

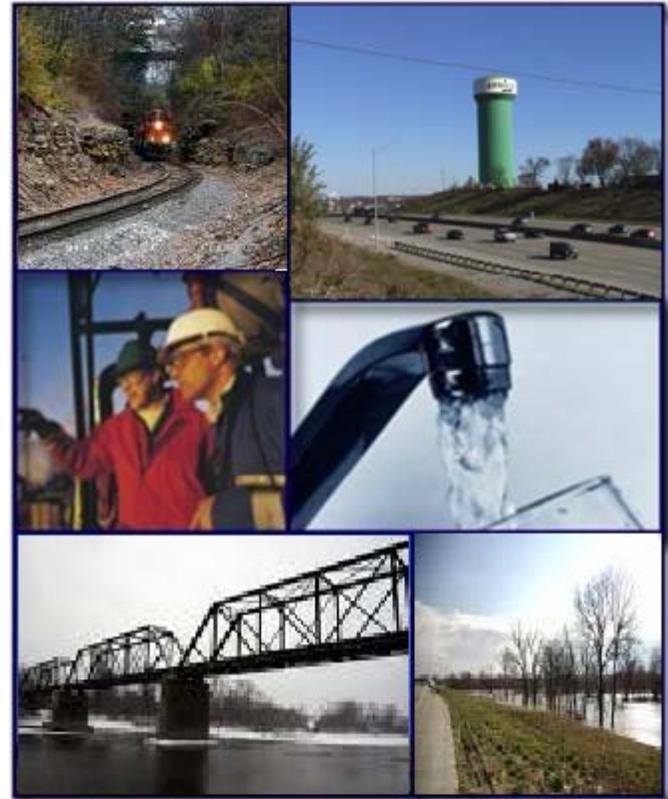


# City of Arnold, MO

## Sewer Rate Study



Council Work Session  
December 11, 2008



# Agenda

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- Background
- Customers and Consumption Analysis
- Revenue Requirement
- Rate and Fee Recommendations

# Primary Objective of Study

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- ❖ To keep rates and fees stable through sound financial management, at a level that fully recovers the costs of providing services and appropriately allocates costs to customers.

## To Meet Objective:

- ✓ Review the sewer fund to assure continued stability and financial health.
- ✓ Prepare long-term financial plan outlining future capital investments and operating expenses required for sewer systems.

# Background

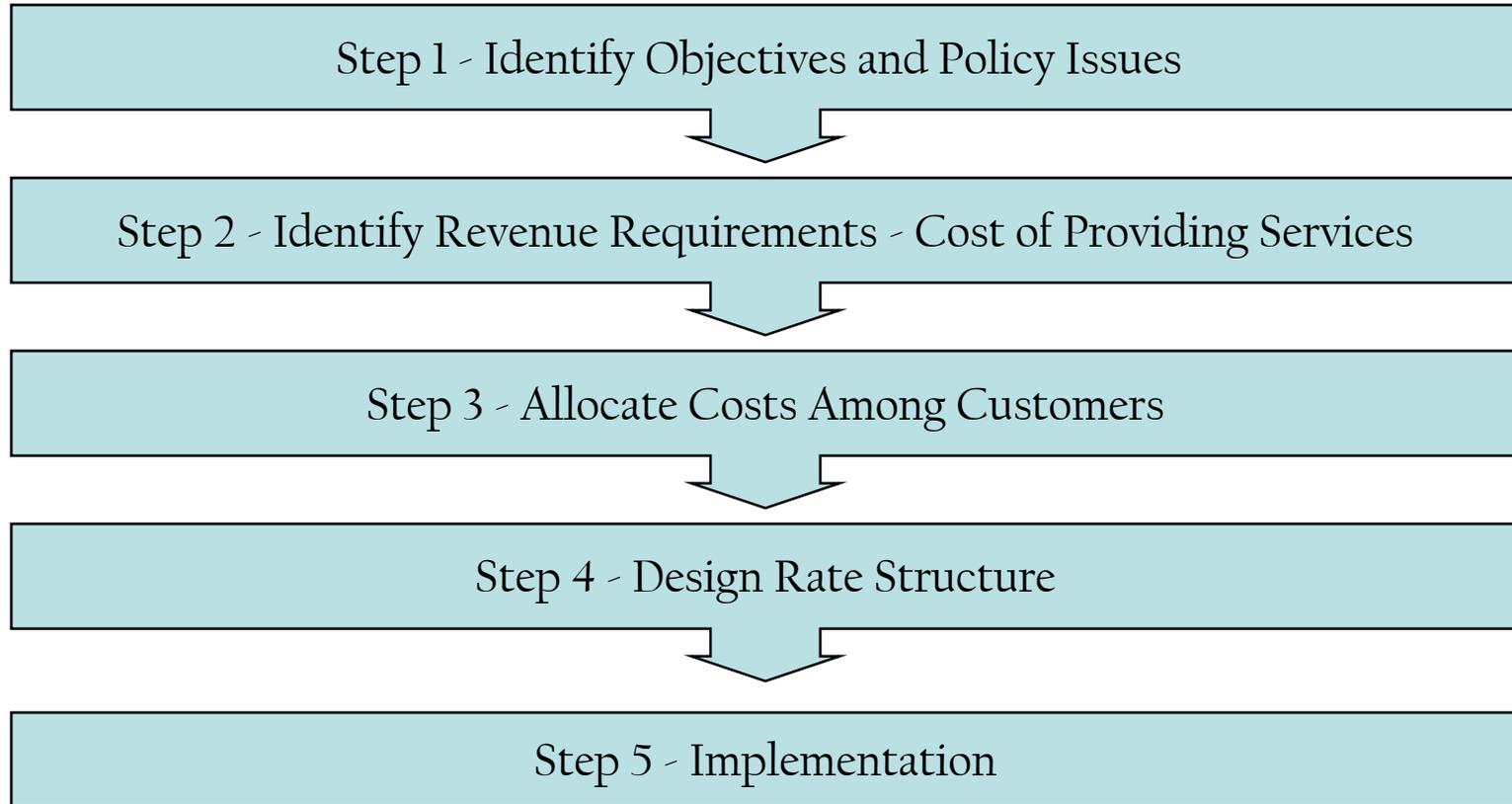
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- The City provides sewer collection and conveyance to approximately 8,800 customer accounts.
- Sewerage treatment is provided by the Metropolitan Sewer District (MSD)
- The City has seen a significant increase in operating and capital (debt) expenses as a result of the construction of the Lower Meramec Treatment Facility (Arnold share of capital is approximately \$16 million)
- The City last increased sewer rates and charges in 2002.

