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Government Code § 6103

6 Attorneys for
7 Antelope Valley Watermaster

8 **SUPERIOR COURT OF THE STATE OF CALIFORNIA**
9 **FOR THE COUNTY OF LOS ANGELES - CENTRAL DISTRICT**

10
11 Coordination Proceeding,
Special Title (Rule 1550(b))

Judicial Council Coordination
Proceeding No. 4408

LASC Case No.: BC 325201

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13 **ANTELOPE VALLEY**
14 **GROUNDWATER CASES**

Santa Clara Court Case No. 1-05-CV-049053
Assigned to the Hon. Jack Komar, Judge of
the Santa Clara Superior Court

15 **DECLARATION OF ARDEN WELLS IN**
16 **SUPPORT OF WATERMASTER'S**
17 **OPPOSITION TO THE PEOPLE**
18 **CONCERN, INC'S MOTION FOR**
ACTION AND IMPLEMENTATION;
EXHIBIT 1

19 AND ALL RELATED ACTIONS

Date: August 24, 2023
Time: 2:00 p.m.
Dept: Courtcall

20
21 I, ARDEN WELLS, declare and state as follows:

22 1. I make this declaration in support of the Antelope Valley Watermaster's Opposition
23 to the Motion for Action and Implementation filed by The People Concern, Inc. as agent for Barrel
24 Springs Properties, LLC (the "Opposition"). All capitalized terms not defined herein have the same
25 definitions as set forth in the Opposition.

26 2. I am an Associate Geologist with Todd Groundwater, the Watermaster Engineer. I
27 have personal knowledge of the facts stated herein and, if called upon to do so, I could testify to
28 these facts.

1 3. I was personally involved in the Watermaster Engineer's review of the Application
2 and coordinating comments and questions to Barrel Springs in preparation of the Findings.

3 4. On, October 4, 2022, I received the Application from Barrel Springs. On October 5,
4 2022, I contacted the Watermaster Administrator to request additional information from Barrel
5 Springs related to the Application, specifically:

- 6 • Do they have a Water Supply Assessment for the Project?
- 7 • Is the 357,192 square feet they propose to be irrigated landscaping all for irrigated
8 landscaping, or does that include the buildings (and areas that won't be irrigated)? Could we
9 get a square footage estimate of just the area that will have irrigated landscaping on it? What
10 is the total amount of water they expect to go towards landscaping?
- 11 • How much water do they expect will go towards domestic use vs. agricultural?
- 12 • How many acres of row crops will they have and what do they plan to grow?
- 13 • Is the entire orchard 24.4 Acres? What type of trees?
- 14 • What is the total number of people who will be living there?
- 15 • Will the annual plants and grass in the landscaping be drought resistant?

16 I asked for this information to be provided by the end of that week in an attempt to get the
17 Application ready for the October Watermaster Board meeting. All completed applications, with the
18 Watermaster Engineer's Material Injury analysis, are due to the Watermaster Administrator one
19 week before each Advisory Committee meeting so that the Advisory Committee can have time to
20 review them. In order to be considered at the October 2023 Watermaster Board meeting,
21 Applications with the Watermaster Engineer's Material Injury analysis were due to the Watermaster
22 Administrator by the morning of October 13, 2022.

23 5. Barrel Springs did not provide responses to my request for information until October
24 11, 2022. After I received their responses, I began to conduct the Material Injury analysis. As I
25 focused in on the project details and hydrogeologic setting, it raised concerns about the significant
26 quantity of New Production sought in the Application, the Project's proximity to the San Andreas
27 Fault which runs directly through the Properties, and lack of hydrogeologic data related to this area
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1 of the Basin. These and other complex issues related to the unique nature of the Application
2 required further review and analysis through November 17, 2022.

3 6. Attached hereto as Exhibit 1 is a true and correct copy of the “response and memo”
4 referenced in an email from David Larson to Kate White on November 30, 2022. The “response and
5 memo” largely ignored most of the questions posed by the Watermaster Engineer in an email from
6 Kate White to David Larson on November 21, 2022, including the request for information
7 regarding nearby existing wells. Kate White was serving as a Senior Engineer at Todd Groundwater
8 when the emails were exchanged, and she has since retired. I was included in emails between Kate
9 White and David Larson, but I did not participate in the discussion.

