



# **NACWA WINTER TECHNICAL CONFERENCE**

**February 5, 2009**

**Clean Water Atlanta Program  
Controlling Capital Improvement Budget**

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**Department of Watershed Management**

**City of Atlanta**



# Presentation Summary

- ◆ **Water & Wastewater Systems Overview**
- ◆ **System Deficiencies/Needs**
- ◆ **Initial Capital Improvement Program**
- ◆ **Constraints**
- ◆ **Cost Reductions/Cost Controls**



# Wastewater System

- **1500+ miles of sewer**
  - **10% combined**
  - **90% separated**
- **Serves 6 other entities**
- **55% Atlanta; 45% outside flow**
- **Serves population of 1.5 Million**
- **3 WRCs - capacity of 187 MGD**
- **6 CSO facilities**





# Drinking Water System



- **Service Area:**
  - 650 sq. mi. (1,700 sq. km)
- **Population served:**
  - Over 1.2 million
- **Wholesale customers**
  - **Counties:**
    - Clayton
    - Coweta,
    - Fayette
  - **Cities:**
    - Fairburn
    - Hapeville
    - Union City





# SYSTEM DEFICIENCIES/NEEDS

- ◆ **CSO Standards Changed – CSO Consent Decree - 1998.**
  - ◆ **SSO – Consent Decree - 1999**
  - ◆ **Aging Water Distribution System**
  - ◆ **Water Transmission Mains**
  - ◆ **Contract Operations for Water System & Biosolids Terminated**
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# 2002 CAPITAL IMPROVEMENT PROGRAM

CATEGORY	BUDGET
CSO	\$1,105,660,626
SSO	\$1,495,526,614
WASTEWATER	\$360,120,569
WATER	\$935,736,833
TOTAL	\$3,897,044,642



# Constraints

- ◆ **Implement \$3 billion Consent Decree Program**
  - ◆ **CSO – 6 years**
  - ◆ **SSO – 12 years**
- ◆ **Lack of funding not a consideration for non-compliance**
- ◆ **Additional rate increases not politically acceptable**
- ◆ **\$1 billion of other water & wastewater needs**
- ◆ **Drought**