# Rate Setting Process

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# Customer and Consumption Analysis

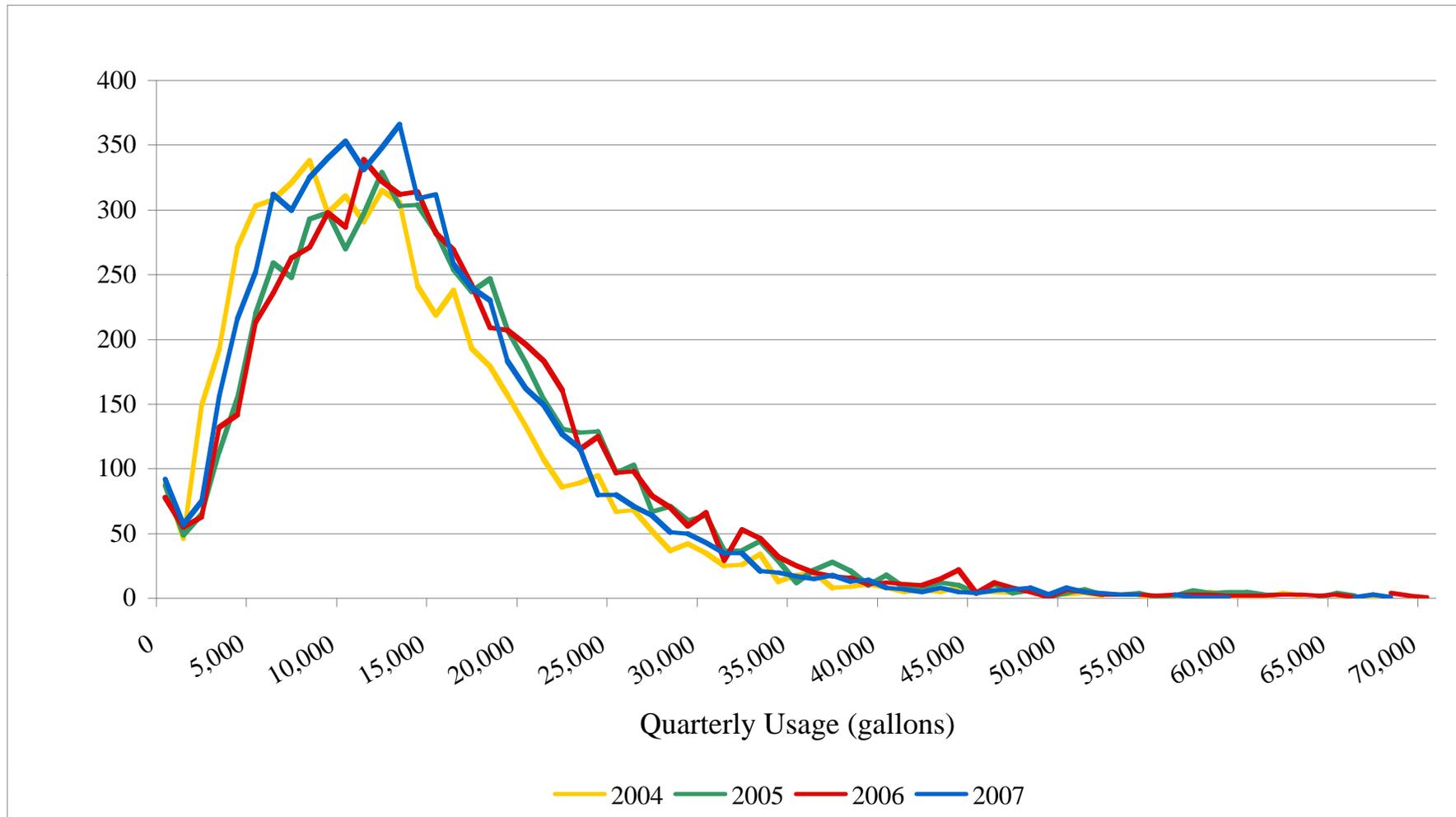
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# Sewer Customers and Consumption - FY08

Customer Type	Number of Customers	Annual Sewer Use (gallons)	Winter Quarter* Sewer Use (gallons)
Residential	6,203		
Multi-Family Residential	1,775		
Rock Creek Customers	482		
Other Sewer District	14		
<b>Total Residential</b>	<b>8,474</b>	<b>535,141,980</b>	<b>105,251,880</b>
Commercial	340	176,001,000	34,669,800
<b>Total</b>	<b>8,814</b>	<b>711,142,980</b>	<b>139,927,680</b>

\* (Dec. Jan. Feb.)

# Residential Usage Patterns FY04 - 07



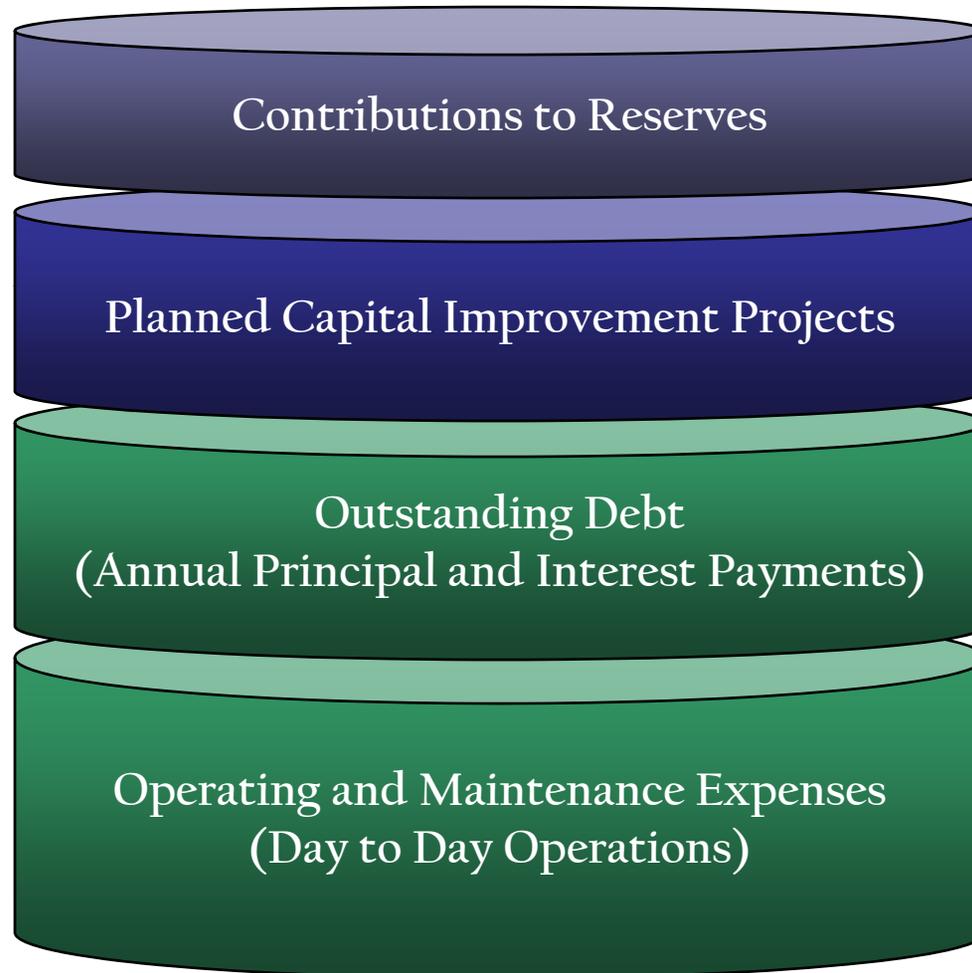
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# Revenue Requirements

