

Estimated Water Availability

July 2016

Units in acre-feet per year (afy)

1. Maximum Demand	686.0
2. Demand Management ¹ [Line 1 x 10%]	68.6
3. Adjusted Maximum Demand [Line 1 - Line 2]	617.4
4. Range of Firm Yield Supply [Kimball Reservoir + NBA]	1128.5 to 1319.1
5. Range of Unused Supply [Line 4 – Line 3]	511.1 to 701.7
6. Growth Management, Standby and Other Allocations	232.692
Range of Available Supply [Line 5 – Line 6]	278.408 to 469.008 afy

Notes:

1. Calistoga's existing water demand over the last five years (2011–2015) as measured by the Napa and Kimball meters.
2. Assumes 10% reduction through voluntary conservation during a below normal year².
3. Maximum demand minus demand management.
4. Firm yield for a below normal year based upon 90% reliability which is an accepted methodology by the State Department of Water Resources.
 - a. Kimball Reservoir supply is 336 afy³. With adoption of the Kimball Interim Bypass Plan (2011), Kimball Reservoir's supply yield is reduced by 41 afy⁴ to 295 afy.
 - b. The North Bay Aqueduct (NBA) sources include 500 afy of original NBA, 925 afy of Kern County water, and 500 afy of American Canyon-purchased water for a total of 1,925 afy. A firm yield of 52% delivery can be expected⁵ which equals a firm yield of 1,001 afy.
 - c. Alternately, the average NBA water allocation from the State Water Project for the past 10 years has been 53.2% (almost identical to the 52% contained in the May 2000 Summit Engineering report) and equates to 1024.1 afy. The average NBA water allocation from the State Water Project for the past five years has been 43.3% and equates to 833.5 afy.
5. Estimated current supply available before standby and other obligations are subtracted.
6. Growth Management, Standby and Other Allocations (rounded)⁶

Standby (customers with meter but no use)	30.28
Paid Allocations and Development Agreements	95.85
Bottling Works Unused Obligation	85.28
Growth Management Allocations	<u>21.28</u>
Total	232.69

¹ Below normal year yields assumed

² Water Facilities Plan, Section 3.7.1, Summit Engineering, May 2000

³ Water Facilities Plan, Section 2.2.3, Summit Engineering, May 2000

⁴ Kimball Interim Bypass Plan, Appendix 34

⁵ Water Facilities Plan, Section 2.2.4, Summit Engineering, May 2000

⁶ From Attachment 3

Estimated Wastewater Treatment Capacity

July 2016

Units in millions of gallons per day (mgd) and acre-feet per year (afy)

1. Permitted Treatment Plant Capacity	0.84 mgd
2. Average Dry Weather Flow	0.45 mgd
3. Excess Capacity [Line 1 – Line 2]	0.39 mgd
4. Excess Capacity in acre feet [Line 3 x 1,120]	436.8 afy
5. Growth Management, Standby and Other Allocations	228.7 afy
6. Capacity Buffer [Line 4 x 10%]	43.7 afy
7. Total Reserved [Line 5 + Line 6]	272.4 afy
Available Treatment Capacity [Line 4 – Line 7]	164.4 afy

Notes:

1. Treatment plant permit rated capacity (average dry weather flow).
2. Average Dry Weather Flow over the last five years (2011-2015), based on metered influent flows to the WWTP between July through September.
3. Excess capacity available
4. Excess capacity converted to acre-feet per year.
5. Growth Management, Standby and Other Allocations (rounded)¹:

Standby	18.0 afy
Paid Allocations and Development Agreements	107.2 afy
Bottling Works Unused Obligation	90.2 afy
Growth Management Allocations	<u>13.3 afy</u>
Total	228.7 afy
6. Capacity Buffer is 10% of the excess available capacity before standby and other obligations are deducted.
7. Estimated total reserved is the combined total of the standby and other obligations plus a 10% capacity buffer.

¹ From Attachment 3

Potential Water Usage and Wastewater Generation

July 2016

Potential Water Usage

Standby (customers with meter but no use)		30.280
Paid Allocations and Development Agreements		95.85
Calistoga Hills Development Agreement	50.000	
Silver Rose Development Agreement	42.040	
Oak Villa Condominiums	2.520	
Brian Arden Winery	1.130	
Lava Vine Winery	.160	
Bottling Works Unused Obligation		85.280
Calistoga Mineral 70.0 baseline – 3.36 (5-yr. average)		
Crystal Geyser 23.3 baseline – 4.66 (5-yr. average)		
Growth Management Allocations (approved projects)		21.282
1801 Michael Way SFD	.593	
1805 Michael Way SFD	.593	
2095 Mora SFD	.593	
1706 Foothill SFD	.593	
3000 W. Money SFD	.593	
3001 W. Money SFD	.593	
3004 W. Money SFD	.593	
3005 W. Money SFD	.593	
Wappo Guest Accommodations	.930	
Calistoga Senior Apartments	11.460	
Boys & Girls Club	3.210	
Francis House B&B	.938	
	Total	232.692 acre-feet/year

Potential Wastewater Generation

Standby		18.000
Paid Allocations and Development Agreements		107.250
Calistoga Hills Development Agreement	60.000	
Silver Rose Development Agreement	45.650	
Oak Villa Condominiums	1.470	
Brian Arden Winery	1.130	
Bottling Works Unused Obligation		90.240
Calistoga Mineral 95.0 (baseline) – 4.76 (5-yr. average)		
Growth Management Allocations (approved projects)		13.254
Wappo Guest Accommodations	.440	
1801 Michael Way SFD	.370	
1805 Michael Way SFD	.370	
2095 Mora SFD	.370	
1706 Foothill SFD	.370	
3000 W. Money SFD	.370	
3001 W. Money SFD	.370	
3004 W. Money SFD	.370	
3005 W. Money SFD	.370	
Calistoga Senior Apartments	6.390	
Boys & Girls Club	2.790	
Francis House B&B	.674	
	Total	228.744 acre-feet/year