



EHLERS
LEADERS IN PUBLIC FINANCE

City of Arden Hills Utility Rate Study Recommendations

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Utility Funds

- They are Enterprise Funds
 1. Should pay for
 - ✓ Capital Outlays
 - ✓ Operations
 - ✓ Replacement Reserves
 - ✓ Debt
 2. Should be **“flush”** with cash
 3. Have a **minimum** of:
 - ✓ 6 months of operations
 - ✓ Following year’s bond/debt payments, if any
 - ✓ Funding for capital equipment
 - ✓ Flexibility to accommodate unforeseen repairs



Purpose of Study

1. Review rate structure and usage rates for Water, Sewer and Storm Water
 - Prepare base model for existing operations and capital requirements
 - Once base model is approved, complete impact analysis of TCAAP
 - Water Fund & Sewer Fund
 - Biggest issue is paying for water tower that is needed today
 - Review rates annually to determine if they need to be adjusted based upon actual water usage and how TCAAP builds out
2. Eliminate standby fee and incorporate into rates or other charge
 - Line item on each bill and used to pay for maintenance costs associated with fire protection (i.e. hydrants, sprinkler systems, etc.)
3. Eliminate undeveloped surface water management fee
 - Confusing and cumbersome to calculate, without generating a lot of revenue (approximately \$5,200/year)



Goals

- Goals when designing a water rate structure
 - Evaluate who is using the system and when
 - Are land uses billed similarly
 - Are certain users paying more or less than they should
 - Fixed vs. variable costs of the system
 - “Revenue neutral”
 - All options generate same amount of revenue
 - Revenue needed to sustain enterprise funds into the future
 - Conservation rates
 - Ease of administration
 - Understood by rate payers



Findings

1. Water Fund has a **sufficient** cash balance, but needs some work
 - Capital projects for existing infrastructure
2. Sewer Fund has **insufficient** cash balance, needs increases
 - Interfund loan from PIR Fund
 - Capital projects for existing infrastructure
3. Storm Water Fund is sufficient
4. Should eliminate undeveloped surface water management fee
5. Can eliminate standby fee and incorporate into meter charge (flat fee)



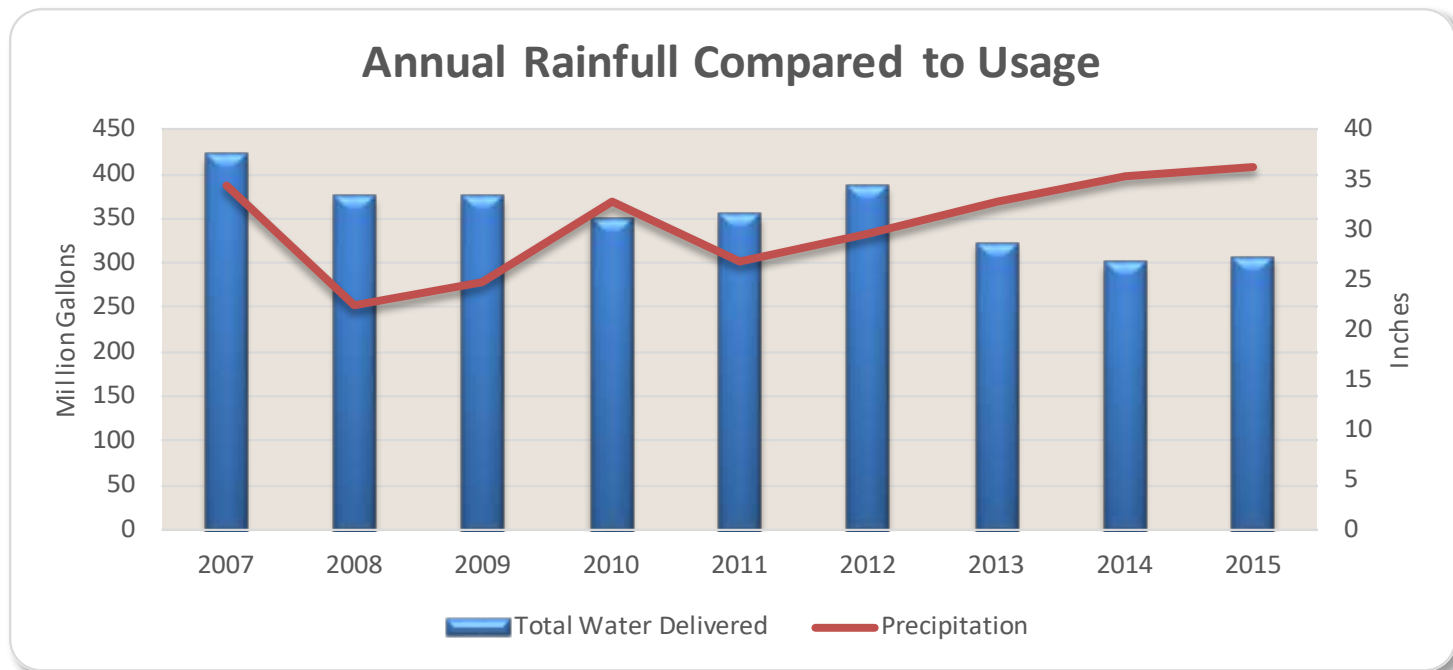
Fixed Costs

- What are they?
 - Staff
 - Equipment/vehicles
 - Supplies
 - Cost to send out the bills
 - Meters for resale and meter repair/maintenance (water fund only)
- Why important?
 - Need to make sure these costs are covered by base charges and not subject to usage of the system



Water Fund - Wet Versus Dry Years

- Revenue Stability: Ensure meter charges are high enough to provide stability during a “wet” year.



Sources: *Minnesota Department of Natural Resources*
City of Arden Hills



Water Fund - How are we doing things now?

