

2.1 Water Source, Storage, Irrigation, and Estimated Use

Irrigation supply will be provided for by use of a combination of rainwater, dehumidifier and air conditioner catchment. The cultivation operation will require up to 0.29 gallons/square-foot of area cultivated, approximately 173,170 gallons of irrigation water per year. The operation operates year-round with lighting and climate-controlled space. Drip irrigation systems provide added efficiency to water usage. All runoffs are captured and stored for treatment and reuse.

Local historical records indicate that Loleta receives between 40-50 inches of precipitation annually (<https://prism.oregonstate.edu/explorer/>). The commercial building that the project is located within has a total footprint of 2,400 square-feet and its rooftop can collect up to 51,000 gallons annually ($2400 \text{ sq ft} \times 40 \text{ in} \times 0.623 \text{ g/sqft/in} \times 0.85 \text{ efficiency}$).

The cultivation operation has eight (8) dehumidifiers and eight (8) air conditioning units. The dehumidifiers collect 224 gallons of water per day ($8 \text{ deh} \times 28 \text{ g}$). The air conditioners collect 120 gallons of water per day ($8 \text{ ac} \times 15 \text{ g}$). Total water collected from the units is 344 gallons/day, or 125,560 gallons/year.

The applicant for this project has installed four (4) 5,000-gallon water storage tanks that are connected to the existing gutter system and the interior dehumidifier and air conditioner units. The total water collected from all sources will be 176,560 gallons/year.