

WASHINGTON SUBURBAN SANITARY COMMISSION

SUBJECT: Resolution to select new rate structure.

WHEREAS, the Washington Suburban Sanitary Commission (“WSSC” or the “Commission”) has the authority to adopt rates for water service charges and sewer usage charges pursuant to §17-202(e)(2) of the Public Utilities Article (“PUA”) of the Annotated Code of Maryland;

WHEREAS, WSSC’s existing 16-tier increasing block rate structure (“Existing Rate Structure”) has been in place since 1992;

WHEREAS, the Commission recognizes that a periodic review of rate structure alternatives is appropriate to ensure that fiscal, operational and policy objectives are being met;

WHEREAS, WSSC began a study of the Existing Rate Structure in 2016 and formed a Bi-County Rate Structure Working Group and a Stakeholder Representatives Group to review the Existing Rate Structure and consider possible rate structure alternatives;

WHEREAS, WSSC convened several public meetings to introduce the concept of a new rate structure to WSSC’s customers and stakeholders and receive their input;

WHEREAS, WSSC commissioned a water and wastewater industry expert to conduct a Comprehensive Cost of Service and Rate Study (“COS Study”) to evaluate the Existing Rate Structure and prepare a comprehensive Cost of Service analysis for WSSC’s water and sewer systems that was completed on April 28, 2017;

WHEREAS, on July 14, 2015 an appeal of WSSC’s Existing Rate Structure was filed with the Maryland Public Service Commission (“PSC”), and during WSSC’S study and development of new alternate rate structures, the PSC ruled that WSSC’s Existing Rate Structure was unduly discriminatory among classes of customers and accordingly unreasonable, and directed WSSC to develop a new rate structure;

WHEREAS, WSSC engaged nationally recognized water and wastewater industry experts to assist the Commission in developing a new rate structure, including providing expertise and assistance with identifying and prioritizing industry recognized public policies and weighing often conflicting rate structure design considerations;

WHEREAS, WSSC also engaged an expert with knowledge and expertise on State and Federal regulatory requirements related to water conservation in the State of Maryland, water conservation and resource protection commitments related to WSSC’s use of Potomac River and other State water resources, and water conservation obligations described under WSSC’s current water appropriation and use permits;

WHEREAS, in conjunction with the rate structure review effort, and in consideration of the impact a new rate structure might have on low income customers, the Commission solicited and received testimony from an expert with expertise in water and wastewater affordability best practices, and has engaged the expert to assist in the development of improvements to WSSC's Customer Assistance Programs;

WHEREAS, the Commission held numerous special Commission meetings to receive public input, briefings from the experts and WSSC management on rate structure design and recognized public policies that influence rate structure design, the COS Study, and the law and policy of Maryland concerning water conservation;

WHEREAS, WSSC staff summarized the public comments and input received from the public from May through June of 2017, with affordability and the impact on residential customers receiving the highest number of comments, and conservation and the impact on water usage receiving the second highest number of comments (See Appendix #1 of November 1, 2017 Management Recommendation Memorandum);

WHEREAS, the Commission considered the public input, testimony from experts, industry reference materials, and Maryland state law and policies, and then prioritized their public policy objectives;

WHEREAS, the Commissioners prioritized the recognized public policies that influence rate design in the following order: (1) Revenue Stability, (2) Conservation, (3) Rate Stability, (4) Affordability, (5) Ease of Understanding (6) Ease of Implementation, (7) Minimizing Customer Impact and (8) Cost of Service Based Rates;

WHEREAS, the Commission's priorities reflected the needs of the Commission to operate a water and sewer system that serves over 1.8 million customers, the law and policy concerning water conservation, and the input of the customers at the hearings and special meetings where concerns were expressed over the continued affordability of the water and sewer rates;

WHEREAS, based on their extensive knowledge and experience in the water industry and specifically in rate structure design and development, the experts considered the Commissioner's policy priorities including conservation and affordability and developed and presented to the Commission five alternate rate structures having considered a broad base of information including WSSC's customer data and revenue requirements, the COS study, input provided by WSSC's work groups, the public, WSSC staff and Commission members, industry literature, statutory constraints, and state and local conservation-related studies, reports and recommendations;

WHEREAS, each of these five alternative rate structures was developed in accordance with the principles and guidance set forth in the American Water Works Association's Manual of Practice M-1 "Principles of Water, Rates, Fees and Charges" and the Water Environment Federation's Manual of Practice No. 27 "Financing and Charges for Wastewater Systems" and the public policy priorities identified by the Commission and are legally defensible;

WHEREAS, in October of 2017, WSSC held three additional public hearings to solicit further input from the public and stakeholders on the five rate structures proposed by WSSC's experts;

WHEREAS, at the October public hearings, the public input again focused first on customer affordability and second on conservation (See Appendix #5 of November 1, 2017 Management Recommendation Memorandum);

WHEREAS, in early November of 2017, WSSC management recommended three of the five rate structures for further review and consideration by the Commission;

WHEREAS, the three recommended rate structures are three or four tier inclining block structures that send a conservation-oriented price signal to ratepayers to encourage water conservation;

WHEREAS, the Commission held a special meeting on November 8, 2017 to consider management's recommendation, and voted at their November 15, 2017 meeting to adopt management's recommendations and to forward management's recommended rate structures to the County Councils of Montgomery and Prince George's County for further review and consideration;

WHEREAS, the Montgomery and Prince George's County Council's respective committees received briefings on the recommended rate structures, and the Councils did not express a preference for any one of the rate structure alternatives;

WHEREAS, in 1978, WSSC adopted a conservation-based rate structure in response to past droughts and growing system demands;

WHEREAS, water conservation is necessary to ensure that the long-term viability of WSSC's sources of supply, treatment facilities and distribution system capacity are maintained;

WHEREAS, as a bi-county state agency and public water utility operating within the State of Maryland, WSSC is required to promote water conservation by the Water Conservation Act, §§5-5B-03-5-5B-05 of the Environment Article ("EA") of the Maryland Annotated Code,

WHEREAS, WSSC is required to promote water conservation as a regulatory condition in its State-issued Water Appropriation and Use Permits;

WHEREAS, one of the best practices listed in the Water Conservation Act, EA §5-5B-04(b)(9), for water conservation is "[w]ater and wastewater pricing structures that encourage improved efficiency", and the regulatory guidance from the Maryland Department of the Environment ("MDE") on this statutory provision states that "water conservation will prove to be most cost effective when rate structures are modified to encourage customers to conserve water" with "charging a higher unit price as use rises (i.e. increasing block rates)", as a pricing strategy that can encourage water conservation;

WHEREAS, WSSC has committed to promoting water conservation as a signatory to the 1982 Water Supply Coordinating Agreement and its participation in the Interstate Committee for the Potomac River Basin;

WHEREAS, in addition to customer affordability, water conservation was strongly supported by customers in WSSC's public meetings;

WHEREAS, on June 28, 2018 WSSC's management submitted its final rate structure recommendation to the Commission, recommending that the Commission select the four tiered increasing block rate structure (Option 4A) for reasons stated in the recommendation;

WHEREAS, the Commission must balance competing interests of the operational needs of the Commission, the public input received from its customers and stakeholders such as customer affordability and conservation, and the law and policy of the State when selecting a new rate structure;

WHEREAS, the Commission, upon careful consideration of the public input, expert testimony and presentations, reference materials, management's final recommendation, and other information provided during the rate structure review and development process, finds that the selection of the four tiered increasing block rate structure (Option 4A) best meets the Commission's financial, operational and policy objectives and is in the best interests of WSSC and its Customers;

WHEREAS, WSSC currently has a 30-year old legacy billing system, which is in need of replacement and as currently configured, cannot accommodate an increasing block rate structure that bills through the tiers;

WHEREAS, WSSC studied and tested a system patch for the legacy system that would accommodate a rate structure that billed through the tiers, however, testing of the system patch revealed extensive billing errors and a significant loss of revenue;

WHEREAS, the Commission has determined that the implementation of the new tiered rate structure should occur in conjunction with the development of WSSC's new billing system;

WHEREAS, with the selection of the new four tiered rate structure, WSSC will continue the development and implementation of its new billing system, so that the new rate structure can be configured in the new system, be properly tested, and go live in Spring of 2019 in time for the implementation of the new rate structure on July 1, 2019;

WHEREAS, in addition to the selection of the four tiered increasing block structure WSSC will continue to review its existing Customer Assistance Programs in order to improve and enhance those Programs as a new rate structure is implemented;

WHEREAS, this new selected rate structure, with FY 2020 service rates, will be formally adopted in June of 2019 in accordance with PUA §17-202; and

NOW THEREFORE, BE IT RESOLVED this 18th day of July, 2018, that, after considering all of the information presented during the Commission's development and review of the rate structure alternatives, the Commission hereby selects the four-tiered increasing block rate structure (Option 4A) as the structure it intends to adopt in June of 2019 in accordance with PUA§17-202, to be effective July 1, 2019;

BE IT FURTHER RESOLVED that the Commission directs the General Manager to move forward with configuring this new rate structure (Option 4A) in the new billing system; and to take the steps necessary to complete the development, testing, and activation of the new billing system so that the new rate structure and adopted rates can be implemented by July 1, 2019.

A True Copy

Attest:

Sheila R. Finlayson, Esq., Corporate Secretary



Interoffice Memorandum

TO: COMMISSIONERS

FROM: CARLA A. REID
GENERAL MANAGER/CEO 

DATE: June 28, 2018

SUBJECT: **RECOMMENDED RATE STRUCTURE**

Background

WSSC has been operating under a 16-tier volumetric water and sewer rate structure for more than 25 years and good management practice dictates periodic review of rate structure alternatives. While the need to modernize our rate structure to better reflect customer and Commissioner policy considerations has been at the forefront of this extensive process, the Maryland Public Service Commission (PSC) recently directed WSSC to develop a new rate structure. Our current rate structure was deemed unreasonable by the PSC because they found it to be preferential to low-usage customers.

Customer Outreach

Thanks to the leadership and guidance of the Commissioners, WSSC committed to a fully transparent and inclusive rate structure review process that incorporated industry best practices and careful analysis of available customer data. To ensure customers and stakeholders were fully engaged in the rate structure review process, WSSC launched an extensive public outreach campaign to garner input and feedback from residential and non-residential customers, elected officials and other interested stakeholders in both counties. As detailed in the attached memorandum, WSSC held or participated in more than 30 public meetings or hearings since spring 2017. These meetings were attended by more than 1,500 customers and generated more than 300 total comments on the proposed rate structures. Additionally, all WSSC meetings were livestreamed and seen by nearly 2,500 viewers.

Throughout this process, WSSC worked closely with nationally-renowned rate structure experts and an authority on Maryland water conservation to ensure our recommendations:

- Considered customer preferences and reflected the rate setting policies selected by the Commission;
- Allowed for a predictable revenue stream to pay for infrastructure improvements; and
- Better aligned costs with rates.

On November 15, 2017, the Commission unanimously approved for transmission to the County Executives and County Councils of Prince George’s and Montgomery counties for their consideration the following three recommended rate structure alternatives to replace our current water and sewer rate structure.

Type of Rate Structure	Options	Gallons Per Day	Example Rate per 1,000 Gallons
3 Tier Inclining	Option A	0-80	\$10.66
		81-165	\$13.43
		>165	\$17.61
3 Tier Inclining	Option B	0-165	\$10.41
		166-275	\$13.89
		>275	\$19.96
4 Tier Inclining	Option A	0-80	\$10.66
		81-165	\$12.25
		166-275	\$14.86
		>275	\$18.74

Note: The rates in the table above are illustrative only and based on FY18 revenue requirements. Final rates for FY20, when the new rate structure will take effect, will be adopted in June 2019.

These three rate structure alternatives meet WSSC’s statutory mandate that rates be uniform throughout the Sanitary District, and reflect the Commissioner’s stated policy priorities for a new rate structure including revenue stability, conservation, affordability, and rate stability.¹ These rate structures are based on average per capita consumption and reflect the overwhelming residential character of WSSC’s customer base of which 93% are residential.

