

<b>REQUEST FOR COUNCIL ACTION</b> CITY OF SAN DIEGO				CERTIFICATE NUMBER (FOR COMPTROLLER'S USE ONLY)	
TO: CITY COUNCIL		FROM (ORIGINATING DEPARTMENT): Public Utilities - Wastewater		DATE: 06/20/2013	
SUBJECT: Cost of Service Study Update (Cost Allocation and Rate Design)					
PRIMARY CONTACT (NAME, PHONE): David Stallman ,(858)614-5745 MS 901			SECONDARY CONTACT (NAME, PHONE): Jeanne Cole , (858)292-6313 MS 901A		
COMPLETE FOR ACCOUNTING PURPOSES					
FUND					
DEPT / FUNCTIONAL AREA					
ORG / COST CENTER					
OBJECT / GENERAL LEDGER ACCT					
JOB / WBS OR INTERNAL ORDER					
C.I.P./CAPITAL PROJECT No.					
AMOUNT	0.00	0.00	0.00	0.00	0.00
FUND					
DEPT / FUNCTIONAL AREA					
ORG / COST CENTER					
OBJECT / GENERAL LEDGER ACCT					
JOB / WBS OR INTERNAL ORDER					
C.I.P./CAPITAL PROJECT No.					
AMOUNT	0.00	0.00	0.00	0.00	0.00
COST SUMMARY (IF APPLICABLE):					
ROUTING AND APPROVALS					
CONTRIBUTORS/REVIEWERS:		APPROVING AUTHORITY	APPROVAL SIGNATURE	DATE SIGNED	
Financial Management		ORIG DEPT.	Sasaki, Ann	6/27/2013	
Liaison Office		CFO			
		DEPUTY CHIEF			
		COO			
		CITY ATTORNEY			
		COUNCIL PRESIDENTS OFFICE			
PREPARATION OF:	<input type="checkbox"/> RESOLUTIONS	<input type="checkbox"/> ORDINANCE(S)	<input type="checkbox"/> AGREEMENT(S)	<input type="checkbox"/> DEED(S)	
Information item only					
STAFF RECOMMENDATIONS: Accept the report and move to Council.					
SPECIAL CONDITIONS (REFER TO A.R. 3.20 FOR INFORMATION ON COMPLETING THIS SECTION)					
COUNCIL DISTRICT(S):		Citywide			

COMMUNITY AREA(S):	Citywide
ENVIRONMENTAL IMPACT:	N/A
CITY CLERK INSTRUCTIONS:	

**COUNCIL ACTION  
EXECUTIVE SUMMARY SHEET  
CITY OF SAN DIEGO**

DATE: 06/20/2013

ORIGINATING DEPARTMENT: Public Utilities - Wastewater

SUBJECT: Cost of Service Study Update (Cost Allocation and Rate Design)

COUNCIL DISTRICT(S): Citywide

CONTACT/PHONE NUMBER: David Stallman /(858)614-5745 MS 901

**DESCRIPTIVE SUMMARY OF ITEM:**

Staff, along with Black & Veatch will provide an update on the status of the Public Utilities Department Cost of Service Study. Specifically, an update will be provided on the total revenue requirements for the Water fund and options for rate structure.

**STAFF RECOMMENDATION:**

Accept the report and move to Council.

**EXECUTIVE SUMMARY OF ITEM BACKGROUND:**

The consulting firm of Black & Veatch Management Consulting (B&V) was hired in Fiscal Year 2012 to perform cost of service studies, for both the Water and Wastewater funds. The three main components of a cost of service study are: (1) Determining total Revenue Requirements; (2) Allocation of costs to the appropriate customer class; and (3) Rate Design.

This update will cover both Allocation of costs to the appropriate customer class and the Rate Design, which will provide rate structure options for the Single Family Residential (SFR) customer class tier structure and the Irrigation class, as well as rate adjustments to both the base fee and commodity rates for all customer classes. The end result of the proposed rates adjustments in Calendar Year's 2014 and 2015 will satisfy the Water fund's revenue requirement for this period.

**FISCAL CONSIDERATIONS:** N/A

**EQUAL OPPORTUNITY CONTRACTING INFORMATION (IF APPLICABLE):** N/A

**PREVIOUS COUNCIL and/or COMMITTEE ACTION** (describe any changes made to the item from what was presented at committee):

The revenue requirement component of the Cost of Service study was presented to the Natural Resources and Culture Committee on June 12, 2013.

**COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:**

Since the inception of the study, the Department has held numerous open meetings with interested parties, presented in public meetings of the Independent Rates Oversight Committee, as well as the Metro Commission.

KEY STAKEHOLDERS AND PROJECTED IMPACTS:

