



Water and Wastewater Utility Rates - Workshop 1

January 12, 2016

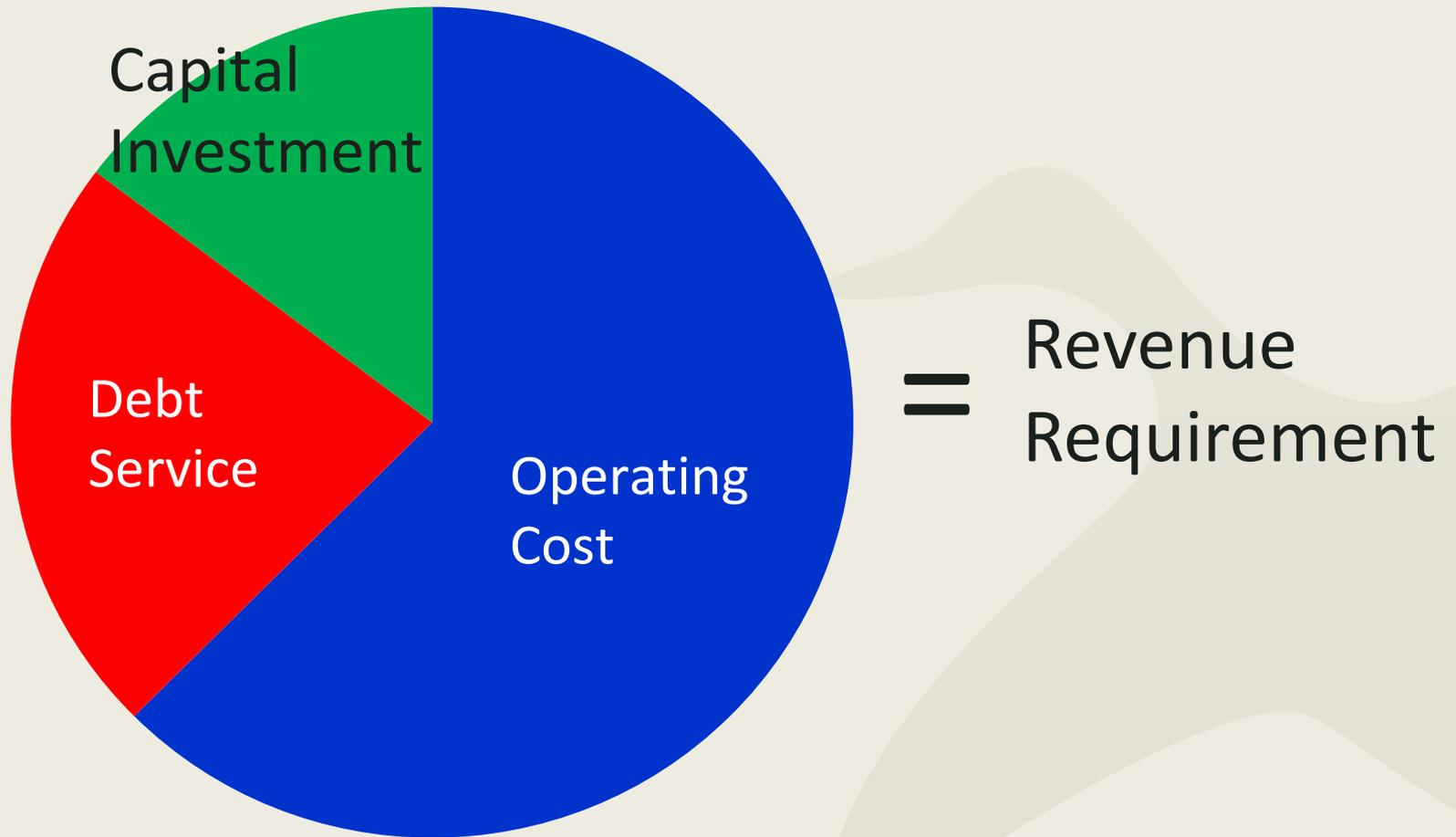
Presented By: Diana Langley
Public Works Director

Workshop Agenda

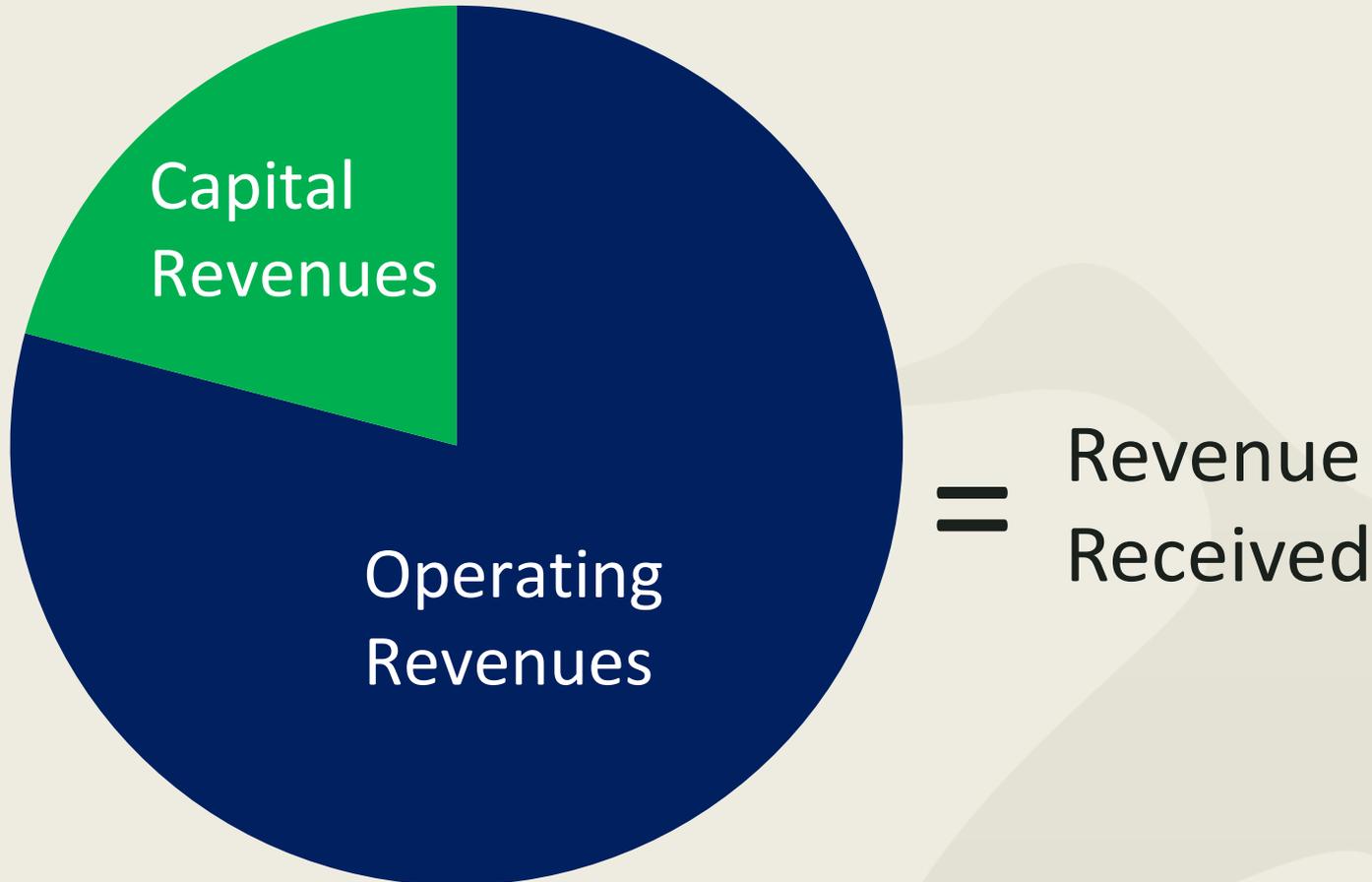


- Workshop 1 – January 12
 - Water and Wastewater Operational Needs
 - Condition of Water and Wastewater Systems
 - Major Capital Improvements Required
- Workshop 2 – February 9
 - Presentation of Proposed Rates
 - Review of Proposition 218 Process