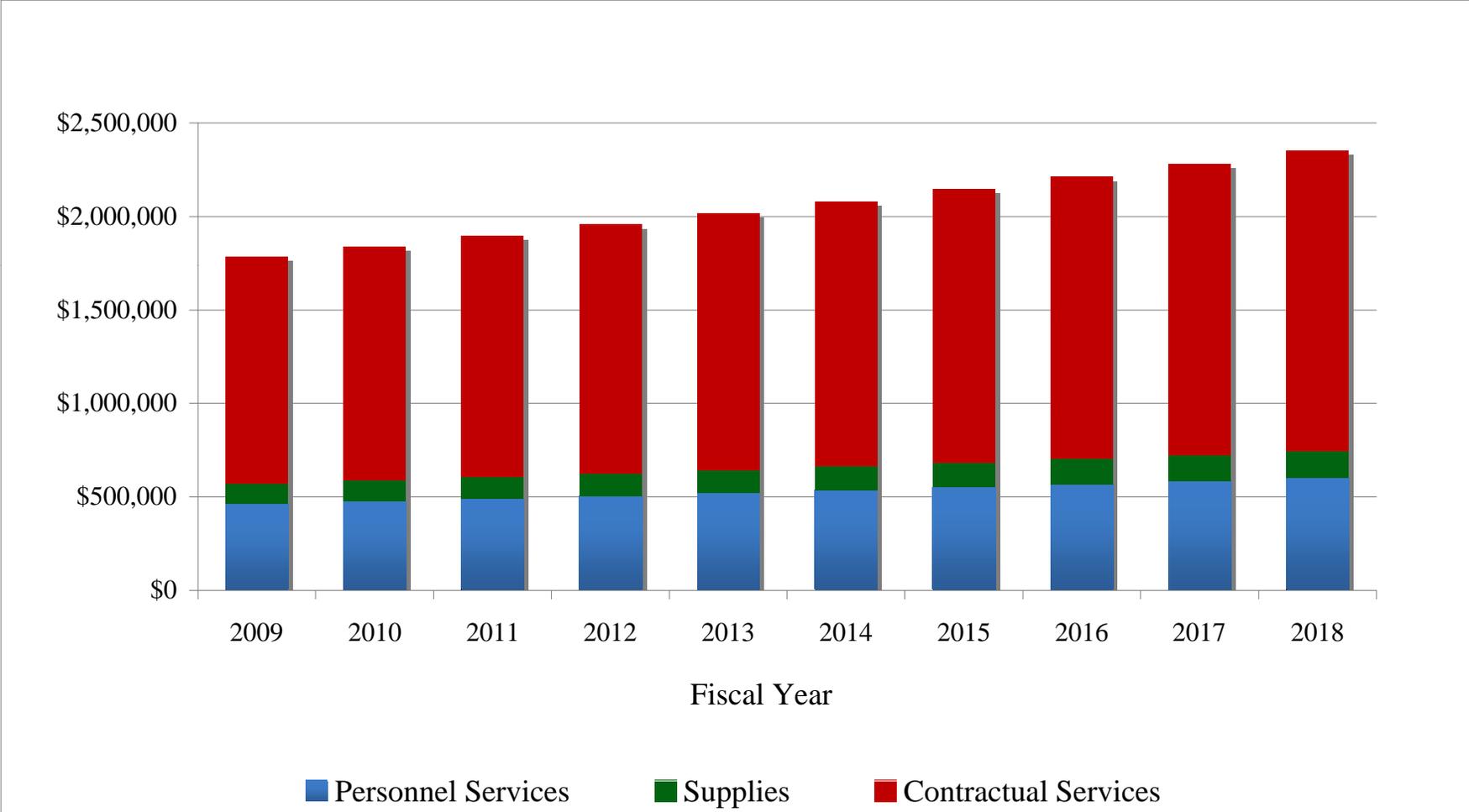
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# Revenue Requirement Building Blocks

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# Operating and Maintenance Expenses

