City of Washington Est. 1825

Memo

TO: Committee of the Whole

FROM: Ed Andrews, PE Public Works Director

DATE: April 5, 2019

SUBJECT: Water / Sewer Rate Study

At the May 21st, 2018 meeting, Council approved a contract with Raftelis (w/ CMT) for a water and sewer rate study to help make critical funding considerations for capital projects associated with these two utilities. This effort is also helping with planned renewal of aged infrastructure, beginning with roadway reconstruction of N. Lawndale and W. Holland but would continue to provide an annual revenue for ultimate replacement of the approximate 20 miles of original cast iron water main dating back to the 1920s and clay sanitary sewers of similar vintage.

Please find the attached copy of the Raftelis Water / Sewer Rate Study. As previously discussed, the rate summary adopts a fixed rate component per account to the fee structure and drops the current minimum 750-gallon usage charge per meter.

This grows us into a revenue stream over 5 years that will help us to undertake a 20-year replacement of the 20 miles of cast iron water main from the 1920's on the east-end of town. This would then allow us to maintain a revenue stream sufficient to then continue into the replacement of ductile iron from the 1950's in the 2040's, and so on …

Capital-wise, the industry targets 1% replacement of the system per year. For our 80-mile system, that currently translates to 0.8 miles / year. Since we are actually growing into the replacement by gradually increasing rates, we would have the foreseen 20 miles of cast iron main replacement over 25 years, for an average of 0.8 miles / year.

The rate structure as presented also presumes that private water services and sanitary laterals are funded by a separate funding instrument. If there were a desire to replace those using user rates, there would need to be a substantial additional increase. Assuming 100 connections at an average of $5,000 each, under the 0.8 to 1 mile per year reconstruction rate, would require an additional increase of $7.69.

cc: File

CITY OF

Washington

Water and Wastewater Rate Study

Final Report / April 1, 2019

RAFTELIS

City of Washington Est. 1825

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Introduction

Background of the Study

In 2018, the City of Washington, IL (City) engaged Raftelis to conduct a Water and Wastewater Financial Plan Study (Study) to develop a sustainable reserve policy and a solvent financial plan for the water and wastewater enterprises and to establish water and wastewater rates that are equitable and sufficient.

OBJECTIVES OF THE STUDY

The major objectives of the study include the following:

- Develop financial plans for the water and wastewater enterprises to ensure financial sufficiency, with an emphasis on providing funding for capital improvements going forward and meeting operation and maintenance (O&M) costs.
- Review current rate structures for the water and wastewater enterprises

Existing Rate Revenues

Figure 1 compares the forecast water revenue based on existing rates with forecast revenue requirements. With forecasted revenues of approximately $1.7 million, the water utility cannot sufficiently recover the forecast revenue requirements of nearly $3.0 million in FY 2020. Due to significantly increasing capital spending in the future and the need to maintain a minimum fund balance, revenues at existing rates are insufficient beginning in FY 2020. **Raftelis recommends a 30% rate revenue increase in 2020, followed by 17.5%, 12.5%, 8.5%, and 4.5%.**

Figure 1: Water Revenue Sufficiency

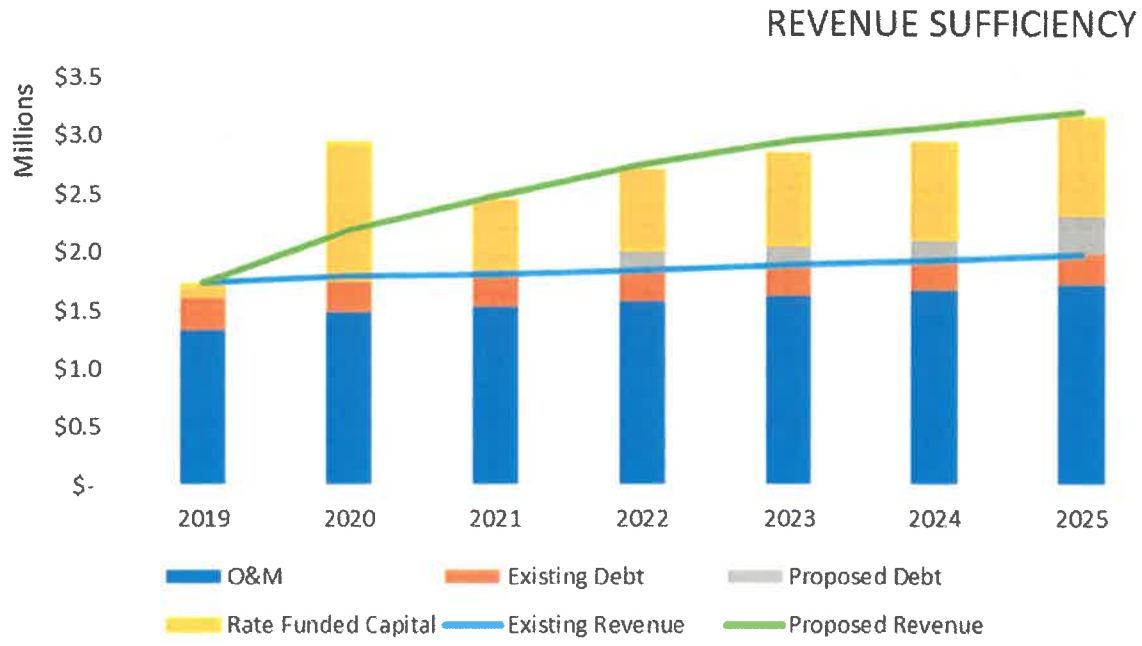
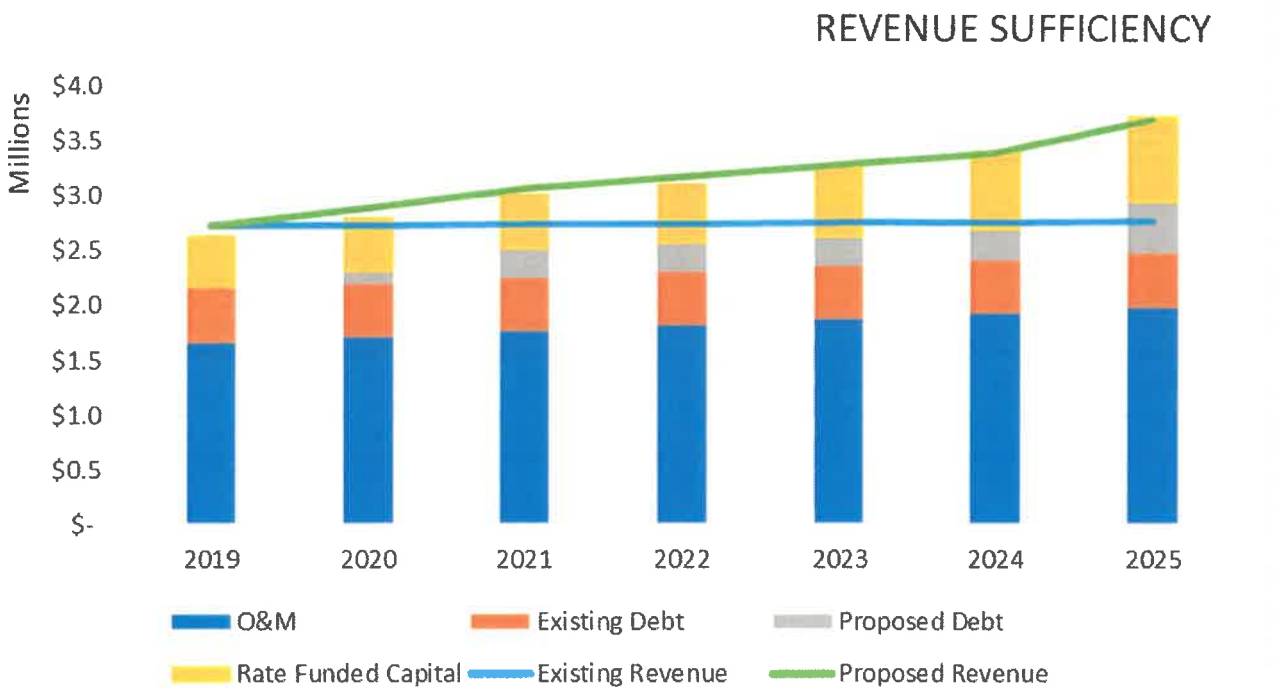


