

# CRESTLINE-LAKE ARROWHEAD WATER AGENCY

A Public Agency  
P.O. BOX 3880 • PHONE (909) 338-1779  
24116 CREST FOREST DRIVE  
CRESTLINE, CA 92325

## MESSAGE

TO  
Kimley-Horn  
ATTN: John Nsofor  
3801 University Avenue, Suite 300  
Riverside, CA 92501

DATE  
June 23, 2026

## REPLY

DATE

RE: Hume Lake Expansion

Enclosed is an updated billing statement regarding your deposit for the above project reflecting an outstanding balance due of \$3,191.32. This statement does not include billing for the month of June 2026, please return a deposit in the amount of \$5,000 for the existing balance and anticipated upcoming invoices.

Also enclosed is a copy of the letter that the Agency received from Albert A. Webb Associates regarding the hydraulic evaluation for the above project.

  
Jennifer A. Spindler, General Manager

CC: Elena Barragan, County of San Bernardino Land Use Services Department

BY

SIGNED

Crestline-Lake Arrowhead  
Water Agency

Hume Lake Expansion  
PV 328-071-0700

Deposit from:  
Kimley-Horn & Associates, Inc.  
421 Fayetteville Street  
Suite 600  
Raleigh, NC 27601

|         |                                 |             |
|---------|---------------------------------|-------------|
| 2/20/26 | Deposit Made- Check # 216874123 | \$7,500.00  |
| 4/6/26  | BBK Invoice 1057813             | \$51.60     |
| 3/28/26 | Webb Invoice ARIV0012214        | \$576.00    |
| 4/25/06 | Webb Invoice ARIV0012652        | \$3,810.50  |
| 5/7/26  | BBK Invoice 1060842             | \$129.00    |
| 5/23/26 | Webb Invoice AR0012979          | \$4,626.50  |
| 6/9/26  | BBK Invoice 1064121             | \$103.20    |
|         | Subtotal                        | \$9,296.80  |
|         | Agency A & O                    | \$1,394.52  |
|         | Balance Due                     | \$10,691.32 |
|         | Deposit                         | \$7,500.00  |
|         | Amount Owed                     | \$3,191.32  |

JUN 23 2026



WO: 1987-0153  
Phase: 1033

Ms. Jennifer Spindler, MPA  
General Manager  
**CRESTLINE LAKE ARROWHEAD WATER AGENCY**  
P.O. Box 3880  
Crestline, CA 92325-3880

June 23, 2026

RE: Hume SoCal Camp Expansion - Hydraulic Evaluation

Dear Ms. Spindler,

Pursuant to your request, Albert A. Webb Associates (WEBB) has performed a computer hydraulic analysis and evaluated system supply and storage capacity to adequately service the Hume SoCal Camp Expansion, based on the new site plans and Draft Water Supply Assessment (WSA) provided.

**BACKGROUND**

The Hume SoCal Camp Expansion project is a private camp retreat located in the Green Valley Lake area of San Bernardino County. The project proposes phased expansion of existing camp facilities across multiple parcels. At full buildout, the camp would accommodate a combination of year-round staff and seasonal campers.

The project proponent has indicated that potable water supply for the expansion is proposed to be provided primarily by on-site domestic groundwater wells. The proponent has further indicated that projected potable water demands could be met by the existing on-site wells based on prior water quality data and assumed production capacities. However, current well yield and water quality have not been physically verified as part of this evaluation, and the available information is based on historical data and planning level assumptions. No independent confirmation of well capacity or water quality was performed by WEBB as part of this analysis. As such, the reliability of on-site groundwater supply has not been established for purposes of long-term operational planning.

In addition to on-site supply, the developer has expressed a desire to explore a future interconnection with Crestline Lake Arrowhead Water Agency (CLAWA), with the conceptual intent of splitting total potable water demands at buildout such that approximately 50 percent of demand could be supplied by CLAWA during certain operating periods. Any such interconnection would be subject to a separate intertie agreement and would be contingent upon system availability, operational constraints, and Agency approval.

