

AGENDA
GIG HARBOR CITY COUNCIL STUDY SESSION
Thursday, July 20, 2023 – 3:00 p.m.
Community Rooms

*This meeting may also be accessed through Zoom
at <https://zoom.us/j/93216056382> or by calling (253) 215-8782 and entering
Meeting ID 932 1605 6382.*

CALL TO ORDER/ROLL CALL

DISCUSSION ITEMS

**1. Utility Rate Study – Review of Proposed Monthly Rate
Adjustments**

Public Works Director Jeff Langhelm

Documents:

[STAFF MEMO Utility Rates.pdf](#)

ADJOURN

AMERICANS WITH DISABILITIES (ADA) ACCOMMODATIONS

ADA accommodations can be provided upon request. Those requiring special accommodations should contact the City Clerk at cityclerk@gigharborwa.gov or (253) 853-7613 at least 24 hours prior to the meeting.



PUBLIC WORKS DEPARTMENT

MEMORANDUM

TO: Mayor and City Council

FROM: Jeff Langhelm, PE, Public Works Director

DATE: July 13, 2023

SUBJECT: Utility Rate Study – Review of Proposed Monthly Rate Adjustments

The City's three utilities operate as independent enterprise funds that have on-going maintenance, operating, and capital needs. To adequately fund these needs the City should perform routine reviews of monthly utility rates with continued Council support by funding these rate studies.

Ideally, these utility rates would be reviewed and adjusted in extended timeframes, such as every six years. The last time rates were adjusted in extended timeframes it was for 2014 through 2020. Due to the COVID-19 pandemic the City decided to not adjust utility rates in 2021 or 2022 but did increase utility rates by 5% beginning January 1, 2023.

At the July 20 Study Session, City Staff and our consultant, Ashley Emery with Peninsula Financial Consulting, will review utility needs and propose rate adjustments. Specifically, this will include:

- Overview of past rate adjustments.
- Review capital projects and operations/maintenance needs, including costs.
- Review proposed rate adjustments.
- Review proposed tiered water rate structure (see attached memo from Peninsula Financial Consulting)
- Next steps, including discussion of a public outreach plan.

Additionally, as part of the proposed rate adjustments, Staff will present a series of code revisions to clarify utility billing procedures. These generally include the items listed below and will be discussed in more detail at the July 20 Study Session.

- Review poverty guidelines and provide a general low-income discount.
- Consider adjustments to existing utility billing fees and adding new fees.
- Clarifications related to stormwater billing policies.

Please note, the City reviewed and considered adjustments to the one-time general facilities charges (GFCs) for the three utilities at the [February 17, 2022 Study Session](#). These GFC adjustments will not be discussed at the July 20 Study Session. However, these GFC adjustments will be considered later in 2023 to coincide with the final proposal to adopt new monthly utility rates.

TECHNICAL MEMORANDUM

SUBJECT: Discussion of utilizing increasing or decreasing volume water rates on different customer classes

Prepared by Peninsula Financial Consulting

Background

At the request of the City Council, staff have been investigating implementing a change to the structure of existing water rates. The current water rate structure charges a flat base fee regardless of the amount of water consumed plus a flat volume rate of \$2.77/ccf (hundred of cubic feet) for single family residences (SFRs), \$2.69/ccf for all commercial (Comm) and Governmental (Gov) customers, and \$2.59/ccf for each Multi-family (MF) customer. The slight differences in these volume rates from class to class is a result of the different requirements of fire flow and peaking factors between each of the classes.

This structure of rates has provided stable charges to all customers over the years but importantly for both Comm and MF customers it allowed them to utilize higher amounts of water without increasing the magnitude of the volume rates at which they were being charged. This made it more attractive for both large Comm customers as well as MF customers with more units to develop in the City.

The City would now like to assess the pros and cons of changing from a single volume rate applied to all usage within each class to multiple volume rates that increase in magnitude as customers use larger amounts of water.

Survey of Area Water Agency Rates

As part of our analysis, we undertook a survey of 23 water agencies (see attached Tables). Of note from the survey, 15 of the 23 agencies utilize at least 3 volume tiers for SFR customers but 21 out of 23 utilize only a single flat rate or use two tiers for Comm & MF customers. Not only do almost all agencies not use inclining block rates for Comm and MF they almost all cap the rate at a magnitude lower than the rate they charge SFRs.