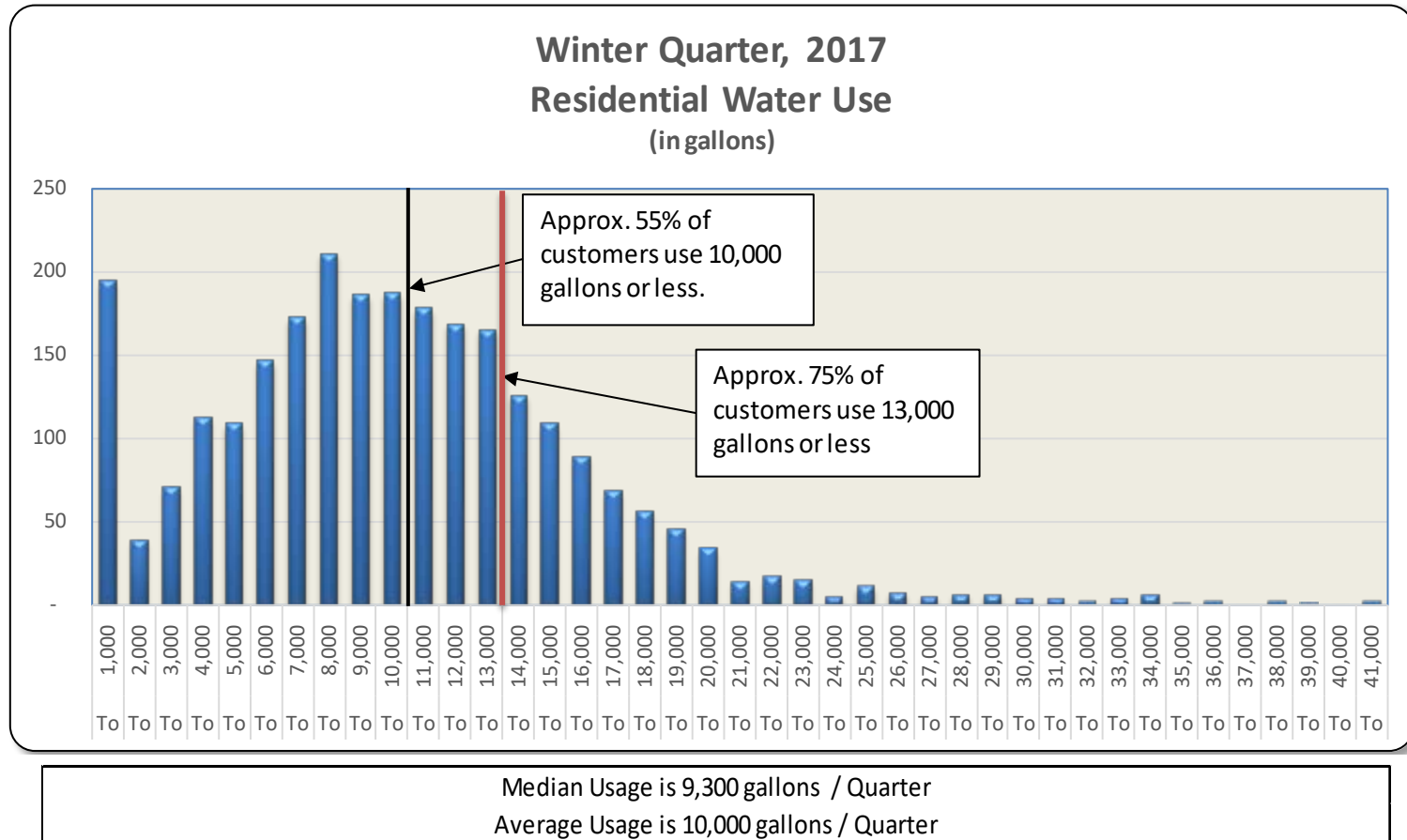
- Quarterly Billing
- Water use is billed as follows:
 - Meter charge – varies by meter size
 - Standby charge – varies by service line size
 - Usage Charges:

Tiers	2017 Rates
0 – 10,000 gallons	\$2.73/1,000 gallons
10,001 – 35,000 gallons	\$3.52/1,000 gallons
Over 35,000 gallons	\$6.22/1,000 gallons

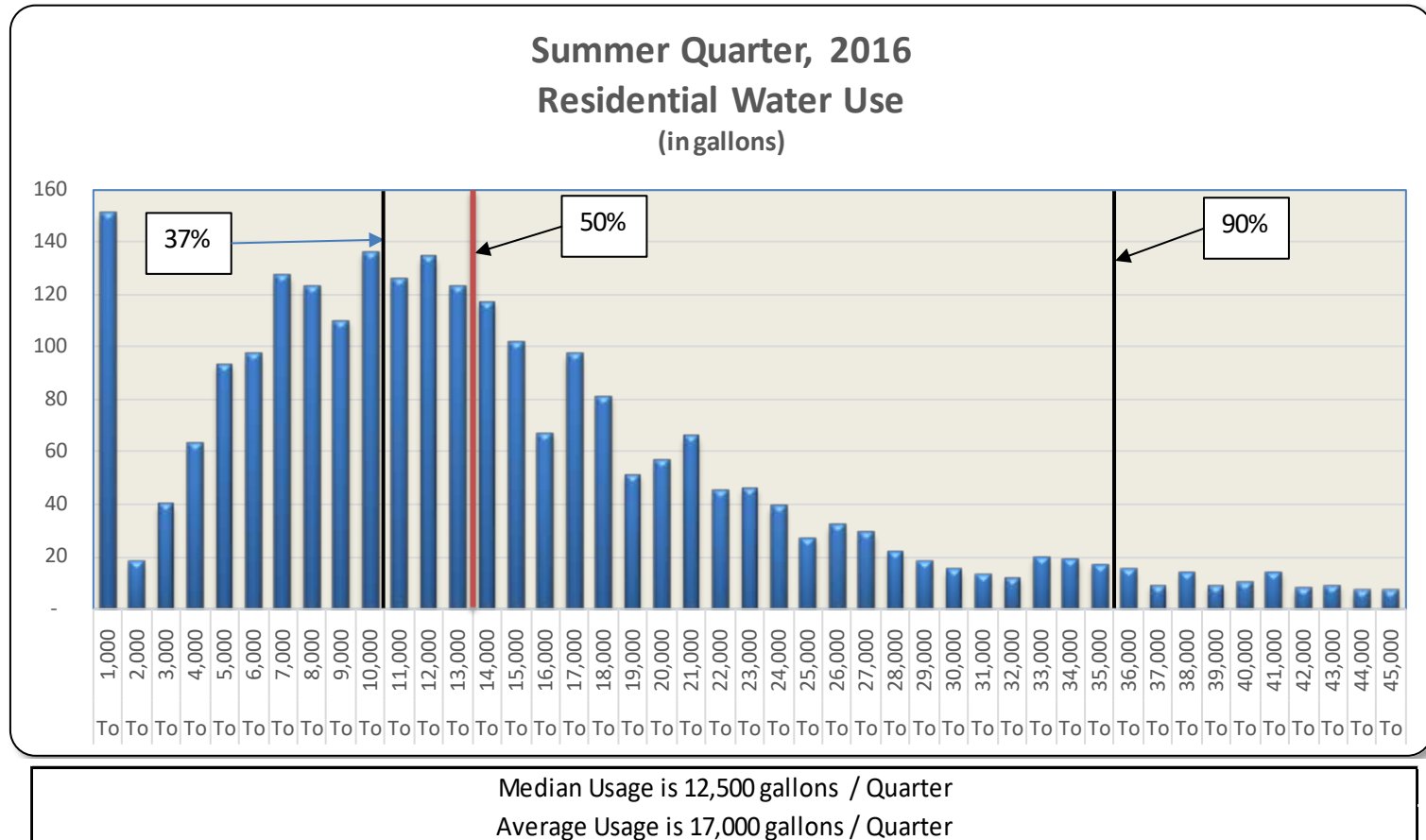
- Fixed Costs
 - Existing Meter and Standby Charge \$586,411/year
 - Actual Fixed Costs = \$470,154/year