Kimley-Horn prepared a revised WSA for the proposed expansion that converted projected annual water demands to daily operating demands reflective of seasonal camp usage. The revised assessment reduced total projected occupancy and applied a per-capita demand rate appropriate for organized camp operations, resulting in a revised maximum day demand (MDD) estimate for the project at buildout.

WEBB performed an independent hydraulic evaluation to verify whether the CLAWA distribution system could conservatively accommodate the revised project demand under existing conditions. Hydraulic modeling and supporting storage and supply calculations were completed at both the serving pressure zone level and on a system wide basis. This analysis was performed solely to assess system capability under worst case conditions and does not imply that CLAWA would supply the full project demand under the proposed on-site well and intertie supply framework.

#### UPDATED WATER DEMAND BASIS

Kimley-Horn's revised WSA reduced the projected full buildout occupancy for the Hume SoCal Camp Expansion from approximately 3,000 occupants to 2,554 occupants. In conjunction with the reduced occupancy, the assessment revised the assumed per-capita potable water demand rate from 180 gallons per capita per day (gpcpd) to 50 gpcpd, which is more representative of organized seasonal camp operations with intermittent occupancy.

The revised assessment also converted projected potable water demands from an annual planning basis to daily operating demands corresponding to periods of active use. These revisions resulted in a projected maximum day potable water demand of approximately 127,700 gallons per day (gpd) or 90 gallons per minute (gpm) at full buildout, which supersedes previously evaluated higher demand scenarios.

WEBB reviewed the revised demand methodology and confirmed that the reduced occupancy assumptions, per-capita demand rate, and resulting MDD are reasonable for purposes of hydraulic evaluation. The revised MDD was therefore adopted as the governing condition for this analysis. **Table 1 - Estimated Camp Water Demand by Phase**, summarizes the revised potable water demand projections used in this study.

**TABLE 1 - Estimated Camp Water Demand by Phase**

| Phase        | Occupant Type         | Max Guests   | Demand Rate (GPD/Person) | Peak Day Demand (GPD) |
|--------------|-----------------------|--------------|--------------------------|-----------------------|
| Phase 1      | Middle School Guests  | 784          | 50                       | 39,200                |
| Phase 2      | High School Guests    | 1,000        | 50                       | 50,000                |
| Phase 3      | Adult Lodge           | 140          | 50                       | 7,000                 |
| Phase 4      | Elementary Age Guests | 500          | 50                       | 25,000                |
| Phase 5      | Wildwood Camp         | 130          | 50                       | 6,500                 |
| <b>Total</b> | <b>Full Buildout</b>  | <b>2,554</b> | <b>—</b>                 | <b>127,700</b>        |

Source: Kimley-Horn Water Supply Assessment Hume SoCal Camp Expansion, dated April 28<sup>th</sup>, 2026.

#### HYDRAULIC EVALUATION AND CAPACITY FINDINGS

The revised MDD of approximately 90 gpm was applied to CLAWA's hydraulic model to verify distribution system performance under conservative operating assumptions. Model results were evaluated at both the pressure zone serving the project site and on a system wide basis.

The analysis demonstrates that CLAWA's existing distribution system is hydraulically capable of conveying the full revised project demand without adverse impacts to system pressures, pumping operations, or storage reliability. Within the serving pressure zone, Booster Station No. 4 has an approximate firm pumping capacity of 130 gpm and is capable of accommodating the incremental demand associated with the proposed expansion while maintaining acceptable system performance. The pressure zone maintains acceptable pressures under maximum day conditions, and no sustained depletion of the Green Valley Tank is required to meet the evaluated demand. System wide modeling similarly confirms that the revised project demand can be accommodated within current supply and conveyance capacities.

This verification was performed solely to evaluate system capability and does not represent an allocation or commitment of water supply to the project.

In addition to the modeled demand associated with the proposed project, CLAWA currently provides and maintains the ability to provide water deliveries to multiple existing wholesale customers within the service area, including the Green Valley and Arrowbear turnout connections, as well as Ponderosa Camp, Camp Cedar Crest, and Calvary Chapel Camp (Hume SoCal). Recent operational patterns indicate increased utilization at certain connections, including renewed deliveries at Green Valley and initiation of deliveries at Arrowbear following system improvements.