¹ For a list of typical policy priorities (or objectives) in rate setting see the American Water Works Association M1 Manual, Principles of Water Rates, Fees, and Charges; Chapter IV.1 Selecting Rate Structures, Step 1. Defining Goals and Objectives, page 105.

County Council Review

On December 1, 2017, we transmitted our recommended rate structure alternatives to the County Executives and County Council members in Prince George's and Montgomery counties requesting their review and input.

The Montgomery County Council's Transportation and Environment (T&E) Committee received a briefing from WSSC staff and consultants on the recommended rate structures, related policies, and customer impacts on February 1, 2018. A copy of the staff analytical packet for this briefing and a video recording of the committee meeting is available at the County's website.²

On March 29, 2018, the Prince George's County Council's Transportation Housing and Environment (THE) Committee received a similar briefing from WSSC staff. A copy of the staff analytical packet for this briefing and a video recording of the committee meeting is available at the County's website.³

While there was an extensive dialogue with both of the County Council Committee members and staff on the relative merits, policy implications, and customer bill impacts of each of the recommended rate structures, the Committees did not express a preference for any one of the rate structure alternatives.

Recommendation

Based on the extensive evaluation process, information presented during the process, and feedback from our customers, WSSC management is now recommending that the Commission select rate structure Alternative 4A for implementation on July 1, 2019. Alternative 4A meets the Commissioners' top policy priorities of revenue stability, conservation, affordability, and rate stability. Alternative 4A offers a number of advantages compared to the existing rate structure and to Alternatives 3A and 3B.

Revenue Stability was the top priority for the Commission in its review of rate structure alternatives and Alternative 4A will provide a more predictable revenue stream compared to the current rate structure. Revenue stability is crucial given WSSC's robust capital improvements program, which exceeds \$3.3 billion for FY19-24. This comprehensive program includes more than \$630 million for water main replacements to increase reliability; \$232 million for the innovative Piscataway Bio-Energy project; over \$700 million to comply with federally mandated upgrades to our sewer mains, and an

² The WSSC briefing and staff analysis of the T&E session are available at:

http://montgomerycountymd.granicus.com/GeneratedAgendaViewer.php?view_id=169&clip_id=14465
and the video is available at:

http://montgomerycountymd.granicus.com/MediaPlayer.php?view_id=169&clip_id=14465

³ The WSSC briefing and staff analysis and video of the THE session are available at:

<https://princegeorgescountymd.legistar.com/LegislationDetail.aspx?ID=3375280&GUID=FF0B4722-9005-4741-863F-6F79BDD458A9&Options=&Search=>

estimated \$121 million to comply with the Potomac Water Filtration Plant consent decree.⁴

Benefits of 4A

The inclining block structure of Alternative 4A also sends a clear conservation-oriented price signal to ratepayers. Conservation was strongly supported by customers in our public meetings, and is a high priority of the Commission as well. As a bi-county state agency, we were particularly mindful of the provisions in State law that require public water systems to improve water conservation and the efficiency with which water is used treated, stored, and distributed and names as a best practice pricing structures that encourage conservation.⁵ As you are aware, conservation is integral to the management of the Potomac River and is needed to ensure a viable long-term supply for the region and to preserve the ecological health of Maryland's water resources. While Alternatives 3A and 3B would also incentivize conservation, the more graduated nature of Alternative 4A within consumption levels consistent with residential customers is more effective in supporting WSSC's conservation efforts. Additionally, Alternative 3A limits the top tier of consumption to greater than 165 GPD, which will not effectively incentivize conservation since 165 GPD is the expected daily consumption for a three-person household.

Customer affordability was also one of the top policy priorities. With the adoption of any new rate structure, there can be varying customer bill impacts based on household size, usage patterns, and the rates/rate structure ultimately adopted. We believe Alternative 4A best addresses customer affordability given that the first tier consumption level of up to 80 gallons per day (GPD) was set at a level based on the World Health Organization's (WHO) estimate of water needed per person per day for minimum sanitary needs for a three person household.⁶

We also should note that a more effective means of assisting low and fixed income customers is through the use of carefully designed customer assistance programs rather than seeking to accommodate their limited means through rate structure design. To this end, WSSC staff have been working with an affordability consultant to develop significant enhancements to our existing customer assistance programs. Management plans to implement these enhancements in conjunction with the implementation of the new rate structure.

In addition, Alternative 4A significantly simplifies the rate structure by reducing the number of tiers (from 16 to four) and will result in a more equitable recovery of costs by charging for consumption within each tier of use rather than at the highest tier. This

⁴ A final long-term plan to comply with the Potomac consent decree is currently under discussion and the cost of implementing the long-term plan could significantly exceed this estimate.

⁵ The Maryland Department of the Environment regulatory guidance that implements the Maryland Water Conservation Act specifically encourages an increasing block rate structure for water conservation.

⁶ A three person household is the average size in Prince George's and Montgomery Counties based on the American Community Survey (ACS) 2015 data for single family and multifamily households using 55 gallons per person which is the average daily per person consumption in WSSC's service area.

improves customer's ease of understanding the rate structure, which is also an important Commission policy priority.

Alternative 4A also improves the alignment of our rates to the costs of providing water and wastewater services compared to the current rate structure. While "cost-based rates" was the lowest ranked policy priority of the Commission, it remains one of the many relevant considerations in rate structure development. Alternative 3B does not make significant improvements in alignment of the cost of service with the revenues charged compared to the current rate structure. Additionally, the top rate (greater than 275 GPD) is higher than Alternatives 3A and 4A and even the current rate structure.

Conclusion

It is our recommendation that the Commission select Alternative 4A as it most effectively addresses the top policy priorities of revenue stability, conservation, and affordability. Rest assured, the implementation will again follow transparent and extensive public outreach to ensure our customers are fully aware of how this new rate structure will impact their bills. Thank you for your leadership on this crucial issue.

We look forward to discussing this recommendation with the Commission at the July 17 Special Commission Meeting on the Recommended Rate Structure and the July 18 Commission Meeting.

Attachments:

Transmittal of Rate Structure Alternatives to the County Governments, November 30, 2017
Management's Recommended Rate Structure Alternatives, November 1, 2017



COMMISSIONERS

Thomasina V. Rogers, Chair
T. Eloise Foster, Vice Chair
Fausto R. Bayonet
Omar M. Boulware
Howard A. Denis
Chris Lawson

GENERAL MANAGER
Carla A. Reid

November 30, 2017

To The Honorable:

Rushern L. Baker III, Prince George's County Executive
Isiah Leggett, Montgomery County Executive

Derrick Leon Davis, Chair, Prince George's County Council
Roger Berliner, President, Montgomery County Council

Members of Prince George's County Council
Members of Montgomery County Council

Dear County Executives and Councilmembers,

On November 15, 2017, the Commissioners of the Washington Suburban Sanitary Commission (WSSC) unanimously approved for transmission to you for your consideration and input three recommendations made by management to replace our current water and sewer rate structure.

As you know, we have been operating under a 16-tier volumetric water and sewer rate structure for the past 25 years. In addition to being in need of modernization to reflect the changing landscape of rate and fee setting practices and policies, the existing rate structure has been successfully challenged before the Maryland Public Service Commission.

From the outset of our extensive and transparent rate structure process that has yielded our recommendations, we planned for three important components: (1) engagement of our customers; (2) a high level of expertise in the principals and policies of rate setting, and (3) feedback from you. We have completed steps (1) and (2) and now seek your feedback. Because of the complex nature of this process, we are prepared to provide whatever briefings, both oral and written, that you might need.

To ensure that our customers were fully represented in the rate structure review process, we engaged in an extensive public outreach campaign to garner input and feedback from residential and non-residential customers, elected officials and other interested stakeholders in both counties. As detailed in the attached recommendations from the General Manager/CEO Carla A. Reid, WSSC held or participated in more than 20 public meetings and/or hearings since spring 2017, which were attended by more than 1,200 customers and generated more than 300 total comments on the proposed rate structures. Additionally, all WSSC meetings were livestreamed and seen by nearly 2,500 viewers.

While work on the rate structure and charges began as early as 2010, in 2017 WSSC management commissioned Black & Veatch, a water and wastewater industry consultant, to conduct a Comprehensive Cost of Service (COS) and Rate Study to evaluate our consumption based volumetric rate structure. This COS Study was completed in April of 2017 and consisted of two phases: Phase I evaluated our existing rate structure and policies and identified feasible rate structure alternatives. Phase II included a comprehensive COS analysis for WSSC's water and sewer systems. Phase I also included significant input from stakeholders through the creation of a Bi-County Rate Structure Working Group and a Stakeholder Representatives Group.

With the benefit of the COS Study, WSSC continued its work on developing a new rate structure by convening a series of public meetings in Prince George's and Montgomery Counties to introduce the public to WSSC's rate structure review and development process, and to solicit input from the public on several example rate structures. At the same time, WSSC management engaged a panel of nationally recognized rate structure experts to assist WSSC in developing a new volumetric rate structure. This panel included representatives from Raftelis Financial Consulting, Black & Veatch, and 4Tenets Consulting, as well as a nationally recognized expert on customer affordability. The Commission then held several special meetings to receive briefings from management and the experts.

Using their extensive industry knowledge, experience and expertise, our team of experts developed five rate structure alternatives. Each of these rate structures, which were developed in accordance with industry recognized best practices, reflected public policy priorities identified by the Commission. In addition, each would bring our rate structure closer than our existing structure to the cost of serving our customers. Finally, each of the structures meets WSSC's statutory mandate that the rate be uniform throughout the Sanitary District. PUA §25-501(b).

The experts considered a broad base of information including: WSSC's customer data and revenue requirements; the COS study; input provided by our work groups, the public, WSSC staff and Commission members; industry literature; and state and local conservation-related studies, reports and recommendations.

At a special meeting held in September, the five rate structure alternatives were presented by management to the Commission for their consideration. In October, WSSC held three additional public hearings to solicit further input from the public and stakeholders on the five rate structures proposed by WSSC's experts, and in early November WSSC management recommended three of

the five rate structures for review and consideration by Commissioners. The Commission held a special meeting on November 8 to consider management’s recommendation, and after careful consideration and deliberation, voted at their November 15 meeting to support management’s recommendation and to forward the enclosed rate structures to you for your review and consideration. We have attached a copy of the Recommended Rate Structure Alternatives Memorandum that was presented to the Commission on November 8. This Memorandum explains in great detail the extensive, open and transparent process that led to this recommendation and the specifics of the tier structures and tier breaks within each structure.

WSSC management and Commissioners are now unanimously recommending the following three rate structures for your review and consideration:

Water & Sewer Tiers			
Type of Rate Structure	Options	Gallons Per Day	Rate Per 1,000 Gallons
3 Tier Inclining	Option 3A	0-80	\$ 10.66
		81-165	\$ 13.43
		>165	\$ 17.61
3 Tier Inclining	Option 3B	0-165	\$ 10.41
		166-275	\$ 13.89
		>275	\$ 19.96
4 Tier Inclining	Option 4A	0-80	\$ 10.66
		81-165	\$ 12.25
		166-275	\$ 14.86
		>275	\$ 18.74

These three rate structures are inclining block structures and have either 3 or 4-tiers, a standard in the industry. All of the structures will bill “through the block” or at each level of consumption rather than at the highest level of consumption. You will find a detailed description of the rationale behind each of the tier breaks in the attached Memorandum at page 7.

The inclining block structure sends a conservation-oriented price signal to ratepayers. Conservation was strongly supported by customers in our public meetings, and is a high priority of the Commission. As a bi-county state agency, we were particularly mindful of the provisions in State law that require public water systems to improve water conservation and the efficiency with which water is used, treated, stored, and distributed. As you are well aware, conservation is integral to the management of the Potomac River and is needed to ensure a viable long-term supply for the region and to preserve the ecological health of Maryland’s water resources.

