Town of Hillsborough

Water Rate Cost-of-Service Study

City Council Study Session

November 2, 2016

HF&H
Consultants, LLC

Presentation Outline

- Introduction
- Revenue requirements
  - Five-year projections
- Cost-of-service analysis
  - Revenue requirement allocations to rate components and customer categories
- Rate design
  - Volume Charges
  - Revenue Stabilization Factors
  - Service Charges
- Customer bill analysis

Study Timeline

- September 1, 2016 – Financial Advisory Committee meeting
  - Draft report presented
- September 12, 2016 – City Council study session
  - Draft report presented
- November 2, 2016 – City Council study session
  - Revised draft report presented
- December 12, 2016 – City Council meeting
  - Draft notice to ratepayers presented
  - Recommend Council authorizes mailing notices to rate payers
- February 13, 2017 – City Council meeting
  - Proposed Proposition 218 public hearing to adopt rates

Progress Since September 12 Study Session

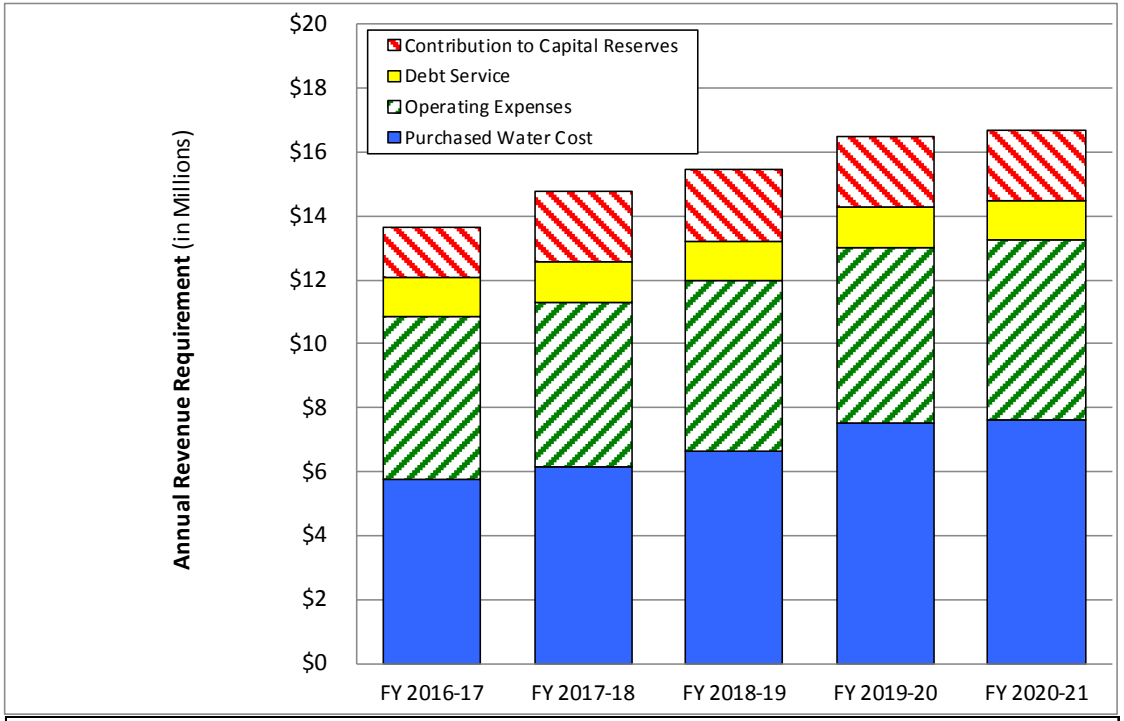
- Reduced revenue requirements and rate increases
  - Lowered estimated water losses from 9% to 6%
- Adjusted cost-of-service allocations
  - Separated all residential and non-residential customers
    - Some customers shift from tiered to uniform Volume Charge rates
  - Refined capital cost allocations
    - Slightly flatter tiered Volume Charge rates
    - Slightly higher Service Charge rates
- Rate design
  - Converted Revenue Stabilization Charges to Factors
  - Developed three-tier alternative
- Customer bill impact analysis

I. REVENUE REQUIREMENT PROJECTIONS

Planning Assumptions For Next Five Years

- Annual demand based on FY 2014-15
  - Some rebound from FY 2015-16 but below historical demand
  - 23% below FY 2013-14
  - 12% below historical trend
  - No growth in annual demand or accounts over next five years
- Cost of SFPUC wholesale water based on most recent estimates from the SFPUC
  - 34% increase over next five years
- Major O&M expenses
  - Inflation – 2.5% annually
  - Salaries/benefits – 3% to 5% annually
- Capital improvements
  - $2.2 million annually

Revenue Requirements



Revenue Requirement					
Contribution to Capital Reserves	$1,556,280	$2,211,870	$2,211,870	$2,211,870	$2,211,870
Debt Service	$1,210,103	$1,276,115	$1,258,968	$1,241,434	$1,223,513
Purchased Water Cost	$5,784,589	$6,134,536	$6,640,015	$7,547,286	$7,599,130
Net Operating Expenses	$5,074,247	$5,168,653	$5,319,381	$5,474,723	$5,634,827
Total Annual Revenue Requirement	$13,625,218	$14,791,174	$15,430,234	$16,475,313	$16,669,340
% Change		*8.6%*	*4.3%*	*6.8%*	*1.2%*