All City Water, Recycled Water and Wastewater ratepayers

Sasaki, Ann

Originating Department

\_\_\_\_\_  
Deputy Chief/Chief Operating Officer



# BUILDING A WORLD OF DIFFERENCE

10 JULY 2013

## WATER & WASTEWATER COST OF SERVICE STUDY

NATURAL RESOURCES & CULTURE COMMITTEE



**BLACK & VEATCH**  
Building a world of difference.®

# WHAT WE'VE COVERED SO FAR...

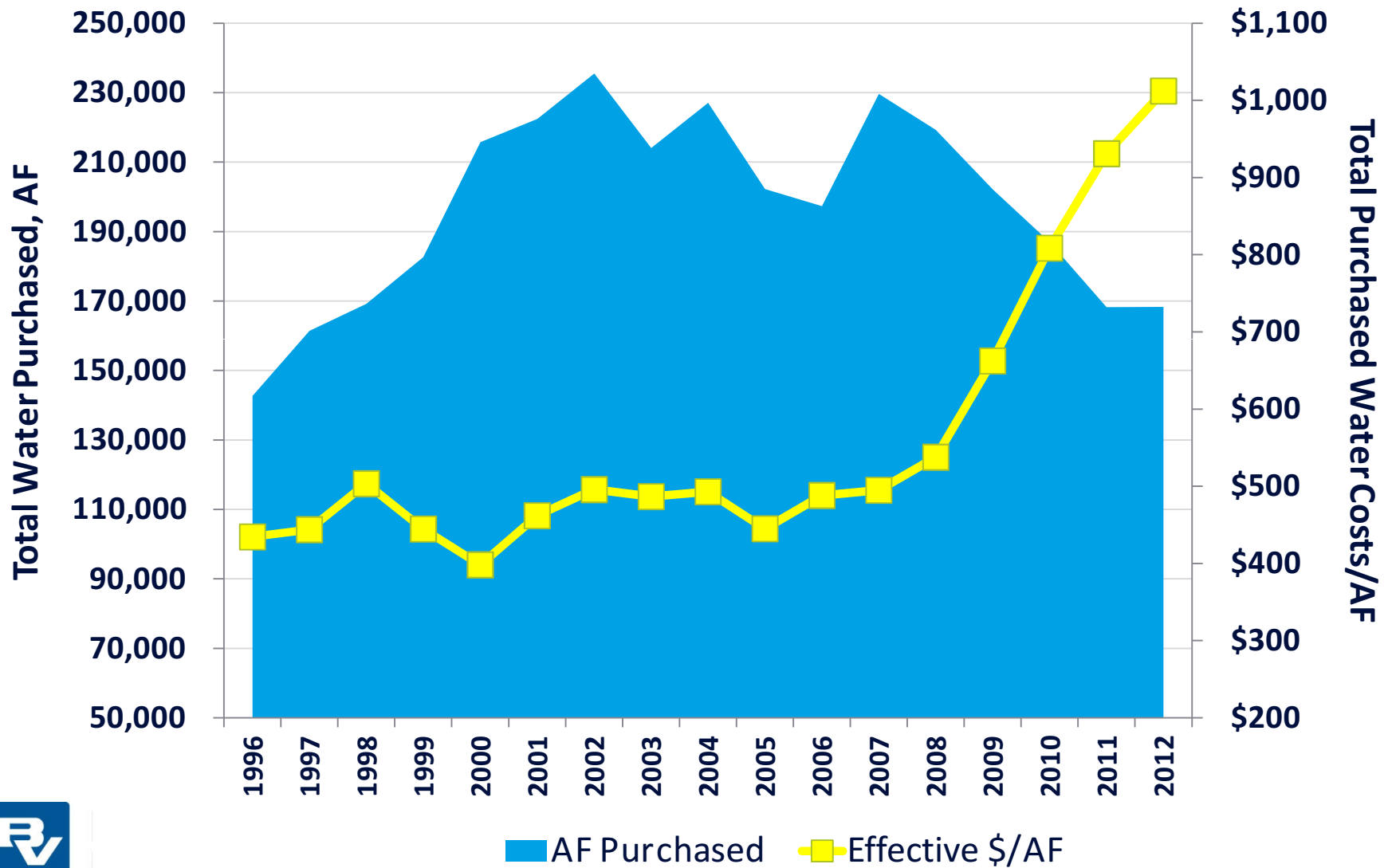


# KEY ELEMENTS FOR FINANCIAL VIABILITY



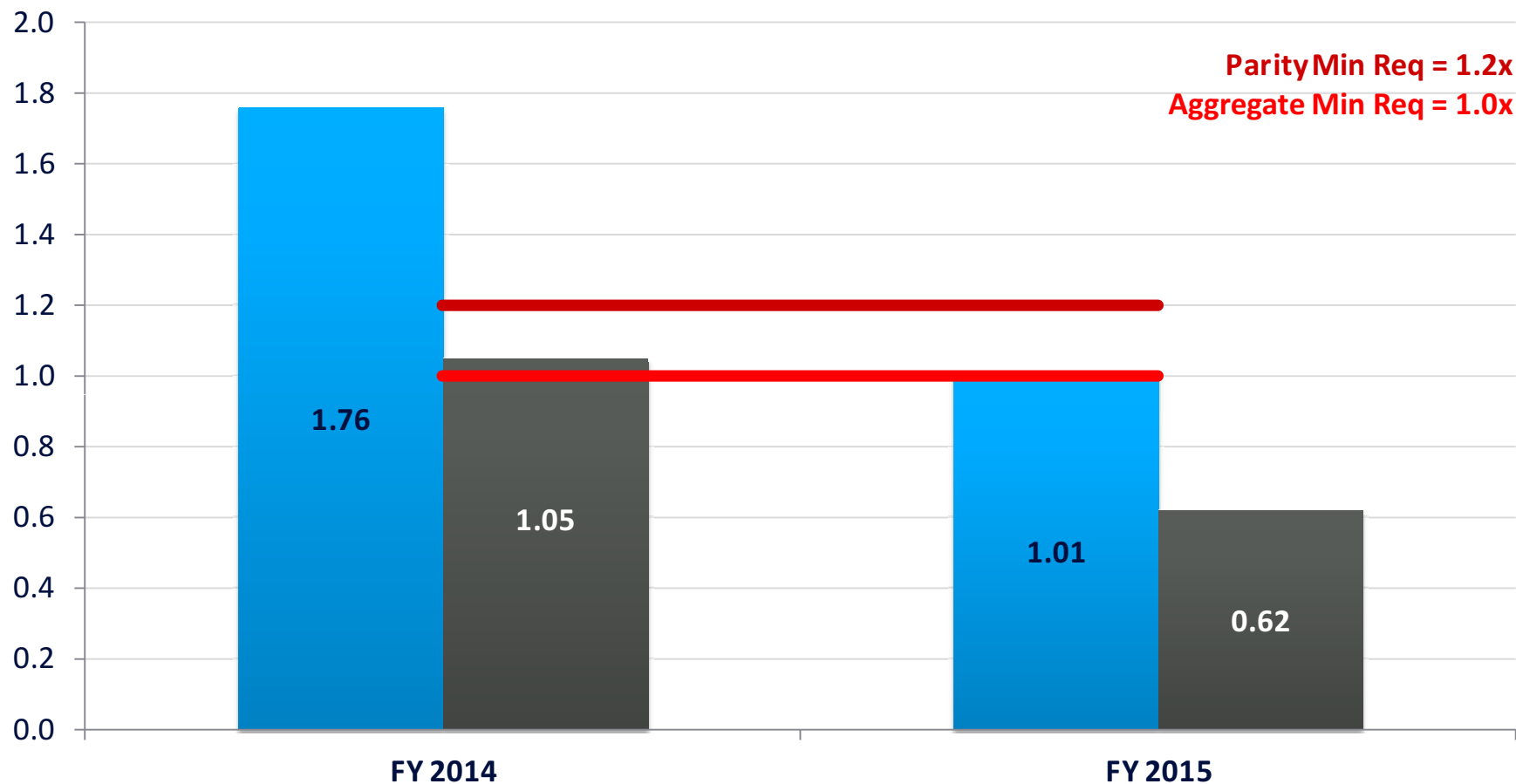


# INCREASING WATER PURCHASE COSTS



# WATER DEBT SERVICE COVERAGE

## ABSORBING FY 14 / 15 CWA INCREASES

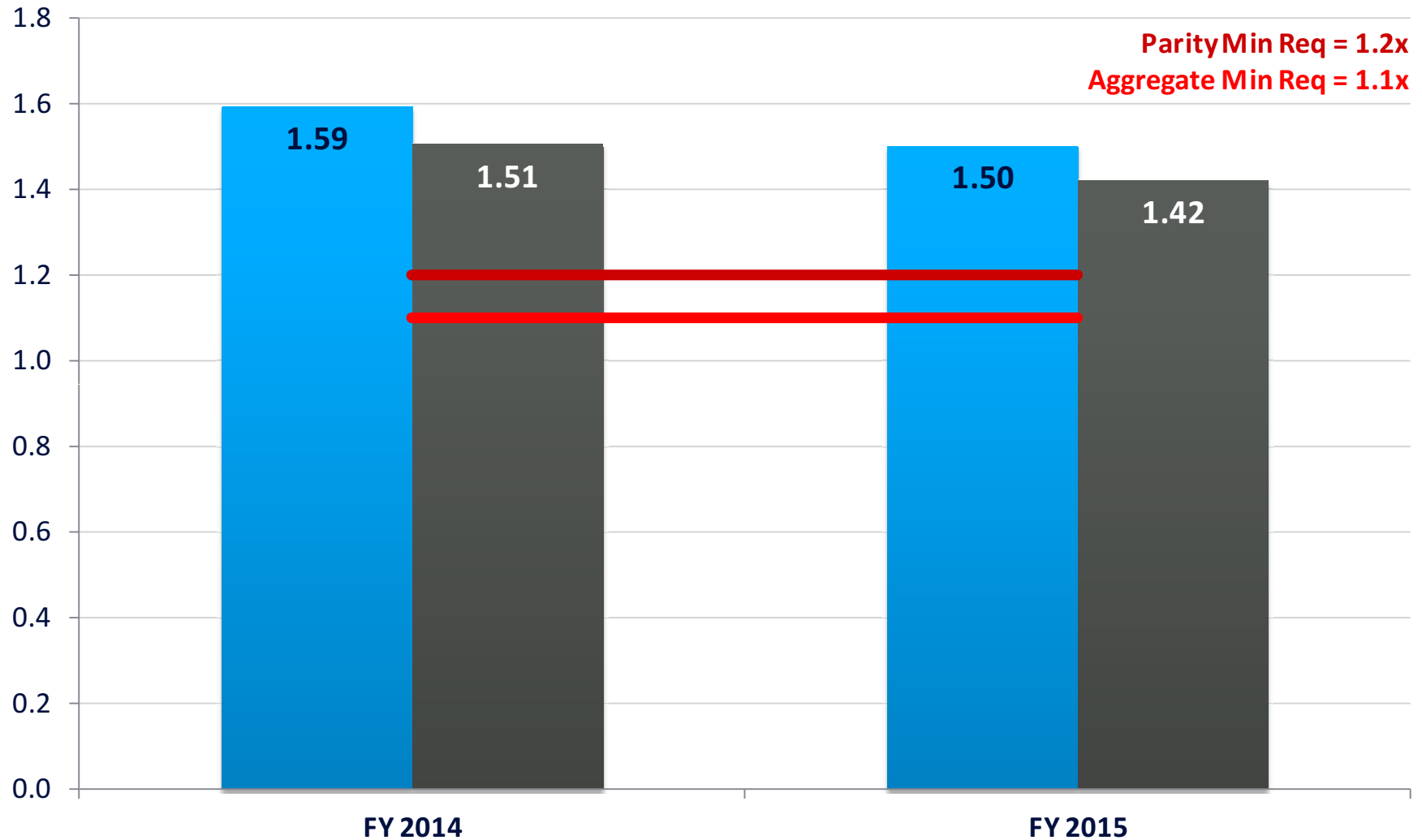


■ Parity DSC ■ Aggregate DSC — Parity DSC - Min Req — Aggregate DSC - Min Req



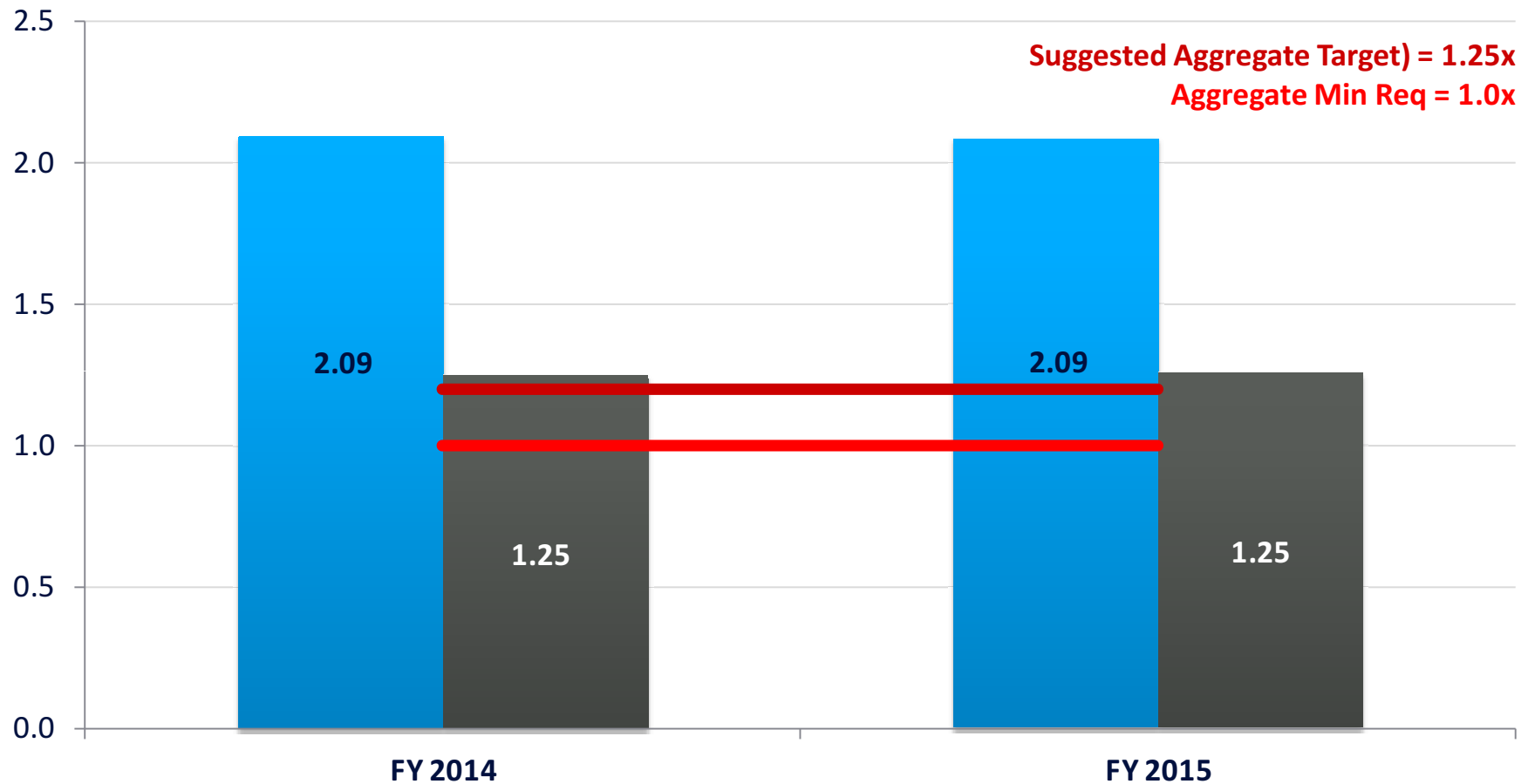
# WASTEWATERDEBT SERVICE COVERAGE

## FY14 – FY15



■ Parity DSC ■ Aggregate DSC — Parity DSC - Min Req — Aggregate DSC - Min Req

# WATERDEBT SERVICE COVERAGE FY14 – FY15 WITH PROPOSED REVENUE ADJUSTMENTS



■ Parity DSC   ■ Aggregate DSC   ■ Parity DSC - Min Req   ■ Aggregate DSC - Min Req





# REVENUE REQUIREMENTS - SUMMARY

## ■ Water

- Continued absorption of CY 12 and CY 13 CWA increases is not sustainable
- Recommend incorporating CY 14 CWA increases as a pass-thru cost
- Set 1.25x DSC target for aggregate debt
- FY 14 revenue adjustment = 5.0% to partially covers impact of CY 12 and CY 13 CWA increases PLUS 2.25% for CY 14 increases
- FY 15 revenue adjustment = 7.0% for CY 12, CY 13, and CY 14 and projected CY 15 CWA increases PLUS 0.5% to meet suggested debt service coverage level

## ■ Wastewater

- No proposed revenue adjustments





**WHAT EXACTLY  
DOES “COST OF  
SERVICE” MEAN?**



## **COST OF SERVICE STUDY FOCUS & CONSIDERATIONS**

To **match** the costs of  
providing service to  
customer classes and to  
**design** rates to equitably  
recover costs