Enterprise Operations

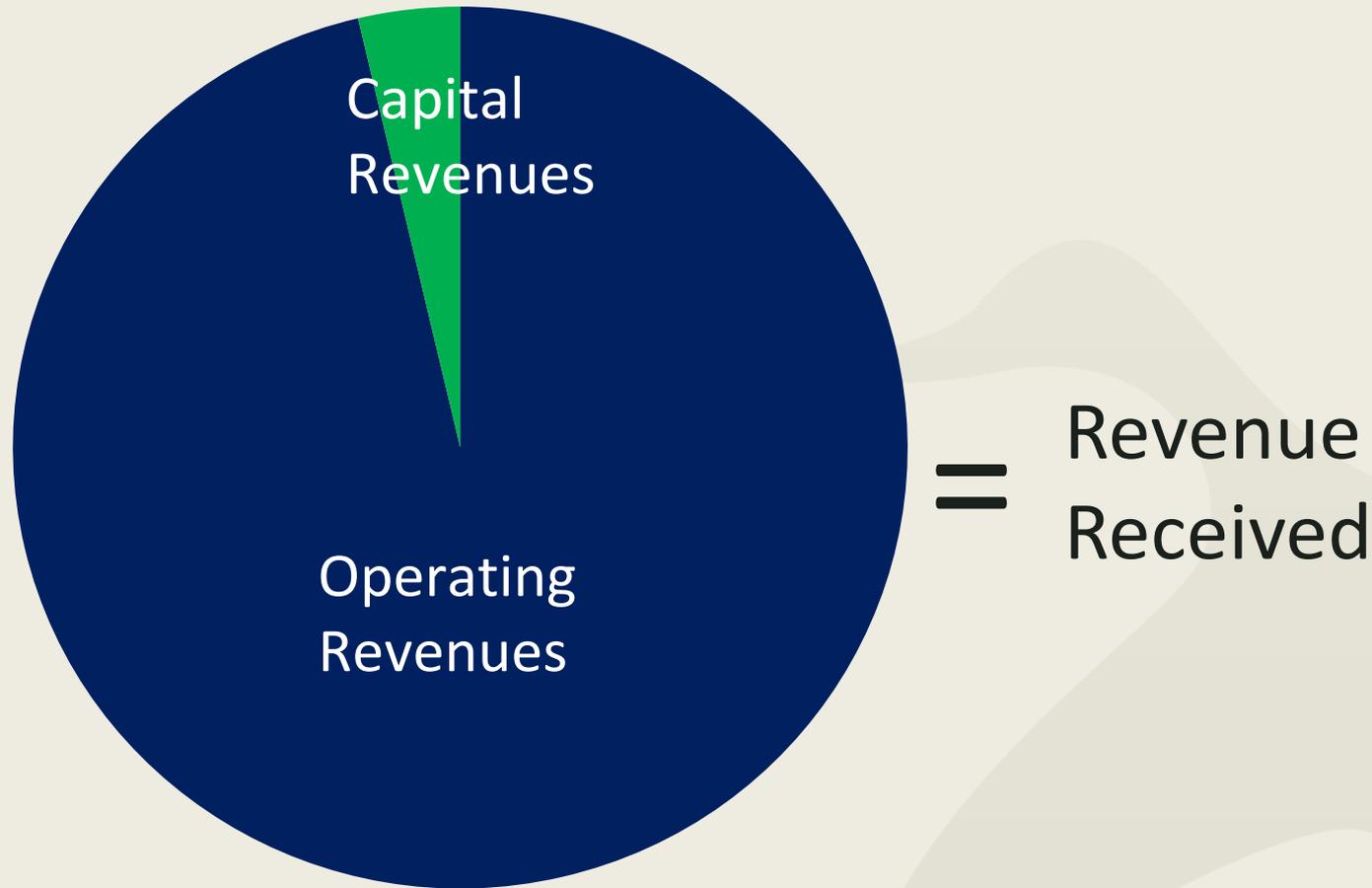


Enterprise Operations - Water



Operating Revenues = Water Sales, Backflow Prevention Fees, Interest on Investments
Capital Revenues = Extension Fees, Connection Fees, HWS Surcharge, Interest on Investments

Enterprise Operations – Wastewater



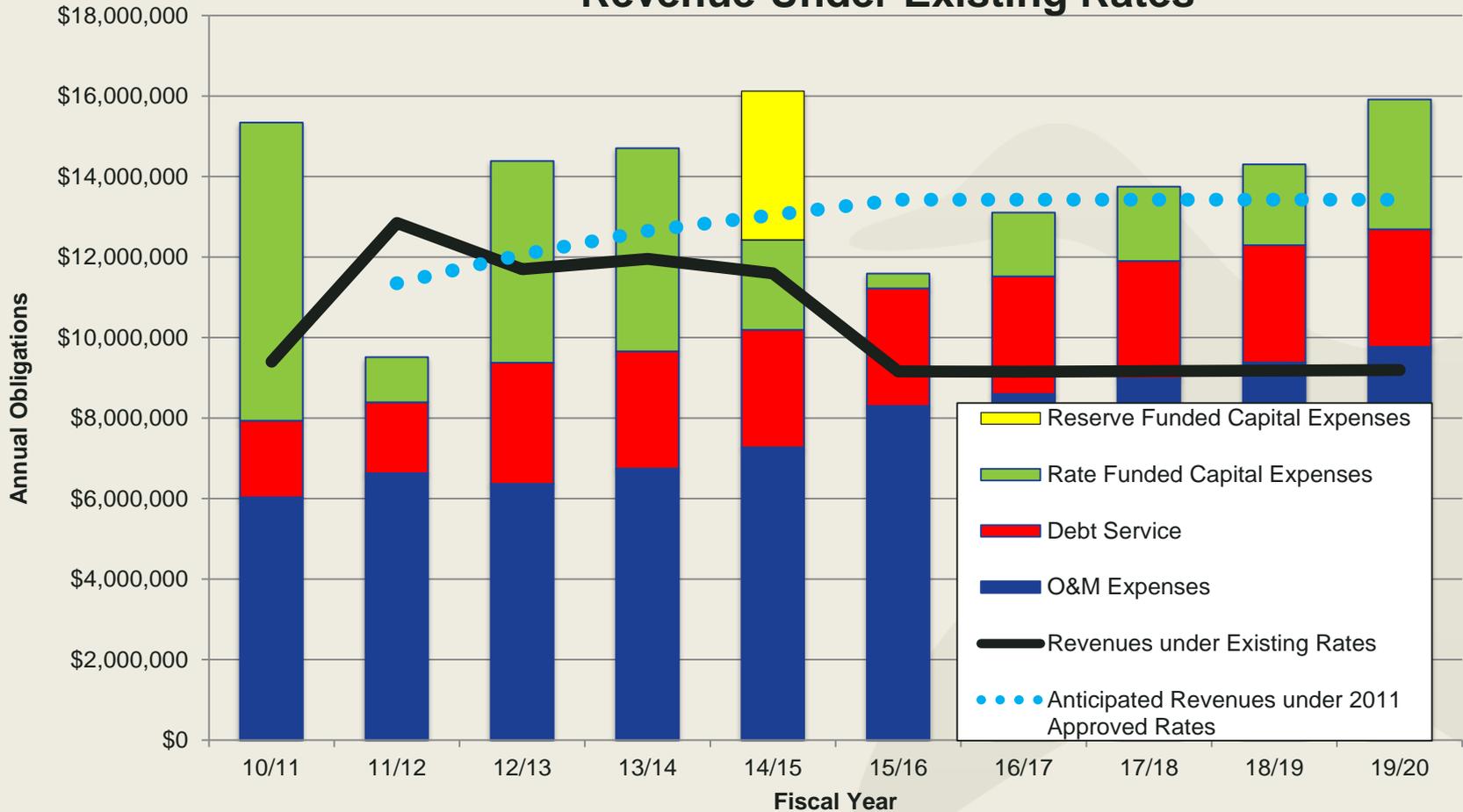
Operating Revenues – Wastewater Service Charges, Septage Fees, Lab Fees, Pretreatment Permits, Interest on Investments