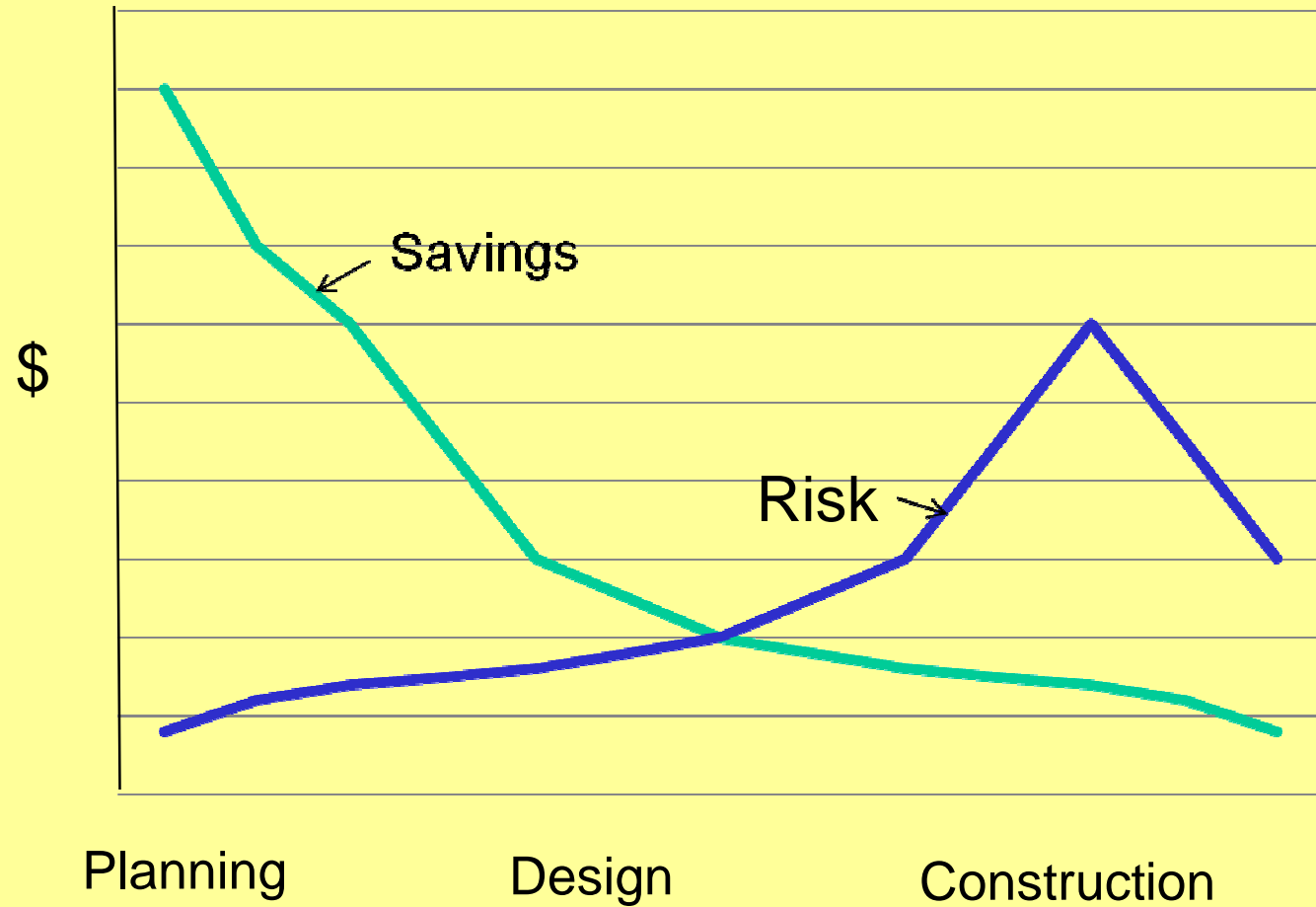


# Funding the Program

- ◆ **2004 – 5 yr. Rate Plan Adopted  
45%, 43%, 18%, 11%, 10%**
- ◆ **2008 – 4 yr Rate Plan Adopted  
27.5%, 12.5%, 12.5%, 12%**
- ◆ **2003 – W & S Bill for Avg. Res. Customer \$49.60**
- ◆ **2012 – W & S Bill for Avg. Res. Customer \$151.92**