The Commission believes that the three rate structures being transmitted to you better align our rates to the costs of providing clean water, reflect customer and Commission rate setting policy

goals, and provide a more predictable revenue stream to pay for infrastructure and water and sewer service to our customers.

WSSC values your input and consideration of these rate structure alternatives and will be available at your convenience to meet with you and attend meetings with your community to brief you on these alternatives, and entertain any questions you or your constituents may have.

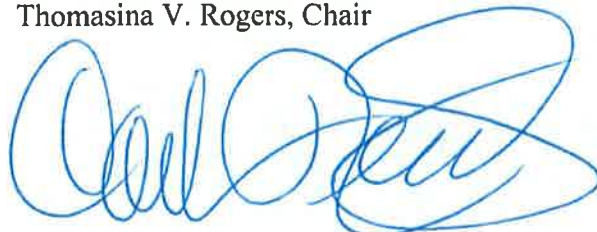
The Commission plans to continue its rate structure review and deliberations early next spring and would appreciate the benefit of your input within this time frame as we work toward concluding this process. We intend to select a final rate structure in June of 2018 that will be implemented in FY 2020 when our new billing system is in place. Your timely feedback will enable us to continue our critical work in developing and testing the new billing system so it is available for implementation in FY 2020 with the new rate structure.

We look forward to talking and engaging with you over the next few months and thank you in advance for your thoughtful consideration and input.

Sincerely,

The Washington Suburban Sanitary Commission

Thomasina V. Rogers, Chair



Carla A. Reid, General Manager/CEO

CC: Commission Members

Attachment: Management's Recommended Rate Structure Alternatives



Interoffice Memorandum

TO: COMMISSIONERS

FROM: CARLA A. REID
General Manager/Chief Executive Officer

DATE: NOVEMBER 1, 2017

SUBJECT: RECOMMENDED RATE STRUCTURE ALTERNATIVES

This memorandum provides the Commissioners with WSSC management's recommended rate structure alternatives and details the extensive, open and transparent process that lead to this recommendation. We firmly believe the three rate structures we are recommending better align costs to produce and deliver clean water with rates, reflect customer preferences, Commissioner rate setting policies, and provide a more predictable revenue stream to pay for infrastructure improvements. We look forward to discussing these recommendations with you at the Special Commission meeting scheduled for Wednesday, November 8, 2017.

Process

WSSC has engaged in a transparent and collaborative process to develop rate structure alternatives. We began the process in summer 2016 by convening the Bi-County Rate Structure Working Group (Working Group), which includes executive and legislative branch representatives from Prince George's and Montgomery County Governments. The Working Group met several times throughout this process to discuss specific rate structure alternatives, customer impacts, and policy priorities.

Customer input was crucial in the development of this recommendation. As you know, WSSC engaged in an extensive public outreach campaign designed to generate robust attendance and participation throughout this transparent process. We will detail these efforts in the next section of this memorandum.

To assist in the highly technical and complex work of developing a rate structure, WSSC hired nationally-renowned rate structure experts experienced in developing water and sewer rate structures for other jurisdictions including: Black and Veatch Management Consultants and Raffelis Financial Consultants. Additional experts in the areas of water conservation and customer assistance programs, 4Tenets Consulting and Scott J. Rubin, were also engaged since water conservation and affordability are important policy matters relating to rate structures. This team of experts informed the Commission how rate structures are typically developed using industry recognized public policy considerations, provided analysis on WSSC customer data, researched water utility rate structure practices and customer affordability programs in other jurisdictions, analyzed the impact of alternative rate structures on WSSC customer's bills, and



Interoffice Memorandum

provided extensive research on the state of Maryland environmental law and policies and legal requirements for rate structures that support water conservation and demand management.

Public, Customer, and Stakeholder Input

WSSC sought broad input from the public, our customers, elected officials, and other stakeholders throughout the development of rate structure alternatives.

In fall 2016, WSSC convened a Stakeholder Representative Group (SRG) comprised of a cross-section of WSSC's residential and non-residential customers from both Counties. The SRG met three times, from November 2016 through January 2017, and discussed various rate structures alternatives, customer impacts, rate structures used by other utilities, and policy priorities. The input provided by the SRG is summarized in the Comprehensive Water and Wastewater Cost Of Service And Rate Study Phase 1 Report - Stakeholder Engagement (Phase I Report)¹.

On Wednesday, March 15, 2017, the Commission was briefed by the Chief Financial Officer on the status of the rate structure review process, examples of rate structures reviewed by the Working Group and the SRG, and the customer impacts of these alternatives.²

On Wednesday, March 30, 2017, the Chief Financial Officer briefed a joint session of the Prince George's County Transportation, Housing, and Environment Committee (THE Committee) and the Montgomery County Transportation and Environment Committee (T&E Committee) on the status of the rate structure review process, examples of rate structures reviewed by the Working Group and the SRG, and the customer impacts of these alternatives³.

During summer 2017, WSSC held seven public informational meetings in both Prince George's and Montgomery Counties to present examples of rate structure alternatives, respond to questions on rate structure issues, and receive input from customers.

¹ The report is available at :
https://www.wsscwater.com/files/live/sites/wssc/files/Financial/Phase%201%20Report_Final_31_MAR2017.pdf

² This briefing can be found at:
<https://www.wsscwater.com/files/live/sites/wssc/files/Commission%20Agendas/2017agendas/march/Rate%20Study%20for%20Commission%203-15-17%20Final.pdf>

³ This briefing can be found at:
http://montgomerycountymd.granicus.com/MapView.php?view_id=&event_id=5313&meta_id=133788



Interoffice Memorandum

To help inform our customers and promote attendance at these informational meetings, WSSC employed direct mailings to all customers providing the date, time, and location of these meetings. In addition, the meetings were promoted through local news media, on WSSC's website, paid social media, and radio advertisements. Outreach was also targeted to our Spanish-speaking customers. All of these meetings were open to the public, livestreamed on Facebook or on WSSC's web page.⁴

In addition to these public meetings, WSSC provided a similar public presentation of the rate structure examples and answered questions from the public at four additional public meetings in Oxon Hill, Forestville, Berwyn Heights, and Glendale during June and July 2017.

After the five rate structure alternatives developed by WSSC's experts were presented to the Commission on September 13, 2017, WSSC also held three public hearings last month: October 16 in Largo, October 18 in Laurel, and October 19 in Rockville. Extensive public outreach was also used to promote these hearing and generate large turnout. At these public hearings, presentations were made on five rate structure alternatives being considered by the Commission and attendees interested in speaking were given three minutes to provide testimony on the rate structure alternatives. The record was kept open for any comments submitted in writing until October 31, 2017. Staff has attended several other customer and stakeholder meetings to present and discuss the five rate structure alternatives under consideration.

The public feedback provided at these meetings and hearings are summarized in Appendices #1 and #5.

To date, the Commission has met in four special sessions for the rate structure review. All of the special sessions were open to the public and livestreamed on the WSSC's website.⁵ At each of these meetings, time was allotted for the public to provide input on rate structure alternatives.⁶ In total, WSSC held or participated in 20 public meetings/hearings since spring 2017, which were attended by more than 1,200 customers. Additionally, all WSSC meetings were livestreamed and seen by nearly 2,500 viewers.

The Commission is scheduled to meet in a special session on rates structures on Wednesday, November 8, 2017, to discuss the recommendations in this memo. An agenda item is planned at the regularly scheduled Commission session on Wednesday,

⁴ Recordings of these meetings are also available on the WSSC website at:

www.wsscwater.com/ratestudy

⁵ These meetings were held in 2017 on June 30; August 3; August 15; and September 13. The recordings and briefing materials for these meetings can be found at:

<https://www.wsscwater.com/about-us/our-governance/corporate-secretary/commission-meeting-minutes/public-meetings-3.html>

⁶ The public comments provided at the Special Commission meeting are included in Appendix #1.



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November 15, 2017, to discuss and select which rate structure alternatives to transmit to the governing bodies of the Prince George's and Montgomery County Governments for their review.

Cost of Service Study

As part of the rate structure review process, a cost of service study was developed with the assistance of Black and Veatch Management Consulting.⁷ A cost of service study is an analysis performed by utilities of the costs of providing service to various customer groups and determining a reasonable allocation of cost recovery through usage charges to these customer groups. WSSC completed its first ever cost of service study in April 2017.⁸

The cost of service analysis provides a guideline for evaluating cost responsibility by customer group. The cost of service analysis indicated that due to the statutory restriction allowing only one customer class/rate structure, a uniform volume rate or a declining block rate would most closely align with the estimated cost of providing service to different customer groups. Appendix #2 provides an example of a declining block rate structure. A uniform volume rate would charge all customers one rate for each one thousand gallons of water consumed within a defined time period (e.g. day, month or quarter) and a declining block rate would charge customers less per thousand gallons of water consumed at pre-defined levels of consumption.

Public Service Commission Order

On March 28, 2017, the Maryland Public Service Commission (PSC) issued its ruling that the Commission's "...volumetric rate structure adopted for FY2016 is unduly discriminatory among classes of customers and is accordingly unreasonable." and ordered the Commission "...to develop reasonable rates consistent with the findings herein." *Richard D. Boltuck v. Washington Suburban Sanitary Commission*, Md. P.S.C Case No. 9391, Order No. 88091 (2017). The PSC based its decision, in part, on the fact WSSC was unable to produce documentation that the 16 tier block rate structure was adopted with consideration of the cost of providing service, the water conservation

⁷ The "Principles of Water, Rates, Fees, and Charges" M1 Manual published by the American Water Works Association, and the Manual of Practice No. 27 "Financing and Charges for Wastewater Systems" that is published by the Water Environment Federation state that other policy objectives should be considered by a utility that go beyond a cost based approach.

⁸ The Comprehensive Water & Wastewater Cost of Service and Rate Study - Phase 2 Final Report can be found at:

https://www.wsscwater.com/files/live/sites/wssc/files/Financial/Phase%202%20Report_Final_05_MAY2017.pdf



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benefits of an inclining block structure, and public policy objectives underlying this structure. Order at 14.⁹

Rate Structure Development and Design

Because WSSC's current rate structure was adopted 25 years ago and good management practice dictates periodic review of rate structure alternatives, and in response to the PSC Order, WSSC initiated a comprehensive rate structure review in a manner consistent with industry standards and practices, using industry recognized methodologies and public policy considerations. As part of this rate structure review, WSSC completed its first ever cost of service study which is available on WSSC's website as noted above. Utilizing their extensive rate structure experience and expertise, WSSC's experts considered the record available to the Commission including the analysis in the cost of service study, input from the public and stakeholders, the PSC Order, WSSC customer information, and research into the impact of various rate structures on water conservation, customer affordability, revenue stability and rate stability to develop five alternative rate structures which we believe are compliant with the PSC's order to develop a reasonable rate structure.

Each of the five rate structure options under consideration were developed using recognized public policy considerations, have a legitimate and rational basis, and would be consistent with the requirements of the PSC order.

Each of the five rate structure options would move WSSC's rate structure towards the cost of service, are commonly used within the industry, and have proven to be effective in addressing pricing policy considerations similar to those of WSSC.

Commission Policy Priorities

On August 3, 2017, the Commission received a briefing from one of our rate structure experts, Chris Woodcock of Raftelis Financial Consultants, on considering and incorporating policy priority considerations in rate design and adoption.¹⁰ Each Commissioner then ranked their individual policy priorities, which when tabulated resulted in the following ranking of policy priorities by the Commission as a whole:

1. Revenue Stability
2. Conservation/Demand Management

⁹ The documentation and testimony that the Commissioners have received and considered during this extensive process stands in stark contrast to the record of adoption of the 16 tier rate structure that was reviewed by the PSC in *Boltuck*.