Terms & Definitions

Three concepts need to be defined and discussed before we can delve into the technical rationale. These 3 concepts are:

1. Marginal cost of water
2. Peaking factors
3. Customer class equality

The marginal cost of water is the concept of how much generating each additional gallon of water costs the City. In the big picture it is true that generating water does require a large cost in building major capital assets but it is also true that engineering costs decrease through economy of scale such the unit cost of water due to capital costs decreases when more water is produced. More importantly, once the capital costs have been paid, the cost to generate an additional gallon of water becomes very cheap, compared to what it can be sold for (it usually costs less than 5% to generate an additional gallon of water compared to what it can be sold for).

Peaking factors are used to assess the impact of the different customer classes water use during the winter and summer months. Residential customers typically use much more water during the summer on irrigation and outdoor activities (e.g., pools, car washing, etc.). This water use is referred to as discretionary water use. Higher peaking factors result in a water agency having to build larger reservoirs, larger sources, and higher pumping capacities. Comm and MF customers typically have lower peaking factors than SFRs because their landscapes are usually smaller than SFRs and they typically employ commercial irrigation systems that are programmed to minimize waste. While it can be true that some Comm customers, as a result of their commercial activity can have much larger water use seasonally (e.g., fish processors or canneries might only operate during the summer months) it isn't really considered as a peaking factor because it is not discretionary, it is part of their core business.

Customer class equity is a critical aspect of setting rates. The golden rule when it comes to maintaining equity is for the rates to be fair to all customers within each class. An agency is allowed to set different rates for a Comm customer versus a MF or SFR customer but what they cannot do is have different rates for customers within a class unless there is justification for the difference.

Discussion

There is nothing that explicitly restricts an agency from setting inclined block volume rates for any customer class. However, in Washington as shown by the survey, it is common to only apply inclining block volume rates to residential customers and not Comm or MF customers. In my opinion this is due to how the concepts of the marginal

cost of water, discretionary water use or peaking factors, and customer class equity interact differently between the different customer classes.

In the SFR class, where the majority of water is consumed, the range of water use is pretty narrow. As can be seen in the table below, the average use and standard deviation for the residential customer class is very small compared to the other classes. This means that the usage patterns of SFR customers are very similar and also supports the fact that the biggest factor in what differentiates SFR customers from each other is outdoor or discretionary water use. Because there are so many SFR customers (about 4,500), reducing their discretionary water use can have a significant impact on minimizing future capital costs to increase water production. Another important factor resulting from their narrow range of water use is that any system of inclining block volume rates will only marginally impact individual rates. In other words, since almost all SFR customer use less than 30 ccf every 2 months, even with an aggressive set of inclined block volume rates a customer using 30 ccf will only pay a relatively small amount more than a SFR customer using 15 ccf (maybe only 25% more). So, in summary, we justify using inclined block rates on SFR customers because it can significantly help to minimize marginal cost to produce water due to the amount of water involved with SFR discretionary water use, and also because it does not unduly impact any single SFR customer.

TABLE
Water Use Statistics by Customer Class for 2021 and 2022

Year 2021	Residential Class	Commercial Class	Multi-family Class	Government Class
Average (ccf)	16.80	108.12	85.99	258.07
Std Dev (ccf)	11.80	133.88	99.40	361.68
Min	0.00	0.00	0.00	0.00
Max	544.00	3,455.00	2,024.00	5,190.00

This discussion is different for Comm and MF customers because as seen in the Table, their water use per customer is a lot larger (about 6 times larger) and within each of these classes the differences in use between each customer (the standard deviation) is also much greater than in the SFR class (about 10 times larger). Because of this wide range of different uses, any set of inclining block volume rates has the possibility of singling out a small number of Comm or MF customers and treating them vastly different than the rest of the class. Also, we know that Comm and MF customers use much less discretionary water use and are consistently motivated to cut costs through reducing water use as a normal part of good business practices. Therefore, it is much harder to claim that implementing a set of inclined block rates on Comm and MF customers will discourage discretionary usage or that serving them higher amounts of water costs more due to the marginal cost of water. Lastly, because each Comm and MF customer can have greatly

different water use and some can be really large water use, a small increase in the volume cost of water can have widely different impacts on different businesses and even in the same businesses of different sizes. If I can't claim that I am charging a higher volume rate because of the marginal cost of water or to try and influence discretionary water use, then how can I justify charging one restaurant a higher volume rate than another restaurant solely because one has more seats and therefore uses more water.

There are some agencies that try and resolve these differences by limiting the inclined block volume rates for Comm and MF customers to a very narrow range and then setting the rate for the final volume block at a very low number so as not to unduly impact high water users. This approach has the advantage that it appears as if the same volume rates are being used for all customers until the top rate is reached but the revenue involved is minimal and can be even more difficult to explain and justify to the public and therefore it is infrequently used in this State.

