

**CITY OF BOULDER
WATER RESOURCES ADVISORY BOARD
AGENDA ITEM**

MEETING DATE: October 17, 2016

AGENDA TITLE: Information Item - Next Steps Related to Phase 2 Analysis for the Utility Rate Study

PRESENTER/S

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PURPOSE

The purpose of this item is to follow up on the August and September 2016 WRAB discussions related to the Utility Rate Study Phase 1 analysis and confirm support for the proposed water rate structure alternatives to be studied in Phase 2.

Through the August and September discussions, WRAB provided feedback related to Phase 1 findings. This included generally affirming the key findings related to each of the three utility rate structures. Areas of discussion included Commercial, Industrial, Institutional (CII) water budgets, the residential indoor water budget allocation, the fixed-service charge in the wastewater fee, and alternative calculations for the stormwater/flood management fee.

In September, WRAB expressed support for studying rate structure alternatives in the wastewater and stormwater/flood management utilities. Staff also sought and received additional feedback related to issues in the water rate structure which assisted in the development of alternatives for study. Those water rate structure alternatives are described in this memo.

BACKGROUND

WRAB has received regular memos about the project since early 2015. A full project background can be found in the [August 2016 meeting packet](#).

In 2014, Utilities Division staff met with customers to better understand the impacts of proposed 2015 utility rate increases. Many customers indicated they did not understand utility rate structures and/or had questions and concerns about the calculation of the charges on their utility bills. These findings, along with the fact that regular review of rate structures is an accepted best practice, led staff to propose an evaluation of the rate structure and associated calculations for water, wastewater, and stormwater/flood management utilities as part of the 2015 work plan.

Staff implemented a public engagement process in spring of 2015 and WRAB endorsed utility guiding principles and the project's areas of study at the June 2015 meeting. Based on WRAB feedback and guidance related to guiding principles and areas of study, staff developed a scope of work for the analysis phase of the project. The scope of work informed a request for

consultant proposals (RFP) which was issued in early November 2015. Raftelis Financial Consultants (RFC) was selected to assist with the project.

The analysis component of the project is roughly divided into three phases, as follows:

- *Phase 1 – Investigation and Assessment*
- *Phase 2 – Analysis of Potential Alternatives*
- *Phase 3 – Recommendations*

At the August 2016 WRAB meeting, consultants from RFC presented their preliminary findings, the most significant of which are outlined below at a summary level.

Water Utility, including Water Budgets

RFC identified the following five key issues relative to the existing water utility rate structure.

1. Water budget rate structures do not work well for diverse commercial, industrial and institutional (CII) customers.
2. Blocks 1 and 2 could be combined into a single block to provide for more consistent monthly water budgets. Alternatively, a modified definition could be applied where, quite simply, block 1 is defined as the indoor budget and block 2 as the outdoor budget.
3. Residential indoor water allocations exceed recent indoor water use.
4. Reliance on revenue generated in Blocks 3, 4 and 5 results in a level of revenue instability that could adversely impact utility operations.
5. Block width and block pricing may not be aligned with City pricing objectives.

Wastewater Utility

RFC identified the following two key issues relative to the existing wastewater utility rate structure.

1. Revenue insufficiency due to:
 - a. declining volume sales and
 - b. amount of revenue recovered through monthly service charge.
2. Industrial Pre-Treatment fees do not recover the costs incurred.

Stormwater/Flood Management Utility

RFC identified the following two key issues relative to the existing stormwater utility rate structure.

1. Non-single family rate structure is unnecessarily complex.
2. The current rate structure penalizes individual large lot customers.

At its September 2016 meeting, WRAB expressed support for studying rate structure alternatives in the wastewater and stormwater/flood management utilities. More information on those alternatives can be found in the [September 2016 memo](#). Staff also sought and received additional feedback related to issues in the water rate structure which assisted in the development of alternatives for study, as described in the following section.

ANALYSIS

The goal of Phase 1 is to determine which alternatives should be investigated for each of the three utilities during Phase 2. At the August meeting, a consensus appeared to emerge for how to proceed with studying alternatives for stormwater/flood management and wastewater. Due to a lack of time, however, the discussion of key issues in the water rate structure did not result in a similarly clear consensus. At the subsequent WRAB meeting, staff sought and received additional board feedback on water rate structure issues, which led to the development of a proposed list of options to study.

CII Water Budgets

At the August WRAB discussion, RFC presented information related to the issues with assigning water budgets to the city's CII customers. CII customers traditionally experience much higher usage in Blocks 3,4, and 5, which represents out of budget use, than do residential customers and therefore effectively pay a higher unit cost for water than residential customers. A higher unit cost indicates that CII customers are inherently less efficient than residential customers but there is no evidence that this is the case in reality.

Variations of use from budget are not uncommon in the CII customer class. Around 30% of CII customers in 2015 had annual usage at less than half of their water budget, and 13% had usage of more than one and one-half times their budget. This variation is not seen in residential customers, for which indoor and outdoor water usage patterns are relatively well understood. The manner in which CII water budgets have been set appears to have caused some customers to be charged in the upper rate tiers and others to be charged only at the discounted block one rate. These outcomes should occur only if customers are either inefficient water users or very efficient users, respectively. But, it is not clear that all CII water budgets are accurate and thus the determination of efficiency may also be inaccurate. If this is the case, there is a potential equity imperative for addressing the issue of CII water budgets.

