Carson City

Water and Sewer Rate Study

Preliminary Results

June 20, 2013

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Policy Direction from April 18 Meeting

- Bring forward revenue requirement scenarios B & C
  - Scenario B: System reinvestment phased in over 10 years
  - Scenario C: System reinvestment phased in over 5 years
- Complete cost of service rate design under both scenarios with a 5-year phased-in rate implementation
- Incorporate additional customer sample bills
- Add Industrial/Manufacturing customer class with rates currently equal to Large Commercial rates
- Develop an additional option for multifamily water connection charges applied by number of units

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Major Findings

- Cost of service indicates subsidies among customer classes for both utilities
- Revised rate structures warranted to improve equity and achieve pricing objectives
- Connection charges significantly below indicated level of charges - previously reduced to promote economic development
- Baseline level of service can be maintained at existing rate levels for both utilities
- Future capital impacts require varying levels of rate increases for both utilities

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REVENUE REQUIREMENTS

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Water: Revenue Requirement Summary

	Base	Scenario A	Scenario B	Scenario C
Current O&M and Debt	Fully Funded			
CIP	None	Full		
Capital Reserve Target	None	2% of fixed assets ($2.4 million)		
System Reinvestment	None		10-yr phase-in	5-yr phase-in

	Results			
% of CIP Debt Financed	N/A	91%	84%	64%
Ending Capital Fund Balance	$3.8 million	$2.8 million	$4.2 million	$5.9 million
Ending Debt-to-Equity	30% / 70%	40% / 60%	39% / 61%	35% / 65%
Rate Increases (per year)	0% ($0 /mo/yr)	2.5% ($0.98 /mo/yr)	4.0% ($1.61 /mo/yr)	6.5% ($2.65 /mo/yr)

Current Debt-to-Equity: 59% / 41%

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Sewer: Revenue Requirement Summary

	Base	Scenario A	Scenario B	Scenario C
Current O&M and Debt	Fully Funded			
CIP	None	Full		
Capital Reserve Target	None	2% of fixed assets ($2.8 million)		
System Reinvestment	None		10-yr phase-in	5-yr phase-in

	Results			
% of CIP Debt Financed	N/A	99%	98%	94%
Ending Capital Fund Balance	None	$0.6 million	$5.1 million	$6.4 million
Ending Debt-to-Equity	8% / 92%	46% / 54%	44% / 56%	42% / 58%
Rate Increases (per year)	0% ($0 /mo/yr)	9.5% ($3.02 /mo/yr)	13% ($4.38 /mo/yr)	15% ($5.26 /mo/yr)

Current Debt-to-Equity: 24% / 76%

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COST OF SERVICE RESULTS

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WATER UTILITY

Water: Rate Class Changes

Existing

RESIDENTIAL

Single Family
Duplex
Quasi-Residential
Senior Discount
Multifamily (condos)

COMMERCIAL

Multifamily (apartments)
Commercial
Federal
Municipal
State
State Prison

Proposed

RESIDENTIAL

Single Family
Duplex
Quasi-Residential
Senior Discount

MULTI-FAMILY RESIDENTIAL

Condos / Apartments

COMMERCIAL

Commercial
Federal
Municipal
State

INDUSTRIAL / MANUFACTURING
LARGE COMMERCIAL - OTHER

>2"Meter, > 3,500 Kgal/Mo

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Water: Cost of Service Results

As Presented April 18

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)
Single Family Residential	$ 7,064,430	$ 8,024,480	13.6%
Multifamily	1,426,132	1,070,068	-25.0%
Commercial	3,340,273	2,841,264	-14.9%
Large Commercial	341,348	236,371	-30.8%
TOTAL	**$ 12,172,184**	**$ 12,172,184**	**0.0%**

Combined Residential: 7.1%

Combined Commercial: -16.4%

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Water: Cost of Service Results – FY 2014

Updated per Policy Direction

Scenario B

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 7,064,430	$ 8,327,803	17.9%	Combined Residential: 11.2%
Multifamily	1,426,132	1,115,782	-21.8%	
Commercial	3,340,273	2,969,390	-11.1%	Combined Commercial: -12.7%
Large Commercial	341,348	246,096	-27.9%	
TOTAL	**$ 12,172,184**	**$ 12,659,071**	**4.0%**	

Scenario C

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 7,064,430	$ 8,525,008	20.7%	Combined Residential: 13.9%
Multifamily	1,426,132	1,143,554	-19.8%	
Commercial	3,340,273	3,042,500	-8.9%	Combined Commercial: -10.5%
Large Commercial	341,348	252,313	-26.1%	
TOTAL	**$ 12,172,184**	**$ 12,963,376**	**6.5%**	

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Water: Cost of Service Results – FY 2018

Updated per Policy Direction

Scenario B

Customer Classes	FYE 2014 Revenue under Existing Rates	FYE 2018 Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 7,064,430	$ 9,732,919	37.8%	Combined Residential: 30.1%
Multifamily	1,426,132	1,310,022	-8.1%	
Commercial	3,340,273	3,476,575	4.1%	Combined Commercial: 2.3%
Large Commercial	341,348	289,808	-15.1%	
TOTAL	**$ 12,172,184**	**$ 14,809,323**	**21.7%**	

Scenario C

Customer Classes	FYE 2014 Revenue under Existing Rates	FYE 2018 Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 7,064,430	$ 10,948,196	55.0%	Combined Residential: 46.4%
Multifamily	1,426,132	1,478,699	3.7%	
Commercial	3,340,273	3,922,692	17.4%	Combined Commercial: 15.4%
Large Commercial	341,348	327,360	-4.1%	
TOTAL	**$ 12,172,184**	**$ 16,676,947**	**37.0%**	

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Water: Phase-In Cost of Service

Scenario B

	Phase-In Cost of Service Shift					
Customer Classes	**FYE 2014**	**FYE 2015**	**FYE 2016**	**FYE 2017**	**FYE 2018**	**Cumulative**
Single Family Residential	7.0%	6.8%	6.6%	6.4%	6.3%	37.8%
Multifamily	-1.7%	-1.7%	-1.7%	-1.7%	-1.7%	-8.1%
Commercial	0.8%	0.8%	0.8%	0.8%	0.8%	4.1%
Large Commercial	-3.2%	-3.2%	-3.2%	-3.2%	-3.2%	-15.1%
TOTAL	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**21.7%**

Scenario C

	Phase-In Cost of Service Shift					
Customer Classes	**FYE 2014**	**FYE 2015**	**FYE 2016**	**FYE 2017**	**FYE 2018**	**Cumulative**
Single Family Residential	9.5%	9.3%	9.1%	9.0%	8.8%	55.0%
Multifamily	0.7%	0.7%	0.7%	0.7%	0.7%	3.7%
Commercial	3.3%	3.3%	3.3%	3.3%	3.3%	17.4%
Large Commercial	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%	-4.1%
TOTAL	**6.5%**	**6.5%**	**6.5%**	**6.5%**	**6.5%**	**37.0%**

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Water: Unit Cost Comparison

- Unit costs used to develop phase-in strategy

Scenario B

Customer Class	Existing	FYE 2018	% Shift
Single Family	$ 3.30	$ 4.55	37.8%
Multifamily	$ 4.04	$ 3.71	-8.1%
Commercial	$ 4.19	$ 4.37	4.1%
Large Commercial	$ 3.94	$ 3.35	-15.1%

Scenario C

Customer Class	Existing	FYE 2018	% Shift
Single Family	$ 3.30	$ 5.12	55.0%
Multifamily	$ 4.04	$ 4.18	3.7%
Commercial	$ 4.19	$ 4.93	17.4%
Large Commercial	$ 3.94	$ 3.78	-4.1%

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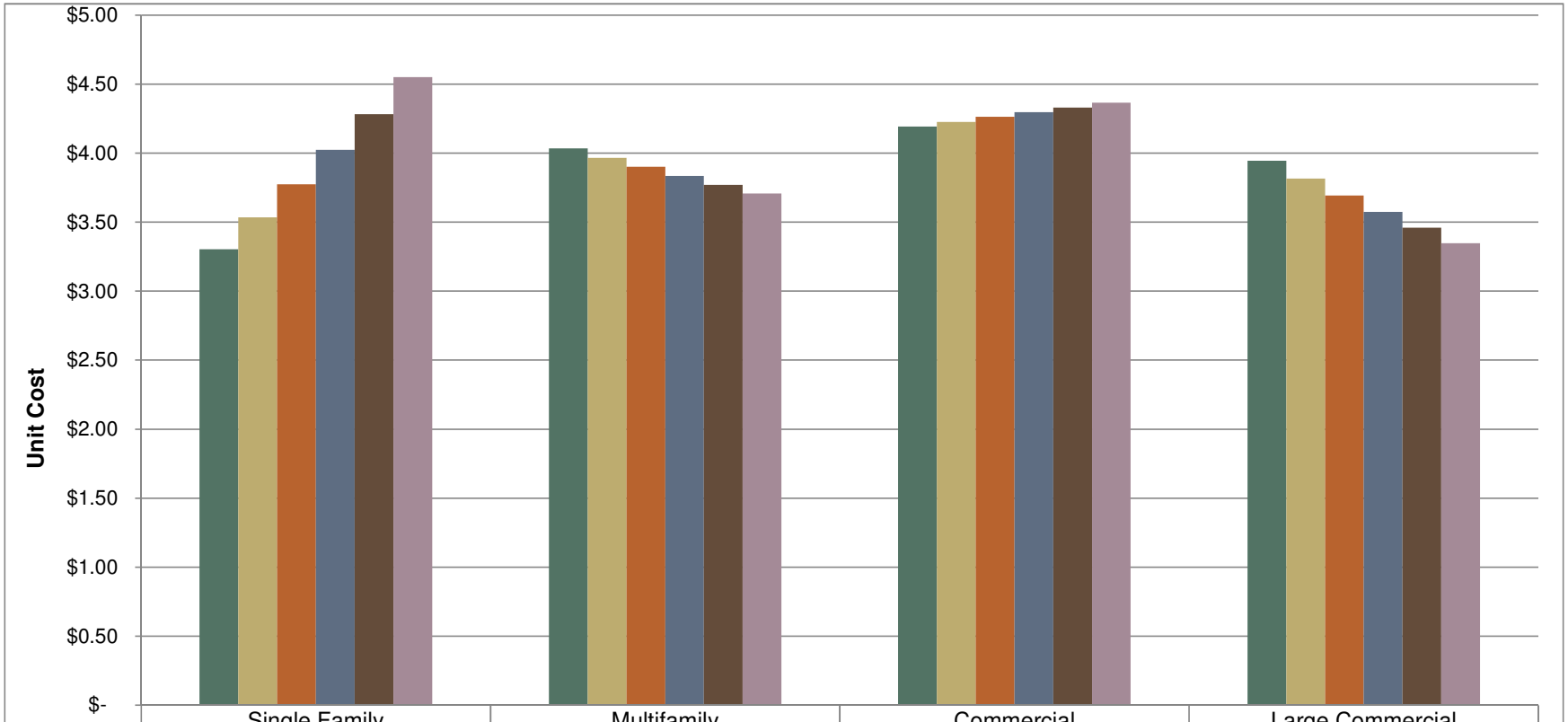
Water: Unit Costs – Scenario B



