Public Works
Water Enterprise
Public Hearing
2017 Water Rates
Water Service

3 water sources

= Reliability

- Milliken Reservoir

- Lake Hennessey

- State Water Project

North Bay Aqueduct
Water Service
24/7 Treatment

Chemical Analyses
Instrumentation and Controls
Turbidimeters
Solids Centrifuge
Filters - Night Operations
Filter Gallery
Water Service
24/7 Transmission

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

24/7 Distribution

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

Repair of 12-inch line
Water Rates Cost of Service

$480 Million System

- Detailed review 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

... costs to provide service
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 and protect** for now and future,  
• invest in **capital improvements** to sustain aging infrastructure.
Rates Will Increase Capital Investments

$480 Million System

As system ages, need for investment increases

Capital Improvement Program

Avg $9.3 M

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)
How are Water Rates Used?

Operations and Maintenance
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
- Operations $0.23 (Equipment, machinery, supplies)
- Chemicals $0.04
- 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
  • Failures during emergencies
Why Change Rates?

Revenue under current structure does not cover operating costs and CIP investment.

Revenue and Expenses

- Debt Service
- Water Purchase
- Operation & Maintenance
- Capital Expenditures
- Existing Rate Revenue
- Proposed Rate Revenue

FY 2017: $25,000,000
FY 2018: $27,000,000
FY 2019: $29,500,000
FY 2020: $32,500,000
FY 2021: $36,000,000
FY 2022: $40,000,000

$480 Million System
Why Change Rates?

Maintain Bond Rating AA-
Very Large Capital Improvements

Summary of Bond Covenant Coverage - Current Rates

- Debt Service Coverage No Rate Change
- Debt Service Coverage -Required

FY 2018: 0.58
FY 2019: 0.42
FY 2020: 1.2
FY 2021: 0.36
FY 2022: 0.20
Why Change Rates?

Reserves are MANDATORY

2014 Earthquake
2017 Fires

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

FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022

$10,000,000
$8,000,000
$6,000,000
$4,000,000
$2,000,000
$0
-$2,000,000
Why Change Rates?
Reserves are MANDATORY

2014 Earthquake
2017 Fires
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
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>Service Size</th>
<th>12/1/2017</th>
<th>10/1/2018</th>
<th>10/1/2019</th>
<th>10/1/2020</th>
<th>10/1/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4-inch</td>
<td>$28.59</td>
<td>$33.02</td>
<td>$38.16</td>
<td>$42.95</td>
<td>$48.58</td>
</tr>
<tr>
<td>1-inch</td>
<td>$28.59</td>
<td>$33.02</td>
<td>$38.16</td>
<td>$42.95</td>
<td>$48.58</td>
</tr>
<tr>
<td>1 1/2-inch</td>
<td>$54.13</td>
<td>$63.00</td>
<td>$72.89</td>
<td>$82.40</td>
<td>$93.43</td>
</tr>
<tr>
<td>2-inch</td>
<td>$84.78</td>
<td>$98.99</td>
<td>$114.58</td>
<td>$129.74</td>
<td>$147.24</td>
</tr>
<tr>
<td>3-inch</td>
<td>$166.51</td>
<td>$194.96</td>
<td>$225.73</td>
<td>$255.97</td>
<td>$290.75</td>
</tr>
<tr>
<td>4-inch</td>
<td>$258.45</td>
<td>$302.92</td>
<td>$350.78</td>
<td>$397.98</td>
<td>$452.19</td>
</tr>
<tr>
<td>6-inch</td>
<td>$513.84</td>
<td>$602.81</td>
<td>$698.14</td>
<td>$792.46</td>
<td>$900.65</td>
</tr>
<tr>
<td>8-inch</td>
<td>$820.32</td>
<td>$962.68</td>
<td>$1,114.97</td>
<td>$1,265.83</td>
<td>$1,438.78</td>
</tr>
</tbody>
</table>
Proposed Rates