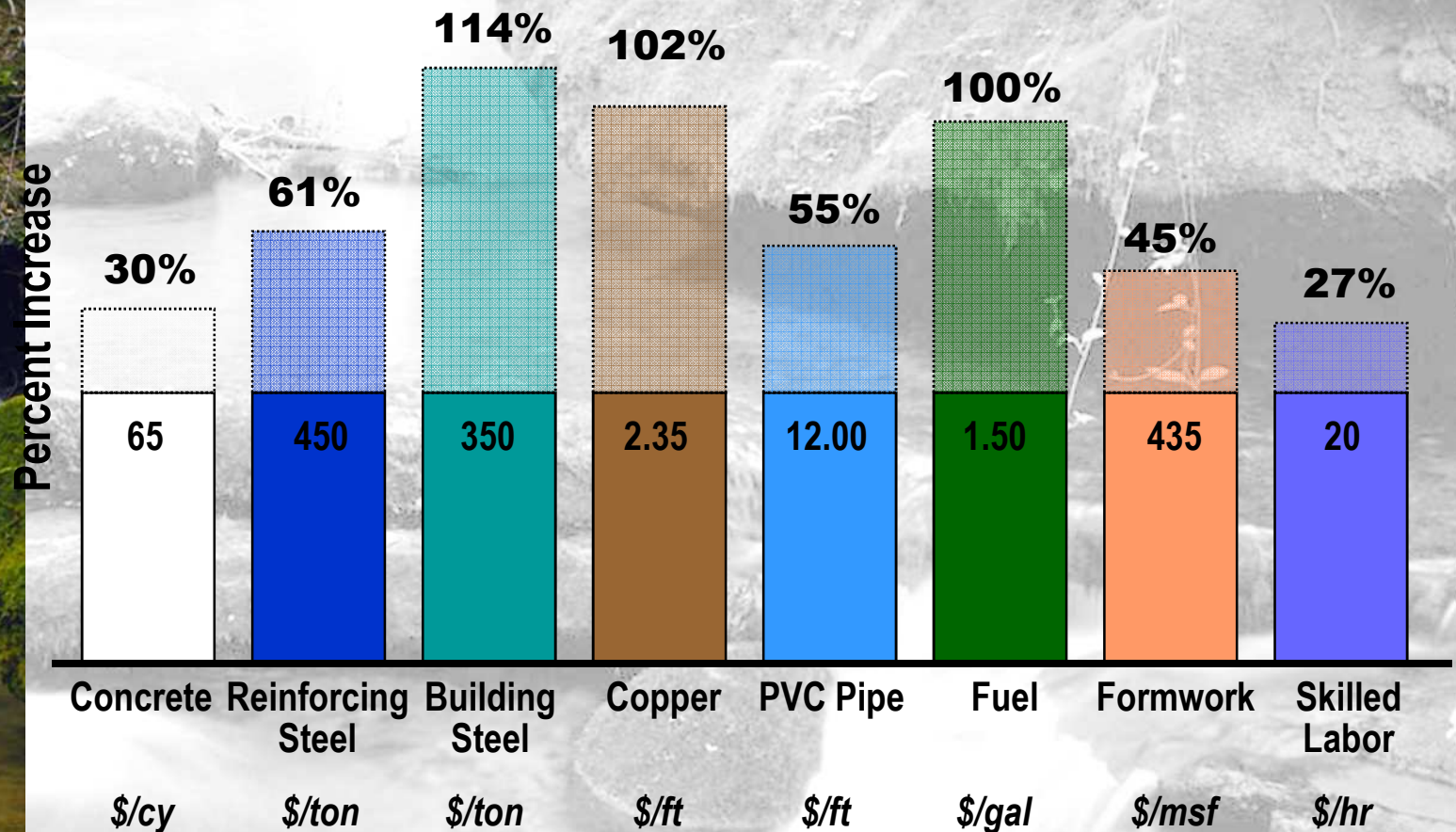


# Cost Savings & Risk





# Construction costs rose significantly from 2000-2006







# Value Engineering

## CSO Program

- ◆ **Established VE Team**
  - ◆ **City Engineering Representatives**
  - ◆ **Operations Representatives**
  - ◆ **Consultant Support**
- ◆ **Re-examined Basic Concepts**
- ◆ **Revised Operating Parameters**
- ◆ **Modified Treatment Processes**
- ◆ **Savings of \$200 million**





# CSO Program

- 
- ◆ **Original Plan Budget - \$1,106 Million**
  - ◆ **Current Budget - \$759 Million**
  - ◆ **Value Engineering Savings**
  - ◆ **Savings on Major Storage Tunnel Project**
  - ◆ **Increases in Sewer Separation Project Costs**



