



**MEMORANDUM**

TO: Mayor and City Council  
FROM: Howard S. Lazarus, City Administrator  
Craig Hupy, Public Service Area Administrator  
Marti Praschan, Chief of Staff, Public Services  
SUBJECT: Water Rate Alternatives – Revenue Requirements  
DATE: March 29, 2019

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As directed by City Council Resolution #[R-18-499](#), a water rate structure alternatives analysis was presented to City Council during the Work Session conducted on March 11, 2019. Arcadis provided four residential and two non-residential water rate structure alternatives that generally meet ratemaking standards and provide sufficient revenue to operate our water system. In addition to the alternatives presented, there is also the option to keep the current rate-structure for the residential and non-residential customer classes as previously adopted by Council.

Any change in rate design will have an impact on our customers and is a policy decision for the City Council. Legal advice regarding possible risks specific to Michigan related to any of the rate structure alternatives has not been requested, but we believe such a request should be made prior to the consideration of any of the alternatives provided by Arcadis. Arcadis has indicated legal defense of the alternatives is not in their current scope and would not be possible unless they were commissioned to complete a full cost-of-service study.

This memorandum includes details of the alternatives presented by Arcadis, ranks alternatives according to staff’s preferred order, and finally requests direction on rate structure so ratemaking can begin in earnest.

For the **residential** customer class, Arcadis presented and detailed four rate structure alternatives. Staff’s rate design preferences among the alternatives and the current rate structure, in ranked order, are:

1. **Current Structure:** Continue with current rate structure in place. While the price signal in the 4<sup>th</sup> tier is strong, it established tier thresholds that are well supported by industry data, current customer data on usage profiles, and GIS analysis of typical residential lot sizes and associated irrigable area. The major disadvantage of this structure is

| Current Rates |          |
|---------------|----------|
| Water         |          |
| Base 5/8      | \$ 20.89 |
| 1-9'          | \$ 1.77  |
| 10-18'        | \$ 2.83  |
| 19-36'        | \$ 6.57  |
| >36'          | \$ 14.08 |

the perception related to the jump in pricing for the fourth tier.

**2. Arcadis Option 2: Residential Three-Tier Rates.**

This alternative is cost-based and eliminates the 4<sup>th</sup> tier, which some members of Council perceive as too high. The major disadvantage of this structure is that approximately 20% of the City’s customers’ annual bills will increase for those customers’ water usage between 20 and 45 CCFs per quarter. Approximately 2% of the City’s customers’ annual bills will decrease. This rate structure would shift the decreased amounts on the 2% of the bills to the increased amounts on the 20% of the bills.

| 3 Tiers-Consolidate |          |
|---------------------|----------|
| Water               |          |
| Base 5/8            | \$ 20.89 |
| 1-9'                | \$ 1.77  |
| 10-18'              | \$ 2.83  |
| >18'                | \$ 9.19  |

**3. Arcadis Option 1- Residential Two-Tier Rates.**

This option would combine tier 1 with tier 2 and tier 3 with tier 4. This results in an increase of the unit prices for tiers 1 and 3 and reduces the unit prices for tiers 2 and 4. The impacts of this would be similar to a three-tier rate structure, in which approximately 20% of the annual bills, generated for usage between 20 and 45 CCFs per quarter, would increase; however, this option also increases the annual bills for customers with a lower usage profile, 14 CCFs or less.

| 2 Tiers  |          |
|----------|----------|
| Water    |          |
| Base 5/8 | \$ 20.89 |
| 1-18'    | 2.19     |
| >18'     | 9.19     |

**4. Arcadis Option 4- Residential Three-Tier (Resetting-Tiers).**

This alternative would change the tier breaks for consumption into a “winter indoor tier”, and “summer indoor tier” and a “summer outdoor tier”. The tier 2 for this option is a narrow band of 17 to 20 CCFs. This would increase the bills for customers with quarterly usage between 21 and 45 CCFs, would result in an administrative burden to change the structural breaks for the tiers in the billing software, and would pose communication challenges to explain to customers the new tier breaks. It is staff’s opinion that this alternative has not been as closely analyzed as the other options presented by Arcadis and questions the tier break determination. This alternative also puts the City in a position of having a rate structure that neither consultant is in a position to defend. Arcadis is not in position to defend this alternative without re-performing themselves the cost-of-service study. Because the basis for the tier breaks was developed by Arcadis, Stantec is not in a position to defend those calculations and breaks.

