

Water and Sewer Utility Rate Modernization

Rate Structure Design Recommendations

November 5, 2014

Presenters:

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AGENDA



- Policy Decision Making
- Water Rate Structure Options
- Sewer Rate Structure Options
- Combined Impacts and Recommendation
- Next Steps

Background



- Rate Modernization Policy discussions held with Council on March 5 and May 7
- September 3 Rate-Setting Primer with Council
- September 24 Sewer Utility Rate Modernization Workshop with Committee
- October 14 Water Utility Rate Modernization Workshop with Committee

Pending Policy Decisions



- Fiscal Policies – Reserves
- Juniper Utility
- Affordability Policies – Program Funding
- FY 15/16 rate increases for sewer, water and stormwater
- Sewer and Water SDC's
- Serving areas outside UGB
- Future utilities rate review process (rate commission?)

Snapshot of FY 13-14 Monthly Utility Bill



Cities > 20,000 Population	Water Charge (using 800ccf or 6000 gallons)	Sewer Charge (using 800 ccf or 6000 gallons)	Stormwater Charge	TUF/Public Safety UT Fee	Total Monthly Bill
Portland	37.57	69.60	24.54	0.52	132.23
Lake Oswego	41.49	62.55	10.99	8.01	123.04
Newberg	36.46	74.98	6.22	4.50	122.16
Wilsonville	36.59	66.33	5.10	7.05	115.07
Tigard	50.73	38.46 (1)	8.25	5.56	103.00
Milwaukie	27.96	53.43	11.44	3.35	96.18
Albany	44.69	51.06	-	-	95.75
Oregon City	32.41	38.45	8.55	11.56	90.97
Woodburn	25.66	64.47			90.13
Ashland	37.85	36.18	4.29	8.17	86.49
Springfield	22.08	50.26	12.62	-	84.96
Beaverton	33.16	40.46 (1)	8.25	-	81.87
McMinnville	25.06	56.77			81.83
Gresham	37.63	26.30	9.84	7.50	81.27
West Linn	19.70	32.84	5.31	22.11	79.96
*Forest Grove	29.19	42.20 (1)	7.00		78.39
Klamath Falls	16.50	61.84	-	-	78.34
*Eugene	28.55	37.39	11.39		77.33
Salem	24.75	46.49	3.72	1.25	76.21
Bend (w/o franchis	27.69	44.37	4.00		76.06
Tualatin	26.02	39.73 (1)	5.86	3.92	75.53
Corvallis	25.37	36.14	5.86	6.63	74.00
Hillsboro	24.12	38.46 (1)	6.25	3.18	72.01
Redmond	26.62	35.60	7.06	0.83	70.11
Keizer	14.20	39.44	4.44		58.08
Roseburg	26.54	25.00	5.00	-	56.54
Grants Pass	19.98	29.33	-	3.37	52.68
*Medford	11.80	16.92	6.85	13.80	49.37

(1) Served by Clean Water Services

* Bill \$/1,000 gal

Neighboring Communities



	Water	Sewer
La Pine	\$27.34 per EDU includes 3,600 gal \$2.00 per 1,000 gal above allowance	\$24 per SF account
Madras	\$25.55 for ¾" meter includes 500 CF \$1.30/100 CF above allowance	\$53 per EDU
Prineville	\$17.21 for residential ¾" meter \$1.79/100 CF	\$49.70 per EDU
Redmond	\$18.45 for ¾" meter \$1.15/100 CF	\$29.81 per SF account

Sources: Cities 2014-15 Fee Schedules

Water Rate Modernization



- Collect total system revenue needs
- Adjust monthly charges to standard methodology
- Maintain existing one rate structure for all customers
 - Monthly charge by meter size + volume charge
- Eliminate 400 cubic foot allowance
 - All water use billed