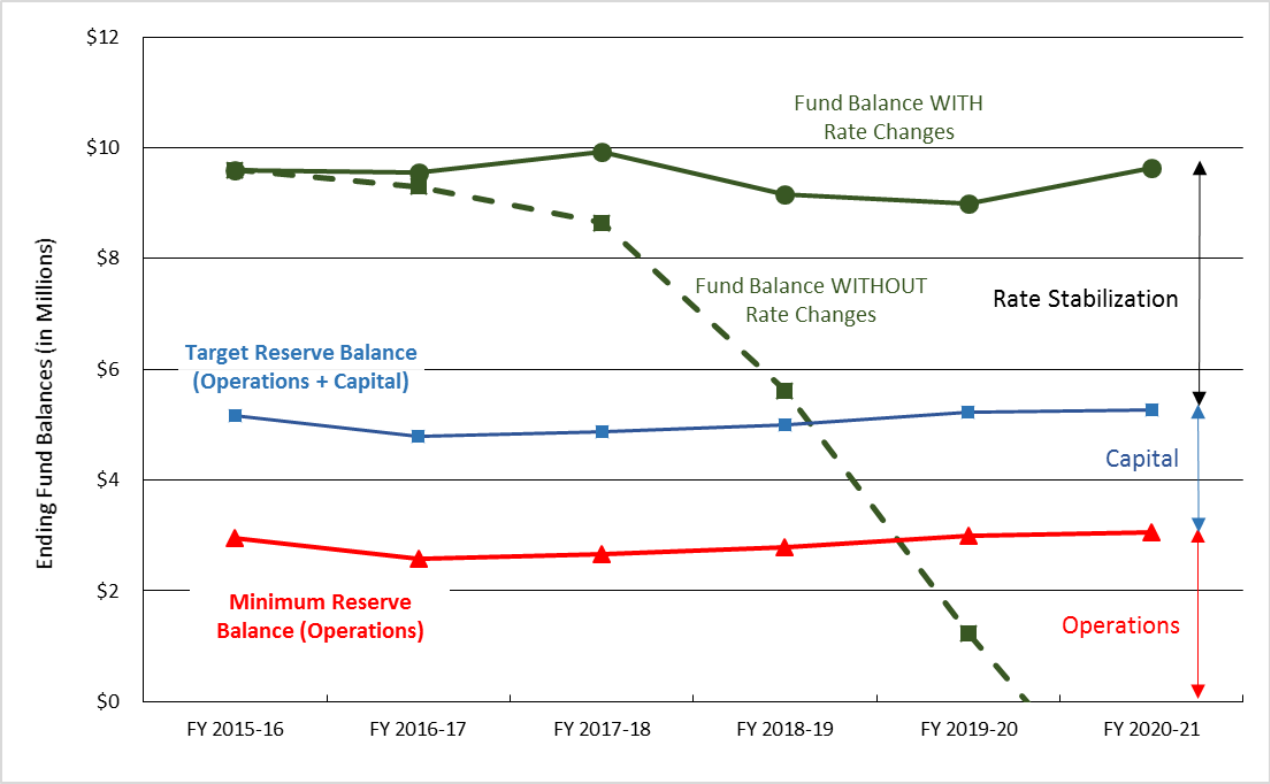
- Lower estimated water losses reduced the SFPUC water purchases
- Purchasing less water reduces the revenue requirements
- SFPUC cost of water per unit increases significantly
- Debt service and O&M are relatively flat

Recommended Rate and Revenue Increases

Fiscal Year	Rate Adjustments	Effective Date of Rate Adjustments	Revenue After Rate Adjustments	Fiscal Year Increase in Revenue
Current Revenue at 2016 Rates			$13,369,138	
FY2016-17	% varies	1/1/2017	$13,625,218	1.9%
FY2017-18	8.0%	1/1/2018	$14,436,550	6.0%
FY2018-19	8.0%	1/1/2019	$15,591,474	8.0%
FY2019-20	5.0%	1/1/2020	$16,595,924	6.4%
FY2020-21	5.0%	1/1/2021	$17,425,720	5.0%

- Rate increases are implemented mid-year
  - Rate increases during restructuring are complex
  - After restructuring, rate increases are applied across-the-board
  - Rate increases are primarily driven by increasing SFPUC wholesale water rates
  - Revenue increases differ slightly from rate increases in some years because of mid-year implementation

Fund Balance and Debt Coverage



- Rate increases maintain strong fund balance
  - Operating
  - Capital
  - Rate stabilization
- Debt coverage improves over five years

II. COST OF SERVICE ANALYSIS

Cost-of-Service Analysis

Budget costs classified according to functions performed by facilities

Costs of functions allocated to base and extra capacity services

Costs of services allocated to rates that charge in proportion to service needs

Budgeted Costs (in thousands)	
O&M	
SFPUC water	$5,785
Salaries & Benefits	$1,276
Materials	$2,157
Other	$1,641
Capital	
PAYGo	$1,556
Debt	$1,210
Total	**$13,625**

Functional Costs (in thousands)	
Functions	
Water supply	$6,296
Transmission	$748
Pumping	$972
Storage	$1,594
Distribution	$1,816
Customer service	$2,199
Total	**$13,625**

Service Costs (in thousands)	
Demand Services	
Base Day	$6,416
Average Day	$1,093
Maximum Day	$1,147
Maximum Hour	$1,297
	$9,953
Customer Service	
Accounts	$1,735
Capacity	$1,937
	$3,672
Total	**$13,625**

Rate Components (in thousands)	
Volume Charges	
Residential	
By tier	$9,642
Non-residential	
Uniform (no tiers)	$311
	$9,953
Service Charges	
By meter	$3,672
Total	**$13,625**

