Overview

1. Revenue Sufficiency Analysis
2. Rate Classification
3. Cost to Serve
4. Rate Structures
5. Customer Impacts
6. Affordability Program
Foundation of the Rate Study

1. Adequate revenue to meet identified requirements
   • Capital, Operating, Debt Service, and Asset Management

2. Fair and equitable distribution of cost
   • Last cost of service was performed in 2003
   • Based upon industry best practices and legal requirements
   • Utilizing detailed AMI data – unique and better analysis

3. Evaluate and address community objectives
   • Affordability through rate and non-rate programs
Revenue Sufficiency Analysis

Water

- 6% Annual Revenue Requirement increase
  - “Smooth” rate increases
  - Increased debt service for future WTP Project
  - Operating Budget
  - Asset management
  - Multi-Year capital plans

Sewer

- 7% Annual Revenue Requirement increase
  - “Smooth” rate increases
  - Increased debt service for recent WWTP Project
  - Operating budget
  - Asset management
  - Multi-Year capital plans

Revenue Requirements → Cost Allocation → Rate Design → Analysis
AMI Data was used for FY16 on a daily or hourly basis (where available)
Cost to Serve Variance

Test Year (FY 2018)

- **Residential**
  - Revenues: $15.35
  - Cost to Serve: $13.66
  - Variance: $1.69M (12.3%)

- **Multifamily**
  - Revenues: $8.04
  - Cost to Serve: $5.63
  - Variance: -$2.41M (30.0%)

- **Non-Residential**
  - Revenues: $21.67
  - Cost to Serve: $21.15
  - Variance: -$0.52M (-2.5%)

- **Water Only**
  - Revenues: $4.07
  - Cost to Serve: $5.37
  - Variance: $1.30M (31.8%)

*Water and sewer revenue based on FY 2016 billing data and current rates*
Proposed Water Rate Design

Residential
- Fixed Charge
- Volumetric Rate*
  - Inclining block
  - 4 Tiers based on data analysis
    - Tier 1 & 2 - Indoor use
    - Tier 3 & 4 - Outdoor use

Non-Residential, Multi-Family & Water Only
- Fixed Charge
- Volumetric Rate*
  - Uniform (flat) rate based on consumption
  - Water Only does not receive sewer charges

* Billed based on Units
1 Unit = 1 CCF; 1 CCF = 748 Gallons
Key Issue: Level of Fixed Charges

- Higher fixed charges provide stability....
  - However, reduces cost allocation and level of conservation rates
  - Impacts affordability for low volume users
- Critical to understand and evaluate:
  - Use of reserve policies to mitigate risk of volatility
  - Current recovery of fixed costs and practices of other systems

Fixed Charge as a % of 18 CCF Quarterly Bill

<table>
<thead>
<tr>
<th></th>
<th>Water Fixed</th>
<th>Sewer Fixed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ann Arbor</td>
<td>21%</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Maximum</td>
<td>64%</td>
<td>100%</td>
<td>65%</td>
</tr>
<tr>
<td>Minimum</td>
<td>16%</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Average</td>
<td>36%</td>
<td>35%</td>
<td>35%</td>
</tr>
</tbody>
</table>

- Rating agencies focus on fixed charges
  - Industry-wide demand reductions & increasing fixed cost awareness
  - Fitch: strong system will recover >=30% of revenue in fixed charges
  - Ann Arbor current collection & proposed = 12.4%
Proposed Quarterly Water Fixed Charge Cost Components

- Customer Service
- Meter Program
- Fire Protection
Residential Water Pricing & Structure

Current Proposed

Revenue Requirements
Cost Allocation
Rate Design
Analysis

Proposed rates include revenue increase of $1.9M to conform with cost to serve

* Rates are per Unit. 1 Unit = 1 CCF; 1 CCF = 748 Gallons

* Rates shown before 10% on time payment discount
Residential Water Use Analysis

Change in Res Volume by Tier

Cubic Feet

Tier 1
Tier 2
Tier 3
Tier 4
Water Residential Revenue Recovery Sources

Current Revenue Sources

Proposed Revenue Sources

Increased to reflect the full cost to serve residential customers
Non-Residential, Multifamily and Water Only Volumetric