| Resetting Tiers |          |
|-----------------|----------|
| Water           |          |
| Base 5/8        | \$ 20.89 |
| 1-16'           | 2.17     |
| 17-20'          | 4.10     |
| >20'            | 8.90     |

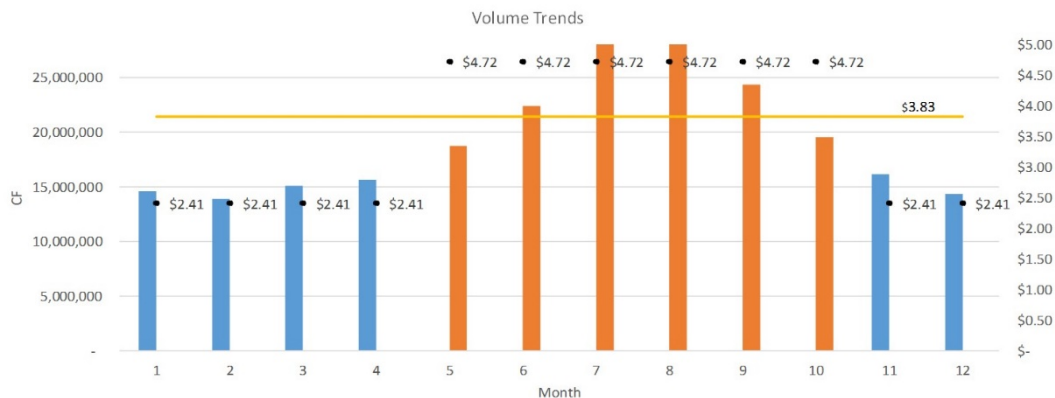
**5. Arcadis Option 3: Uniform Rate.**

This is staff’s least preferable alternative that was presented. This rate structure would deviate from the strong cost-basis that was used to set the 4-tier tier breaks. As used by Arcadis, “equity” refers to a customer paying the cost of the water they use. This structure would result in higher bills for the over 93% of the bills who use between 1 and 32 CCF per quarter. Because those users would be absorbing in their bills the decreases in the 2% of annual bills for customers with higher usage, it could generate challenges from low or lower-volume users based on perceived lack of equity or on their rates not being based on their cost-of-service.

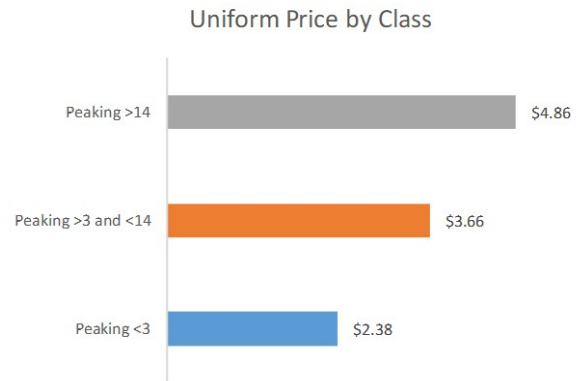
| Uniform  |          |
|----------|----------|
| Water    |          |
| Base 5/8 | \$ 20.89 |
| All Use  | \$ 4.16  |

For **Non-residential** customer class, Arcadis presented two alternatives. Staff’s rate design preferences in ranked order are:

- 1. Current Structure:** Continue with the current uniform rate structure. The uniform volumetric rate accounts for the non-homogeneous nature of non-residential customers, who inherently are customers who do not “fit” into any other customer classification.
- 2. Option A: Seasonal Alternative.** This option would charge a higher, uniform rate during the summer months and would charge a lower rate during the winter months. The main disadvantage to this alternative would be that it would shift costs to customers whose business purpose dictates they operate in the summer months, e.g., camps, parks, ice cream shops, etc. Those customers who have a consistent usage pattern throughout the year would see no change in their annual bill amounts. Customers who do not operate in the summer would see decreases in their annual bills.
- 3. Option B: “Peaking” Alternative.**



This alternative would mimic the structure that pre-dates the current structure, using customer sub-classifications. The peaking factors are determined using current usage profiles and standard deviations for current customers. This structure has a high administrative burden that would increase the total costs to operate the system, without providing any improvement in equity. This option would also not send any price signal for conservation.



The necessary water rate increases were delayed pending this deliverable to City Council, which resulted in the suspension of two planned projects. In order to continue to provide safe and reliable drinking water, eliminate service impacts, and avoid additional capital project suspensions an increase in the revenue requirement is necessary. We seek direction as to the preferred water rate structure so that rate planning can begin in earnest for fiscal year 2020.