Step #1 Step #2 Step #3

COS analysis distributes the revenue requirement to each component of the rate structure based on the functions needed to provide the service

Revenue Requirement Is Allocated to Functions

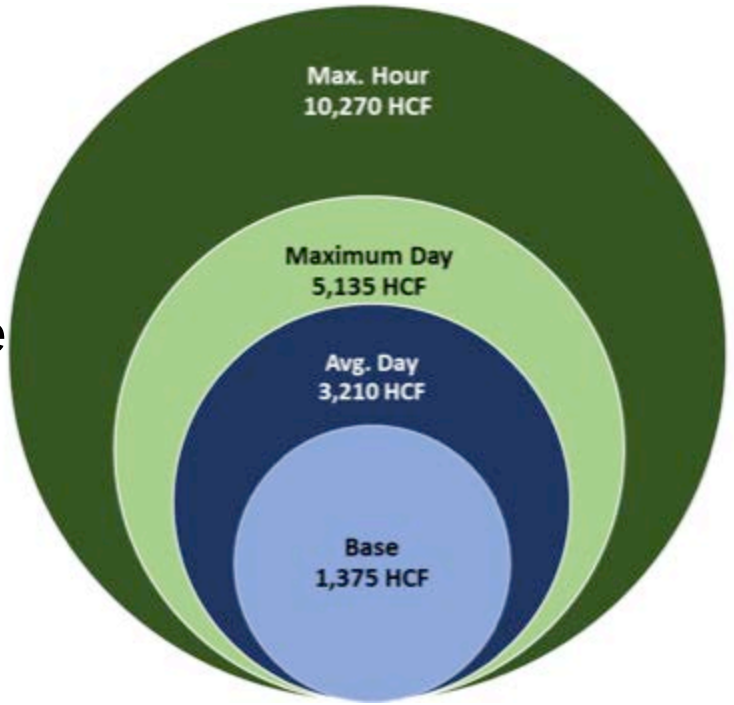
Revenue Requirements	Functions							Total
	Water Supply						Customer	
	Variable	Fixed	Transmission	Pumping	Storage	Distribution	Service	
O&M Expenses								
Purchased Water	$5,109,629	$0	$0	$0	$0	$0	$0	$5,109,629
SFPUC Service Charge	$0	$204,385	$0	$0	$0	$0	$0	$204,385
BAWSCA Surcharge	$0	$470,574	$0	$0	$0	$0	$0	$470,574
Salaries & Benefits	$204,181	$0	$178,658	$127,613	$229,704	$535,975	$0	$1,276,131
Materials & Service	$306,350	$0	$414,473	$536,288	$323,288	$576,658	$0	$2,157,056
Internal Service Fund Transfer	$0	$0	$0	$0	$0	$0	$125,000	$125,000
Overhead Allocation	$0	$0	$0	$0	$0	$0	$1,646,059	$1,646,059
Subtotal - O&M Expenses	**$5,620,160**	**$674,959**	**$593,131**	**$663,901**	**$552,991**	**$1,112,633**	**$1,771,059**	**$10,988,835**
Capital Expenses								
Transfer to Capital Reserves	$0	$0	$154,793	$308,059	$389,825	$703,604	$0	$1,556,280
Debt Service	$0	$0	$0	$0	$651,249	$0	$558,855	$1,210,103
Subtotal - Capital Expenses	**$0**	**$0**	**$154,793**	**$308,059**	**$1,041,073**	**$703,604**	**$558,855**	**$2,766,383**
Non-Operating Revenue	$0	$0	$0	$0	$0	$0	($130,000)	($130,000)
Total Revenue Requirement	**$5,620,160**	**$674,959**	**$747,924**	**$971,960**	**$1,594,065**	**$1,816,237**	**$2,199,914**	**$13,625,218**

Step # 1: From Budget

To Functional Allocations

Levels of Service Drive The Cost of Facilities

- Base Day demand
  - Mostly inside winter demand
  - Lowest outdoor use, least peaking
- Average Day demand
  - Base demand plus average outdoor use
- Maximum Day demand
  - Average Day plus summer outdoor use
- Maximum Hour demand
  - Max Day plus peak outdoor use
  - Also enough capacity for fire flow



Allocations Based on Demand

Customers pay incremental costs associated with incremental demand.

Allocation percentages are based on additional increments of service.

All levels of service share in the cost of higher levels of service.

	Demand Service Levels				
	Base Day	Average Day	Maximum Day	Maximum Hour	
Demand (HCF)					
Residential	1,341	3,095	4,894	9,788	
Non-Residential	34	115	241	482	
Total Demand	1,375	3,210	5,135	10,270	
Allocation Percentages					**Total HCF**
Base Day	**1,375**				**1,375**
Allocation	100%				100%
Average Day	**1,375**	**1,835**			**3,210**
Allocation	43%	57%			100%
Maximum Day	**1,375**	**1,835**	**1,926**		**5,135**
Allocation	27%	36%	38%		100%
Maximum Hour	**1,375**	**1,835**	**1,926**	**5,135**	**10,270**
Allocation	13%	18%	19%	50%	100%