AWWA Meter Capacity Equivalents



Meter Size	Maximum Continuous Flow (gpm)	Flow Factor		
		AWWA: 5/8" x 3/4"	AWWA: 3/4" x 3/4"	Existing
5/8" x 3/4"	10	1.00	0.67	1.00
3/4" x 3/4"	15	1.50	1.00	1.00
1"	25	2.50	1.67	1.55
1-1/2"	50	5.00	3.33	3.01
2"	80	8.00	5.33	5.38
3"	160	16.00	10.67	14.11
4"	250	25.00	16.67	22.07
6"	500	50.00	33.33	43.11
8"	800	80.00	53.33	64.40
10"	1150	115.00	76.67	91.41
12"	1560	156.00	104.00	

- Flow factors are derived from the maximum continuous flow of each meter size
- City moved from 5/8" meter to 3/4" meter standard in 2007
- AWWA is American Water Works Association

Water Monthly Charge Basis



All Classes	Account Charges (a)	MCE Factors (b)	MCE Charges (c)	Monthly Fixed Charge (d =a+c)
3/4"	\$16.59	1.00	\$6.07	\$22.66
1"	\$16.59	1.67	\$10.14	\$26.73
1.5"	\$16.59	3.33	\$20.22	\$36.80
2"	\$16.59	5.33	\$32.36	\$48.95
3"	\$16.59	10.67	\$64.78	\$81.37
4"	\$16.59	16.67	\$101.21	\$117.80
6"	\$16.59	33.33	\$202.36	\$218.95
8"	\$16.59	53.33	\$323.80	\$340.38
10"	\$16.59	76.67	\$465.51	\$482.09
12"	\$16.59	104.00	\$631.44	\$648.03

(a) Account charge = (total customer and fire costs ÷ total accounts)

(b) Meter capacity equivalent (MCE) factors from AWWA

(c) MCE charges = MCE cost x MCE factor.

where MCE cost includes meter & service costs plus a portion of peaking costs ÷ total equivalent meters)

(d) Monthly fixed charge = a + c

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Water Rate Structure

Existing and Proposed



Existing Water Utility Rate Structure	
All Customers	
Minimum monthly charge by meter size Includes first 400 cubic feet of consumption	
Inside City	Monthly Rate
3/4"	\$ 22.36
1"	\$ 34.68
1.5"	\$ 67.39
2"	\$ 120.30
3"	\$ 315.39
4"	\$ 493.38
6"	\$ 963.94
8"	\$ 1,440.08
10" & Above	\$ 2,043.92
excess > 400 cu. Ft.	\$ 1.68 /100 cu. Ft

Proposed Water Utility Rate Structure	
All Customers	
Minimum monthly charge by Meter Size	
Inside City	Monthly Rate
3/4"	\$ 22.66
1"	\$ 26.73
1.5"	\$ 36.80
2"	\$ 48.95
3"	\$ 81.37
4"	\$ 117.80
6"	\$ 218.95
8"	\$ 340.38
10"	\$ 482.09
12"	\$ 648.03
All Water Use	\$ 1.68 /100 cu. Ft

Meter Factors Adjusted

53% of revenue from monthly charge;
47% from volume charge

43% of revenue from monthly charge;
57% from volume charge

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Water Rate Structure

Alternate Option



Proposed Water Utility Rate Structure	
All Customers	
Minimum monthly charge by Meter Size	
Inside City	Monthly Rate
3/4"	\$ 22.66
1"	\$ 26.73
1.5"	\$ 36.80
2"	\$ 48.95
3"	\$ 81.37
4"	\$ 117.80
6"	\$ 218.95
8"	\$ 340.38
10"	\$ 482.09
12"	\$ 648.03
All Water Use	\$ 1.68 /100 cu. Ft

Meter Factors Adjusted

43% of revenue from monthly charge; **57%** from volume charge

Alternate Water Utility Rate Structure	
All Customers	
Minimum monthly charge by Meter Size	
Inside City	Monthly Rate
3/4"	\$ 17.02
1"	\$ 17.92
1.5"	\$ 20.13
2"	\$ 22.80
3"	\$ 29.92
4"	\$ 37.92
6"	\$ 60.15
8"	\$ 86.83
10"	\$ 117.96
12"	\$ 154.41
All Water Use	\$ 2.07 /100 cu. Ft