	Single Family	Multifamily	Commercial	Large Commercial
2013	$3.30	$4.04	$4.19	$3.94
2014	$3.54	$3.97	$4.23	$3.82
2015	$3.78	$3.90	$4.26	$3.69
2016	$4.02	$3.84	$4.30	$3.58
2017	$4.28	$3.77	$4.33	$3.46
2018	$4.55	$3.71	$4.37	$3.35

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Water: Rate Structures

EXISTING	PROPOSED
• Class specific base charge by meter size, with 5 kgal usage allowance per month • Class specific, three-tier increasing block volume charge	• Eliminate allowance from base charge for all classes • Revise SFR three-tier blocks to better align with usage patterns • Revise MFR charge by meter size to a reduced charge per dwelling unit • Revise MFR, commercial, large commercial tier blocks to class specific single block volume charge

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Water: Rate Structure Transition Plan

- Single Family Residential
  - Immediately revise blocks to better align with usage patterns (combine top 2 blocks)
  - Reduce allowance over 5-yr period, replacing with low use block (0 – 5 kgal)
- Multifamily Residential & Commercial
  - Immediately revise Multifamily base charge structure
  - Reduce allowance over 5-yr period
  - Condense three blocks to single block rate over 5-yr period
- Large Commercial
  - Immediately eliminate usage allowance & move to single block rate

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Proposed Single Family Water Rates

Scenario B

Meter Size	Existing Rates [a]		FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018	
5/8"	$	22.05	$	20.79	$	21.62	$	22.49	$	23.39	$	24.32
1"		33.60		31.64		32.91		34.22		35.59		37.02
1 1/2"		49.88		47.23		49.12		51.09		53.13		55.26
2"		61.43		58.76		61.11		63.56		66.10		68.74
3"		89.25		85.88		89.32		92.89		96.61		100.47
4"		117.60		113.00		117.52		122.22		127.11		132.20
6"		173.25		167.25		173.94		180.89		188.13		195.65
Volume Charge per kgal	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -		
	6 - 30	$ 1.84	5 - 5	$ 0.99	4 - 5	$ 1.14	3 - 5	$ 1.25	2 - 5	$ 1.35	0 - 5	$ 1.44
	31 - 50	$ 3.15	6 - 30	$ 2.30	6 - 30	$ 2.45	6 - 30	$ 2.56	6 - 30	$ 2.66	6 - 30	$ 2.75
	Over 50	$ 4.99	Over 30	$ 4.14	Over 30	$ 4.29	Over 30	$ 4.40	Over 30	$ 4.50	Over 30	$ 4.59
Wtd Avg Volume Rate:		*$ 1.50*		*$ 1.77*		*$ 1.97*		*$ 2.17*		*$ 2.37*		*$ 2.57*
	[a] Base incl. 5 kgal		[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal			

Scenario C

Meter Size	Existing Rates [a]		FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018	
5/8"	$	22.05	$	21.29	$	22.68	$	24.15	$	25.72	$	27.39
1"		33.60		32.40		34.51		36.75		39.14		41.68
1 1/2"		49.88		48.37		51.51		54.86		58.43		62.22
2"		61.43		60.17		64.09		68.25		72.69		77.41
3"		89.25		87.95		93.66		99.75		106.24		113.14
4"		117.60		115.72		123.24		131.25		139.78		148.87
6"		173.25		171.27		182.40		194.25		206.88		220.33
Volume Charge per kgal	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -		
	6 - 30	$ 1.84	5 - 5	$ 1.05	4 - 5	$ 1.26	3 - 5	$ 1.44	2 - 5	$ 1.61	0 - 5	$ 1.76
	31 - 50	$ 3.15	6 - 30	$ 2.36	6 - 30	$ 2.57	6 - 30	$ 2.75	6 - 30	$ 2.92	6 - 30	$ 3.07
	Over 50	$ 4.99	Over 30	$ 4.20	Over 30	$ 4.41	Over 30	$ 4.59	Over 30	$ 4.76	Over 30	$ 4.91
Wtd Avg Volume Rate:		*$ 1.50*		*$ 1.81*		*$ 2.06*		*$ 2.33*		*$ 2.60*		*$ 2.88*
	[a] Base incl. 5 kgal		[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal			

Note: Rates before right-of-way toll

Proposed Single Family Sample Bills

Scenario B

Customer Type	Current Class	Meter Size	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario B	$ Impact
Low use	Residential	5/8"	5	$ 22.27	$ 22.00	$ (0.27)
Avg use	Residential	5/8"	12	$ 36.05	$ 38.26	$ 2.21
High use	Residential	1"	99	$ 392.66	$ 379.55	$ (13.11)

Scenario C

Customer Type	Current Class	Meter Size	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario C	$ Impact
Low use	Residential	5/8"	5	$ 22.27	$ 22.56	$ 0.29
Avg use	Residential	5/8"	12	$ 36.05	$ 39.25	$ 3.19
High use	Residential	1"	99	$ 392.66	$ 386.07	$ (6.59)

Proposed Multifamily Water Rates

Scenario B

Meter Size	Existing Rates [a]				FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018
	Condominiums (Residential)		Apartments (Commercial)										
5/8"	$	22.05	$	24.15									
1"		33.60		36.75									
1 1/2"		49.88		54.86									
2"		61.43		68.25									
3"		89.25		99.75									
4"		117.60		131.25									
6"		173.25		194.25									
10"				483.00									
Per Unit					**$**	**7.36**	**$**	**7.66**	**$**	**7.96**	**$**	**8.28**	**$ 8.61**
Volume Charge per kgal	0 - 5	$ -	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -	$ 1.76
	6 - 30	$ 1.84	6 - 19	$ 1.68	5 - 19	$ 0.85	4 - 19	$ 1.09	3 - 19	$ 1.32	2 - 19	$ 1.54	
	31 - 50	$ 3.15	20 - 49	$ 2.52	20 - 49	$ 1.71	20 - 49	$ 1.73	20 - 49	$ 1.75	20 - 49	$ 1.76	
	Over 50	$ 4.99	Over 49	$ 3.89	Over 49	$ 2.99	Over 49	$ 2.70	Over 49	$ 2.39	Over 49	$ 2.08	
Wtd Avg Volume Rate:				*$ 3.41*		*$ 2.30*		*$ 2.17*		*$ 2.03*		*$ 1.90*	*$ 1.76*
	[a] Base incl. 5 kgal				[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal		

Per unit charge is 35% of 5/8" SFR charge

Scenario C

Meter Size	Existing Rates [a]				FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018
	Condominiums (Residential)		Apartments (Commercial)										
5/8"	$	22.05	$	24.15									
1"		33.60		36.75									
1 1/2"		49.88		54.86									
2"		61.43		68.25									
3"		89.25		99.75									
4"		117.60		131.25									
6"		173.25		194.25									
10"				483.00									
Per Unit					**$**	**7.54**	**$**	**8.03**	**$**	**8.55**	**$**	**9.11**	**$ 9.70**
Volume Charge per kgal	0 - 5	$ -	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -	$ 1.99
	6 - 30	$ 1.84	6 - 19	$ 1.68	5 - 19	$ 0.91	4 - 19	$ 1.20	3 - 19	$ 1.48	2 - 19	$ 1.74	
	31 - 50	$ 3.15	20 - 49	$ 2.52	20 - 49	$ 1.77	20 - 49	$ 1.85	20 - 49	$ 1.91	20 - 49	$ 1.96	
	Over 50	$ 4.99	Over 49	$ 3.89	Over 49	$ 3.05	Over 49	$ 2.81	Over 49	$ 2.55	Over 49	$ 2.28	
Wtd Avg Volume Rate:				*$ 3.41*		*$ 2.36*		*$ 2.28*		*$ 2.19*		*$ 2.09*	*$ 1.99*
	[a] Base incl. 5 kgal				[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal		

Proposed Multifamily Sample Bills

Scenario B

Customer Type	Current Class	Meter Size	Avg Use (kgal)	No. of Units	Bill Impacts: Current Bill	Bill Impacts: 2014 Bill Scenario B	Bill Impacts: 2014 Bill $ Impact
Low user	Commercial	5/8"	17	4	$ 44.47	$ 40.75	$ (3.72)
Low user	Residential	1"	12	4	$ 46.94	$ 36.60	$ (10.34)
Medium user	Commercial	2"	49	16	$ 170.35	$ 182.05	$ 11.70
High user	Residential	4"	544	156	$ 2,718.58	$ 2,716.60	$ (1.98)

Scenario C

Customer Type	Current Class	Meter Size	Avg Use (kgal)	No. of Units	Bill Impacts: Current Bill	Bill Impacts: 2014 Bill Scenario C	Bill Impacts: 2014 Bill $ Impact
Low user	Commercial	5/8"	17	4	$ 44.47	$ 42.26	$ (2.21)
Low user	Residential	1"	12	4	$ 46.94	$ 37.81	$ (9.13)
Medium user	Commercial	2"	49	16	$ 170.35	$ 187.58	$ 17.23
High user	Residential	4"	544	156	$ 2,718.58	$ 2,777.56	$ 58.98

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Proposed Commercial Water Rates

