

Groundwater Application Review Summary Form

Application # G- 18905

GW Reviewer Ben Scandella, Justin Iverson Date Review Completed: 6/26/2020

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

6/26/2020

TO: Application G- 18905

FROM: GW: Ben Scandella, Justin Iverson
(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

STATE OF OREGON
WATER SUPPLY WELL REPORT
 (as required by ORS 537.765 & OAR 690-205-0210)

CLAT 55068

WELL I.D. LABEL# L132105
 START CARD # 1041604
 ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. NW
 First Name _____ Last Name _____
 Company Falcon Cove Beach Water District
 Address 31911 Clatsop Lane
 City Arch Cape State Or Zip 97102

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (complete 2a & 10) Abandonment (complete 5a)

(2a) PRE-ALTERATION
 Dia + From To Gauge Stl Plstc Wld Thrld
 Casing: _____
 Material From To Amt sacks/lbs
 Seal: _____

(3) DRILL METHOD
 Rotary Air Rotary Mud Cable Auger Cable Mud
 Reverse Rotary Other _____

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/ Commercial Livestock Dewatering
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)
 Depth of Completed Well 173 ft.
 BORE HOLE SEAL

Dia	From	To	Material	From	To	Amt	sacks/lbs
10	0	115	Bentonite Chips	0	115	58	S
8	115	166				Calculated	47.9
5.5	166	173				Calculated	47.9

How was seal placed: Method A B C D E
 Other poured dry
 Backfill placed from _____ ft. to _____ ft. Material _____
 Filter pack from 120 ft. to 173 ft. Material silica Size 6/9
 Explosives used: Yes Type _____ Amount _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
 Proposed Amount Pounds Actual Amount Pounds

(6) CASING/LINER

Casing	Liner	Dia	From	To	Gauge	Stl	Plstc	Wld	Thrld
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	1	166	.250	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	4	1	113	sch40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Shoe Inside Outside Other Location of shoe(s) 166
 Temp casing Yes Dia _____ From + _____ To _____

(7) PERFORATIONS/SCREENS
 Perforations Method machined
 Screens Type _____ Material _____

Perf/S	Casing/Screen	Dia	From	To	Scrns/slot width	Slot length	# of slots	Tele/pipe size
Perf	Casing	6	151	162	.125	6	81	
Screen	Liner	4	113	173	.032			

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
21		160	4

 Temperature 51 °F Lab analysis Yes By _____
 Water quality concerns? Yes (describe below) TDS amount 210 ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
 County CLATSOP Twp 4 N N/S Range 10 W E/W WM
 Sec 31 NW 1/4 of the SE 1/4 Tax Lot N/A ROW
 Tax Map Number _____ Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD
 Street address of well Nearest address
Cove Beach Road by reservoir (easement on Oswald State Park)

(10) STATIC WATER LEVEL

Existing Well / Pre-Alteration	Date	SWL (psi)	+ SWL (ft)
Completed Well	01-02-2019		141

 Flowing Artesian? Dry Hole?
 WATER BEARING ZONES Depth water was first found 90

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
01-02-2019	90	94	7		141

(11) WELL LOG Ground Elevation _____

Material	From	To
clay, brown w/boulders	0	2
clay, orange/brown	2	5
clay, brown w/rock	5	6
clay, orange/brown	6	12
clay, grey, sticky	12	18
sandstone, grey, med, soft	18	34
sandstone, brown, med	34	50
sandstone, grey, soft	50	53
sandstone, brown, med	53	63
sandstone, grey, med	63	76
sandstone, brown/orange	76	78
sandstone, grey, med	78	91
rock, black w/dark brown sandstone	91	94
sandstone, grey, med	94	151
rock, black/brown, broken w/grey sandstone seams	151	162
clay, grey	162	173

 Dickerson Well Drilling, Inc.
 (503)623-2664

Date Started 12-27-2018 Completed 01-02-2019

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
 License Number 1574 Date 01-30-2019
 Signed _____

(bonded) Water Well Constructor Certification
 I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
 License Number 1571 Date 01-30-2019
 Signed William A. Blair
 Contact Info (optional) _____

CLAT 55068

FEB 08 2019
 RECEIVED
 OWRD

Approved: 

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Travis Kelly, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18905
Date: June 30, 2020

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Ben Scandella and Justin Iverson reviewed the application. Please see Ben and Justin's Groundwater Review and the Well Report.