Uniform rates per unit

- Multifamily: Current Rate $3.43, Proposed Rate $2.13
- Non-Residential: Current Rate $3.43, Proposed Rate $3.83
- Water Only: $8.73

* Billed in Units. 1 Unit = 1 CCF; 1 CCF = 748 Gallons

*Rates shown before 10% on time payment discount
Proposed Sewer Rate Design

**Residential**
- Fixed Charge
- Volumetric Rate*
  - Uniform (flat) rate based on metered water use
    - Winter average water use applied in summer months

**Non-Residential and Multi-Family**
- Fixed Charge
- Volumetric Rate*
  - Uniform (flat) rate based on metered water use

* Billed based on Units
1 Unit = 1 CCF; 1 CCF = 748 Gallons
Footage Drain Disconnection (FDD)

1. From 2002 to 2012 the FDD Program resulted in about 1,800 properties disconnecting their footing drain discharges from the City’s sanitary sewer system.

2. The SSWWE Citizens Advisory Committee asked that a credit or other benefit for FDD Program participants be considered and evaluation was to be done in the rate study.

3. Alternatively, a surcharge for properties connected to the City’s sanitary sewer system could be evaluated.

4. Challenges:
   A. Equity: No different than properties that were never connected to the City’s sanitary sewer system, or that disconnected for another reason.
   B. Data: Depending on choice of credit or surcharge, would require audit/database of all homes to determine whether connected or not, the reason not connected, ability to disconnect if connected, etc.
   C. Precedent: Not aware of any credits/surcharges related to footing drain discharges.
Proposed Quarterly Sewer Fixed Charge Cost Components

Customer Related

+ 

Meter Program
Residential Revenue Recovery Sources

Current Revenue Sources

Proposed Revenue Sources

Revenue Requirements  Cost Allocation  Rate Design  Analysis
Sewer Volumetric Rate

Current Rate: $4.58

Proposed: $5.19

* Billed in Units. 1 Unit = 1 CCF; 1 CCF = 748 Gallons

*Rates shown before 10% on time payment discount
Water & Sewer Quarterly Residential Bill Impact

Scenario:
• 5/8’ Meter
• Two person household with minimal irrigation
• Bill is increasing to conform with the cost to serve and fixed cost recovery goals

<table>
<thead>
<tr>
<th>Revenue Requirements</th>
<th>Cost Allocation</th>
<th>Rate Design</th>
<th>Analysis</th>
</tr>
</thead>
</table>

Variance
$14.67
22.2%

8 CCF = 5,984 Gallons

*Bill shown net 10% on time payment discount
Water & Sewer Quarterly Residential Bill Impact

Scenario:
- 5/8’ Meter
- Four person household with minimal irrigation
- Bill is increasing to conform with the cost to serve

Variance
$14.35
10.4%

18 CCF = 13,464 Gallons

*Bill shown net 10% on time payment discount
Water & Sewer Quarterly Residential Bill Impacts

Scenario:
- 5/8’ Meter
- Four person household with efficient irrigation
- Bill is increasing to conform with the cost to serve

Variance
$55.66
19.4%

Revenue Requirements
Cost Allocation
Rate Design
Analysis

36 CCF = 26,928 Gallons

*Bill shown net 10% on time payment discount
### Comparison of Residential Water & Sewer Bills

