WTD Capacity Charge Rate Structure Study: Options

Presented to:
Metropolitan Water Pollution Abatement Advisory Committee

September 25, 2019
Background

- New trends in development since current capacity charge allocations established
- Capacity Charge Rate Structure Study evaluated how the capacity charge is allocated among classes of newly connecting structures
# Current Capacity Charge Rate

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Residential Customer Equivalent (RCE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Detached Dwelling Unit</td>
<td>1.00 RCE per unit</td>
</tr>
<tr>
<td>Multi-family building (2-4 units)</td>
<td>0.80 RCE per unit</td>
</tr>
<tr>
<td>Multi-family building (5 or more units)</td>
<td>0.64 RCE per unit</td>
</tr>
<tr>
<td>Interim classification: Attached and Detached Accessory Dwelling Unit (ADU)</td>
<td>0.60 RCE per unit</td>
</tr>
<tr>
<td>Special Designations: Senior citizen, low income, special purpose housing</td>
<td>0.32 RCE per dwelling unit</td>
</tr>
<tr>
<td>Micro-housing, group housing, dorms, homeless shelters</td>
<td>RCEs based on number and type of plumbing fixtures</td>
</tr>
<tr>
<td>Commercial and industrial property</td>
<td>RCEs based on number and type of plumbing fixtures</td>
</tr>
</tbody>
</table>
Rate Structure Goals

- **Accuracy**: Is the best reflection of water consumption for each type of building being used?
- **Administrative feasibility**: Is the necessary information available when the structure connects to sewer?
- **Transparency**: Is the structure for determining the RCEs and administering the charge understandable?
- **Flexibility**: Can the structure be adjusted to reflect changing development conditions?
- **Reasonableness**: Is the underlying logic sound?
- **Revenue neutrality**: No change in total revenues
Approach to the Study

- Consultant support for quantitative study and survey
- Literature review -- survey of metrics, driving factors and methods
- MWPAAC Work Group:
  - Advice for WTD staff and consultant, and
  - Recommendation to the WTD Director
- Stakeholder engagement:
  - Interviews with, and presentations to, development experts
  - Surveys of MWPAAC member agencies
  - Newsletters, web page, response to questions from public
Water Consumption Increases With Size

Avg Usage (ccf/mo) per Unit

Single and Multifamily Combined
Comparison, WTD Conversion Factors with Census (ACS) Persons per Household

- Current WTD factor: 0.64
- 2011 Census (ACS): 0.60
- 2017 Census (ACS): 0.65

*American Community Survey data. Uses PPH for all single family units as numeraire.
Residential Options Under Consideration

- **Option 1: Status Quo with updated RCEs**
  - Persons per household (PPH) by number of units for RCE factor
  - Use single dwelling unit as representative residential customer (RCE=1)
  - Multi-unit still grouped by number of units in the building
  - No change to ADU or non-residential classes

- **Option 2: Adds size classes for single-unit detached**
  - Single Detached Dwelling units grouped into *large*, *medium* and *small*, based on finished square footage.
  - Medium single family used as numeraire (RCE=1)
### Options Summary

<table>
<thead>
<tr>
<th>Dwelling Type/RCE</th>
<th>Current</th>
<th>Option 1</th>
<th>Option 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis for RCE</td>
<td>Historical</td>
<td>PPH</td>
<td>PPH</td>
</tr>
<tr>
<td><strong>Single Unit Detached</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All = 1.00 RCE</td>
<td>All = 1.00 RCE</td>
<td></td>
<td>Small = 0.81 RCE</td>
</tr>
<tr>
<td>Medium = 1.00 RCE</td>
<td></td>
<td>Medium = 1.00 RCE</td>
<td></td>
</tr>
<tr>
<td>Large = 1.16 RCE</td>
<td></td>
<td>Large = 1.16 RCE</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-unit 2-4 units</strong></td>
<td>0.80 RCE</td>
<td>0.84 RCE</td>
<td>0.81 RCE</td>
</tr>
<tr>
<td>5+ units</td>
<td>0.64 RCE</td>
<td>0.65 RCE</td>
<td>0.63 RCE</td>
</tr>
<tr>
<td><strong>Accessory Dwelling Units (att&amp;detach)</strong></td>
<td>0.6 RCE</td>
<td>0.61 RCE</td>
<td>0.59 RCE</td>
</tr>
<tr>
<td><strong>Micro-housing</strong></td>
<td>Fixtures, 0.35 RCE (approx)</td>
<td>0.36 RCE</td>
<td>0.35 RCE</td>
</tr>
</tbody>
</table>