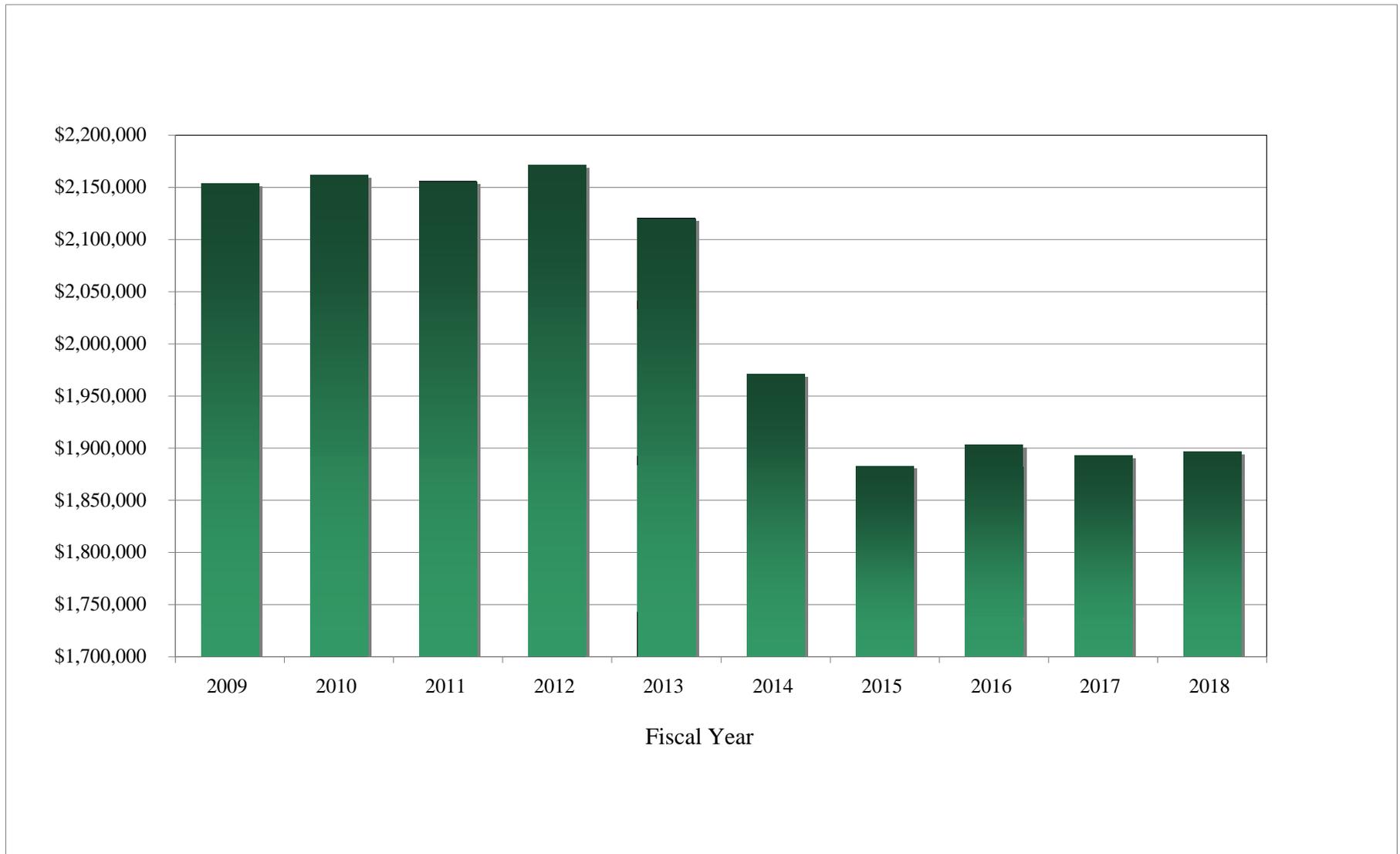


# Rock Creek Cost Analysis

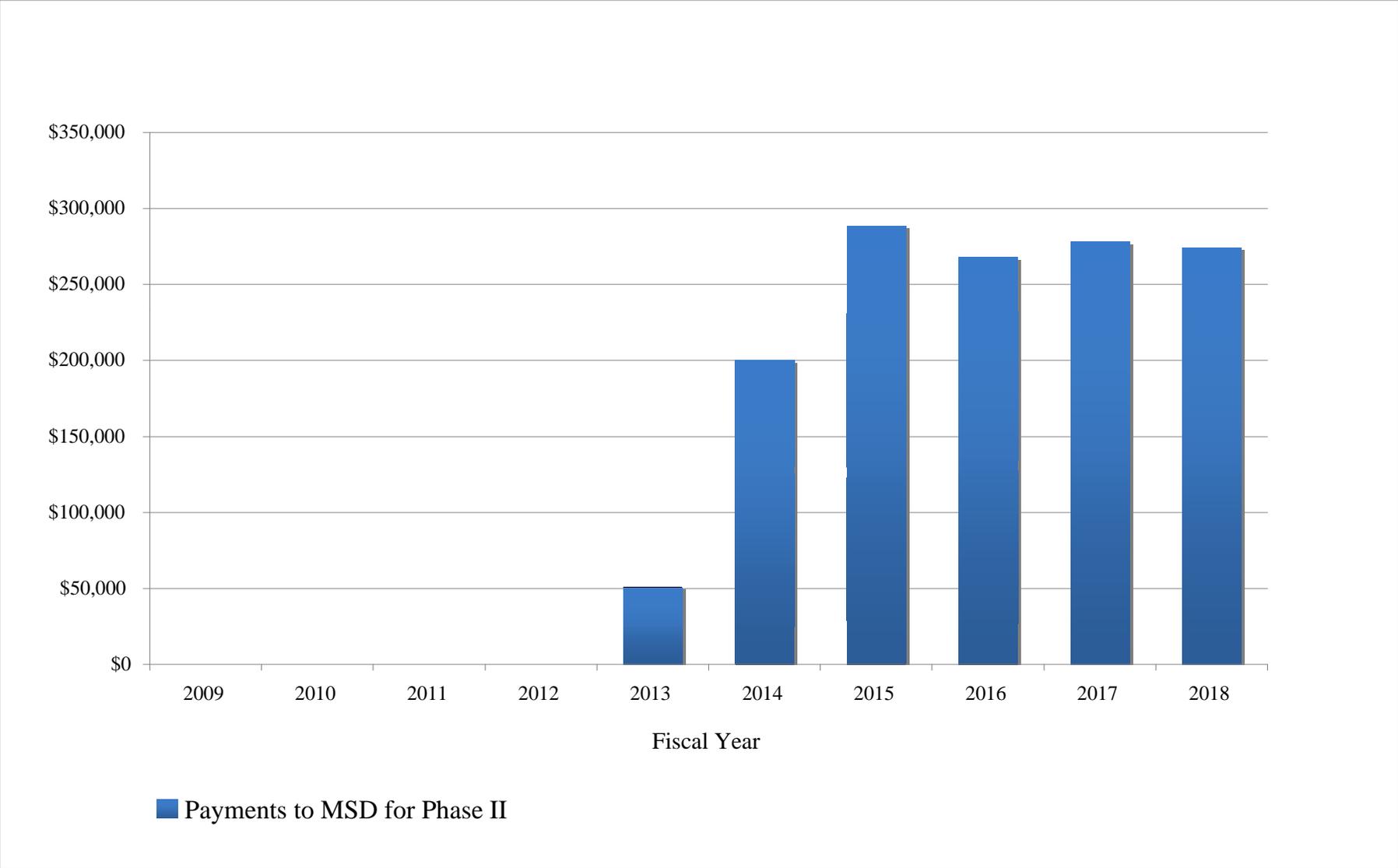
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- The City provides sewer collection and conveyance to residential customers in the Rock Creek District.
- Rock Creek customers are currently charged Arnold sewer charges.
- The project team was asked to consider if there are costs that are incurred by the City that are not related to serving these Rock Creek customers.
- Review of the City's sewer operating budget reveals approximately 17% of the sewer system operating expenses are not related to service Rock Creek customer.
- Sewer charges have been calculated to adjust for these expenses.

