

## *Memorandum*

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Date: April 24, 2017 AG Job No.: 10-118  
To: Scott Grosscup  
From: Craig Ullmann, P.E.; Jared Dains, P.E.  
Subject: **Revised Estimate of Well Augmentation Needs within the Yellow Jacket Water Conservancy District**

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In a prior memo dated September 14, 2016, we summarized the results of a study that was conducted to estimate the potential augmentation need that would result from a potential future call from the Taylor Draw Power Conduit. The purpose of this memo is to revise that prior study by assuming the call instead occurred from the White River Instream Flow water right held by the Colorado Water Conservation Board (CWCB). The most critical instream flow water right, decreed in Case No. W-3652C, is for 200 cfs and encompasses the White River from the confluence of the North Fork and South Fork to the confluence with Piceance Creek. It has an appropriation date of November 15, 1977 and an adjudication date of December 31, 1977.

Pursuant to C.R.S. §37-92-102(3)(b), the CWCB instream flow water rights are subject to the present uses in existence at the time of their appropriation, whether or not those uses were previously confirmed by the water court. For the purposes of this analysis, it was assumed that any permitted wells which had a permit issued prior to 1978 would not be subject to a call of this water right. Likewise, it was assumed that any decreed wells with an appropriation date prior to 1978 would also not be subject to a call of this water right (regardless of when the well was actually adjudicated prior to 1978).

In the case of the Taylor Draw Power Conduit water right call scenario it is reasonable to estimate the augmentation need based on a year-round call because, during the 1977 drought of record, there was insufficient flow in the White River to meet this water right during the entire year. In the case of the instream flow water right call scenario this is not the case. During the 1977 drought of record there were 181 days, mostly in the summer months, during which the instream flow water right was not met.<sup>1</sup> The following graph displays the daily streamflow on the White River near Meeker in 1977. Given this information, it would be reasonable to estimate that the actual augmentation requirement during a severe drought would be between half and three quarters of the amount estimated for a year-round call.

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<sup>1</sup>Based on an analysis of streamflow records from USGS Gage No. 09304200 (WHITE RIVER ABOVE COAL CREEK NEAR MEEKER, CO)



**Well Identification**

Impacted wells were identified using the same methodology as the previous analysis for the Taylor Draw water right. A total of 50 permitted and 115 decreed wells were thus identified. A map showing the identified decreed and permitted wells is attached.

**Augmentation Need Estimate**

The augmentation needs were estimated using the same methodology as the previous analysis.

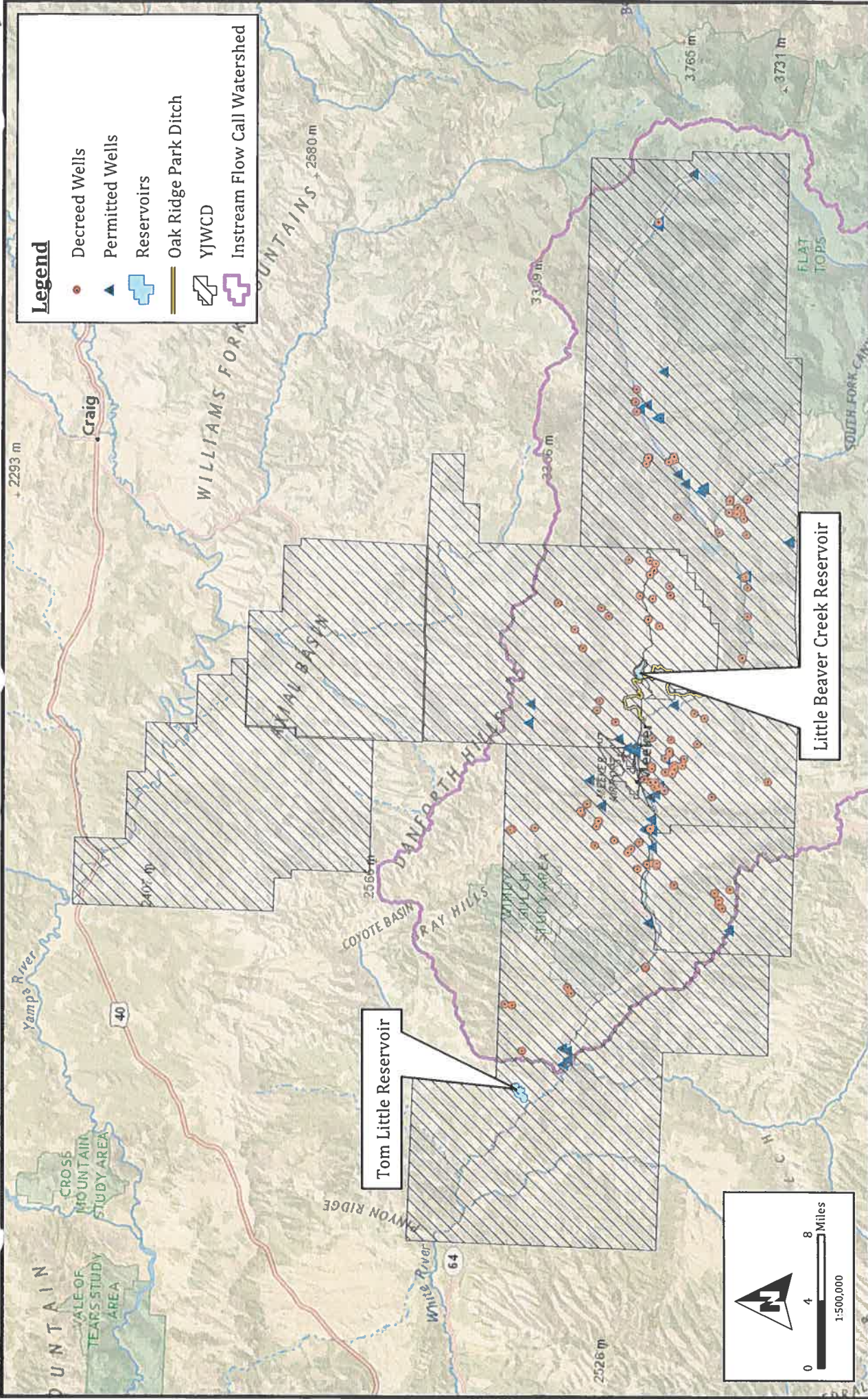
**Conclusion**

Fifty permitted wells and 115 decreed wells within the YJWCD boundaries that could potentially be impacted by a call from the White River Instream Flow water right. The estimated annual consumptive use from these wells totals approximately 911 acre-feet assuming a year round call from the White River Instream Flow water right. As discussed the call would, at most, be in effect during roughly half of the year during an extreme drought. Therefore the actual well augmentation need within the District is probably between 456 and 683 acre-feet depending on the use patterns of the wells.

Table 4 provides a summary and comparison of the estimated augmentation requirement for a year-round call of the Taylor Draw Power Conduit water right versus a call of the White River Instream Flow right.

**Table 4 – Augmentation Requirement Based on Year-Round Call Scenario**

Call Scenario	Augmentation Requirement [ac-ft]		
	Permitted Wells	Decreed Wells	Total
Taylor Draw Power Conduit	1,803	2,414	4,217
White River Instream Flow –Partial Year	270-405	185-278	455-683



# YELLOW JACKET WATER CONSERVANCY DISTRICT

## Wells Impacted by a White River Instream Flow Call

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