

# City of Calistoga Capacity Fee Study 2017



Water/Wastewater Tables  
5/19/2017



BARTLE WELLS ASSOCIATES  
Independent Public Finance Advisors

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Table 1  
City of Calistoga  
Water & Wastewater Capacity Charge Study

### Current Water Capacity Fees

rates effective January 1, 2017<sup>1</sup>

**\$38,517 per annual acre foot water usage**

#### Standard Use Table

<u>Customer Class</u>	<u>Acre Feet Per Year</u>	<u>Capacity Fee</u>
Single Family Dwelling		
1-3 Bedrooms	0.428	\$16,485
4 Bedrooms	0.540	\$20,799
Apartment, Condominium		
1-2 Bedrooms	0.382	\$14,713
3 Bedrooms	0.494	\$19,027
Mobile Home	0.149	\$5,739
Second Dwelling Unit	0.165	\$6,355
Transient Lodging per living or rental unit	0.170	\$6,548
Commercial per 1000 sq. ft. of gross floor area	0.110	\$4,237
Bar per 1000 sq. ft. of gross floor area	0.220	\$8,474
Restaurant per 1000 sq. ft. of gross floor area	0.058	\$2,234

1 - fee increases yearly based on ENR Construction Cost Index

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Table 2  
City of Calistoga  
Water & Wastewater Capacity Charge Study

**Current Wastewater Capacity Fees**

*rates effective January 1, 2017<sup>1</sup>*

**\$112,456 per annual acre foot water usage**

**Standard Use Table**

<u>Customer Class</u>	<u>Acre Feet Per Year</u>	<u>Capacity Fee</u>
Single Family Dwelling		
1-3 Bedrooms	0.224	\$25,190
4 Bedrooms	0.319	\$35,873
Apartment, Condominium		
1-2 Bedrooms	0.213	\$23,953
3 Bedrooms	0.308	\$34,636
Mobile Home	0.125	\$14,057
Second Dwelling Unit	0.146	\$16,419
Transient Lodging per living or rental unit	0.150	\$16,868
Commercial per 1000 sq. ft. of gross floor area	0.099	\$11,133
Bar per 1000 sq. ft. of gross floor area	0.198	\$22,266
Restaurant per 1000 sq. ft. of gross floor area	0.524	\$58,927

1 - fee increases yearly based on ENR Construction Cost Index

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Table 3  
 City of Calistoga  
 Water & Wastewater Capacity Charge Study  
 Demographic Data and Projections

**METER EQUIVALENT UNITS**

Meter Size (inches)	# of meters	Meter Equivalence		
		Max Continous Flow (gpm)	Flow Factor for 5/8" x 3/4" Base	Meter Equivalent Units
5/8	1,454	10	1	1,454
3/4	0	15	1.5	0
1	143	25	2.5	358
1 1/2	38	50	5	190
2	38	80	8	304
3	6	160	15	90
4	4	250	25	100
6	3	500	50	150
8	2	800	80	160
<b>Total</b>	<b>1,688</b>			<b>2,806</b>

**EXISTING AND PROJECTED SERVICE NUMBERS**

Demographic Statistics	Existing Total (2017)	Projected Service Total (2037)*	Total Change (Cumulative)		Annualized Change (per year, 20 years)	
Meter Equivalent Units:						
Water	2,806	3,100	294	10%	15	0.5%
Wastewater	2,806	3,100	294	10%	15	0.5%

\*assumes 0.5% growth per year

**ALLOCATION OF UNITS TO EXISTING AND FUTURE SERVICES**

Proportionate Allocation Factor	Existing Services	Future Services
Water Equivalent Service Units	90.51%	9.49%
Wastewater Equivalent Service Units	90.51%	9.49%

Table 4  
 City of Calistoga  
 Water & Wastewater Capacity Charge Study  
 System Buy-In and Development Costs