The rate structure discourages wasteful use by sending a price signal when a customer exceeds the budget. However, the annual trends show usage in the upper blocks has stayed fairly consistent over the years and correlates strongly with the weather with little evidence of behavior change due to pricing. CII customers also have the option of changing how their water budget is calculated, but relatively few have taken advantage of this option.

Two conclusions may be drawn from these findings: first, some substantial portion of CII customers are not heeding the price signal and second, their budgets are likely not properly set, making the price signal unclear even it is received.

Residential Indoor Water Budgets

The preliminary analysis clearly showed that the average residential customer, both for single family and multifamily, uses far less than the base allocations of 7,000 and 4,000 gallons respectively. The original single family allocation was established with an assumption of a four-person household, a per capita usage of approximately 55 gallons per day, and some winter outdoor watering needs. Over time, however, indoor water use has steadily declined but the base allocation has not been adjusted downward to align with the new reality. As a result, the lowest priced water, which is meant for regular indoor needs, has been able to be used for outdoor

watering. This has undermined the price signal effect and potentially decreased the conservation impact of water budgets.

Options for Addressing Issues in Water Rate Structure

There was general consensus at the September 2016 WRAB meeting that staff and RFC should develop and evaluate options to address issues with CII water budgets and residential indoor water budgets. In all cases, alternatives should focus on the established guiding principles, including revenue stability, equity, and conservation. Alternatives proposed to be studied include the following:

- Update the fixed service charge for 2017.
 - The cost basis for the fixed charge will be updated with the most recent information.
- Move all CII customers currently using the Average Monthly Use (AMU) water budget option to the Indoor/Outdoor option.
 - Many of the issues discovered in CII water budgets are related to the AMU option, which requires frequent updates to remain accurate.
 - The Indoor/Outdoor option, which uses average winter consumption (AWC) as a basis for calculating indoor budgets, is more responsive in measuring actual use and is self-updating over time.
 - All customers who have made a choice to use the Historical Monthly Use (HMU) water budget option would remain under the HMU option.
- Combine Blocks 1 and 2.
 - The blocks would be combined and redefined as “in budget” use.
 - The new block would be adjusted seasonally to more accurately account for current indoor and outdoor use.
 - This combination would make the system simpler while still allowing for seasonal flexibility related to outdoor watering needs.
- Reduce the residential indoor allocation
 - The indoor allocations for single-family (SFR) and multi-family residential (MFR) customers will be decreased to reflect current water usage patterns and preserve a price signal for conservation.
 - The current allocation for SFR is 7,000 gallons per month. RFC will test the impacts of decreasing it to both 6,000 and 5,000 gallons.
 - The current allocation for MFR is 4,000 gallons per month. RFC will test the impacts of decreasing it to 3,000 gallons.
- Update basis for pricing tiers and multipliers and adjust accordingly.
 - Tiers are the percentage thresholds of budget use that push usage from one block into another (e.g. using 151% of one’s budget instead of 150% moves usage from Block 3 into Block 4).

- Multipliers are the differences in price per 1,000 gallons between the blocks (e.g. Block 3 usage is charged at twice the base rate while Block 4 usage is charged at three times the base rate).
- Tiers and multipliers will be updated to better reflect the city's pricing objectives, as reflected in the guiding principles.

The alternatives will be analyzed in different combinations to create scenarios. Within all the alternatives and scenarios, RFC will also calculate customer bill impacts. The analysis of bill impacts will examine the following:

- Shifts in costs within a class and also between classes. Because total revenue requirements remain largely the same, a decrease in price for one customer must be made up by other customers.
- Potential impact on highly efficient users. It is possible that the combination of Blocks 1 and 2 could affect the incentive for very efficient users.
- Potential impacts on lower-income customers will be evaluated. It is possible that the combination of Blocks 1 and 2 could increase the price for what is currently the least expensive water.

To the extent any of these issues do arise in the modeling of alternatives, staff and RFC will present pros and cons along with potential mitigation strategies. For example, staff may explore programmatic possibilities for low income water users who could be affected.

Additional Areas of Study

At the September meeting, WRAB expressed some interest in pursuing additional related lines of inquiry that fall outside the scope of the current study. One of these topics is how behavioral economics might be better utilized in the water utility's customer communications in order to positively impact conservation. WRAB and staff are following up to determine next steps on the idea, including a discussion at the WRAB retreat later this year.

Staff is also seeking further comment and insight from RFC on other rate structure ideas that have been proposed through the board's discussions. The expert feedback from the city's consultant will help inform future WRAB conversations. Longer term thinking about fundamental changes to the rate structures, instead of modifications to the current structures, could result in new projects in future years. If WRAB is interested in pursuing new rate structure ideas over time, the board's retreat would be a venue to discuss potential future efforts.

NEXT STEPS

December – Staff and RFC will present WRAB with the results of the Phase 2 analysis related to wastewater and stormwater/flood management and seek feedback on which rate structure adjustments to refine for final recommendation.

January 2017 – Staff and RFC will present WRAB with the results of the Phase 2 analysis related to the water rate structure and seek feedback on which rate structure adjustments to refine for final recommendation.

February 2017 – The final report and recommendations will be presented to WRAB for final feedback and recommendation to City Council. Depending on WRAB’s recommendations, staff will evaluate the necessary next steps. If the recommendations fundamentally alter any of the rate structures, there could be a need for additional public process, customer outreach, and consultation with City Council. An analysis of implementation needs could also be required.

March 2017 – Staff will present project results, WRAB recommendations, and implementation next steps to City Council for their consideration.

ATTACHMENTS

None