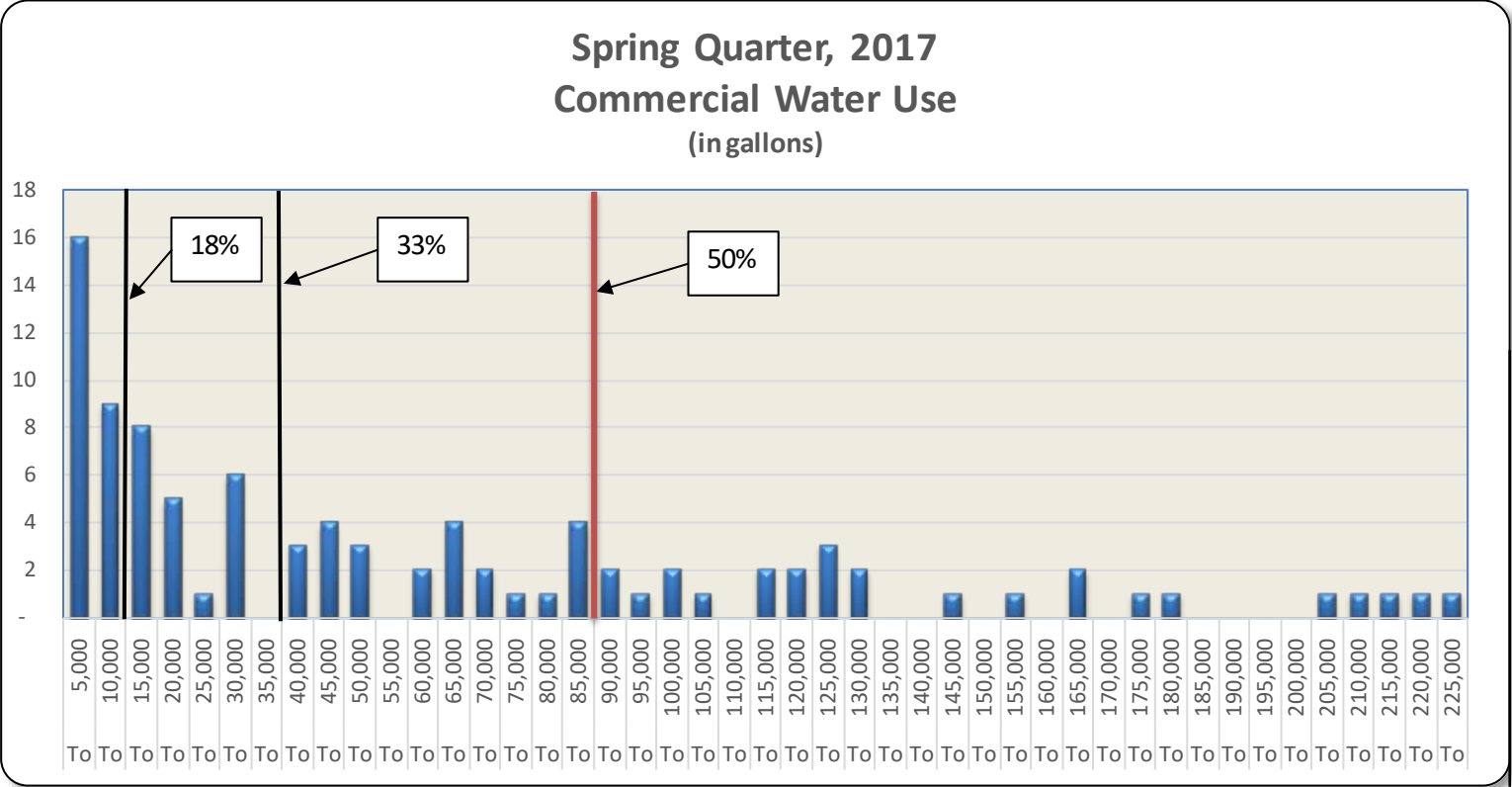
Residential Rate Tiers – No Change to Existing



Residential Rate Tiers – No Change to Existing



Commercial Tiers – No Change to Existing



Median Usage is 84,000 gallons / Quarter
 Average Usage is 245,000 gallons / Quarter



Summary of Who is using the water system and when

Quarterly Consumption	Winter Quarter Residential	Summer Quarter Residential
10,000 gallons	55% of customers	37% of customers
13,000 gallons	75% of customers	50% of customers
35,000 gallons		90% of customers

Quarterly Consumption	Spring Quarter Commercial
10,000 gallons	18% of customers
35,000 gallons	33% of customers
85,000 gallons	50% of customers



Key Findings – Water Utility

- **Water Rates**

1. Existing tiers are appropriate
2. Lack of sufficient cash balances to pay for future capital needs and/or have adequate balance for unforeseen issues
3. Not every user has a meter charge
 - 22 accounts are “sewer only” and only have a Standby Charge
4. Current usage rates
 - Meets Conservation standards per statute
 - Generates insufficient revenues

- **Take Away:**

1. Current cash balances are inadequate to pay for needed system upgrades so need to issue debt in 2018
2. Current rate increases don't allow for payment of debt or allow for adequate reserves in the future



Key Assumptions for Water Analysis

- Utilized 1 year of data
 - ½ of 2016 and ½ of 2017
- 3% inflation on City's operating expenses
- 2% increase on other revenues
- Future Capital Improvements for existing infrastructure
- Debt assumptions
 - 10-Year Terms
 - Interest rate range of 3% - 5%



