Workshop Agenda

• Review of December 2016 workshop on financial planning
• Trends in California water rates
• FY18 & FY19 budget and rates: What is different from previous projection?
• Non-rate revenue
• Update FY18 & FY19 expense/revenue gap
• Workshop conclusions
• Discussion
Review of December 2016 Financial Planning Workshop & Trends in CA Rates
• Expense/revenue gap - annual expenses exceed annual revenues
• Debt and reserves have been used to fund expense/revenue gap
• Moving toward financial goals
  – 50% revenue funding of capital
  – 2.0 debt coverage
Projected water sales is a major variable in the financial plan

- Shortfalls in water sales have significant cash and debt coverage implications
- Important to be conservative with projections of water sales
- Need to maintain reserves to address unplanned shortfalls
Trends in CA Water Rates

• Average annual rate increase 2003-13 in CA: ~6%
• Some private water utilities in CA have been projecting 1% annual decrease in water sales in CPUC rate filings
• Average annual EBMUD budget revenue increase over past 10 years has been ~4%
• Average annual EBMUD water rate increase (FY04-16) ~6%
FY18 & FY19 Budget and Rates
• Previous projections for rate forecast from FY16/17 Budget:
  – Water 8/7/5/5/4
  – Wastewater 5/5/5/5/4

• In light of low water sales resulting from drought, staff prepared an updated forecast in April 2016
  – Water 8/7/12/12/5
  – Wastewater 5/5/5/5/4
## FY18 & FY19 Previous Projection - Water

<table>
<thead>
<tr>
<th></th>
<th>FY16* Actual</th>
<th>FY18 Previous Projection</th>
<th>FY19 Previous Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$548 M</td>
<td>$620 M</td>
<td>$661 M</td>
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<tr>
<td>Water Sales</td>
<td>128 MGD</td>
<td>154 MGD</td>
<td>157 MGD</td>
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<tr>
<td>Expenses</td>
<td>$644 M</td>
<td>$765 M</td>
<td>$804 M</td>
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<td>Expense/Revenue Gap</td>
<td>$96 M</td>
<td>$145 M</td>
<td>$143 M</td>
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<tr>
<td>Debt Coverage Ratio</td>
<td>1.65</td>
<td>1.64</td>
<td>1.66</td>
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<tr>
<td>Debt Funding of Capital</td>
<td>43%</td>
<td>53%</td>
<td>47%</td>
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<tr>
<td>Rate Stabilization Balance</td>
<td>$95 M</td>
<td>$95 M</td>
<td>$95 M</td>
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<tr>
<td>Rate Increase</td>
<td>8%</td>
<td>5%</td>
<td>5%</td>
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</table>

*FY16 includes drought surcharge revenues and expenses
<table>
<thead>
<tr>
<th></th>
<th>FY16 Budget</th>
<th>FY18 Previous Projection</th>
<th>FY19 Previous Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing O&amp;M and Capital</td>
<td>1,660 FTE Budget</td>
<td>1,660 FTE</td>
<td>1,660 FTE</td>
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<tr>
<td>New O&amp;M Activities beyond FY16 O&amp;M</td>
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<td>None</td>
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<tr>
<td>CIP Cash Flow</td>
<td>$225 M</td>
<td>$296 M</td>
<td>$310 M</td>
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<tr>
<td>5 Year CIP Priorities</td>
<td>Infrastructure Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Year Major CIP Projects</td>
<td>Pipeline Renewal/Reservoir Rehab/Mokelumne Aqueduct/North Richmond Recycled Water*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Assumed Chevron would pay for North Richmond Recycled Water Project
## FY18 & FY19 Previous Projection - Wastewater

<table>
<thead>
<tr>
<th></th>
<th>FY16 Actual</th>
<th>FY18 Previous Projection</th>
<th>FY19 Previous Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>$122 M</td>
<td>$130 M</td>
<td>$133 M</td>
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<tr>
<td>Expenses</td>
<td>$131 M</td>
<td>$144 M</td>
<td>$139 M</td>
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<tr>
<td>Expense/Revenue Gap</td>
<td>$9 M</td>
<td>$14 M</td>
<td>$6 M</td>
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<tr>
<td>Debt Coverage Ratio</td>
<td>1.98</td>
<td>1.72</td>
<td>1.79</td>
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<tr>
<td>Debt Funding of Capital</td>
<td>0%</td>
<td>43%</td>
<td>29%</td>
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<tr>
<td>Rate Stabilization Balance</td>
<td>$24 M</td>
<td>$24 M</td>
<td>$24 M</td>
</tr>
<tr>
<td>Rate Increase</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
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</table>
## FY18 & FY19 Previous Projection – Wastewater