Recommendation

We have analyzed the SFR customer class for the years 2021 and 2022. The next page lists two tables that show a histogram of usage by range for each billing period. The first column in each pair shows the total number of customer bills that had usage within the range of water use listed under the bar on the x axis. The second column shows the total amount of usage in the range. For example, on the year 2021 Table, the first pair of columns column is listed as 5 (or 5 ccf) and the number 16,166 is written on the first bar while the second bar reaches up to about 70,000 ccf on the y axis. This means that in 2021, 16,166 bills went out that had customers that's usage included 0 to 5 ccf of water use with a total use in this range over the year of about 70,000 ccf. The second pair of bars is listed as 10 ccf and has 13,072 written on the first bar (blue). This means that 13,072 bills went out where the customer's usage contained at least 5 ccf up to 10 ccf of water use and the total use over the year of about 56,000 ccf. Therefore, if a customer had a total 2-month usage of 8 ccf, then they would count as 5 ccf of the total of 70,000 ccf and 1 bill out of 16,166 bills in the first pair of bars and would add 1 bill out of the 13,072 bills and 3 ccf added to the total use of 56,000 ccf in the second pair of bars.

These types of charts are used to represent the amount of usage and number of customers that will be impacted by setting block volume ranges at different levels of usage. Based on the average SFR bi-monthly usage of 16 to 17 and standard deviation of 10 to 11, we think an appropriate 3 block system of inclined rates should be considered at the following levels of water use:

- First tier: 0 to 20 ccf
- Second tier: 21 to 30 ccf
- Third tier: 31 ccf and greater

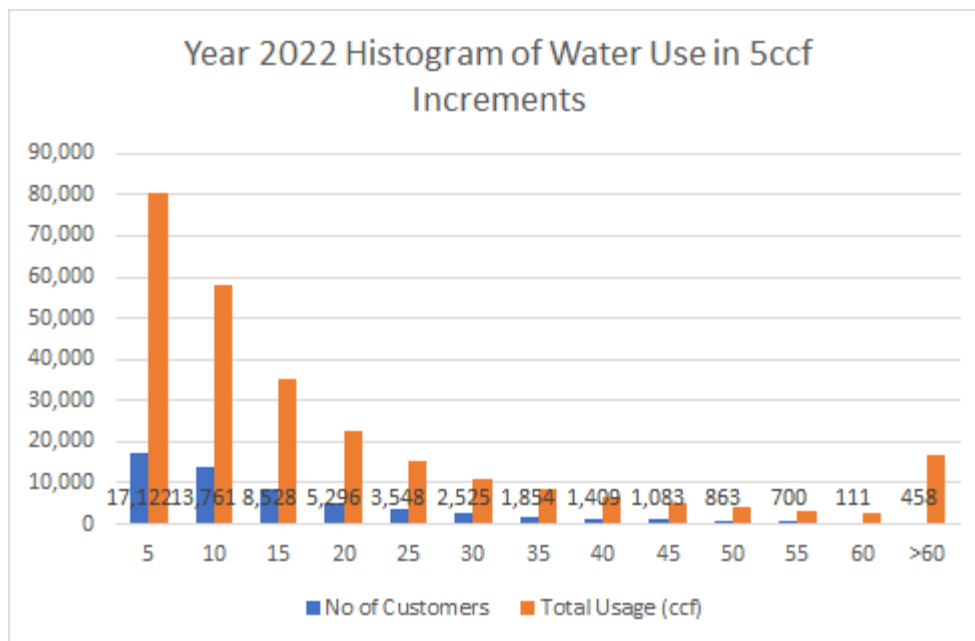
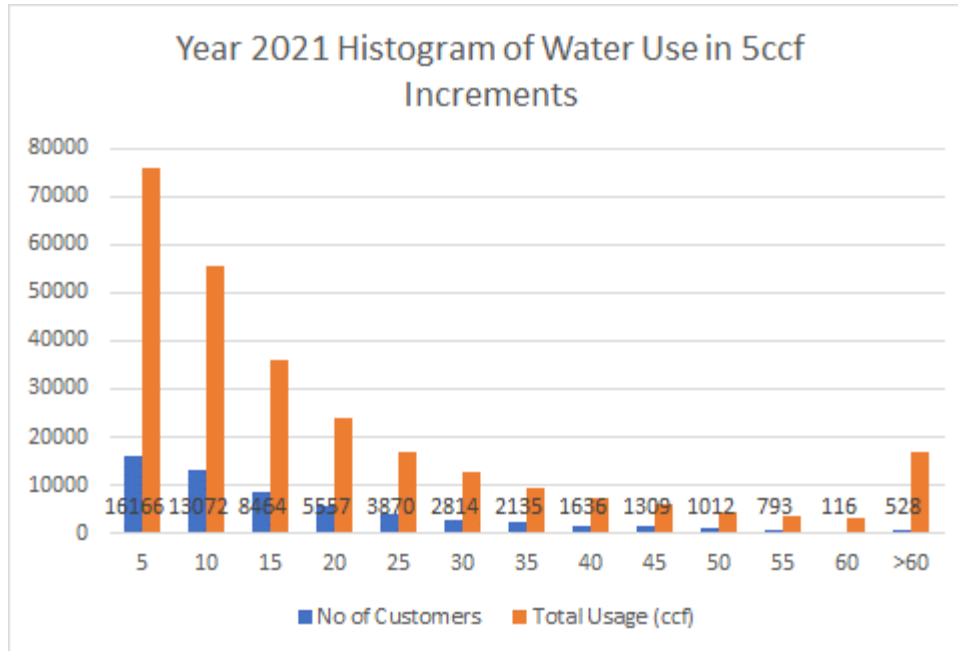
Additionally, the first tier water rate should be set at the current SFR volume rate and the second and third tiers set at marginally higher rates.