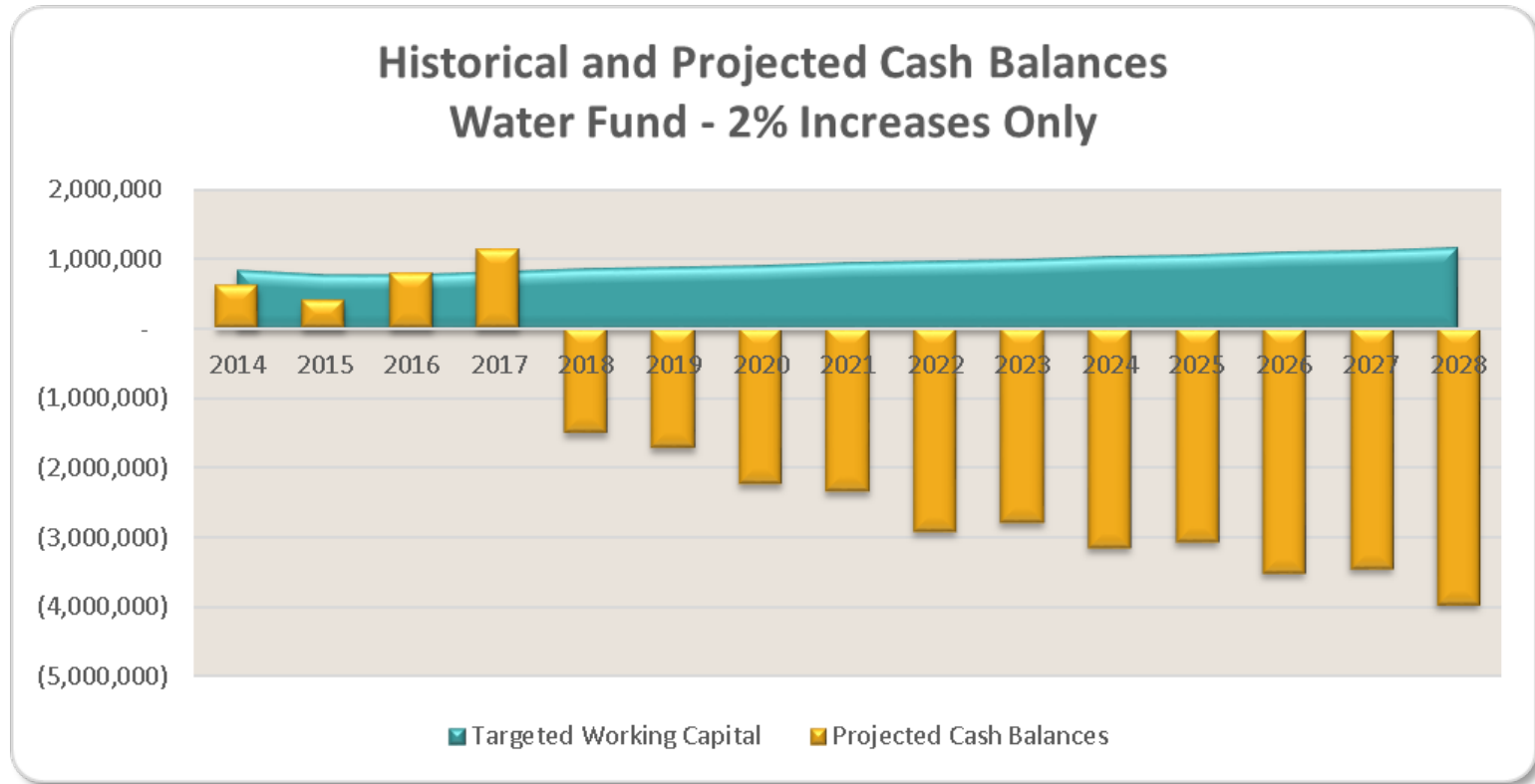
Capital Projects – Water Fund

Projects	Project Number	2018	2019	2020	2021	2022
EXISTING INFRASTRUCTURE & PROJECTS						
Water Tower Repair & Repainting	12-W-001	520,000				
CR E2 Water Replacement/Old Hwy 10 Loop	17-W-001	855,000				
Booster Station Repair/Upgrade (Roseville)	18-W-001	400,000	154,000			
County Road F Watermain Replacement	18-W-002	300,000				
Future PMP	18-Str-005			400,000		400,000
Indian Oaks/Floral Dr PMP - 2018 PMP	18-Str-065	751,000				
Watermain Replacement			250,000	250,000	250,000	250,000
Total Existing Infrastructure & Projects		2,826,000	404,000	650,000	250,000	650,000
Actual CIP (2017 Dollars)		2,826,000	404,000	650,000	250,000	650,000
Percent Inflation		3%	3%	3%	3%	3%
		2,910,780	428,604	710,273	281,377	753,528
Total Projects to be Bonded for:	5-Year Term	0	0	0	0	0
	10-Year Term	3,000,000	0	1,200,000	0	1,100,000
	15-Year Term	0	0	0	0	0

- Significant projects in 2018
- Water Fund does not have sufficient cash to pay for capital projects without external borrowing



Impact on Water Fund - No Changes



Target Cash = 6 mos. operating expenses, plus next year's debt plus contingency

Note: Does **NOT** include assumption for future TCAAP capital

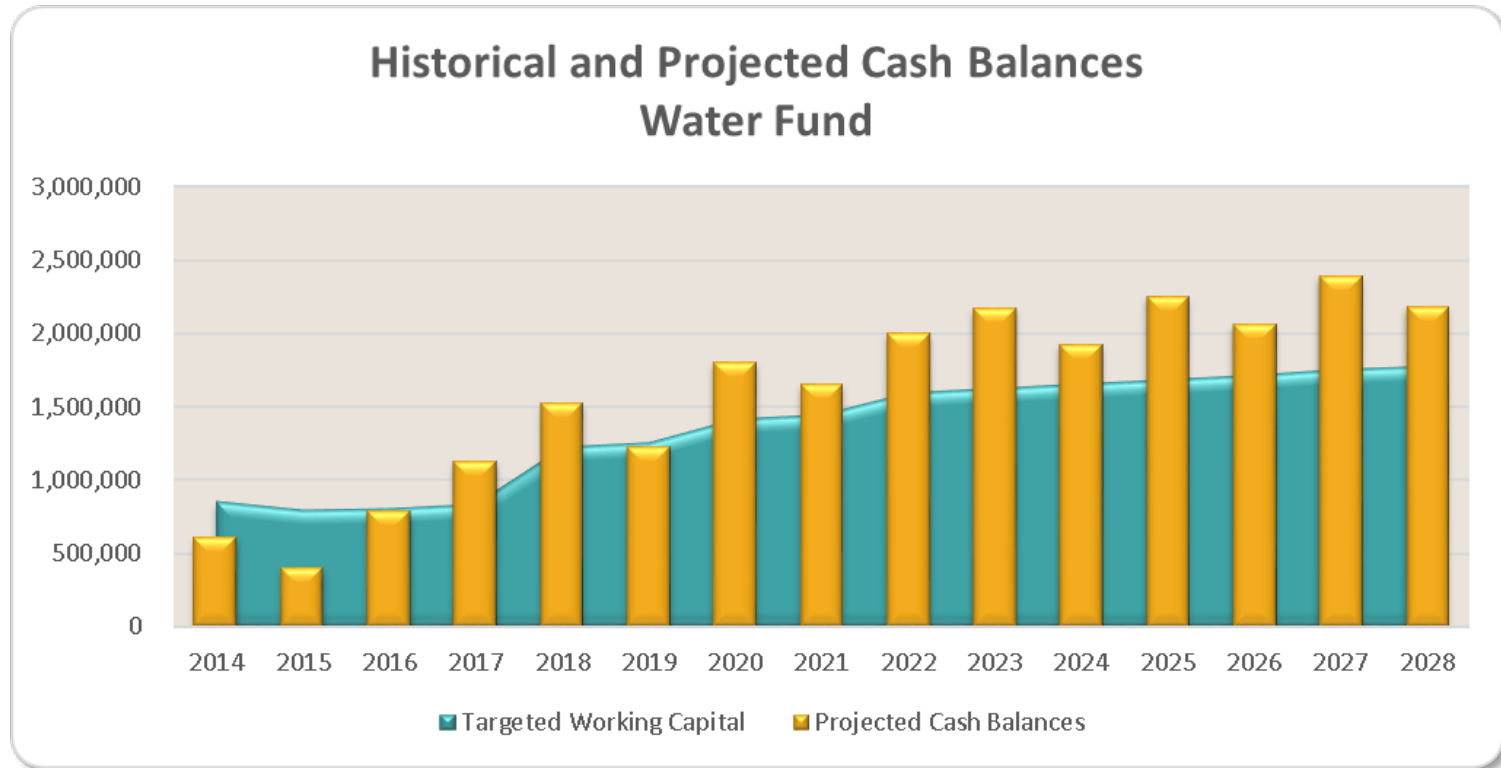


Proposed Changes to Water Fund

- Issue debt for Capital Projects
- Combine Meter Charges and Standby Charges
 - Removes appearance of duplicity
 - Continue to charge 22 Sewer Only accounts a Standby Charge
 - These accounts would not have a Meter Charge
 - New Meter Charges would generate sufficient revenues to cover 100% of Fixed Costs of the system.
- No Changes to Existing Tiers
 - Rates would be adjusted to capture 100% of Variable Costs of the system
- Rate Changes are “Revenue Neutral”
- Minimal impact on average users



