



Mission: To provide the highest quality water at the most affordable price for current customers and to provide for the expansion of the District as growth occurs.

Greetings Neighbors,

Water Quality: The Board continues to monitor water quality so if you feel your quality is not what it should be, let us know by calling **303-987-0835**.

Update on New Technology: We had a great turnout at our last Board meeting. About a dozen residents showed up to hear more and ask questions about the AltelaRain system and the new building that the Board is considering. Our Engineer, Mr. Brad Simons, generated an information paper detailing the current situation we find ourselves in and what the potential is with this new technology. I want to share that letter with all of you as I think he explains it better than I can. If you have any questions about this, please give me a call or send me an email.

Below is a background of the Greatrock North Water and Sanitation District’s conceptual Reverse Osmosis Asset Recovery Facility.

WHO: Greatrock North Water and Sanitation District.

WHAT: Concentrate management to meet the mission statement of the District.

WHY: District’s Mission Statement - To provide the highest quality of water at the most affordable price for current customers and to provide for the expansion of the District as growth occurs.

The quality of water distributed by the District has improved from 2014 to 2015 as a result of operational enhancements, but those operational enhancements are at their limit in regard to further improving water quality.

Water Quality from Box Elder creek Ranch Tanks				
Month	Total Dissolved Solids (TDS), in mg/l		Total Hardness (as CaCO3), in mg/l	
	2014	2015	2014	2015
January	553	350	-	105
March	586	274	-	54
May	-	401	165	85
July	565	417	222	136
August	-	469	-	159
September	-	470	-	153
October	538	Pending	189	Pending
December	417	Pending	115	Pending

WHERE: Tract F of the Box Elder Creek Ranch subdivision and Box Elder Creek.

WHEN: TBD.

HOW: Treat the concentrate waste stream from the existing reverse osmosis (RO) water treatment plant (WTP) to reduce the inflow to the existing evaporation ponds, thereby allowing the existing RO WTP to operate longer hours during months of higher usage (i.e. irrigation season). Enhanced treatment of the existing RO WTP concentrate stream will reduce the amount of waste discharged to the existing evaporation ponds and will recover an asset. Treatment technologies available include additional membrane filtration and thermal distillation.

A number of disposal methods have been evaluated, including but not limited to, surface water discharge, hauling to a publicly owned treatment works (POTW), an additional evaporation pond, land application (i.e. irrigation), deep well injection, beneficial reuse (i.e. dust suppressant), and construction of a centralized POTW to treat domestic sewage. Each of these have been dismissed as viable alternatives to the current arrangement for a variety of reasons.

In April of 2015, the Board of Directors shifted its attention from concentrate disposal to concentrate management, no longer viewing the RO concentrate stream as a liability, but recognizing a potential asset for recovery. The thermal distillation process currently being evaluated is the AltelaRain system. The inputs to the AltelaRain System are reverse osmosis concentrate and steam, and the outputs are concentrate water (CW) and distilled water (DW). The concentrate water (CW) output is projected to be approximately six percent (6%) of the reverse osmosis concentrate input, while the distilled water (DW) output is projected to be approximately 47 percent of the reverse osmosis concentrate input. The remaining 47 percent of the reverse osmosis concentrate input will be consumed during the development of the steam input.

The AltelaRain concentrate water (CW) output will be discharged to the existing evaporation ponds, but the reduced volume will eliminate the need to construct a third impoundment.

The AltelaRain distilled water (DW) output will be discharged to Box Elder Creek Ranch under an industrial discharge permit from the State of Colorado's Water Quality Control Division. The District has requested a Preliminary Effluent Limit determination from the Division, and has applied for an industrial discharge permit to fully understand the project viability.

I also want to reiterate that no final decision has been made yet. We are still in the fact finding phase. It will take a few months to get replies from the State on discharge criteria, water quality testing data from Altela and a cost analysis on operating costs.

Come to our meeting: Our next Board meeting will be on November 3rd at the United Power Building. The Board will not only conduct its regular business at the meeting but will also conduct the hearing on the 2016 budget. One thing to note is the door locks at 5:30pm. If you drop by after 5:30pm, to the right of the doors are some windows. We keep the blinds open and keep an eye out for those who are a little late in arrival. Hope to see you all at our next meeting!!

Regards,

Jeff Polliard, Treasurer

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