Although system capacity does not pose a problem in making projected deliveries to the expansion project, there is significant concern regarding water availability during dry years when there may be limited imported water supplies available to CLAWA for delivery to its customers. As a wholesale provider with limited available supply, CLAWA must prioritize delivery obligations to existing customers and established turnout connections. This prioritization would be implemented through the terms and conditions of any future intertie agreement with the project and would constitute a condition of service, rather than a requirement established by law. Accordingly, any supplemental water delivery to the proposed Hume SoCal Camp Expansion would be subordinate to these existing demands and subject to real-time system availability and operational constraints.

#### **SUPPLY AND OPERATIONAL CONSIDERATIONS**

The project is proposed to rely primarily on on-site domestic groundwater wells for potable water supply. However, available well production and water quality data remain limited and have not been validated through recent site-specific testing. In mountainous settings such as the project area, groundwater availability and water quality can be highly variable and subject to seasonal fluctuations, localized geologic conditions, and well performance limitations.

As a result, the reliability of the proposed on-site groundwater supply has not been established for purposes of long-term operation. Confirmation of sustained well yield and water quality through comprehensive testing and monitoring will be required to demonstrate that the project can reliably meet its potable water demands independent of supplemental supply.

Any future interconnection between the project and CLAWA would be subject to a separate intertie agreement and limited to an established maximum delivery rate. Supplemental deliveries would be operationally controlled by CLAWA and subject to real-time system availability and Agency discretion.

The proposed project shall not rely on the CLAWA system to offset fluctuations in demand or to provide operational balancing. The project must be capable of meeting its routine daily demands through on-site supply and storage infrastructure independent of supplemental deliveries. Turnout flow settings and delivery rates would be established by CLAWA and must be adhered to at all times. Operation of the intertie would be subject to CLAWA's policies governing wholesale turnout connections.

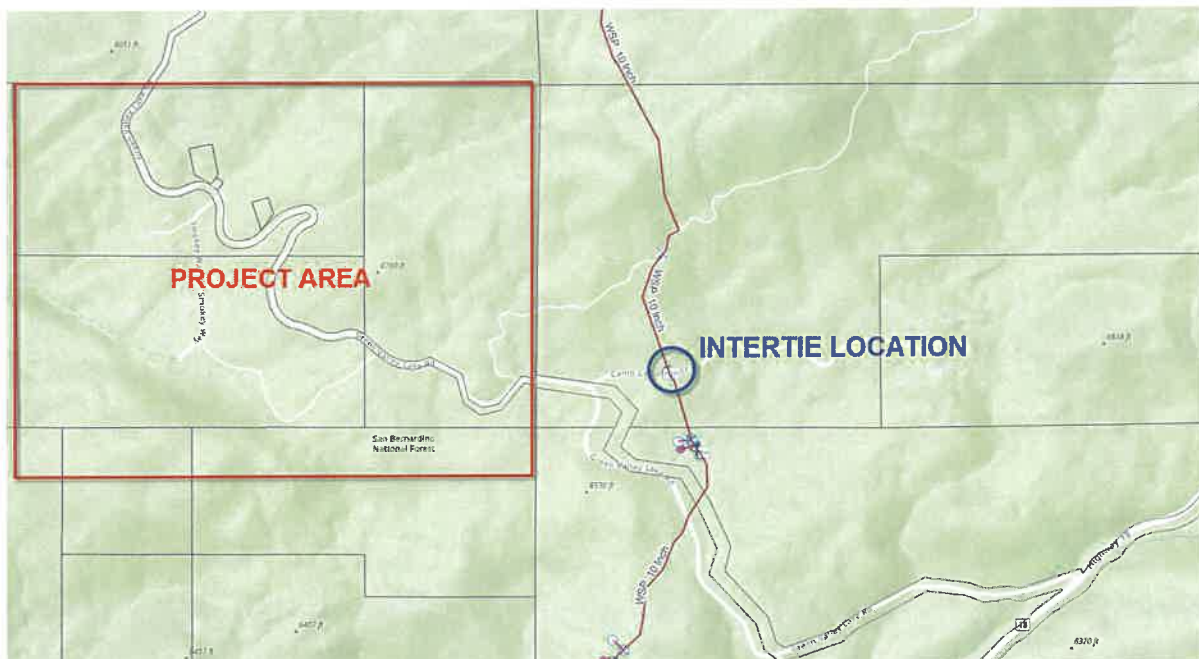
In addition, increased intertie flow rates may require upgrades to backflow prevention facilities to protect water quality and system integrity, subject to CLAWA standards and regulatory requirements.