Functions Are Allocated to Demand Services

Revenue Requirement	Allocation Factor	Demand Services: Base Day	Demand Services: Average Day	Demand Services: Maximum Day	Demand Services: Maximum Hour	Customer Service	Total
O&M Expenses							
Water Supply - Variable	Base Day	$5,620,160	$0	$0	$0	$0	$5,620,160
Water Supply - Fixed	Customer Capacity	$0	$0	$0	$0	$674,959	$674,959
Transmission	Max Day	$158,797	$211,910	$222,424	$0	$0	$593,131
Pumping	Max Day	$177,744	$237,194	$248,963	$0	$0	$663,901
Storage	Max Hour	$74,025	$98,785	$103,686	$276,496	$0	$552,991
Distribution	Max Hour	$148,941	$198,757	$208,619	$556,317	$0	$1,112,633
Customer Service	Customer Accounts	$0	$0	$0	$0	$1,771,059	$1,771,059
Subtotal - O&M Expenses		**$6,179,666**	**$746,646**	**$783,692**	**$832,812**	**$2,446,018**	**$10,988,835**
Capital Expenses							
Water Supply	Base Day	$0	$0	$0	$0	$0	$0
Transmission	Max Day	$41,442	$55,303	$58,047	$0	$0	$154,793
Pumping	Max Day	$82,475	$110,061	$115,522	$0	$0	$308,059
Storage	Max Hour	$139,361	$185,974	$195,201	$520,537	$0	$1,041,073
Distribution	Customer Capacity	$0	$0	$0	$0	$703,604	$703,604
Customer Service	Customer Capacity	$0	$0	$0	$0	$558,855	$558,855
Subtotal - Capital Expenses		**$263,279**	**$351,339**	**$368,771**	**$520,537**	**$1,262,458**	**$2,766,383**
Subtotal - O&M and Capital		**$6,442,945**	**$1,097,985**	**$1,152,462**	**$1,353,349**	**$3,708,477**	**$13,755,218**
	Exp. Composite	*46.8%*	*8.0%*	*8.4%*	*9.8%*	*27.0%*	*100.0%*
Non-Operating Revenue							
Connection Fee Revenue	Customer Accounts	$0	$0	$0	$0	($20,000)	($20,000)
Water Use Penalties	Max. Hour Only	$0	$0	$0	($50,000)	$0	($50,000)
Other Non-Operating Revevenu	Exp. Composite	($28,104)	($4,789)	($5,027)	($5,903)	($16,176)	($60,000)
Subtotal - Non-Operating Revenue		**($28,104)**	**($4,789)**	**($5,027)**	**($55,903)**	**($36,176)**	**($130,000)**
Total Revenue Requirement		**$6,414,841**	**$1,093,196**	**$1,147,435**	**$1,297,446**	**$3,672,300**	**$13,625,218**
		47.1%	*8.0%*	*8.4%*	*9.5%*	*27.0%*	*100.0%*

Step #2: From Functional Allocations

To Demand Service Allocations

To Service Charge Rate Design

Demand Services Are Allocated to Customer Categories

	Demand Services				
	Base Day	Average Day	Maximum Day	Maximum Hour	Total
Revenue Requirement Allocations					
O&M Expenses	$6,179,666	$746,646	$783,692	$832,812	$8,542,817
Capital Expenses	$263,279	$351,339	$368,771	$520,537	$1,503,925
Non-Operating Revenue	($28,104)	($4,789)	($5,027)	($55,903)	($93,824)
	$6,414,841	$1,093,196	$1,147,435	$1,297,446	$9,952,918
Units of Service (HCF)					
Residential	1,341	3,095	4,894	9,788	
Non-Residential	34	115	241	482	
	1,375	3,210	5,135	10,270	
Proportional Allocation Percentages					
Residential	97.55%	96.43%	95.31%	95.31%	
Non-Residential	2.45%	3.57%	4.69%	4.69%	
	100.00%	100.00%	100.00%	100.00%	
Volume Charge Revenue Requirement by Customer Category					
Residential	$6,257,761	$1,054,135	$1,093,566	$1,236,533	$9,641,994
Non-Residential	$157,081	$39,061	$53,870	$60,912	$310,924
	$6,414,841	**$1,093,196**	**$1,147,435**	**$1,297,446**	**$9,952,918**

Step #3: From Demand Service Allocations

To Volume Charge Rate Design By Customer Category

III. RATE DESIGN

Proposed Rate Structure Design

- Customers pay the sum of two monthly charges
  - Volume Charge
    - Varies from month to month based on water use
    - Covers all variable costs plus some fixed costs
    - Rate per hundred cubic feet (HCF) times metered water use
      - Tiered for Residential customers
      - Uniform (no tiers) for Non-residential customers
    - Subject to revenue stabilization adjustments during shortages
  - Service Charge
    - Fixed amount per bill
    - Covers a portion of fixed costs
    - Charge per account regardless of customer category
    - Rate per meter size

Residential Rates - Determining Breakpoints

- Each level of service has an average flow that can be used as the division ("breakpoint") between tiers
- The averages for Base Day, Average Day, and Maximum Day yield the three breakpoints that lead to four tiers

Residential Customer Category	Base Day	Average Day	Maximum Day	Maximum Hour
HCF per day	1,341	3,095	4,894	9,788
HCF per month	40,235	92,845	146,824	
Breakpoint locations				
Monthly bills	4,182	4,182	4,182	
Average flow per bill (HCF/mo)	**10**	**22**	**35**	**>35**
Average gallons per day	249	549	873	>873

Residential Volume Charge Rates

Four-Tier Structure

Residential COS per Unit	Base Day	Average Day	Maximum Day	Maximum Hour
Total Residential COS	**$6,257,761**	**$1,054,135**	**$1,093,566**	**$1,236,533**
Demand Per Tier				
Tier 1 - 0 to 10 HCF	420,831			
Tier 2 - 11 to 22 HCF	292,541	292,541		
Tier 3 - 23 to 35 HCF	173,272	173,272	173,272	
Tier 4 - over 35 HCF	242,974	242,974	242,974	242,974
Total HCF per Tier	**1,129,618**	**708,787**	**416,246**	**242,974**
Cost-of-Service per Unit (HCF)	**$5.54**	**$1.49**	**$2.63**	**$5.09**