**Current study does not look at impacts due to Desalination,  
IPR, or Point Loma Secondary costs**



# COST ALLOCATION

- **Objective**

- Allocate the costs of operating the utility to the respective customers

- **How is the allocation accomplished?**

1. Select a Test Year
2. Allocate costs to utility functions according to cost causative parameters
3. Estimate total customer class service requirements for each cost function
4. Divide costs by requirements for each function to get unit costs of service
5. Distribute costs to each customer class based on its share of total requirements for each cost function



# 1. SELECT TEST YEAR – FY 14

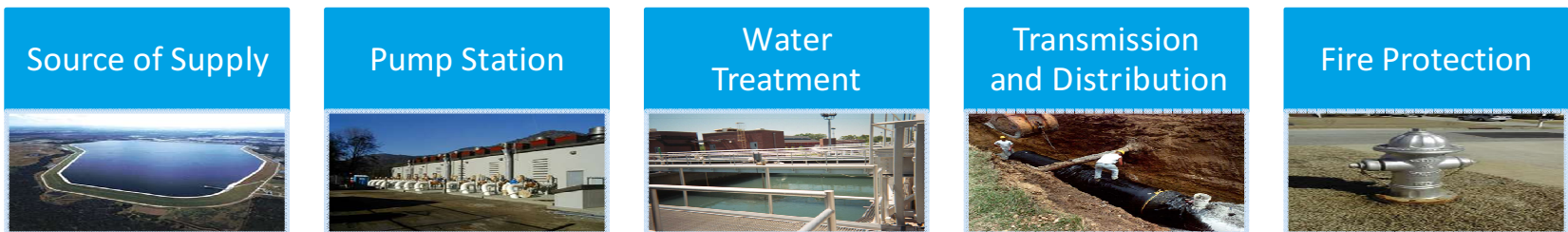
DRAFT – SUBJECT TO CHANGE

Line Item	Operating Costs (\$000s)	Capital Cost (\$000s)	Total Cost (\$000s)
<b>Revenue Requirements</b>			
O&M Expenses	154,813.00		154,813.00
Water Supply	220,110.10		220,110.10
Debt Service		66,834.70	66,834.70
Transfers	185.50	39,926.50	40,112.00
<i>Subtotal</i>	<i>375,108.60</i>	<i>106,761.20</i>	<i>481,869.80</i>
<b>Less Other Revenues</b>			
Other Revenues	56,417.60		56,417.60
Transfers	18,000.00		18,000.00
<i>Subtotal</i>	<i>74,417.60</i>		<i>74,417.60</i>
<b>Cost of Service Recovered from Rates</b>	<b>300,691.00</b>	<b>106,761.20</b>	<b>407,452.200</b>

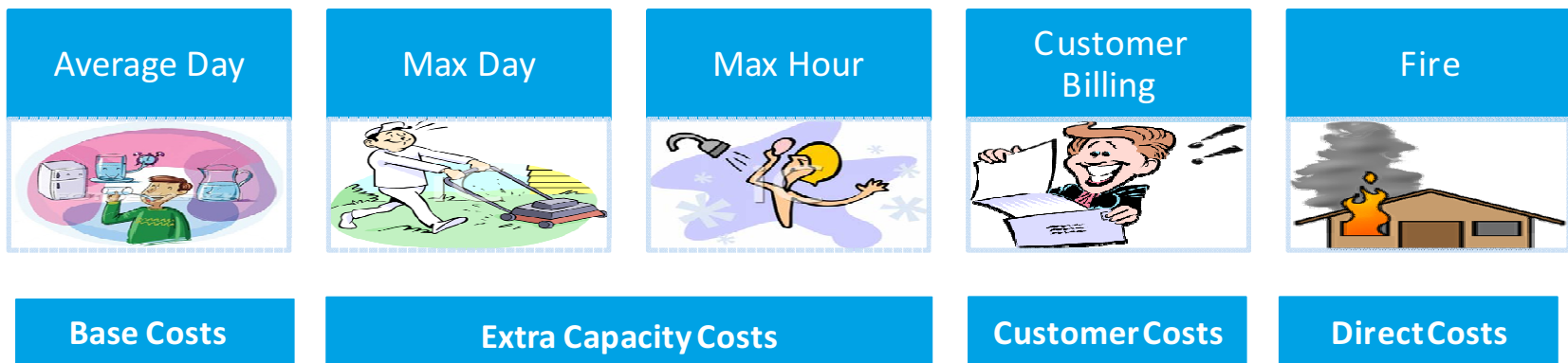


## 2. COST FUNCTIONS & COST CAUSATIVE PARAMETERS

- Separate O&M and Capital Costs into Cost Functions



- Distribute O&M and Capital Costs into Cost Causative Parameters





### 3. ALLOCATE COSTS

- **O&M costs are allocated to functional cost components:**
  - Reviewed historic expenses charged to functional cost areas
  - Followed industry guidelines
  - Water Supply costs separated into Base and Customer costs to more accurately reflect cost elements
    - Approximately 30% of purchased water supply costs are fixed
- **Capital costs are allocated using Net Plant Investment**
  - Net plant investment (Original Cost Less Depreciation) serves as proxy for debt allocation
  - NPI allocated to functional cost areas





## 4. CALCULATE UNIT COSTS

$$\text{System Costs} \div \text{Units of Service} = \text{Unit Costs}$$

**Base and Extra Capacity Costs**

$$\text{Volume} \div \text{CCF} = \text{\$/CCF}$$

**Customers Costs**

$$\text{Customer} \div \text{No. of Bills} = \text{\$/Bill}$$

**Direct Costs**

$$\text{Fire Protection} \div \text{No. of Eq. Hydrants} = \text{\$/Eq. Hydrant}$$


**CCF = Hundred Cubic Feet, 1 CCF = 748 Gallons**



## 4. CALCULATE UNIT COSTS (CONT'D)

		Common to All			Customer Costs		Direct
Item	Total Cost (\$000s)	Base (\$000s)	Max Day (\$000s)	Max Hour (\$000s)	Meters (\$000s)	Billing (\$000s)	Fire Protection (\$000s)
Net O&M	300,691.0	195,341.7	13,806.5	10,628.1	44,391.1	31,585.6	4,938.0
Net Capital Costs	106,761.2	57,131.2	24,900.8	22,395.2	2,187.0	0	183.0
<b>Total COS</b>	<b>407,452.2</b>	<b>252,472.9</b>	<b>38,707.3</b>	<b>32,987.3</b>	<b>46,578.1</b>	<b>31,585.6</b>	<b>5,121.0</b>
No. Units		76,388,255	184,756	295,808	400,329	3,388,416	32,196
Unit		CCF	CCF/Day	CCF/Day	Equiv. Meters	Bills	Equiv. Hydrants
<b>\$/Unit</b>		<b>\$3.31</b>	<b>\$209.50</b>	<b>\$111.52</b>	<b>\$116.35</b>	<b>\$9.32</b>	<b>\$159.06</b>

Where does this come from?