¹⁰ The materials for this briefing can be found at:

<https://www.wsscwater.com/files/live/sites/wssc/files/Commission%20Agendas/2017agendas/august/E.2.a.%20-%20Pricing%20Policy%20Discussion%20Slides.pdf> and a recording of the briefing is available at: http://wsscwater.granicus.com/MediaPlayer.php?view_id=2&clip_id=357



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2. Rate Stability (had the same number of votes as Conservation)
3. Affordability
4. Ease of Understanding
5. Ease of Implementation
6. Minimize Customer Impacts
7. Cost Based Rates

Our rate experts, including Pam Lemoine of Black and Veatch and Chris Woodcock, William Stannard and Harold Smith of Raftelis Financial Consultants, then designed several rate structure alternatives that were responsive to these policy priorities and were consistent with industry best practices. As these experts noted during their testimony on September 13, 2017, the development of rate structure alternatives was constrained by legal and technical limitations. Our rate experts advised that there is not one rate structure that can meet each of these policy considerations equally well and as such the rate consultants also evaluated the ability of each of the alternative rate structures to meet the policy considerations.

Water Rate Affordability and Customer Assistance Programs

Throughout the rate structure development process, we have carefully considered the impact of a new rate structure on customer affordability, especially to our low and fixed income customers who struggle to pay for their essential needs. Based on WSSC's current population of vulnerable households, our own research and the advice of our Customer Assistance Program expert, it was determined that water rate affordability challenges for those households are most effectively addressed through carefully designed customer assistance programs and not through water and sewer rate structures. The alternate rate structures presented by the experts were evaluated on whether the structure made affordability of the proposed rate structures for vulnerable households more difficult. We are continually assessing the effectiveness of our existing customer assistance programs to identify where we can make targeted improvements. We have engaged Scott Rubin, a nationally recognized expert in water affordability, to assist us in this effort. Mr. Rubin's expertise in customer assistance programs will help us to effectively reach out to our vulnerable customers, particularly hard to reach populations and renters. We are committed to recommending enhancements to our customer assistance programs as part of our implementation of a new rate structure.

Customer Feedback Community

On Thursday, September 7, 2017, WSSC convened a meeting of its Customer Feedback Community (CFC). The CFC is a diverse group of residential and business customers from Prince George's and Montgomery counties who advise WSSC on a variety of issues, including future initiatives, rate structure and customer service. The group is demographically representative of our customer base. With online and in-person feedback options, the CFC ensures that WSSC receives real-time and qualitative



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insight from our customers. The CFC received a briefing on the rate structure review process and the industry recognized policy priority considerations in developing a rate structure. The CFC voted on its own policy priorities and ranked Affordability, Rate Stability, and Conservation/Demand Management as its top three priorities. More details on the CFC ranking is included in Appendix #3.

Rate Structure Alternatives

The five rate structure alternatives developed by our panel of experts are summarized in the table on the next page. They include a uniform rate, two 3-tier inclining block rate options, and two 4-tier inclining block rate options.

The development of the inclining rate structures was influenced by relevant findings about WSSC's customer base derived from local census data. WSSC's customer base is overwhelmingly residential with 93% of bills going to those in Single Family Residential (SFR) and Multifamily (MF) residential housing (with about 66% of residential customers in SFR housing). Nearly 75% of all households are 3 or less persons per household and 95% of all households have 5 or fewer persons¹¹.

The overwhelmingly residential character of WSSC's customer base, most common household sizes, and average consumption needs formed the basis of tier breaks within the four inclining block rate structure alternatives.

The World Health Organization (WHO) estimates that the minimum reasonable sanitary needs for an individual is 100 liters or 26 gallons of water per day (GPD). In addition, the average per capita consumption in WSSC's service area is 55 gallons per day.

The 80 GPD tier would meet the minimum sanitary needs of a three-person household, which is the most common type of WSSC residential customer. The 165 GPD tier would provide adequate water for that same three-person household, using WSSC's average per person consumption across our entire residential customer base. The 275 GPD tier would provide adequate water for a residential household of five, based on average per person consumption. As stated above, 95% of all households in the service area have 5 or fewer persons.

The table below shows the five rate structure alternatives presented to the Commissioners by the experts. Appendix #4 contains the presentation on the five alternative rate structures including a detailed analysis of customer bill impacts.¹²

¹¹ U.S. Census, American Community Survey, 2015 5 year estimates (<http://factfinder.census.gov/>).

¹² The rates in each rate structure alternative in Appendix #4 are set to maintain revenue neutrality for WSSC based on its FY18 budget plus a 2% adjustment for potential increased customer delinquencies and technical impacts of implementing a new rate structure.



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Rate Structure Alternatives

		Water & Sewer Tiers (gpd)				
Uniform			\$14.73 (\$/Kgal)		\$14.73 (\$/Kgal)	
3 Tier Inclining	Option A	0-80	\$ 10.66	Option B	0-165	\$ 10.41
		81-165	\$ 13.43		166-275	\$ 13.89
		>165	\$ 17.61		>275	\$ 19.96
4 Tier Inclining	Option A	0-80	\$ 10.66	Option B	0-80	\$ 10.66
		81-165	\$ 12.25		81-165	\$ 13.09
		166-275	\$ 14.86		166-9,000	\$ 16.16
		>275	\$ 18.74		>9,000	\$ 20.52

October Public Hearings

In the three October public hearings, nearly 180 people attended and 26 people testified. The testimony is summarized in the table in Appendix #5. Generally, concerns were expressed about the impact on residential customer affordability and conservation in changing from the current rate structure to one of the five alternative rate structures. However, several speakers testified in support of the uniform rate alternative.

After the public hearings, on October 20, 2017, the Working Group was re-convened by WSSC to provide input to the General Manager on the five rate structure alternatives that were presented at the October Public Hearings. The Working Group discussed how the five alternative rate structures compared to each other on the policy priorities especially in terms of affordability, revenue stability, conservation, and rate stability. There was no recommendation at this time from the Working Group on which of the five alternative rate structure should be considered by the Commission.

Recommended Rate Structure Alternatives

After careful consideration of the record and information to date, we are recommending the following rate structure alternatives for further consideration and deliberation:

- 3-tier inclining block rate structure alternatives 3A and 3B
- 4-tier inclining block rate structure alternative 4A

As previously mentioned, we firmly believe the three rate structures we are recommending better align costs to produce and deliver clean water with rates, reflect customer and Commissioner rate setting policy goals, and provide a more predictable revenue stream to pay for infrastructure improvements. These alternatives also take into consideration the feedback received from the public during our extensive outreach efforts.



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The three rate structure alternatives recommended by management for further consideration are all inclining block structures. They either have 3 or 4-tiers, which is standard in the water and wastewater industry for inclining block structure. In addition, all of the recommended rate structure alternatives will bill "through the block" or at each level of consumption rather than at the highest level of consumption. Billing through the block is also an industry standard.

The options recommended meet the Commission's policy priorities discussed above. While the Commission ranked other priorities as more critical than cost based rates, each option does provide reasonable cost recovery by customer type, with each option moving toward cost of service as estimated in the cost of service analysis.

An inclining block structure sends a more conservation-oriented price signal to the ratepayers. Conservation objectives were strongly supported by both the Commission, the CFC and in public meetings. The need for water conservation and the benefits of demand management were detailed in a white paper submitted to the Commission and discussed at the June 30, 2017, special meeting. As a bi-county state agency, we are particularly cognizant of the provisions in State law that require public water systems to improve water conservation and the efficiency with which water is used, treated, stored, and distributed.¹³

We are not recommending alternative 4B. The highest tier cutoff found in 4B, namely 9,000 or greater GPD, is from the current WSSC 16-tier rate structure. This tier cutoff would, as a practical matter, only apply to very large commercial and institutional users. Since the customer base is overwhelming residential, 93%, the tier cutoffs in the inclining block structures should be based on residential usage at this point in time.¹⁴ Also, of the four inclining block rate structures proposed, 4B provides the least revenue stability which was ranked as the top priority of the Commissioners. Revenue stability is also critical to management in light of the fact that WSSC is currently implementing one federal consent decree relating to sanitary sewer overflows expected to cost more than \$1.7 billion over 17 years, and will be implementing a second federal consent decree relating to the Potomac Water Plant, which is expected to cost at least \$158 million over 10 years.

¹³ The White paper and related presentation can be found at:

<https://www.wsscwater.com/files/live/sites/wssc/files/Commission%20Agendas/2017agendas/august/Additional%20Materials%20August%203.pdf> and
<https://www.wsscwater.com/files/live/sites/wssc/files/Commission%20Agendas/2017agendas/august/Water%20Conservation%20Policy%20Briefing.pdf>

¹⁴ If the Commission were to receive the authority to establish rates by customer class, considering a rate or tier cut offs based on the volumetric consumption by large commercial and institutional uses would be an appropriate consideration at that time.



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In addition to furthering conservation, each of the other inclining block rate structures, 3A, 3B, and 4A, promote or are neutral towards the other top ranked priorities of revenue stability, rate stability, and affordability.

We are also not recommending the uniform rate. Even though the uniform rate has benefits in terms of revenue stability, ease of understanding and implementation, it does not support the key priorities of conservation, rate stability, or affordability.

In addition, while some support has been expressed by customers and stakeholders for a uniform rate, it was generally not supported in public meetings. The public expressed concerns about the fairness and impact of significantly inclining the economic burden on residential customers, especially those with low and fixed incomes, while significantly lowering the burden for non-residential customers (including many businesses and government entities).

A uniform rate would have a significantly adverse impact on low and fixed income households. For the typical residential family, the annual bill based on uniform rates would increase by more than 20% and would represent up to 5% of the annual income of customers in the lowest one-fifth of household income in Prince George's County and 4% for similar households in Montgomery County. A change of this magnitude in the size of customer bills, even if phased in over a number of years, would be a significant economic hardship for many of our customers.

Conservation is integral to the management of the Potomac River and is needed to ensure a viable long-term supply for the region and to preserve the ecological health of Maryland's water resources. Pricing and rate structures can be effective tools, readily understood by WSSC's customers to encourage and promote water conservation. The absence of a pricing signal in a uniform rate does not support Maryland's conservation policies.

We look forward to discussing these recommendations with you at the special Commission meeting on Wednesday, November 8, 2017. Please let me know if you have further questions or are in need of clarification on these matters.



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Appendix #1: Summary of Public Comments

Summary of Public Comments, Questions, & other Feedback Received

Category	Public Meeting Comments	Public Meeting Questions	Email/Letters	Total	% of Total
Affordability: Impact of new rate structure					
1 on residential customers	38	29	67	134	39.6%
Conservation: Impact of new rate structure on water use					
2 Ready to Serve Charges	9	21	28	58	17.2%
3 Process: Residential customer role in new rate structure	5	11	12	28	8.3%
4 WSSC Budget & Cost Controls	3	12	10	25	7.4%
5 Lawsuit & Future PSC Review of Rates	2	6	6	14	4.1%
6 Support For Uniform Rate	-	8	6	14	4.1%
7 Support for 4-tier Increasing Rates	5	2	7	14	4.1%
8 Impact of new rate structure on Multifamily and condo customers	3	4	3	10	3.0%
9 Impact of new rates on Service & Infrastructure	2	5	3	10	3.0%
10 Impact of new rate structure on large families	2	1	6	9	2.7%
11 Support for option 3-tier Increasing Rate (3B)	-	-	8	8	2.4%
12 Total Comments on Rate Structures	69	105	164	338	
13 Public Comments Not Related to the Rate Structure					
14 Comments on Presentation	9	16	9	34	
Non-Rate Structure: Billing/Customer					
15 Service	27	29	23	79	
16 Other	18	11	18	47	
17 Location & Venue	7	-	-	7	
18 Total for Other Comments	61	56	50	167	
	130	161	214	505	

Note: The summary of Public Comments in Appendix #1 does not include the comments received at the October 16th, 18th, or 19th 2017 Public Hearings which are summarized in Appendix #5.



