ROCKRIDGE (LTO), INC.

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April 22, 2020

VIA EMAIL and MAIL
Board of Directors
Sierra Valley Groundwater Management District
P.O. Box 88
Chilcoot, California 96105
sierravalleygmd@sbcglobal.net

Re: Request for Variance

Board of Directors:

On behalf of Rockridge (LTO), Inc., I am respectfully requesting a variance for water usage by our proposed hemp processing facility. Prior to the Board's meeting on April 20, 2020, I forwarded my projections of the anticipated annual water usage by the facility. I have attached another copy hereto for the convenience of the Board.

As stated in the attached handout, I have projected an annual water usage of 285,000 gallons, which would mainly occur between harvest time (September 15, 2020) and an estimated completion of process date (January 15, 2020). The water will be delivered by a 2" PVC line from the existing Well (Permit No. 736868), which was completed in 2003. I believe that this usage would constitute a "small" usage because we will be pumping far less than 99 gallons per minute.

As explained in the attached projections, we anticipate that the mixing tanks will be filled with water (and then recycled water) every day. The twelve mixing will have a capacity of 500 gallons each, but likely will use only 120 gallons of fresh or recycled water. I recall at the meeting someone mentioned our well was a 12" well, this did not sound right to me, so I checked the well completion report filed by Humboldt Drilling and Pump Co., and it indicates that the internal diameter is 8 5/8" and the wall thickness is .188. Based on this information, I believe the well is 10". I am not sure if this is relevant to your decision, but I wanted to pass it on.

Should you have need of any further information, please do not hesitate to contact me. I will be available for the meeting. Thank you.

Very truly yours,

K J McInerney

Kevin J. McInerney
President of Rockridge

CC: Tim Evans (Plumas County Associate Planner)

KJM/km

ROCKRIDGE HEMP PROCESSING PROJECTED WATER USAGE

The process extracts oil from harvested wet hemp plants which are 80% water. The hemp will be chopped to ¼" inch pieces by a Dion harvester. Before processing it will be further milled. It will then be placed in one of twelve 500-gallon tanks where it will be mixed. The mix will consist of 400 pounds of hemp, 16 pounds of a proprietary mix of common chemicals, and 120 gallons of water. The water is primarily used to facilitate the pumping of the mix. After 45 minutes, a hydraulic press, which will filter off most of the vegetation, will leave a liquid. That liquid then goes to a second tank where approximately 9 pounds of a second proprietary chemical mix is added. This second mix will then go to a different press which filters out the water from the crude oil. We know the water (consisting of the original fresh water plus water extracted from the plants) can be recycled, but we do not know how many times it can be recycled.

Assuming absolutely no recycling the projections would be:

$\frac{\text{2,000 Plants}}{\text{Acre}}$	x	130 Acres	=	260,000 Plants
260,000 Plants	x	$\frac{\text{15 lbs}}{\text{Plant}}$	=	3,900,000 lbs of Biomass
3,900,000 lbs of Biomass	÷	$\frac{\text{400 lbs of Biomass}}{\text{per Cycle}}$	=	9,750 Cycles
9,750 cycles	x	$\frac{\text{120 Gallons of Water}}{\text{per Cycle}}$	=	1,170,000 Gallons of Water

We know that harvested hemp plants are 80% water. So, a substantial amount of water will actually be gained in the process:

3,900,000 lbs of Biomass	x	80%	=	3,120,00 lbs of Water
3,120,00 lbs of Water	÷	$\frac{\text{8.34 lbs}}{\text{per Gallon}}$	=	374,100 Gallons of Water Gained

There certainly will be some inefficiency in the system, so one could assume a 300,000-gallon gain from the water extracted from the wet biomass.

If one assumes the initial 1,170,00 gallons calculated initially is recycled just once, the projected water use would be:

1,170,000 Gallons of Water	÷	2	=	585,000 Gallons of Water
585,000 Gallons of Water	-	300,000 Gallons of Water Extracted	=	285,000 Gallons of Water

This usage is actually far less that the water used to grow hemp. In turn, the amount of water to irrigate hemp is generally accepted to be 60% of that used to grow alfalfa.