## 4. CALCULATE UNIT COSTS (CONT'D)

- **System Peaking Factors**
  - Max day = 1.5x Base
  - Max hour = 1.5x Max Day = 2.25x Base
- **Allocation of costs**
  - System Costs use System Peaking Factors
  - Customer Costs use billing data patterns

		Percentage Allocations		
	Demand Factor	Base	Max Day	Max Hour
Base	1.0	100%		
Max Day	1.5	66.7%	33.3%	
Max Hour	2.25	44.4%	22.2%	33.3%





## 5. DISTRIBUTE COSTS TO CUSTOMER CLASSES

Volume Unit Cost x Residential Units (CCF) = \$

Customer Unit Cost x Residential Units (Bills) = \$

Fire Unit Cost x Residential Units (Eq. Hydrants) = \$

Total Residential Cost of Service = \$

Same Calculation for Other Customer Classes



## 6. COMPARE COST OF SERVICE TO REVENUES UNDER EXISTING RATES

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Customer Class	Allocated COS (\$000s)	Beneficial Use (\$000s)	Adjusted COS (\$000s)	Revenue Under Existing Rates (\$000s)	Indicated Revenue Adjustment (%)
Single Family	169,132.5	2,324.7	171,457.2	160,376.0	6.91
Multi Family	86,174.5	1,184.4	87,358.9	82,090.2	6.42
Non Residential	92,232.2	1,267.7	93,499.9	87,273.5	7.13
Construction	1,375.2		1,375.2	1,286.4	6.90
Irrigation	51,777.2		51,777.2	47,111.8	9.90
<i>Subtotal</i>	<i>400,691.6</i>	<i>4,776.8</i>	<i>405,468.4</i>	<i>378,137.9</i>	<i>7.23</i>
Public Fire	4,776.8	-4,776.8	0	0	0
Private Fire	1,983.8		1,983.8	1,770.9	12.02
<b>TOTAL</b>	<b>407,452.2</b>	<b>0</b>	<b>407,452.2</b>	<b>379,908.8</b>	<b>7.25</b>



**HOW DOES THAT  
TRANSLATE INTO  
WHAT I PAY?**

# 3 SFR TIER RATE STRUCTURE OPTIONS



1

Existing

Tier 3 15+ ccf 1.22x
Tier 2 8 – 14 ccf 1.08x
Tier 1 0 – 7 ccf 1.0x

2

Increase  
Differential

Tier 3 15+ ccf 1.50x
Tier 2 8 – 14 ccf 1.25x
Tier 1 0 – 7 ccf 1.0x

3

Tier 4 21+ ccf 2.10x
Tier 3 11 – 20 ccf 1.50x
Tier 2 4 – 10 ccf 1.15x
Tier 1 0 – 3 ccf 1.0x



# NON-RESIDENTIAL RATE STRUCTURE OPTIONS

## Irrigation Customers

### 1. Keep existing structure

- Uniform Rate

### 2. Develop 3-tiered rate structure

- Pricing differential of 1.0x, 1.25x, and 1.50x

**Multi-family, Commercial & Industrial remain the same**

**No change for wastewater rates**





## **RATE STRUCTURE AND PASS-THRU ADJUSTMENTS**

- **City has an approved methodology for calculating the impact of purchased water increases**
- **Rates presented on the following slides reflect:**
  - Changes to rate structure made assuming 5% revenue adjustment
  - Resulting structure is then adjusted to recover proposed CY 14 CWA increases in accordance with pass-thru formula





## METER CHARGE

**DRAFT – SUBJECT TO CHANGE**

Meter Size	Meter Charge			
	Existing Rates	Option 1	Option 2	Option 3
	(\$/monthly)	(\$/monthly)	(\$/monthly)	(\$/monthly)
5/8", 3/4"	19.33	20.34	18.89	18.89
1"	28.46	29.95	25.59	25.59
1.5"	49.34	51.94	40.89	40.89
2"	75.44	79.42	60.03	60.03
3"	136.74	143.98	104.98	104.98
4"	224.15	236.03	169.07	169.07
6"	440.73	464.10	327.86	327.86
8"	701.64	738.85	519.16	519.16
10"	1,006.94	1,060.36	742.99	742.99
12"	1,875.82	1,975.34	1,380.05	1,380.05
16"	3,267.86	3,441.25	2,400.67	2,400.67







# PRIVATE FIRE PROTECTION

**DRAFT – SUBJECT TO CHANGE**

Line Size	Fire Protection			
	Existing Rates	Option 1	Option 2	Option 3
	(\$/monthly)	(\$/monthly)	(\$/monthly)	(\$/monthly)
5/8", 3/4"				
1"	6.26	6.57	2.40	2.40
1.5"	6.26	6.57	2.40	2.40
2"	8.35	8.77	3.73	3.73
3"	12.53	13.16	14.42	14.42
4"	16.70	17.54	18.44	18.44
6"	25.05	26.30	27.23	27.23
8"	33.40	35.07	38.46	38.46
10"	41.75	43.84	49.68	49.68
12"	50.10	52.61	59.29	59.29
16"	66.80	70.14	96.14	96.14