COS from Slide #15

Incremental Cost per Tier

Unit Cost Calculation	Tier 1	Tier 2	Tier 3	Tier 4
Maximum Hour Component				$5.09
Maximum Day Component			$2.63	$2.63
Average Day Component		$1.49	$1.49	$1.49
Base Day Component	$5.54	$5.54	$5.54	$5.54
Unit Cost per HCF (by Tier)	**$5.54**	**$7.03**	**$9.65**	**$14.74**

Rates per tier

Non-Residential Uniform Volume Charge Rate

Uniform Structure

- Best structure for a customer category with a mix of peak demand characteristics
  - Includes all non-residential customers
    - Schools, municipal facilities, golf courses/club houses, rest stops
  - Difficult to find breakpoints that are appropriate for all customers

Non-Residential Cost-of-Service	$310,924
Projected demand (HCF)	41,858
Uniform Volume Charge per HCF	$7.43

COS from Slide #15

Proposed Four-Tier Volume Charge Rates

- Four-tier alternative compared with existing five tiers
  - Proposed breakpoints are smaller than existing tiers
  - Proposed rates are lower in Tiers 1, 2, and 3 and higher in Tier 4
    - Compared with current rates without Revenue Stabilization Charge

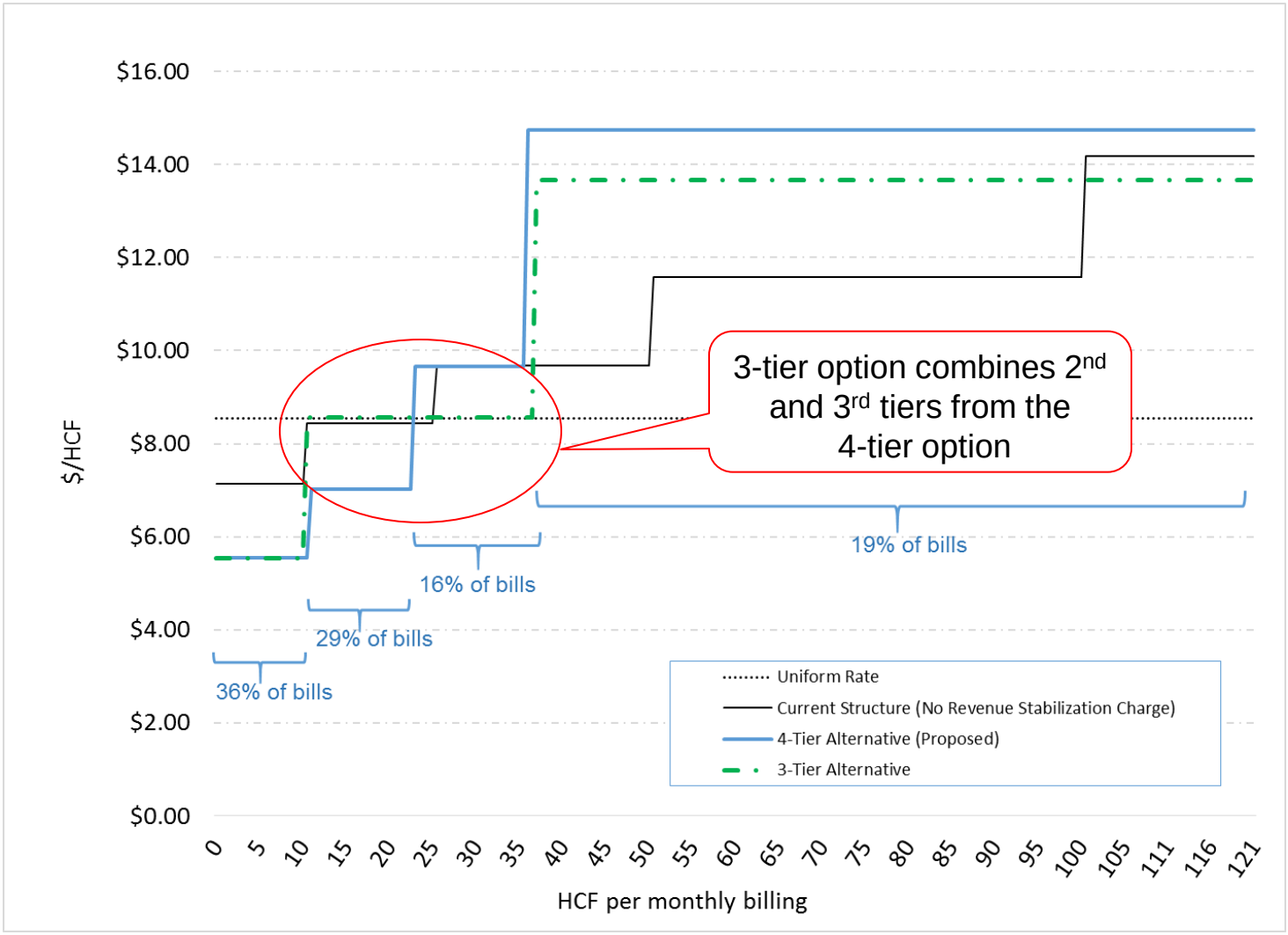
Approved					Proposed ($/HCF per Month)					
Customer Category	Tier Size	Rate	Revenue Stabilization Charge (RSC)	Rate with RSC	Tier Size	1/1/2017	1/1/2018	1/1/2019	1/1/2020	1/1/2021
	(HCF)	($/HCF)		($/HCF)	(HCF)	($/HCF)	($/HCF)	($/HCF)	($/HCF)	($/HCF)
Residential										
Tier 1	1 to 10	$7.14	$1.60	$8.74	1 to 10	$5.54	$5.98	$6.46	$6.78	$7.12
Tier 2	11 to 25	$8.44	$1.89	$10.33	11 to 22	$7.03	$7.59	$8.20	$8.61	$9.04
Tier 3	26 to 50	$9.68	$2.17	$11.85	23 to 35	$9.65	$10.43	$11.26	$11.82	$12.41
Tier 4	51 to 100	$11.58	$2.60	$14.18	Over 35	$14.74	$15.92	$17.20	$18.06	$18.96
Tier 5	Over 100	$14.18	$3.18	$17.36						
Non-Residential		$9.06		$9.06		$7.43	$8.02	$8.66	$9.10	$9.55