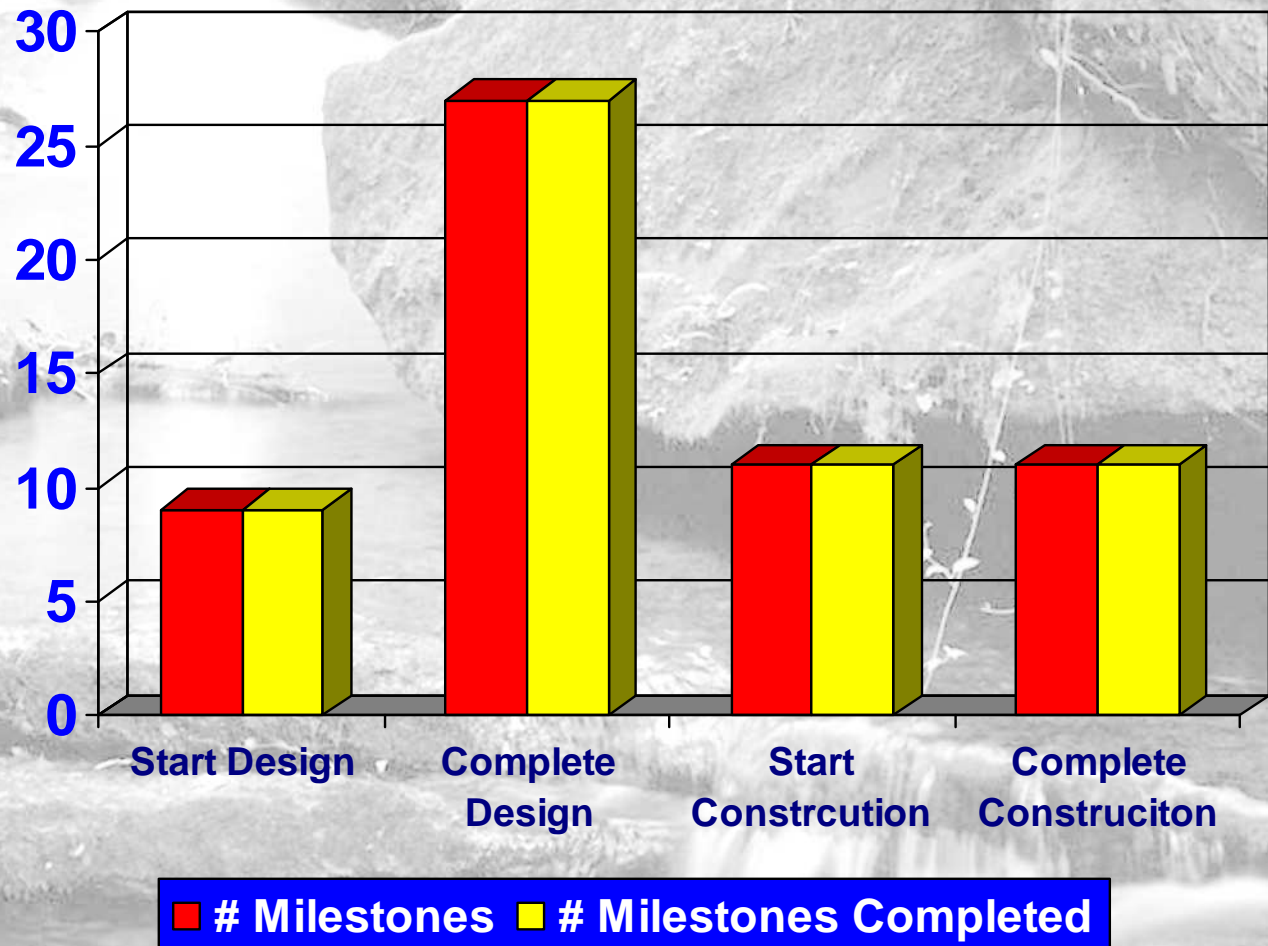
# CSO Program

## Additional Underground Storage





# Compliance







# Value Engineering

## SSO Program

- ◆ **Initial Budget Over \$2 billion**
  - ◆ **Sewer Rehabilitation - \$1 billion**
  - ◆ **Relief Sewers - \$1 billion**
- ◆ **Coordination of Rehabilitation and Relief**
- ◆ **Additional Capacity Achieved Through Rehabilitation**
- ◆ **Revised Criteria for Rehabilitation**
- ◆ **Savings of \$300 million**





# Managing Risk

- ◆ **Partnering Required on All Construction Projects**
  - ◆ **Levels of Authority Established**
  - ◆ **Escalation Procedures Established**
- ◆ **Disputes Review Board Established on Major Construction Projects**
- ◆ **Allowances for Unforeseen Conditions and Conflicts**
- ◆ **No Claim Related Change Orders**
  - ◆ **\$1.8 billion spent to date**
  - ◆ **25 projects completed**



# Partnering



Atlantic  
SKANSKA

M&E  
Metcalf & Eddy

SKING  
An Association, Inc.  
ENGINEERS-ARCHITECTS-CONSULTANTS

EXCEL  
TECHNICAL TECHNOLOGIES



The Atlanta Group, Inc.  
ARCHITECTS-ENGINEERS-PLANNERS

CJB  
Infrastructure - Building  
Project Management



## Partnering Mission Statement

### PROJECT CHARTER

The Department of Watershed Management is dedicated to providing clean, safe, affordable drinking water, and best-in-class wastewater and stormwater collection and treatment services to City of Atlanta ratepayers, businesses, residents, and to its wholesale customers.