*1 residential customer based on medium size, 1,500-2,999 finished square feet, dwelling
## Pros and Cons of Options

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<tr>
<th>Option</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#1: Update Status Quo with Persons per Household (PPH)</strong></td>
<td>Uses existing administrative structure</td>
<td>No distinction among single detached units as to sewage generated</td>
</tr>
<tr>
<td></td>
<td>PPH data easy to obtain and apply; generally accepted best practice; readily updated and understood</td>
<td>Requires updating of equivalencies</td>
</tr>
<tr>
<td><strong>#2: As Above with Size Classes for Single Unit Dwellings (S-M-L)</strong></td>
<td>Better reflects differences within Single Detached class</td>
<td>New data needed on broad size classes for single detached dwellings</td>
</tr>
<tr>
<td></td>
<td>More comprehensive use of PPH approach across customer classes</td>
<td>Boundary issues and true-up needed</td>
</tr>
<tr>
<td></td>
<td>Requires updating of equivalencies</td>
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</tr>
</tbody>
</table>
Persons Per Household (PPH) and RCE Factors*

*Option 2, Single family PPH based on American Housing Survey data. Medium single unit, 1,500-2,999 finished sq. ft.
## RCE and Cost Changes by Customer Class

<table>
<thead>
<tr>
<th>Option/ Dwelling</th>
<th>Small SF</th>
<th>Medium SF</th>
<th>Large SF</th>
<th>MF 2-4</th>
<th>MF5+</th>
<th>ADU</th>
<th>Micro</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.8</td>
<td>0.64</td>
<td>0.6</td>
<td>0.35</td>
</tr>
<tr>
<td><strong>Option #1</strong></td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.84</td>
<td>0.65</td>
<td>0.61</td>
<td>0.36</td>
</tr>
<tr>
<td><strong>Option #2</strong></td>
<td>0.81</td>
<td>1.00</td>
<td>1.16</td>
<td>0.81</td>
<td>0.63</td>
<td>0.59</td>
<td>0.35</td>
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### RCE Factors Calculated from Persons Per Household

The table above shows the RCE factors calculated from persons per household for different options and dwelling sizes. The factors are used to assess the impact on billing and cost changes.

### Capacity Charge by Customer Class, (adjusted for revenue neutrality)

The table provides the capacity charge for each option and dwelling size, both monthly and over a 15-year period.

### Percentage Change in Billing by Customer Class

The percentage change in billing indicates how much the billing would change compared to the current setup for each option and dwelling size.
Projected Distribution by Dwelling Type*

- Small SF: 290
- Medium SF: 1205
- Large SF: 1340
- MF5+: 4497
- ADU: 354
- Micro: 105

*New connections by class estimated from historical WTD data and King County Assessor’s files.
Discussion Questions:

What do you think of using persons per household as the basis of RCEs?

What do you think of dividing single detached units into groups?

What administrative challenges do you see and how can they be over come?

Survey: https://publicinput.com/5066/
Next Steps

**September** – Stakeholder engagement continues
- Newsletter
- Online survey
- Meetings with industry groups and other stakeholders

**October** – DNRP/WTD prepares legislative package for Executive Office review and consideration
Discussion of Options

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