Combined Water & Sewer Bill Survey at 18 CCF Quarterly

<table>
<thead>
<tr>
<th>Location</th>
<th>Bill Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Huron</td>
<td>$243.06</td>
</tr>
<tr>
<td>East Lansing</td>
<td>$203.49</td>
</tr>
<tr>
<td>Bloomington, IN</td>
<td>$202.10</td>
</tr>
<tr>
<td>State College, PA</td>
<td>$192.24</td>
</tr>
<tr>
<td>Champaign, IL</td>
<td>$179.43</td>
</tr>
<tr>
<td>Grand Rapids</td>
<td>$177.87</td>
</tr>
<tr>
<td>Iowa City</td>
<td>$169.59</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>$163.50</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>$153.84</td>
</tr>
<tr>
<td>Ann Arbor (Proposed)*</td>
<td>$151.92</td>
</tr>
<tr>
<td>West Lafayette, IN</td>
<td>$146.41</td>
</tr>
<tr>
<td>Madison, WI</td>
<td>$144.90</td>
</tr>
<tr>
<td>Ann Arbor*</td>
<td>$137.57</td>
</tr>
<tr>
<td>Ypsilanti</td>
<td>$128.34</td>
</tr>
<tr>
<td>Evanston, IL</td>
<td>$120.72</td>
</tr>
</tbody>
</table>

*Bill shown net 10% on time payment discount
<table>
<thead>
<tr>
<th>Type</th>
<th>Current</th>
<th>Proposed</th>
<th>Change ($)</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grocery Store</td>
<td>$ 8,002</td>
<td>$ 7,573</td>
<td>$ (429)</td>
<td>-5%</td>
</tr>
<tr>
<td>Deli</td>
<td>$ 4,747</td>
<td>$ 4,434</td>
<td>$ (313)</td>
<td>-7%</td>
</tr>
<tr>
<td>Pub</td>
<td>$ 3,883</td>
<td>$ 3,667</td>
<td>$ (216)</td>
<td>-6%</td>
</tr>
<tr>
<td>Brewery</td>
<td>$ 2,660</td>
<td>$ 2,550</td>
<td>$ (110)</td>
<td>-4%</td>
</tr>
<tr>
<td>Teen Center</td>
<td>$ 166</td>
<td>$ 171</td>
<td>$ 5</td>
<td>3%</td>
</tr>
<tr>
<td>Specialty Store</td>
<td>$ 288</td>
<td>$ 288</td>
<td>$ 0</td>
<td>0%</td>
</tr>
<tr>
<td>Hotel</td>
<td>$ 24,319</td>
<td>$ 23,031</td>
<td>$ (1,288)</td>
<td>-5%</td>
</tr>
<tr>
<td>Professional Office</td>
<td>$ 1,613</td>
<td>$ 1,436</td>
<td>$ (178)</td>
<td>-11%</td>
</tr>
<tr>
<td>Dry Cleaners</td>
<td>$ 430</td>
<td>$ 441</td>
<td>$ 11</td>
<td>3%</td>
</tr>
<tr>
<td>Hospital</td>
<td>$ 29,143</td>
<td>$ 27,672</td>
<td>$ (1,471)</td>
<td>-5%</td>
</tr>
</tbody>
</table>

*Bill shown net 10% on time payment discount*
Bills are decreasing to conform with the cost to serve

*1” Bill shown net 10% on time payment discount
Water Only Quarterly Bill Impacts

Bills are increasing to conform with the cost to serve

*1” Bill shown net 10% on time payment discount

Variance $46.08 33.8%

Variance $122.76 41.6%

Variance $250.56 44.7%

Revenue Requirements
Cost Allocation
Rate Design
Analysis

*Bills shown net 10% on time payment discount
Affordability Next Steps

- Rate study affordability: All rates reflect the cost to serve
  
  Developed Profiles of Different Ratepayers with Affordability Challenges

  - Small Residential: 1-2 person household, Owner or tenant
  - Large Residential: 4+ person household, Owner or tenant
  - Multifamily: Range of household sizes, Apartment tenant or condo owner

- Affordability beyond rates:
  - Pilot initiative to improve customer engagement
  - Improve ease of access to existing services
  - Water affordability advisory group
Current Affordability Program Summary

- Barrier Busters – Ann Arbor Assistance Fund
  - Crisis intervention
- Leak credit
- Payment plan option
- Identification of total needs & piloting and evaluation of programs
Project Next Steps

- Presentation to Administrator & City Leadership
- Presentation to City Council
- Continue Communication Efforts