Impact on Water Fund – With Changes



Target Cash = 6 mos. operating expenses, plus next year's debt plus contingency

Note: Does **NOT** include assumption for future TCAAP capital



Proposed Residential Water Rates

		2017 Rates per 1,000 gallons	2018 Rates per 1,000 gallons
Tier 1	0 – 10,000 gallons	\$2.73	\$3.11
Tier 2	10,001 – 35,000 gallons	3.52	4.01
Tier 3	Over 35,000 gallons	6.22	7.09
Meter Charge	¾" Meter	\$24.36	\$30.35
Standby Charge	1" Service Line	\$8.32	N/A*

*Note: For 22 "Sewer Only" accounts, the Standby Charge would be \$8.65



Proposed Commercial Water Rates

		2017 Rates per 1,000 gallons	2018 Rates per 1,000 gallons
Tier 1	0 – 10,000 gallons	\$2.73	\$3.11
Tier 2	10,001 – 35,000 gallons	3.52	4.01
Tier 3	Over 35,000 gallons	6.22	7.09
Meter Charge	1" Meter	\$58.84	\$75.88
	1.5" Meter	124.46	151.75
	2" Meter	200.51	242.80
	3" Meter	436.45	455.25
	4" Meter	654.26	758.75
	6" Meter	1,089.82	1,517.50
	8" Meter	2,196.99	2,428.00
	10" Meter	3,122.56	3,490.25
Standby Charge	12" Meter	4,429.34	6,525.25
	1.25" Service Line	\$12.02	N/A
	1.5" Service Line	16.56	N/A
	2" Service Line	25.31	N/A
	3" Service Line	57.09	N/A
	4" Service Line	101.81	N/A
	6" Service Line	228.28	N/A
	8" Service Line	406.26	N/A
	10" Service Line	635.48	N/A
	12" Service Line	913.31	N/A



Changes to Water Fund Charges

	Existing 2017 Rates	Recommended 2018 Rates
Meter Charges	\$380,707	\$470,243
Standby Charges	205,703	761
Usage Charges	1,444,237	1,645,958
Total Revenues	\$2,030,647	\$2,116,962

Pros:

- Fixed Charges pay for fixed costs of the system
- Eliminates majority of Standby Charges
- Ease of administration
- Easy to explain to rate payers

Cons:

- Any changes to rate structure will cause some shifts in burden of who pays



Sewer Fund - How are we doing things now?

- Quarterly Billing
- Sanitary Sewer use is billed as follows:

Base Charge - Includes 15,000 gallons	\$	92.61
Mobile Homes		100.16
Consumption Charge - Residential		5.33
Consumption Charge - Commercial		5.77

- Fixed Costs
 - Existing Base Charge generates **\$911,719/year**
 - Only generates **\$110,300** if you exclude accounts that use less than 15,000 gallons
 - Actual Fixed Costs are \$542,046/year



Key Findings - Sewer

- **Future Projected Sewer Rate Increases**

1. Need to repay interfund loan to PIR Fund and begin to build cash reserves
2. Significant capital projects over next 5-10 years
3. 4% annual increases in sewer treatment charges expected over next 5 years

- **Take Away:**

1. Existing users of less than 15,000 gallons/quarter are paying more than their fair share
2. Commercial and mobile homes are not contributing to fixed costs
3. Sanitary sewer treatment cost increases and existing interfund loan are driving future rate increases
4. Need to issue debt to pay for capital projects



Key Assumptions for Sewer Analysis

- All CIP needs identified
- 3% inflation on City's operating expenses
- 2% increase on other revenues
- \$53,900 increase in MCES fees between 2017 and 2018
- MCES and existing bonds:
 - 4% increase in MCES fees beyond 2018
- Debt assumptions
 - 10-Year Terms
 - Interest rate range of 3% - 5%