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Appendix #2: Declining Block Rate Structure

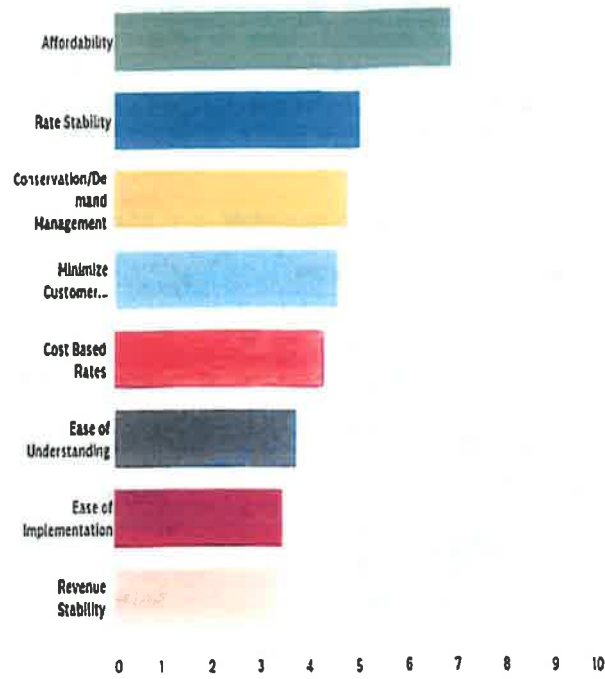
	DESCRIPTION	WATER	SEWER	COMBINED
4-Tier Option 1				
1	0 – 99 gallons/day	\$7.31	\$10.06	\$17.37
2	100 – 249 gallons/day	\$6.58	\$9.05	\$15.63
3	250 – 8,999 gallons/day	\$4.75	\$6.54	\$11.29
4	9,000 and over gallons/day	\$4.39	\$6.04	\$10.43



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Appendix #3: Customer Feedback Community Ranking of Policy Priorities

Q1 Prioritize the importance of these policy considerations





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Appendix #4: Rate Structure Alternatives and Customer Bill Impacts

Average Family Impact with Uniform Rates

	Average Family Impact							
	Combined Rate (\$/gpd)	Current Bill (\$/quarter)	Bill (\$/quarter)	\$ Change (\$/quarter)	% MHI PGC	% MHI MC	% LQI PGC	% LQI MC
Uniform	\$14.73	\$205.45	\$248.95	\$43.50	1.3%	1.0%	5.0%	4.0%

Notes: gpd=gallons per day; MHI=Median Household Income; PGC=Prince George's County; MC=Montgomery County; LQI= Lowest Quintile of Income (i.e. households in lowest one-fifth of income bracket)

Assumes 3/4 inch meter

Example of the quarterly customer bill for a 3 person household using 55 gpd/person

Residential Customer Impacts with Uniform Rates

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 49.90	\$ 57.46	\$ 7.56

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 121.42	\$ 160.97	\$ 39.55

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 79.60	\$ 101.65	\$ 22.05

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 205.45	\$ 248.95	\$ 43.50

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 91.64	\$ 131.11	\$ 39.47

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 822.88	\$ 705.58	\$ (117.30)

Non-Residential Customer Impacts with Uniform Rates

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 1,414.24	\$ 1,213.64	\$ (200.60)

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 3,553.58	\$ 2,907.59	\$ (645.99)

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 20,720.68	\$ 16,493.49	\$ (4,227.19)

	Current	Uniform	
	Bill Amount	Bill Amount	\$ Change from Current
Total Bill	\$ 621,364.68	\$ 473,491.74	\$ (147,872.94)



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Appendix #4: Rate Structure Alternatives and Customer Bill Impacts (continued)

Average Family Impact of 3-Tier Inclining Block Rate Structures

Average Family Impact - Using 55 gpd Per Person for a 3 Person Household						
		W/Sewer Tiers (gpd)	Combined Rate (\$/kgal)	Current Bill (\$/quarter)	Bill (\$/quarter)	\$ Change (\$/quarter)
		3 Tier Inclining	Option A	0-80	\$10.66	\$205.45
81-165	\$13.43					
>165	\$17.61					
Option B	0-165		\$10.41	\$205.45	\$184.15	(\$21.30)
	166-275		\$13.89			
	>275		\$19.96			

Notes: Example of the quarterly customer bill for a 3-person household using 55 gpd/person. Assumes 3/4 inch meter

Residential Customer Impacts with 3-Tier Inclining Block Rates

Usage	Current	3 Block Option A		3 Block Option B	
	Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Single Family Residential 3/4" meter, 15 gpd	\$ 43.90	\$ 49.32	\$ 5.42	\$ 48.82	\$ 4.92
Single Family Residential 3/4" meter, 15 gpd	\$ 73.60	\$ 81.30	\$ 7.70	\$ 80.85	\$ 6.45
Single Family Residential 3/4" meter, 30 gpd	\$ 91.84	\$ 102.63	\$ 10.79	\$ 100.87	\$ 9.03
Single Family Residential 1" meter, 15 gpd	\$ 121.42	\$ 128.48	\$ 8.06	\$ 121.89	\$ 0.27
Single Family Residential 1" meter, 15 gpd	\$ 205.45	\$ 210.06	\$ 4.61	\$ 184.15	(\$21.30)
Single Family Residential 1" meter, 30 gpd	\$ 222.88	\$ 255.97	\$ 33.09	\$ 242.21	\$ 19.33

Non-Residential Customer Impacts with 3-Tier Inclining Block Rates

Usage	Current	3 Block Option A		3 Block Option B	
	Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Nonresidential 2" meter, 750 gpd	\$ 1,414.24	\$ 1,327.39	\$ (86.85)	\$ 1,365.33	\$ (48.91)
Nonresidential 2" meter, 3,000 gpd	\$ 3,559.58	\$ 3,352.54	\$ (201.04)	\$ 3,660.73	\$ 107.15
Nonresidential 3" meter, 10,000 gpd	\$ 20,720.68	\$ 19,040.84	\$ (1,679.84)	\$ 21,064.53	\$ 343.85
Nonresidential 3" meter, 350,000 gpd	\$ 621,364.68	\$ 565,391.09	\$ (55,973.59)	\$ 640,323.53	\$ 18,958.85



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Appendix #4: Rate Structure Alternatives and Customer Bill Impacts (continued)
Average Family Impact of 4-Tier Inclining Block Rate Structures

Average Family Impact - Using 55 gpd Per Person for a 3 Person Household						
4-Tier Inclining	Option A	W/Sewer Tiers (gpd)	Combined Rate (\$/kgal)	Current Bill (\$/quarter)	Bill (\$/quarter)	\$ Change (\$/quarter)
		0-80	\$10.66	\$205.45	\$200.62	(\$4.83)
81-165	\$12.25					
166-275	\$14.86					
>275	\$18.74	\$205.45	\$207.34	\$1.89		
Option B	0-80				\$10.86	
81-165	\$13.09					
166-9,000	\$16.16					
>9,000	\$20.52					

Notes: Example of the quarterly customer bill for a 3-person household using 55 gpd/person. Assumes 3/4 inch meter

Residential Customer Impacts with 4-Tier Inclining Block Rates

Residential Customer 2" meter, 250 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 43.90	\$ 49.32	\$ 5.42	\$ 49.32	\$ 5.42

Residential Customer 2" meter, 400 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 121.42	\$ 127.12	\$ 5.70	\$ 128.80	\$ 7.38

Residential Customer 2" meter, 750 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 72.60	\$ 81.30	\$ 7.70	\$ 81.30	\$ 7.70

Residential Customer 2" meter, 1000 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 205.45	\$ 200.62	\$ (4.83)	\$ 207.34	\$ 1.89

Residential Customer 2" meter, 1500 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 91.84	\$ 102.62	\$ 10.78	\$ 102.62	\$ 10.78

Residential Customer 2" meter, 2000 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 822.88	\$ 742.76	\$ (80.12)	\$ 708.30	\$ (114.58)

Non-Residential Customer Impacts with 4-Tier Inclining Block Rates

Non-Residential Customer 2" meter, 750 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 1,416.24	\$ 1,339.04	\$ (77.20)	\$ 1,247.82	\$ (168.42)

Non-Residential Customer 2" meter, 2,000 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 3,553.58	\$ 3,494.14	\$ (59.44)	\$ 3,106.22	\$ (447.36)

Non-Residential Customer 2" meter, 3,000 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 20,720.68	\$ 20,007.34	\$ (713.34)	\$ 18,137.14	\$ (2,583.54)

Non-Residential Customer 2" meter, 5,500 gpd

Current	4 Block Option A		4 Block Option B	
Bill Amount	Bill Amount	\$ Change from Current	Bill Amount	\$ Change from Current
Total Bill \$ 621,564.68	\$ 601,418.84	\$ (19,945.84)	\$ 654,770.14	\$ 33,405.46



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Appendix #5: Public Hearing Comments

Summary of October 2017 Public Hearing Comments

Category	Public Hearing Comments	% of Total
Impact on affordability for residential		
1 customers	6	31.6%
2 Support for Uniform Rate	6	31.6%
Conservation: Impact of new rates on		
3 water use	4	21.1%
Support for Option 3 Tier Increasing Rate		
4 (3B)	1	5.3%
Support for 4 Tier Increasing Rate		
5 Structure	1	5.3%
Different rates for Residential and		
6 Industrial Customers	1	5.3%
7 Total	19	100.0%
8		
Non-Rate Structure: Billing/Customer		
9 Service	7	

Note: This summary of Public Hearing Comments does not include the comments received at the May-June 2017 Public Informational meetings or received by email or letter from customers, which are summarized in Appendix #1.

Recommended Rate Structure Regular Commission Meeting

July 18, 2018

Why Change?

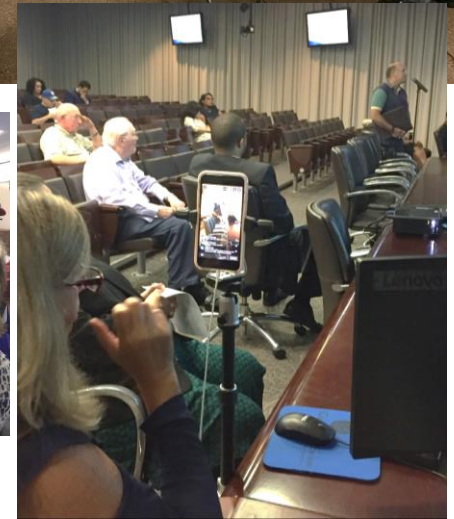
1. WSSC's current rate structure was adopted 25 years ago and good management practice dictates periodic review of rate structure alternatives.
2. The Maryland Public Service Commission (PSC) directed WSSC to develop a new rate structure. The PSC found the existing rate structure to be preferential to low-usage customers.