Capital Revenues – Extension Fees, Connection Fees, Interest on Investments

Funding Allocation Over Time



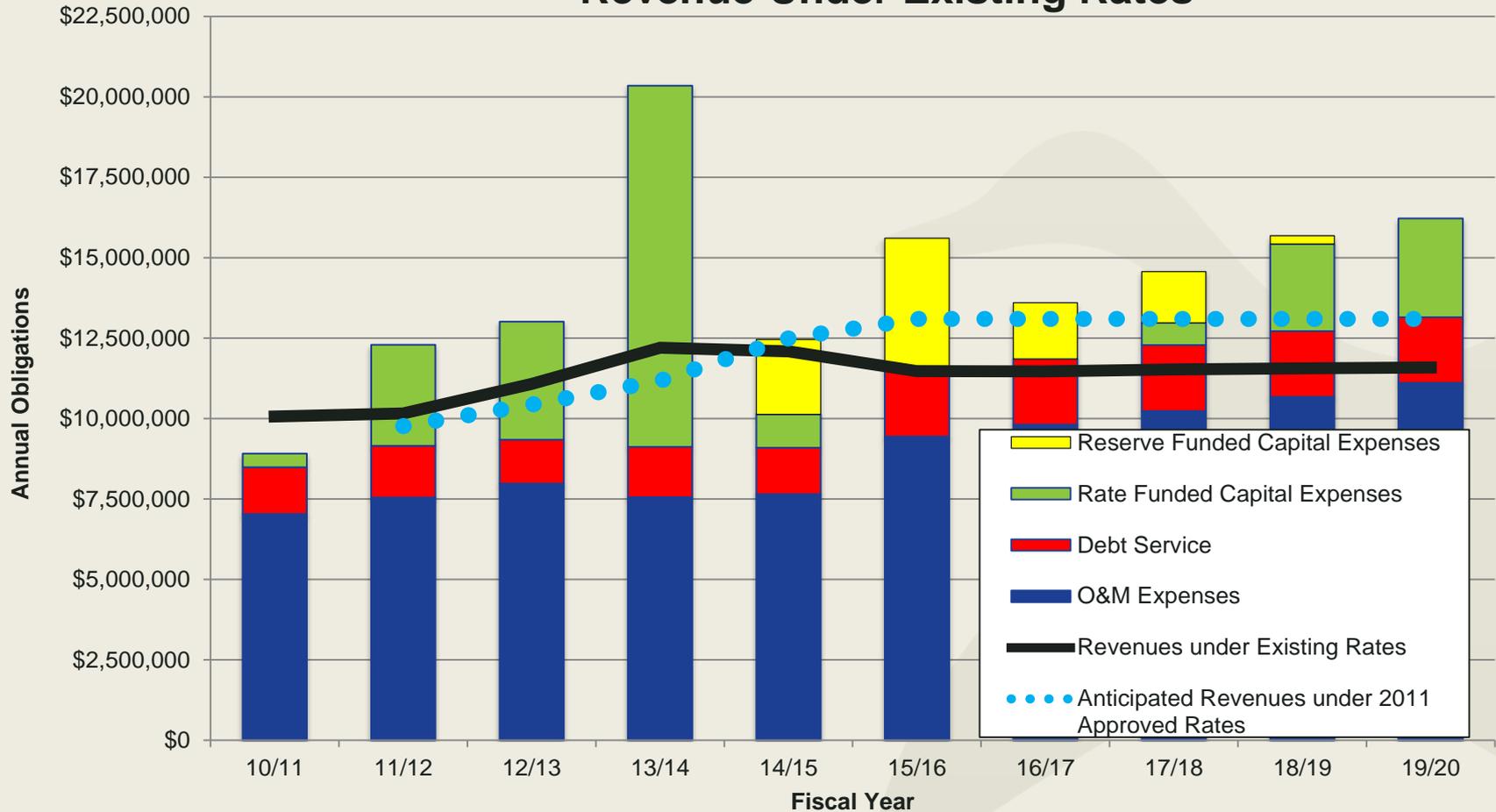
Water Revenue Requirements vs. Revenue Under Existing Rates



Funding Allocation Over Time



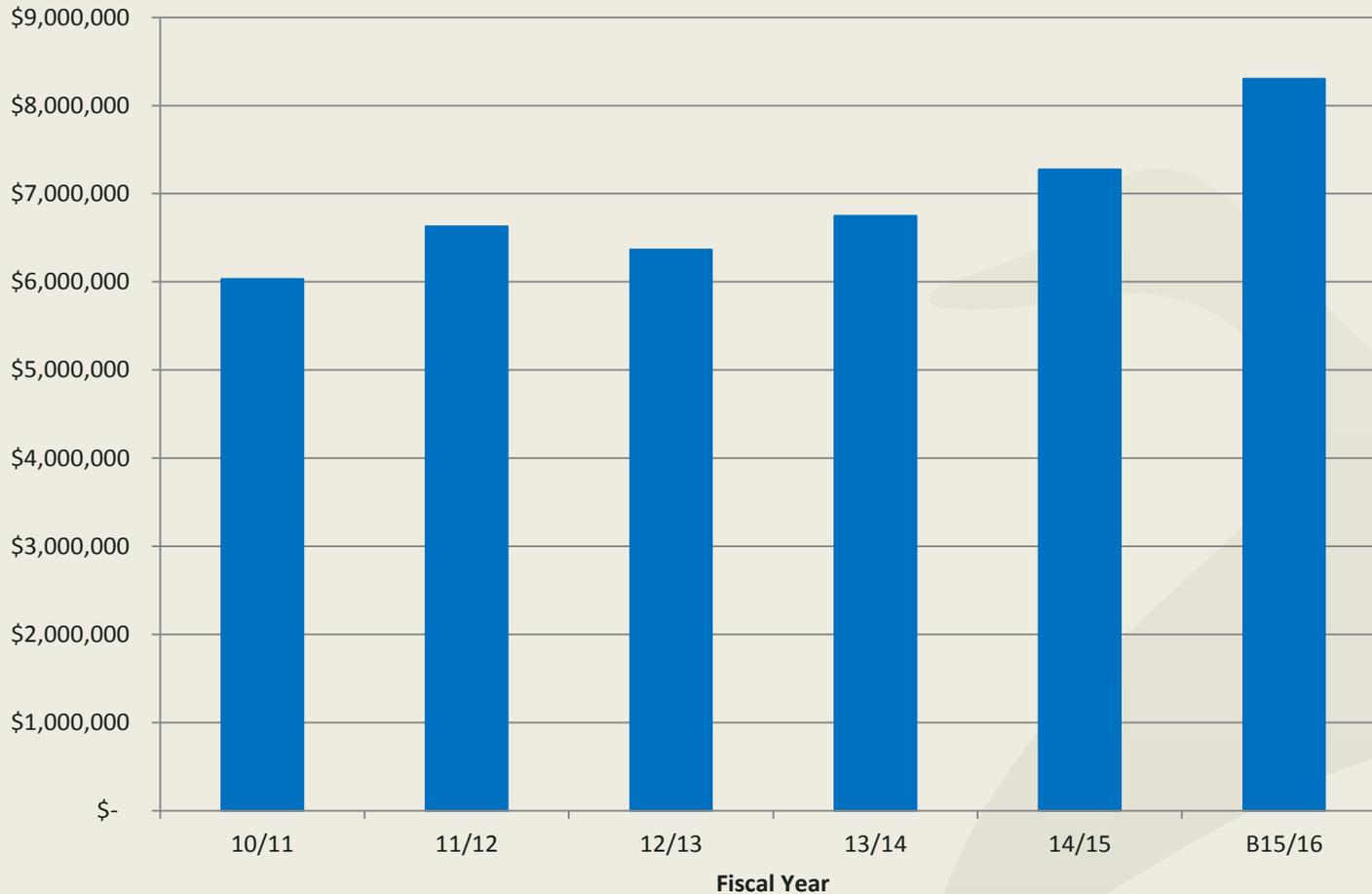
Wastewater Revenue Requirements vs. Revenue Under Existing Rates



