

TECHNICAL MEMORANDUM

To: Brandy Reitter, Town Manager, Town of Eagle
From: Todd Cristiano, Manager
Brian Kirsch, Lead Consultant
Date: March 2, 2018
Re: Review of Water Utility Rate Study

Introduction

The Town of Eagle (Town) retained Raftelis Financial Consultants, Inc. (Raftelis) to conduct a third-party technical review of the recent water rate study (Study) conducted by SGM, Inc. (SGM). The Study includes a financial plan and rate design options for financing the Town's Lower Basin Water Treatment Plant. Our scope included a reviewing of the following information and providing our findings and recommendations on the rate study.

-) Variable charge study report dated January 9, 2018
-) Water rate and tap fee study dated November 2016 (revised July 2017) (Report)
-) EagleCashFlowModel-ForReview.xlsx
-) EagleRateModelAlt3-4-2018-2019.xlsx
-) VariableSurchargeModel.xlsx

This technical memorandum is organized by our general findings and conclusions followed by a detailed discussion of SGM's financial planning and rate design process.

As part of our analysis, we re-created a high-level version of the financial plan using the assumptions from the model and the Report. This enabled us to test the proposed rate structure's ability to meet the revenue requirements in 2018. The financial plan and rate tables are contained in the appendix at the end of this memorandum.

Overall Findings and Conclusions

Raftelis reviewed the financial planning and rate design methodologies and assumptions as well as the general rate setting process used in the SGM study. Brief highlights of our findings are listed below. Additional discussion of the financial plan and rate structure process is contained in this memorandum.

-) Models are free of technical errors, calculation errors, and the model logic is generally consistent with similar financial plan and rate design analyses.
-) The study assumptions are well documented throughout the model and the report and are consistent, if not more conservative, to utilities of a comparable size.

-) Our financial plan analysis shows that the 2018 rate structure and projected rates are sufficient to meet the cash flow projections of the model.

We conclude that the results generated by SGM's analysis should, in general, be sufficient to meet the utility's financial targets. However, we found that the process used could be improved to enhance the clarity of the rate-making process.

Financial Planning

Financial plans determine the level of rate revenue required to meet annual expenditures, reserve targets, and debt service coverage ratios. Expenditures are projected using annual budgets and a long-range capital plan. Rate revenue is projected by calculating the number of projected accounts, use per account, and volume under the existing utility rates. Adjustments to rate revenues under existing rates are applied as needed to meet the above financial requirements. Once the level of revenue is determined for the year in which rates will be effective (the test year), rates can be calculated to meet that revenue requirement. In other words, the rate structure design is independent of the financial planning projections. Regardless of the rate structure selected, rates should be set to recover the level of revenue in the selected test year.

It appears that in this Study, rate designs were developed prior to the formation of a single financial plan, and the revenue produced by the rate design alternatives was then used to construct financial plans for each of the rate alternatives. This not a technically incorrect approach, but it adds complexity to the decisions facing the Town. A financial plan represents an agreement as to what rate revenue increases must be made and when. Rate design represents an agreement as to how those revenues are to be recovered. By having different rate designs determine different financial plans, these decisions are being commingled.

One omission from the financial plan is the calculation of the Debt Service Coverage (DSC) ratio. The DSC ratio is calculated by subtracting the operations and maintenance (O&M) expenses from the operating revenue and then dividing by the debt service. (A DSC ratio of 1.0 means that the utility has enough money to pay O&M expenses and the debt service.) The Town's State Revolving Fund (SRF) loan requires that the utility maintain a minimum DSC ratio of 1.10. Raftelis usually recommends that utilities develop financial plans that meet or exceed target DSC ratios that are greater than the legal minimum.

The financial plan includes several conservative choices. The financial plan includes three different reserve targets:

-) **Operations and maintenance (O&M) reserve:** one year's O&M expenses (\$1.25 million)
-) **Capital reserve:** intended to be equal to one year's capital expenditures (set to \$1 million in the financial plan)
-) **Emergency reserve:** \$2 million
-) **Total reserves:** approximately \$4 million

The O&M reserve is set to meet short-term disruptions between the inflow and outflow of funds. This is typically analyzed through a lead-lag study or the time between when services are performed and when revenue from those services is received. That time period is often around 90 days, hence the industry benchmark of 90 days of O&M. The Town's SRF loan requires that the utility maintain an O&M reserve of at least 25% of annual O&M costs, up to \$1.25 million. Maintaining an O&M reserve equal to a year's operating costs is significantly more conservative than what is typically seen in industry or is required by the SRF loan covenants.