WSSC's FY18 Rate Structure

	Combined Water & Sewer Rates Per 1,000 Gallons
Average Daily Consumption (ADC)	Effective
Range (Gallons Per Day)	July 1, 2017
0-49	\$ 7.95
50-99	9.12
100-149	10.38
150-199	11.83
200-249	13.27
250-299	14.38
300-349	15.29
350-399	15.99
400-449	16.46
450-499	16.95
500-749	17.28
750-999	17.68
1,000-3,999	18.26
4,000-6,999	18.67
7,000-8,999	18.94
9,000 & Greater	19.36

Extensive Public Outreach

- ❖ 30+ public meetings attended by 1,500+ WSSC customers including:
 - ❖ Public Informational Meetings
 - ❖ Public Hearings
 - ❖ Special commission meetings
 - ❖ Elected official briefings
- ❖ All WSSC meetings livestreamed and seen by nearly 2,500 viewers
- ❖ 3 direct mailings to all customers
- ❖ Radio ads on key stations
- ❖ English/Spanish outreach
- ❖ Paid social media ads
- ❖ News releases/earned media
- ❖ Elected official notification
- ❖ wsscwater.com/ratestudy



Commissioners' Policy Priorities

Policy Considerations	Rank
Revenue Stability	1
Conservation/Demand Management	2
Rate Stability	2
Affordability	3
Ease of Understanding	4
Ease of Implementation	5
Minimize Customer Impacts	6
Cost Based Rates	7

Framework for Developing Rate Structure Alternatives

- ❖ Basis for rate design is 3 person household
- ❖ Typical household size in WSSC service area is 3 people
- ❖ 93% of all bills are for residential customers
- ❖ 75% of residential households are 3 or less people
- ❖ 95% of residential households are 5 or less people

Framework for Developing Rate Structure Alternatives

- ❖ **26 gallons per person per day** is based on the World Health Organization estimate of minimum sanitary needs
- ❖ **80 gallons per day** – Minimum sanitary needs for a 3 person household
- ❖ **165 gallons per day** – Based on average per person consumption of 55 gpd for a 3 person household
- ❖ **275 gallons per day** – Based on average per person consumption of 55 gpd for a 5 person household

Recommended Rate Structures

Type of Rate Structure	Alternatives	Water & Sewer Tiers (gpd) Gallons Per Day	Rate per 1,000 Gallons
3 Tier Inclining	Alternative 3A	0-80	\$10.66
		81-165	\$13.43
		>165	\$17.61
3 Tier Inclining	Alternative 3B	0-165	\$10.41
		166-275	\$13.89
		>275	\$19.96
4 Tier Inclining	Alternative 4A	0-80	\$10.66
		81-165	\$12.25
		166-275	\$14.86
		>275	\$18.74

Rates are illustrative only based on FY18 revenue requirements. Final rates for FY20, when the new rate structure will take effect, will be adopted in June 2019.

Recommended Rate Structure

Type of Rate Structure	Alternative	Water & Sewer Tiers (gpd) Gallons Per Day	Rate per 1,000 Gallons
4 Tier Inclining	Alternative 4A	0-80	\$10.66
		81-165	\$12.25
		166-275	\$14.86
		>275	\$18.74

Rates are illustrative only based on FY18 revenue requirements. Final rates for FY20, when the new rate structure will take effect, will be adopted in June 2019.

Policy Priority: Revenue Stability

- ▶ Alternative 4A will provide a more predictable revenue stream compared to the current rate structure.
- ▶ Revenue stability is crucial given WSSC's robust capital improvements program, which exceeds \$3.3 billion for FY19–24.

Policy Priority: Conservation

- ▶ The inclining tier structure of Alternative 4A sends a clear conservation message to customers.
 - Conservation is a high priority of the Commissioners, was strongly supported by customers, and is legislatively mandated.

Policy Priority: Simplifies, Stability, Cost Alignment

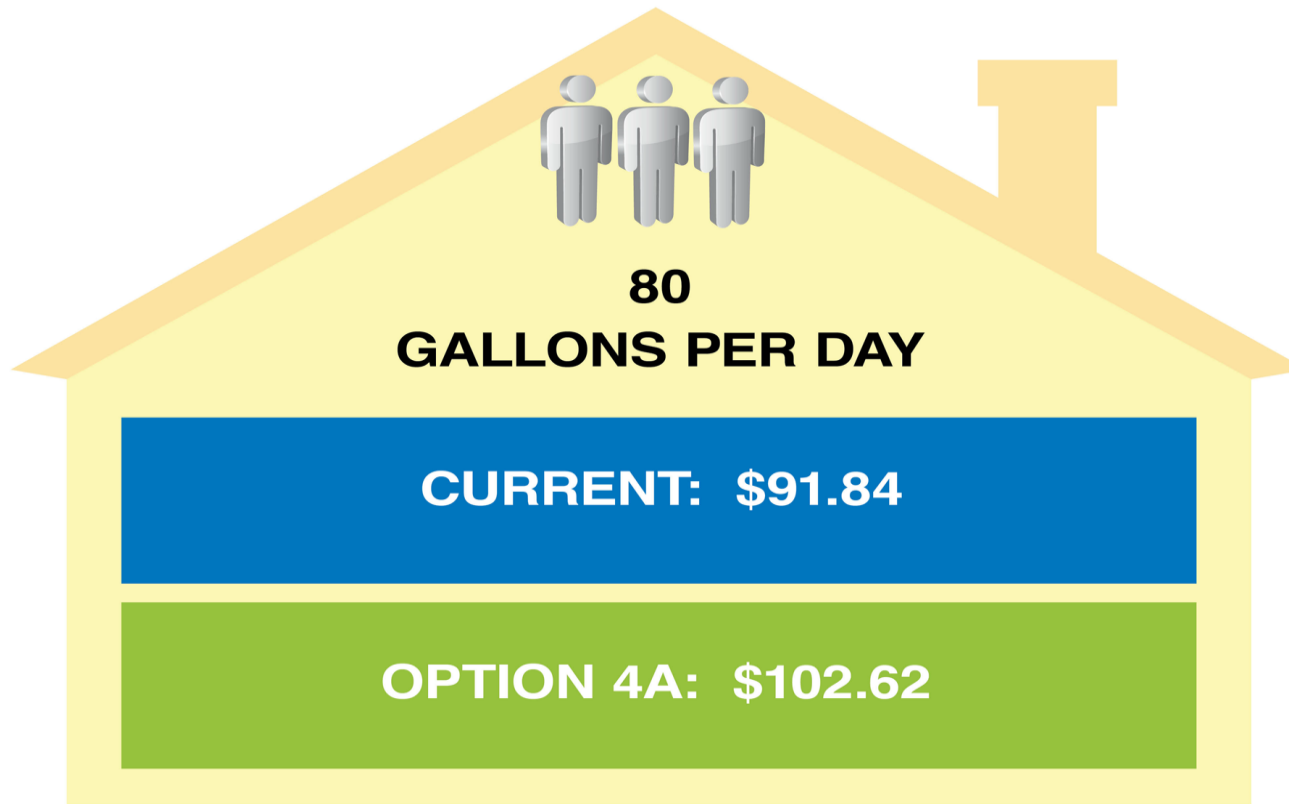
- ▶ Significantly simplifies the rate structure
- ▶ Maintains rate stability with inclining tier rates
- ▶ Results in more equitable recovery of costs by charging for consumption within each tier of use rather than at the highest tier.
- ▶ Better aligns costs with rates

Policy Priority: Affordability

- ▶ Customer affordability was a top policy priority
- ▶ Alternative 4A best addresses customer affordability
 - Especially when compared to the uniform rate for our most vulnerable low and fixed income customers.
- ▶ Estimated quarterly bill for 3 person residential households *declines* by nearly \$5 /quarter

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



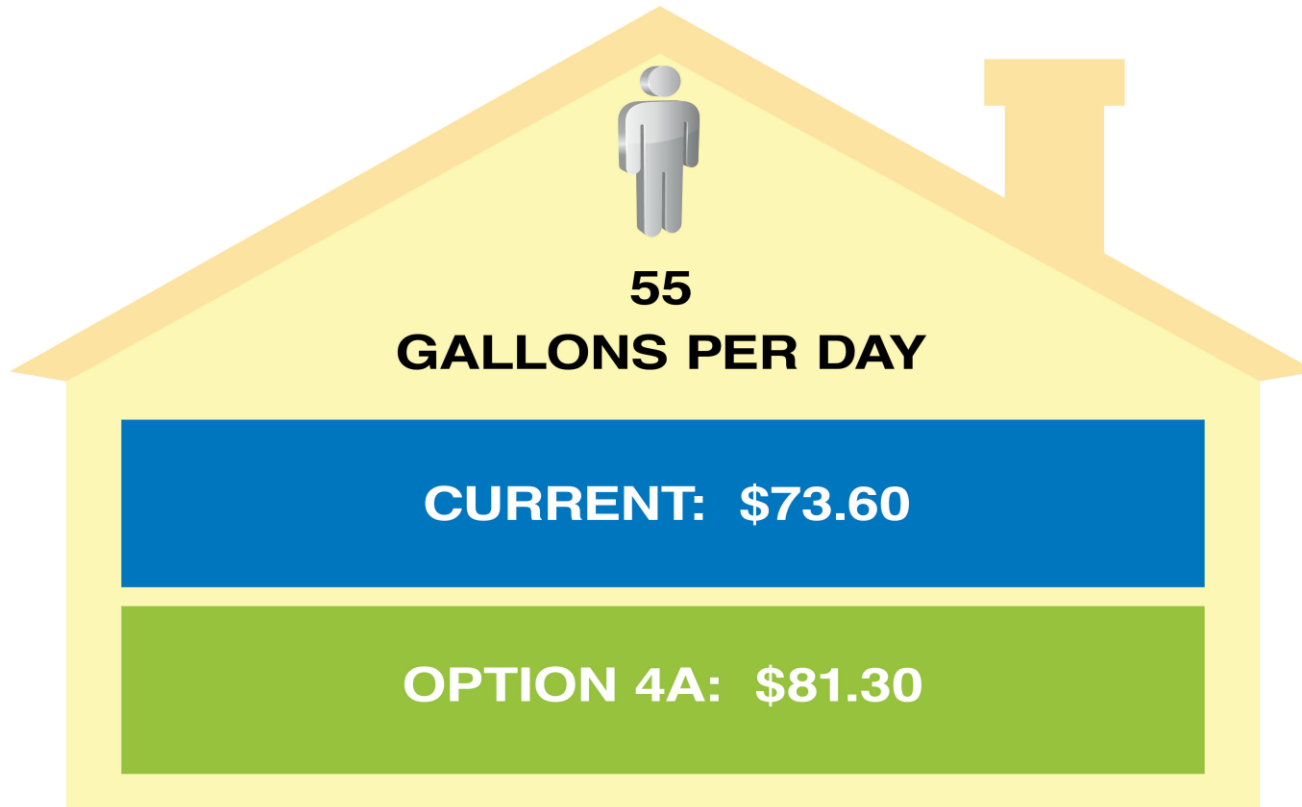
80 gallons per day is based on World Health Organization estimate of 26 gallons per person per day (minimum sanitary needs) for a 3 person household

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

These amounts are based on a 3/4" meter.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

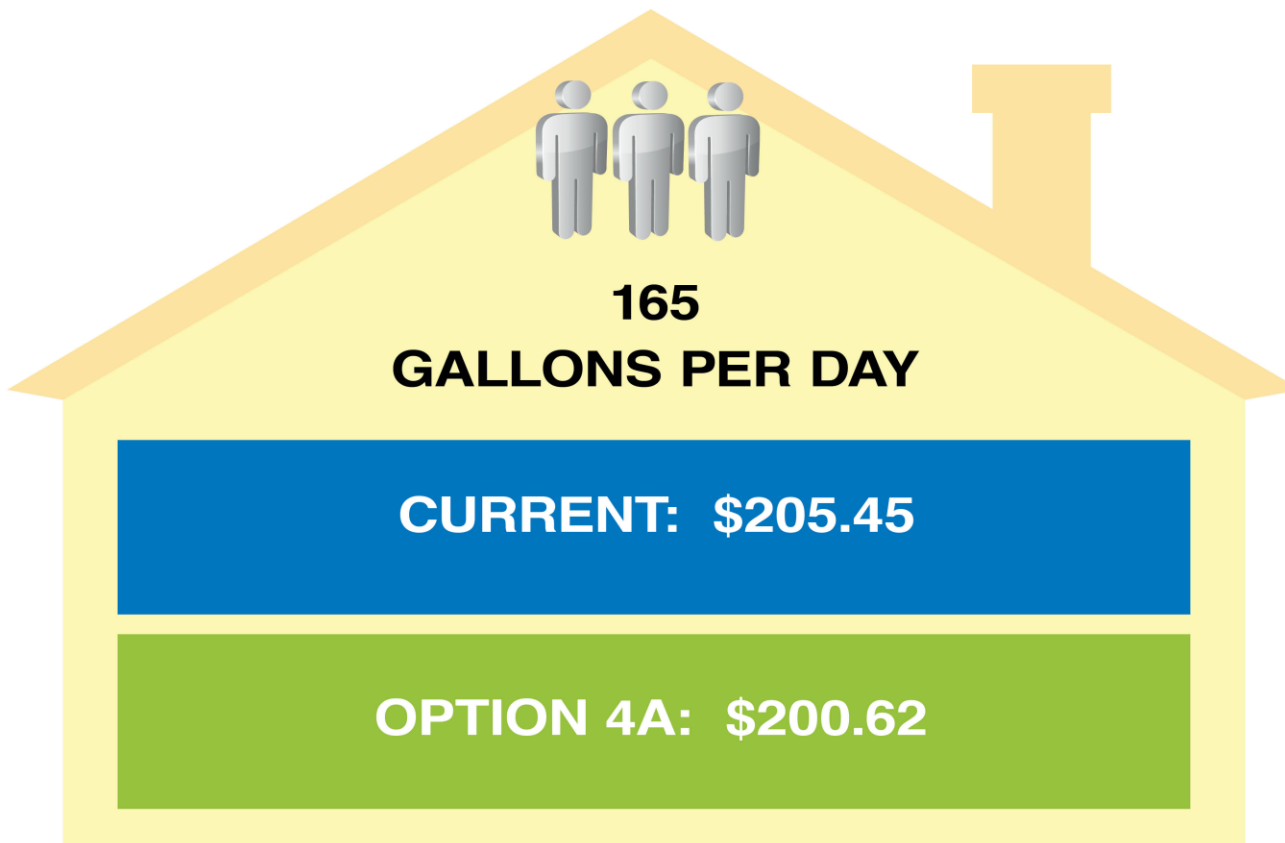
RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