Scenario B

Meter Size	Existing Rates [a]		FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018
5/8"	$	24.15	$	20.79	$	21.62	$	22.49	$	23.39	$ 24.32
1"		36.75		31.64		32.91		34.22		35.59	37.02
1 1/2"		54.86		47.23		49.12		51.09		53.13	55.26
2"		68.25		58.76		61.11		63.56		66.10	68.74
3"		99.75		85.88		89.32		92.89		96.61	100.47
4"		131.25		113.00		117.52		122.22		127.11	132.20
6"		194.25		167.25		173.94		180.89		188.13	195.65
10"		483.00		415.85		432.49		449.79		467.78	486.49
Volume Charge per kgal	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -	$ 3.13
	6 - 19	$ 1.68	5 - 19	$ 2.30	4 - 19	$ 2.54	3 - 19	$ 2.76	2 - 19	$ 2.95	
	20 - 49	$ 2.52	20 - 49	$ 2.70	20 - 49	$ 2.83	20 - 49	$ 2.94	20 - 49	$ 3.05	
	Over 49	$ 3.89	Over 49	$ 3.96	Over 49	$ 3.77	Over 49	$ 3.57	Over 49	$ 3.36	
Wtd Avg Volume Rate:		*$ 2.97*		*$ 3.06*		*$ 3.09*		*$ 3.11*		*$ 3.12*	*$ 3.13*
	[a] Base incl. 5 kgal		[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal		

Scenario C

Meter Size	Existing Rates [a]		FY 2014 [b]		FY 2015 [c]		FY 2016 [d]		FY 2017 [e]		FY 2018
5/8"	$	24.15	$	21.29	$	22.68	$	24.15	$	25.72	$ 27.39
1"		36.75		32.40		34.51		36.75		39.14	41.68
1 1/2"		54.86		48.37		51.51		54.86		58.43	62.22
2"		68.25		60.17		64.09		68.25		72.69	77.41
3"		99.75		87.95		93.66		99.75		106.24	113.14
4"		131.25		115.72		123.24		131.25		139.78	148.87
6"		194.25		171.27		182.40		194.25		206.88	220.33
10"		483.00		425.85		453.53		483.01		514.41	547.84
Volume Charge per kgal	0 - 5	$ -	0 - 4	$ -	0 - 3	$ -	0 - 2	$ -	0 - 1	$ -	$ 3.53
	6 - 19	$ 1.68	5 - 19	$ 2.39	4 - 19	$ 2.71	3 - 19	$ 3.01	2 - 19	$ 3.28	
	20 - 49	$ 2.52	20 - 49	$ 2.79	20 - 49	$ 3.00	20 - 49	$ 3.19	20 - 49	$ 3.37	
	Over 49	$ 3.89	Over 49	$ 4.05	Over 49	$ 3.94	Over 49	$ 3.82	Over 49	$ 3.69	
Wtd Avg Volume Rate:		*$ 2.97*		*$ 3.14*		*$ 3.24*		*$ 3.34*		*$ 3.44*	*$ 3.53*
	[a] Base incl. 5 kgal		[b] Base incl. 4 kgal		[c] Base incl. 3 kgal		[d] Base incl. 2 kgal		[e] Base incl. 1 kgal		

Note: Rates before right-of-way toll

Proposed Commercial Sample Bills

Scenario B

Customer Type	Current Class	Meter Size	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario B	$ Impact
Low user	Commercial	5/8"	6	$ 26.37	$ 26.03	$ (0.34)
Avg user	Commercial	2"	31	$ 123.65	$ 125.05	$ 1.39
High user	Commercial	4"	1,491	$ 5,896.51	$ 5,991.49	$ 94.98

Scenario C

Customer Type	Current Class	Meter Size	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario C	$ Impact
Low user	Commercial	5/8"	6	$ 26.37	$ 26.73	$ 0.36
Avg user	Commercial	2"	31	$ 123.65	$ 128.85	$ 5.20
High user	Commercial	4"	1,491	$ 5,896.51	$ 6,129.19	$ 232.68

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Proposed Large Commercial Water Rates

Scenario B

Meter Size	Existing Rates [a]		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
5/8"		$ 24.15					
1"		36.75					
1 1/2"		54.86					
2"		68.25	58.76	61.11	63.56	66.10	68.74
3"		99.75	85.88	89.32	92.89	96.61	100.47
4"		131.25	113.00	117.52	122.22	127.11	132.20
6"		194.25	167.25	173.94	180.89	188.13	195.65
10"		483.00	415.85	432.49	449.79	467.78	486.49
Volume Charge per kgal	0 - 5	$ -	$ 3.76	$ 3.63	$ 3.51	$ 3.40	$ 3.28
	6 - 19	$ 1.68					
	20 - 49	$ 2.52					
	Over 49	$ 3.89					

[a] Base charge incl. 5 kgal

Scenario C

Meter Size	Existing Rates [a]		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
5/8"		$ 24.15					
1"		36.75					
1 1/2"		54.86					
2"		68.25	60.17	64.09	68.25	72.69	77.41
3"		99.75	87.95	93.66	99.75	106.24	113.14
4"		131.25	115.72	123.24	131.25	139.78	148.87
6"		194.25	171.27	182.40	194.25	206.88	220.33
10"		483.00	425.85	453.53	483.01	514.41	547.84
Volume Charge per kgal	0 - 5	$ -	$ 3.85	$ 3.82	$ 3.78	$ 3.74	$ 3.71
	6 - 19	$ 1.68					
	20 - 49	$ 2.52					
	Over 49	$ 3.89					

[a] Base charge incl. 5 kgal

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Proposed Large Commercial Sample Bills

Scenario B

				Bill Impacts		
					2014 Bill	
Current Class	New Class	Meter Size	Avg Use (kgal)	Current Bill	Scenario B	$ Impact
Commercial	Large Commercial	10"	7,212	$ 28,730	$ 27,808	$ (922)

Scenario C

				Bill Impacts		
					2014 Bill	
Current Class	New Class	Meter Size	Avg Use (kgal)	Current Bill	Scenario C	$ Impact
Commercial	Large Commercial	10"	7,212	$ 28,730	$ 28,473	$ (257)

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SEWER UTILITY

Sewer: Rate Class Changes

Existing

RESIDENTIAL

Quasi-Residential
Senior Discount
Single Family
Multifamily

COMMERCIAL

Commercial *(low/high)*
Federal *(low)*
Municipal *(low)*
State *(low/high)*
Commercial Laundry *(low)*
Motel w/Dining *(low/high)*
State Prison *(high)*
Wholesale Bakery *(low/high)*
Restaurant *(low/high)*
Mortuary *(high)*

Proposed

FLAT RATE

Single Family Residential
Multifamily Residential

LOW STRENGTH

≤ 300 mg/l BOD / TSS

HIGH STRENGTH

> 300 mg/l BOD / TSS

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Sewer: Cost of Service Results

As Presented April 18

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)
Single Family Residential	$ 3,965,692	$ 3,490,001	-12.0%
Multifamily Residential	1,119,818	1,186,658	6.0%
Low-Strength Commercial	1,150,504	1,202,114	4.5%
High-Strength Commercial	1,168,442	1,525,684	30.6%
TOTAL	**$ 7,404,456**	**$ 7,404,456**	**0.0%**

Combined Residential: -8.0%

Combined Commercial: 17.6%

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Sewer: Cost of Service Results – FY 2014

Updated per Policy Direction

Scenario B

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 3,965,692	$ 3,805,281	-4.0%	Combined Residential: 0.4%
Multifamily Residential	$ 1,119,818	$ 1,301,291	16.2%	
Low-Strength Commercial	$ 1,150,504	$ 1,420,931	23.5%	Combined Commercial: 40.6%
High-Strength Commercial	$ 1,168,442	$ 1,839,533	57.4%	
TOTAL	**$ 7,404,456**	**$ 8,367,036**	**13.0%**	

Scenario C

Customer Classes	Revenue under Existing Rates	Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 3,965,692	$ 3,872,631	-2.3%	Combined Residential: 2.2%
Multifamily Residential	$ 1,119,818	$ 1,324,323	18.3%	
Low-Strength Commercial	$ 1,150,504	$ 1,446,080	25.7%	Combined Commercial: 43.1%
High-Strength Commercial	$ 1,168,442	$ 1,872,091	60.2%	
TOTAL	**$ 7,404,456**	**$ 8,515,125**	**15.0%**	

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Sewer: Cost of Service Results – FY 2018

Updated per Policy Direction

Scenario B

Customer Classes	FYE 2014 Revenue under Existing Rates	FYE 2018 Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 3,965,692	$ 6,182,534	55.9%	Combined Residential: 63.4%
Multifamily Residential	1,119,818	2,127,916	90.0%	
Low-Strength Commercial	1,150,604	2,321,549	101.8%	Combined Commercial: 129.9%
High-Strength Commercial	1,168,343	3,010,232	157.6%	
TOTAL	**$ 7,404,456**	**$ 13,642,231**	**84.2%**	

Scenario C

Customer Classes	FYE 2014 Revenue under Existing Rates	FYE 2018 Cost of Service	Increase / (Decrease)	
Single Family Residential	$ 3,965,692	$ 6,741,728	70.0%	Combined Residential: 78.3%
Multifamily Residential	1,119,818	2,325,177	107.6%	
Low-Strength Commercial	1,150,604	2,536,058	120.4%	Combined Commercial: 151.2%
High-Strength Commercial	1,168,343	3,290,044	181.6%	
TOTAL	**$ 7,404,456**	**$ 14,893,007**	**101.1%**	

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Sewer: Phase-In Cost of Service

- Cost of service shifts are phased in over the 5-year study period to mitigate customer impacts

Scenario B

	Phase-In Cost of Service Shift					
Customer Classes	**FYE 2014**	**FYE 2015**	**FYE 2016**	**FYE 2017**	**FYE 2018**	**Cumulative**
Single Family Residential	9.9%	9.6%	9.3%	9.0%	8.6%	55.9%
Multifamily Residential	13.7%	13.7%	13.7%	13.7%	13.7%	90.0%
Low-Strength Commercial	15.1%	15.1%	15.1%	15.1%	15.1%	101.8%
High-Strength Commercial	20.8%	20.8%	20.8%	20.8%	20.8%	157.6%
TOTAL	**13.0%**	**13.0%**	**13.0%**	**13.0%**	**13.0%**	**84.2%**

Scenario C

	Phase-In Cost of Service Shift					
Customer Classes	**FYE 2014**	**FYE 2015**	**FYE 2016**	**FYE 2017**	**FYE 2018**	**Cumulative**
Single Family Residential	11.8%	11.5%	11.2%	10.9%	10.5%	70.0%
Multifamily Residential	15.7%	15.7%	15.7%	15.7%	15.7%	107.6%
Low-Strength Commercial	17.1%	17.1%	17.1%	17.1%	17.1%	120.4%
High-Strength Commercial	23.0%	23.0%	23.0%	23.0%	23.0%	181.6%
TOTAL	**15.0%**	**15.0%**	**15.0%**	**15.0%**	**15.0%**	**101.1%**