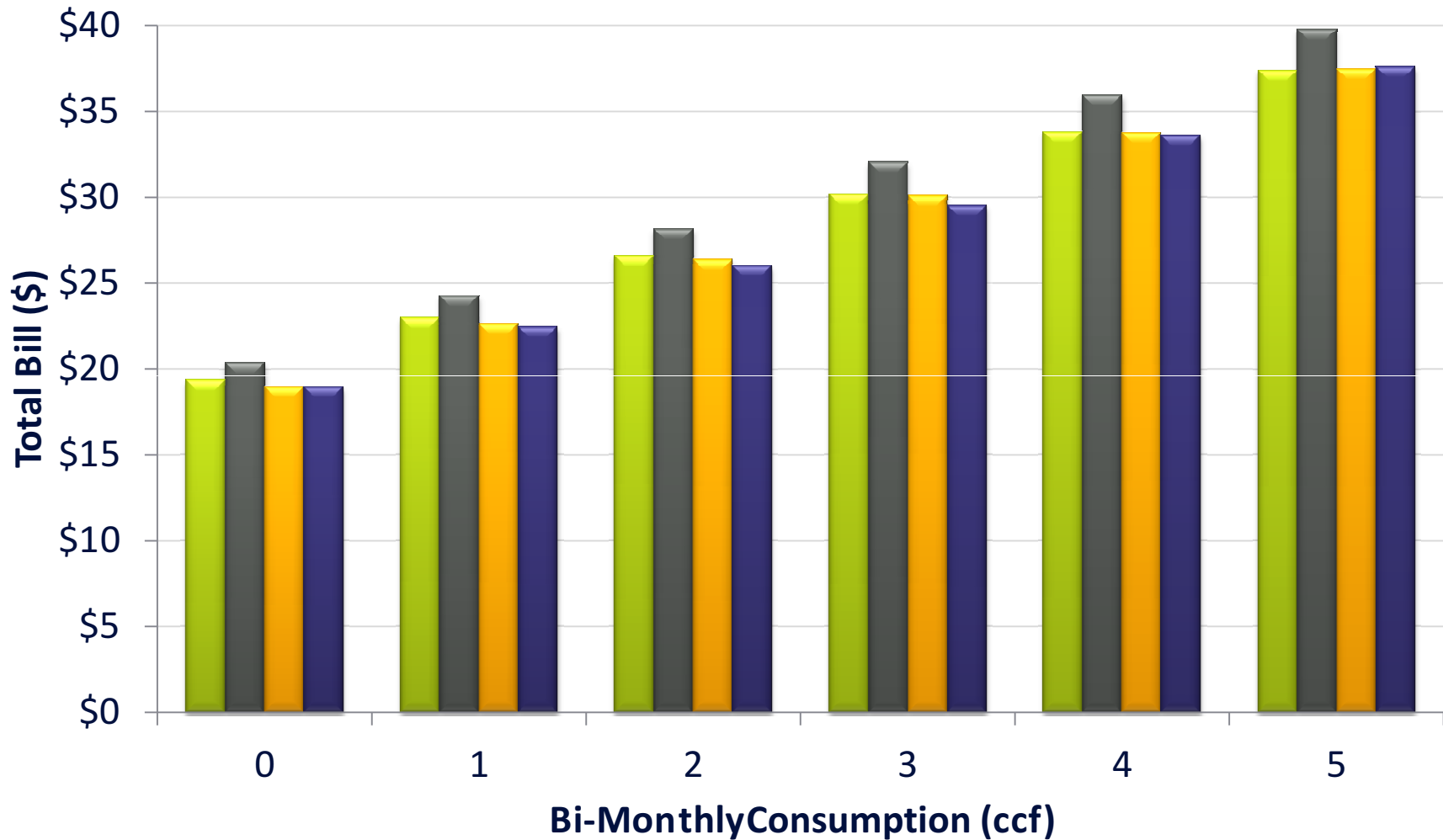
# COMMODITY CHARGES

Class	Tiers		Commodity Charge			Tiers		Commodity Charge
	From	To	Existing Rates	Option 1	Option 2	From	To	Option 3
	ccf	ccf	\$/ccf	\$/ccf	\$/ccf	ccf	ccf	\$/ccf
Single Family	0	7	3.61	3.89	3.71	0	3	3.52
	8	14	3.92	4.21	4.62	4	10	4.05
	15+		4.40	4.72	5.54	11	20	5.29
						21+		7.40
Other Domestics			3.92	4.21	4.34			4.34
Non Residential			3.76	4.04	4.17			4.17
Temp Construction			4.01	4.31	4.62			4.62
Irrigation			4.01	4.31	4.62	0	7	2.33
						8	14	3.49
						15+		4.89

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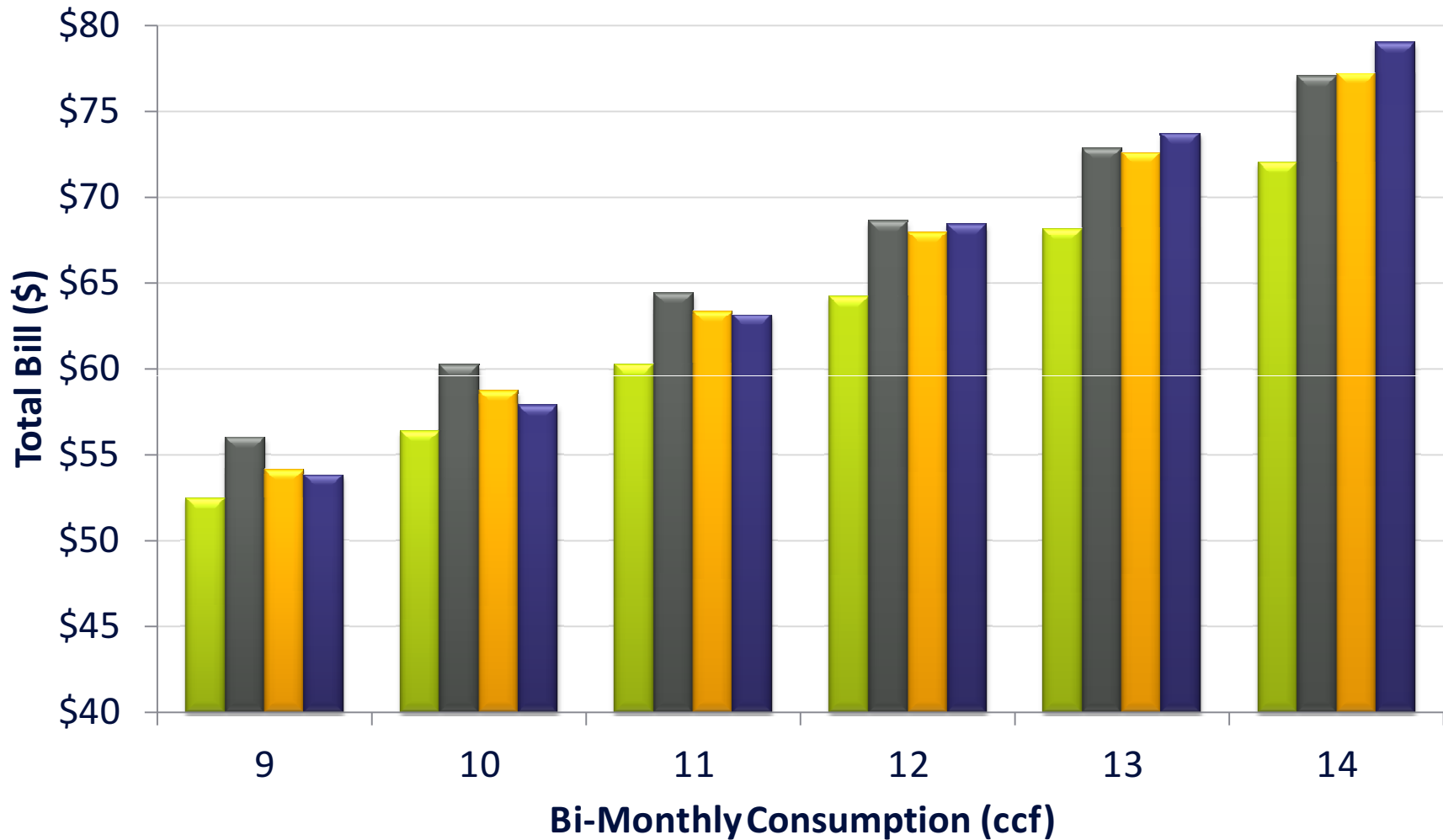