# Existing Debt Service



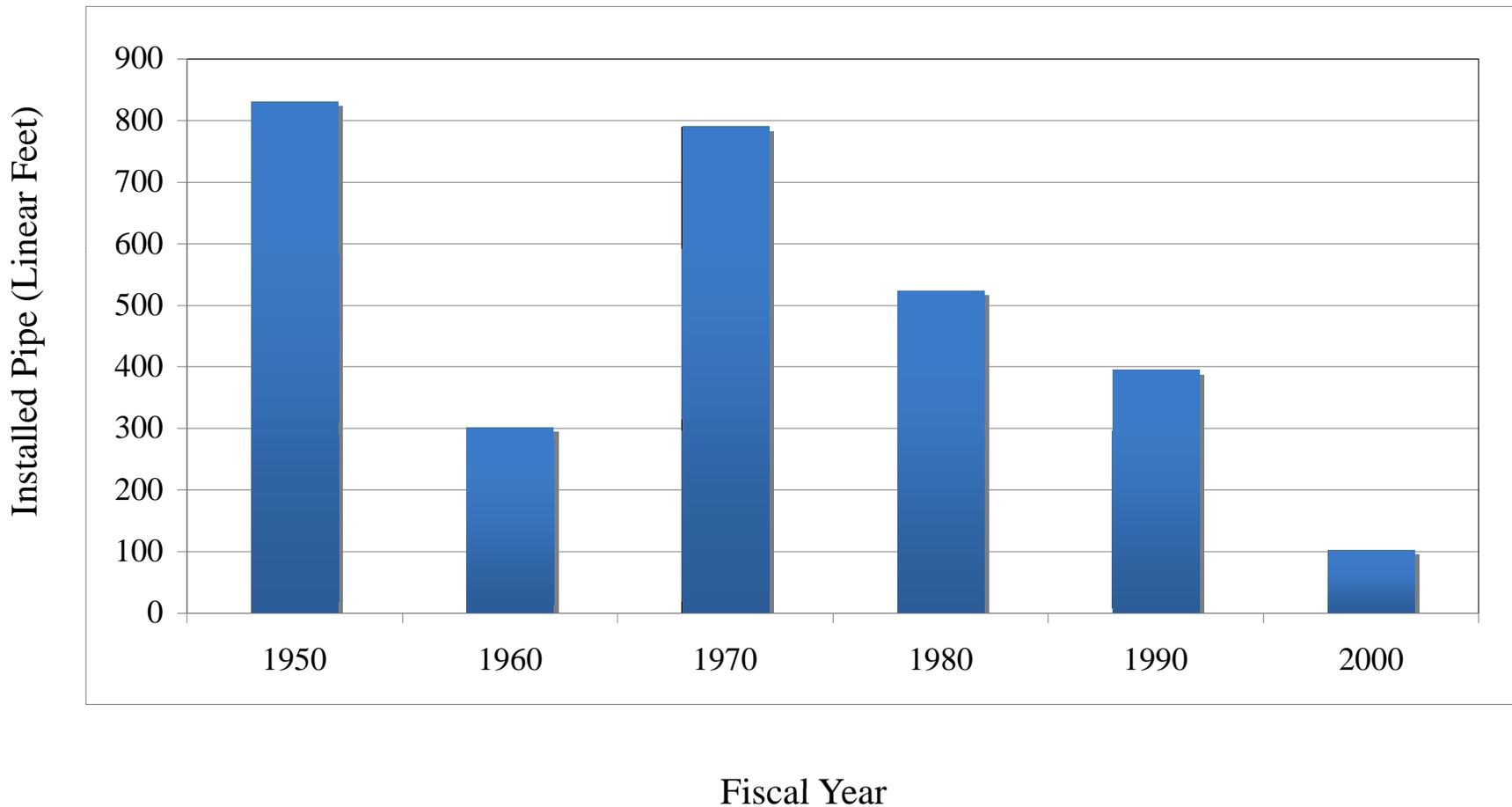
# Capital Outlays



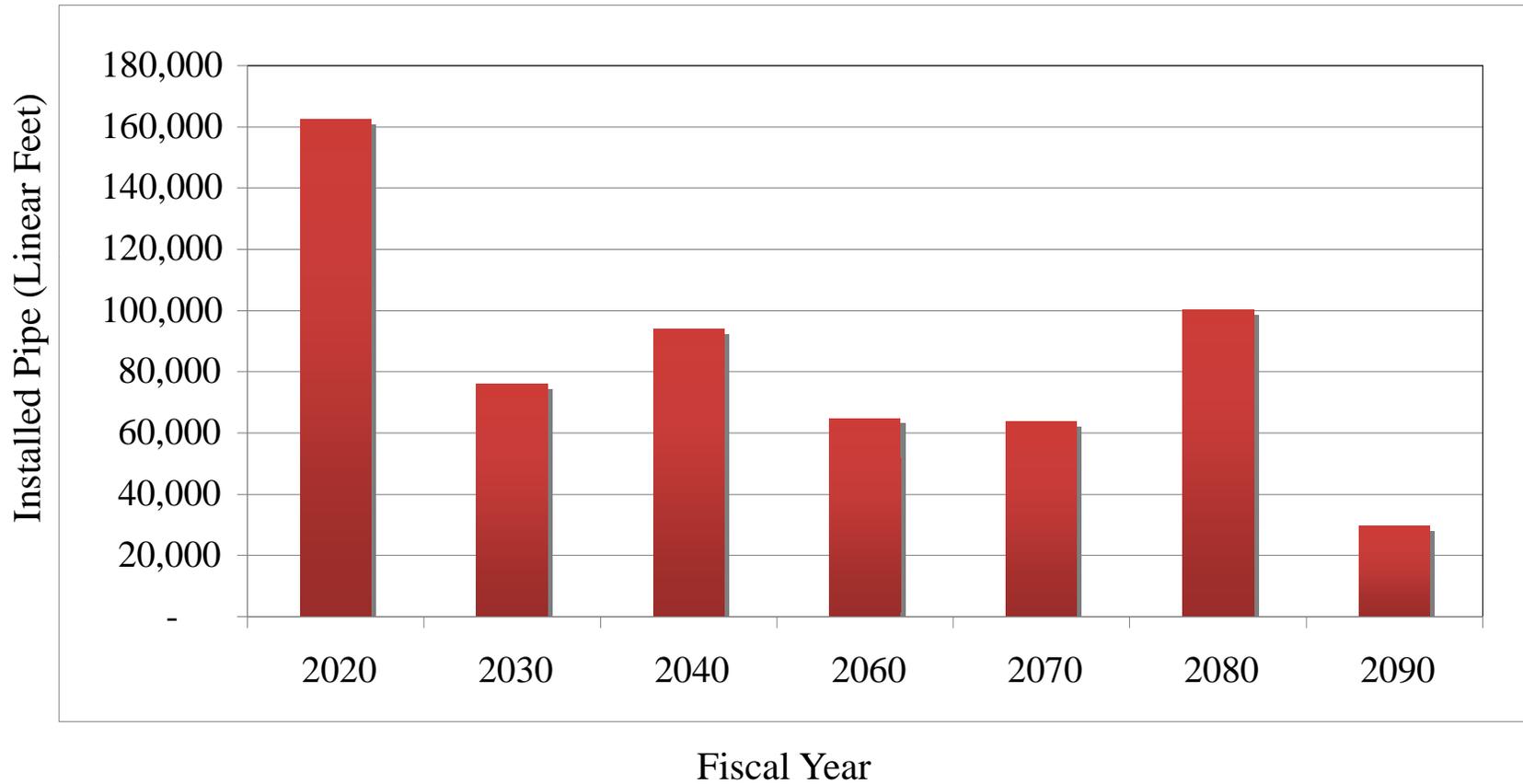
# Repair, Replacement & Rehabilitation Reserve (“3R”)