We also recommend that Comm and MF volume rates be limited to at most two tiers with the rates for both of these tiers no greater than at most the second tier rate that is used for the SFR class. Also, we would recommend that the same tiers and volume rates be used for both Comm as well as MF customers.

This approach will result in a modest additional water fund revenues but will not obviate the need for additional planned rate increases over the next 5 years. It is most likely that these new tiered rates will only result in additional revenues equivalent to doing about a 5 or 6% rate increase on all water rates.

Please note that we are still not finished with the data analysis and some data verification remains to be done before we can confidently recommend actual volume block ranges and rates and their corresponding revenue impact.

Statistical Charts



Tiered Water Rates Survey

Updated 7/12/2023

RESIDENTIAL WATER RATES

Municipality	3/4" Res Base Rate	1st Usage Block (cf)	2nd Usage Block (cf)	3rd Usage Block (cf)	4th Usage Block (cf)	1st Block Usage Rate (\$/cf)	2nd Block Usage Rate (\$/cf)	3rd Block Usage Rate (\$/cf)	4th 1st Block Usage Rate (\$/cf)
Washington Water Service	\$37.72	0 1,200	1,201 5,600	over		\$0.0162	\$0.0243	\$0.0324	
Marysville	\$25.52	0 871	872 2,747	2,748 4,087	4,088 over	\$0.0102	\$0.0359	\$0.0410	\$0.0461
Puyallup	\$49.64	0 2,000	2,001 4,800	over		\$0.0271	\$0.0367	\$0.0492	
Tacoma	\$53.36	0	Winter: Flat usage rate of \$0.02327/cf. Summer: The first 1,000 cf is \$0.02327/cf while over 1,000 cf is \$0.02909/cf						
Fox Island	\$45.00	0 600	601 2,000	2,001 3,500	3,501 5,000	\$0.0000	\$0.0065	\$0.0085	\$0.0150
Bainbridge	\$27.96	0 1,000	1,001 2,400	2,401 6,000	over	\$0.0142	\$0.0228	\$0.0324	\$0.0440
Bremerton	\$30.56	0 over				\$0.0264			
Enumclaw	\$30.14	0 1,600	1,601 4,000	over		\$0.0213	\$0.0282	\$0.0353	
Lacey	\$38.66	0 1,200	1,201 2,400	2,401 4,800	over	\$1.6092	\$3.7770	\$4.8274	\$6.4460
Port Angeles	\$81.72	0 2,000	2,001 3,000	over		\$0.0252	\$0.0319	\$0.0384	
Renton	\$37.36	0 1,000	1,001 2,000	over		\$0.0269	\$0.0362	\$0.0457	
Seattle	\$39.20	0 over				\$0.0576			
Snohomish	\$53.12	0 401	over			\$0.0000	\$0.0365		
Yelm	\$75.68	0 800	801 3,000	over		\$0.0000	\$0.0431	\$0.4600	
Aberdeen	\$77.56	0 800	801 2,600	over		\$0.0000	\$0.0221	\$0.0442	
Centralia	\$43.92	0 1,000	1,001 3,000	over		\$0.0327	\$0.0439	\$0.0544	
Dupont	\$66.74	0 1,000	1,001 over			\$0.0000	\$0.0233		
Kent	\$55.94	0 1,600	1,601 over			\$0.0290	\$0.0570		
Mukilteo Water & WW District	\$33.90	0				\$0.0291			
Poulsbo	\$35.92	0 2,000	2,001 over			\$0.0251	\$0.0320	Summer: 2nd tier rate increases to \$.0392/cf.	
Bothell	\$35.12	0 1,000	1,001 2,000	2,001 3,000	3,001 5,000	\$0.0343	\$0.0507	\$0.0654	\$0.0831
Olympia	\$30.02	0 800	801 1,800	1,801 2,800	2,801 over	\$0.0217	\$0.0365	\$0.0582	\$0.0765
Milton	\$64.76	0 1,600	1,601 2,000	over		\$0.0320	\$0.0349	\$0.0375	

