

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14306

GW Reviewer Stacey Garrison/Travis Brown Date Review Completed: 3/4/2024

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Injury Review:

☐ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.



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Ground Water Review Form:

- ☐ Water Right Transfer
☐ Permit Amendment
☒ GR Modification
☐ Other

Application: T-14306

Applicant Name: K2A Properties LLC

Proposed Changes: ☐ POA ☒ APOA ☐ SW→GW ☐ RA
☐ USE ☐ POU ☐ OTHER

Reviewer(s): Stacey Garrison/Travis Brown

Date of Review: 3/4/2024

Date Reviewed by GW Mgr. and Returned to WRSD: _____

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

- ☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.
- ☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.
- ☐ Other _____

1. Basic description of the changes proposed in this transfer: Applicant proposes to add two POAs: Well 1 (LINN 4221) and Well 3 (LINN 62889). Applicant also provides corrected location of the authorized POA Well 2 (LINN 4219†) and APOA Well 1 (LINN 4221). Well 2 (LINN 4219†) is authorized under Claim GR-2392 to irrigate 39 acres at 0.9269 cfs (416 gpm) at a maximum annual volume of 117 AF/year*. The transfer application for T-14305 on Claim GR-2391 was submitted simultaneously with application T-14306, and effects all three POAs herein. Claim GR-23191 authorizes irrigation on 47 ac at 0.9269 cfs (416 gpm) and a maximum of 141 AF/year* from Well 1 (LINN 4221). Well 3 (LINN 62889) is also authorized under Permit G-18486 to irrigate 52.32 at 0.25 cfs (112 gpm). The maximum combined rates based on the two transfers and the permit will be used for the three water rights and the three POAs and is summarized in the table below.

†Well 2 (LINN 4219) was abandoned per LINN 63086 abandonment log and associated Special Standards Request Form filed September 26, 2019 and approved by the Department on October 4, 2019.

Rates and Duties		POA		
		Well 2 (LINN 4219)	Well 1 (LINN 4221)	Well 3 (LINN 62889)
POU (ac)	T-14305/Claim GR-2391	47 ac	No change, 47 ac	47 ac
	This transfer, T-14306/Claim GR-2392	No change, 39 ac	39 ac	39 ac
	Permit G-18486	Not authorized	Not authorized	52.32 ac
	Total	86 ac	86 ac	138.32 ac
Authorized duty (AF/year)	T-14305/Claim GR-2391	141 AF	No change, 141 AF	141 AF
	This transfer, T-14306/Claim GR-2392	No change, 117 AF	117 AF	117 AF
	Permit G-18486	Not authorized	Not authorized	130.8 AF
	Total	258 AF	258 AF	388.8 AF
Flow rate CFS (gpm)	T-14305/Claim GR-2391	0.9269 cfs (416 gpm)	No change, 0.9269 cfs (416 gpm)	0.9269 cfs (416 gpm)
	This transfer, T-14306/Claim GR-2392	No change, 0.9269 cfs (416 gpm)	0.9269 cfs (416 gpm)	0.9269 cfs (416 gpm)
	Permit G-18486	Not authorized	Not authorized	0.25 cfs (112 gpm)
	Total	1.854 cfs (832 gpm)	1.854 cfs (832 gpm)	2.104 cfs (944 gpm)