- What Should We Spend?
  - Useful Life of Sewer System Assets
  - Replacement Cost
- What Are We Spending?
  - Expenses allocated as Rehabilitation and Repair in both the CIP and Annual Operating Budget
- What is Required Contribution to Make Up the Difference?
  - Difference between annual spending and annual required reinvestment
  - 10-year rolling average of annual required contribution
  - Begin contributions in 2012

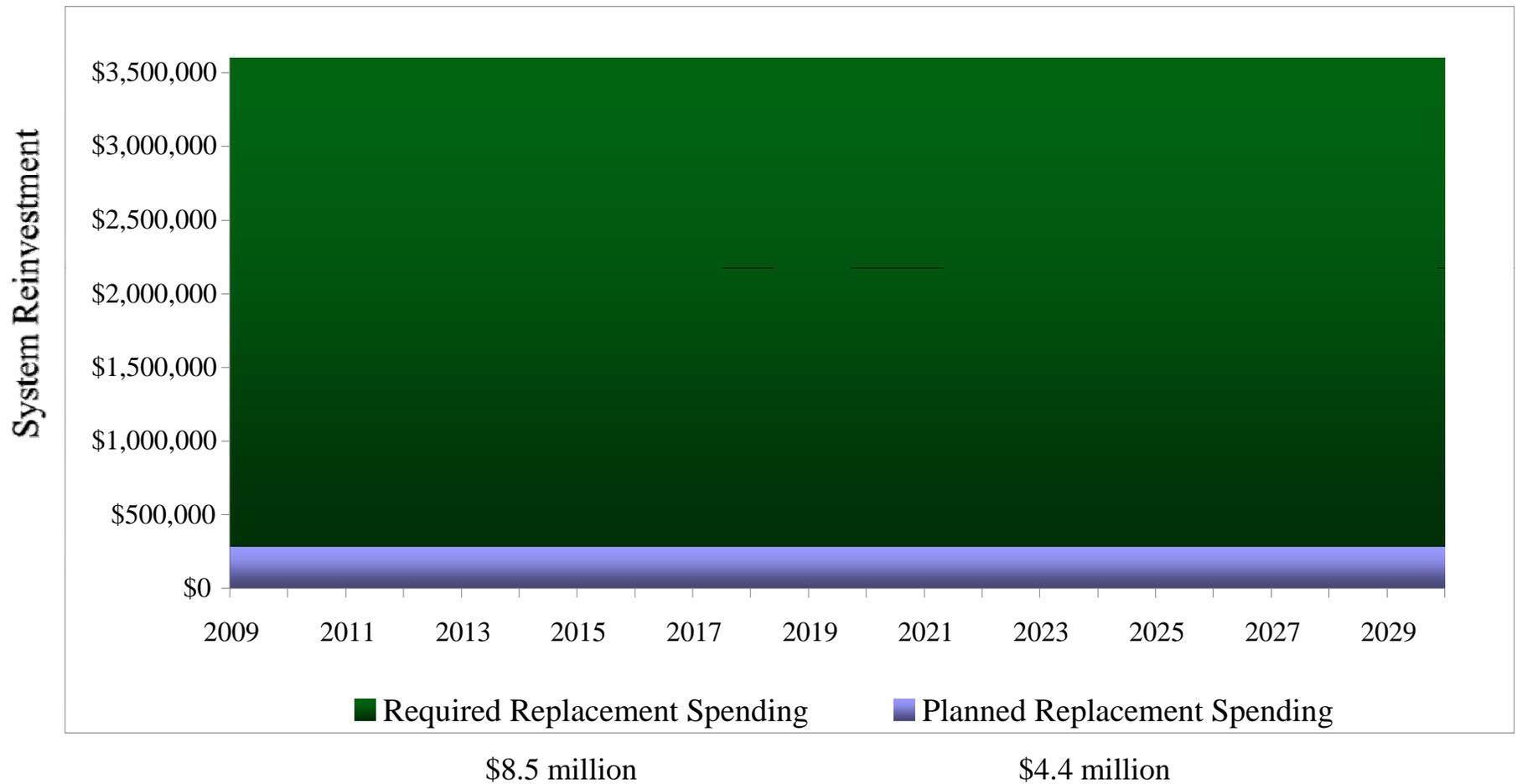
# Historical Buried Infrastructure Investment