Sewer: Rate Structures

EXISTING

- **Monthly fixed capitalization charge (same for all classes)**
- **Class-specific, single-block volume charge**
  - **Variable capitalization charge**
  - **User charge (Strength related)**

PROPOSED

- **Residential:**
  - **Revise from volume-based to class-specific flat rates *per dwelling unit***
- **Non-Residential:**
  - **Set monthly fixed charge equal to SFR flat rate**
  - **Consolidate volume rates by strength category**

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Sewer: Rate Structure Transition Plan

- Impact of recommended rate structure change
  - Immediate alignment of non-residential base rate with SFR flat rate materially impacts commercial customers with relatively low volume / strength
- Proposed transition plan
  - Gradually transition from current base charge to SFR flat rate over study period

Sewer: Proposed FY 2014 Rates

Existing	Proposed FY 2014:	Scenario B	Scenario C
RESIDENTIAL Volume-Based Rates	*RESIDENTIAL Flat Rates*		
$8.32 base + $3.34 volume	***SFR***	***$26.15***	***$26.61***
	MFR	***$14.88***	***$15.15***

COMMERCIAL – Class Based Rates

$8.32 base – all classes plus…

Commercial Class	Strength	Volume
Commercial ***Federal*** ***Municipal*** ***State***	Low/high Low Low Low/high	***$3.34***
Commercial Laundry	Low	***$3.17***
Motel w/Dining ***State Prison***	Low/high High	***$4.31***
Wholesale Bakery	Low/high	***$6.44***
Restaurant	Low/high	***$5.53***
Mortuary	High	***$6.57***

COMMERCIAL – Strength Based Rates

	Scenario B	Scenario C
All classes	***$14.08 base plus…***	***$14.75 base plus…***
LOW STRENGTH	***$3.87 volume***	***$3.92 volume***
HIGH STRENGTH	***$5.17 volume***	***$5.26 volume***

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Sewer: Proposed Rate Schedule

SCENARIO B

Customer Class	FY 2014 Rates	FY 2015 Rates	FY 2016 Rates	FY 2017 Rates	FY 2018 Rates
Flat Rates					
Single Family Residential	$ 26.15	$ 28.67	$ 31.34	$ 34.16	$ 37.10
Multifamily Residential	$ 14.88	$ 16.92	$ 19.24	$ 21.88	$ 24.87
Metered Rates					
Low-Strength Commercial					
Base Charge	$ 14.08	$ 19.83	$ 25.59	$ 31.34	$ 37.10
Volume Charge	$ 3.87	$ 4.29	$ 4.80	$ 5.44	$ 6.21
High-Strength Commercial					
Base Charge	$ 14.08	$ 19.83	$ 25.59	$ 31.34	$ 37.10
Volume Charge	$ 5.17	$ 6.22	$ 7.50	$ 9.06	$ 10.96

SCENARIO C

Customer Class	FY 2014 Rates	FY 2015 Rates	FY 2016 Rates	FY 2017 Rates	FY 2018 Rates
Flat Rates					
Single Family Residential	$ 26.61	$ 29.68	$ 33.01	$ 36.61	$ 40.45
Multifamily Residential	$ 15.15	$ 17.53	$ 20.29	$ 23.48	$ 27.18
Metered Rates					
Low-Strength Commercial					
Base Charge	$ 14.75	$ 21.17	$ 27.60	$ 34.03	$ 40.45
Volume Charge	$ 3.92	$ 4.41	$ 5.03	$ 5.82	$ 6.78
High-Strength Commercial					
Base Charge	$ 14.75	$ 21.17	$ 27.60	$ 34.03	$ 40.45
Volume Charge	$ 5.26	$ 6.44	$ 7.91	$ 9.73	$ 11.98

Note: Rates before right-of-way toll

Proposed Single Family Sample Bills

Scenario B

Customer Type	Avg Use (kgal)	Bill Impacts		
			2014 Bill	
		Current Bill	Scenario B	$ Impact
Low use	3	$ 18.52	$ 26.41	$ 7.89
Medium use	8	$ 35.39	$ 26.41	$ (8.98)
High use	48	$ 169.48	$ 26.41	$ (143.07)

Scenario C

Customer Type	Avg Use (kgal)	Bill Impacts		
			2014 Bill	
		Current Bill	Scenario C	$ Impact
Low use	3	$ 18.52	$ 26.88	$ 8.35
Medium use	8	$ 35.39	$ 26.88	$ (8.51)
High use	48	$ 169.48	$ 26.88	$ (142.61)

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Proposed Multifamily Sample Bills

Scenario B

			Bill Impacts		
				2014 Bill	
Customer Type	No. of Units	Avg Use/ Unit (kgal)	Current Bill	Scenario B	$ Impact
Low use, low units	4	2	$ 35.39	$ 60.12	$ 24.72
Low use, high units	36	3	$ 420.80	$ 541.04	$ 120.24
High use, low units	5	14	$ 246.23	$ 75.14	$ (171.08)
High use, high units	180	8	$ 5,085.37	$ 2,705.18	$ (2,380.19)

Scenario C

			Bill Impacts		
				2014 Bill	
Customer Type	No. of Units	Avg Use/ Unit (kgal)	Current Bill	Scenario C	$ Impact
Low use, low units	4	2	$ 35.39	$ 61.21	$ 25.82
Low use, high units	36	3	$ 420.80	$ 550.85	$ 130.05
High use, low units	5	14	$ 246.23	$ 76.51	$ (169.72)
High use, high units	180	8	$ 5,085.37	$ 2,754.27	$ (2,331.10)

Proposed Commercial Sample Bills

Scenario B

Customer Type	Current Class	Strength Category	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario B	$ Impact
Low use	Commercial	Low	3	$ 17.12	$ 24.32	$ 7.20
Medium use	Commercial	Low	31	$ 113.26	$ 135.72	$ 22.46
High use	Commercial	Low	487	$ 1,650.12	$ 1,916.45	$ 266.33
Low use	Restaurant	Low	4	$ 33.07	$ 31.48	$ (1.59)
Medium use	Bakery	Low	38	$ 255.57	$ 162.75	$ (92.82)
High use	Laundry	Low	1,491	$ 4,780.80	$ 5,840.46	$ 1,059.66
Low use	Commercial	High	2	$ 13.74	$ 22.49	$ 8.74
Medium use	Commercial	High	57	$ 201.25	$ 312.73	$ 111.48
High use	Commercial	High	245	$ 834.61	$ 1,293.10	$ 458.50
Low use	Mortuary	High	2	$ 22.23	$ 25.10	$ 2.87
Medium use	Restaurant	High	30	$ 175.96	$ 170.87	$ (5.09)
High use	State Prison	High	5,770	$ 25,125	$ 30,143	$ 5,018

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Proposed Commercial Sample Bills

Scenario C

Customer Type	Current Class	Strength Category	Avg Use (kgal)	Bill Impacts		
					2014 Bill	
				Current Bill	Scenario B	$ Impact
Low use	Commercial	Low	3	$ 17.12	$ 25.13	$ 8.01
Medium use	Commercial	Low	31	$ 113.26	$ 137.96	$ 24.70
High use	Commercial	Low	487	$ 1,650.12	$ 1,941.71	$ 291.58
Low use	Restaurant	Low	4	$ 33.07	$ 32.38	$ (0.69)
Medium use	Bakery	Low	38	$ 255.57	$ 165.35	$ (90.22)
High use	Laundry	Low	1,491	$ 4,780.80	$ 5,916.42	$ 1,135.61
Low use	Commercial	High	2	$ 13.74	$ 23.31	$ 9.56
Medium use	Commercial	High	57	$ 201.25	$ 318.60	$ 117.35
High use	Commercial	High	245	$ 834.61	$ 1,316.04	$ 481.44
Low use	Mortuary	High	2	$ 22.23	$ 25.97	$ 3.74
Medium use	Restaurant	High	30	$ 175.96	$ 174.28	$ (1.69)
High use	State Prison	High	5,770	$ 25,125	$ 30,668	$ 5,543

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Combined Single Family Bill Impacts FY 2014 Scenario B

Customer Classes	Revenue Under Existing Rates	Revenue Under 2014 Phase-In	Cost of Service Shift
Single Family Residential			
Water	$ 7,064,430	$ 7,559,503	7.0%
Sewer	$ 3,965,692	$ 4,357,961	9.9%
Combined	**$ 11,030,122**	**$ 11,917,464**	**8.0%**

Average Monthly Bill	Existing Rates	2014 Rates	$ Bill Impact	% Bill Impact
Water [a]	$ 35.28	$ 38.26	$ 2.98	8.4%
Sewer [b]	$ 26.28	$ 26.41	$ 0.13	0.5%
Combined	**$ 61.56**	**$ 64.67**	**$ 3.11**	**5.0%**

[a] Assumes 5/8" meter with average monthly use of 12,000 gallons; includes right-of-way toll
[b] Assumes winter monthly average of 5,300 gallons; includes right-of-way toll

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Combined Single Family Bill Impacts FY 2014 Scenario C

Customer Classes	Revenue Under Existing Rates	Revenue Under 2014 Phase-In	Cost of Service Shift
Single Family Residential			
Water	$ 7,064,430	$ 7,738,988	9.5%
Sewer	$ 3,965,692	$ 4,434,341	11.8%
Combined	**$ 11,030,122**	**$ 12,173,328**	**10.4%**

Average Monthly Bill	Existing Rates	2014 Rates	$ Bill Impact	% Bill Impact
Water [a]	$ 35.28	$ 39.25	$ 3.97	11.3%
Sewer [b]	$ 26.28	$ 26.88	$ 0.60	2.3%
Combined	**$ 61.56**	**$ 66.13**	**$ 4.57**	**7.4%**

[a] Assumes 5/8" meter with average monthly use of 12,000 gallons; includes right-of-way toll
[b] Assumes winter monthly average of 5,300 gallons; includes right-of-way toll