Operating Costs - Water



Water Operating Costs

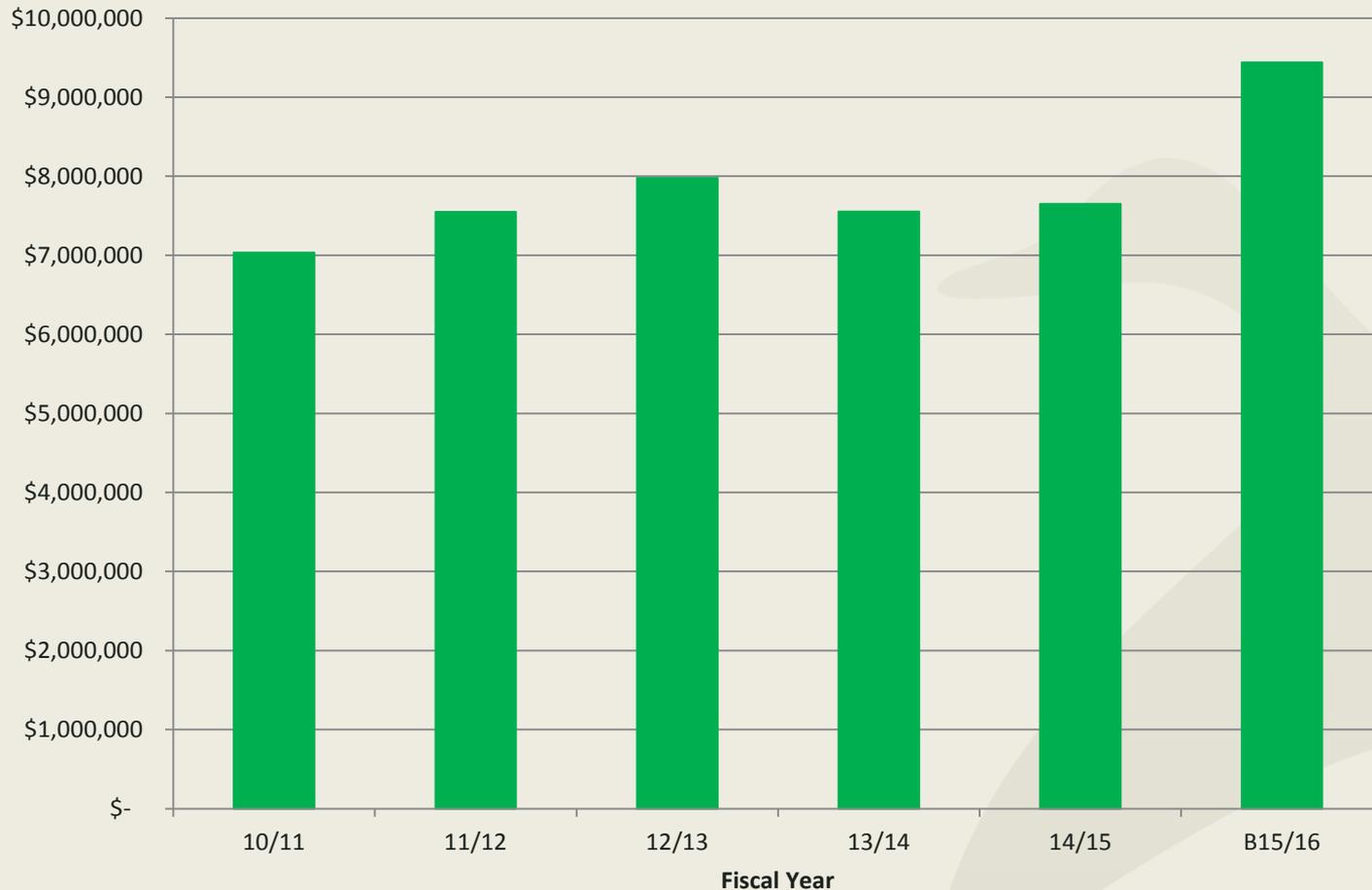


Operating Costs = Salaries & Benefits + Materials, Services, & Supplies

Operating Costs - Wastewater

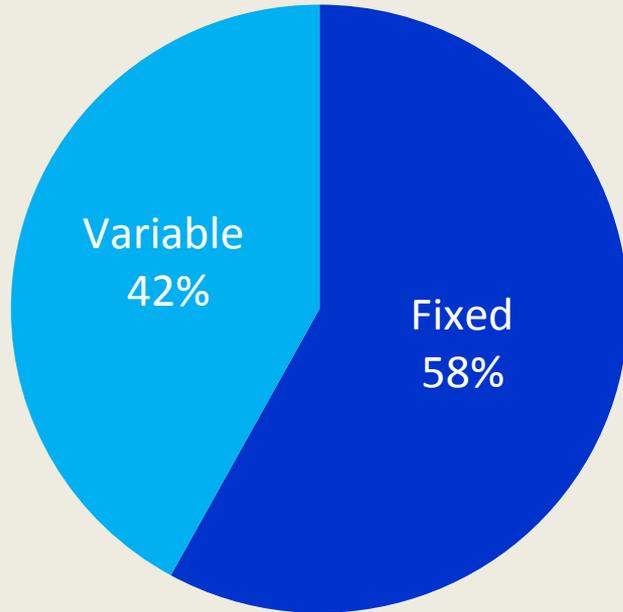


Wastewater Operating Costs

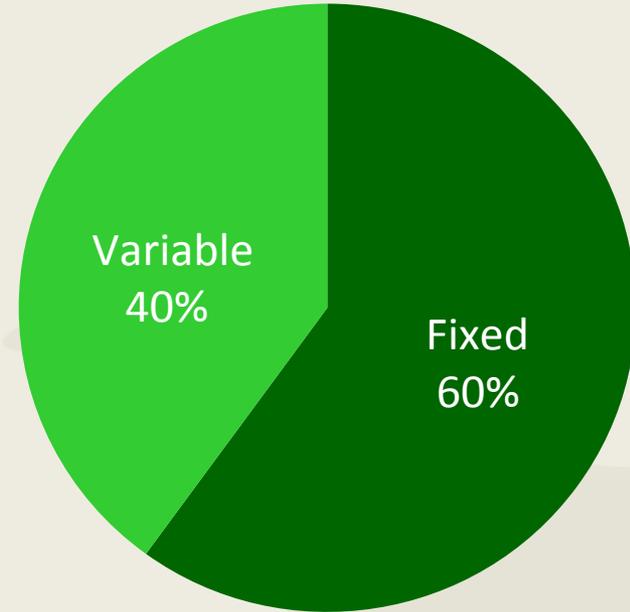


Operating Costs = Salaries & Benefits + Materials, Services, & Supplies

Operating Costs



Water



Wastewater

- Fixed Costs – Do not vary by volume treated
 - Examples: Raw water, staffing, maintenance, and repairs
- Variable Costs – Vary depending on volume treated
 - Examples: Power, utilities, and chemicals