# Buried Infrastructure Projected Replacement Year



# Sewer System Asset Review



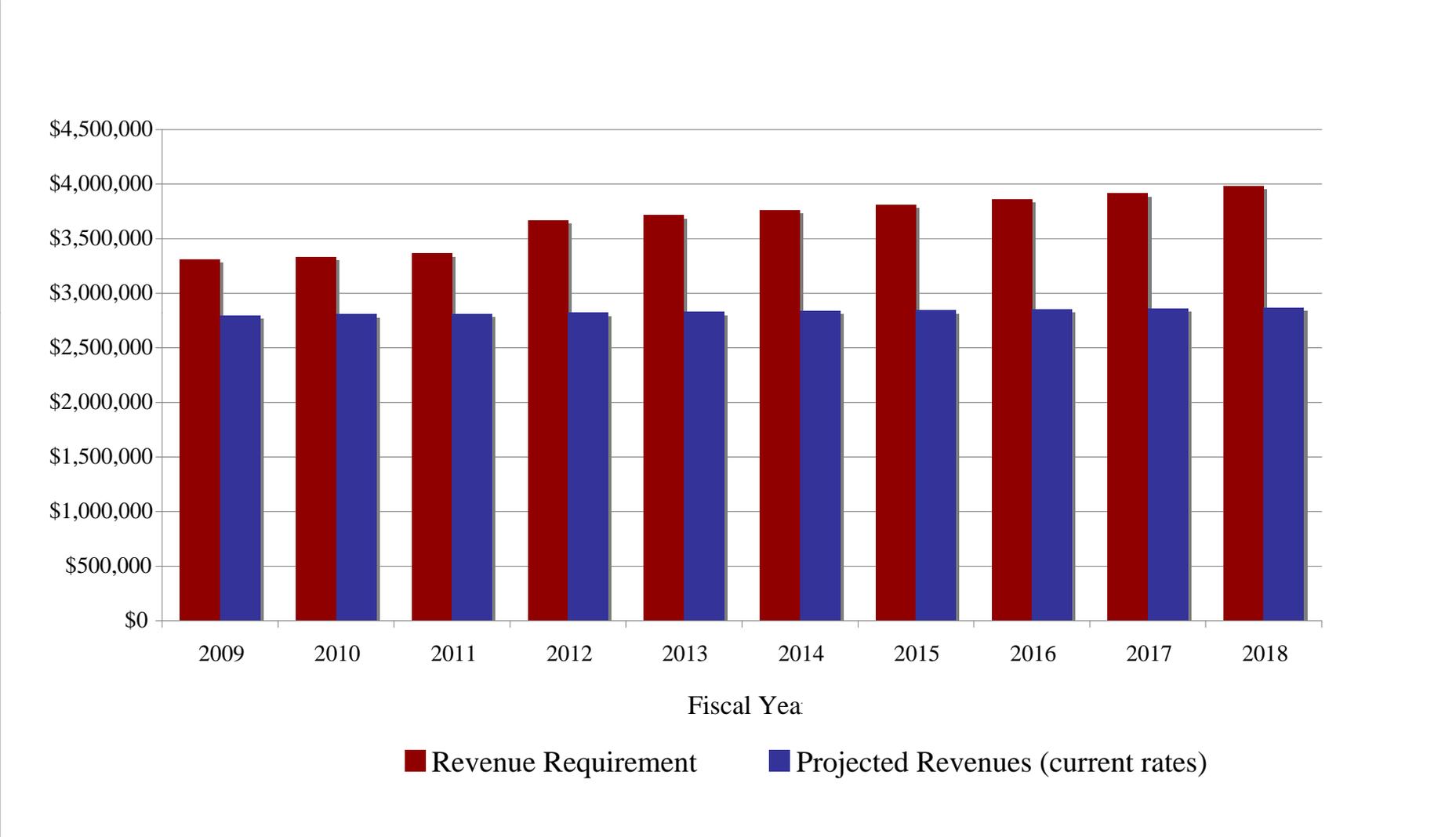
# Revenue Requirements

(million)	FY09	FY10	FY11	FY12	FY13
<b>Operating Costs</b>					
Operating Expenses	\$1.42	\$1.43	\$1.47	\$1.52	\$1.56
Operating Reserve Contribution	-	-	-	-	-
<i>Operating Expenses Subtotal</i>	<i>\$1.42</i>	<i>\$1.43</i>	<i>\$1.47</i>	<i>\$1.52</i>	<i>\$1.56</i>
<b>Capital Costs</b>					
Existing Debt Service	\$2.15	\$2.16	\$2.16	\$2.17	\$2.12
Cash Funded Capital Projects	-	-	-	-	\$0.05
Projected Debt Service	-	-	-	-	-
3R Reserve Contribution	-	-	-	\$0.24	\$0.24
<i>Capital Expenses Subtotal</i>	<i>\$2.15</i>	<i>\$2.16</i>	<i>\$2.16</i>	<i>\$2.41</i>	<i>\$2.41</i>
<b>Total Revenue Requirement</b>	<b>\$3.57</b>	<b>\$3.59</b>	<b>\$3.63</b>	<b>\$3.93</b>	<b>\$3.98</b>
Miscellaneous Other Revenues	\$0.22	\$0.22	\$0.22	\$0.22	\$0.22
Connection Fee Revenues	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
<b>Net Revenue Requirement</b>	<b>\$3.31</b>	<b>\$3.33</b>	<b>\$3.37</b>	<b>\$3.67</b>	<b>\$3.71</b>

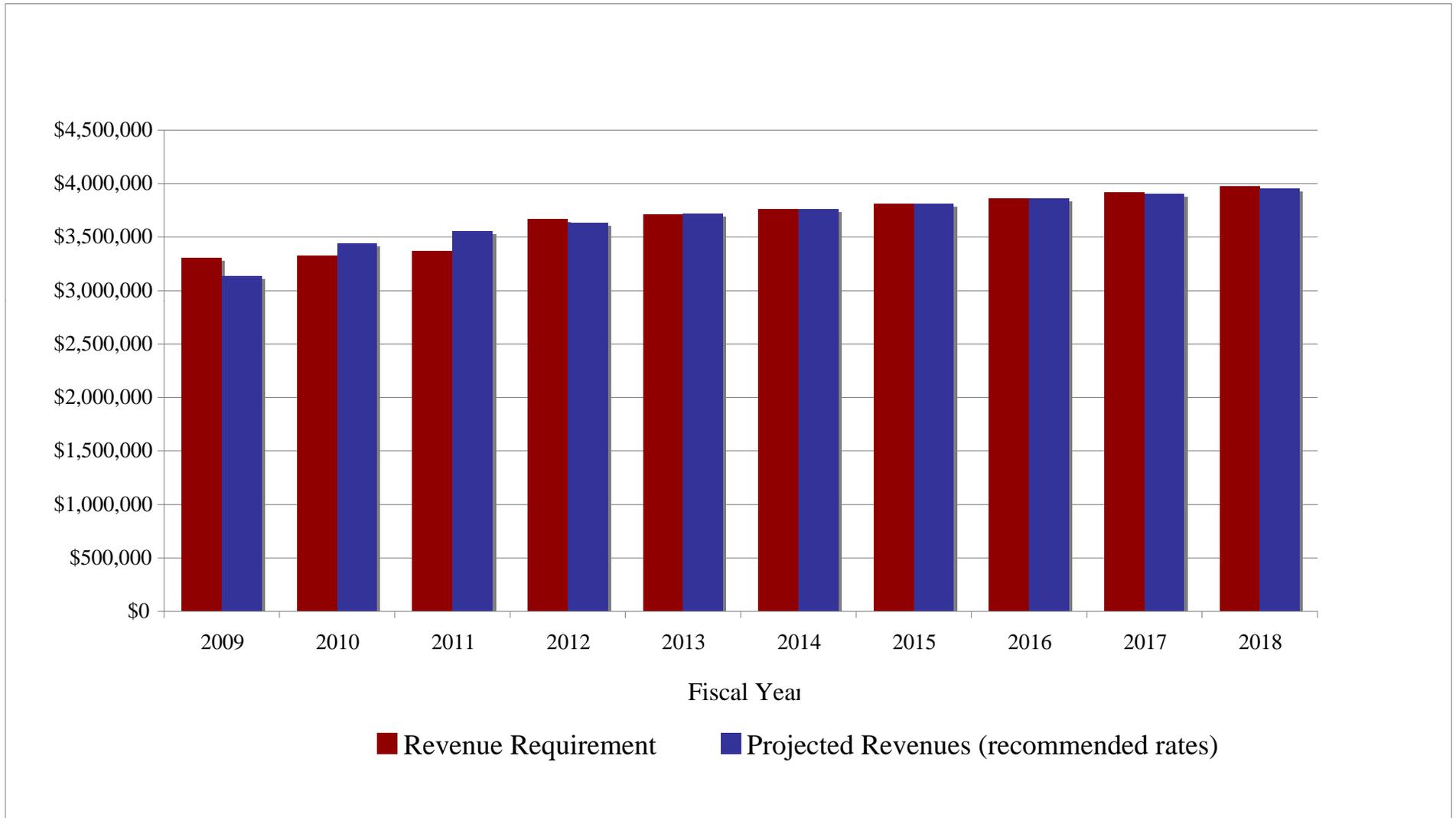
# Sewer System Revenues

(millions)	FY09	FY10	FY11	FY12	FY13
Net Revenue Requirement	\$3.31	\$3.33	\$3.36	\$3.67	\$3.71
Revenues Under Current Rates	\$2.80	\$2.81	\$2.81	\$2.82	\$2.83
Surplus / (Shortfall)	(\$0.51)	(\$0.52)	(\$0.55)	(\$0.85)	(\$0.88)
Required Breakeven Increase	18.2%	19%	20%	30%	31%
<b>Recommended Rate increases</b>	<b>20%</b>	<b>4%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>