Meter Factors Adjusted

30% of revenue from monthly charge; **70%** from volume charge

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Proposed Water Rate Structure




Both Options

- Consistent with current rate structure
 - Minimal administrative changes
- More control of bill with elimination of allowance
 - Promote efficient use with all use billed


Proposed Water Rate Structure Comparison of Options



Proposed Option

- More revenue stability (43% from monthly fee)
- No change in volume charge (\$1.68/100 cf now from zero)
- Small meter size + low water use 

Alternate Option

- Less revenue stability (30% from monthly fee)
- Incentive to use less water by increasing volume charge (\$2.07/100 cf >0)
- Small meter size + low water use 

Remaining Water Policy Issues



- Legacy agreements
 - Objective is one rate structure – phase out agreements for unique properties
- Service area protection
 - Irrigation related to public turf areas, pilot program
 - Continue discussions to find solutions
- Standby fee
 - Determine minimum level of contribution

Sewer Rate Modernization



- Collect total system revenue needs
- Maintain customer class designations
- All customers move to a monthly charge plus volume charge
 - Remove residential flat charge per month
 - All volume billed
- Non-residential
 - Eliminate 1,000 cubic foot allowance – bill all volume
 - Begin to incorporate extra strength charge (ESC) differential
 - Additional monthly fee to administer ESC program
 - Assessed on low, medium, high and super high strength customers

ESC Program Fee



- Originally based on estimated 2,000+ ESC accounts
- Now expecting to launch program with 704 accounts
- Reduced program fee total revenue target from \$265k to \$208k
- Fee per account per month: \$24.66

Existing Sewer Rate Structure



Existing Sewer Utility Rate Structure		
Inside City	Total Mo. Charge	Volume Charge/ 100 cu. Ft
Single Family Residential	\$48.36 /month	
Multi Family Residential OR	\$48.36 /month/EDU	
Non Residential Rates	\$48.36 /month	\$3.80 >1000 cu. Ft

83% of revenue from monthly charge; **17%** from volume charge

- All customers pay the same monthly rate per month or per equivalent dwelling unit (EDU)
- Non-residential pays a volume charge in excess of 1,000 cubic feet

Sewer Rate Structure

Alternate Options



Sewer Utility Rate Structure - Slow ESC Phase In				
Inside City	Base Charge	ESC Charge	Total Mo. Charge	Volume Charge
Single Family Residential	\$31.00	n/a	\$31.00 /month	\$3.25 /100 cu. Ft
Multi Family Residential	\$12.25	n/a	\$12.25 /month/EDU	\$3.25 /100 cu. Ft
Non Residential Rates				
Standard	\$31.00	n/a	\$31.00 /month	\$3.25 /100 cu. Ft
Low	\$31.00	\$24.66	\$55.66 /month	\$3.45 /100 cu. Ft
Medium	\$31.00	\$24.66	\$55.66 /month	\$3.70 /100 cu. Ft
High	\$31.00	\$24.66	\$55.66 /month	\$3.85 /100 cu. Ft
Super High	\$31.00	\$24.66	\$55.66 /month	\$4.00 /100 cu. Ft

Volume charge for all; ESC monthly charge

Sewer Utility Rate Structure - Faster ESC Phase In				
Inside City	Base Charge	ESC Charge	Total Mo. Charge	Volume Charge
Single Family Residential	\$25.00	n/a	\$25.00 /month	\$3.95 /100 cu. Ft
Multi Family Residential	\$9.00	n/a	\$9.00 /month/EDU	\$3.95 /100 cu. Ft
Non Residential Rates				
Standard	\$25.00	n/a	\$25.00 /month	\$3.95 /100 cu. Ft
Low	\$25.00	\$24.66	\$49.66 /month	\$4.50 /100 cu. Ft
Medium	\$25.00	\$24.66	\$49.66 /month	\$5.00 /100 cu. Ft
High	\$25.00	\$24.66	\$49.66 /month	\$5.50 /100 cu. Ft
Super High	\$25.00	\$24.66	\$49.66 /month	\$6.00 /100 cu. Ft