Notes:

- 1. All base rates are stated in terms of 2 month rates to be consistent with Gig Harbor
- 2. All water usage block ranges are given in cubic feet (cf) and if necessary have been adjusted from 1 month usage to 2 month usage times to be cosistent with Gig Harbor
- 3. All volume rates associated with each usage block are given in tems of cubic feet (cf) to be consistent with Gig Harbor. Since these rates are based on flow rather than time they do not need further adjustment.

Tiered Water Rates Survey

COMMERCIAL WATER RATES

Municipality	3/4" Commercial Base Rate	1st Usage Block (cf)	2nd Usage Block (cf)	3rd Usage Block (cf)	4th Usage Block (cf)	1st Block Usage Rate (\$/cf)	2nd Block Usage Rate (\$/cf)	3rd Block Usage Rate (\$/cf)	4th 1st Block Usage Rate (\$/cf)
Washington Water Service	\$37.72	0 1,200	1,201 5,600	over		\$1.6200	\$2.4300	\$3.2400	
Marysville	\$25.52	0 871	over			\$0.0102	\$0.0249		
Puyallup	\$49.64	0 over				\$0.0385			
Tacoma	\$57.36	0 over				\$0.0243			
Fox Island		0							
Bainbridge	\$36.68	0 over				\$0.0173			
Bremerton	\$30.56	0 over				\$0.0239			
Enumclaw	\$30.14	0 over				\$0.0282			
Lacey	\$38.66	0 1,200	over			\$1.6092	\$3.7770		
Port Angeles	\$90.92	0 over				\$0.0260			
Renton	\$37.36	0 over				\$0.0369			
Seattle	\$39.10	0 over				\$0.0572			
Snohomish	\$53.12	0 401	over			\$0.0000	\$0.0365		
Yelm		0 over				\$0.0941			
Aberdeen	\$81.34	0 800	over			\$0.0000	\$0.0442		
Centralia		0				\$0.0364			
Dupont	\$66.74	0 1,000	over			\$0.0233			
Kent	\$70.28	0 1,600	over			\$0.0290	\$0.0570		
Mukilteo Water & WW District	\$41.22	0				\$0.0342			
Poulsbo	\$38.26	0				\$0.0211	\$0.0320 during summer		
Bothell	\$41.10	0	All commercial usage in winter is charged at \$0.0388/cf and in the summer at \$0.0663/cf						
Olympia	\$30.02	0	All commercial usage in winter is charged at \$0.0305/cf and in the summer at \$0.0455/cf						
Milton	\$64.76	0 1,600	1,601 2,000	2,001 4,000	4,001 6,000	\$0.0338	\$0.0365	\$0.0390	\$0.0417

COMMENTS

Res, Comm, and MF classes are all treated the same
Does also apply the residential volume rates to the MF class but on a per unit basis
MF class is charged a flat usage rate of \$0.0320/cf
no commercial rates listed
MF class is charged a flat usage rate of \$0.0124/cf
MF class is charged a flat usage rate of \$0.0210/cf on all usage
MF class is charged the same as Comm but their flat usage rate is .0350
Summer: RES: \$0.0592/cf for 0-1,000 cf, \$0.0732/cf for 1,000-2,600 cf, & \$0.1180/cf over 2,600 cf. Comm: \$0.0727/cf on all usage
MF class is charged \$0.0356/cf on all usage
MF class has a rate of \$0.02626/cf for all usage
Also has a residential 5 tier charged at \$0.0951/cf
MF class is charged the same as the commercial class
Comm class has a 5 tier at \$0.444/cf for all usage over 6,000 cf, MF class is treated the same as Comm