The capital reserve in the financial plan is \$1 million, which is roughly equal to expected annual capital costs. Raftelis recommends water utilities maintain both operating and capital reserves. Capital reserve levels vary by utility and are based on several factors and methodologies to determine an appropriate amount. For example, capital reserves are often set using metrics such as annual depreciation costs, annual renewal and replacement costs, an average of expected capital spending, etc. The Town's capital reserve is conservative, but falls within an expected range of what a recommended capital reserve might look like.

The financial plan also includes an emergency reserve of \$2 million. The O&M and capital reserves are conservatively selected, and the emergency reserve effectively doubles the cash maintained on hand. To maintain such large reserves requires the utility to retain ratepayers' money in anticipation of future expenses. Further, the Town should set clear policies on when it is appropriate to tap into the emergency reserve. The median days of cash on hand for AAA-rated water and sewer systems in 2015 was 481, according to Fitch Ratings, whereas the sum of the utility's reserve targets represents (in approximate terms) over 1,400 days of cash on hand.

Another conservative choice was to exclude tap fees from the financial plan. Tap fees are often difficult to project as development can fluctuate, often dramatically, from year to year. As part of the financial planning process, Raftelis often recommends conducting a sensitivity analysis on various growth alternatives to better understand how tap fee revenue can impact the financial results. A financial plan that excludes all tap fee revenues requires rate revenues to be increased. Thus, the Town's financial plan is maximally dependent upon rate revenues and underrepresents the projections of future of cash reserves.

The rate structure change may warrant a review of these policies. The increase in fixed revenues mitigates the impact to significant reductions in revenue from major events such as wet weather during peak usage months or a disruption in the water supply. However, the shift of more cost recovery from the base fee and the variable surcharge may mute the conservation pricing signal from the volume rates.

The appendix contains the financial plan analysis we developed to test the assumptions in the model and illustrates the approach described above.

Rate Structure Design

The study has also recommended the adoption of a new water rate structure. The Town's current residential water rate structure has a base charge which includes a 6,000 gallon volume allowance.

The residential rate structure includes a two-tiered volume rate and the commercial structure is a uniform rate for usage above the minimum.

The proposed rate structure alternative #4 (Alt. #4) includes a monthly service charge with no volume allowance and a 4-tiered structure applied to all usage. The first 6,000 gallons of consumption are now charged a Tier 1 volume rate, and a fourth tier is added for consumption beyond 28,000 gallons. The structure also includes a monthly surcharge based on each customer's percent of annual use to average class annual use. This surcharge is intended to recover debt service costs associated with the new treatment plant. The variable surcharge charges customers one of three amounts depending on whether the customer is deemed a "low", "medium", or "high" consumer of water. It is not uncommon to see a surcharge on utility bills dedicated to paying for debt service. It is less common to see a variable surcharge that is adjusted based on the volume of water consumed. However, this is not inappropriate and serves to achieve some measure of equity between small and large users of the system.

This rate structure maintains the existing monthly service charge, adds a variable surcharge, and makes the existing volume rate structure more conservation oriented by removing the volume allowance and adding a fourth tier.

One potential issue that may arise with the new volume rate structure is that it was designed with conservation in mind and may be quite successful. The volume rates are being raised substantially, and predicting the amount of conservation that occurs can be difficult. Estimating the price elasticity of retail water is notoriously difficult, especially with tiered rates. The addition of the variable surcharge will also complicate how retail customers respond to the price signal. The rate structure is designed to recover a greater proportion of volumetric revenue than the current rate structure. Thus, the Town is exposing itself to greater revenue stability risk. This greater potential for revenue instability is not necessarily a bad outcome, but Raftelis recommends that the Town make it a priority to update its financial plan once the rate structure has been fully implemented and customers have adjusted their consumption patterns.

The second issue that arises with the new rate structure is one of equity. Changing how the utility collects revenue will redistribute how revenues are recovered from many customers. Some customers will see their bills increase by more or less than the annual rate revenue increase, depending on how they consume water. For example, we estimate a 28% revenue adjustment in 2018 is needed to recover the \$3.9 million identified in the SGM cash flow model. However, we also estimate that most customers will see an increase greater than 28%. Most residential customers will have an annual increase between \$200 and \$400 ¹. This is a result of the increased revenue requirement and the change in rate structure. A fuller analysis of customer bill impacts may provide the Town with greater insight into how proposed rate structures may impact their customers. We have included our bill impact analysis to demonstrate the distribution of bill increases.