The average per person consumption in the WSSC service area is 55 gallons per day

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

These amounts are based on a 3/4" meter.



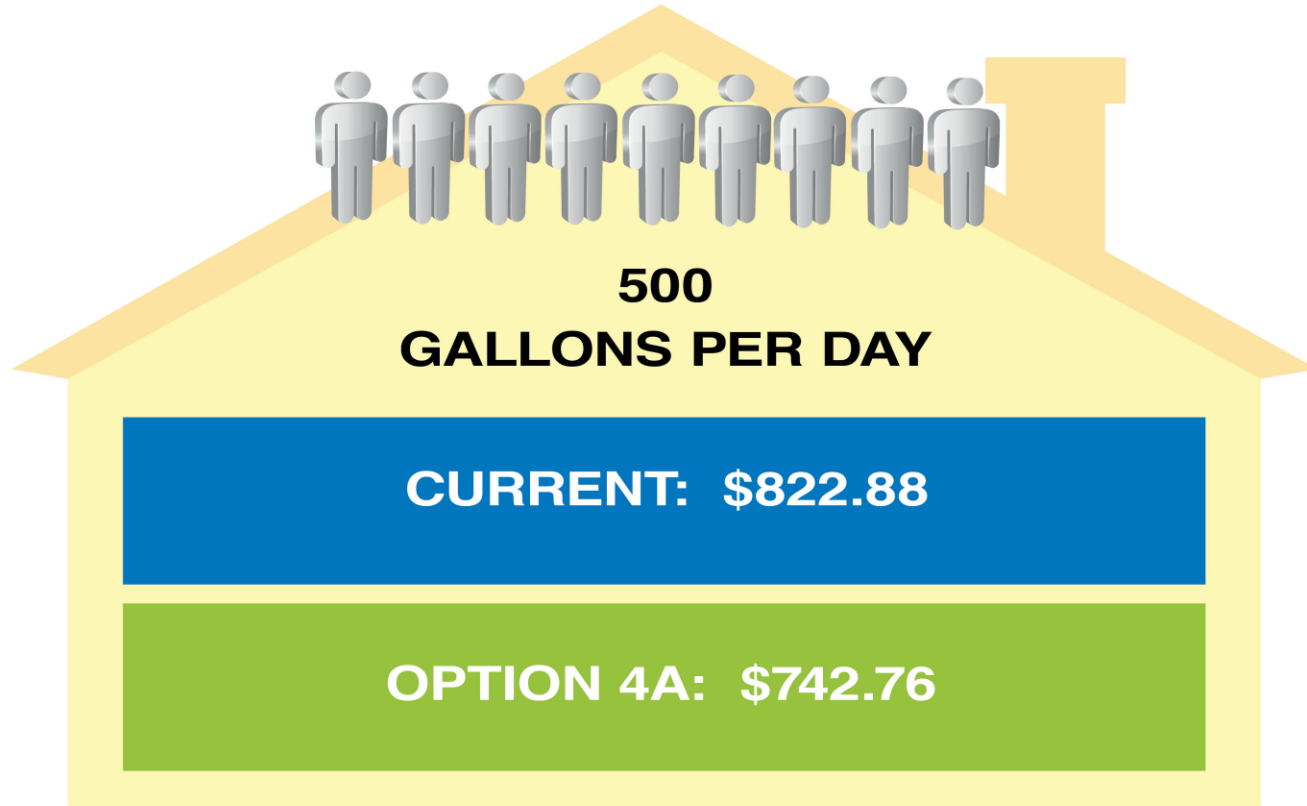
165 gallons per day is based on the average per person consumption of 55 gallons per day for a 3 person household

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

These amounts are based on a 3/4" meter.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 • RATE STRUCTURE IS REVENUE NEUTRAL



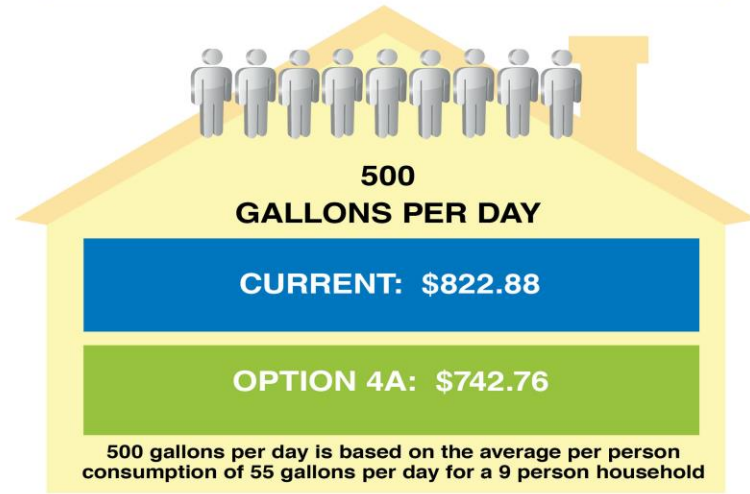
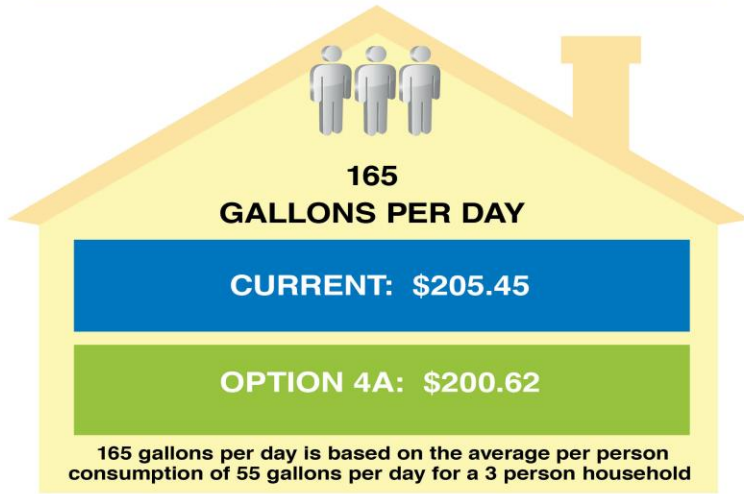
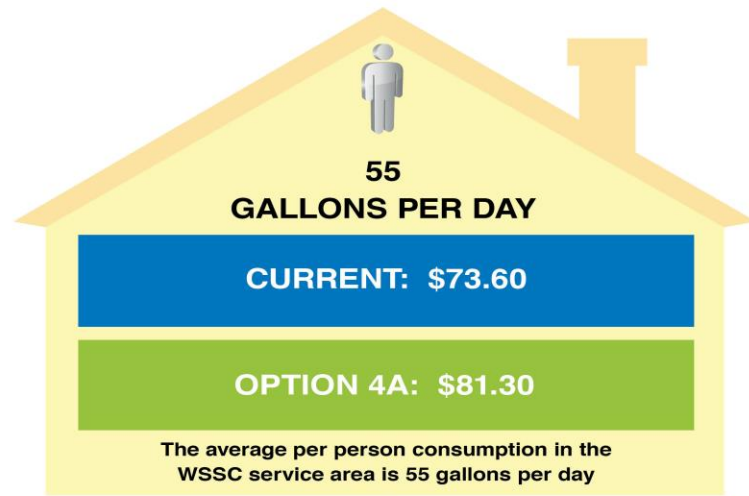
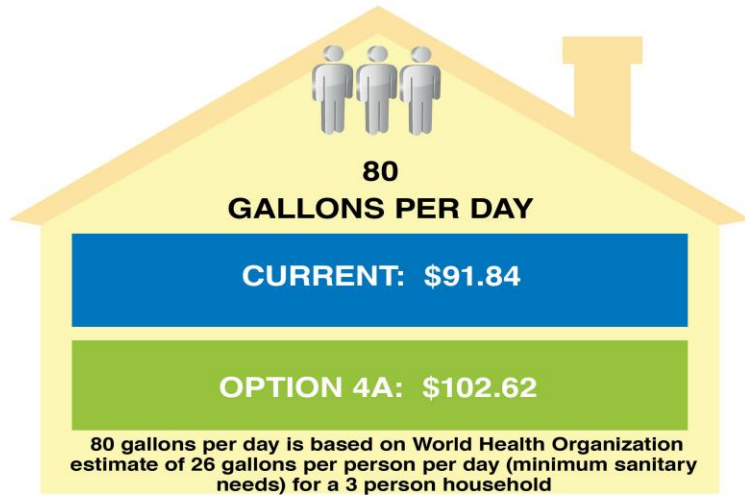
500 gallons per day is based on the average per person consumption of 55 gallons per day for a 9 person household

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

These amounts are based on a 3/4" meter.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 • RATE STRUCTURE IS REVENUE NEUTRAL

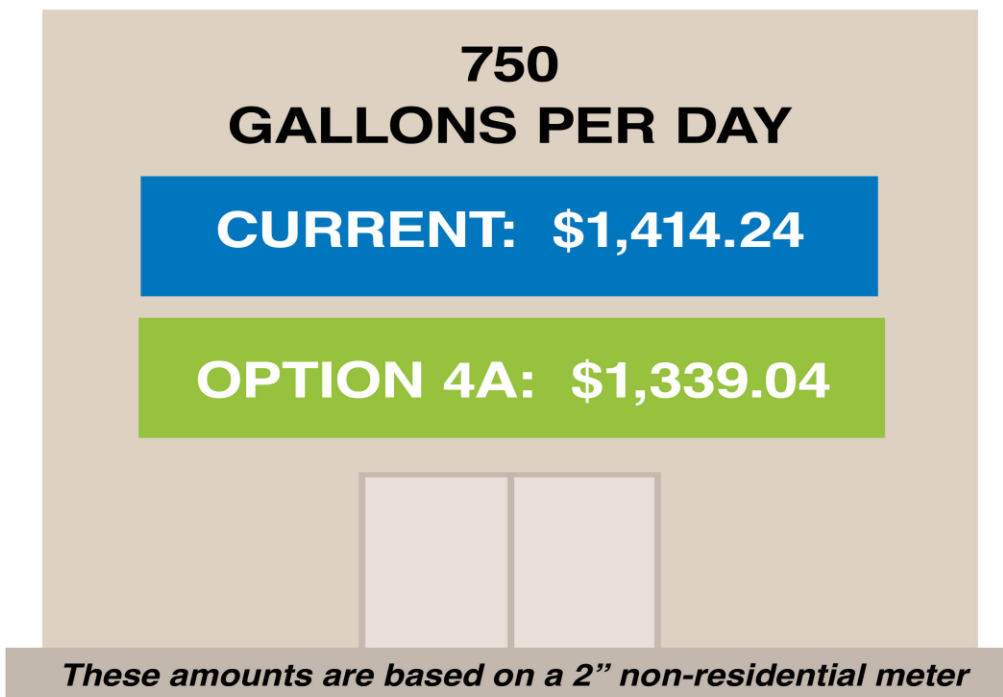


Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

These amounts are based on a 3/4" meter.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