Alternative Three-Tier Volume Charge Rates

- Three-tier alternative combines Tier 2 and Tier 3 from proposed four-tier alternative

Customer Category	Approved		Four-Tier Alternative		Three-Tier Alternative	
	Tier Size	Rate	Tier Size	Rate	Tier Size	Rate
Residential	(HCF)	($/HCF)		($/HCF)		($/HCF)
Tier 1	1 to 10	$7.14	1 to 10	$5.54	1 to 10	$5.54
Tier 2	11 to 25	$8.44	11 to 22	$7.03	11 to 35	$8.57
Tier 3	26 to 50	$9.68	23 to 35	$9.65	Over 35	$13.66
Tier 4	51 to 100	$11.58	Over 35	$14.74		
Tier 5	Over 100	$14.18				
Non-Residential		$9.06		$7.43		$7.43

Alternative Three-Tier Volume Charge Rates



Revenue Stabilization

- Proposed Revenue Stabilization Factors
  - Apply to Volume Charge rates only
  - Can only apply when emergency cutbacks are declared
  - Factors increase rates to offset revenue shortfall
  - Factors based on required percentage cutback

Sample factor for 36% conservation

Sample Revenue Stabilization Factor Calculation

a = Assumed Conservation Percentage = 36%
b = Proportion of total water revenue that comes from the Volume Charge Rates = 73%
c = Proportion of water enterprise expenses that are variable = 40%

$$\left[\frac{1}{1-a}\right] \times \left[\frac{b-(c*a)}{b}\right]$$

$$\left[\frac{1}{1-0.20}\right] \times \left[\frac{0.73-(0.40*0.36)}{0.73}\right] = 1.25$$

All Volume Charge rates are multiplied times 1.25 during a 36% conservation cutback

Service Charges Rates

1

Meter Size	Accounts	Capacity Multiplier	Equivalent Meters
	(a)	(b)	(a * b)
3/4"	144	1.00	144
1"	3,707	1.57	5,825
1-1/2"	203	2.86	580
2"	213	4.57	974
3"	0	9.14	0
4"	0	14.29	0
6"	0	28.57	0
8"	1	45.71	46
	4,268		**7,569**

* Capacity multiplier assumes 3/4" meter = 1 EMU = 35 gals/min

2

	Customer Account Component	Customer Capacity Component	Total
Customer Service Expenses			
O&M Expenses	$1,771,059	$674,959	$2,446,018
Capital Expenses	$0	$1,262,458	$1,262,458
Non-Operating Revenue	($16,176)	($20,000)	($36,176)
Total Customer Service Expenses	**$1,754,883**	**$1,917,418**	**$3,672,300**
Est. July-Dec 2016 Revenue	($747,169)	($816,371)	($1,563,540)
Net Expense (6 months)	$1,007,714	$1,101,047	$2,108,760
Net Expense (1 month)	**$167,952**	**$183,508**	**$351,460**
Units of Service	**4,268** Accounts	**7,569** EMUs	
Unit Cost (per month)	**$39.35** per Account	**$24.25** per EMU	

COS from Slide #14

3

Meter Size	Account Component ($/mo.)	Capacity Component $/EMU	Capacity Multiplier	Capacity Component Total	Total Service Charge ($/mo.)
	(a)	(b)	(c)	(d = b * c)	(e = a + d)
3/4"	$39.35	$24.25	1.00	$24.25	$63.60
1"	$39.35	$24.25	1.57	$38.10	$77.45
1 1/2"	$39.35	$24.25	2.86	$69.27	$108.62
2"	$39.35	$24.25	4.57	$110.84	$150.19
3"	$39.35	$24.25	9.14	$221.67	$261.03
4"	$39.35	$24.25	14.29	$346.37	$385.72
6"	$39.35	$24.25	28.57	$692.73	$732.08
8"	$39.35	$24.25	45.71	$1,108.37	$1,147.72

Proposed Service Charge Rates

- Recover the cost of the customer service function
- Independent of customer category
- Graduated in proportion to the capacity of service