## CHANGE IN BI-MONTHLY SFR BILLS - LOW USE



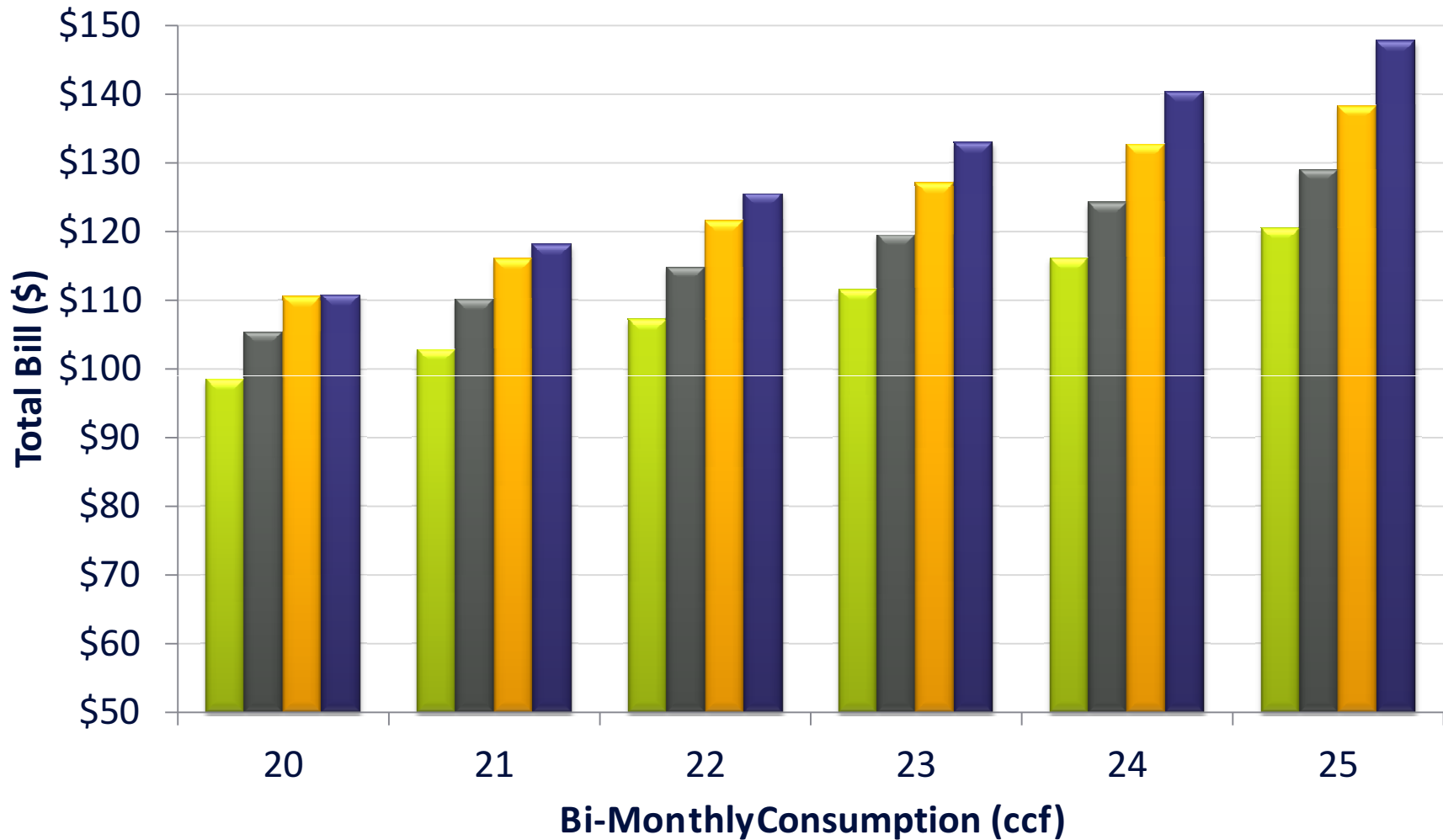
Existing Bill Option 1 Option 2 Option 3

## CHANGE IN BI-MONTHLY SFR BILLS – MEDIUM USE



Existing Bill Option 1 Option 2 Option 3

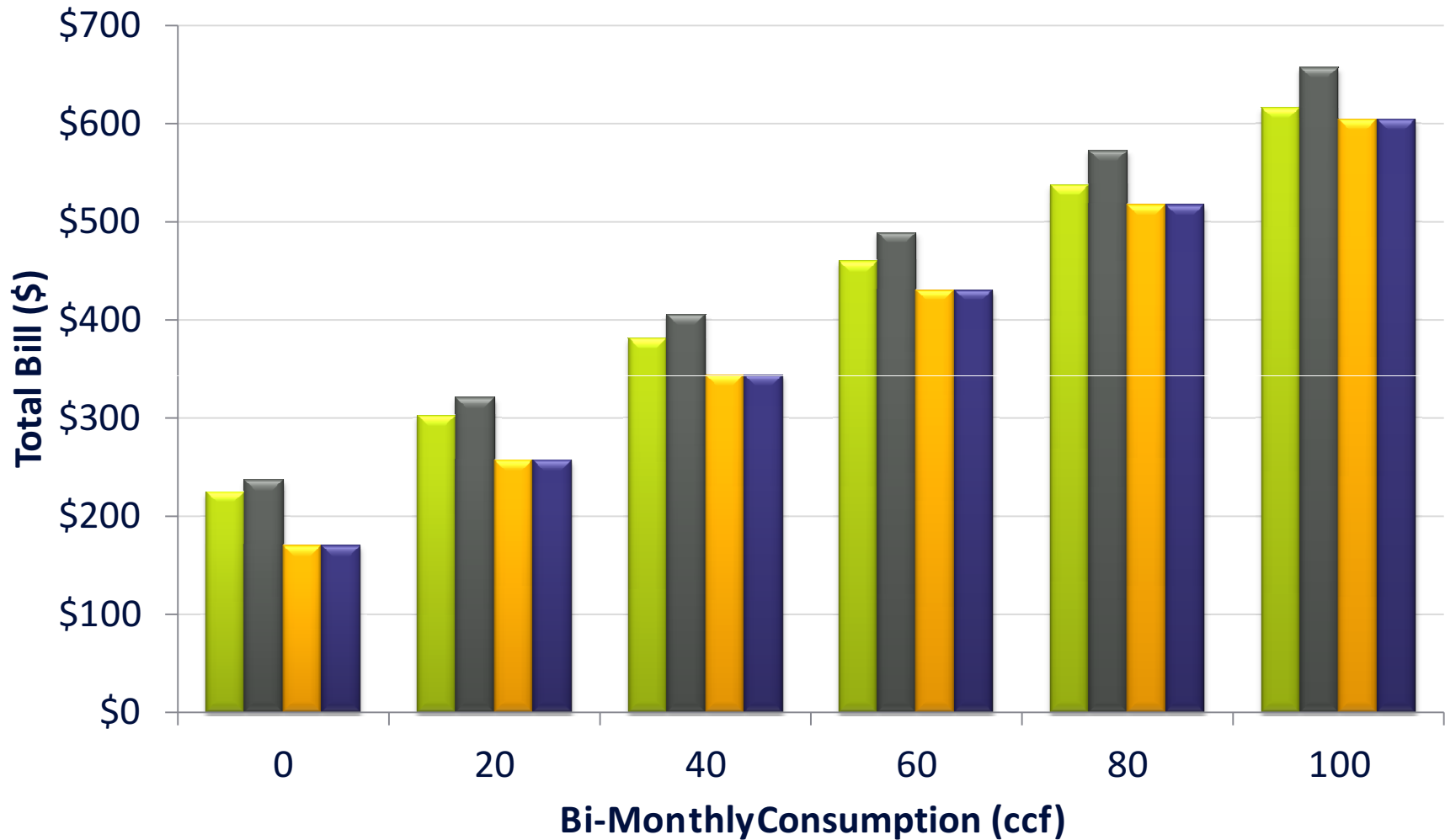
## CHANGE IN BI-MONTHLY SFR BILLS – HIGH USE