One example of a potential equity issue is highlighted in a figure within the rate model which notes the presence of multifamily customers. The recommended volume rate structure is generally

¹ SGM provided the most recent 2018 rate proposal which are slightly different from the 2018 rates proposed in the Report. These rates were used to develop our bill impacts.

disadvantageous for multifamily customers. Large multifamily customers typically consume less water on a per person basis than single family residential customers, but will likely be billed in the higher tiers because of their overall consumption. In addition, multifamily customers generally have less discretion in their consumption due to their higher proportion of indoor consumption compared to single family users.

Under SGM's approach, the proposed 2018 rates and structure in the variable surcharge model is calculated based on the historical number of accounts and volume from 2015. To determine revenue sufficiency, the total rate revenue from the variable surcharge model is escalated by the percent increase in the number of taps from 2015 to 2018. This approach ignores potential changes in consumption habits and the actual growth by customer class that may have occurred. The rates proposed in the model do achieve the level of revenue required, however, the prediction of rate revenue may be more certain if changes in accounts and volume were accounted for in the rate calculation.

Appendix A contains Raftelis' development of the cash flow model using the assumptions contained in the model and report. The purpose of this model was to verify the rate results in the SGM report. Our model also illustrates the manner in which a financial plan and rate structure model might work in unison. For the purposes of this example, we built this cash flow using 2015 as the base year. From that data we developed the following items:

-) Projected number of accounts based on the growth projections in the cash flow model
-) Projected use per account by customer class
-) Projected volumes by customer class
-) Projected base fee revenue and volume rate revenue under 2015 rates.

Other revenues, O&M expenses, and other expenditures were projected based on the value contained in the cash flow model.

Using this financial plan, we projected revenue adjustments required to meet the revenue projections in the cash flow model. We then calculated the 2018 rates under the proposed structure which is based on our account and volume projections.

We calculated the total revenue to be recovered using the 2018 proposed rates outlined in the Report based on our 2018 account and volume projections. In addition, we calculated the revenue from the updated proposed 2018 rates based on our account and volume projections. This information is contained in the appendix. We found the proposed rates and structure generate revenue consistent with what was calculated in the SGM cash flow model.

Conclusions / Recommendations:

-) **Rate revenue increases.** Reserve the current rate design/financial plan process. In the financial plan, project the percentage adjustment to rate revenues that are required by the financial plan. Design rates that will recover the financial plan revenue requirement.

- J **Financial plan update.** Given such a dramatic shift in rate structure and sharp increases in volumetric rates, the Town should prioritize updating the financial plan once the full rate structure has been implemented in order to adjust for changes in customer behavior.
- J **Debt service coverage (DSC) ratio.** Develop a DSC target and calculate the projected DSC ratio annually in the financial plan and confirm that the DSC target is met or exceeded in all years of the plan.
- J **Reserve targets and policies.** The Town should consider if current reserve targets are larger than necessary. Develop clear policies as to what the emergency fund is for and how it is to be used. The Town may wish to maintain existing reserve targets until after the new rate structure has been fully implemented and revisit the issue when the financial plan is updated.
- J **Cost-based rate design.** Raftelis recommends developing a cost basis to develop the volume rates in each tier as well as for the surcharge tiers (0-20%; 20%-80%, etc.). With the addition of the surcharge, the Town may also consider evaluating costs that should be recovered in the base fee to improve equity among the customer classes.
- J **Customer bill impacts.** Calculate customer bill impacts to obtain a fuller understanding of where these rate revenue increases are being generated from.

Reliance on Provided Data

The Town provided Raftelis with a variety of technical information their rate consultant SGM, including customer billing data, models, and published reports. Raftelis did not independently assess or test for the accuracy of such data – historic or projected. Raftelis have relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report.