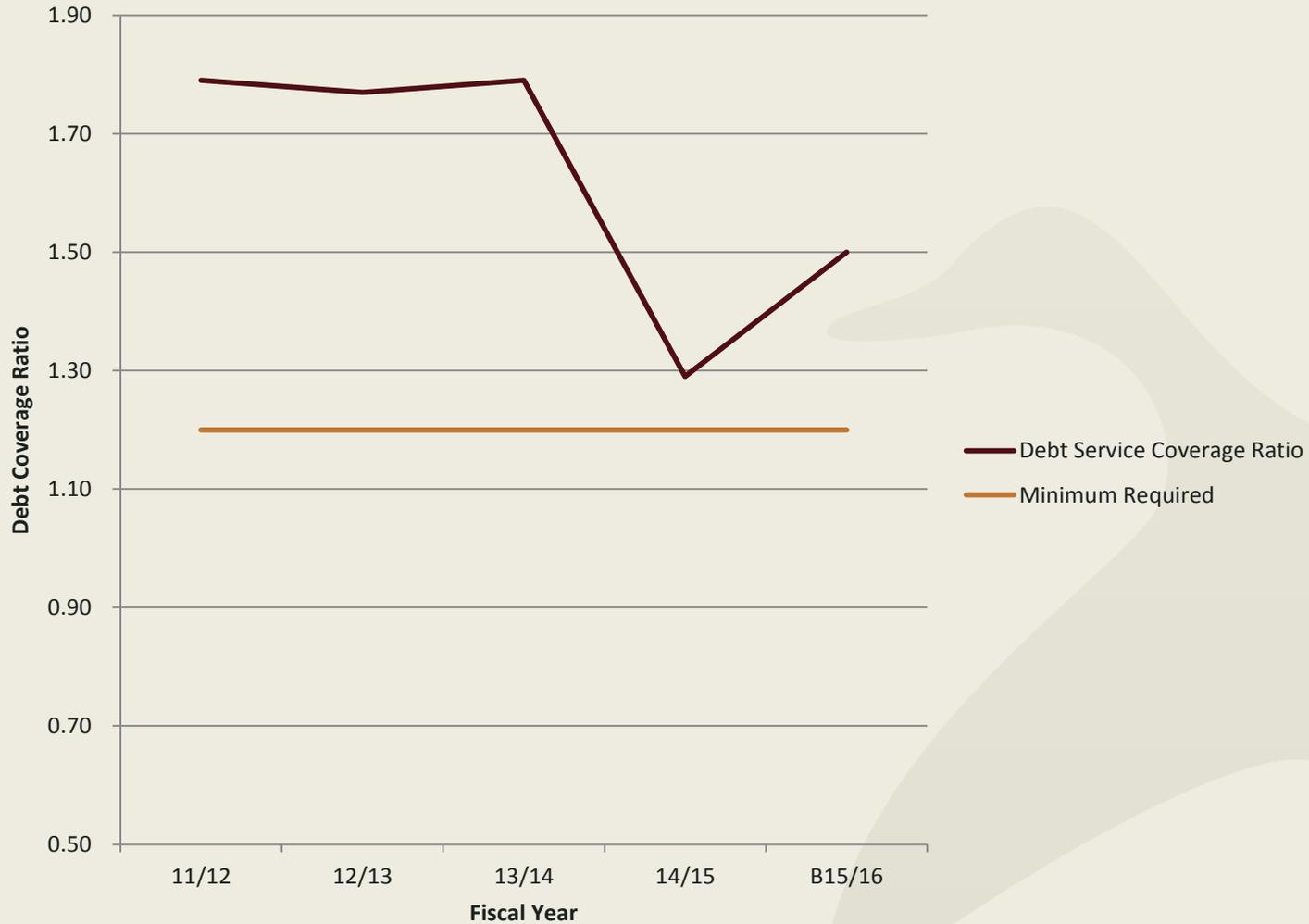
Debt Service - Water



- Existing Debt Obligations

Title	Amount	Approximate Annual Payment
Water Revenue Refunding Bonds - 2013	\$21,710,000	\$1,391,000
Water SRF Loan – Region 1	\$5,927,874	\$378,500
Water SRF Loan – Region 2/3	\$18,381,507	\$1,150,000
Total:		\$2,920,000

Debt Service - Water



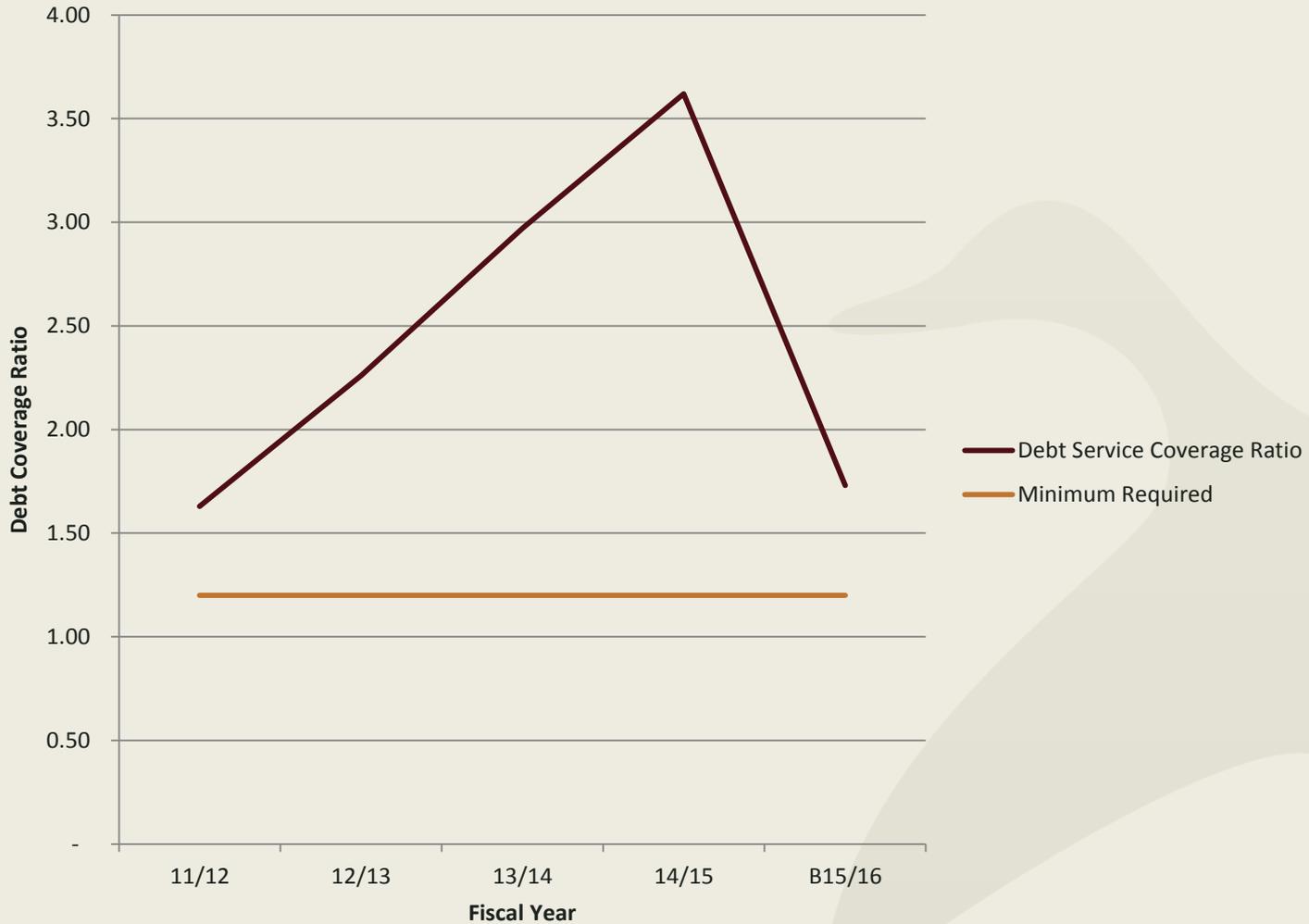
Debt Service - Wastewater



- Existing Debt Obligations

Title	Amount	Approximate Annual Payment
Wastewater Revenue Refunding Bonds – 2011	\$9,715,000	\$500,000
Wastewater Revenue Refunding Bonds – 2014	\$7,321,914	\$759,000
Wastewater SRF Loan – WWTF	\$3,500,000	\$219,000
Wastewater SRF Loan – Collection	\$7,193,965	\$386,000
Wastewater Solar Project	\$2,398,711	\$173,000
Total:		\$2,040,000