Variable charge for Single-Family Residential

Water Quantity Charge

<table>
<thead>
<tr>
<th>SINGLE-FAMILY RESIDENTIAL: Inside City (In) and Outside City (Out)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ cost per unit (unit = 1,000 gallons)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Tier</th>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 units</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>4-20 units</td>
<td>$5.58</td>
<td>$8.09</td>
</tr>
<tr>
<td>21-40 units</td>
<td>$5.78</td>
<td>$8.38</td>
</tr>
<tr>
<td>41-75 units</td>
<td>$7.32</td>
<td>$10.61</td>
</tr>
<tr>
<td>76+ units</td>
<td>$9.71</td>
<td>$14.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In</td>
<td>Out</td>
<td>In</td>
<td>Out</td>
<td>In</td>
</tr>
<tr>
<td>0-14 units</td>
<td>$4.07</td>
<td>$5.87</td>
<td>$4.23</td>
<td>$6.08</td>
<td>$4.34</td>
</tr>
<tr>
<td>15-27 units</td>
<td>$5.94</td>
<td>$8.41</td>
<td>$6.12</td>
<td>$8.71</td>
<td>$6.27</td>
</tr>
<tr>
<td>28+ units</td>
<td>$7.68</td>
<td>$10.93</td>
<td>$7.95</td>
<td>$11.04</td>
<td>$8.20</td>
</tr>
</tbody>
</table>

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

**Variable charge for:**

### Multi-Family Residential

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside City</td>
<td>$5.58</td>
<td>$5.75</td>
<td>$5.99</td>
<td>$6.16</td>
<td>$6.35</td>
<td>$6.53</td>
</tr>
<tr>
<td>Outside City</td>
<td>$8.09</td>
<td>$8.85</td>
<td>$9.19</td>
<td>$9.56</td>
<td>$9.91</td>
<td>$10.26</td>
</tr>
</tbody>
</table>

### Commercial

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside City</td>
<td>$5.68</td>
<td>$5.85</td>
<td>$6.11</td>
<td>$6.27</td>
<td>$6.47</td>
<td>$6.64</td>
</tr>
<tr>
<td>Outside City</td>
<td>$8.23</td>
<td>$8.96</td>
<td>$9.33</td>
<td>$9.69</td>
<td>$10.04</td>
<td>$10.40</td>
</tr>
</tbody>
</table>

### Irrigation

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside City</td>
<td>$5.86</td>
<td>$6.02</td>
<td>$6.30</td>
<td>$6.46</td>
<td>$6.66</td>
<td>$6.84</td>
</tr>
<tr>
<td>Outside City</td>
<td>$8.49</td>
<td>$9.21</td>
<td>$9.60</td>
<td>$9.97</td>
<td>$10.34</td>
<td>$10.70</td>
</tr>
</tbody>
</table>

- **No Tiers**
RateShare Discount Program

<table>
<thead>
<tr>
<th>RATESHARE DISCOUNT</th>
<th>per Bimonthly Water Bill*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$4.75</td>
</tr>
<tr>
<td>Proposed</td>
<td>$25.00</td>
</tr>
</tbody>
</table>

*Customers enrolled in PG&E Care Program

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

<table>
<thead>
<tr>
<th>Usage</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.
Summary of Valid Protests:

2166  11/07/17  as of 5:00 pm

11,612  = 50% of 23,221 Parcels Served
Common Protest Statements

No one likes a price increase.

- Water Quality / Taste & Odor
  - Protect watersheds
  - Maintain control over system ops
  - Implement Capital Improvements at Treatment Plants
    - GAC Filters $8M capital + $1M annually
    - Pre-oxidant >$10M + $500k annually

- Reduced Usage During Drought/Fixed Charge
  - Value of water service
  - System costs are independent of amount consumed
  - Stable revenue to invest in the system
Why are Rate Adjustments Important?

Responsible approach to managing infrastructure

- Consistent investment
- System is aging, delays only cost more later
- Regulations become more stringent every year
- Community NEEDS water for health and safety
Typical Bills

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

- Fixed Service Charge
- Quantity Charge

Bay Area Average = $69
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:

Adopt a Resolution Approving Increases to Water Rates Over a Five-Year Period, through October 2021, for all Water Rate Customers (Inside City and Outside City) Including Single-Family Residential, Multi-Family Residential, Commercial, Irrigation, Fire Service Charges, and Pumped Zone Surcharges; and Establishing the Amount of Rateshare Program for Lower Income Customers