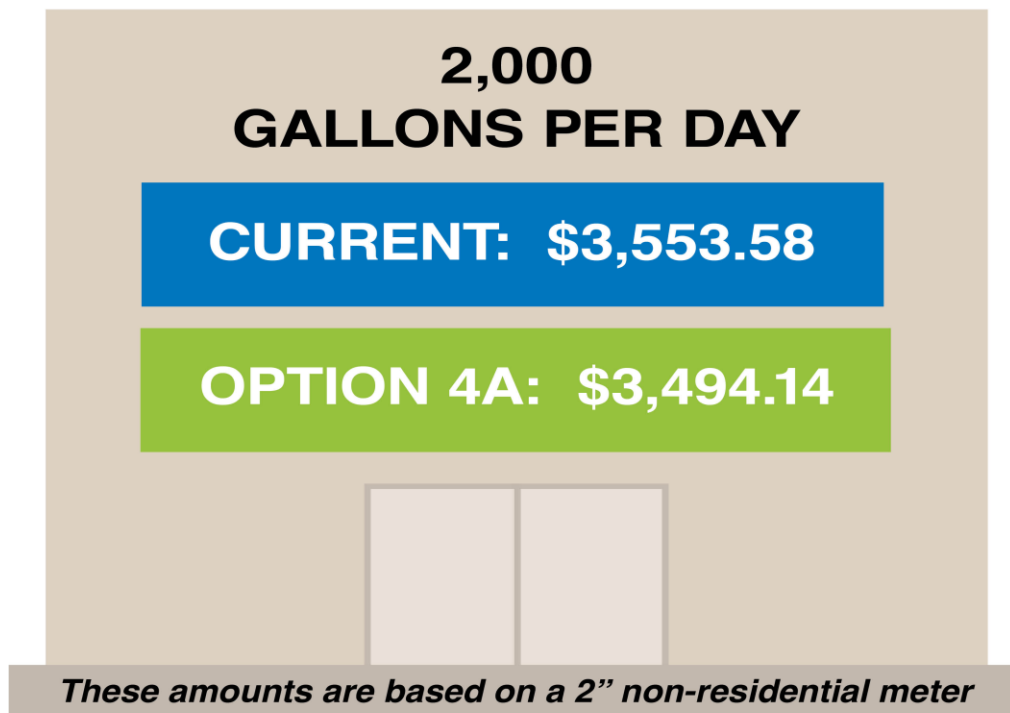
Examples:

- Salons • Dry Cleaners • Car Dealers

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



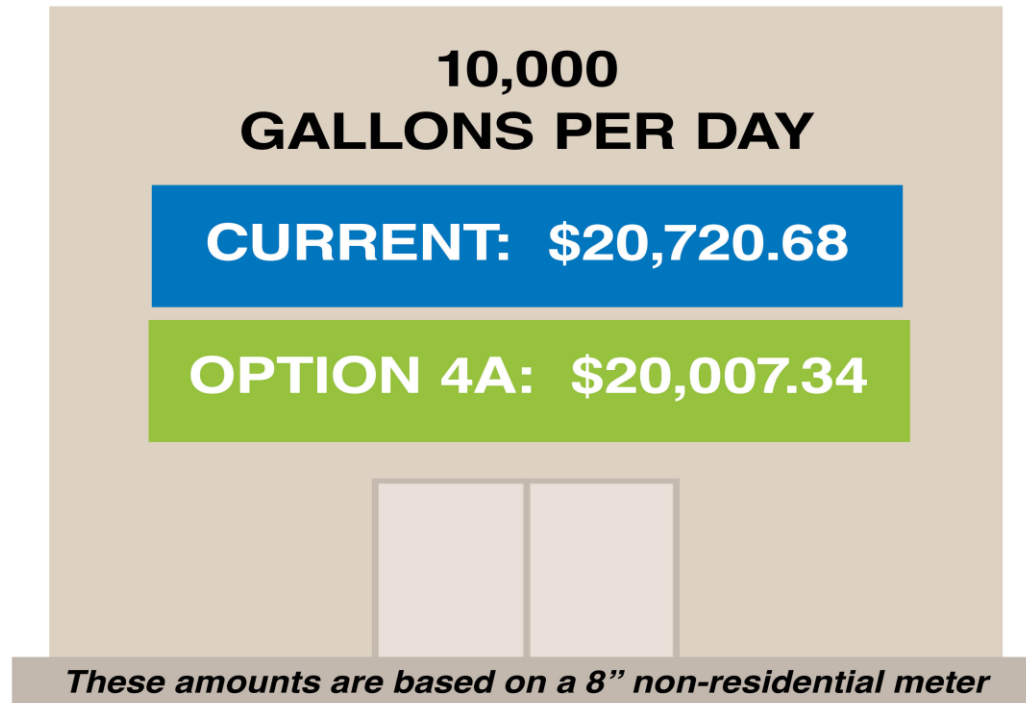
Examples:

- Large Restaurants
- Large Churches
- Small Shopping Centers

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



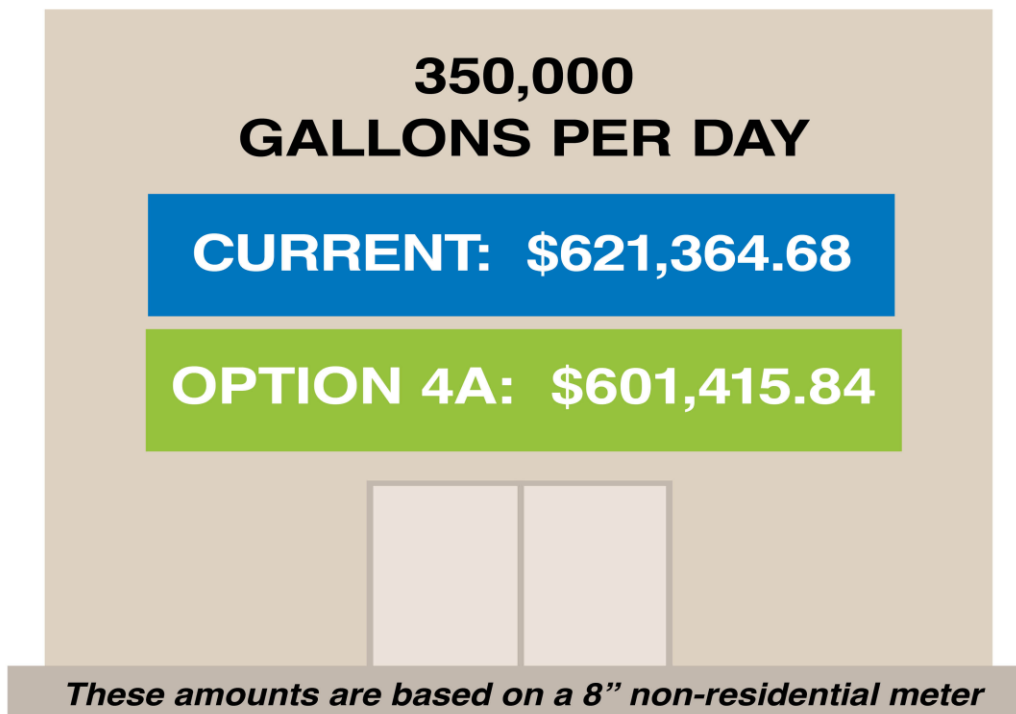
Examples:

- Very Large Office Buildings
- Community Pools • Large Hotels

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



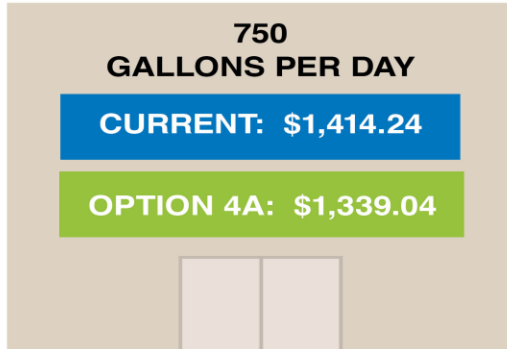
Examples:

- **Water Intensive Manufacturing (Bottling Plants, Ice Production, Pharmaceuticals)**
- **Universities • Government Facilities**

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

WSSC Management's Recommended Rate Structure (4A) Quarterly Bill Impacts

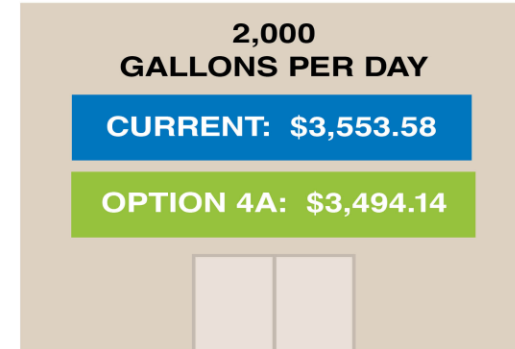
RATE STRUCTURE EXPECTED TO TAKE EFFECT ON JULY 1, 2019 · RATE STRUCTURE IS REVENUE NEUTRAL



These amounts are based on a 2" non-residential meter

Examples:

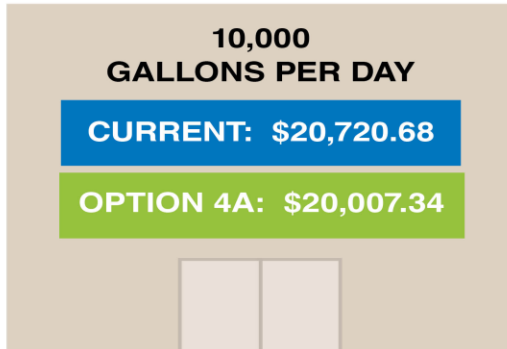
- Salons • Dry Cleaners • Car Dealers



These amounts are based on a 2" non-residential meter

Examples:

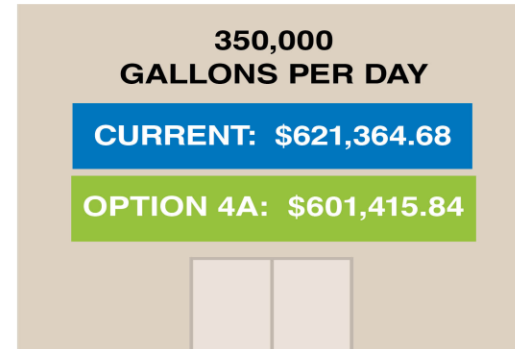
- Large Restaurants • Large Churches
- Small Shopping Centers



These amounts are based on a 8" non-residential meter

Examples:

- Very Large Office Buildings
- Community Pools • Large Hotels



These amounts are based on a 8" non-residential meter

Examples:

- Water Intensive Manufacturing
(Bottling Plants, Ice Production, Pharmaceuticals)
- Universities • Government Facilities

Note: The bill impacts are illustrative only and based on FY18 revenue requirements. Final bill impacts will depend on final rates for FY20, which will be adopted in June 2019.

Recommended Rate Structure

		Water & Sewer Tiers (gpd)
Type of Rate Structure	Alternative	Gallons Per Day
4 Tier Inclining	Alternative 4A	0-80
		81-165
		166-275
		>275

Questions ?