Water Service

3 water sources

Milliken Reservoir

Lake Hennessey

State Water Project
Water Service

24/7 Treatment

Chemical Analyses
Instrumentation and Controls
Turbidimeters
Solids Centrifuge

Chemical Feed Pumps
Hennessey Influent Pump
Filters - Night Operations
Filter Gallery
Water Service

24/7 Transmission

- Knife Gate Valve
- Valve Actuator
- Monitoring Equipment
- Flow Meter
- 1 of 9 pump stations
- Effluent Valve
- Ozone Contactor
- Electrical Control Panels
- Check Valve
- Raw Water Line
- Raw Water Line
Water Service
24/7 Distribution

- Testing Pipe Stresses After Fusion
- Repair of 10-inch line
- Repair of 12-inch line
- Repair of 8-inch line
- Fused PVC Pipe
- Old cast iron line
- Shoring and Utility Protection
Water Service

Emergency Response

Transmission Main Repairs

Labor - Operations & Maintenance

Earthquake Shake Map

City of Napa - 2014 Earthquake Emergency Response Crews

City of Napa

120 Water Leaks Repaired in 5 Days!
Water Rates Cost of Service

- Reviewed every 5 years

- Costs to Operate and Invest in System
  - O&M
  - Capital Improvements
  - Non-recurring (Sanitary Survey of Watersheds, Div Safety of Dams)

- Revenue Collected
  - No taxes
  - 90% of revenue is water bills
  - Cell tower leases, capacity fees, new connections
Water Rates Cost of Service

Operations and Maintenance Costs

Approved 2018 budget is 12% over 2017 actuals

Driven by critical items:
- State Water Project Supplies $7M/yr ($3.3M in 2013)
- Equipment (pumps, pipes, electrical, instrumentation)
- Chemicals and consumables
- Laboratory certification changes (ELAP)

Projected costs through 2022 increase 3-5% per year
Water Rates Cost of Service

$480 Million System

As system ages, need for investment increases

Need = $9.3M  Proposed = $6M by 2022
Water Rates Cost of Service

Customers consumed less and paid less than cost of service provided over last 3 years

Actual/Projected Water Use

Gallons per Capita per Day (GPCD)

- SBx7-7 Target
- 20% by 2020
- 132 GPCPD
- 119 GPCD
How are Water Rates Used?

Fixed Costs. Required even if little or no water used:

- operate the water **treatment plants** 24/7,
- ensure water is available for **firefighting** purposes,
- perform **laboratory analyses**,  
- maintain the computerized network of instruments for **compliance reporting**,  
- make **emergency repairs** to main breaks  
- **read meters** and send bills,  
- pay **debt service** on bond indentures that have been used to build the system,  
- ensure **water supplies** for now and future,  
- invest in **capital improvements** to sustain aging infrastructure.
How are Water Rates Used?

Operations and Maintenance
$480 Million System
24/7 operation
62 staff ensure Regulatory Compliance
• Water Supply
• Treatment
• Transmission
• Distribution
How are Water Rates Used?

Capital Improvements
$480 Million System

$3M  Current annual CIP
$6M  2022 annual CIP
How are Water Rates Used?

$480 Million System

Ensuring the *reliability* of your drinking water system from “Source to Tap”...

- Water Supply: $0.22
- Chemicals: $0.04
- Operations: $0.23
  (Equipment, machinery, supplies)
- Labor: $0.29
- CIP: $0.10
  (Capital Improvements)
- Debt Service: $0.12
Why Change Rates?

System age: built in eras
- 1940s-50s: 70-80 yrs old
- 1960s - 70s: 50-60 yrs old

Consistently Invest in Capital Improvements

...Or

Pay more for O&M in the long run
- Emergency repairs
- 70-110 breaks per year
- Service interruptions
Why Change Rates?

Revenue under current structure does not cover operating costs and CIP investment.
Why Change Rates?

Maintain Bond Rating AA-

Summary of Bond Covenant Coverage - Current Rates

- FY 2018
- FY 2019
- FY 2020
- FY 2021
- FY 2022

Debt Service Coverage No Rate Change
Debt Service Coverage -Required
Why Change Rates?

Reserves are mandatory

Summary of Dedicated Reserve Balances

- Emergency Reserve
- Renewal and Replacement Reserve
- Long Term Water Supply Reserve
- Capital Improvement Reserve
- Operating Reserve
- Rate Stabilization Reserve
- Net Operating Cash Balance

2014 Earthquake
How are Rates Calculated?

What is Included?

- Demands track at reduced 20% by 2020 levels
- CIP increase from $3M to $6M
- Meet debt ratio 1.20
- Reserves draw down and refunded by 2022
- Emergency Reserve in tact

What is NOT Included?