Applicant's Well #1 (CLAT 55068): Based on a review of the Well Report, Applicant's Well #1 seems to protect the groundwater resource.

The construction of Applicant's Well #1 may not satisfy hydraulic connection issues.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 6/26/2020
 FROM: Groundwater Section Ben Scandella, Justin Iverson
 Reviewer's Name
 SUBJECT: Application G- 18905 Supersedes review of _____
 Date of Review(s) _____

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAD 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: Charles Dice, Falcon Cove Beach Domestic Water Supply District
 County: Clatsop

- A1. Applicant(s) seek(s) 0.111 cfs from 1 well(s) in the North Coast Basin,
Necanicum subbasin
- A2. Proposed use Municipal 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	CLAT 55068	1	CRB	0.111	4N/10W-31 NW-SW	1847' N, 800' E FR SW COR, S31
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	230	151	141	1/2/2019	173	0-115	0-166	0-113	151-162	21	N/A	4-hr

Use data from application for proposed wells.

A4. **Comments:** The well report indicates that it is in the NW-SE QQ, but the application map shows the proposed POA located in the NW-SW QQ. The well log does not record any drawdown on the well test.

A5. **Provisions of the** North Coast (690-501-0005) 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 POA does not fit within any defined Water Availability Basin, and use of CLAT 55068 is not likely to impact the neighboring creeks, Arch Cape Creek and Short Sand Creek. Therefore, the water source to CLAT 55068 is classified for municipal use.

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 Measurement), Large 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:** Groundwater for the proposed use cannot be determined to be over-appropriated due to insufficient available data regarding rates of recharge and the current quantity of groundwater withdrawals from the aquifer system.

In the vicinity of the applicant’s well, Miocene marine sediments of the Astoria Formation are overlain by and interbedded with basalt flows of the Grand Ronde Formation of the Columbia River Basalt Group (CRBG)(Lund, 1974; Beeson *et al.*, 1979; Niem and Niem, 1985; Miller, 2014). The well log for CLAT 55068 suggests that the perforated interval allows it to access a thin layer of basalt within the surrounding sandstone. The marine sedimentary aquifers predominantly allow groundwater flow through fractures, with typically poor yields. The subaerially deposited basalt occurs as intrusions or pillow basalts that offer better permeability than the marine sediments, though less than the more common tabular basalt aquifers of the CRBG. The yield reported on the well log for CLAT 55068 was 21 gpm, with no drawdown reported. The other well within ~1 mile of CLAT 55068, TILL 355, is not mapped but located within 3N/10W-6. This well also indicates that it is open to basalt below 100 feet of depth and reports a yield of only 5 gpm with 150 feet of drawdown after a 4-hour air test. Wells farther north in Arch Cape report yields from 6 to 60 gpm, but it is not clear that they access the same aquifer. Therefore, it is unlikely that CLAT 55068 can supply the requested rate of 50 gpm.

The only permitted groundwater use within one mile of CLAT 55068 is a pair of permitted springs, S 28972 and S 37930, both of which are registered to the applicant for the present review, Falcon Cove Beach Water District. Pumping of CLAT 55068 is unlikely to impact permit S 37937 due to the spring’s elevation more than 100’ higher than the water level measured in the well. The water level elevation in the well, 90 ft above sea level, matches to the elevation at the mapped location of the spring in S 28972, suggesting that interference is possible but difficult to predict given the folding and faulting of volcanic and sedimentary units. These factors combined, with the low proposed rate, make it unlikely that the proposed use will considerably impact the groundwater resource. However, the lack of available data about this aquifer suggests that the measurement and reporting conditions indicated above should be included in any permit.

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	CRB	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: The water level reported in the well log for CLAT 55068, 141 ft below land surface, rose above the top of the aquifer, at 151 ft below land surface. This pressurization of the aquifer indicates confined conditions.