All the partners of the West CSO Treatment Plant Construction Program will work together as an integrated project team to build a successful and award winning plant. We will develop long-term relationships and cultivate an enjoyable and productive working atmosphere. We will focus on the following goals:

- **Safety:** We are committed to protecting everyone—with no time lost due to accidents.
- **Budget:** We will complete the project under budget.
- **Schedule:** We will ensure that no time is wasted and that the project is finished early.
- **Deliverable:** We will produce a high quality end product that we are all proud of.

*George J. Dineen*  
*Michael J. Dineen*  
*W. H. Dineen-Wale*  
*Jeffrey D. Dineen*  
*John Dineen*  
*Michael Dineen*  
*Sandy Dineen*  
*Lara Dineen*  
*Michael Dineen*  
*Jeffrey Dineen*  
*John Dineen*  
*Peter Dineen*  
*Caroline Dineen*





# CIP Reporting

- **Project Managers Responsible for Maintaining Accurate & Updated Capital Improvement Program Reporting System (CIPR) Information**
- **Online Individual Project and Program Reports Available to all PMs and Managers**
- **Cash Flow Projections Used for Financial Planning & Management**



# CIP Monitoring – Status Report

Period: 61

Published As Of:

Unpublished

WBS: 05.13.201

Print Date:

5-Feb-09

Age of 10.4.08

## West Area CSO Storage Tunnel and Pumping Station

Phase Completion	Phase Projected Completion Date	Consent Order?	Project Location	Project Manager	On Budget?	On Schedule?
99%	11/30/2008	No	Atlanta	Johnston, Ken	Yes	Yes

### Scope of Work

Construction of 8.5 miles of 27 ft. dia. deep rock tunnel, 4 construction shafts, 3 intake shafts, diversion structures, connecting tunnels and 25 MGD submersible pumping station.



### Location

Council Districts:

NPU:

Arch Ave. Grating Operation Looking Upstream

### Contract Status

Phase	Contractor	FC#	Contract Amount	Billed To Date	% Billed
Construction	AQG	FC-7346-08	\$210,231,000.00	\$205,243,436.91	98.1%
Availability			\$686.44	\$686.44	100.0%
CM Services	JDH	7488-036	\$10,172,767.00	\$17,784,422.75	92.5%
Design	JDH	7584-026	\$14,823,158.00	\$14,823,158.00	100.0%
Land-Use/Permits			\$4,015,788.43	\$4,015,788.43	100.0%

### Work Performed During Reporting Period

No work entered.

### Critical Issues

No critical issues entered.