Volume charge for all; volume differential higher for ESC; ESC monthly charge

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Proposed Sewer Rate Structure



Both Options

- Improved price signal with volume based structure for all
- More control of bill with elimination of 1,000 cubic feet allowance
- Increase equity with implementation of sewer extra strength charges
- Minimize impacts by phasing-in ESC cost differentials
- ESC program fee allows for program to begin

Proposed Sewer Rate Structure Comparison of Phasing Options



Slow ESC Phase-In

- ~ 65% of SF accounts (600 cubic feet and below) may see up to 23% decrease
- ESC will go up but not more than 6%
- 54% of revenue from monthly fee; 46% from volume charge

Faster ESC Phase-In

- ~ 65% of SF accounts (600 cubic feet and below) may see up to 32% decrease
- ESC will go up by as much as 57%
- 43% of revenue from monthly fee; 57% from volume charge

Remaining Sewer Policy Issues



- Establish sewer rate stabilization reserve
- Legacy agreements
- Service area protection
 - Local area improvements
- Standby fee
 - Determine minimum level of contribution
- Winter Quarter Average Policy
 - Define and establish default value
 - Tie to existing appeals process
 - Already have monitored discharge policies

Combined Bill Impacts



	Proposed Water + Slow ESC Phase	Proposed Water + Fast ESC Phase	Alternate Water + Slow ESC Phase	Alternate Water + Fast ESC Phase
SF ¾" + 200cf	↓	↓	↓	↓
SF ¾" + 750cf	↑	↑	↑	↑
MF 1" + 10 units	↓	↓	↓	↓
MF 1" + 4,400cf	↑	↑	↑	↑
STD Lo ¾" + 200cf	↓	↓	↓	↓
STD Hi 1" + 40,000cf	↓	↑	↓	↑
ESC Lo 1.5" + 4,000cf	↑	↑	↑	↑
ESC Hi 2" + 14,000cf	↓	↑	↑	↑
ESC Super Hi 6" + 300,000cf	↓	↑	↑	↑

Next Steps



- Nov 13th open houses
- Dec. 3rd final recommendations
- Dec. 17th formal commitment to changes

BACKUP SLIDES



Single Family Bill Comparisons



	Water	Sewer	Total	Difference
Single Family 3/4"; 200 CF Existing	\$ 22.36	\$ 48.36	\$ 70.72	
Proposed Water; Slow ESC Phasing	\$ 26.02	\$ 37.50	\$ 63.52	\$ (7.20)
Proposed Water; Fast ESC Phasing	\$ 26.02	\$ 32.90	\$ 58.92	\$ (11.80)
Alternate Water; Slow ESC Phasing	\$ 21.16	\$ 37.50	\$ 58.66	\$ (12.06)
Alternate Water; Fast ESC Phasing	\$ 21.16	\$ 32.90	\$ 54.06	\$ (16.66)

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	Water	Sewer	Total	Difference
Single Family 750 CF Existing	\$ 28.24	\$ 48.36	\$ 76.60	
Proposed Water; Slow ESC Phasing	\$ 35.26	\$ 55.38	\$ 90.64	\$ 14.04
Proposed Water; Fast ESC Phasing	\$ 35.26	\$ 54.63	\$ 89.89	\$ 13.29
Alternate Water; Slow ESC Phasing	\$ 32.55	\$ 55.38	\$ 87.92	\$ 11.32
Alternate Water; Fast ESC Phasing	\$ 32.55	\$ 54.63	\$ 87.17	\$ 10.57

Multi Family Bill Comparisons



Existing Sewer Billed Per Unit	Water	Sewer	Total	Difference
Multi Family 1"; 10 Units; 4,400 CF Existing	\$ 101.88	\$ 483.60	\$ 585.48	
Proposed Water; Slow ESC Phasing	\$ 100.65	\$ 174.00	\$ 274.65	\$ (310.83)
Proposed Water; Fast ESC Phasing	\$ 100.65	\$ 198.80	\$ 299.45	\$ (286.03)
Alternate Water; Slow ESC Phasing	\$ 109.00	\$ 174.00	\$ 283.00	\$ (302.48)
Alternate Water; Fast ESC Phasing	\$ 109.00	\$ 198.80	\$ 307.80	\$ (277.68)