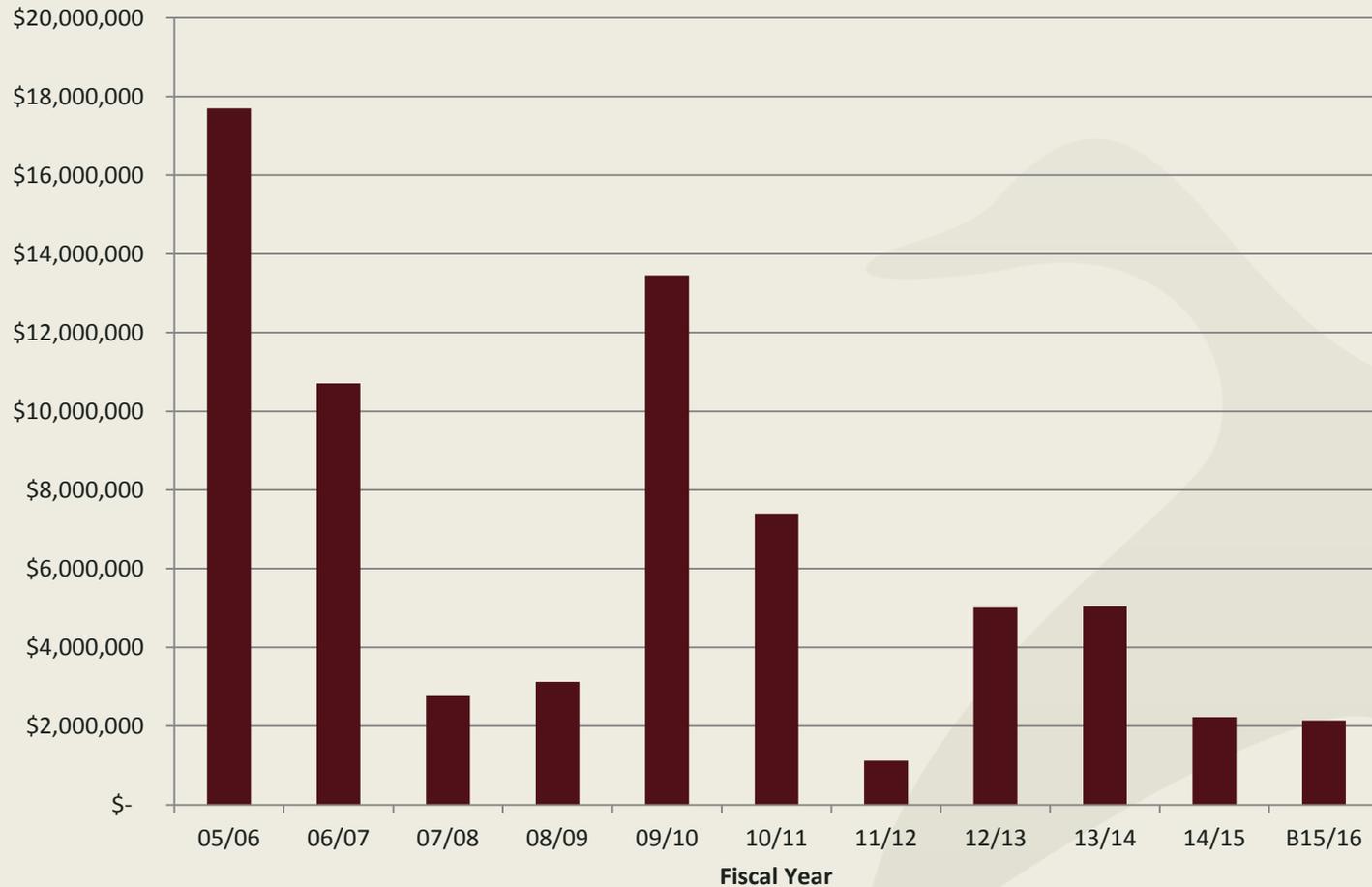
Debt Service - Wastewater



Capital Investment - Water



Capital Improvement Program Expenditures



Capital Investment - Water

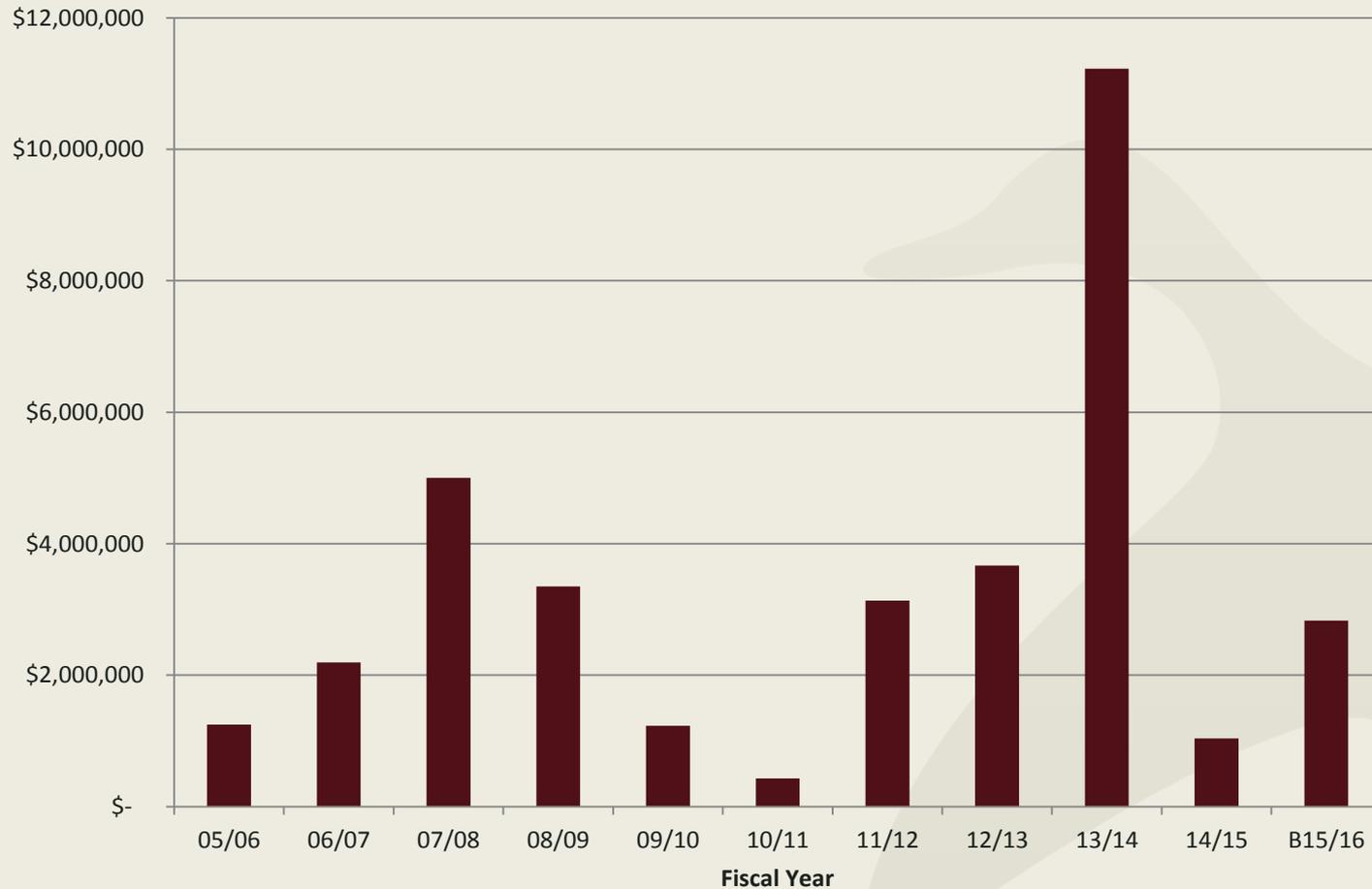


- Raw Water Intake & Fish Screen
- Low Lift Pump Station Security Improvements
- WTP Expansion to 36 MGD
- Hillcrest Conversion to Surface Water
- Water Line Replacement Project 2012
- Louise Avenue Water Line Replacement

Capital Investment – Wastewater



Capital Improvement Program Expenditures



Capital Investment – Wastewater



- Downtown Collection System Rehabilitation & Replacement
- Oxygen Reactors Improvements
- 12 kV Switchgear Improvements
- Emergency Wastewater Outfall Line

Water System Overview



- Water Treatment Plant
 - Placed into operation 1969
 - Expanded in 1999 – 24 MGD
 - Expanded in 2007 – 36 MGD
 - Current Permitted Capacity – 42 MGD
 - Average Demands

Year	Winter (MGD)	Summer (MGD)
2011	8.5	20.7
2012	9.7	22.9
2013	9.0	21.0
2014	9.4	18.7
2015	8.6	15.0