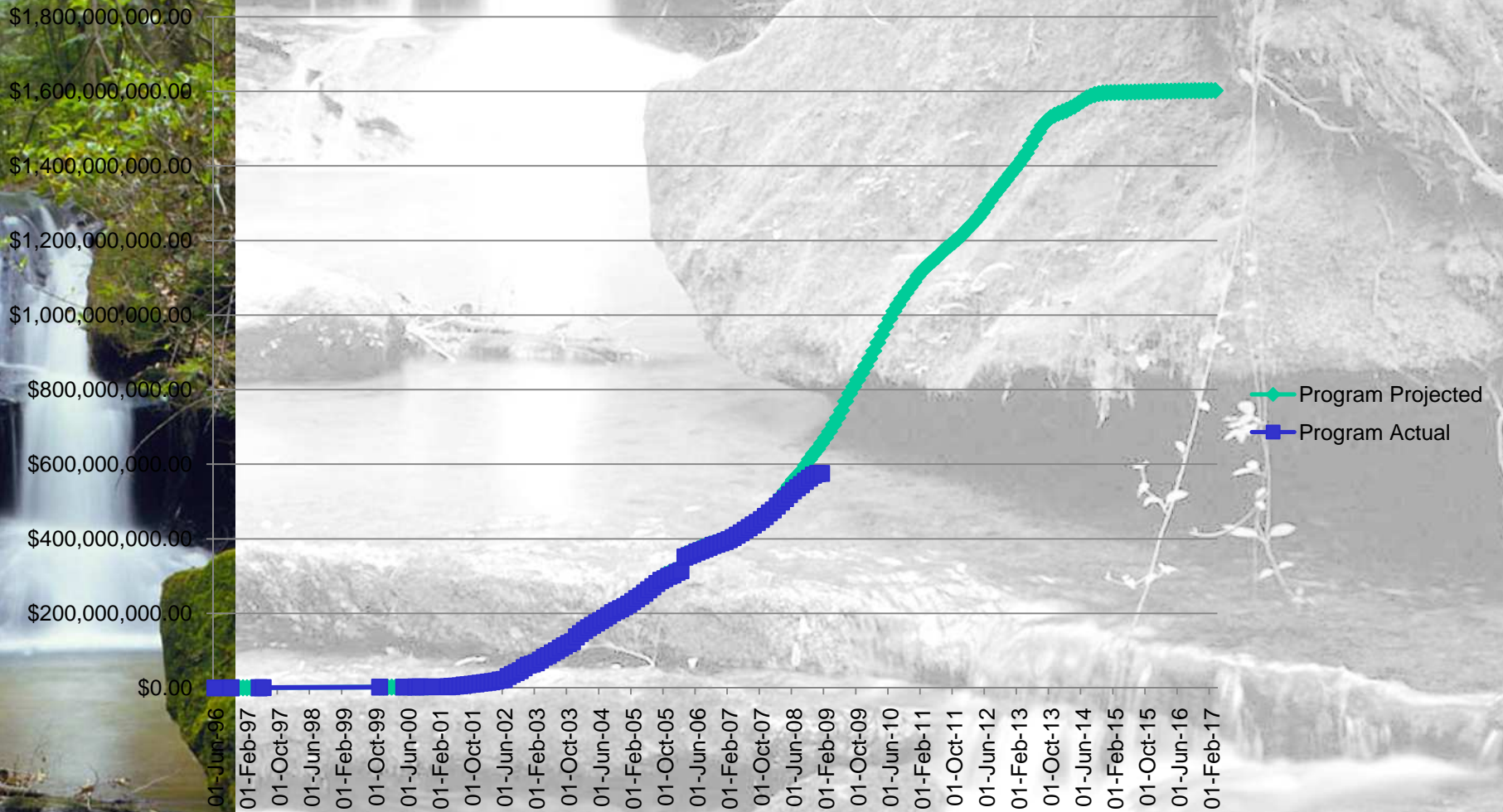
### Action Items for Next Period

No action items entered.





# CIP Monitoring – Cash Flow








## Current Capital Improvement Plan Budget

Program	Baseline Budget	Current Budget
CSO	\$1,105,660,626	\$758,162,270
SSO	\$1,495,526,614	\$1,583,942,402
Wastewater Facilities	\$360,120,569	\$233,701,213
Water Facilities	\$935,736,833	\$1,252,187,962
Total	\$3,897,044,642	\$3,827,993,847



# 2002-2014 Capital Improvement Plan Summary



<b>Program</b>	<b>Baseline Budget</b>	<b>Current Budget</b>	<b>Spent to Date</b>
<b>CSO</b>	<b>\$1,105,660,626</b>	<b>\$758,162,270</b>	<b>\$744,920,921</b>
<b>SSO</b>	<b>\$1,495,526,614</b>	<b>\$1,583,942,402</b>	<b>\$575,124,117</b>
<b>Wastewater Facilities</b>	<b>\$360,120,569</b>	<b>\$233,701,213</b>	<b>\$91,273,311</b>
<b>Water Facilities</b>	<b>\$942,089,833</b>	<b>\$1,252,187,962</b>	<b>\$275,473,148</b>
<b>Total</b>	<b>\$3,903,397,642</b>	<b>\$3,827,993,847</b>	<b>\$1,675,369,950</b>





# Capital Program Implementation

## Recommendations

- ◆ **Take and Maintain Control of Your Program**
- ◆ **Include Interim Milestones & Deliverables**
- ◆ **Involve Consultants, Engineering and Operations Throughout Program**
- ◆ **Accurate and Current Cost Estimates**
- ◆ **Use Partnering on All Projects**