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 1/4 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 trib. To Arch Cape Cr	90	600	3900	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: The southern tributary to Arch Cape Creek and its tributaries incise through CRBG, but other nearby outcrops of the CRBG to the south of the subject well and at higher elevation suggest that the CRBG layer accessed by CLAT 55068 is much deeper than these high-elevation outcrops. Nearby mapped faulting provides a potential conduit for vertical hydraulic connection between stacked aquifers, but none of these faults are mapped between the subject well and the tributary. Therefore, it is unlikely that CLAT 55068 is connected with SW #1.

Water Availability Basin the well(s) are located within: The well is not located within any WAB, and use of CLAT 55068 is not likely to impact the neighboring WABs, ARCH CAPE CR > PACIFIC OCEAN - AT MOUTH (WID 71941) and SHORT SAND CR > PACIFIC OCEAN - AT MOUTH (WID 71944).

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 < 1/4 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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: No surface water source was mapped and found to be hydraulically connected within 1 mile of the subject well.

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: N/A

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:** N/A

References Used:

Beeson, M., R. Perttu, and J. Perttu, 1979. The Origin of the Miocene Basalts of Coastal Oregon and Washington: An Alternative Hypothesis. The Ore Bin 41:159–165.

Lund, E.H., 1974. ROCK UNITS AND COASTAL LANDFORMS BETWEEN NEWPORT AND LINCOLN CITY, OREGON. The Ore Bin 36:27.

Miller, M.B., 2014. Roadside Geology of Oregon. Mountain Press. <https://mountain-press.com/products/roadside-geology-oregon>. Accessed 25 Jun 2020.

Niem, A.R. and W. Niem, 1985. Geologic Map of the Astoria Basin, Clatsop and Northernmost Tillamook Counties, Northwest Oregon: Portland, Oreg. <https://www.oregongeology.org/pubs/ogi/OGI-14.pdf>.

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 Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

ARCH CAPE CR > PACIFIC OCEAN - AT MOUTH
Basin: NORTH COAST

Watershed ID #: 71941
Time: 9:45 AM

Exceedance Level: 80
Date: 04/23/2020

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	15.90	0.09	15.80	0.00	28.50	-12.70
FEB	20.00	0.09	19.90	0.00	32.50	-12.60
MAR	15.20	0.09	15.10	0.00	26.20	-11.10
APR	10.90	0.09	10.80	0.00	15.60	-4.79
MAY	7.51	0.09	7.42	0.00	10.50	-3.08
JUN	5.61	0.09	5.52	0.00	7.86	-2.34
JUL	3.73	0.09	3.64	0.00	5.23	-1.59
AUG	2.56	0.09	2.47	0.00	4.26	-1.79
SEP	3.58	0.09	3.49	0.00	4.11	-0.62
OCT	4.14	0.09	4.05	0.00	8.52	-4.47
NOV	14.30	0.09	14.20	0.00	24.60	-10.40
DEC	20.70	0.09	20.60	0.00	35.20	-14.60
ANN	12,100	65	12,100	0	12,200	82

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION

SHORT SAND CR > PACIFIC OCEAN - AT MOUTH
Basin: NORTH COAST

Watershed ID #: 71944
Time: 9:52 AM

Exceedance Level: 80
Date: 04/23/2020

Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net Water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	19.50	0.00	19.50	0.00	34.00	-14.50
FEB	24.50	0.00	24.50	0.00	34.00	-9.50
MAR	18.20	0.00	18.20	0.00	31.70	-13.50
APR	12.40	0.00	12.40	0.00	17.70	-5.30
MAY	8.02	0.00	8.02	0.00	10.00	-1.98
JUN	5.99	0.00	5.99	0.00	9.24	-3.25
JUL	4.32	0.00	4.32	0.00	6.45	-2.13
AUG	3.17	0.00	3.17	0.00	5.36	-2.19
SEP	4.42	0.00	4.42	0.00	5.58	-1.16
OCT	4.71	0.00	4.71	0.00	8.99	-4.28
NOV	15.20	0.00	15.20	0.00	27.70	-12.50
DEC	23.30	0.00	23.30	0.00	34.00	-10.70
ANN	14,500	0	14,500	0	13,500	1,090