Existing Bill Option 1 Option 2 Option 3

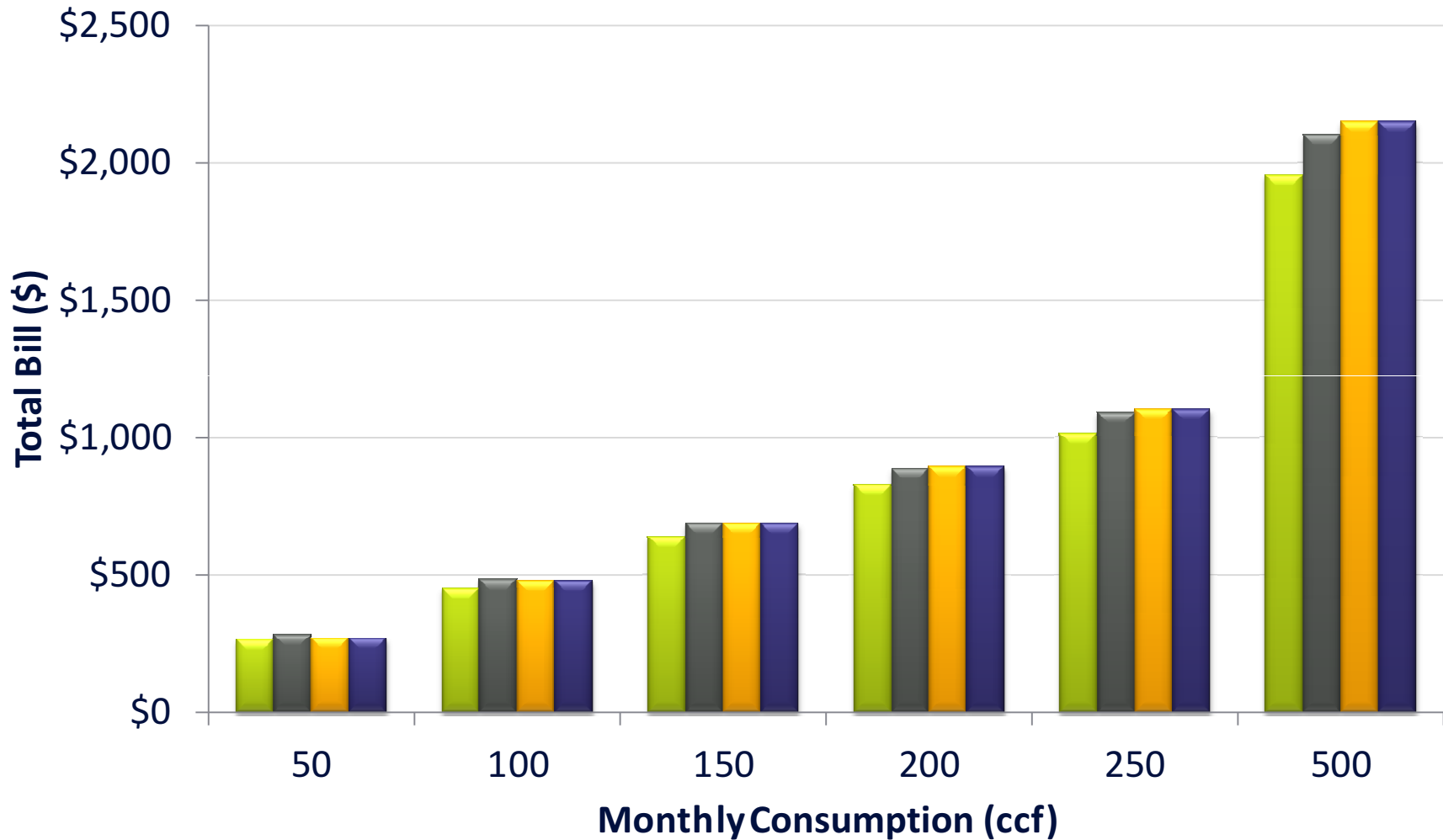
# CHANGE IN MULTI-FAMILY BILLS

## 4" METER



Existing Bill Option 1 Option 2 Option 3

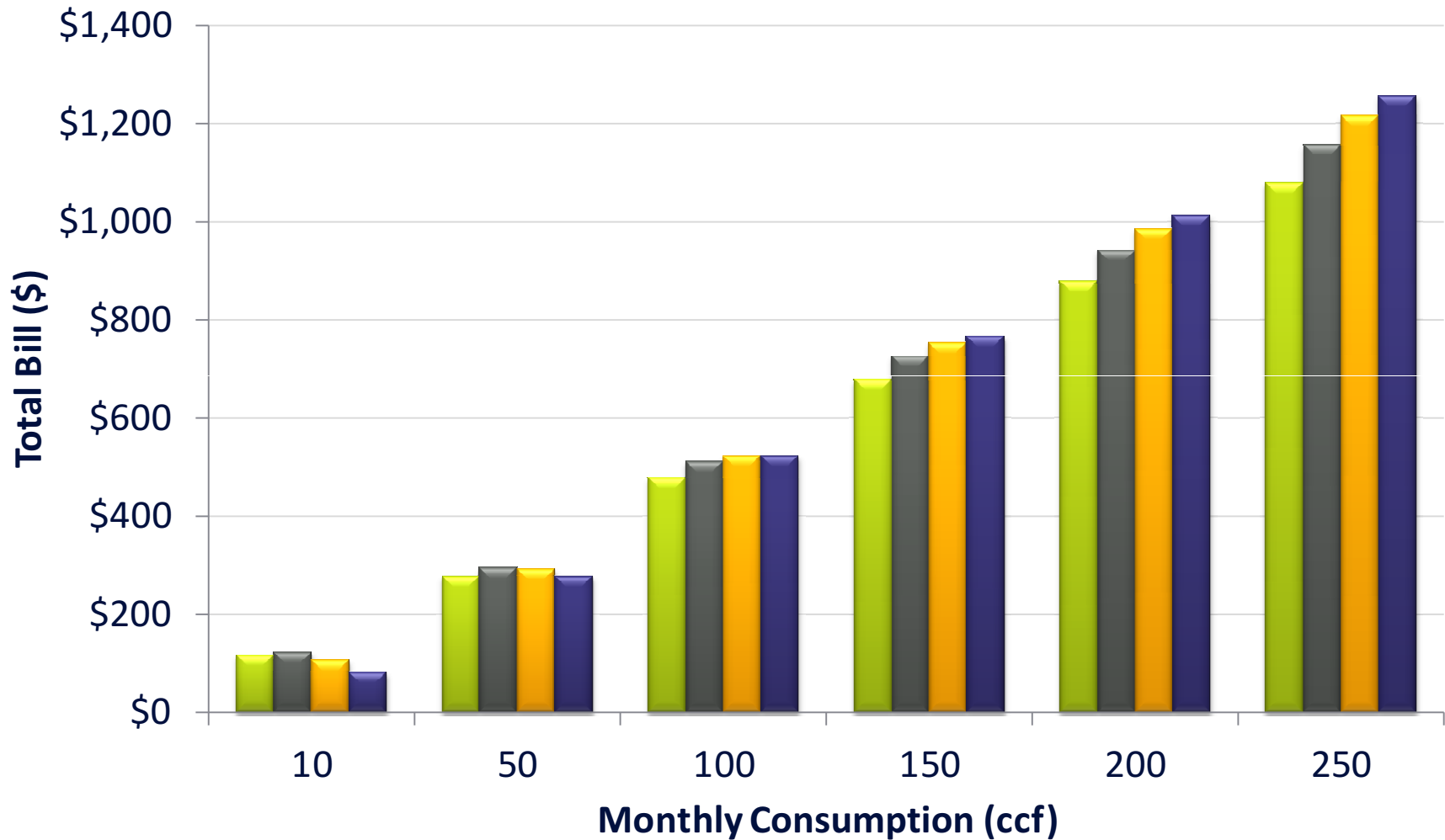
# CHANGE IN NON-RESIDENTIAL BILLS 2" METER



Existing Bill Option 1 Option 2 Option 3

# CHANGE IN IRRIGATION BILLS

## 2" METER



Existing Bill Option 1 Option 2 Option 3



# QUESTIONS