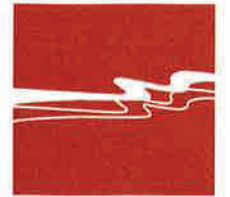


MEMORANDUM



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WATER RESOURCES



Date: August 2, 2018

To: Trent Sanders

From: Shannon Jessica, PE
Sr. Civil Engineer
Wallace Group

Subject: REV1: Water Use Estimates for Cannabis Cultivation Operation

The following memorandum, originally prepared on June 14, 2018, has been updated to reflect a change to the proposed cultivation area. The original memorandum included calculations for 10,300 sf of indoor cultivation. This revision includes calculations for 22,000 square feet of indoor cultivation, corresponding to the area included in the submitted use permit application.

Wallace Group has been retained to estimate the water demand for the purpose of applying for a Use Permit for cannabis cultivation through San Luis Obispo County. The proposed grow operation, located on APN: 080-041-036 in Paso Robles, includes the following:

- Outdoor – 43,560 square feet outdoor canopy in hoop houses
- Indoor/Greenhouse – 22,000 square feet canopy in mixed light greenhouses

The recently adopted Cannabis Land Use Ordinance for San Luis Obispo County requires that applicants submit a detailed water management plan as part of the application package. The water management plan shall include proposed water supply, proposed conservation measures, and any water offset requirements. The following memorandum has been developed to outline the proposed water demand and associated offset required for the proposed development.

While published water use values have not yet been consistently established in the industry, 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. It is assumed that greenhouse grow operations result in a water demand equal to the indoor grow application rate because the plants can be grown year-round and the plants are planted closer together than in an outdoor setting. The industry standard season for outdoor cultivation is 150 days. An approximate 260-day per year irrigation timeframe has been proposed for indoor/greenhouse applications, corresponding to a 5 day per week watering schedule year-round.

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Table 1 outlines the proposed water demand for this project. Table 2 outlines the proposed monthly water use, based on the total water demand for the grow operation. Local evapotranspiration data was used to extrapolate the annual outdoor water use to monthly estimates. The indoor annual water use was divided equally into 12 months to determine monthly water demands.

Use	Rate	Gross Demand (gallons/ year)	Gross Demand (AFY)
Outdoor Grow: 1 Acres	43,560 sf canopy x 0.03 gal/sf/day x 150 days	196,020	0.60
Indoor Grow: 22,000 sf	22,000 square feet canopy area x 0.1 gal/sf/day x 260 days	572,000	1.76
Net Water Demand			2.36

Month	ET _o (in)**	Outdoor ET _o (%)	Outdoor Water Use/Month (AF)	Indoor/Green house Water Use/Month (AF)	Total Water Use/Month (AF)
October	3.33	-	-	0.15	0.15
November	2.19	-	-	0.15	0.15
December	1.36	-	-	0.15	0.15
January	1.44	-	-	0.15	0.15
February	1.78	-	-	0.15	0.15
March	2.78	-	-	0.15	0.15
April	3.35	9.5%	0.06	0.15	0.20
May	6.13	17.3%	0.10	0.15	0.25
June	6.15	17.4%	0.10	0.15	0.25
July	8.15	23.0%	0.14	0.15	0.28
August	6.15	17.4%	0.10	0.15	0.25



September	5.47	15.5%	0.09	0.15	0.24
Total Annual	48.27	100%	0.60	1.76	2.36

**Evaporation data from California Department of Water Resources. Nacimiento Dam Station T09 6056 00

Water Offset

The property is outside the Paso Robles Groundwater Basin and therefore will not require a water offset for new water demands.

Water Supply

The proposed project will utilize an on-site groundwater well to supply water for irrigation. Water used for cannabis irrigation will be metered daily and monitored closely to ensure the system is operating efficiently and without leaks or line breaks. Irrigation of the plants will be via drip irrigation and some hand-watering.

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

Some cultivation activities can generate wastewater such as hydroponic solutions, irrigation tail water, and sanitation activities, etc. Typically, wastewater will be discharged either into a community collection system or to an onsite wastewater treatment system (septic tank/leachfield). These activities will be monitored through the Regional Water Quality Control Board for on-site disposal systems.

Regardless of the process wastewater discharge strategy, the RWQCB will require that outdoor 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. Based on the proposed cultivation area and the characteristics of the property, it is likely this project will be categorized as a Tier 2, Low Risk according to RWQCB regulations. The tier determination will need to be finalized by the RWQCB once an application has been submitted and reviewed by Board staff. Tier 2 dischargers are required to submit a technical report to the RWQCB, due March 1, annually.

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.