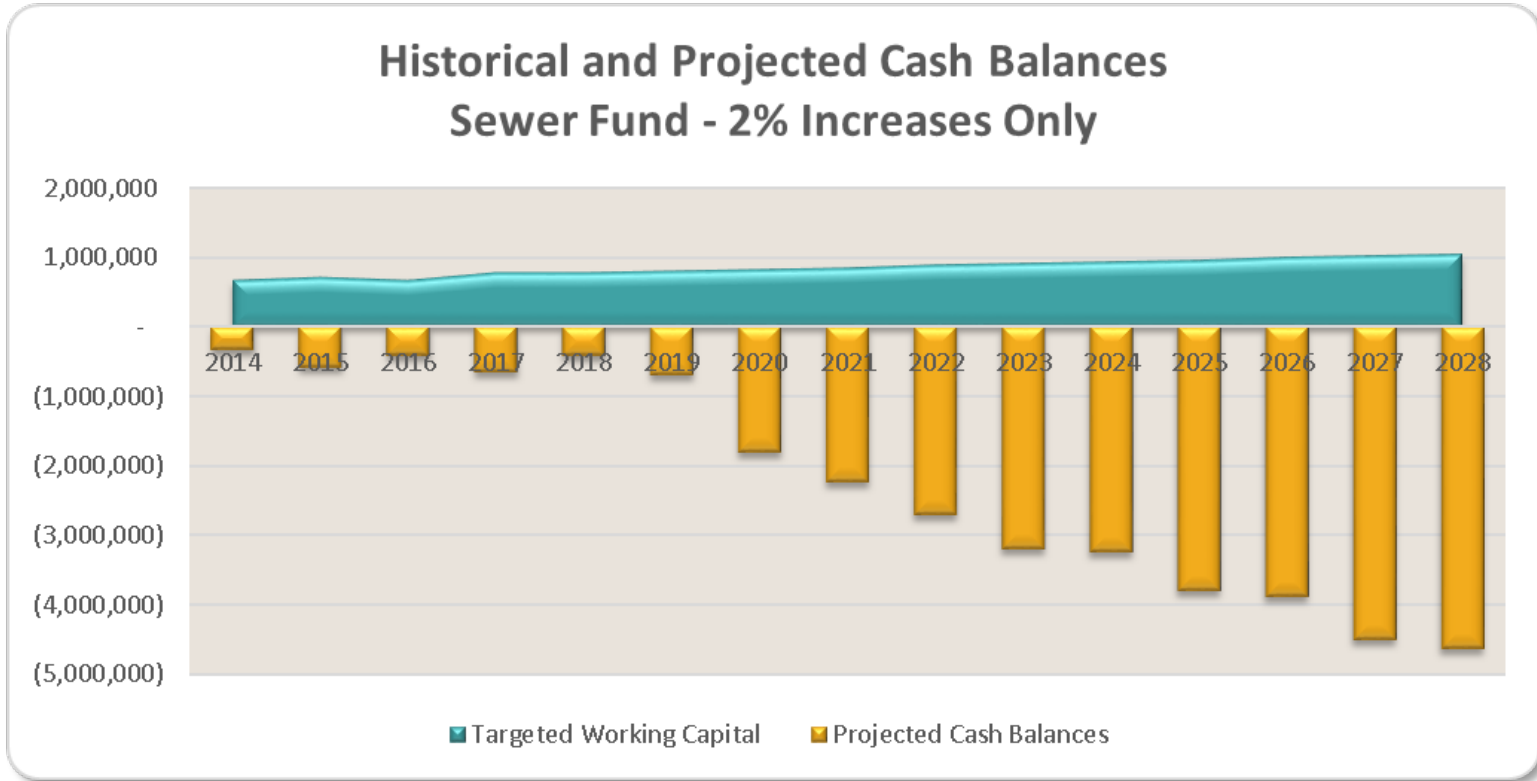
Capital Projects – Sewer Fund

Projects	Project Number	2018	2019	2020	2021	2022
EXISTING INFRASTRUCTURE PROJECTS						
Sewer Lining/Rehabilitation	09-Sew-002	200,000	400,000		400,000	
Reconstruct Lift Station 11	10-Sew-003					
Future PMP	18-Str-005			400,000		400,000
Indian Oaks/Floral Dr PMP - 2018 PMP	18-Str-065	50,000				
Lift Stations		125,000	125,000			
Actual CIP (2017 Dollars)		375,000	525,000	400,000	400,000	400,000
Percent Inflation		3%	3%	3%	3%	3%
Inflated Project Costs		386,250	556,973	437,091	450,204	463,710
Total Projects to be Bonded for:	5-Year Term	0	0	0	0	0
	10-Year Term	450,000	0	1,100,000	0	900,000
	15-Year Term	0	0	0	0	0

- Sewer fund does not have sufficient cash to pay for projects without external borrowing



Impact on Sewer Fund - No Changes



Target Cash = 6 mos. operating expenses, plus next year's debt plus contingency

Note: Does **NOT** include assumption for future TCAAP capital

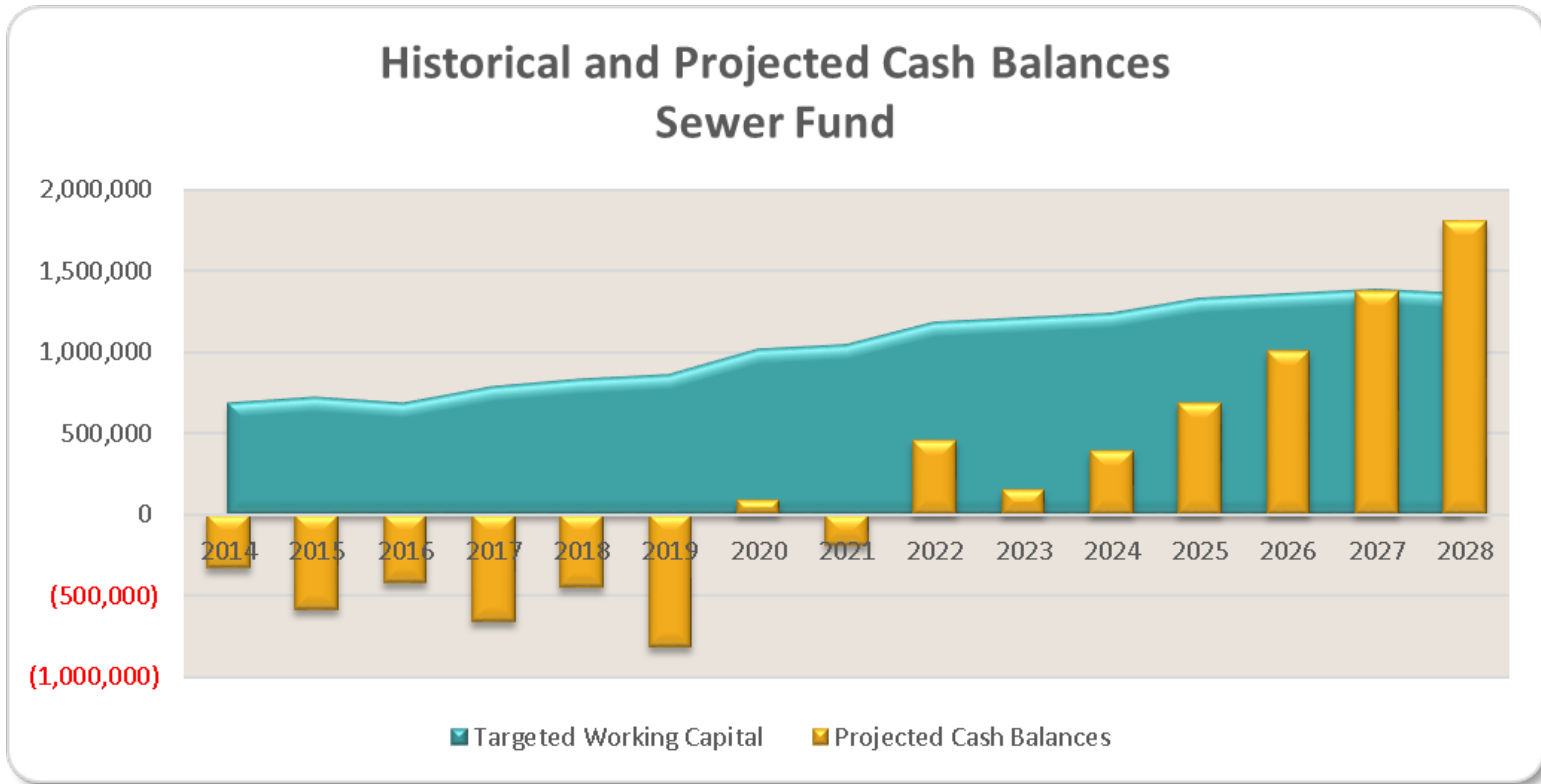


Proposed Changes to Sewer Fund

- Issue debt for Capital Projects
- Base Fee for all accounts
 - Remove 15,000 gallon minimum
 - Include commercial and manufactured home accounts
 - Sufficient to cover fixed costs of the system
- Consumption Charge
 - Same rate for residential and commercial accounts
- Flat Fee for Manufactured Homes
 - Calculated as above assuming 17,000 gallons/quarter
- Rate Changes are “Revenue Neutral”
- Minimal impact on average users



Impact on Sewer Fund - With Changes



Target Cash = 6 mos. operating expenses, plus next year's debt plus contingency

Note: Does **NOT** include assumption for future TCAAP capital



Proposed Sewer Rates

Proposed Rate Structure		Proposed 2018 Rate	Usage Included
1	Base Charge - All Users	\$ 46.41	-
2	Consumption Charge - All Users	5.15	N/A
3	Mobile Homes	133.96	17,000



Changes to Sewer Fund Charges

	Existing 2017 Rates	Recommended 2018 Rates
Base Charge	\$928,323	\$965,412
Manufactured Homes	113,782	118,337
Usage Charges	681,335	708,472
Total Revenues	\$1,723,440	\$1,792,221

Pros:

- Fixed Charges pay for fixed costs of the system
- Eliminates minimum usage
 - Customers pay for what they use
- Ease of administration
- Easy to explain to rate payers

Cons:

- Any changes to rate structure will cause some shifts in burden of who pays



Storm Water Fund - How are we doing things now?