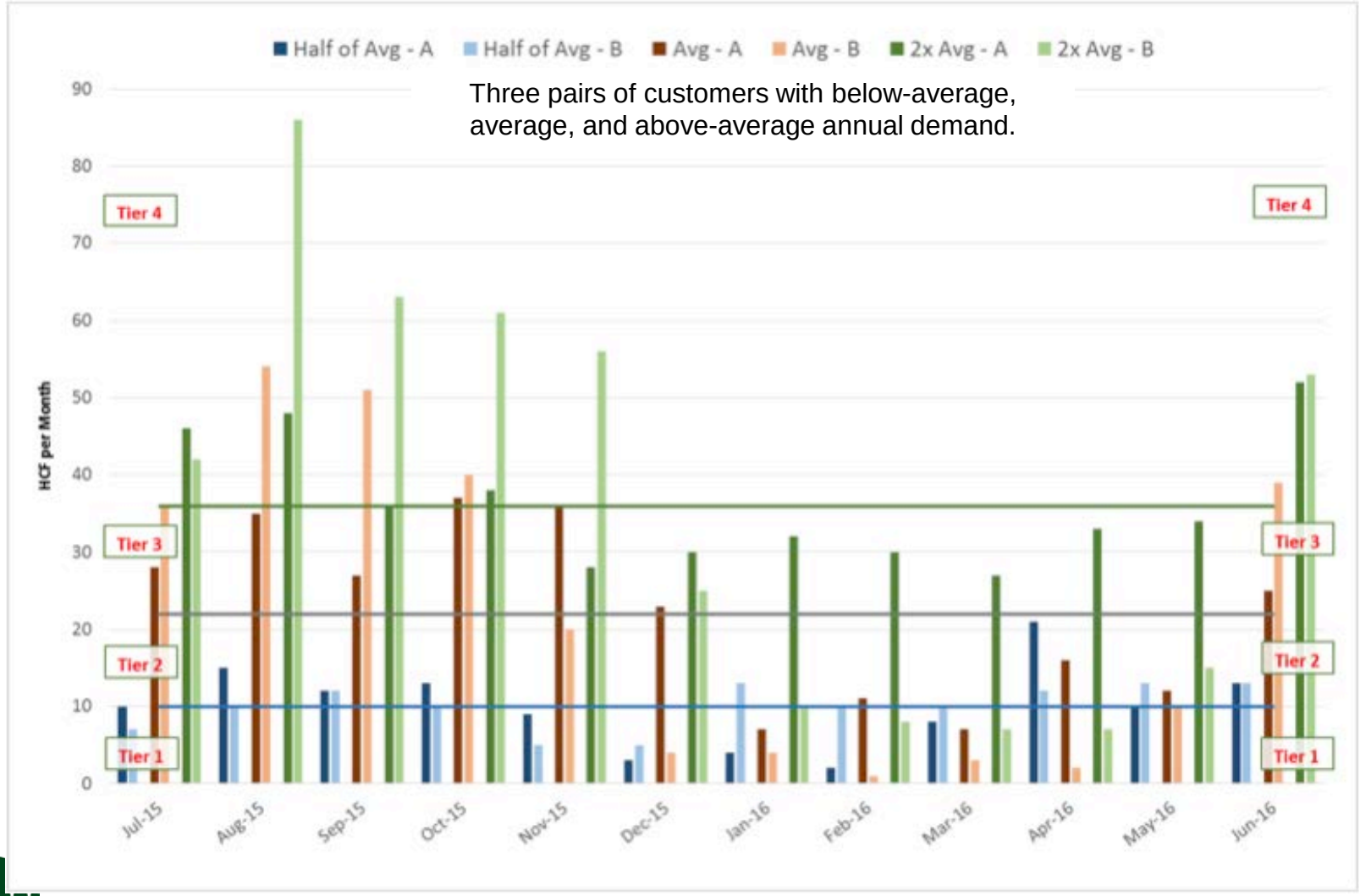
Meter Size	Approved ($/Month per Service)		Proposed ($/month; All Customer Categories)				
	Residential	Non-Residential	1/1/2017	1/1/2018	1/1/2019	1/1/2020	1/1/2021
3/4"	$70.00		$63.60	$68.68	$74.18	$77.89	$81.78
1"	$70.00	$70.00	$77.45	$83.65	$90.34	$94.86	$99.60
1 1/2"	$70.00	$120.00	$108.62	$117.31	$126.70	$133.03	$139.69
2"	$70.00	$180.00	$150.19	$162.20	$175.18	$183.94	$193.14
3"		$320.00	$261.03	$281.91	$304.46	$319.68	$335.67
6"		$1,020.00	$732.08	$790.65	$853.90	$896.60	$941.43
8"		$1,620.00	$1,147.72	$1,239.54	$1,338.70	$1,405.64	$1,475.92

IV. Customer Bill Impacts

Residential Bills – Four and Five Tiers

		Low	Average	High	Very High
Demand Assumptions					
hcf/month		10	22	44	120
gallons per day		249	549	1,097	2,992
% of bills up to flow assumption		36%	65%	88%	99%
Bill @ Currently-Approved Rates (without RSC)					
Service Charge (1" meter)		$ 70.00	$ 70.00	$ 70.00	$ 70.00
Volume Charges	$/HCF				
Tier 1 0 to 10 HCF	$7.14	$ 71.40	$ 71.40	$ 71.40	$ 71.40
Tier 2 11 to 25 HCF	$8.44	$ -	$ 101.28	$ 126.60	$ 126.60
Tier 3 26 to 50 HCF	$9.68	$ -	$ -	$ 183.92	$ 242.00
Tier 4 51 to 100 HCF	$11.58	$ -	$ -	$ -	$ 579.00
Tier 5 101+ HCF	$14.18	$ -	$ -	$ -	$ 283.60
Bill @ Current Rates		**$ 141.40**	**$ 242.68**	**$ 451.92**	**$ 1,372.60**
Bill @ Proposed Rates: 4-Tier Alternative					
Service Charge (1" meter)		$ 77.45	$ 77.45	$ 77.45	$ 77.45
Volume Charges	$/HCF				
Tier 1 0 to 10 HCF	$5.54	$ 55.40	$ 55.40	$ 55.40	$ 55.40
Tier 2 11 to 22 HCF	$7.03	$ -	$ 84.32	$ 84.32	$ 84.32
Tier 3 23 to 35 HCF	$9.65	$ -	$ -	$ 125.50	$ 125.50
Tier 4 36+ HCF	$14.74	$ -	$ -	$ 132.69	$ 1,253.18
Bill @ Proposed Rates		**$ 132.85**	**$ 217.17**	**$ 475.37**	**$ 1,595.86**
$/HCF		*$ 13.28*	*$ 9.87*	*$ 10.80*	*$ 13.30*
4-Tier Alternative vs Current		**$ (8.55)**	**$ (25.51)**	**$ 23.45**	**$ 223.26**
% Difference		***-6.0%***	***-10.5%***	***5.2%***	***16.3%***