# Revenue Requirement vs. Current Revenues



# Revenue Requirement vs. Proposed Revenues



\*FY 2009 revenues assume 8 months at new rates in FY 2009

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## Rates and Fee Alternatives

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# Sewer Rate Structures Considered

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- Numerous rate structure alternatives were considered
- Alternative A - Current Rate Structure
- Alternative D - Fixed Charge including 15,000 gallons and Winter Quarter Billing for Residential with Non-Residential Billed for All Usage

# Proposed Sewer Rates - FY 2009

	Current	Alternative*		
		A	D	D**
<b>Residential</b>				
Quarterly Fixed Charge (per housing unit)	\$62.13	\$74.80	\$67.00	\$66.80
Usage Charge (per 1,000 gallons)	NA	NA	\$3.98	\$3.96
<b>Non-Residential</b>				
Quarterly Fixed Charge (per unit)	\$62.13	\$74.80	\$67.00	\$66.80
Usage Charge (per 1,000 gallons)	\$3.45	\$4.15	\$3.98	\$3.96
<b>Rock Creek Customers</b>				
Quarterly Fixed Charge (per housing unit)	\$62.13	\$74.80	\$55.77	\$66.80
Usage Charge (per 1,000 gallons)	NA	NA	\$3.31	\$3.96

\*Each alternative will produce the same amount of revenue - a 20% increase in revenues

\*\*No Rock Creek Discount

# Sample Quarterly Sewer Bills - Residential

Usage (gallons)	Current Bill	Alternative A			Alternative D			Alternative D*		
		Bill	% Change	\$ Change	Bill	% Change	\$ Change	Bill	% Change	\$ Change
4,000	\$62	\$75	20%	\$13	\$67	8%	\$5	\$66.80	7.5%	\$4.7
6,000	\$62	\$75	20%	\$13	\$67	8%	\$5	\$66.80	7.5%	\$4.7
8,000	\$62	\$75	20%	\$13	\$67	8%	\$5	\$66.80	7.5%	\$4.7
<b>12,000</b>	<b>\$62</b>	<b>\$75</b>	<b>20%</b>	<b>\$13</b>	<b>\$67</b>	<b>8%</b>	<b>\$5</b>	<b>\$66.80</b>	<b>7.5%</b>	<b>\$4.7</b>
<b>14,000</b>	<b>\$62</b>	<b>\$75</b>	<b>20%</b>	<b>\$13</b>	<b>\$67</b>	<b>8%</b>	<b>\$5</b>	<b>\$66.80</b>	<b>7.5%</b>	<b>\$4.7</b>
<b>16,000</b>	<b>\$62</b>	<b>\$75</b>	<b>20%</b>	<b>\$13</b>	<b>\$71</b>	<b>14%</b>	<b>\$9</b>	<b>\$70.76</b>	<b>13.9%</b>	<b>\$8.6</b>
20,000	\$62	\$75	20%	\$13	\$103	40%	\$25	\$86.60	39.4%	\$24.5
30,000	\$62	\$75	20%	\$13	\$137	104%	\$65	\$126.20	103.1%	\$64.1
40,000	\$62	\$75	20%	\$13	\$170	168%	\$104	\$165.80	166.9%	\$103.7

\*No Rock Creek Discount

# Sample Quarterly Sewer Bills - Non-Residential

Top Ten Users	Usage (gallons)	Current Bill	Alternative D			Alternative D*		
			Bill	% Change	\$ Change	Bill	% Change	\$ Change
1	20,858,250	\$71,961	\$83,045	15%	\$11,084	\$82,606	14.8%	\$10,645
2	1,169,253	\$4,034	\$4,662	16%	\$628	\$4,638	15.0%	\$604
3	543,000	\$1,873	\$2,169	16%	\$296	\$2,158	15.2%	\$284
4	376,000	\$1,297	\$1,504	16%	\$207	\$1,496	15.4%	\$199
5	373,000	\$1,287	\$1,492	16%	\$205	\$1,484	15.4%	\$198
6	324,500	\$1,120	\$1,299	16%	\$180	\$1,292	15.4%	\$173
7	310,750	\$1,072	\$1,244	16%	\$172	\$1,238	15.5%	\$166
8	276,000	\$952	\$1,106	16%	\$154	\$1,100	15.6%	\$148
9	258,750	\$893	\$1,037	16%	\$145	\$1,032	15.6%	\$139
10	258,250	\$891	\$1,035	16%	\$144	\$1,030	15.6%	\$139

\*No Rock Creek Discount

# Connection Charges

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- Connection Charges: one-time charge for new connections to the sewer system to pay for the capacity utilized by / reserved for the new customer.
- Recommended Connection Charges are calculated based on the actual cost of providing capacity to new customers.
- Several methods for calculating connection charges including:
  - Buy-In (Available capacity in system)
  - Latest Increment (Recently purchased or constructed new capacity)

# Connection Charges

- Latest Increment Approach for Connection Charge

Total Cost of Capacity*	\$39,880,269
Total Capacity	4.5 MGD
Unit Cost for Capacity	\$8.86 per gallon
Usage Per EDU	270 gallons per day
<b>Connection Charge per EDU</b>	<b>\$2,393</b>
<b>Current Connection Charge per EDU</b>	<b>\$2,500</b>

\*Includes cost of financing projects

- Recommend the City maintains its current fee of \$2,500

# Recommendations

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- We recommend that the City formerly establish an O&M Reserve and a “3R” Reserve for the Sewer Fund.
- We recommend that the City immediately adjust sewer rates for Fiscal Year 2009 due to the shortfalls in the sewer fund and be aware of the need for future increases.

	2009	2010	2011	2012
Recommended Rate Increase	20%	4%	3%	2%

- We recommend that the City adopt the Alternative D rate structure.
- We recommend that the City maintain its sewer connection fee at its current level.