10 7. On November 20, 2022, Dennis LaMoreaux of Palmdale Water District (“District”)
11 emailed Matt Knudson to request that the Application be delayed until the Properties’ complete
12 background is taken into full consideration, in which case a new serviceability letter may be issued
13 for the Project. I did not directly receive the email from Dennis, but Kate White included me as a
14 recipient in her response to Dennis.

15 I declare under penalty of perjury under the laws of the State of California that the
16 foregoing is true and correct, and that this declaration is executed on August 9, 2023, at Alameda,
17 California.

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21 ARDEN WELLS
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Exhibit 1

I. INTRODUCTION

A. LOCATION OF PROPERTY

The 125-acre Project is a Farming and Farmworker Housing Development Community that is located northeast of the intersection of Barrel Springs Road and 40th Street East, just south of the City of Palmdale, CA consisting of APN's 3052-16-017 & 010, and 3052-026-050. An additional 40-acres (APN 3052-026-051) is located just east of the site will be developed as a solar farm to support the site to the west.

B. PURPOSE AND SCOPE

The purpose of this analysis is to anticipate the actual water demand upon the existing aquifer considering most of the water pumped will be infiltrated back into the aquifer on-site.

C. PROJECT DESCRIPTION

The Project Development Plan is designed as a "Self-Sustainable Living Community". The Project has been designed to create a micro-living-environment that caters to almost all the needs of its future farmworker community without placing additional burdens on the neighboring resources as it embraces a minimal-carbon footprint lifestyle that can be described in the following terms:

1. Farming Irrigation and Operations
2. 144 custom designed "farmworker-optimized" affordable dwelling Units and associated structures for services as follows
 - A Caretaker residence.
 - A Multi-Purpose Center
 - A Dining Hall with serving kitchen.
 - A Produce Stand-Market
 - An Equipment Storage Barn
 - A Detention Basin/Park

The Project will be used as agricultural land including grazing, crops, orchards, and small animal husbandry. The County has advised the Project is Statutorily exempt from the California Environmental Quality Act ("CEQA") because the Project will be reviewed via Ministerial Site Plan Review and Administrative Housing Permit.

As there are no existing sewer, water, or natural gas services currently serving the subject property and the Project will generate and provide its own utilities from entirely within the Project's property boundaries, except for LA County Sheriff and Fire services. As such the Project will meet 2040 water and sewer allowances by providing its own reclaimed system that recharges associated underlying aquifer.

D. WATER AND SEWER SERVING THE PROJECT

The Project Site is currently vacant and is consistent with the County General Plan and Zoning with a RL2-Rural Land Use Designation and an A-1-2 Light Agricultural Zone respectively for the farmworker housing and community center and includes a request for the accessory uses listed above.

II. ESTIMATED WATER CONSUMPTION GENERATED BY THE PROJECT

A. DOMESTIC DEMAND:

Per California Assembly Bill 1668 dated May 31, 2018, the per capita limit for water is 55 gpd. Figuring that the Project will house 144 Farm Workers translates to (144×55) 7,920 gallons per unit per day. In addition, the peripheral support facilities will in general reduce personal uses, so their demand is limited to foodservices. Considering that In the U.S., we use only 10% of our overall water consumption for drinking and cooking (Columbia Climate School "From Wastewater to Drinking Water" by Renee Cho April 4, 2011), the rest is flushed down the toilet or drain. Thus, we expect this additional consumption to be 10% of the daily demand.

For the purposes of this Study, the Project will have a farmworker component demand of $(7,920 \times 1.1 =)$ 8,712 gpd which is 9.8 afy (acre feet per year).

B. FIRE FLOW PROTECTION SYSTEM DEMAND:

To ensure the Fire Protection System and infrastructure will meet the requirement set forth by the Apple Valley Fire Protection District. The infrastructure will need to include the following:

- All permanent structures will have internal sprinkler systems per California sprinkler system codes
- Hydrants will be located per the requirements of the LA county Fire Protection district.
- Supply piping will be sized to adequately handle the water flow requirements (volume and pressure) to every hydrant.

The fire flow rate requirement established by LA County Fire Protection district from similar Projects is 2,250 gpm. for a two (2) hour duration. This combination of flow rate and duration consumes a water volume of 270,000 gallons.