Figure 2 compares the forecast sewer revenue based on existing rates with forecast revenue requirements. With forecasted revenues of approximately $2.7 million, the sewer utility cannot sufficiently recover the forecast revenue requirements of approximately $2.8 million in FY 2020. Due to significantly increasing capital spending in the future and the need to maintain a minimum fund balance, revenues at existing rates are insufficient beginning in FY 2020. **Raftelis recommends a 7% rate revenue increase in 2020, followed by 6.5%, 3.5%, 3.5%, and 3.5%.**

Figure 2: Sewer Revenue Sufficiency



Financial Plan

Revenue requirements for the water utility were calculated for the current fiscal year (FY 2019) and for the five-year forecast period: FY 2020 through FY 2024. Requirements for the water utility are comprised of three components:

- Operation and maintenance (O&M) expenses,
- Annual rate funded capital projects,
- Debt service payments,

City staff revised capital improvement plans and future budgets and worked with Raftelis to develop a final plan that allows the Utility to continue to operate at high standards while balancing the need for rate increases with affordability concerns.

Forecast O&M Expenses

The budgets provided by the City are the basis for the forecast of water and wastewater utility O&M expenses. To project the level of O&M expenses over the forecast period, Raftelis applied a variety of escalation rates to the different O&M expense budget categories based on historical trends of the City's budget, as well as Raftelis's experience with similar utilities. Overall, the water and sewer utility budgets are escalated by 3.0% annually.

Capital Improvements

Large water capital expenditures are planned for the years FY 2020 to FY 2025. Much of the regular annual capital improvements consist of upgrades to the existing distribution system, including projects like the Lawndale and Holland St. reconstructions that should be financed by rates on an ongoing basis. By FY 2024, the water utility will be able to sustain annual main upgrades of $650 thousand per year in addition to other projects. The financial plan anticipates issuing approximately $2.6 million of bonds in FY 2021 to finance improvements to Water Tower #3.

Sewer capital expenditures are also expected to be significant. By FY 2024, the utility will be able to sustain annual collection system upgrades and repairs of $720 thousand per year. Other projects include the Phase 2b project at the wastewater treatment plant, for which the financial plan expects to issue $4.0 million of bonds in FY 2020.

For more information on the water and sewer capital improvement plans, see Appendix A.

Debt Service Payments

The water utility's only currently outstanding bonds were issued to finance the installation of AMR meters and are payed for entirely through the existing Technology Fee. Debt service on the proposed FY 2021 bonds would reach approximately $170 thousand per year.

The sewer utility's debt payments on its two outstanding issues total less than $500 thousand per year. Proposed debt on the Series FY 2020 would be approximately $260 thousand per year.

Figures 3 and 4 shows forecasted utility expenditures, revenues, annual surplus, end of year operating fund balance, and debt service coverage ratios for the study period.

Figure 3: Water Utility Financial Plan

Water Financial Plan	2019	2020	2021	2022	2023	2024
Expenditures						
O&M	$ 1,339,829	$ 1,488,537	$ 1,533,193	$ 1,579,189	$ 1,626,565	$ 1,675,362
Existing Debt Service	261,315	261,315	261,315	261,315	261,315	261,315
Proposed Debt Service	-	-	65,000	169,134	169,134	169,134
Cash Funded Capital	138,000	1,203,750	600,000	700,000	800,000	850,000
Total	$ 1,739,144	$ 2,953,602	$ 2,459,508	$ 2,709,637	$ 2,857,013	$ 2,955,810
Revenues						
Rate Revenue	$ 1,370,000	$ 1,826,500	$ 2,146,138	$ 2,410,112	$ 2,614,972	$ 2,732,646
Other Revenue	368,000	362,875	339,004	340,621	342,238	343,855
Total	$ 1,738,000	$ 2,189,375	$ 2,485,142	$ 2,750,733	$ 2,957,210	$ 3,076,501
Surplus/(Deficit)	$ (1,144)	$ (764,227)	$ 25,634	$ 41,096	$ 100,197	$ 120,691
EoY Balance	1,573,119	892,417	918,051	959,147	1,059,344	1,180,034
Combined DSCR	1.52	2.68	2.91	2.72	3.09	3.25

Figure 4: Sewer Financial Plan

Sewer Financial Plan	2019	2020	2021	2022	2023	2024
Expenditures						
O&M	$ 1,666,323	$ 1,716,313	$ 1,767,802	$ 1,820,836	$ 1,875,461	$ 1,931,725
Existing Debt Service	486,791	486,791	486,791	486,791	486,791	486,791
Proposed Debt Service	-	100,000	260,206	260,206	260,206	260,206
Cash Funded Capital	496,000	500,000	500,000	600,000	650,000	750,000
Total	$ 2,649,114	$ 2,803,103	$ 3,014,799	$ 3,167,833	$ 3,272,458	$ 3,428,722
Revenues						
Rate Revenue	$ 2,349,378	$ 2,521,135	$ 2,692,728	$ 2,794,906	$ 2,900,878	$ 3,010,784
Other Revenue	376,500	376,500	376,500	376,500	376,500	376,500
Total	$ 2,725,878	$ 2,897,635	$ 3,069,228	$ 3,171,406	$ 3,277,378	$ 3,387,284
Surplus/(Deficit)	$ 76,764	$ 94,532	$ 54,429	$ 3,573	$ 4,920	$ (41,438)
EoY Balance	3,060,844	3,155,376	3,209,805	3,213,378	3,218,298	3,176,860
Combined DSCR	2.17	2.01	1.74	1.80	1.87	1.94

Proposed Rates

Raftelis recommends implementing a new rate structure with a fixed monthly component. The new water rates would include the introduction of a fixed charge on all non-irrigation meters of $5 in FY 2020, then an additional $4, $3, $2, and $1 in the years FY 2021 to FY 2024 in addition to required volumetric rate increases. The existing Technology Fee would remain unchanged.

Adding a fixed charge component is the best option for Washington for several reasons. First, it would add a degree of stability to the utility's revenues. **Revenue stability** is critical for financial sustainability and creditworthiness. When a utility's revenues come entirely from volumetric rate charges, fluctuations in usage due to wetter than normal weather, for example, can have a large impact on its ability to meet its financial obligations. Currently, approximately 13% of the water utility's revenue comes from the fixed monthly Technology Fee. By FY 2024, the additional new fixed charge revenue would increase this proportion to approximately 44%.

Second, it acknowledges the costs to the utility to provide service on demand, a concept known as **readiness-to-serve**. In order to provide "24/7" service to every customer, the utility must cover operating expenses and maintain a certain amount of investment in the treatment and distribution systems, regardless of how much water is actually purchased. A fixed monthly charge allows each customer, even if they do not purchase water in a given month, to contribute a portion of the costs the utility and its other customers incur to be able provide service to all customers at any time.