**System Buy-In: Current Value of Assets**

	Estimated Asset Value*	Current User Asset Value	Future User Asset Value
Water	25,978,278	23,511,976	2,466,302
Wastewater	<u>20,983,986</u>	<u>18,991,828</u>	<u>1,172,675</u>
<b>Total Assets</b>	<b>46,962,264</b>	<b>42,503,803</b>	<b>3,638,978</b>
	100%	90.51%	9.49%

**System Development: 10-year Capital Improvement Plan**

	Estimated 10-year CIP**	Current User Allocation	Future User Allocation
Water	12,173,900	11,018,145	1,155,755
Wastewater	<u>21,870,852</u>	<u>19,794,497</u>	<u>2,076,355</u>
<b>Total Capital Improvement Plan</b>	<b>34,044,752</b>	<b>30,812,642</b>	<b>3,232,110</b>
	100%	90.51%	9.49%

\*purchase value less depreciation in 2017 dollars

\*\*All capital projects less known grant funding

Table 5  
City of Calistoga  
Water & Wastewater Capacity Charge Study  
Cost Basis Calculation - Water

<b>Final Water Capacity Charge Cost Basis</b>	<b>FY2017 Maximum Cost Basis</b>	<b>%</b>
<b>System Buy-In Component</b>		
<b>Existing Capital Facilities and Equipment:</b>		
Total Asset Value	<u>\$25,978,278</u>	
<b>Total Cost Basis:</b>	<b>\$25,978,278</b>	100%
<b>Allocation Adjustments</b>		
less: Amount Excluded from Analysis	-	
less: Amount Attributable to Existing Services	<u>(\$23,511,976)</u>	-90.51%
<b>Total Allocation Adjustments</b>	<b>(\$23,511,976)</b>	
<b>Cost-Basis for System Buy-In Charge Component</b>	<b>\$2,466,302</b>	<b>9.49%</b>
<b>System Development Component</b>		
<b>Planned Capital Facilities and Equipment:</b>		
Planned Capital Facilities and Equipment	<u>\$12,173,900</u>	
<b>Total Current Cost Estimate:</b>	<b>\$12,173,900</b>	100%
<b>Allocation Adjustments:</b>		
less: Amount Excluded from Analysis	-	
less: Amount Attributable to Existing Services	<u>(\$11,018,145)</u>	-90.51%
<b>Total Allocation Adjustments</b>	<b>(\$11,018,145)</b>	
<b>Cost Basis for System Development Charge Component</b>	<b>\$1,155,755</b>	<b>9.49%</b>
<b>Grand Total Cost Basis for Capacity Charge</b>	<b>\$3,622,057</b>	

Table 6  
City of Calistoga  
Water & Wastewater Capacity Charge Study  
Cost Basis Calculation - Wastewater

<b>Final Wastewater Capacity Charge Cost Basis</b>	<b>FY2017 Maximum Cost Basis</b>	<b>%</b>
<b>System Buy-In Component</b>		
Existing Capital Facilities and Equipment:		
Wastewater	<u>20,983,986</u>	
<b>Total Cost Basis:</b>	<b>20,983,986</b>	100%
<b>Allocation Adjustments</b>		
less: Amount Excluded from Analysis	-	
less: Amount Attributable to Existing Services	<u>(18,991,828)</u>	-90.51%
<b>Total Allocation Adjustments</b>	<b>(18,991,828)</b>	
<b>Cost-Basis for System Buy-In Charge Component</b>	<b>1,992,159</b>	<b>9.49%</b>
<b>System Development Component</b>		
<b>Planned Capital Facilities and Equipment:</b>		
Wastewater, Including Grant Funding	<u>21,870,852</u>	100%
<b>Total Current Cost Estimate:</b>	<b>21,870,852</b>	
<b>Allocation Adjustments:</b>		
less: Amount Excluded from Analysis	-	
less: Amount Attributable to Existing Services	<u>(19,794,497)</u>	-90.51%
<b>Total Allocation Adjustments</b>	<b>(19,794,497)</b>	
<b>Cost Basis for System Development Charge Component</b>	<b>2,076,355</b>	<b>9.49%</b>
<b>Grand Total Cost Basis for Capacity Charge</b>	<b>4,068,514</b>	