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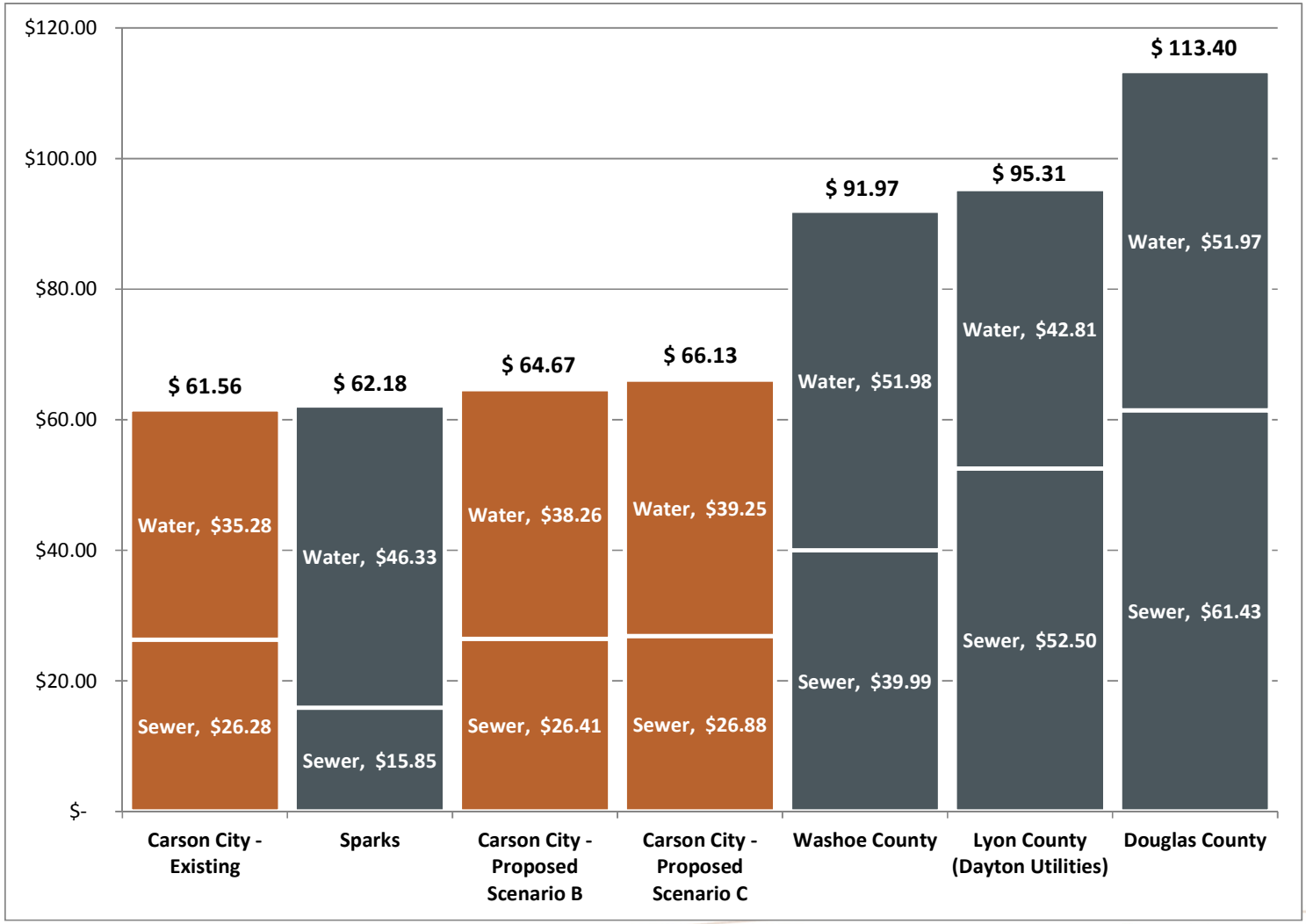
Comparison of Combined Rates



Assumes 12,000 gallons/month water use; all sewer rates are flat rates other than Carson City Existing; Includes right-of-way toll where applicable

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CONNECTION CHARGES

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Water: Connection Charge Results

Water Equivalent Residential Customer (WERC)	WERC [a]	Previous Charge [b]	Existing Charge
Single Family Residence	1.00	$ 4,543	$ 454
Duplex (each living unit)	1.00	4,543	454
Apartment (each living unit)	0.50	2,272	227
Mobile Home Individual lot	1.00	4,543	454
Mobile Home Park (each pad)	0.50	2,272	227
All others, per WERC	1.00	4,543	454

[a] Each WERC is equal to 550 gallons, per 12.02.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

Meter Size	Meter Equivalency Factors [a]	Proposed Charge
5/8-inch	1.00	$ 2,198
1-inch	2.50	5,494
1 1/2-inch	5.00	10,988
2-inch	8.00	17,580
3-inch	16.00	35,161
4-inch	25.00	54,938
8-inch	50.00	109,877
10-inch	115.00	252,717
Multifamily per unit [b]:		$ 1,538

[a] AWWA meter capacity equivalent ratios

[b] Alt. multifamily option: 70% of 5/8" meter charge per unit

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Sewer: Connection Charge Results

Sewer Equivalent Residential Customer (SERC)	SERC [a]	Previous Charge [b]	Existing Charge	Proposed Charge
Single Family Residence	1.00	$ 5,770	$ 577	$ 4,244
Duplex (each living unit)	1.00	5,770	577	4,244
Apartment (each living unit)	0.50	2,885	289	2,122
Mobile Home Individual lot	1.00	5,770	577	4,244
Mobile Home Park (each pad)	0.50	2,885	289	2,122
All others, per WERC	1.00	5,770	577	4,244

[a] Each SERC is equal to 250 gallons per day, per 12.03.030

[b] Policy direction as of 10/1/09 to reduce charge to promote economic development

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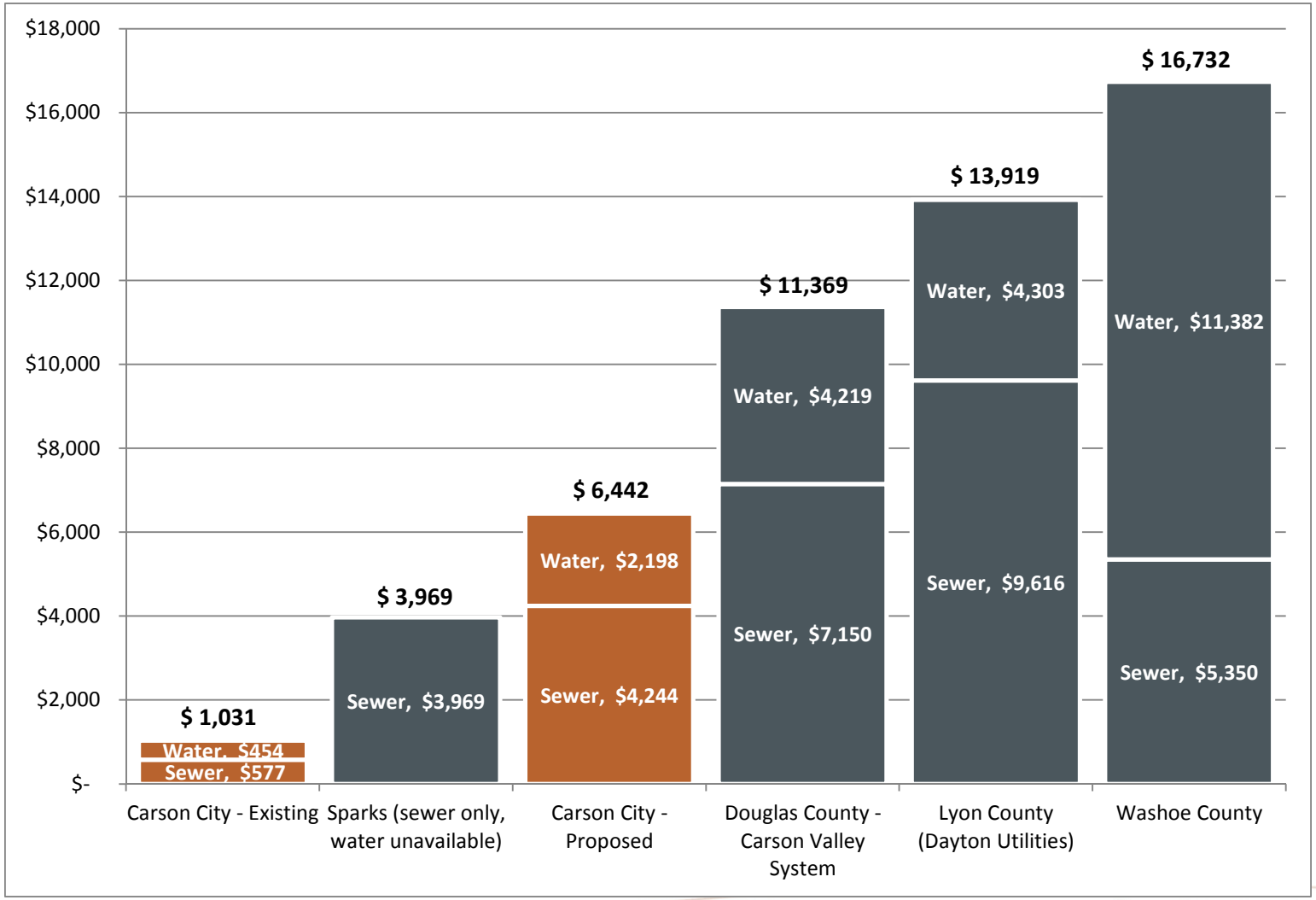
Connection Charge Comparison



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Recommended Action

- Adopt revenue requirement Scenario B or C
- Adopt 5-year phased-in rate structures
- Adopt calculated connection charges
  - Choose a multifamily option (by meter size or number of units)

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SUPPLEMENTAL SLIDES

Water Connection Charges

Existing Cost Basis			Notes
PLANT-IN-SERVICE			
Utility Capital Assets		$ 111,415,573	Original cost of plant-in-service as of FYE 2012
less: Contributed Capital		(25,375,181)	Grants and Other Contributed Capital as of FYE 2012
plus: Interest on Non-Contributed Plant		35,757,409	Interest on assets up to a maximum 10-year period
Existing Cash Balances	$ 1,929,337		Cash Balances as of FYE 2012
less: Debt Principal Outstanding	(64,741,224)		Debt Principal Outstanding as of FYE 2012
less: Net Debt Principal Outstanding		$ (62,811,887)	Debt principal outstanding, net of cash reserves
TOTAL EXISTING COST BASIS		**$ 58,985,913**	

Future Cost Basis		Notes
CAPITAL IMPROVEMENT PLAN		
Total Future Projects	$ 17,557,740	Total CIP (FYE 2013 through FYE 2018)
less: Identified Repair & Replacement Projects	(7,297,350)	R&R projects are not eligible for Connection Charge
less: Contributed Future Upgrade & Expansion Assets	(125,000)	Not eligible for recovery through Connection Charge
TOTAL FUTURE COST BASIS	**$ 10,135,390**	

Customer Base	WERC	Notes
Existing Water Equivalent Residential Customers (WERC)	22,290	Connected WERC as of FYE 2012
Future WERC (Incremental)	9,164	Projected Incremental WERC
TOTAL CUSTOMER BASE	31,454	Total System Capacity WERC