- Oroville Dam repairs
- DSOD requirements for local dams
- Recommended funding level for annual CIP
- One time sale of State Water Project Water
- Existing Customer Demands return to 2013 levels
How are Rates Calculated?

$480 Million System

Allocate Costs Based on Service Provided Customer Classes

- Single-Family Residential
- Multi-Family Residential
- Commercial
- Irrigation
- Pumped Zone
- Inside
- Outside
- Fire

Demands on the System

Calculate:

Base Capacity + Peak Demands + Direct costs
### Proposed Rates

**Fixed charge for all Customer Classes**

#### Bimonthly Fixed Service Charge

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Inside City</th>
<th>Outside City</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE-FAMILY RESIDENTIAL</td>
<td>$16.72</td>
<td>$24.24</td>
</tr>
<tr>
<td>MULTI-FAMILY RESIDENTIAL</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>COMMERCIAL</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>IRRIGATION</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Proposed Bimonthly Fixed Service Charge

<table>
<thead>
<tr>
<th>ALL CUSTOMER CLASSES, Inside/Outside City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Size</td>
</tr>
<tr>
<td>3/4-inch</td>
</tr>
<tr>
<td>1-inch</td>
</tr>
<tr>
<td>1 1/2-inch</td>
</tr>
<tr>
<td>2-inch</td>
</tr>
<tr>
<td>3-inch</td>
</tr>
<tr>
<td>4-inch</td>
</tr>
<tr>
<td>6-inch</td>
</tr>
<tr>
<td>8-inch</td>
</tr>
</tbody>
</table>
## Proposed Rates

### Variable charge for Single-Family Residential

#### Water Quantity Charge

<table>
<thead>
<tr>
<th>Tier</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
</tr>
<tr>
<td>0-3 units</td>
<td>$0.00</td>
</tr>
<tr>
<td>4-20 units</td>
<td>$5.58</td>
</tr>
<tr>
<td>21-40 units</td>
<td>$5.78</td>
</tr>
<tr>
<td>41-75 units</td>
<td>$7.32</td>
</tr>
<tr>
<td>76+ units</td>
<td>$9.71</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
</tr>
<tr>
<td>12/1/2017</td>
<td>$4.07</td>
</tr>
<tr>
<td>10/1/2018</td>
<td>$4.07</td>
</tr>
<tr>
<td>10/1/2019</td>
<td>$4.07</td>
</tr>
<tr>
<td>10/1/2020</td>
<td>$4.07</td>
</tr>
<tr>
<td>10/1/2021</td>
<td>$4.07</td>
</tr>
</tbody>
</table>

- **3 Tiers**
- **Quantity charge lower through 14 units**
Proposed Rates
Winter Consumption SFR

- 3 Tiers
- Quantity charge lower through 14 units

<table>
<thead>
<tr>
<th>Tier</th>
<th>12/1/2017 In</th>
<th>12/1/2017 Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 units</td>
<td>$4.07</td>
<td>$5.87</td>
</tr>
<tr>
<td>15-27 units</td>
<td>$5.94</td>
<td>$8.41</td>
</tr>
<tr>
<td>28+ units</td>
<td>$7.68</td>
<td>$10.93</td>
</tr>
</tbody>
</table>

- 90% of all bills are ≤14 units
- 70% of all bills are ≤9 units
- 50% of all bills are ≤7 units
Proposed Rates
Summer Consumption SFR

3 Tiers
Quantity charge lower through 14 units
## Proposed Rates

### Variable charge for:

#### MULTI-FAMILY RESIDENTIAL, $ cost per unit (unit = 1,000 gallons)

<table>
<thead>
<tr>
<th>Current</th>
<th>Location</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12/1/2017</td>
</tr>
<tr>
<td>$5.58</td>
<td>Inside City</td>
<td>$5.75</td>
</tr>
<tr>
<td>$8.09</td>
<td>Outside City</td>
<td>$8.85</td>
</tr>
</tbody>
</table>

#### COMMERCIAL, $ cost per unit (unit = 1,000 gallons)

<table>
<thead>
<tr>
<th>Current</th>
<th>Location</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12/1/2017</td>
</tr>
<tr>
<td>$5.68</td>
<td>Inside City</td>
<td>$5.85</td>
</tr>
<tr>
<td>$8.23</td>
<td>Outside City</td>
<td>$8.96</td>
</tr>
</tbody>
</table>