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Existing Sewer Billed Volume	Water	Sewer	Total	Difference
Multi Family 1"; 10 Units; 4,400 CF Existing	\$ 101.88	\$ 177.56	\$ 279.44	
Proposed Water; Slow ESC Phasing	\$ 100.65	\$ 174.00	\$ 274.65	\$ (4.79)
Proposed Water; Fast ESC Phasing	\$ 100.65	\$ 198.80	\$ 299.45	\$ 20.01
Alternate Water; Slow ESC Phasing	\$ 109.00	\$ 174.00	\$ 283.00	\$ 3.56
Alternate Water; Fast ESC Phasing	\$ 109.00	\$ 198.80	\$ 307.80	\$ 28.36

Extra Strength Low Bill Comparison



	Water	Sewer	Total	Difference
ESC Low 1.5"; 4,000 CF Existing	\$ 127.87	\$ 162.36	\$ 290.23	
Proposed Water; Slow ESC Phasing	\$ 104.00	\$ 185.66	\$ 289.66	\$ (0.57)
Proposed Water; Fast ESC Phasing	\$ 104.00	\$ 207.66	\$ 311.66	\$ 21.43
Alternate Water; Slow ESC Phasing	\$ 102.93	\$ 185.66	\$ 288.59	\$ (1.64)
Alternate Water; Fast ESC Phasing	\$ 102.93	\$ 207.66	\$ 310.59	\$ 20.36

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Comparison of Bill Impacts for Water Rate Alternatives



Class; Water Use	Proposed	Impact	Alternate	Impact
Single Family 200 CF	3/4" Meter \$22.66 + \$1.68/100 CF	\$3.66	3/4" Meter \$17.02 + \$2.07/100 CF	(\$1.20)
Single Family 1,000 CF	3/4" Meter \$22.66 + \$1.68/100 CF	\$7.02	3/4" Meter \$17.02 + \$2.07/100 CF	\$5.28
Single Family 1,400 CF	3/4" Meter \$22.66 + \$1.68/100 CF	\$7.02	3/4" Meter \$17.02 + \$2.07/100 CF	\$6.84
Multi-Family 10 units; 4400 CF	1" Meter \$26.73 + \$1.68/100 CF	(\$1.23)	1" Meter \$17.92 + \$2.07/100 CF	\$7.12
STD Lo 200 CF	3/4" Meter \$22.66 + \$1.68/100 CF	\$3.66	3/4" Meter \$17.02 + \$2.07/100 CF	(\$1.20)
STD Hi 40,000 CF	1" Meter \$26.73 + \$1.68/100 CF	(\$1.23)	1" Meter \$17.92 + \$2.07/100 CF	\$145.96
ESC LOW 4,000 CF	1-1/2" Meter \$36.80 + \$1.68/100 CF	(\$23.87)	1-1/2" Meter \$20.13 + \$2.07/100 CF	(\$24.94)
ESC HI 14,000 CF	2" Meter \$48.95+ \$1.68/100 CF	(\$64.63)	2" Meter \$22.80+ \$2.07/100 CF	(\$36.18)
ESC Super High 300,000 CF	6" Meter \$218.95 + \$1.68/100 CF	(\$738.27)	6" Meter \$60.15 + \$2.07/100 CF	\$272.93