Resulting Charge	Total	Notes
Existing Cost Basis	$ 58,985,913	
Future Cost Basis	10,135,390	
Total Cost Basis	$ 69,121,303	
Total Customer Base	31,454	
TOTAL CHARGE PER WERC	**$ 2,198**	Maximum Allowable Charge per WERC

Sewer Connection Charges

Existing Cost Basis			Notes
PLANT-IN-SERVICE			
Utility Capital Assets		$ 119,970,303	Original cost of plant-in-service as of FYE 2012
less: Contributed Capital		(19,941,142)	Grants and Other Contributed Capital as of FYE 2012
plus: Interest on Non-Contributed Plant		58,313,407	Interest on assets up to a maximum 10-year period
Existing Cash Balances	$ 2,266,785		Cash Balances as of FYE 2012
less: Debt Principal Outstanding	(16,988,171)		Debt Principal Outstanding as of FYE 2012
less: Net Debt Principal Outstanding		$ (14,721,386)	Debt principal outstanding, net of cash reserves
TOTAL EXISTING COST BASIS		**$ 143,621,182**	

Future Cost Basis		Notes
CAPITAL IMPROVEMENT PLAN		
Total Future Projects	$ 47,217,050	Total CIP (FYE 2013 through FYE 2018)
less: Identified Repair & Replacement Projects	(46,194,050)	R&R projects are not eligible for Connection Charge
less: Contributed Future Upgrade & Expansion Assets	(347,349)	Not eligible for recovery through Connection Charge
TOTAL FUTURE COST BASIS	**$ 675,651**	

Customer Base	SERC	Notes
Existing Sewer Equivalent Residential Customers (SERC)	18,735	Connected SERC as of FYE 2012
Future SERC (Incremental)	15,264	Projected Incremental SERC
TOTAL CUSTOMER BASE	33,999	Total System Capacity SERC

Resulting Charge	Total	Notes
Existing Cost Basis	$ 143,621,182	
Future Cost Basis	675,651	
Total Cost Basis	$ 144,296,833	
Total Customer Base	33,999	
TOTAL CHARGE PER SERC	**$ 4,244**	Maximum Allowable Charge per SERC

WATER SAMPLE BILL GRAPHS

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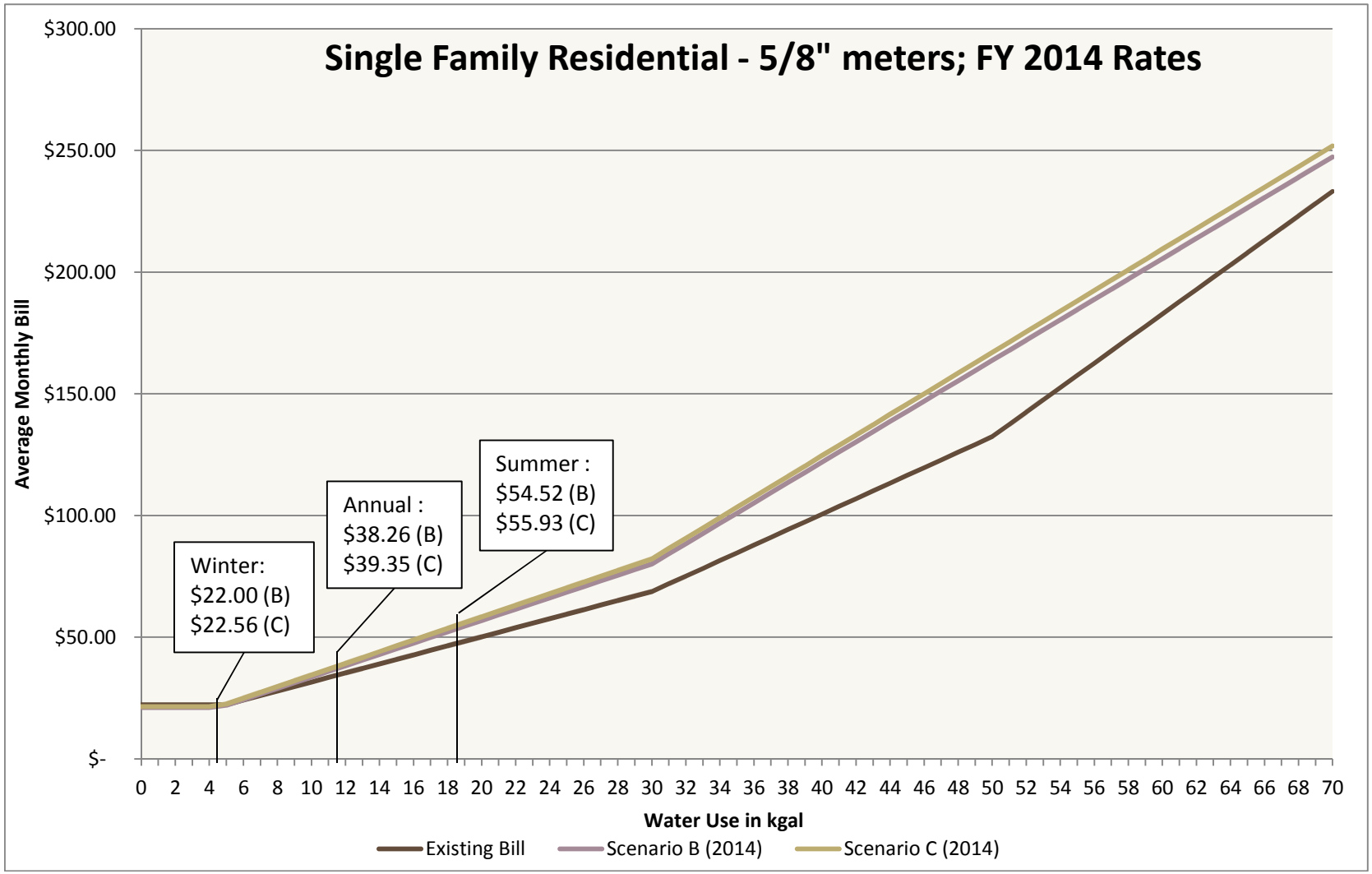

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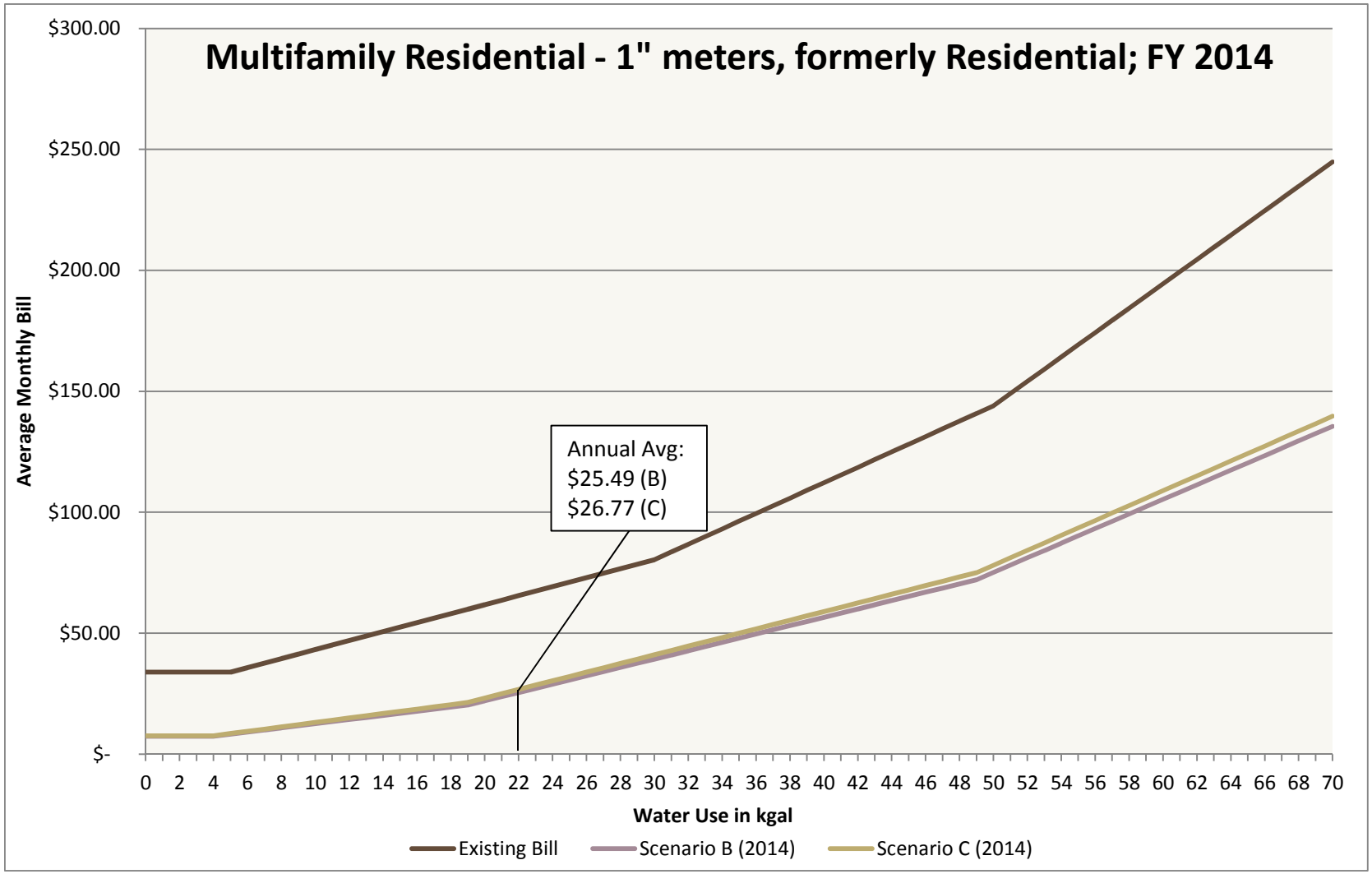

Note: 2014 scenarios represent 1 unit; additional units add additional base charges