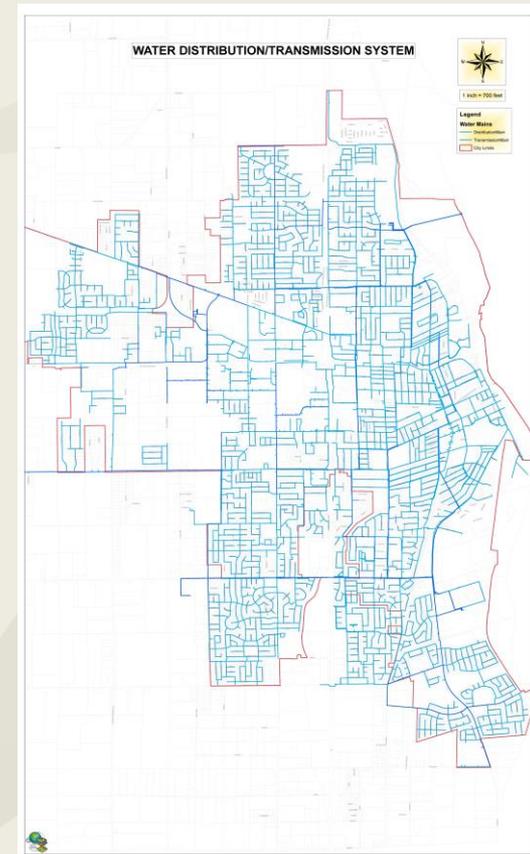
Water Treatment Plant



Water System Overview



- Water Distribution System
 - 265 Miles of Transmission and Distribution Mains
 - Sizes Range From 3” to 36”
 - 6 Storage Tanks



Water Infrastructure Condition & Needs



- Water Treatment Plant

Project	Estimated Cost	Priority
Electrical & Instrumentation Improvements		
Aquifer Storage Recovery/Second Well	\$4,600,000	
Carbon Feed System Replacement	\$500,000	
Backwash Recovery		
Sedimentation/Floc Basin Rehabilitation		
Fluoride System Replacement		
Security Improvements	\$75,000	
Groundwater Well Abandonments	\$400,000	
Total:		

Water Infrastructure Condition & Needs



Electrical &
Instrumentation
Improvements



Water Infrastructure Condition & Needs



Sedimentation/Floc
Basin Rehabilitation



Water Infrastructure Condition & Needs



Fluoride System
Replacement

Water Infrastructure Condition & Needs



- Water Distribution System

Project	Estimated Cost	Priority
Recoating Water Storage Reservoirs	\$400,000 Annual	High
Replacement of Water Mains	\$27,400,000	High
Replace Water Services/Water Meters	\$700,000 Annual	High

Water Infrastructure Condition & Needs



- Water Distribution System



Sam Brannan Tank

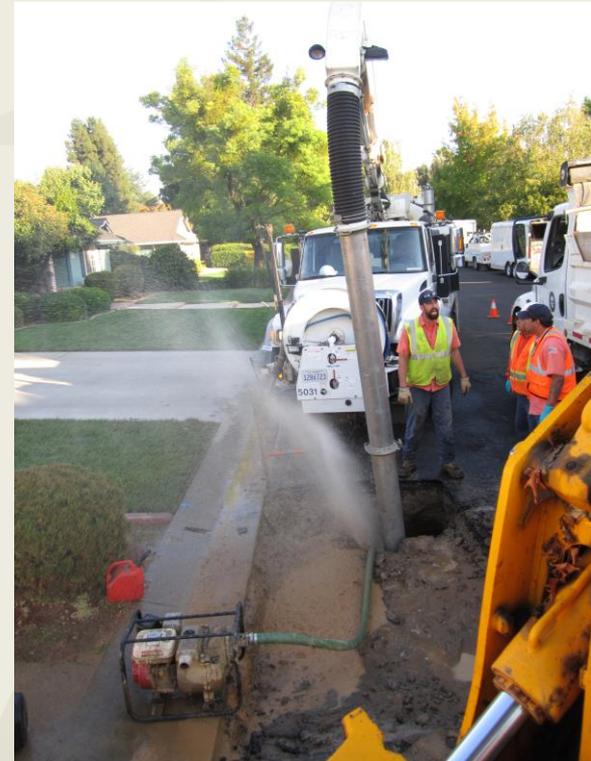


Harter Tank

Water Infrastructure Condition & Needs



- Water Distribution System



Water Infrastructure Condition & Needs



- Water Distribution System



Water Infrastructure Condition & Needs



- Water Distribution System



Water Infrastructure Condition & Needs



- Water Distribution System

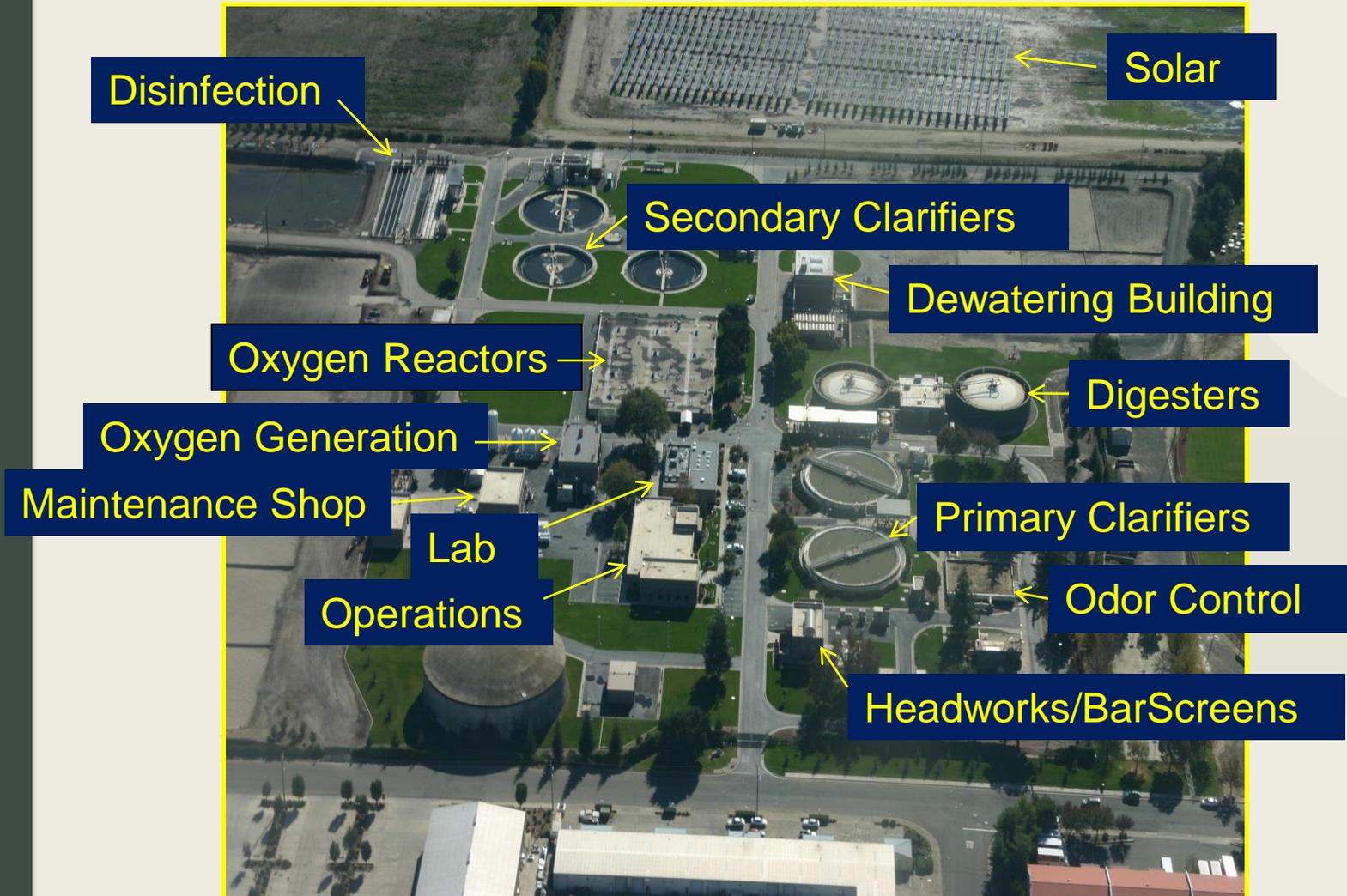


Wastewater System Overview



- Wastewater Treatment Plant
 - Placed into operation 1972
 - Expanded in 2005
 - Current Permitted Capacity – 10.5 MGD
 - Current Average Flow – 6.5 MGD
 - Solids Coming Into Facility – 11,000 lbs/day