APPENDIX

Development of Revenue Under Existing Rates

Customer Class	2015 Usage	
Residential In Town w/o ADU	202,953	<-Includes the 6.01% true up factor
Residential In Town with ADU	16,933	
Commercial, Government, Schools, Ch	104,949	
Residential Out of Town w/o ADU	31,646	
Residential Out of Town withADU	-	
Town Properties	10,485	
	366,967	

Projected Accounts

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	1,802	1,824	1,846	1,868	1,891	1,913	1,935
Residential In Town with ADU	120	121	123	124	126	127	129
Commercial, Government, Schools, Ch	369	374	379	383	388	392	397
Residential Out of Town w/o ADU	344	348	352	357	361	365	370
Residential Out of Town withADU	0	0	0	0	0	0	0
Town Properties	29	29	29	30	30	30	31
Total Projected Accounts	2,664	2,697	2,730	2,763	2,796	2,829	2,862
Added Accounts		33	33	33	33	33	33

Projected Use Per Account

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	112.66	112.66	112.66	112.66	112.66	112.66	112.66
Residential In Town with ADU	141.16	141.16	141.16	141.16	141.16	141.16	141.16
Commercial, Government, Schools, Ch	284.08	284.08	284.08	284.08	284.08	284.08	284.08
Residential Out of Town w/o ADU	92.01	92.01	92.01	92.01	92.01	92.01	92.01
Residential Out of Town withADU	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Town Properties	365.81	365.81	365.81	365.81	365.81	365.81	365.81

Projected Volume, 1,000 gallons

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	202,953	205,468	207,983	210,497	213,012	215,526	218,041
Residential In Town with ADU	16,933	17,143	17,353	17,563	17,773	17,982	18,192
Commercial, Government, Schools, Ch	104,949	106,249	107,550	108,850	110,150	111,451	112,751
Residential Out of Town w/o ADU	31,646	32,038	32,430	32,822	33,214	33,606	33,998
Residential Out of Town withADU	-	-	-	-	-	-	-
Town Properties	10,485	10,615	10,745	10,875	11,005	11,135	11,265
Total Volume, 1,000 gallons	366,967	371,514	376,060	380,607	385,153	389,700	394,247

Cost Recovery of 2018 Rates from November 2016 Report

Cost Recovery of Currently Proposed 2018 Rates

FY2018 Revenue Required From Rates **\$3,972,057**

FY2018 Revenue Required From Rates **\$3,972,057**

Service Charge Revenue

Service Charge Revenue

Accounts	Base Fee	Base Fee Revenue
1,868	\$33.61	\$753,590
124	\$42.16	62,945
383	\$33.61	154,537
357	\$50.42	215,840
0	\$63.29	0
30	\$0.00	0
Total Base Fee Revenue		\$1,186,913

Accounts	Base Fee	Base Fee Revenue
1,868	\$33.61	\$753,402
123	\$42.16	62,228
384	\$33.61	154,875
356	\$50.42	215,394
0	\$63.29	0
29	\$0.00	0
Total Base Fee Revenue		\$1,185,899

Surcharge Revenue (Based on SGM 2018 proposed surcharge structure and rates)

Surcharge Revenue (Based on SGM 2018 proposed surcharge structure and rates)

1	504	\$11.73	\$70,947
2	1,485	18.00	320,760
3	495	24.50	145,518
Total Surcharge Revenue			\$537,225

1	504	\$11.73	\$70,947
2	1,485	18.00	320,760
3	495	24.50	145,518
Total Surcharge Revenue			\$537,225

Volume Rate Revenue to be Recovered **\$2,247,919**

Volume Rate Revenue to be Recovered **\$2,248,933**

Development of Volume Revenue

Development of Volume Revenue

2018 Billed Volume by Block, 1,000 gallons

2018 Billed Volume by Block, 1,000 gallons

	In City	Out City	Total
Block 1	116,522	17,944	
Block 2	157,991	9,575	
Block 3	27,959	3,072	
Block 4	34,438	2,232	
Total	336,910	32,822	

	In City	Out City	Total
Block 1	116,522	17,944	134,466
Block 2	157,991	9,575	167,565
Block 3	27,959	3,072	31,031
Block 4	34,438	2,232	36,670
Total	336,910	32,822	369,732

Rates from November 2017 Report, \$ per 1,000 gallons

Rates from November 2017 Report, \$ per 1,000 gallons

Block 1	\$3.00	\$4.50
Block 2	6.30	9.42
Block 3	9.45	14.13
Block 4	14.18	21.20

Block 1	\$1.50	\$2.25
Block 2	6.30	9.42
Block 3	9.45	14.13
Block 4	14.18	21.20

Volume Revenue

Volume Revenue

Block 1	\$349,566	\$80,747	\$430,313
Block 2	995,341	90,193	1,085,534
Block 3	264,210	43,406	307,616
Block 4	488,336	47,314	535,650
Total Volume Revenue	\$2,097,453	\$261,660	\$2,359,113

