MEMORANDUM

BBA water consultants

BISHOP-BROGDEN ASSOCIATES, INC.

To: Lisa Johnson, Jennifer Gruber Tanaka, File 0908.00

From: Paul Bruss and Chris Sanchez

Subject: Greatrock North Water and Sanitation District – Review of Decrees Pertaining to Return Flows Attributable to Fire Hydrant Flushing

Job: 0908.00

Date: April 8, 2013

This memorandum summarizes our review of Greatrock North Water and Sanitation District's (the District) decrees and accounting in the context of return flow credits attributable to fire hydrant flushing.

At the beginning of 2013, our office was asked to review the District's decrees to determine whether the existing decrees provide a mechanism for the District to claim credit for return flows resulting from the flushing of fire hydrants. Based on our review, there isn't any specific language that addresses the claim of return flows from flushing of fire hydrants. However, the water used when flushing the fire hydrants is accounted for as part of the District's uses in the existing accounting procedure, and therefore a portion is credited as return flows in the accounting. The time of the year when the fire hydrant flushing occurs plays a significant role into how much of the water is credited as return flow, as described in detail below.

In the accounting, the District's water use operations are separated into two different seasons: 1) non-irrigation season (December through February) and 2) irrigation season (March through November). During the non-irrigation season, all water pumped for distribution is accounted for as indoor uses, of which 10% is counted as consumed and 90% is counted as returns to the river as lagged septic return flows. The average monthly pumping from December through February also determines the base use, which defines the indoor uses during the irrigation season. During the irrigation season, irrigation uses equal the total monthly pumping for distribution less the indoor use (base use). Water counted as irrigation use is considered 85% consumed, with the remaining 15% counted as returns to the river through lagged ground water return flows.

From an accounting perspective, there is significant benefit to flushing the fire hydrants during the non-irrigation season (December through February). Primarily, the water used to flush the fire hydrants would be considered 10% consumptive, meaning that 90% of the water could be claimed as a return flow. The District should consider the operational practicality for flushing the fire hydrants during the winter, as there may be practical reasons why flushing should not occur during the winter months. We suggest the District seek input from the operator regarding the matter.

In summary, the District effectively gets credit for 90 % of the water flushed from hydrants in the wintertime and 15% of credit for the water flushed during the irrigation season. Changing the accounting procedure and decrees to more directly claim credit for the flushing water will probably require a change in water court.

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