Third, a large majority of other water utilities, including many comparable to Washington, have a fixed charge component to their rates. Implementing one in Washington would conform with **current practices** in the industry.

Default Rate Increases

Per Section 50.50(A)(3) of the City of Washington's Code, water and sewer rates shall increase by 2.5% or the rate of inflation, whichever is greater. Historically, the City has simply increased rates by 2.5% while the Consumer Price Index for water, sewer, and trash collection services has increased by an average of 4.2% since 2010. When default rates are implemented in the absence of another rate increase, Raftelis recommends linking water and sewer rate increases to this index's average annual change over the most recent five-year period.

Figure 5: Proposed Water Rate Structure

	2019	2020	2021	2022	2023	2024
Volumetric Water Rates						
Residential	4.33	5.43	5.57	5.71	5.85	6.00
Circuit Breaker	3.56	4.46	4.57	4.69	4.80	4.92
Senior Citizen	3.90	4.90	5.02	5.14	5.27	5.40
Monthly Fixed Charge						
Residential	-	5.00	9.13	12.35	14.66	16.03
Circuit Breaker	-	4.10	7.49	10.13	12.03	13.15
Senior Citizen	-	4.50	8.22	11.12	13.20	14.43

The new sewer rates would introduce a fixed charge of $1 per month, increasing by $1 each year until FY 2024.

Figure 6: Proposed Sewer Rate Structure

	2019	2020	2021	2022	2023	2024
Volumetric Sewer Rates						
Residential	9.01	9.42	9.65	9.89	10.14	10.39
Circuit Breaker	7.39	7.73	7.92	8.12	8.32	8.53
Senior Citizen	8.11	8.48	8.69	8.91	9.13	9.36
Monthly Fixed Charge						
Residential	-	1.00	2.03	3.08	4.15	5.26
Circuit Breaker	-	0.82	1.67	2.53	3.41	4.32
Senior Citizen	-	0.90	1.83	2.77	3.74	4.74

Customer Bill Impacts

The following Figures show the impact of the proposed rate structures and revenue increases on inside city residential customers without an irrigation meter using **4.5** thousand gallons per month.

Figure 7: Water Bill Impacts

Water Bill						
Fixed Charge	$ -	$ 5.00	$ 9.13	$ 12.35	$ 14.66	$ 16.03
Technology Fee	3.85	3.85	3.85	3.85	3.85	3.85
Volume Charge	19.49	24.45	25.07	25.69	26.33	26.99
Total	$ 23.34	$ 33.30	$ 38.04	$ 41.89	$ 44.85	$ 46.87
% Change		*42.72%*	*14.22%*	*10.13%*	*7.04%*	*4.52%*

Figure 8: Sewer Customer Bill Impacts

Sewer Bill							
Fixed Charge	$ -	$ 1.00	$ 2.03	$ 3.08	$ 4.15	$ 5.26	
Volume Charge	40.55	42.37	43.43	44.51	45.63	46.77	
Total	$ 40.55	$ 43.37	$ 45.45	$ 47.59	$ 49.78	$ 52.02	
% Change		*6.97%*	*4.81%*	*4.70%*	*4.60%*	*4.51%*	

Figure 9: Combined Customer Bill Impacts

Combined Bill							
Water	$ 23.34	$ 33.30	$ 38.04	$ 41.89	$ 44.85	$ 46.87	
Sewer	40.55	43.37	45.45	47.59	49.78	52.02	
Total	$ 63.88	$ 76.67	$ 83.49	$ 89.48	$ 94.63	$ 98.90	
% Change		*20.03%*	*8.90%*	*7.18%*	*5.74%*	*4.51%*	

Bill Comparison

The following figures compare a 4.5 thousand gallon water and sewer bill in Washington to a series of comparable communities.

Figure 10: Water Bill Comparison

Figure 11:Sewer Bill Comparison

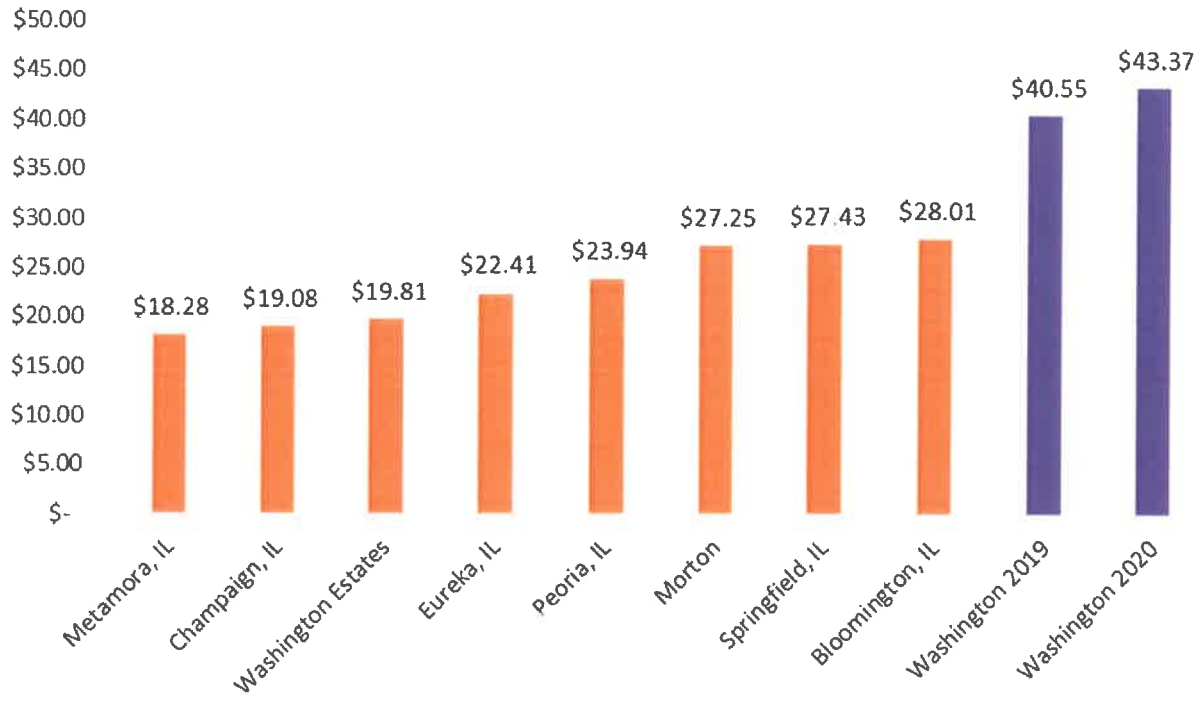
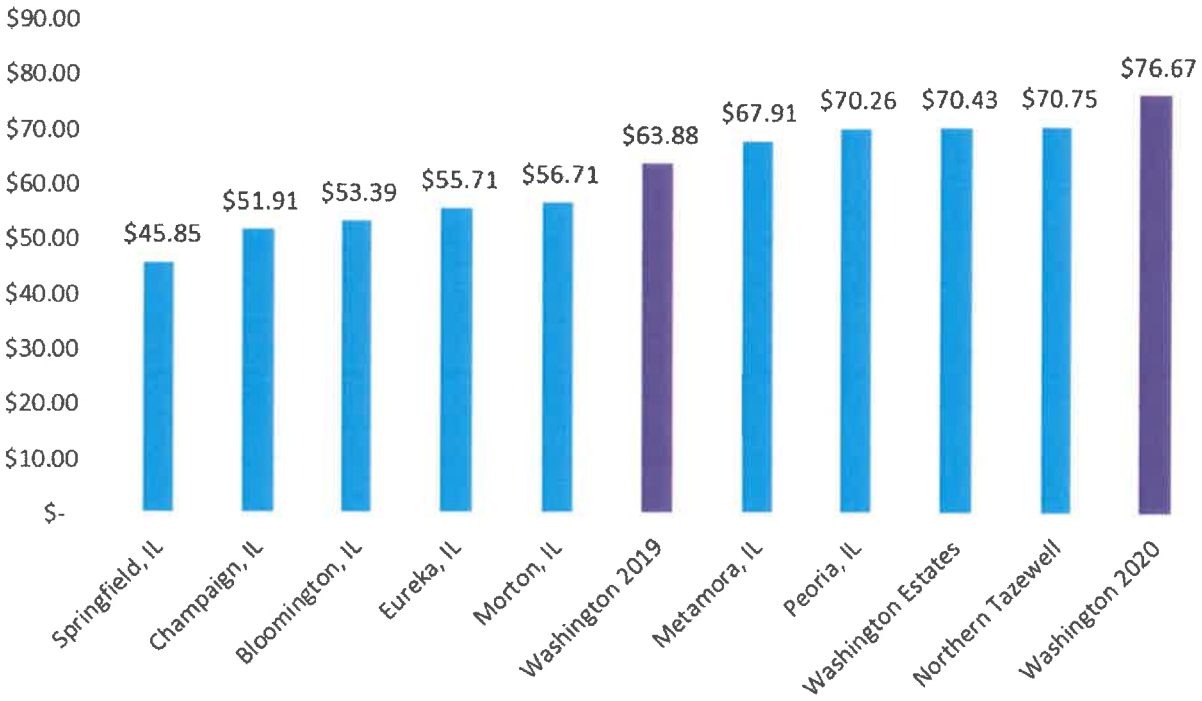