Block 1	\$174,783	\$40,373	\$215,156
Block 2	995,341	90,193	1,085,534
Block 3	264,210	43,406	307,616
Block 4	488,336	47,314	535,650
Total Volume Revenue	\$1,922,670	\$221,287	\$2,143,957

Plus: Base Fee Revenue **\$1,186,913**

Plus: Base Fee Revenue **\$1,185,899**

Plus: Surcharge Revenue **537,225**

Plus: Surcharge Revenue **537,225**

Total Rate Revenue **\$4,083,251**

Total Rate Revenue **\$3,867,081**

Development of Revenue Under Existing Rates (continued)

Projected Volume Revenue - \$

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	\$731,600	\$740,665	\$749,729	\$758,793	\$767,857	\$776,922	\$785,986
Residential In Town with ADU	54,777	55,456	56,135	56,813	57,492	58,171	58,849
Commercial, Government, Schools, Ch	547,000	553,777	560,554	567,331	574,108	580,886	587,663
Residential Out of Town w/o ADU	134,357	136,022	137,686	139,351	141,016	142,680	144,345
Residential Out of Town withADU	-	-	-	-	-	-	-
Town Properties	-	-	-	-	-	-	-
Total Volume Revenue	\$1,467,735	\$1,485,919	\$1,504,104	\$1,522,289	\$1,540,474	\$1,558,658	\$1,576,843

Projected Service Charge Revenue

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	\$691,995	\$700,568	\$709,142	\$717,716	\$726,289	\$734,863	\$743,436
Residential In Town with ADU	57,796	58,512	59,228	59,944	60,661	61,377	62,093
Commercial, Government, Schools, Ch	141,906	143,664	145,422	147,180	148,938	150,697	152,455
Residential Out of Town w/o ADU	198,199	200,655	203,111	205,566	208,022	210,478	212,933
Residential Out of Town withADU	-	-	-	-	-	-	-
Town Properties	-	-	-	-	-	-	-
Total Service Charge Revenue	\$1,089,896	\$1,103,400	\$1,116,903	\$1,130,407	\$1,143,910	\$1,157,414	\$1,170,917

Total Revenue Under Existing Rates

Customer Class	2015	Projected					
		2016	2017	2018	2019	2020	2021
Residential In Town w/o ADU	\$1,423,595	\$1,441,233	\$1,458,871	\$1,476,509	\$1,494,147	\$1,511,784	\$1,529,422
Residential In Town with ADU	112,574	113,968	115,363	116,758	118,153	119,547	120,942
Commercial, Government, Schools, Ch	688,906	697,441	705,976	714,512	723,047	731,582	740,118
Residential Out of Town w/o ADU	332,557	336,677	340,797	344,917	349,038	353,158	357,278
Residential Out of Town withADU	-	-	-	-	-	-	-
Town Properties	-	-	-	-	-	-	-
Total Revenue Under Existing Rates	\$2,557,631	\$2,589,319	\$2,621,007	\$2,652,695	\$2,684,384	\$2,716,072	\$2,747,760