C. EVAPOTRANSPIRATION DEMAND:

Evapotranspiration is the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.

The Project is in the area known as the California High Desert Valleys and is classified by the California Irrigation Management Information System (CIMIS) as ETo Zone 17 which has the second highest evapotranspiration rates in the State. Monthly average rates range from 1.86 to 9.92 inches/month for a yearly rate of 66.5 inches.

Landscape water demands:

Given the following:

Each DU will be xeriscape with no with consumption =	0 square-feet
40.1-acreas of usable farmland =	1,803,384 sf
Maximum Applied Water Allowance Plant Factor =	0.20
Eto =	66.5 in/yr
Irrigation Efficiency =	0.81

Then the Estimated Water Used (Gallons per Year) is:

$$(Eto/12) \times (PLANT FACTOR) \times (HYDROZONE SQ. FT.) \times (.62)/ IRRIGATION EFFICIENCY =$$
$$(66.5/12) \times 0.20 \times 1,803,384 \times 0.62/0.81 = 1,529,908 \text{ cfy} = 35.12 \text{ afy}$$

Considering that on average the Project irrigation demand is 2.7-afy per acre or $(40.1 \times 3) = 108$ acre-feet per year or 31,355 gallons per day.

D. MITIGATION MEASURES TO CONSIDER:

The Project's water demand requirements can be reduced by the following innovative design features:

1. Xeriscape (waterwise landscaping): the process of landscaping, or gardening, that reduces or eliminates the need for irrigation. It is promoted in regions that do not have accessible, plentiful, or reliable supplies of fresh water. Xeriscapes can reduce water consumption by 60% or more compared to regular lawn landscapes.
2. Infusing Aquifer Through Hydromodification/Infiltration: The LA County Low Impact Development Watershed Water Quality Management Plan, has become standard practice for all development which requires infiltration of 2-year (85th percental) storm flows.
3. Water Efficient Toilets and Faucets. a
4. Reclaimed Water from the proposed Packaged Wastewater Treatment Plant: Use of recycled water in lieu of potable water is encouraged by the State Water Board as described below:
 - a. The State Water Board's Strategic Plan Update 2008-2012 includes a priority to increase sustainable local water supplies available for meeting existing and future beneficial uses by 1,725,000 acre-feet per year (afy) in excess of 2002 levels by 2015.
 - b. The State Water Board's Policy for Water Quality Control for Recycled Water states the following goals (in part): 1) Increase the use of recycled water over the 2002 level by at least 1 million afy by 2020 and by at least 2 million afy by 2030. 2) Increase the amount of water conserved in urban and industrial uses by 20 percent compared to 2007. 3) Substitute as much recycled water for potable water as possible by 2030

E. FINDINGS AND CONCLUSIONS

Estimated Well Flow Rate: Per the Antelope Valley water Master Groundwater Elevations Map, the groundwater elevation below this Project is 2575. Considering the proposed well site is at an elevation of 2970 then the ground water would be 415 feet down from natural grade. Information obtained by local well driller suggests that substantial water is around 400-feet and can produce 25 to 125 gpm depending on well and pump size.

Historic water reports by Everett L. Clark, Consulting Civil Engineer Dated May 5, 1952 and Tracy Bousman, Consulting Civil Engineer Dated June 3, 1969 show that a well capable of producing 100 gpm is probable below 300-feet.

To meet the demand of $(31,355 + 8,712 =) 40,067$ gpd a pump would be required to run at $(40067/24/60)$ 27.82 gpm constantly which falls in lower the range listed above.

Affects of the San Andreus Fault and the Aqueduct: The historic water reports by Everett L. Clark, Consulting Civil Engineer Dated May 5, 1952 and Tracy Bousman, Consulting Civil Engineer Dated June 3, 1969 states that the "fault acts as partial barriers to northward movement of groundwater" that leads to the existence of high ground water that support localized grasslands. Their reports also claim that "Water levels and geology indicate that several hundred feet of material below the ranch may be saturated and provide a considerable storage volume for long term use." Drilling logs show the upper 26-feet is silty sand comprising of 65% sand and 35% silt before hitting clay lenses at 26, 28, 31, and 36-feet that support the perched higher ground water in this area. Drilling depths at 400-feet and below would support water draw down in a lower aquifer that most likely would have little affect on the upper aquifer.