#### **PROPOSED INTERCONNECTION CONCEPT**

Based on the hydraulic evaluation and discussions regarding potential supplemental service, a conceptual interconnection point has been identified along an existing 10-inch distribution main in the vicinity of Camp Cedar Crest Road, south of the Green Valley area (see **Figure 1**).

The proposed interconnection would utilize the existing turnout currently serving the Calvary Chapel Camp, which is equipped with a 2-inch meter. Under existing conditions, this connection is limited to relatively low delivery rates. In order to accommodate potential supplemental deliveries to the proposed Hume SoCal Camp Expansion under buildout conditions, the existing meter assembly, backflow prevention facilities, and associated lateral piping would require upsizing.

Any modifications to the existing turnout, including meter sizing, connection configuration, and backflow requirements, would be subject to detailed design by WEBB and approval by CLAWA. Installation, ownership, and operation of the turnout improvements would be under the authority of CLAWA. Final design would be required to conform to Agency standards and operational criteria governing wholesale connections. The interconnection configuration would be designed to accommodate a controlled and limited delivery rate consistent with the operational constraints described herein.



**FIGURE 1 – Potential Intertie Location**

#### **STORAGE AND FIRE FLOW RESPONSIBILITY**

The Green Valley Tank is a wholesale facility operated by CLAWA and is not available to provide dedicated storage, emergency reserves, or fire flow capacity to the proposed project. The CLAWA system shall not be relied upon for fire protection or emergency storage under any operating condition.

The project must provide all required fire flow, equalization storage, and emergency storage through on-site infrastructure in accordance with applicable fire code requirements and industry standards. On-site facilities shall be designed to meet peak fire flow demands in combination with maximum day domestic demand, as applicable, without reliance on supplemental delivery from CLAWA.

Any supplemental water delivered through a future intertie would be limited to wholesale supply only and shall not be considered in the determination of available fire flow or required storage volumes.

Ms. Jennifer Spindler  
**CRESTLINE LAKE ARROWHEAD WATER AGENCY**  
June 23, 2026  
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#### **CONCLUSIONS**

Based on the revised WSA and independent hydraulic analysis performed by WEBB, the CLAWA distribution system is capable of accommodating the revised maximum day potable water demand of approximately 90 gpm under existing conditions. However, such capability does not constitute a guarantee or allocation of supply.

The project must be capable of sustaining routine daily operations through on-site water supply and storage infrastructure and shall not rely on supplemental deliveries from CLAWA to meet baseline demand requirements. Any water delivered through a future intertie would be limited, conditional, and subordinate to existing Agency obligations, and may not be available during periods of elevated system demand.

The project must remain self-sufficient with respect to fire flow, emergency storage, and primary supply through on-site wells. Any supplemental supply from CLAWA would be limited, conditional, and subject to execution of a formal intertie agreement and ongoing system availability. CLAWA may require an agreement which provides that in the event of a shortage in the imported water supply made available to CLAWA, in any year, water deliveries to this project may be reduced before reductions are applied for pre-existing customer commitments or for more essential uses as determined by CLAWA's Board of Directors.

Sincerely,

**ALBERT A. WEBB ASSOCIATES**



Kristopher Danielson, P.E.  
Senior Engineer

cc: Chandler Drachslin, Albert A. Webb Associates  
Brian Knoll, P.E., Albert A. Webb Associates