Financial Plan¹

Description	2015	Projected					
		2016	2017	2018	2019	2020	2021
Beginning Balance	\$7,821,702	\$7,831,728	\$8,880,399	\$14,270,423	\$25,989,779	\$14,555,956	\$9,424,667
Sources of Funds							
Rate Revenue	\$2,557,631	\$2,589,319	\$2,621,007	\$2,652,695	\$2,684,384	\$2,716,072	\$2,747,760
Additional Revenue Required	0	241,606	440,872	1,319,362	1,707,451	1,828,095	1,953,607
<i>Total Rate Revenue*</i>	<i>\$2,557,631</i>	<i>\$2,830,925</i>	<i>\$3,061,879</i>	<i>\$3,972,057</i>	<i>\$4,391,835</i>	<i>\$4,544,167</i>	<i>\$4,701,367</i>
All Other Revenue	505,019	513,152	4,364,875	17,527,066	180,695	184,399	188,180
Total Sources of Funds	\$3,062,650	\$3,344,077	\$7,426,754	\$21,499,123	\$4,572,530	\$4,728,566	\$4,889,547
Uses of Funds							
O&M	\$1,040,154	\$1,129,146	\$1,186,775	\$1,437,841	\$1,509,733	\$2,192,973	\$2,302,621
Capital	1,667,690	821,480	429,850	7,892,229	14,044,225	7,211,710	2,370,666
Debt	344,780	344,780	420,105	449,697	452,395	455,173	1,559,698
Total Uses of Funds	\$3,052,624	\$2,295,406	\$2,036,730	\$9,779,767	\$16,006,353	\$9,859,855	\$6,232,985
<i>Revenues Over/Under Expenditures</i>	<i>10,026</i>	<i>1,048,671</i>	<i>5,390,024</i>	<i>11,719,356</i>	<i>(11,433,823)</i>	<i>(5,131,290)</i>	<i>(1,343,438)</i>
Ending Balance	\$7,831,728	\$8,880,399	\$14,270,423	\$25,989,779	\$14,555,956	\$9,424,667	\$8,081,228
Debt Service Coverage	4.40	4.94	4.46	5.64	6.37	5.17	1.54
Annual Adjustments	0.0%	9.3%	6.9%	28.2%	9.3%	2.3%	2.3%
Cumulative Adjustments	0.0%	9.3%	16.8%	49.7%	63.6%	67.3%	71.1%

(1) All data taken from the SGM cash flow model. 2016 and 2017 data based on SGM projections, not budgeted/audited amounts.

Rate Revenue Under Existing Rates based on Raftelis projections (using 2015 billing data from SGM).

Development of Proposed 2018 Rates

FY2018 Revenue Required From Rates		\$3,972,057	
Service Charge Revenue			
Accounts	Base Fee	Base Fee Revenue	
1,868	\$33.61	\$753,590	
124	\$42.16	62,945	
383	\$33.61	154,537	
357	\$50.42	215,840	
0	\$63.29	0	
30	\$0.00	0	
Total Base Fee Revenue			\$1,186,913
Surcharge Revenue (Based on SGM 2018 proposed surcharge structure and rates)			
1	504	\$11.73	\$70,947
2	1,485	18.00	320,760
3	495	24.50	145,518
Total Surcharge Revenue			\$537,225
Volume Rate Revenue to be Recovered			\$2,247,919

Development of Proposed 2018 Rates (continued)

Development of Volume Rate Revenue Under Proposed 2018 Rate Structure	Residential In Town w/o ADU	Residential In Town with ADU	Commercial, Government, Schools, Churches	Residential Out of Town w/o ADU	Residential Out of Town withADU	Town Properties
Block 1	44.4%	49.8%	13.1%	54.7%	0.0%	6.8%
Block 2	28.2%	22.8%	86.9%	29.2%	0.0%	7.9%
Block 3	12.1%	14.8%	0.0%	9.4%	0.0%	6.7%

2018 Volume by Class by Block

Block 1	93,482	8,746	14,295	17,944	0	741	135,207
Block 2	59,431	4,004	94,555	9,575	0	854	168,420
Block 3	25,368	2,591	0	3,072	0	723	31,754
	210,497	17,563	108,850	32,822	0	10,875	

2018 Volume by In City and Out City	In City Dist	Out City Dist	In City Bill Dist.	Out City Bill Dist.
Block 1	116,522	17,944	34.6%	54.7%
Block 2	157,991	9,575	46.9%	29.2%
Block 3	27,959	3,072	8.3%	9.4%
Block 4	34,438	2,232	10.2%	6.8%
Total	336,910	32,822	100.0%	100.0%

Price Ratios - Based on GSM Proposed 2018 Rates

Block 1	1.00	1.00
Block 2	2.20	2.20
Block 3	3.30	3.30
Block 4	5.00	5.00

Calculated Proposed Rates

Block 1			\$2.74	\$4.11		
Block 2			6.03	\$9.05		
Block 3			9.04	\$13.56		
Block 4	4.96	4.96	0.00	4.94	4.94	1.00

Calculated Proposed Rates

Block 1	\$2.74	\$2.74	\$2.74	\$4.11	\$4.11	\$0.00
Block 2	6.03	6.03	6.03	\$9.05	\$9.05	0.00
Block 4	13.70	13.70	13.70	\$20.55	\$20.55	0.00