Figure 12: Combined Bill Comparison



APPENDIX A:

Case for Capital Presentation

Rate Study Update
"*the Case for Capital*"

COMMITTEE OF THE WHOLE

DECEMBER 10, 2018

City of Washington Est. 1825

City of Washington

Founded in 1825

Water System

Established in 1920s

Sanitary Sewer System

"Formally" Established in 1950's

Water System

City of Washington Est. 1825

- 2 Water Treatment Facilities
- 2 Water Towers (500,000 gallons each)
- Water Distribution System
  - 85 miles of watermain ranging in size from 4-inches to 16-inches
  - Serving approximately 5,400 accounts

Approximate Replacement Value = $60M

Sanitary Sewer System

City of Washington Est. 1825

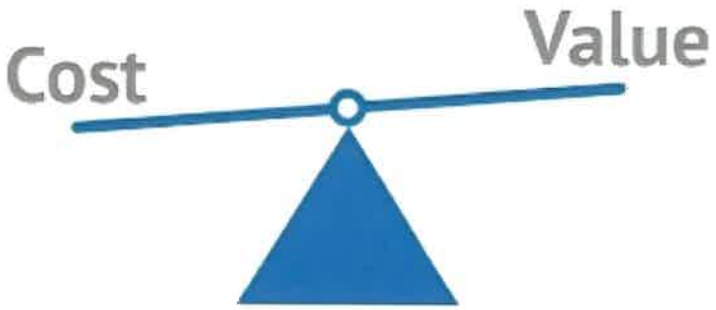
- 2 Wastewater Treatment Facilities
- Sanitary Sewer Collection System
  - 6 Pump Stations
  - 1,690 Manholes
  - 77 miles of sewer ranging in size from 4-inches to 42-inches
  - Serving approximately 5,900 connections

Approximate Replacement Value = $105M

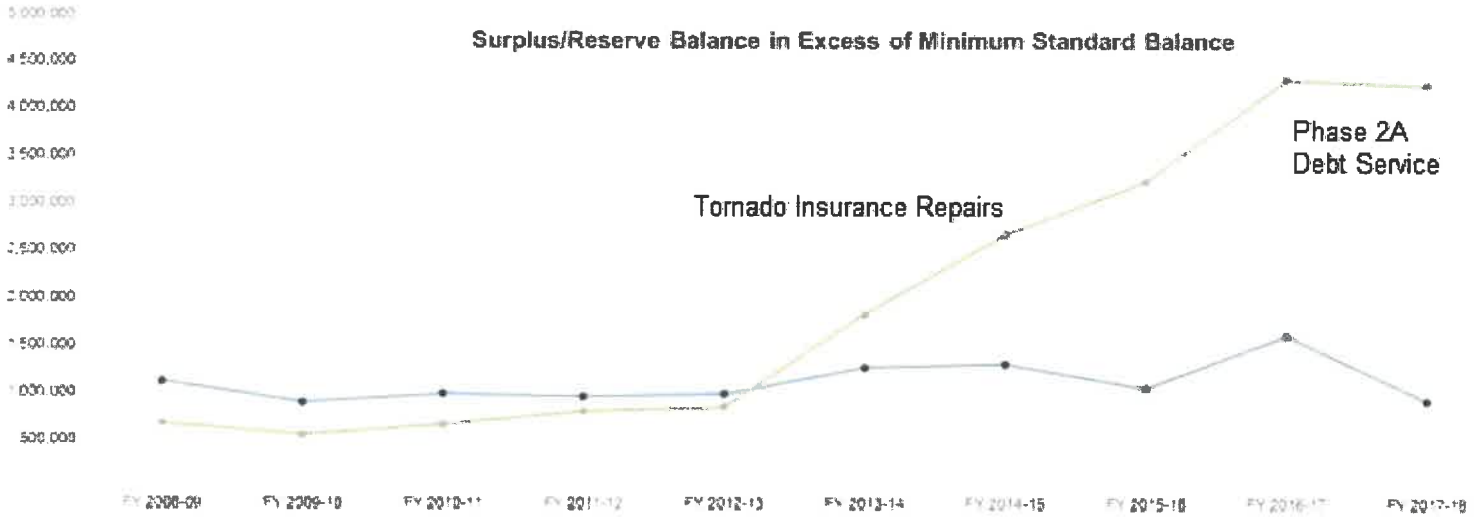
Need for Rate Increase

City of Washington Est. 1825

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs



Water & Sewer Funds



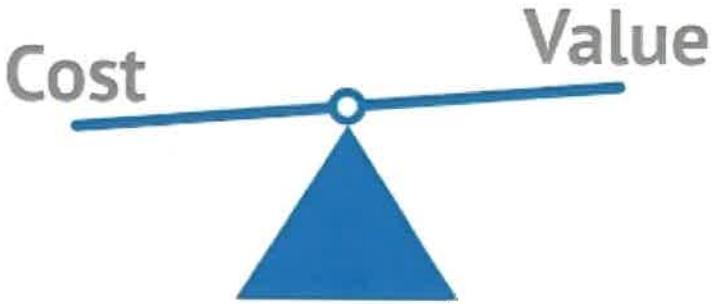
OPERATING INCOME (LOSS)

	2014	2015	2016	2017	2018
Sewer Fund	$ 820,296	$ 1,008,049	$ 727,884	$ 632,851	$ 381,919
Water Fund	$ (50,006)	$ 42,065	$ (143,726)	$ 26,859	$ 16,294