Tank Storage Capacity: To meet the required 3-day domestic use storage capacity $(8,712 \times 3 = 26,136)$ gallons) plus the fire flow requirements (270,000 gal), a 300,000-gal water tank is required that could be achieved by using 2 tanks 40ft in dia., and 16 ft in height to achieve a total storage volume of 300,656 gallons.

Water Demand Net Effect: As an IRS 501(c)(12) public benefit corporation managing its own water supply and acting as a water company, the net effect this Project will have on the existing water supply can be attributed by the overall losses in the system. Considering that In the U.S., we use only 10% of our overall water consumption for drinking and cooking (Columbia Climate School "From Wastewater to Drinking Water" by Renee Cho April 4,2011), the rest is flush down the toilet or drain.

This Project will then take the remaining 90% or $(8,712 \text{ gpd} \times 0.9)$ 7,840 gpd and put back into the underground aquifer by means of infiltration through septic leach field distribution. Thus, the net water loses in the system will be the consumption for drinking and cooking along with the evaporation and evapotranspiration loses after infiltrating the excess water back into the aquifer.

The net water consumption would then be as follows:

Drinking and cooking (8,712-7,840 gpd=)	0.98 afy
<u>Farming Evapotranspiration =</u>	<u>35.12afy</u>
Total drawdown on the Aquifer=	36.1 afy

Conclusions: Although the Project when fully built out will pump (108+9.8=)118 afy of water from the underlying aquifer, our true drawdown demand on the aquifer has been shown to be 36.1 afy considering the remaining 81.9 afy will be infiltrated back into the underlying aquifer.

In addition, the Project will be phased during construction of housing and related farming activities which will require less water at its inception. Considering a 5-year buildout, our expectations are we will only need a portion of the water the first year and as the in-situ soils become organic over time, our irrigation demands should drop as-well.

Thus, the following is our expectations of water consumption:

	Purchased Water Demand	Drawdown on Aquifer
• Year-1	40-50 afy	< 15 afy
• Year-2	60-70 afy	< 21 afy
• Year-3	80-95 afy	< 29 afy
• Year-4	95-110 afy	< 33 afy
• Year-5	100-120 afy	< 36.1 afy
• Future goal	90 -100 afy	< 30 afy

As a sustainable community, it is our goal to conserve resources as technology advances. In addition, it is our hope to close escrow on the property with the knowledge that these water resources can be available to us.

Unfortunately, the 2nd postponement of the Watermasters Board meeting has put the Project in jeopardy since significant non-refundable deposits were previously negotiated based on a December 6th Watermasters Board meeting decision. A determination of what water demands the Project has access to is paramount in the decision to close escrow. Considering that a non-refundable \$50,000-dollar deposit is required on December 7th and another \$100,000-dollars on January 26th, it is crucial to know as soon as possible that our requested water demands are reasonable and what limitations may be imposed in the future as soon as possible.

Considering that the actual Project drawdown on the aquifer is 36.1 afy, the effect on the 110,000 afy "Annual Safe Yield" established by the Court is only a miniscule fraction being 0.0328% of the total Annual Safe Yield, and thus, our demand on the aquifer will have essentially no impact on neighboring properties.

Given the foregoing, we respectfully request that our application for water rights to drawdown 36.1 afy (purchase 120-afy) be reinstated to the December Watermaster Board Agenda as time is of the essence relative to our land acquisition."

Cordially,
Red Brick Solution, LLC

David W Larson, PE
Principal

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I am employed in the County of Santa Barbara, State of California. I am over the age of eighteen (18) and not a party to the within action. My business address is 200 East Carrillo Street, Fourth Floor, Santa Barbara, California 93101.

On August 10, 2023, I served the foregoing document described **DECLARATION OF ARDEN WELLS IN SUPPORT OF WATERMASTER'S OPPOSITION TO THE PEOPLE CONCERN, INC'S MOTION FOR ACTION AND IMPLEMENTATION** on all interested parties in this action by placing the original and/or true copy.

☒ (STATE) I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

☐ (FEDERAL) I hereby certify that I am employed in the office of a member of the Bar of this Court at whose direction the service was made.

Allen

Signature
Elizabeth Wright