<table>
<thead>
<tr>
<th></th>
<th>FY16 Budget</th>
<th>FY18 Previous Projection</th>
<th>FY19 Previous Projection</th>
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<tbody>
<tr>
<td>Staffing O&amp;M and Capital</td>
<td>274 FTE Budget</td>
<td>275 FTE</td>
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<tr>
<td>New O&amp;M Activities beyond FY16 O&amp;M</td>
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<td>None</td>
<td>None</td>
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<tr>
<td>CIP Cash Flow</td>
<td>$39 M</td>
<td>$37 M</td>
<td>$35 M</td>
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<tr>
<td>5 Year CIP Priorities</td>
<td>Infrastructure Replacement/Consent Decree/Resource Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Year Major CIP Projects</td>
<td>3rd Street Interceptor Rehab/Digester Rehab/Odor Control/Food Waste</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Considerations for FY18 & FY19 Budget and Rates

- Water sales projections
- Updated CIP
- Updated O&M budget
- Non-rate revenues
- Expense/revenue gap and projected rates
Water Sales Projections Drive Financial Planning
Water Sales Projections

- Previous Projection for FY18 & FY19: 154/157 MGD
- Two major droughts since 2008 have significantly impacted consumption
- We are seeing a slight rebound from FY16 128 MGD, projection for FY17 is 133 MGD
- Water supply is not expected to be an issue for FY18 and likely not an issue for FY19
Sales Volume – Historical Volatility

Metered Consumption

- AVG 174
- +20%
- -20%


MGD
Water Sales Not Projected to Return to Pre Drought Levels

Metered Consumption

2008: 191
2009: 170
2010: 160
2011: 161
2012: 162
2013: 168
2014: 168
2015: 149
2016: 128
2017: 133
2018: 137
2019: 141
2020: 144
2021: 144
2022: 150

2% growth
3% growth
2% growth
### Updated FY18 & FY19 CIP – Water

<table>
<thead>
<tr>
<th></th>
<th>FY18</th>
<th>FY19</th>
<th>5 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Flow</td>
<td>$267 M</td>
<td>$269 M</td>
<td>$1,502 M</td>
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<tr>
<td>5 Year Priorities</td>
<td>Infrastructure Replacement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Year Major Projects</td>
<td>Pipelines/Treatment Plant Upgrades/Reservoir Rehab/Service Laterals/Recycled Water</td>
<td></td>
<td></td>
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</table>

For budgeting purposes, there are no grants or outside funding assumed for recycled water projects.
Updated FY18 & FY19 CIP – Water Compared to Previous Projection

Previous Plan 5 YR $1.38B (FY16-20)  Current Plan 5 YR $1.502 B (FY18-22)

- Treatment Plant
- Reservoir Rehab
- Pipeline Renewals
- Lateral Renewals
- Recycled N Richmond/RARE
- DERWA/East Bayshore
- Aqueduct
What Water Projects Have Been Deferred or Changed?

- Security improvements at distribution facilities
- Lafayette Aqueduct No. 2 repair
- Mokelumne Aqueduct temperature anchor retrofit
- Rehab Fontaine Pumping Plant in Oakland
- Upcountry WW collection system improvements
- Briones Reservoir tower upgrade
- San Pablo Reservoir water quality improvements
## Updated FY18 & FY19 CIP – Wastewater

<table>
<thead>
<tr>
<th></th>
<th>FY18</th>
<th>FY19</th>
<th>5 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Flow</td>
<td>$42 M</td>
<td>$40 M</td>
<td>$188 M</td>
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<tr>
<td>5 Year Priorities</td>
<td>Infrastructure Replacement/Nutrients</td>
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<tr>
<td>5 Year Major Projects</td>
<td>Treatment Plant Infrastructure/3rd Street Interceptor/Nutrients/Odor Control/Digesters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Large scale food waste is not included in updated CIP.
Updated FY18 & FY19 CIP – Wastewater Compared to Previous Projection

- Previous Plan 5 YR $169M
- Current Plan 5 YR $188 M
Wastewater CIP Changes

- New nutrients program is in development
- Large-scale food waste project removed
- Major Treatment Plant Infrastructure rehab
FY18 & FY19 Budget Considerations – Water

• Staffing changes under consideration:
  – Replacement of FM&O equipment contracts with District staff
  – Increase infrastructure maintenance
  – Reduction of overtime
  – Delivery of CIP (design and construction)
  – Replacement of outdated financial & payroll systems