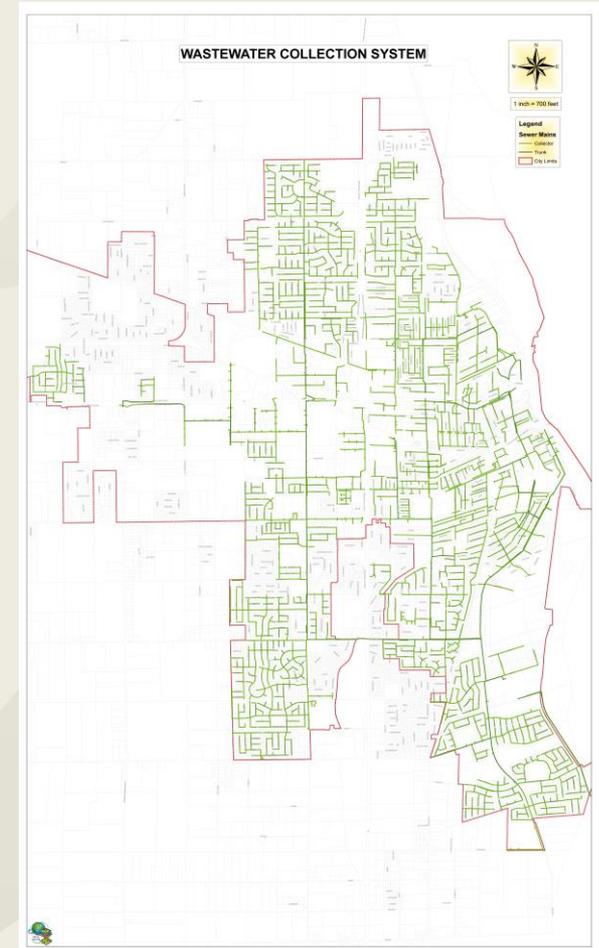
Wastewater Treatment Facility



Wastewater System Overview



- Wastewater Collection System
 - 173 Miles of Sewer Mains
 - Sizes Range From 6” to 42”
 - 17 Sewer Lift Stations



Wastewater Infrastructure Condition & Needs



- Wastewater Treatment Facility

Project	Estimated Cost	Priority
Digester Improvements		
Barscreen Rehabilitation/Replacement	\$1,200,000	
Dewatering System Improvements	\$3,550,000	
Electrical & Instrumentation Improvements	\$1,000,000	
West Chlorine Contact Basin Rehabilitation	\$650,000	
Secondary Clarifier No. 4	\$5,500,000	
New Outfall Diffuser	\$11,500,000	
Secondary Clarifier Improvements	\$980,000	
New Co-Generation System		

Wastewater Infrastructure Condition & Needs



- Wastewater Treatment Facility

Project	Estimated Cost	Priority
Oxygen Generation Improvements		
Grit Removal Facility	\$4,000,000	
Disinfection System Evaluation & Replacement	\$3,150,000	
Advanced Treatment & Water Recycling Opportunities Evaluation	\$270,000	
New Septage Receiving Facility	\$1,650,000	
Total:		

Wastewater Infrastructure Condition & Needs



Digester Lids



Wastewater Infrastructure Condition & Needs



Barscreen Rehabilitation/
Replacement



Wastewater Infrastructure Condition & Needs



Dewatering System
Improvements



Wastewater Infrastructure Condition & Needs



Electrical &
Instrumentation
Improvements



Wastewater Infrastructure Condition & Needs



Rehabilitation of
West Chlorine
Contact Basin

Wastewater Infrastructure Condition & Needs



Secondary
Clarifier
No. 4

Wastewater Infrastructure Condition & Needs



New Outfall
Diffuser

Wastewater Infrastructure Condition & Needs



Existing Outfall Diffuser

Proposed Outfall Diffuser Location

New Outfall Diffuser

Wastewater Infrastructure Condition & Needs



- Wastewater Collection System

Project	Estimated Cost	Priority
Replacement of Sewer Mains	\$33,000,000	High
Rehabilitation of Sewer Mains & Manholes		
Lift Station Improvements	\$150,000 Annual	High

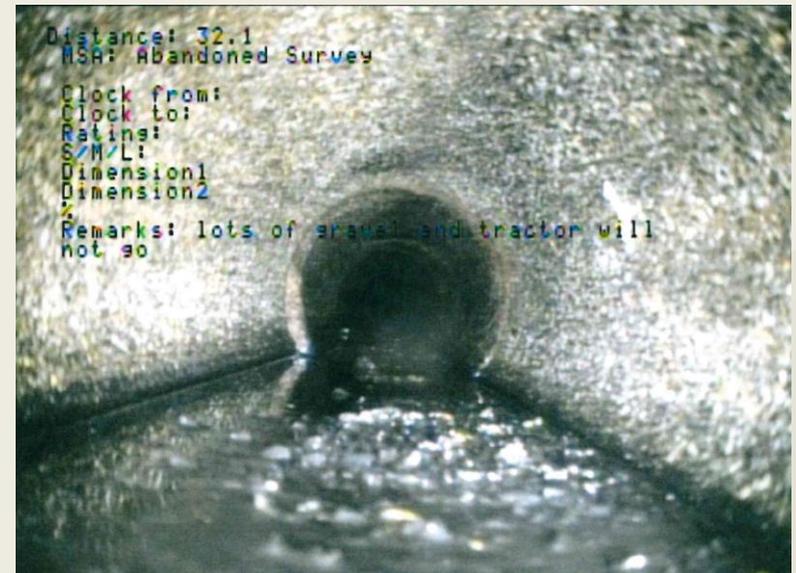
Wastewater Infrastructure Condition & Needs



- Wastewater Collection System



Manhole



Concrete Sewer Pipe

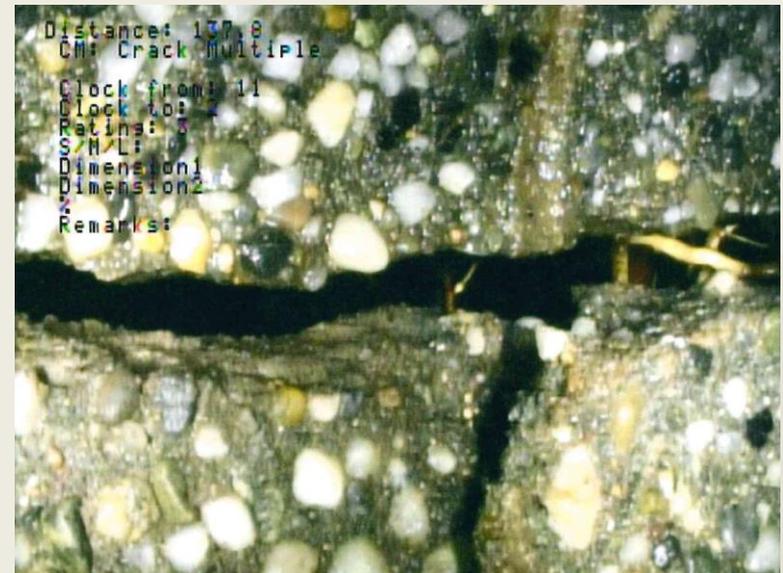
Wastewater Infrastructure Condition & Needs



- Wastewater Collection System



Concrete Sewer Pipe



Concrete Sewer Pipe

Conclusion



- Need to recover revenues to meet operating and debt service costs at a minimum
- Long-term need to collect sufficient revenues for continued capital investment for rehabilitation and replacement