Table 7  
 City of Calistoga  
 Water & Wastewater Capacity Charge Study  
 Unit Cost Calculation - Water

<b>Service Basis</b>	<b>Total</b>
<b>Total Service Basis in Equivalent Service Units</b>	<b>294</b>

<b>Unit Cost</b>	<b>2017 Maximum</b>
System Buy-In Unit Cost per Equivalent Unit	\$8,381
System Development Unit Cost per Equivalent Unit	\$3,927
<b>Total Unit Cost per Equivalent Service Unit</b>	<b>\$12,308</b>

<b>Meter Size</b>	<b>Max Capacity Fee</b>
5/8" or 3/4"	12,308
1"	30,770
1.5"	61,540
2"	98,464
3"	184,620
4"	307,700
6"	615,400
8"	984,641

<b>Revenue from Future Development to Buildout</b>	<b>Total by 2037</b>
System Buy-in: for reinvestment in existing assets	\$2,466,302
System Development: for mitigation of planned assets	\$1,155,755
<b>Total Revenue for Capital Facilities and Equipment</b>	<b>\$3,622,057</b>



Table 8  
 City of Calistoga  
 Water & Wastewater Capacity Charge Study  
 Unit Cost Calculation - Wastewater

<b>Service Basis</b>	<b>Total</b>
<b>Total Service Basis in Equivalent Service Units</b>	<b>294</b>

<b>Unit Cost</b>	<b>2017 Maximum</b>
System Buy-In Unit Cost per Equivalent Unit	\$6,769
System Development Unit Cost per Equivalent Unit	\$7,056
<b>Total Unit Cost per Equivalent Service Unit</b>	<b>\$13,825</b>

<b>Meter Size</b>	<b>Max Capacity Fee</b>
5/8" or 3/4"	13,825
1"	34,563
1.5"	69,126
2"	110,601
3"	207,377
4"	345,628
6"	691,255
8"	1,106,008

<b>Revenue from Future Development to Buildout</b>	<b>Total by 2037</b>
System Buy-in: for reinvestment in existing assets	\$1,992,159
System Development: for mitigation of planned assets	\$2,076,355
<b>Total Revenue for Capital Facilities and Equipment</b>	<b>\$4,068,514</b>

Table 9  
 City of Calistoga  
 Options for Multi Family Capacity Fees

**Multi-Family Capacity Fee Option 1: \$/Fixture Unit**

Estimated Number of Fixture Units per typical 5/8" Single Family Connection			
Fixture Type	Quantity	Fixture Units <sup>1</sup>	Total
Bathtub (with or without shower)	1	4	4
Clothes Washer	1	4	4
Dishwasher	1	1.5	1.5
Lavatory	2	1	2
Shower (single)	1	2	2
Kitchen Sink	1	1.5	1.5
Toilet (1.6 gal per flush)	2	2.5	5
<b>Total</b>	<b>9</b>		<b>20</b>

<b>Est. Fixture Units per 5/8" Connection</b>	<b>20</b>
5/8" Water Connection Fee	\$12,308
<b>Water Connection Fee \$/Fixture Unit</b>	<b>\$615</b>

<b>Est. Fixture Units per 5/8" Connection</b>	<b>20</b>
5/8" Wastewater Connection Fee	\$13,825
<b>Wastewater Connection Fee \$/Fixture Unit</b>	<b>\$691</b>

1 - Source: California Plumbing Code

**Multi-Family Capacity Fee Option 2: \$/Square Foot**

<b>Est. Square Feet per 5/8" Connection</b>	<b>2,500</b>
5/8" Water Connection Fee	\$12,308
<b>Water Connection Fee \$/Square Foot</b>	<b>\$4.92</b>

<b>Est. Square Feet per 5/8" Connection</b>	<b>2,500</b>
5/8" Wastewater Connection Fee	\$13,825
<b>Wastewater Connection Fee \$/Square Foot</b>	<b>\$5.53</b>