• Other budget items:
  – Lead sampling in schools
  – Self-insured liability claims
  – State drinking water fee
  – Expand system water quality programs due to reduced flow
• Staffing changes under consideration:
  – Replacement of Laboratory Information Management System
  – Electrical Integrity Program
  – Delivery of CIP (design and construction)

• Other budget items:
  – Regional Technical Support Program (RTSP)
  – Electrical Integrity Program contract services
FY18 & FY19 Operating Budget Offsets

- Water – Eliminated or reduced operating activities
  - Lower energy, chemical and disposal costs due to reduce water production
  - Reduced overtime

- Wastewater – Eliminated or reduced operating activities
  - Lower operating costs due to removal of large-scale food waste
Non-rate Revenue
## Non-rate Revenue – Water

<table>
<thead>
<tr>
<th></th>
<th>Budgeted FY16 $M</th>
<th>Actual FY16 $M</th>
<th>Updated FY18 Budget $M</th>
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</thead>
<tbody>
<tr>
<td>Property Taxes</td>
<td>25</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Contributions for Capital</td>
<td>25</td>
<td>22</td>
<td>20</td>
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<tr>
<td>SCC</td>
<td>25</td>
<td>39</td>
<td>27</td>
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<tr>
<td>Other</td>
<td>16</td>
<td>19</td>
<td>18</td>
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<tr>
<td>Reimbursements</td>
<td>11</td>
<td>11</td>
<td>12</td>
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<td>Power Sales</td>
<td>3</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Interest</td>
<td>2</td>
<td>2</td>
<td>7</td>
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</table>
Non-rate Revenue – Water
SCC Connections

# OF SFR EQUIVALENT CONNECTIONS BY YEAR

Region 1  Region 2  Region 3  Region 3C
## Non-rate Revenue – Wastewater

<table>
<thead>
<tr>
<th>Description</th>
<th>Budgeted FY16 $M</th>
<th>Actual FY16 $M</th>
<th>Updated FY18 Budget $M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Recovery</td>
<td>8.0</td>
<td>11.6</td>
<td>8.0</td>
</tr>
<tr>
<td>Other</td>
<td>6.7</td>
<td>6.7</td>
<td>6.8</td>
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<tr>
<td>Taxes</td>
<td>4.3</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Lab</td>
<td>3.9</td>
<td>4.3</td>
<td>4.3</td>
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<tr>
<td>Capacity Fee</td>
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<tr>
<td>Interest</td>
<td>0.4</td>
<td>0.3</td>
<td>1.8</td>
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</table>
Non-rate Revenue Opportunities – Water/Wastewater

• Cost efficiencies are the District’s best opportunity to offset need for rate increases
  – Power use management: staff work to procure the lowest cost of power and also work to manage time of use power to minimize costs while doing the work of the District
  – Asset management: staff works to model which pipes should be replaced first and how to manage the replacements most efficiently
  – Minimize treatment costs: maximize water production at lowest cost plants (WC, Orinda) and minimize use of expensive plants (USL, Sobrante)
Every day, EBMUD uses your dollars to reinvest in the water and wastewater systems that serve the East Bay. We use your money to make smart, sustainable investments for you and future generations. We find ways to save energy and money, reduce greenhouse gases, and ensure our skilled workforce remains safe and on the job. Just as you stretch your dollars at home, we work hard to make every dollar work for you.

**Looking ahead**

EBMUD continues to improve energy efficiency in our water and wastewater operations. In addition to selling clean hydroelectric power to Marin Clean Energy for $4.3 million annually, investments in solar installations could add up to 7 megawatts in the next few years.

We'll explore more ways to maximize preservation of our watershed lands. We improve salmon populations while preserving our high-quality water for drinking. By recovering energy from wastewater, we gain revenue and maximize the efficiency of our wastewater plant.

More upgrades and continued maintenance of pipes, facilities, and treatment plants prepare us for earthquakes and reduce expensive emergency repairs. We continue to evaluate new work methods and materials to reduce impacts to the environment and the communities we work in.

Finally, like paying off a mortgage, EBMUD aims to never owe more. We look in low interest rates and keep our bond ratings high. Visit ebmud.com/stewardship to learn more.

In Berkeley, we saved almost ten times as much time and money while reducing community impacts by helicopterizing pipes to the top of Panoramic Hill.

In 2016, onsite power generation at EBMUD's Borrow Water Plant provided 13% of the plant's energy needs, and we sold the surplus for $1.2 million. At Pantoll and Camanche Reservoirs, EBMUD generated more than 120,000 megawatt-hours of clean hydropower, which we sold for $4.3 million. And we're generating more than 1,800 megawatt-hours of photovoltaic power a year.