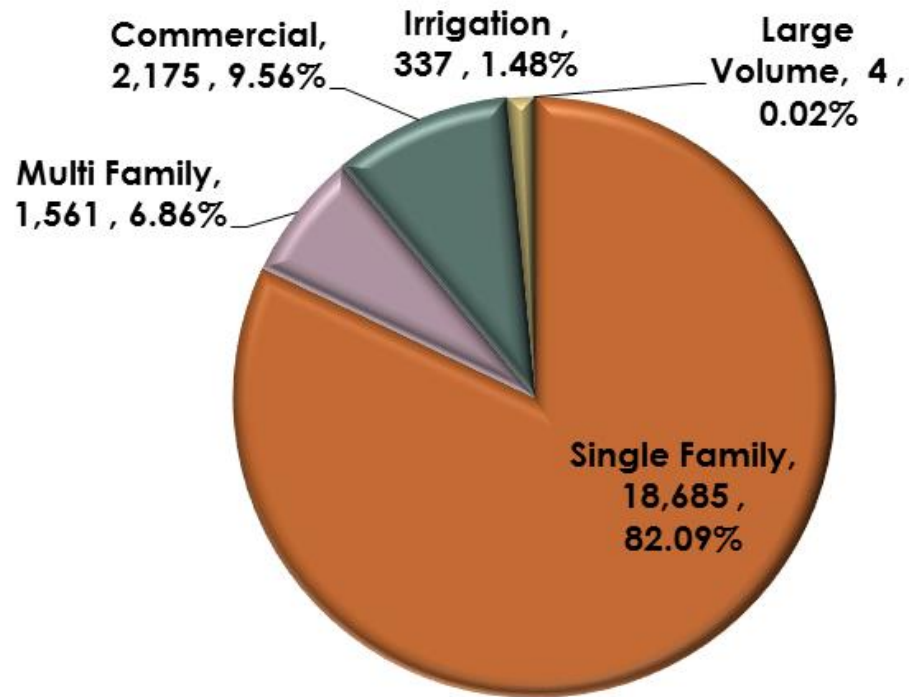
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Comparison of Bill Impacts for Sewer Rate Alternatives



Class; Billed Volume	Slow ESC Phase In	Impact	Faster ESC Phase In	Impact
Single Family 200 CF	Base \$31.00 + \$3.25/100 CF	(\$10.86)	Base \$25.00 + \$3.95/100 CF	(\$15.46)
Single Family 600 CF	Base \$31.00 + \$3.25/100 CF	\$2.14	Base \$25.00 + \$3.95/100 CF	\$0.34
Single Family 750 CF	Base \$31.00 + \$3.25/100 CF	\$7.02	Base \$25.00 + \$3.95/100 CF	\$6.27
Multi-Family 10 units; 4,400 CF	Base \$12.25 + \$3.25/100 CF	(\$218.10)	Base \$9.00 + \$3.95/100 CF	(\$219.80)
Multi-Family 10 Units; 4,400 CF	Base \$12.25 + \$3.25/100 CF	\$87.94	Base \$9.00 + \$3.95/100 CF	\$86.24
STD Lo 200 CF	Base \$31.00 + \$3.25/100 CF	(\$10.86)	Base \$25.00 + \$3.95/100 CF	(\$15.46)
STD Hi 40,000 CF	Base \$31.00 + \$3.25/100 CF	(\$199.36)	Base \$25.00 + \$3.95/100 CF	\$74.64
ESC LOW 4,000 CF	Base \$55.66 + \$3.45/100 CF	\$31.30	Base \$49.66 + \$4.50/100 CF	\$67.30
ESC HI 14,000 CF	Base \$55.66 + \$3.85/100 CF	\$52.30	Base \$49.66 + \$5.50/100 CF	\$277.30
ESC Super High 300,000 CF	Base \$55.66 + \$4.00/100 CF	\$645.30	Base \$49.66 + \$6.00/100 CF	\$6,639.30