*The total maximum volume of 117 AF/year included on GR-2392 exceeds the standard maximum duty of 2.5 AF/ac/year for the Willamette Basin, which would be 97.5 AF/year for 39 ac authorized under Claim GR-2392. The maximum volume from GR-2392 is used. The total maximum volume of 141 AF/year included on GR-2391 exceeds the standard maximum duty of 2.5 AF/ac/year for the Willamette Basin, which would be 117.5 AF/year for 47 ac authorized under Claim GR-2391. The maximum volume from GR-2391 is used.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: The authorized POA Well 2 (LINN 4219) and proposed APOAs Well 1 (LINN 4221) and Well 3 (LINN 62889) develop the unconfined and highly permeable coarse-grained Holocene floodplain deposits associated with the Santiam River, with shallow groundwater levels that approximate the stage of adjacent reaches of the river.
3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No _____
 b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): N/A
4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?
☐ Yes ☐ No Comments: The closest groundwater user to the authorized POA Well 2 (LINN 4221) and both proposed APOAs Well 1 (LINN 4221) and the Well 3 (LINN 62889) is LINN 4168 authorized under Claim GR-1034 at an elevation of 243 ft amsl. LINN 4168 is 986 ft north of POA Well 2 (LINN 4219), 2,000 ft north of APOA Well 1 (LINN 4221), and 940 ft north of APOA Well 3 (LINN 62889).
 b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain: Given the efficient hydraulic connection with surface water, short distance to surface water, and unconfined conditions of the aquifer it is not anticipated drawdown caused by pumping APOA Well 3 (LINN 62889) at the respective maximum combined rate described in the table above will result in another groundwater user not receiving the water to which it is legally entitled.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☒ Yes ☐ No Comments: Thomas Creek is 2,854 ft from the authorized POA Well 2 (LINN 4219), 1,767 ft from APOA Well 1 (LINN 4221), and 2,890 ft from APOA Well 3 (LINN 62889); transfer to Well 1 (LINN 4221) is anticipated to increase interference with Thomas Creek. The North Santiam River is 3,681 ft from authorized POA Well 2 (LINN 4219), 4,427 ft from APOA Well 1 (LINN 4221), and 3,642 ft from APOA Well 3 (LINN 62889); transfer to Well 3 (LINN 62889) is anticipated to increase interference with the North Santiam River. The South Santiam River is 5,168 ft from authorized POA Well 2 (LINN 4219), 4,255 ft from APOA Well 1 (LINN 4221), and 5,212 ft from APOA Well 3 (LINN 62889); transfer to Well 1 (LINN 4221) is anticipated to increase interference with the South Santiam River. Thomas Creek, the North Santiam River, and the South Santiam River are in different WABs, THOMAS CR > S SANTIAM R – AT MOUTH, N SANTIAM R>SANTIAM R-AT MOUTH, and S SANTIAM R > SANTIAM R - AT MOUTH, respectively.

- b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: Thomas Creek ☒ Minimal ☐ Significant
 Stream: North Santiam River ☒ Minimal ☐ Significant
 Stream: South Santiam River ☒ Minimal ☐ Significant

Provide context for minimal/significant impact: The increased interference with Thomas Creek, the North Santiam River, and the South Santiam River is anticipated to be minimal, as the decreased distance in each case is minimal relative to the overall distance and interference is anticipated to propagate to all three surface water sources. In addition, the South Santiam River WAB Report does not indicate there is a deficit of Net Water Available in any month. The change in interference is not significant and the impact is minimal.

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?
☐ Yes ☐ No Comments: N/A
7. What conditions or other changes in the application are necessary to address any potential issues identified above: N/A
8. Any additional comments:

References

Application File: G-17788/Permit G-17465, G-18818/Permit G-18486, T-14305/Claim GR-2391, T-14306/Claim GR-2392

Pumping Test Files: LINN 4221, LINN 4219, LINN 62889, LINN 4168

Well Reports: LINN 4221, LINN 4219, LINN 62889, LINN 4168, LINN 62466, LINN 62681, LINN 60537, LINN 59218

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*, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Freeze, R.A. and J.A. Cherry, 1979. Groundwater, Prentice Hall, Englewood Cliffs, New Jersey, 604p

Gannett, M.W. and Caldwell, R., 1998, *Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington*, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.


Hunt, B., 1999, Unsteady stream depletion from ground water pumping: Ground Water, v. 37, no. 1, p. 98-102.

Iverson, J., 2002, Investigation of the hydraulic, physical, and chemical buffering capacity of Missoula flood deposits for water quality and supply in the Willamette Valley of Oregon: Unpublished M.S. thesis, Oregon State University, 147 p

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage: American Geophysical Union transactions, v. 16, p. 519-524.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Willamette Valley Phase I, Oregon: Portland, OR, December 21.