Residential Water Use For One Year



Water Use Statistics – Residential Customers*

- 9% of accounts did not exceed Tier 1 all year
  - 91% of accounts had at least one bill in Tier 2 or higher
- 33% of accounts did not exceed Tier 2
  - 67% of accounts had at least one bill in Tier 3 or higher
- 60% of accounts did not exceed Tier 3
  - 40% of accounts had at least one bill in Tier 4
- Only one account had bills in Tier 4 every month

* Based on FY 2015-16 monthly billing data and proposed tiers

Bill Impacts on Sample Residential Customers

	July	August	September	October	November	December	January	February	March	April	May	June
Half of Average (~120 HCF/yr)												
Customer A												
Water Use (HCF)	10	15	12	13	9	3	4	2	8	21	10	13
Total Bill (Srvc Chrg + Vol Chrg)	$132.85	$167.98	$146.90	$153.93	$127.31	$94.07	$99.61	$88.53	$121.77	$210.15	$132.85	$153.93
Customer B												
Water Use (HCF)	7	10	12	10	5	5	13	10	10	12	13	13
Total Bill (Srvc Chrg + Vol Chrg)	$116.23	$132.85	$146.90	$132.85	$105.15	$105.15	$153.93	$132.85	$132.85	$146.90	$153.93	$153.93
Average Use (~260 HCF/Yr)												
Customer A												
Water Use (HCF)	28	35	27	37	36	23	7	11	7	16	12	25
Total Bill (Srvc Chrg + Vol Chrg)	$275.10	$342.68	$265.44	$372.16	$357.42	$226.83	$116.23	$139.88	$116.23	$175.01	$146.90	$246.13
Customer B												
Water Use (HCF)	36	54	51	40	20	4	4	1	3	2	10	39
Total Bill (Srvc Chrg + Vol Chrg)	$357.42	$622.80	$578.57	$416.39	$203.12	$99.61	$99.61	$82.99	$94.07	$88.53	$132.85	$401.65
2x Average (~530 HCF/yr)												
Customer A												
Water Use (HCF)	46	48	36	38	28	30	32	30	27	33	34	52
Total Bill (Srvc Chrg + Vol Chrg)	$504.85	$534.34	$357.42	$386.91	$275.10	$294.41	$313.71	$294.41	$265.44	$323.37	$333.02	$593.31
Customer B												
Water Use (HCF)	42	86	63	61	56	25	10	8	7	7	15	53
Total Bill (Srvc Chrg + Vol Chrg)	$445.88	$888.18	$755.49	$726.00	$652.29	$246.13	$132.85	$121.77	$116.23	$116.23	$167.98	$608.06

Green denotes proposed bill less than current bill
Red denotes proposed bill greater than current bill

Comparing bills under the current and proposed rates

- Bills during the winter are primarily lower under proposed rates (with the exception of very low water use of <5 HCF/mo)
- Bills during the summer are higher under proposed rates for above-average use (> 22 HCF/mo; >264 HCF/yr)

Residential Bills – Three, Four, and Five Tiers

	Low	Average	High	Very High
Demand Assumptions				
hcf/month	**10**	**22**	**44**	**120**
gallons per day	249	549	1,097	2,992
Bill @ Current 5 Tiers (w/o RSC)	**$ 141.40**	**$ 242.68**	**$ 451.92**	**$ 1,372.60**
Bill @ Proposed: 4-Tier Option	**$ 132.85**	**$ 217.17**	**$ 475.37**	**$ 1,595.86**
$ Difference (vs. Current)	$ (8.55)	$ (25.51)	$ 23.45	$ 223.26
% Difference (vs. Current)	-6.0%	-10.5%	5.2%	16.3%
Bill @ Proposed: 3-Tier Option	**$ 132.85**	**$ 235.69**	**$ 470.03**	**$ 1,508.11**
$ Difference (vs. Current)	$ (8.55)	$ (6.99)	$ 18.11	$ 135.51
% Difference (vs. Current)	-6.0%	-2.9%	4.0%	9.9%

Summary of Proposed Modifications

- Revenue requirements
  - Set rates to generate required revenue for five years (slide 6)
- Customer categories
  - Create Residential and Non-residential categories
- Volume Charge rates
  - Residential
    - Reduce tiers from five to either four or three (slide 22)
  - Non-residential
    - Maintain uniform rate (slide 22)
  - Revenue stabilization
    - Replace Revenue Stabilization Charge with Revenue Stabilization Factors (slide 24)
- Service Charge rates
  - Replace with a single set that combines customer categories (slide 26)

The End