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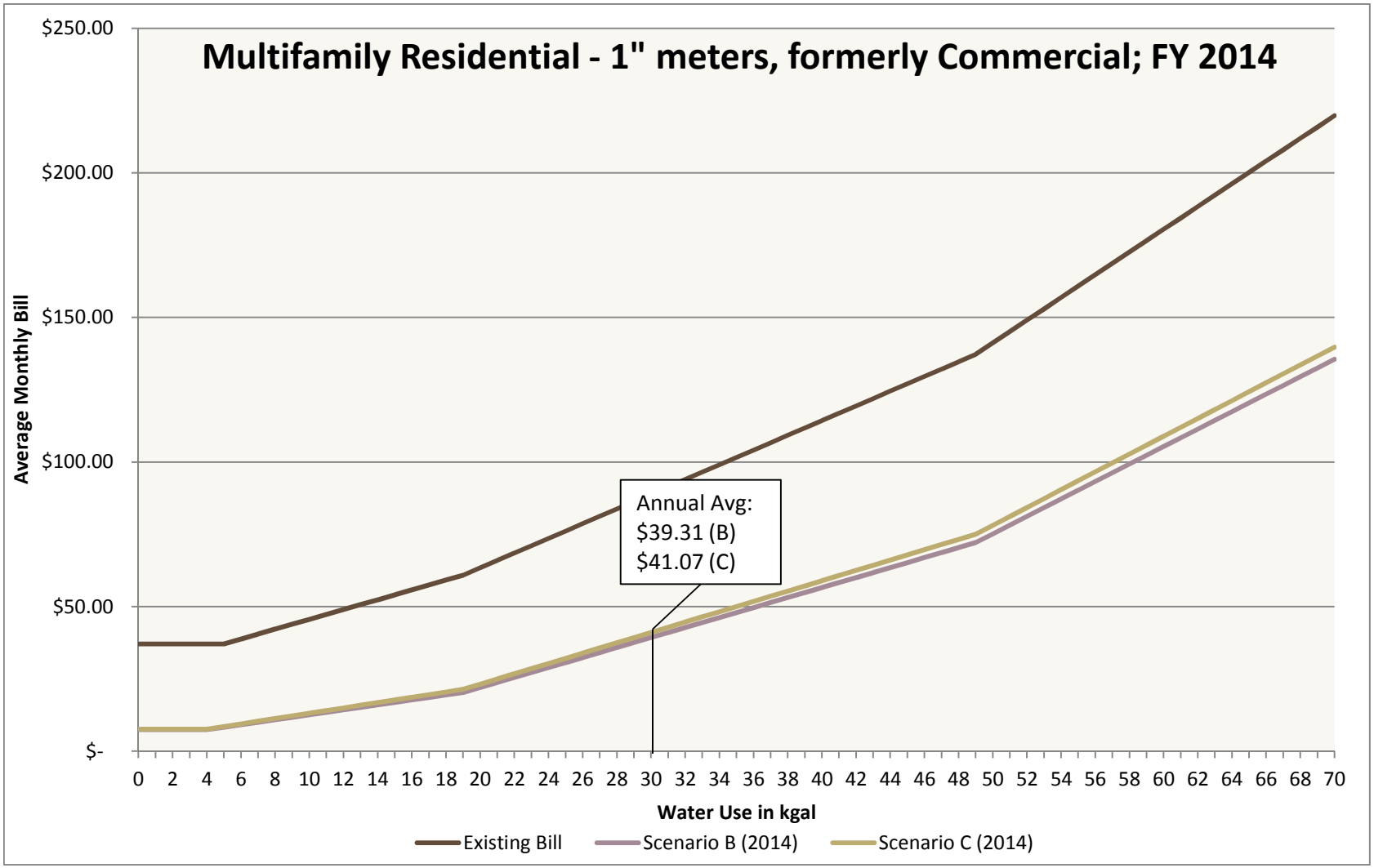

Note: 2014 scenarios represent 1 unit; additional units add additional base charges

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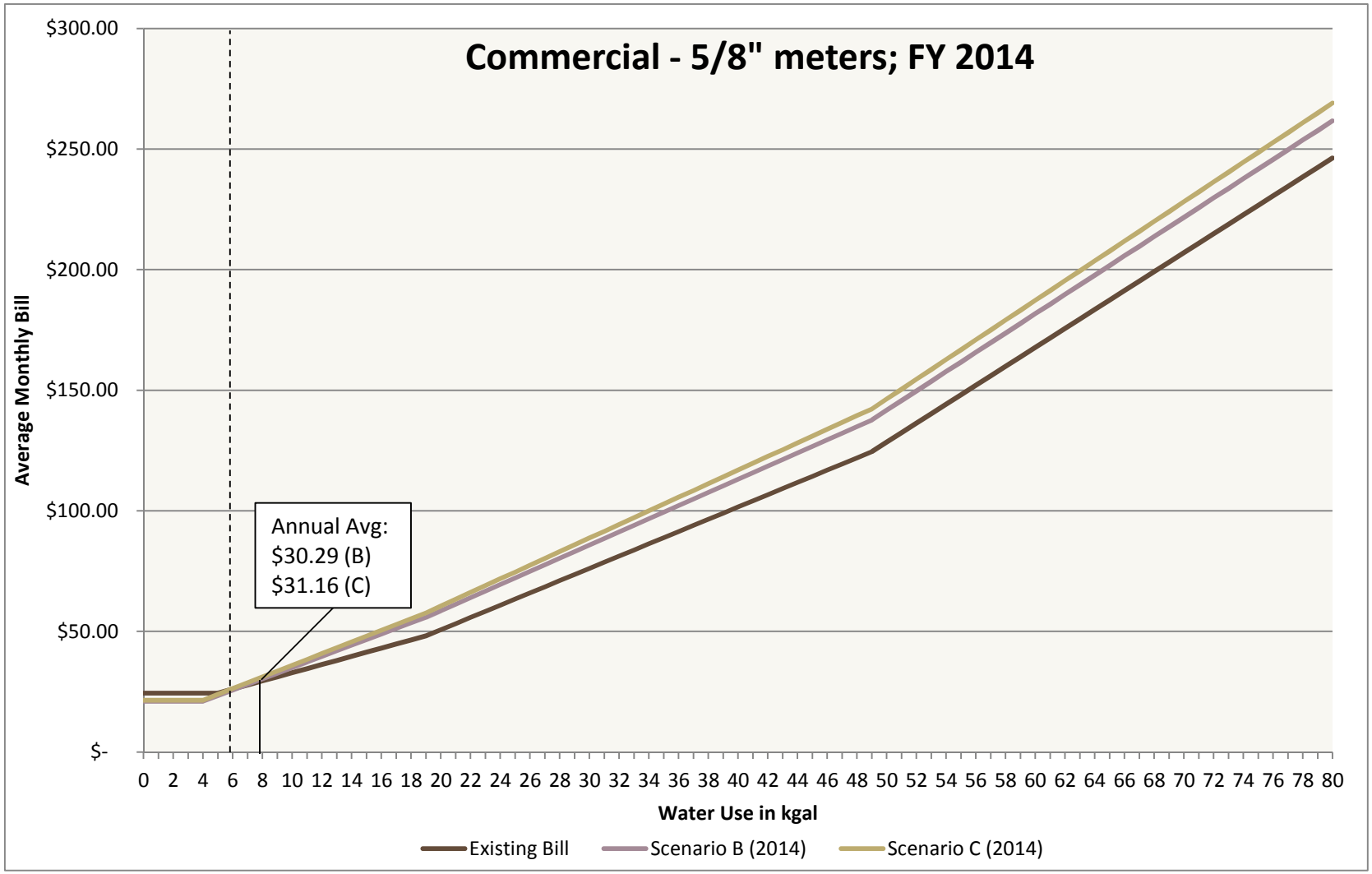

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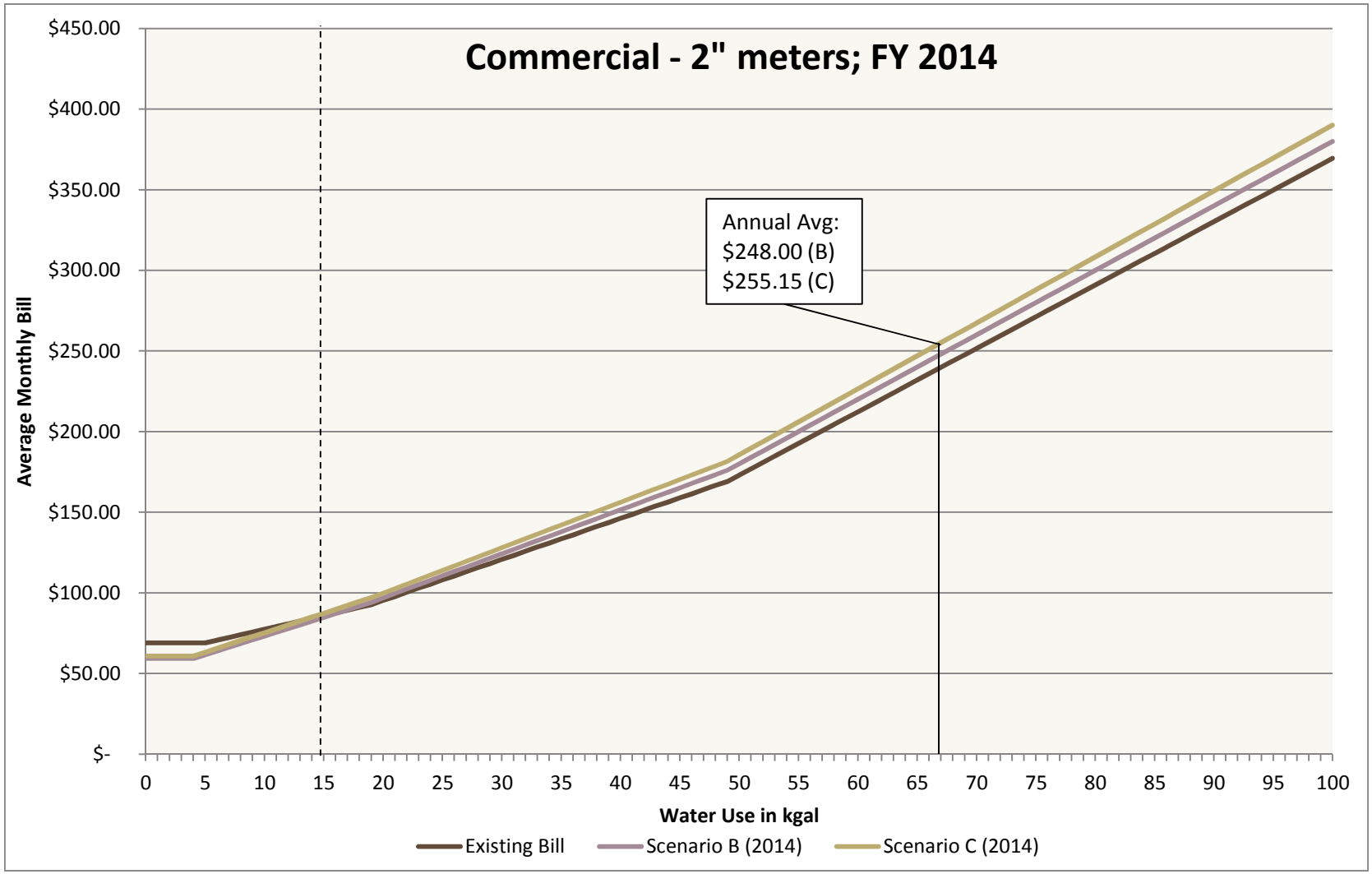