Water Availability Analysis- SW 1-Thomas Creek

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Water Availability Analysis
Detailed Reports

THOMAS CR > S SANTIAM R - AT MOUTH
WILLAMETTE BASIN

Watershed ID #: 171 ([Map](#))
Date: 2/5/2024

Water Availability as of 2/5/2024

Exceedance Level: 85%
Time: 2:06 PM


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

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	467.00	3.43	464.00	0.00	100.00	364.00
FEB	465.00	3.42	462.00	0.00	100.00	362.00
MAR	447.00	2.98	444.00	0.00	100.00	344.00
APR	380.00	3.74	376.00	0.00	100.00	276.00
MAY	221.00	9.67	211.00	0.00	100.00	111.00
JUN	120.00	17.20	103.00	0.00	50.00	53.00
JUL	51.50	27.60	23.90	0.00	35.00	-11.10
AUG	33.80	22.60	11.20	0.00	25.00	-13.80
SEP	35.70	12.70	23.00	0.00	100.00	-77.00
OCT	56.30	3.44	52.90	0.00	100.00	-47.10
NOV	208.00	3.37	205.00	0.00	100.00	105.00
DEC	424.00	3.44	421.00	0.00	100.00	321.00
ANN	387,000.00	6,880.00	380,000.00	0.00	60,900.00	244,000.00

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Water Availability Analysis- SW 2-North Santiam River

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Water Availability Analysis
Detailed Reports

N SANTIAM R > SANTIAM R - AT MOUTH
WILLAMETTE BASIN

Watershed ID #: 141 ([Map](#))
Date: 2/7/2024

Water Availability as of 2/7/2024

Exceedance Level: 95%
Time: 5:59 AM


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

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	2,330.00	482.00	1,850.00	0.00	430.00	1,420.00
FEB	2,670.00	1,496.00	1,180.00	0.00	430.00	750.00
MAR	2,540.00	1,320.00	1,220.00	0.00	430.00	790.00
APR	2,500.00	1,480.00	1,020.00	0.00	430.00	587.00
MAY	2,590.00	804.00	1,790.00	0.00	430.00	1,360.00
JUN	1,500.00	434.00	1,070.00	0.00	430.00	636.00
JUL	858.00	331.00	527.00	0.00	430.00	96.90
AUG	661.00	317.00	344.00	0.00	430.00	-86.30
SEP	627.00	295.00	332.00	0.00	430.00	-97.60
OCT	694.00	265.00	429.00	0.00	430.00	-2.33
NOV	1,380.00	269.00	1,110.00	0.00	430.00	681.00
DEC	2,540.00	269.00	2,270.00	0.00	430.00	1,840.00
ANN	1,960,000.00	464,000.00	1,500,000.00	0.00	312,000.00	1,190,000.00

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Water Availability Analysis- SW3-South Santiam River

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Water Availability Analysis
Detailed Reports

S SANTIAM R > SANTIAM R - AT MOUTH
WILLAMETTE BASIN

Watershed ID #: 30200901 ([Map](#))
Date: 2/5/2024

Water Availability as of 2/5/2024

Exceedance Level: 95%
Time: 1:57 PM

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

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	3,090.00	266.00	2,820.00	0.00	0.00	2,820.00
FEB	3,360.00	1,530.00	1,830.00	0.00	0.00	1,830.00
MAR	3,170.00	1,260.00	1,910.00	0.00	0.00	1,910.00
APR	2,950.00	1,050.00	1,900.00	0.00	0.00	1,900.00
MAY	2,650.00	711.00	1,940.00	0.00	0.00	1,940.00
JUN	968.00	182.00	786.00	0.00	0.00	786.00
JUL	450.00	204.00	246.00	0.00	0.00	246.00
AUG	275.00	199.00	66.70	0.00	0.00	66.70
SEP	253.00	159.00	94.20	0.00	0.00	94.20
OCT	363.00	130.00	235.00	0.00	0.00	235.00
NOV	1,450.00	140.00	1,310.00	0.00	0.00	1,310.00
DEC	3,540.00	143.00	2,900.00	0.00	0.00	2,900.00
ANN	2,330,000.00	355,000.00	1,980,000.00	0.00	0.00	1,980,000.00

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Map