Need for Rate Increase

City of Washington Est. 1825

- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs



Capital Improvements

City of Washington Est. 1825

WATER – Filter/Softener Rehabilitation

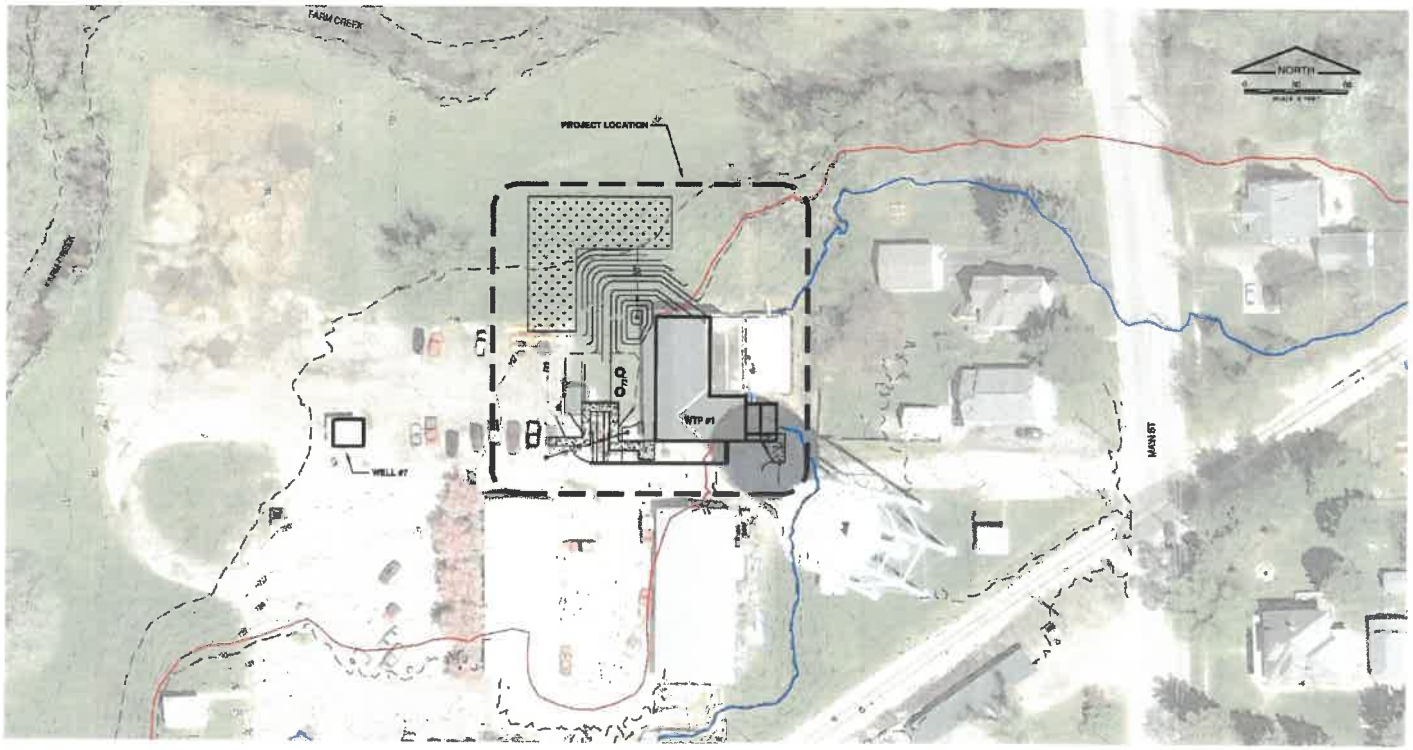
Media Replacement

Filter/Softener Repair

Capital Improvements

City of Washington Est. 1825

WATER – WTP No. 1 Levee



Capital Improvements

WATER – Water Tower No. 3

Section 604.1300 General Storage Requirements

a) Storage facilities shall have sufficient capacity to meet domestic demands, and where fire protection is provided, fire flow demands.

Section 604.1340 Elevated Storage

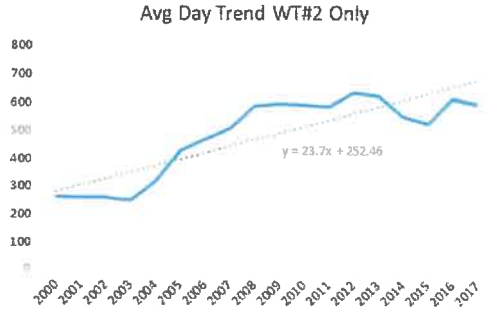
a) The minimum storage capacity shall:

1) be equal to the average daily usage or be based on an engineering study of the distribution system hydraulic conditions, anticipated domestic water demands of the system, and where fire protection is provided, fire flow demands; and

2) be capable of maintaining adequate pressures as described in Section 604.1415(a);

WTP#2 w/ WT#2 and future #3

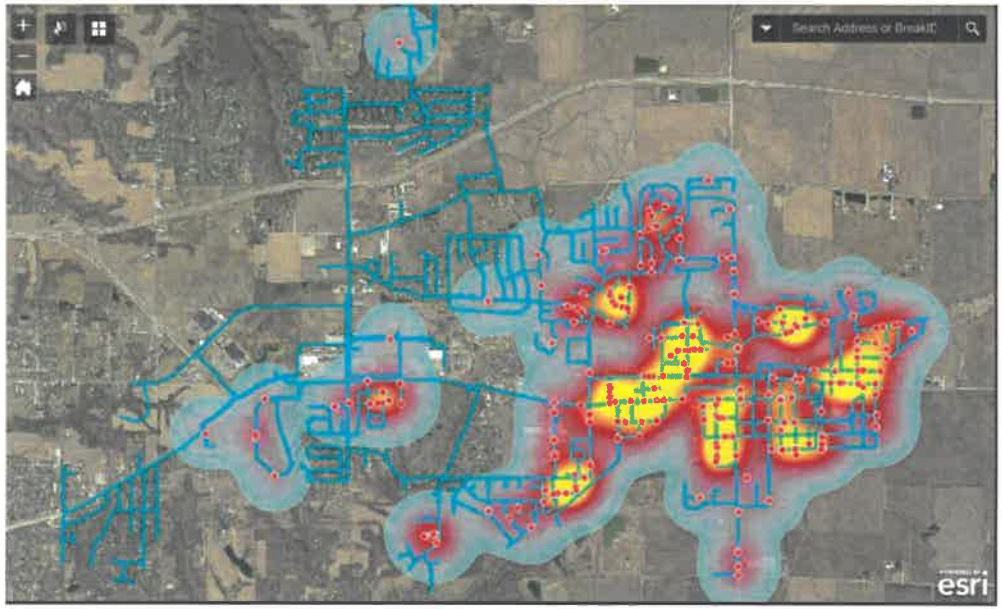
Year	Avg Day WTP#2		Capc WT#2	Avg Day as % of WT#2	% Use of WT#3
2000	259	252	500	52%	
2001	255	276	500	51%	
2002	254	300	500	51%	
2003	246	324	500	49%	
2004	311	347	500	62%	
2005	424	371	500	85%	
2006	464	395	500	93%	
2007	504	418	500	101%	1%
2008	586	442	500	117%	17%
2009	593	466	500	119%	19%
2010	589	489	500	118%	18%
2011	581	513	500	116%	16%
2012	632	537	500	126%	26%
2013	621	561	500	124%	24%
2014	550	584	500	110%	10%
2015	523	608	500	105%	5%
2016	613	632	500	123%	23%
2017	592	655	500	118%	18%