Proposed Volume Revenue

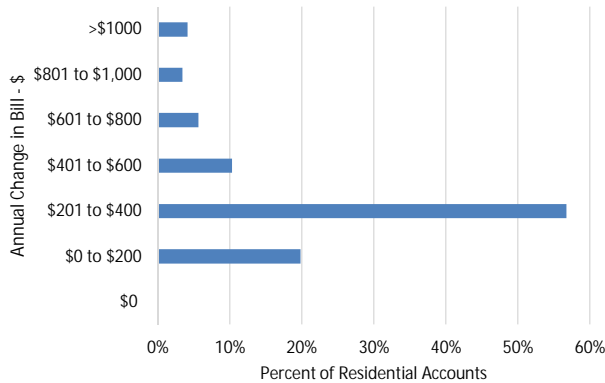
Block 1	\$256,140	\$23,963	\$39,168	\$73,748	\$0	\$0	\$393,019
Block 2	358,368	24,147	570,168	86,603	0	0	1,039,286
Block 3	229,327	23,420	0	41,655	0	0	294,402
Block 4	441,366	30,440	0	45,864	0	0	517,669
Total	1,285,200	101,970	609,336	247,870	0	0	2,244,377

Proposed 2018 Rate Revenue Check

Base Fee	\$1,186,913
Surcharge	537,225
Volume Revenue	2,244,377
Total Proposed 2018 Rate Revenue	\$3,968,514

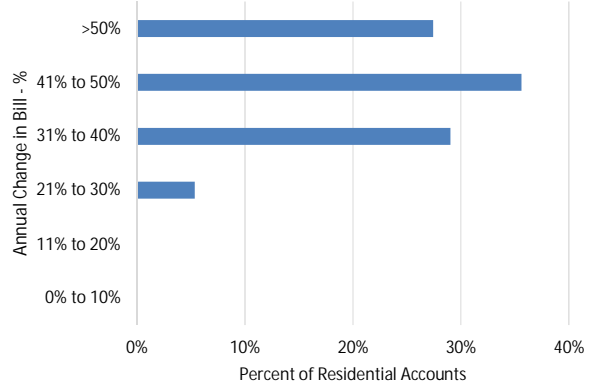
2018 Revenue from Financial Plan	\$3,972,057
Variance -	(\$3,543)

Annual Bill Impact
2018 Proposed Rates to 2017 Existing Rates
\$ change in annual bill



Based on 2015 monthly consumption

Annual Bill Impact
2018 Proposed Rates to 2017 Existing Rates
% change in annual bill



Based on 2015 monthly consumption

Bill impact calculated using 2015 billing data and the following rate structures

	Rate Code	Existing 2017 Rates				Service Charge	Existing 2017 Rates			
		Block 1	Block 2	Block 3	Block 4		Block 1	Block 2	Block 3	Block 4
Residential In Town w/o ADU	101	6.00	28.00	28.00	28.00	35.29	0.00	6.62	8.56	8.56
Residential In Town with ADU	106	8.00	28.00	28.00	28.00	44.27	0.00	6.62	8.56	8.56
Comm, Gov't, Schools, Churches	104	6.00	6.00	6.00	6.00	35.29	0.00	6.62	6.62	6.62
Residential Out of Town w/o ADU	102	6.00	28.00	28.00	28.00	52.94	0.00	9.89	12.80	12.80
Residential Out of Town with ADU	107	8.00	28.00	28.00	28.00	44.27	0.00	6.62	8.56	8.56
Town Properties	100	6.00	28.00	28.00	28.00	0.00	0.00	0.00	0.00	0.00

	Rate Code	Proposed 2018 Rates				Service Charge	Proposed 2018 Rates			
		Block 1	Block 2	Block 3	Block 4		Block 1	Block 2	Block 3	Block 4
Residential In Town w/o ADU	101	6.00	17.00	28.00	28.00	33.61	1.50	6.30	9.45	14.18
Residential In Town with ADU	106	8.00	17.00	28.00	28.00	42.16	1.50	6.30	9.45	14.18
Comm, Gov't, Schools, Churches	104	6.00	6.00	6.00	6.00	33.61	1.50	6.30	6.30	6.30
Residential Out of Town w/o ADU	102	6.00	17.00	28.00	28.00	50.42	2.25	9.42	14.13	21.20
Residential Out of Town with ADU	107	8.00	17.00	28.00	28.00	63.29	2.25	9.42	14.13	21.20
Town Properties	100	6.00	17.00	28.00	28.00	0.00	0.00	0.00	0.00	0.00