIR004162.pdf>

Gannett, M.W., Lite, K.E., Jr., Risley, J.C., Pischel, E.M., and La Marche, J.L., 2017, Simulation of groundwater and surface-water flow in the upper Deschutes Basin, Oregon: U.S. Geological Survey Scientific Investigations Report 2017-5097, 68 p., <https://doi.org/10.3133/sir20175097>.

Lite, K. E. and Gannett, M. W., 2002, Geologic Framework of the Regional Ground-Water Flow System in the Upper Deschutes Basin, Oregon. USGS Water-Resources Investigation Report 02-4015, 44 p., <https://pubs.er.usgs.gov/publication/wri024015>

Ferns, M.L., and McClaughry, J.D., 2006, Preliminary geologic map of the Huston Lake 7.5' quadrangle, Crook County, Oregon: Oregon Department of Geology and Mineral Industries, Open-File Report O-06-21, scale 1:24,000

D. WELL CONSTRUCTION, OAR 690-200

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

D2. **THE WELL does not appear to meet current well construction standards based upon:**

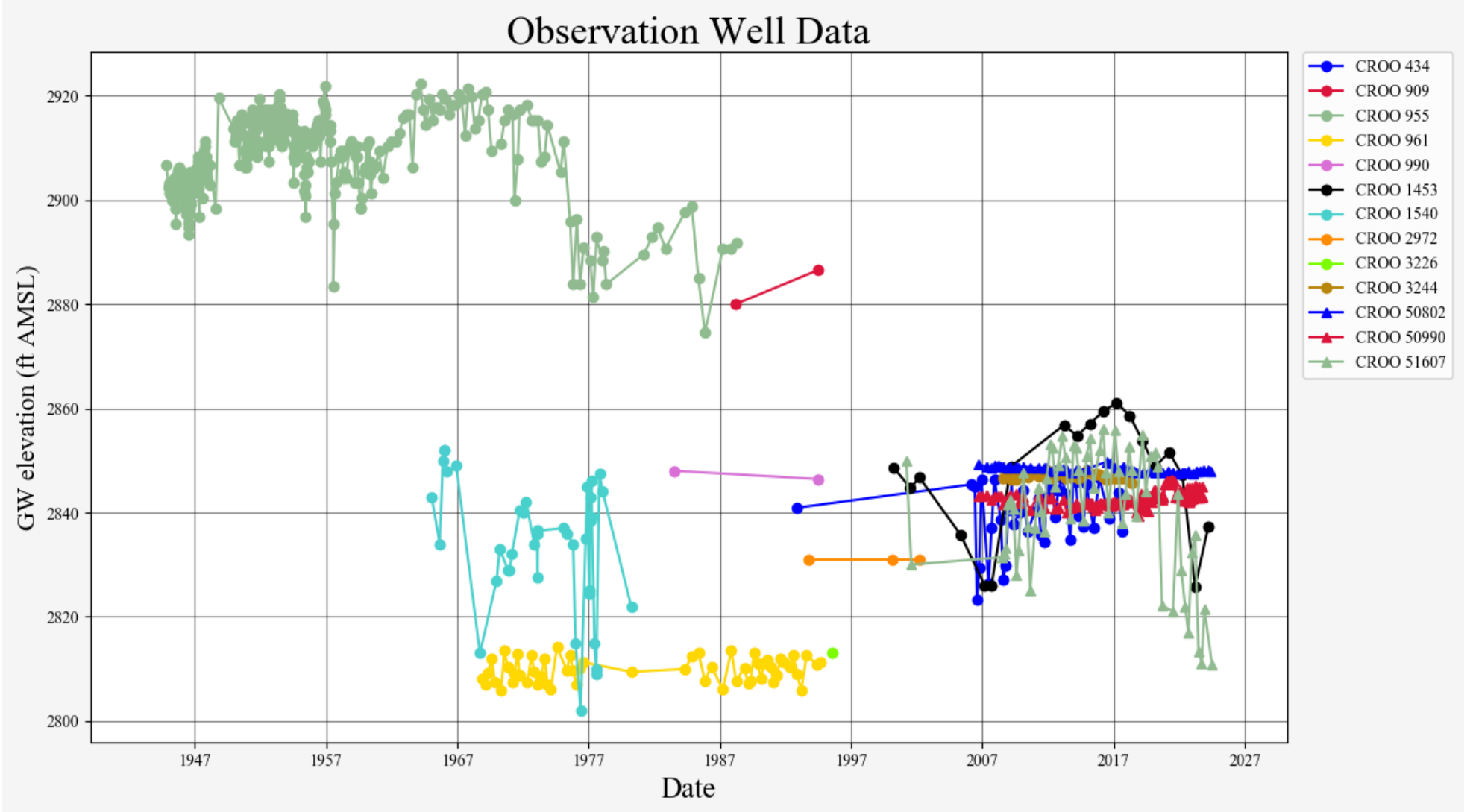
- a. review of the well log;
 - b. field inspection by _____;
 - c. report of CWRE _____;
 - d. other: (specify) _____
-

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.**

Water-Level Measurements in Nearby Wells

Hydrograph 1:



Hydrograph 2:

