

MEMORANDUM



Date: June 14, 2019

To: Helios Dayspring
510 Rancho Road
Nipomo, CA 93444

From: Shannon Jessica, PE
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Subject: Water Demand Evaluation for Proposed Cannabis Cultivation – 510 Rancho Road, Nipomo (APN: 090-241-003)

CIVIL AND
TRANSPORTATION
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WATER RESOURCES

Wallace Group has been retained to estimate the water demand for a proposed cannabis cultivation operation in San Luis Obispo County. The proposed facility, located at 510 Rancho Road in Nipomo, includes the following:

- Outdoor cultivation – 2.93 acres
- Outdoor nursery – 0.17 acres
- Indoor cultivation – 0.49 acres
- Indoor nursery – 0.2 acres
- Drying/Packing/Storage facility

The 220 acre property has historically operated as a citrus cultivation facility, with 11 acres of irrigated citrus trees. Irrigation of citrus plants is associated with a water demand of 2.3 AFY/acre in San Luis Obispo County. Approximately 25 acres of vegetables are also grown on the property, with an associated water demand of 1.9 AFY/acre. It is proposed that historically-grown vegetables will be removed to provide the necessary 1:1 offset for the proposed cannabis cultivation.

Published water use values have not yet been consistently established in the industry, however the Central Coast Regional Water Quality Control Board (RWQCB) cannabis development team uses an estimate of 0.03 gal/sf canopy/day for outdoor cannabis plants and an application rate of 0.1 gallons per square foot of canopy for indoor grow operations. These values are derived from the *Santa Cruz County Draft Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (August 2017)*¹. In section 3.0, pages 3-16 and 3-17 of the EIR, it is described that the water application rates used are derived from a study in Humboldt County by Milewide Nursery². The Milewide Nursery study includes a breakdown of the per yield water use. The study based their results on a 90-day cycle and estimate that two growing cycles could be completed in

¹Santa Cruz County Draft Environmental Impact Report (EIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program (August 2017)
[http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview/CannabisEnvironmentalImpactReport\(EIR\).aspx](http://www.sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview/CannabisEnvironmentalImpactReport(EIR).aspx)

² <https://humboldtgrower.wordpress.com/2015/05/07/may-2015-humboldt-county-cannabis-water-use-study/>

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a year for outdoor cultivation, and an estimated 270 days growing season, or 3 cycles per year, for indoor cultivation.

The following tables identify the estimated annual and monthly water demand for the proposed cannabis facility. Daily water use will be monitored and tracked during operation of the facility, with annual reports submitted to the County for verification of estimated water use.

Table 1: Annual Water Estimates			
Use	Rate	Gross Demand (gallons/ year)	Gross Demand (AFY)
Outdoor Cultivation	135,036 sf plant canopy x 0.1 gal/sf/day x 270 days	729,194	2.24
Indoor Cultivation	30,056 sf nursery area x 0.1 gal/sf/day x 270 days	811,512	2.49
Cannabis Cultivation Water Demand		1,540,706	4.73
Historical vegetable cultivation, removed	2.48 acres vegetables x 1.9 AFY/acre	-1,540,363	-4.73
Net Water Demand			0.00

Table 2: Monthly Water Demand for Proposed Cannabis Cultivation						
Month	Days per Month	ETo (in)	Outdoor ETO percentage	Outdoor water use/month (AF)	Indoor water use/month (AF)	Total water use (AF)
October	31	3.50		0	0.21	0.21
November	30	2.60		0	0.21	0.21
December	31	2.13		0	0.21	0.21
January	31	1.95		0	0.21	0.21
February	28	2.21		0	0.21	0.21
March	31	3.58		0	0.21	0.21
April	30	4.41	15.6%	0.35	0.21	0.56



May	31	4.52	16.0%	0.36	0.21	0.56
June	30	5.38	19.0%	0.43	0.21	0.63
July	31	5.31	18.8%	0.42	0.21	0.63
August	31	5.01	17.7%	0.40	0.21	0.60
September	30	3.68	13.0%	0.29	0.21	0.50
Total	365	44.28		2.24	2.49	4.73

*Nipomo weather station - CIMIS station #202 (April 2018 to March 2019)

Water Offset

Irrigation source water will be provided by an existing well (364 gpm) that has been used for citrus tree irrigation, and more recently for registered cannabis cultivation. Because the groundwater wells are located within the Nipomo Mesa Water Conservation Area, a 1:1 offset for new development is required.

As shown in Table 1, the water offset for the proposed cannabis cultivation will be provided by the removal of irrigated vegetables.

California Department of Fish and Wildlife

Because the project will be using an existing groundwater well for water supply, the owner will not need to obtain a General Agreement or Lake or Streambed Alteration (LSA) permit through California Department of Fish and Wildlife (CDFW). However, annual licenses for cannabis cultivation issued by California Department of Food and Agriculture (CDFA) will require the owner to demonstrate by written verification from CDFW that an LSA Agreement is not required. This is accomplished by submitting a self-certification application on the CDFW webpage and obtaining written correspondence from CDFW verifying that the LSA is not required for this project.

Regional Water Quality Control Board

RWQCB will require that cannabis cultivation operations enroll in the General Waste Discharge Requirements for Waste Associated with Cannabis Cultivation Activities (Cannabis General Order). The Cannabis Policy and General Order apply to commercial cannabis cultivation activities and enrollment in the General Order will be required for all commercial cultivation activities. The tier determination will need to be finalized by the RWQCB once an application has been submitted and reviewed by Board staff.

Coverage under the General Order is obtained by applying through the online application portal on the Regional Water Quality Control Board website. After the application is submitted and the application fee paid, the RWQCB will issue a Notice of Applicability (NOA). The NOA can be presented to the CDFA to obtain a commercial cannabis cultivation license. The application portal is located at: www.waterboards.ca.gov/cannabis.