- Quarterly Billing
- Storm Water charges are billed as follows:

Current Rate Structure		Existing 2017 Rate	
1	Residential (Per Lot)	\$	14.72
2	Townhomes (Per Lot)		19.08
3	Apartments (Per Acre)		120.11
4	Condos (Per Acre)		120.11
5	Commercial (Per Acre)		187.52
6	Bethel University (Per Acre)		187.52
7	Boston Scientific (Per Acre)		187.52
8	Undeveloped (Per Acre)		22.06
9	Undeveloped Residential (Per Acre)		22.06



Key Findings – Storm Water

- **Fund has sufficient reserves**

1. Significant capital projects over next 5-10 years
2. Elimination of Undeveloped Storm Water Fee

- **Take Away:**

1. Elimination of Undeveloped Storm Water Fee has minimal impact on fund balance
2. No need to issue debt to pay for capital projects



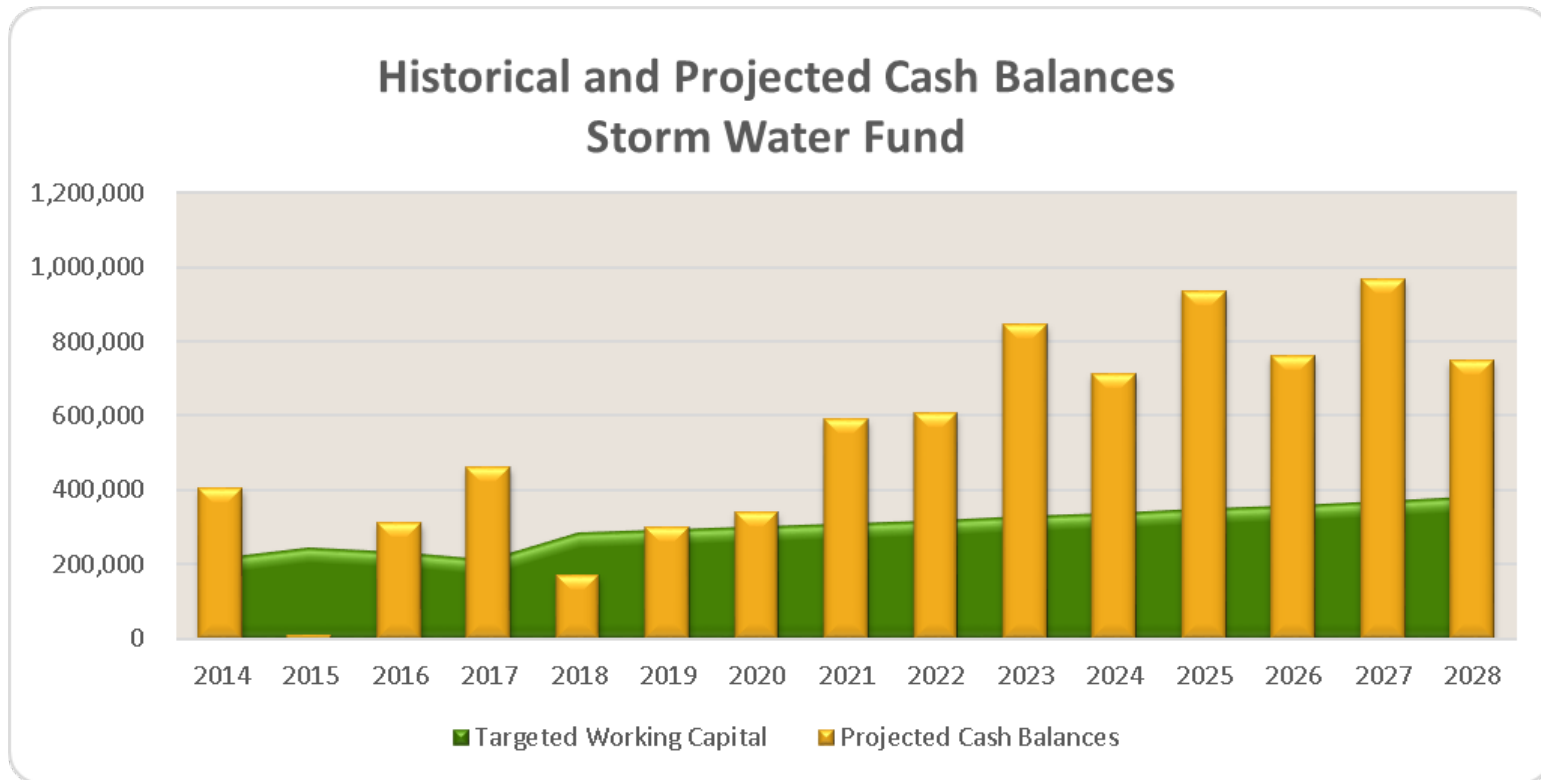
Capital Projects – Storm Water Fund

Projects	Project Number	2018	2019	2020	2021	2022
EXISTING INFRASTRUCTURE PROJECTS						
Storm Pond Maintenance	09-Storm-001		50,000			
Storm Water Inlet/Outlet Repairs	13-Storm-001		25,000			
Storm Water BMP Study/Construction	17-Storm-001					
Old Snelling Ave PMP w/ Bridge Reconstruction	17-Str-004		50,000			
Future PMP	18-Str-005			200,000		200,000
Indian Oaks/Floral Dr PMP - 2018 PMP	18-Str-065	350,000				
Surface Water Project (Undetermined)	18-Storm-001	200,000				
Actual CIP (2017 Dollars)		550,000	125,000	200,000	0	200,000
Percent Inflation		3%	3%	3%	3%	3%
Inflated Project Costs		566,500	132,613	218,545	-	231,855
Total Projects to be Bonded for:	5-Year Term	0	0	0	0	0
	10-Year Term	0	0	0	0	0
	15-Year Term	0	0	0	0	0

- Storm Water fund has sufficient cash to pay for projects.



Impact on Storm Water Fund



Target Cash = 6 mos. operating expenses, plus next year's debt plus contingency

Note: Does **NOT** include assumption for future TCAAP capital



Proposed Storm Water Rates

Current Rate Structure		Existing 2017 Rate	Proposed 2018 Rate
1	Residential (Per Lot)	\$ 14.72	\$ 15.01
2	Townhomes (Per Lot)	19.08	19.46
3	Apartments (Per Acre)	120.11	122.51
4	Condos (Per Acre)	120.11	122.51
5	Commercial (Per Acre)	187.52	191.27
6	Bethel University (Per Acre)	187.52	191.27
7	Boston Scientific (Per Acre)	187.52	191.27
8	Undeveloped (Per Acre)	22.06	-
9	Undeveloped Residential (Per Acre)	22.06	-



Proposed Bonding – Sewer and Water

Year	Water Fund	Sewer Fund	Storm Water Fund	Total All Funds
2017	\$ -	\$ -	\$ -	\$ -
2018	3,000,000	450,000	-	3,450,000
2019	-	-	-	-
2020	1,200,000	1,100,000	-	2,300,000
2021	-	-	-	-
2022	1,100,000	900,000	-	2,000,000
2023	-	-	-	-
2024	-	-	-	-
2025	-	500,000	-	500,000
2026	-	-	-	-
TOTAL	\$ 5,300,000	\$ 2,950,000	\$ -	\$ 8,250,000