**Multi-Family Capacity Fee Option 3: Consumption Ratio**

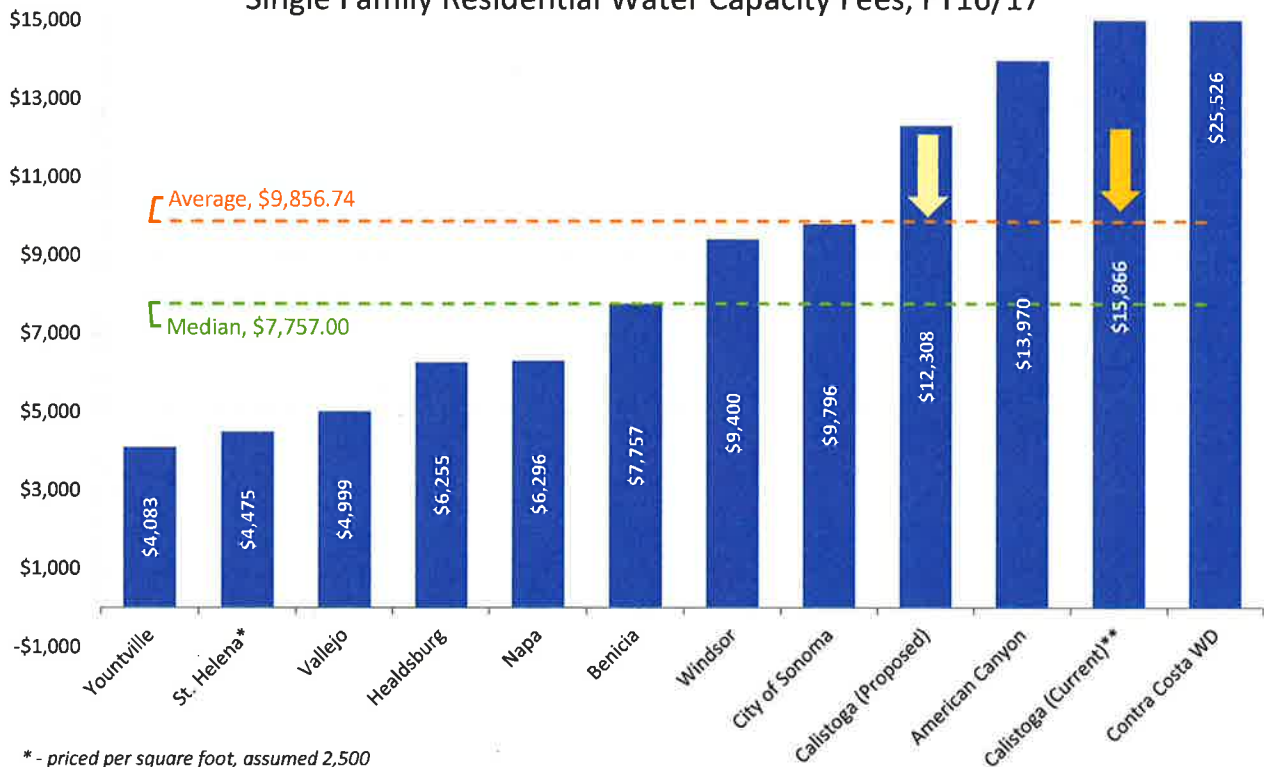
2016 Average Total Annual Use - Single Family (Inside City Limits)	71.99
2016 Average Total Annual Use - Multi Family (Inside City Limits) <sup>1</sup>	47.24
<b>Discount Percentage</b>	<b>34%</b>

5/8" Water Connection Fee	\$12,308
<b>Discounted Water Connection Fee (5/8" Meter)</b>	<b>\$8,077</b>

5/8" Wastewater Connection Fee	\$13,825
<b>Discounted Wastewater Connection Fee (5/8" Meter)</b>	<b>\$9,072</b>

1 - assumes an average of 6 units per multi-family account

### Single Family Residential Water Capacity Fees, FY16/17



\* - priced per square foot, assumed 2,500

\*\* - priced per acre foot per year, assumed 0.428, based on Calistoga Standard Use Tables

conducted November 2016

### Single Family Residential Wastewater Capacity Fees, FY16/17