Capital Improvements

City of Washington Est. 1825

Water – Watermain Replacement



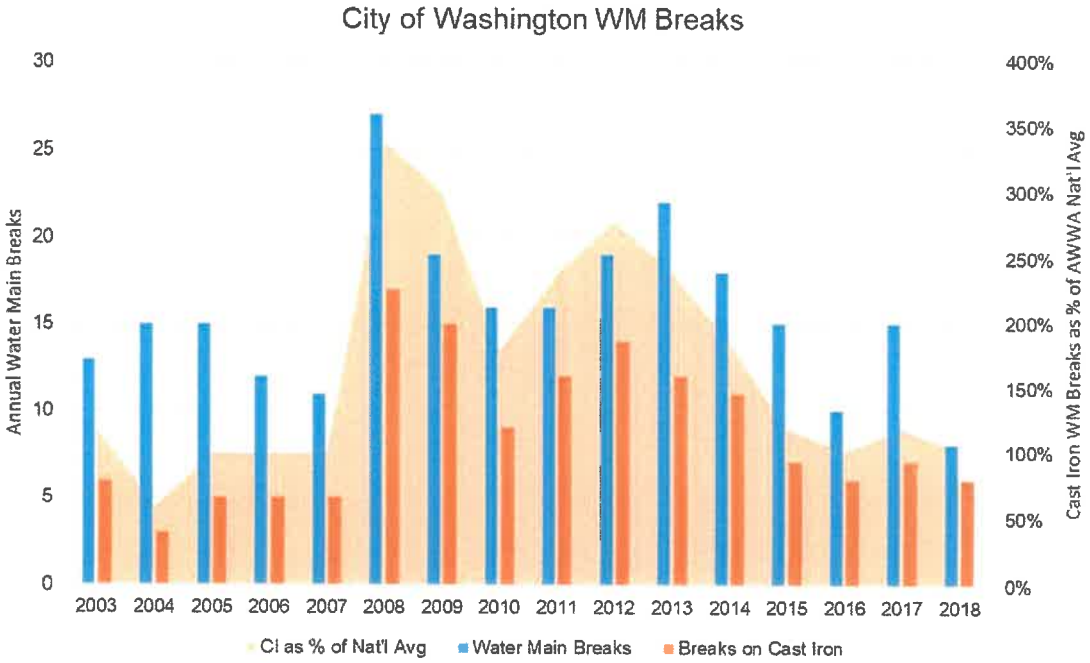
Year	# of Breaks	Boil Orders Issued	Break to B.O. Rate	Avg # Accts per B.O.
2003	13	3	23%	59
2004	15	1	7%	5
2005	15	3	20%	83
2006	12	2	17%	25
2007	11	4	36%	17
2008	27	9	33%	35
2009	19	6	32%	9
2010	16	6	38%	52
2011	16	7	44%	40
2012	19	6	32%	20
2013	22	7	32%	26
2014	18	6	33%	15
2015	15	7	47%	82
2016	10	2	20%	18
2017	15	3	20%	9
2018	8	3	38%	9
Avg	**16**	**5**	**29%**	**31**

Capital Improvements

City of Washington Est. 1825

Cast Iron Water Main:

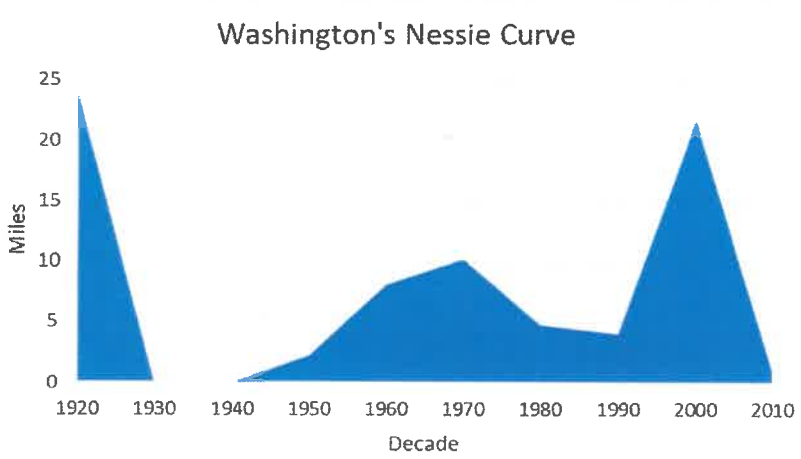
- Accounts for less than 1/3 of the system but represents an average of 2/3 of the breaks.
- Is the oldest main type in our system at 100 years old.
- Breaks on the Cast Iron started exceeding 100% of the AWWA National Average in 2005.



Capital Improvements

This curve is then used to forecast replacement needs using AWWA's findings:

- *The oldest cast iron pipes—dating to the late1800s—have an average useful life of about 120 years. This means that, as a group, these pipes will last anywhere from 90 to 150 years before they need to be replaced, but on average they need to be replaced after they have been in the ground about 120 years.*
- *Because manufacturing techniques and materials changed, the roaring '20s vintage of cast-iron pipes has an average life of about 100 years.*
- *And because techniques and materials continued to evolve, pipes laid down in the Post-World War II boom have an average life of 75 years, more or less. Using these average life estimates and counting the years since the original installations shows that these water utilities will face significant needs for pipe replacement over the next few decades.*



Decade	Miles	Est Life	Replc Yr	Mi/Yr
1920	23.8	100	2020	2.38
1930	0		1930	0
1940	0		1940	0
1950	2.3	75	2025	0.23
1960	8.1	75	2035	0.81
1970	10.2	75	2045	1.02
1980	4.8	75	2055	0.48
1990	4.1	100	2090	0.41
2000	21.6	100	2100	2.16
2010	1.1	100	2110	0.11

Capital Improvements

City of Washington Est. 1825

Sewer – Phase 2b

Trunk Sewer is the replacement of approximately 2.3 miles of 50 year old sanitary trunk line connecting Sewer Treatment Plant #1 with Sewer Treatment Plant #2. The alignment follows portions of Farm Creek and the TP&W railway.

Capital Improvements

City of Washington Est. 1825

Sewer – VFDs at Pump Stations

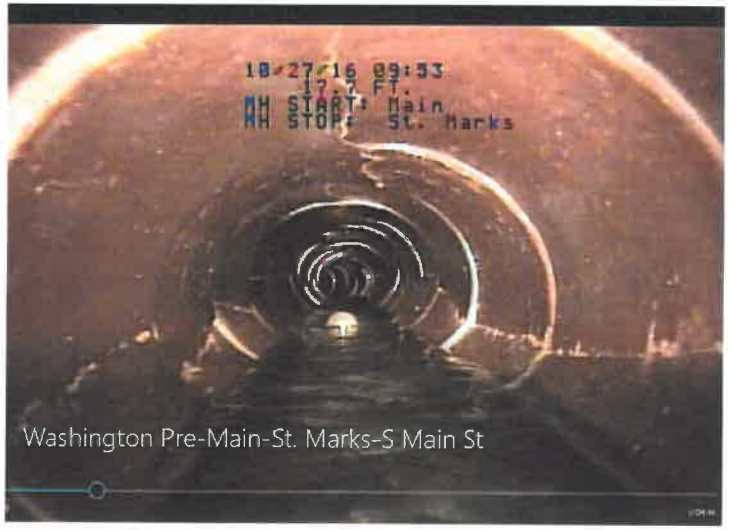
The City is currently served by six (6) lift stations in the collection system, four (4) north of the bypass and two (2) in Rolling Meadows. The project would further upgrade these operations with the addition of Variable Frequency Drive (VFD) controllers.