Sample Bill Impact – Residential Accounts

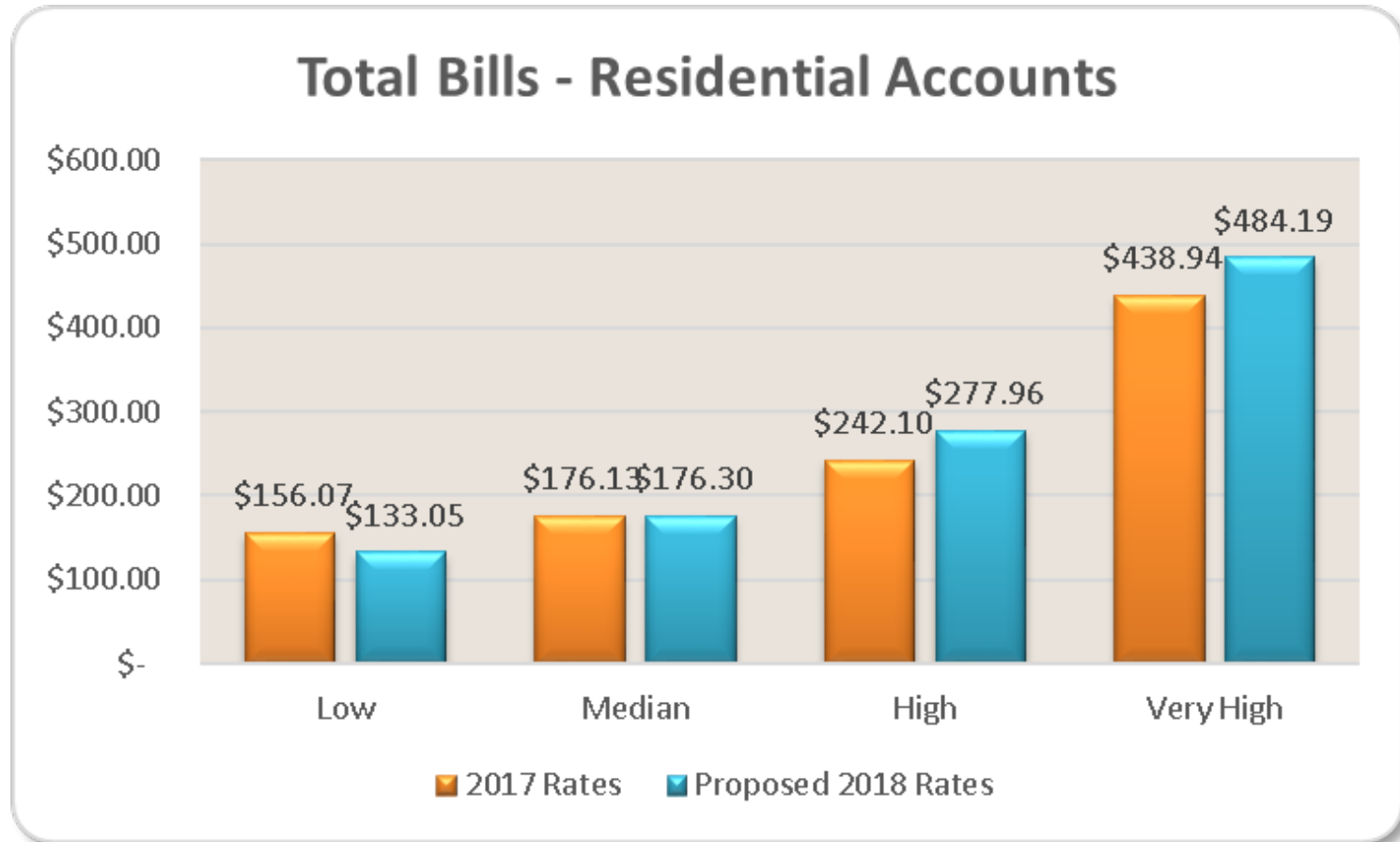
Type	Residential Accounts			
	Low	Median	High	Very High
Sample 2017 Usage	5,883	12,506	19,172	40,917
Winter Average	4,462	8,424	22,973	42,548
Meter Size	5/8"	5/8"	5/8"	5/8"

Existing 2017 Rate Structure				
Water Portion	\$ 48.74	\$ 68.80	\$ 92.27	\$ 184.78
Sewer Portion	92.61	92.61	135.11	239.44
Storm Sewer Portion	14.72	14.72	14.72	14.72
Total Utility Bill	\$ 156.07	\$ 176.13	\$ 242.10	\$ 438.94

2018 Option: Combine Water Meter & Standby Charges; New Sewer Structure				
Total Water	\$ 48.65	\$ 71.50	\$ 98.23	\$ 203.65
Total Sewer	\$ 69.39	\$ 89.79	\$ 164.72	\$ 265.53
Total Storm Sewer	\$ 15.01	\$ 15.01	\$ 15.01	\$ 15.01
Total Bill	\$ 133.05	\$ 176.30	\$ 277.96	\$ 484.19



Sample Bill Impact – Residential Accounts



Sample Bill Impact – Commercial Accounts

	Commercial Accounts				
Type	Low	Median	High	Very High	Large Meter
Sample 2017 Usage	28,009	86,190	737,440	2,148,168	6,511,731
Winter Average	28,009	86,190	737,440	2,148,168	5,629,331
Meter Size	3/4"	1.5"	3.0"	6.0"	2.0", 3.0" & 10.0"

	Existing 2017 Rate Structure				
Water Portion	\$ 123.37	\$ 964.42	\$ 5,149.21	\$ 14,450.83	\$ 45,044.24
Sewer Portion	161.61	497.32	4,255.03	12,394.93	32,481.24
Storm Sewer Portion	131.98	745.96	988.87	3,442.87	34,534.54
Total Utility Bill	\$ 416.96	\$ 2,207.70	\$ 10,393.11	\$ 30,288.63	\$ 112,060.02

	2018 Option: Combine Water Meter & Standby Charges; New Sewer Structure				
Total Water	\$ 133.67	\$ 646.04	\$ 5,566.90	\$ 16,631.21	\$ 50,239.67
Total Sewer	\$ 190.66	\$ 490.29	\$ 3,844.23	\$ 11,109.48	\$ 29,130.28
Total Storm Sewer	\$ 134.62	\$ 760.88	\$ 1,008.65	\$ 3,511.73	\$ 35,225.23
Total Bill	\$ 458.95	\$ 1,897.21	\$ 10,419.78	\$ 31,252.42	\$ 114,595.18



Conclusions – “Base Model”

- Annual 2% rate increases for all funds is not sufficient.
 - Sewer fund has interfund loan
 - Unable to pay for capital projects, except in Storm Water Fund
- City will need to issue debt to pay for capital projects related to existing infrastructure
- Water and Sewer funds will require rate increases
 - New water rate structure will eliminate Standby Charges
 - Sewer rates will stabilize revenue with higher minimum charges
- Undeveloped storm water charges eliminated
- Does NOT include TCAAP at this time



Next Steps

1. Incorporate proposed rate increases for all utility funds for 2018 as shown
2. Ehlers will take this “Base Model” and use it to build the “Development Model” that incorporates TCAAP
 - Water tower construction
 - Other new infrastructure
 - Projected new development
 - Impacts on utility funds
3. Ehlers will come back to Council to discuss “Development Model”





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