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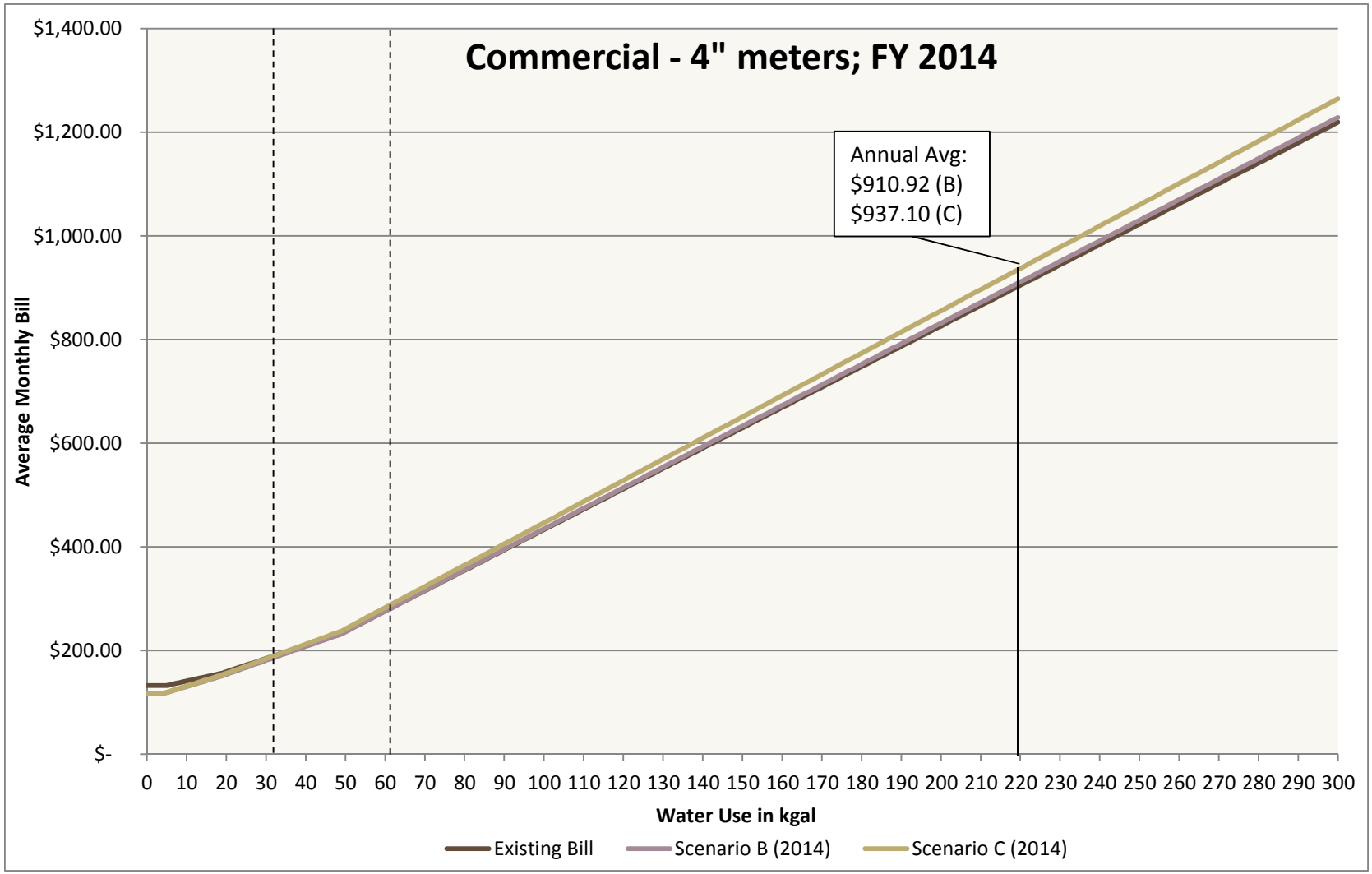

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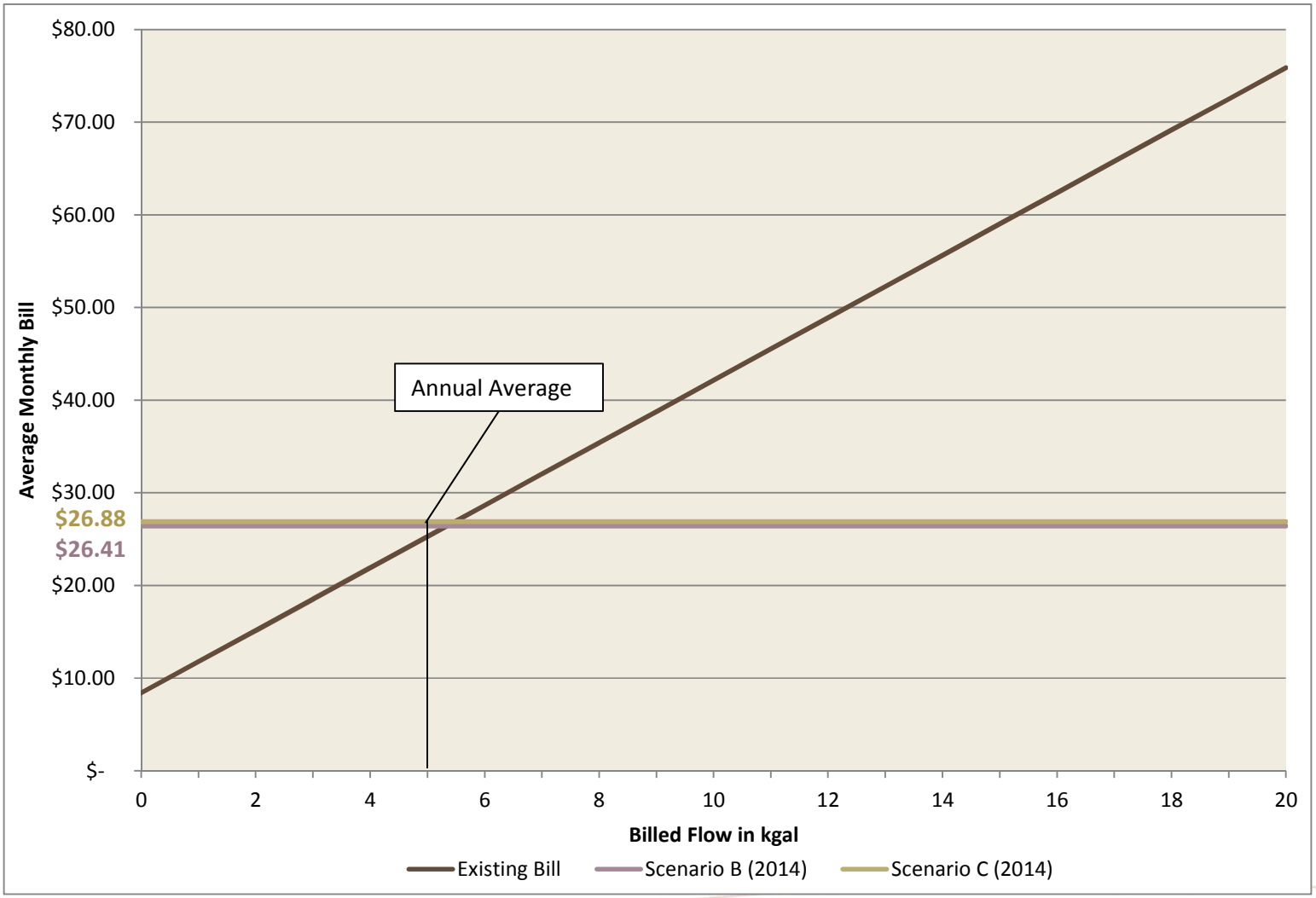
SEWER SAMPLE BILL GRAPHS

Single Family Sewer Bill Impacts: FY 2014



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COMBINED SINGLE FAMILY SAMPLE BILLS 2018

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Combined Single Family Bill Impacts FY 2018 Scenario B

Customer Classes	Revenue Under Existing Rates	Revenue Under 2018 Phase-In	Cost of Service Shift
Single Family Residential			
Water	$ 7,064,430	$ 9,732,919	37.8%
Sewer	$ 3,965,692	$ 6,182,534	55.9%
Combined	**$ 11,030,122**	**$ 15,915,453**	**44.3%**

Average Monthly Bill	Existing Rates	2018 Rates	$ Bill Impact	% Bill Impact
Water [a]	$ 35.28	$ 51.28	$ 16.00	45.3%
Sewer [b]	$ 26.28	$ 40.81	$ 14.53	55.3%
Combined	**$ 61.56**	**$ 92.09**	**$ 30.53**	**49.6%**

[a] Assumes 5/8" meter with average monthly use of 12,000 gallons; includes right-of-way toll
[b] Assumes winter monthly average of 5,300 gallons; includes right-of-way toll

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Combined Single Family Bill Impacts FY 2018 Scenario C

Customer Classes	Revenue Under Existing Rates	Revenue Under 2018 Phase-In	Cost of Service Shift
Single Family Residential			
Water	$ 7,064,430	$ 10,948,196	55.0%
Sewer	$ 3,965,692	$ 6,741,728	70.0%
Combined	**$ 11,030,122**	**$ 17,689,924**	**60.4%**

Average Monthly Bill	Existing Rates	2018 Rates	$ Bill Impact	% Bill Impact
Water [a]	$ 35.28	$ 51.28	$ 16.00	45.3%
Sewer [b]	$ 26.28	$ 40.81	$ 14.53	55.3%
Combined	**$ 61.56**	**$ 92.09**	**$ 30.53**	**49.6%**

[a] Assumes 5/8" meter with average monthly use of 12,000 gallons; includes right-of-way toll
[b] Assumes winter monthly average of 5,300 gallons; includes right-of-way toll

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