Capital Improvements

City of Washington Est. 1825

Sewer – Sewer Replacements

The City's sewer collection system consists of over 77 miles of sanitary sewer. System wide maintenance and replacement of ageing sewer mains should be a part of the City's Capital Improvement Plans.



Equipment Repairs and Replacements

City of Washington Est. 1825

Water

- Valve Exercise Program
- Water Leak Study
- Chemical Flow Pacing
- Well #6 & #8 VFD
- Water Treatment Plant #2 Moisture Repairs
- Driveway/Parking Lot Maintenance
- Misc. Mechanical and Electrical Equipment Repairs

Equipment Repairs and Replacements

City of Washington Est. 1825

Sewer

- Clean and Televise Sewer
- CIPP Lining
- Manhole Rehabilitation
- Pump Stations
  - Electrical Equipment
  - Mechanical Equipment

Potential Regulatory Factors

Water

- Increased Chlorine Residuals
- Nitrification Action Plan
- Potassium Permanganate Feed

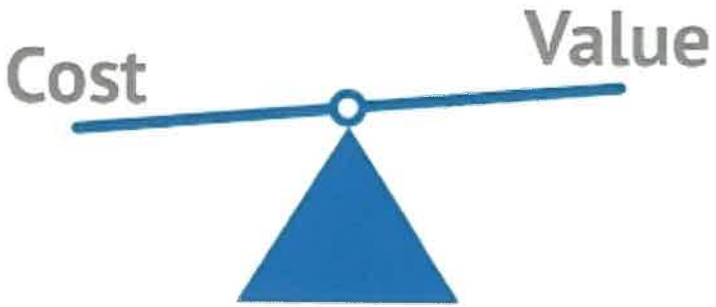
Sewer

- CMOM
- Nutrient Removal

Need for Rate Increase

City of Washington Est. 1825

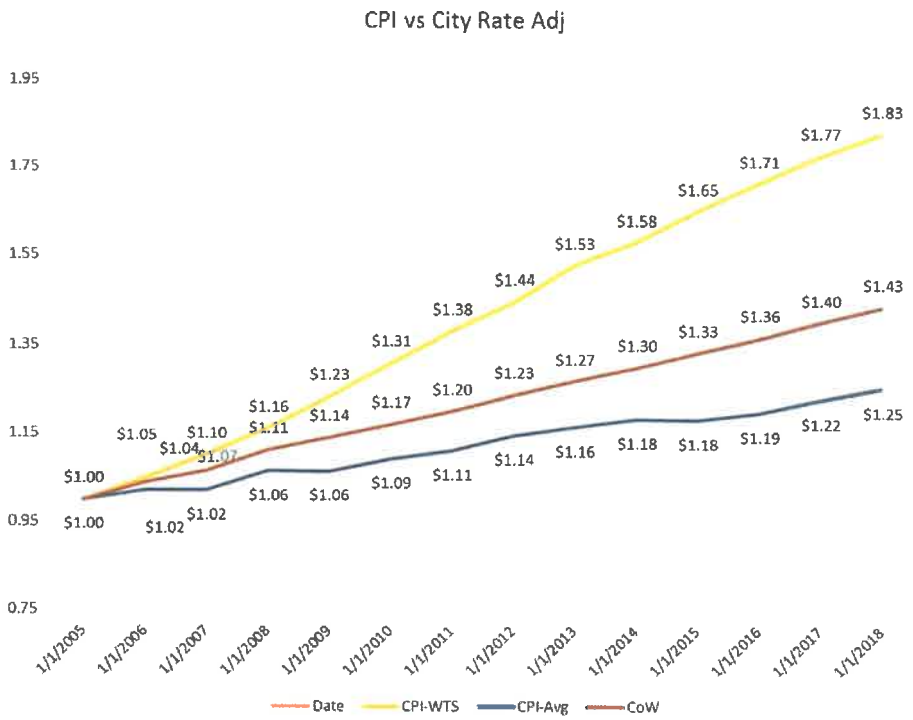
- Maintain Adequate Reserve Fund
- Capital Improvements
- Increased Operations and Maintenance Costs



CPI Index

Per Section 50.50(A)(3) of the City Code, the rate shall increase by 2.5% or the rate of inflation, whichever is greater, …

Date	CPI - Water, Trash & Sewer		CPI - Consumer		CoW - Annual 2.5% or CPI - Consumer	
1/1/2005		$ 1.00		$ 1.00		$ 1.00
1/1/2006	4.9%	$ 1.05	4.0%	$ 1.02	4.0%	$ 1.04
1/1/2007	4.9%	$ 1.10	2.1%	$ 1.02	2.5%	$ 1.07
1/1/2008	5.4%	$ 1.16	4.3%	$ 1.06	4.3%	$ 1.11
1/1/2009	6.1%	$ 1.23	-0.1%	$ 1.06	2.5%	$ 1.14
1/1/2010	6.1%	$ 1.31	2.6%	$ 1.09	2.6%	$ 1.17
1/1/2011	5.4%	$ 1.38	1.7%	$ 1.11	2.5%	$ 1.20
1/1/2012	4.7%	$ 1.44	3.0%	$ 1.14	3.0%	$ 1.23
1/1/2013	5.8%	$ 1.53	1.7%	$ 1.16	2.5%	$ 1.27
1/1/2014	3.4%	$ 1.58	1.6%	$ 1.18	2.5%	$ 1.30
1/1/2015	4.5%	$ 1.65	-0.2%	$ 1.18	2.5%	$ 1.33
1/1/2016	3.9%	$ 1.71	1.3%	$ 1.19	2.5%	$ 1.36
1/1/2017	3.7%	$ 1.77	2.5%	$ 1.22	2.5%	$ 1.40
1/1/2018	2.9%	$ 1.83	2.1%	$ 1.25	2.5%	$ 1.43



Existing Rates

Water

Technology Charge	$	3.85
Charge per 1000 Gallons		
Resident	$	4.33
Senior Citizen	$	3.90

Minimum charge of $7.53 for residents, based on 850 gallons consumption + technology charge.

Sewer

Charge per 1000 Gallons		
Resident	$	9.01
Senior Citizen	$	8.11

Area Bill Comparison

Community	Census Popuation	IEPA System Class (>10,000 Pop)	Minimum Bill Water	Sewer	Combined	% of Reg Avg	Typical Bill (4500 gal) Water	Sewer	Combined	% of Reg Avg
Morton	16,499	Major	$ 11.17	$ 2.12	$ 13.29	40%	$ 29.46	$ 25.88	$ 55.34	76%
Pekin	33,824	Major	$ 24.52	$ 3.00	$ 27.52	83%	$ 36.81	$ 26.58	$ 63.39	87%
Peoria	115,007	Major	$ 24.29	$ -	$ 24.29	74%	$ 50.62	$ 27.69	$ 78.31	107%
Metamora	3,736	Minor	$ 30.75	$ 12.23	$ 42.98	130%	$ 49.63	$ 18.28	$ 67.91	93%
Eureka	5,373	Minor	$ 14.80	$ 9.96	$ 24.76	75%	$ 33.30	$ 22.41	$ 55.71	76%
Germantown Hills	3,510	Minor	$ 29.00	$ 40.60	$ 69.60	211%	$ 51.50	$ 63.10	$ 114.60	157%
East Peoria	23,402	Major	$ 19.35	$ 23.33	$ 42.68	129%	$ 47.39	$ 34.99	$ 82.38	113%
IL-AM Washington Estates	*1,500	Minor	$ 24.29	$ 4.42	$ 28.71	87%	$ 50.62	$ 19.81	$ 70.43	96%
Northern Tazewell Water	*1,500	Minor	$ 23.48	$ -	$ 23.48	71%	$ 30.20	$ 40.55	$ 70.75	97%
Regional Average			$ 22.41	$ 11.96	**$ 33.03**		$ 42.17	$ 29.84	**$ 73.20**	