We've saved your money for a rainy day... EBMUD's $95 million rate stabilization fund offsets the costs of drought.
Non-rate Revenue Opportunities
- Water/Wastewater

• Power Generation
  – In FY16 the District generated $4.3 M in green power sales above internal uses
  – Some growth in power sales is anticipated in FY18 & FY19 as a result of higher water storage
  – Future solar projects are under review; while cost effective they are not expected to generate net revenue
• Property Management
  – Current leases generated $3.3 M (FY16)
  – Expanding lease of McMillan property could generate up to $100,000 annually
  – Cell tower leases are in negotiations and could generate significant additional revenue
  – Lease of 15 acres at Oakport is under consideration
  – Sales of surplus property opportunities are reviewed on regular basis
Non-rate Revenue Opportunities – Water/Wastewater

• Environmental Credits
  – Revenue from Oursan Ridge Conservation Bank credits will go towards future watershed land purchases

• Freeport Capacity
  – Exploring use by other agencies
Non-rate Revenue Opportunities - Water/Wastewater

• Lab Services
  – Currently provide limited lab services to outside agencies (~$200,000)
  – Lab generally runs at capacity under existing staffing, so expanding outside services has limited net revenue potential

• Grants and low cost loans
  – Staff continually seeks grant funding that aligns with our CIP priorities and timing; SRF application in for MacArthur/Davenport and South ($30M)
  – Recent grant examples: Chabot dam seismic ($5M), DERWA recycled water ($2M)
Updated FY18 & FY19 Expense/Revenue Gap – Water

- Expense/Revenue Gap has increased from previous projections
  - Water sales down from 154/157 MGD to 137/141 MGD
  - CIP reduced from $296M/$310M to $267M/$269M higher assumed borrowing and interest rates
  - Increase to updated O&M budget proposal including additional staff and lead sampling program
FY18 Water Gap Increases to $200M with Updated Sales – 5% Rate Increase

- Lower water sales due to drought recovery
- Additional $50 M gap requires withdrawal from Rate Stabilization Fund (remaining balance $32 M)
FY19 Water Gap Increases to $220M with Updated Sales – 5% Rate Increase

Additional $75 M gap requires withdrawal from Rate Stabilization Fund (insufficient funds)

Lower water sales due to drought recovery
FY18 Water Gap Increases to $175 M with Updated Sales – 9% Rate Increase

As a result of lower sales, Annual Revenues to fund about 34% of Annual Capital Expenses.

Additional $28 M gap requires withdrawal from Rate Stabilization Fund (remaining balance $54 M).

Lower water sales due to drought recovery.
FY19 Water Gap Increases to $150 M with Updated Sales – 9% Rate Increase

As a result of lower sales, Annual Revenues to fund about 45% of Annual Capital Expenses

Additional $4 M gap requires withdrawal from Rate Stabilization Fund (remaining balance $50 M)

Lower water sales due to drought recovery

Lower water sales due to drought recovery
Utility laborers to further reduce overtime and increase preventative maintenance

Accelerate addressing identified IT security risks

Incorporate geospatial data in IT upgrades

Expand diversity/inclusion outreach

Staff for water control systems management

Engineering aides to further diversity
Options to Reduce Proposed FY18 & FY19 Budget – Water

- Eliminate capital project start up support
- Reduce inspection of materials/construction
- Defer work design of upcountry WW improvements, raw water studies and vulnerability assessments
- Eliminate IT intern positions
- Reduce HR support for recruitment
Updated FY18 & FY19 Expense/Revenue Gap – Wastewater

- Expense/Revenue Gap only slightly impacted by drought
  - Preliminary CIP cash flow increased from $37M/$35M to $42M/$40M
  - Higher assumed borrowing and interest rates
  - Slight decrease to updated O&M budget proposal due to removal of food waste operating costs; includes additional staff requests.
Workshop Conclusions
Workshop Conclusions

• Low projected water sales will drive rate increase
  – 10% lower than previous projections
  – Slow growth towards 150 MGD water sales (back to FY15 actual)

• CIP only slightly changed
  – Rebuild continues as planned
  – Increases in water treatment plant upgrades
  – Continue to make progress on recycled water goals: DERWA and East Bayshore
  – Additional WW projects
Workshop Conclusions (cont.)

• Operating budget increases
  – Additional staff for operating and capital
  – Lead sampling

• FY18 & FY19 will require use of RSF
  – Current balance $95M, likely use up to $13M in FY17
  – Preliminary FY18 & FY19 rate increases:
    – 9%/9% rate increase water requires drawing RSF down to an additional $32M leaving $50M balance for FY20
    – 5%/5% rate increase wastewater

• Proposed budget and rates presented in March
Discussion