#### IRRIGATION, $ cost per unit (unit = 1,000 gallons)

<table>
<thead>
<tr>
<th>Current</th>
<th>Location</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12/1/2017</td>
</tr>
<tr>
<td>$5.86</td>
<td>Inside City</td>
<td>$6.02</td>
</tr>
<tr>
<td>$8.49</td>
<td>Outside City</td>
<td>$9.21</td>
</tr>
</tbody>
</table>

- **No Tiers**
RateShare Discount Program

<table>
<thead>
<tr>
<th>RATESHARE DISCOUNT per Bimonthly Water Bill*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
</tr>
<tr>
<td>$4.75</td>
</tr>
</tbody>
</table>

*Customers enrolled in PG&E Care Program

- $25 per bimonthly bill discount
- First come, first served
- Funded by revenue from cell tower leases
Typical Monthly Bills current vs proposed

<table>
<thead>
<tr>
<th>Water Use</th>
<th>Units Per Month</th>
<th>Current</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>2</td>
<td>$11</td>
<td>$22</td>
</tr>
<tr>
<td>Average</td>
<td>5</td>
<td>$28</td>
<td>$35</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>$67</td>
<td>$72</td>
</tr>
</tbody>
</table>

Typical Monthly Cost shown for comparison purposes.

We bill bi-monthly or every 2 months.
Typical Bills

Typical Monthly Water Costs (8,000 gallons) for Single-Family Residential

- Fixed Service Charge
- Quantity Charge

Bay Area Average = $69

Cities: Vacaville, Napa (Current), Fairfield, Petaluma, North Marin, Santa Rosa, Benicia, Contra Costa, EBMUD, American Canyon, Yountville, Marin Municipal, Alameda County, Vallejo, Livermore, Calistoga, San Francisco, Palo Alto, St. Helena

$125
$100
$75
$50
$25
$0

$125
What Next? … Customers Watch Your Mail

Water Customer/ 303-6474-C
1340 Clay Street
Napa, CA 94559

Visit www.cityofnapa.org/water or call 257-9521 for:
Water Rate FAQs, Cost of Service Analysis, Maps of Elevation Surcharge Area and
Fire Service Charges, Water Conservation Info, Protest Procedures, Bill Charge Calculations and more!

PROPOSED RATE INCREASES
TO WATER SERVICE CHARGES
PUBLIC HEARING - NOVEMBER 7, 2017 AT 6:30PM,
CITY HALL, 955 SCHOOL STREET, NAPA, CA 94559
What Next? ... Customers Watch Your Mail

www.CityofNapa.org/water

Visit www.cityofnapa.org/water or call 257-9521 for:
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Water Rate FAQs

2017 Water Rate Adjustments
Answers to Frequently Asked Questions (FAQs)

Why did water rates need to be raised?
The previous Water Cost of Service Rate Analysis was performed in 2011 and resulted in five years of fixed rate increases followed by no increases from 2015 through 2017. During the last three years those rates did not recover the actual cost to provide service. The rates need to be restructured to more appropriately reflect the costs that do not vary with the volume of water provided.

What would have happened if we didn’t raise the rates? We would have been forced to reduce our investment in necessary capital improvements in the distribution system and other areas. This would lead to more frequent infrastructure failures, water service interruptions, water loss, and street damage. The end result would be higher operating costs, thereby reducing the funds now slated for infrastructure investments.
Value of Water

Potable water, critical to basic needs, remains the lowest among monthly household utilities in Napa.

Typical household spends the following on other utilities each month:

- **Electricity**: $88
- **Sewer**: $53
- **Recycling**: $21 - $64
- **Cell Phone**: $140
- **Cable/Internet**: $105 - $185

**Potable water:**
- 24/7
- Critical to basic needs
- Affordable
- Reliable

**Water Service**

$22 - $72
Value of Water

A typical family of four uses 1 unit of water (1,000 gallons) per week during the winter months for indoor uses.

One week of indoor water use is...

- 7 loads of laundry
- 28 showers
- 135 handwashes
- 135 flushes

All for only $7.64

($3.57 + $4.07)

* A typical family of 4 uses 1 unit of water per week during the winter months. These calculations are based on the average of low-flow fixtures and calculated using the proposed rates. You can get more out of highest efficiency fixtures. High-efficiency showerheads, faucet aerators, and other water-saving devices are available at the Water Division, 1340 Clay Street, Napa.
Value of Water

What can you buy for $7.64?

1.5 gallons milk

2 gallons bottled water

2 Coffees

2 gallons fuel

1,000 gallons tap water delivered to your home
Questions or Comments?
Requested Action:

Authorize City Staff to Provide Written Notice by Mail of the Proposed Update to Water Rates in Compliance with all Requirements of State Law, and Schedule a Public Hearing to Consider Adoption of Updated Water Rates on November 7, 2017, at 6:30 pm