City of Washington	16,566	Major	Minimum Bill Water	Sewer	Combined		Average Bill (4500 gal) Water	Sewer	Combined	
		w/ Technology Fee								
		Single Meter	$ 7.53	$ -	$ 7.53	23%	$ 23.34	$ 40.55	$ 63.88	87%
		Dual Meter	$ 12.86	$ -	$ 12.86	39%	$ 24.99	$ 40.55	$ 65.53	90%

Washington Water Accounts

Discounts:

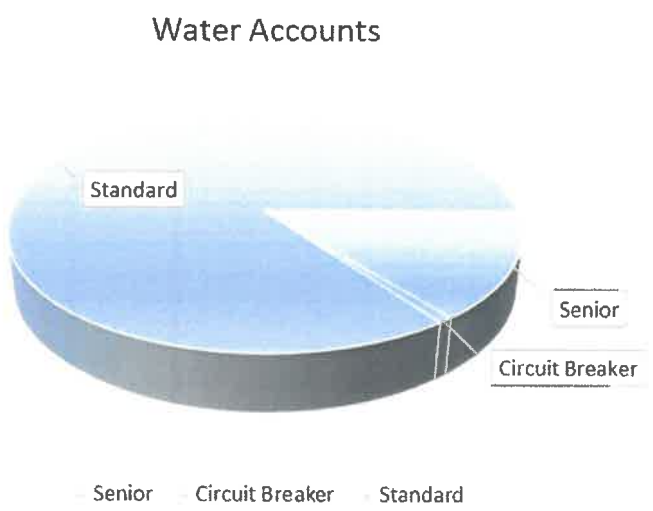
Senior Discount is **10%**

- Aged based, qualified by City (age 62, drawing Social Security, …)

Circuit Breaker is **18%**

- Income based, qualified thru State of Illinois

https://www2.illinois.gov/aging/BenefitsAccess/Pages/Eligibility%20and%20Frequently-Asked-Questions.aspx



Type of Account	No.	Percent
Senior	765	14%
Circuit Breaker	43	1%
Standard	4592	85%
Total	5400	

Washington Water Accounts

City of Washington Est. 1825

$1 Billed

to 5400 Accounts

=

$0.90 (10% Senior Discount)
for 765 Accounts

+

$1.02 (2% Increase)

for 4592 Accounts

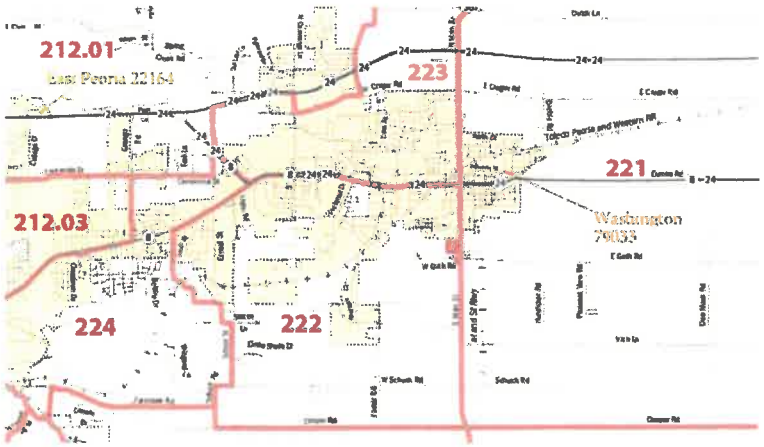
Water & Sewer as % of MHI

AWWA would suggest 1.5% to 2.5% of Medium Household Income (MHI) for Water & Sewer Combined.

	Socioeconomics		
Community	Poverty Rate	Med Household Income (MHI)	Water & Sewer as % MHI
Morton	4.6%	$ 71,385	0.93%
Pekin	13.3%	$ 47,876	1.59%
Peoria	19.6%	$ 49,121	1.91%
Metamora	6.4%	$ 54,029	1.51%
Eureka	8.0%	$ 57,273	1.17%
Germantown Hills	5.0%	$ 107,092	1.28%
East Peoria	8.5%	$ 50,751	1.95%
IL-AM Washington Estates	4.7%	$ 70,512	1.20%
Northern Tazewell Water	4.7%	$ 70,512	1.20%
Regional Average	8.3%	$ 64,283	1.37%
City of Washington	4.7%	$ 70,512	1.09%

Water as % of MHI

Reviewing just an Average Water Bill of 4500 gallons as a % of MHI within the Census Tracts of Washington & Water Providers.



Census Tract		212.01	221	222	223	224
Medium Household Income (MHI)		$88,942	$61,441	$77,500	$72,215	$58,380
North Tazewell Water District						
Min	$ 23.48	0.32%	0.46%	0.36%	0.39%	0.48%
Avg	$ 42.53	0.57%	0.83%	0.66%	0.71%	0.87%
Illinois American Water Company						
Min	$ 24.29	0.33%	0.47%	0.38%	0.40%	0.50%
Avg	$ 50.62	0.68%	0.99%	0.78%	0.84%	1.04%
City of Washington Water						
Min	$ 7.53	0.10%	0.15%	0.12%	0.13%	0.15%
Avg	$ 23.34	0.31%	0.46%	0.36%	0.39%	0.48%

WTP#2 & WT#2

In 1991 – 1995, Water Tower #2 and Water Plant #2 were costed against TIF 1, not water rates. In current value dollars, this results in an almost $8.50 month discount to current rates:

20Yr Loan at 2.5% for $8.5M

$545,250.59

$8.41

Watermain Capital Replacement Forecast

Planned improvements to Lawndale help define the cost per mile of reconstruction.

		Roadway Items	Sewer Items	Storm Items	Water Items
Est. Cost per Foot =	$1,067.61	$338.04	$240.58	$383.94	$105.05
Projected Cost per Mile =	$ 5,636,984.54	$1,784,854.94	$1,270,252.50	$2,027,213.10	$554,664.00

Watermain Capital Replacement Forecast

With 5400 accounts, a $1 extra flat charge per month only equals $65k in additional capital.

In rough numbers:
10 Yr = $20/mo
20 Yr = $10/mo
40 Yr = $5/mo

Recommended Capital Improvement Schedule

Water

- Water Treatment Plant No. 1 Levee – FY 2020
- Water Tower No. 3 – FY 2021
- Water Treatment Plant No. 1 Filters – FY 2019
- Water Treatment Plant No. 2 Filters – FY 2021
- Watermain Replacements – Ramp up program from FY 2020 to 2025 to get to a 20-year replacement schedule
- Water Treatment Plant No. 3 – FY 2025 (This is a placeholder to demonstrate the impacts on the rates. Likely need is closer to 2030)

Recommended Capital Improvement Schedule

Sewer

- Pump Stations VFDs– FY 2019
- Sewer Phase 2b– FY 2020
- Sewer Replacements – Ramp up program from FY 2020 to 2029 to get to a 20-year replacement schedule
- Sewer Treatment Plant Phase 3 – FY 2025 (This is a placeholder to demonstrate the impacts on the rates. Likely need is closer to 2030)

City of Washington Est. 1825

Questions & Answers