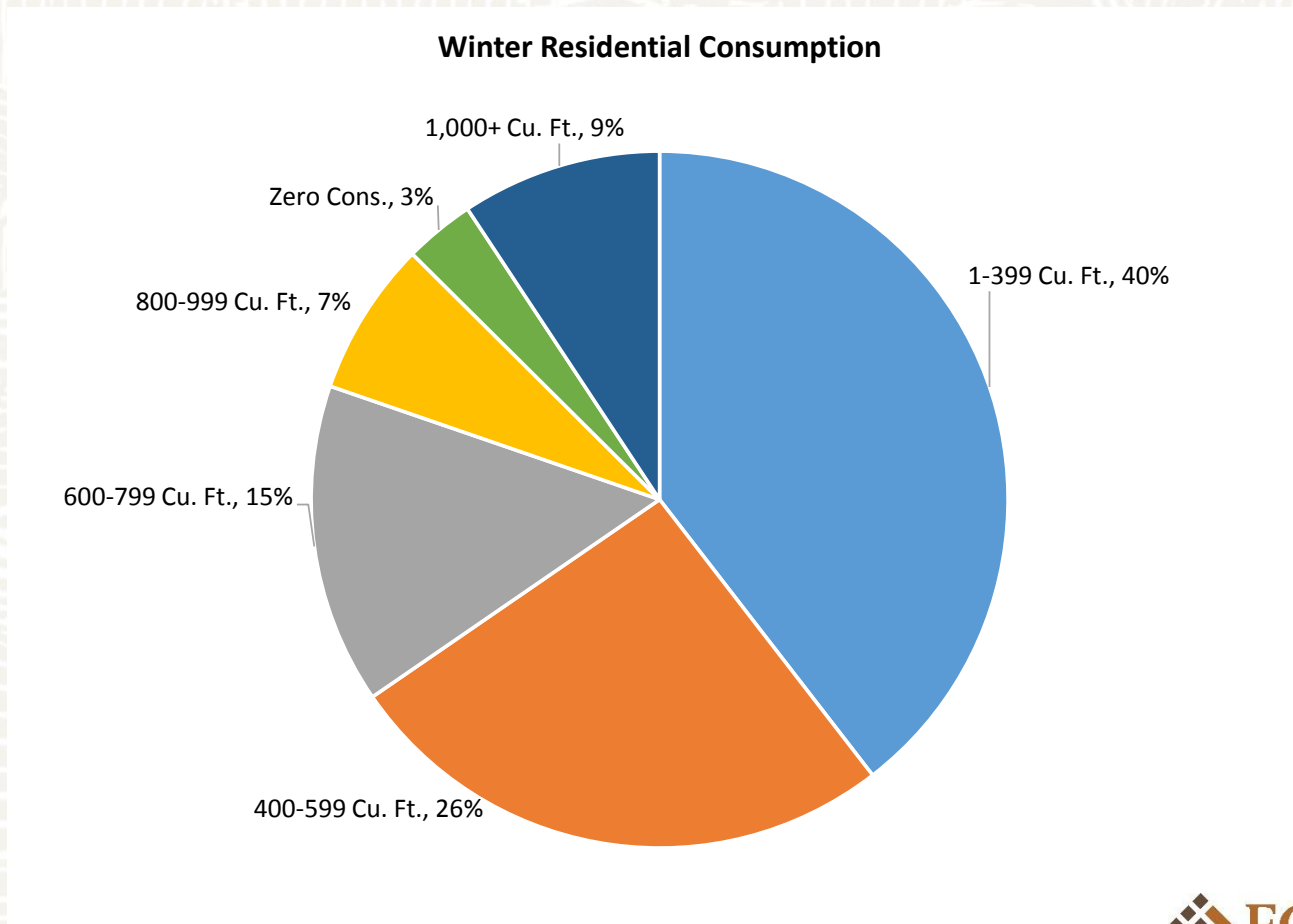
Water Customer Meters



Single Family Sewer



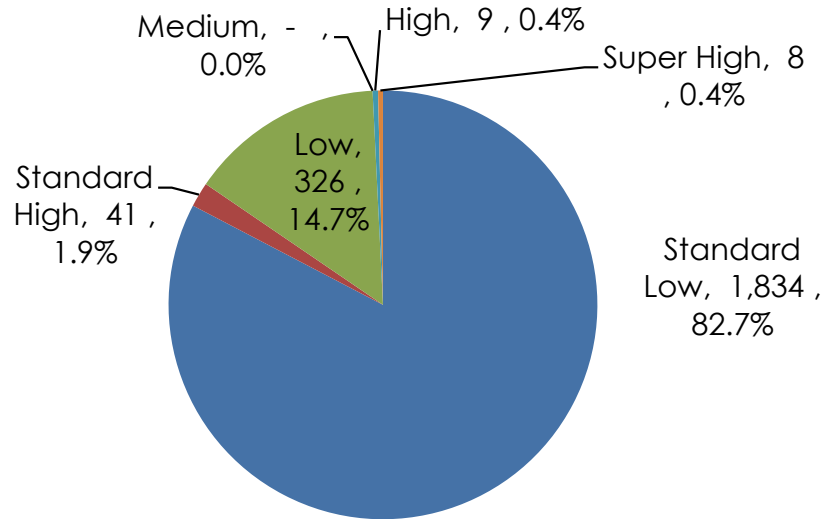
- Approximately 23,150 accounts
- ~86% of total accounts



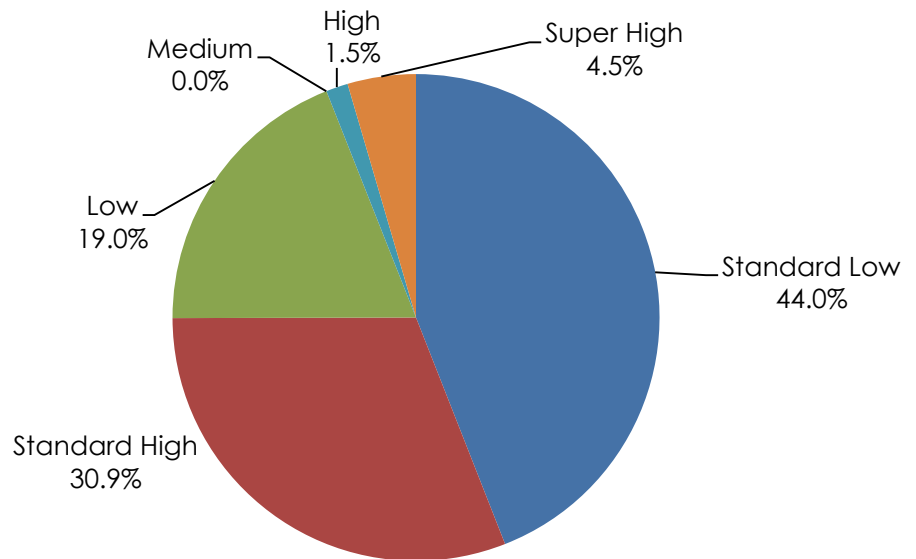
Non-Residential Sewer



Accounts



Volume



Existing and Alternate Sewer Flat Rate Structure Option



Existing Sewer Utility Rate Structure		
Inside City	Total Mo. Charge	Volume Charge/ 100 cu. Ft
Single Family Residential	\$48.36 /month	
Multi Family Residential	\$48.36 /month/EDU	
Non Residential Rates	\$48.36 /month	\$3.80 >1000 cu. Ft

Sewer Utility Rate Structure - Flat Rate Single Family and Multi Family					
Inside City	Base Charge	ESC Charge	Total Mo. Charge	Volume Charge	
Single Family Residential	\$48.36	n/a	\$48.36 /month	<p>Single family flat rate maintained; multi family billed per unit</p>	
Multi Family Residential	\$26.10	n/a	\$26.10 /month/EDU		
Non Residential Rates				<p>Extra Strength Charge Differential</p>	
Standard	\$28.00	n/a	\$28.00 /month		\$3.30 /100 cu. Ft
Low	\$28.00	\$24.66	\$52.66 /month		\$3.50 /100 cu. Ft
Medium	\$28.00	\$24.66	\$52.66 /month		\$3.75 /100 cu. Ft
High	\$28.00	\$24.66	\$52.66 /month		\$3.90 /100 cu. Ft
Super High	\$28.00	\$24.66	\$52.66 /month	\$4.05 /100 cu. Ft	

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