

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Board of Directors

Joint Meeting of the Water Quality and Water Services Committee and Environmental Quality and Sewerage Services Committee 5000 Overlook Avenue, SW, Room 407 Thursday, June 18, 2015 10:00 a.m.

I. Call to Order

Rachna Butani, Chairperson Howard Gibbs, Acting Chairperson

10:00 a.m. II. DC Water ART

George Hawkins

10:15 a.m. III. Asset Management Program Update

Len Benson/Liliana Maldonado

11:05 a.m. IV. Action Item - Joint Use

Len Benson

1. DCFA #456, CH2M Hill Engineers, PC

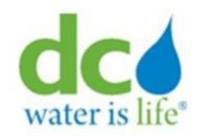
11:10 a.m. V. Other Business/Emerging Issues

11:10 a.m. VI. Executive Session*

11:10 a.m. VII. Adjournment

Rachna Butani, Chairperson Howard Gibbs, Acting Chairperson

^{*} The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10);proprietary matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.



ASSET MANAGEMENT PROGRAM



Phase 1 Review and Phase 2 Plan Joint Meeting EQ&SS/WQ&WS

June 18, 2015

Questions

- Why is the Supplemental Agreement \$10.2 million when Phase 1 was only \$5.4 million?
- Why does the AM Program cost so much and why do this now?
- Was it always envisioned to be a multi-phase program?
- What is the overall plan for the AM Program? What are the milestones?
- What were the tangible deliverables, outcomes and benefits for Phase 1 of the AM program?
- What are the key deliverables, outcomes and benefits for Phase 2 of the AM Program?



Why is the Supplemental Agreement \$10.2 million when Phase 1 was only \$5.4 million?

- Always envisioned as a 5-year program budgeted at \$20 million dollars
- By design, broken into phases
- Phase 1 Creating the framework for World-class Asset
 Management at DC Water
- 3 Phases are now anticipated
 - Phase 2 Focus resources on Asset Lifecycle and High Risks ("Final Design")
 - Phase 3 Optimally Manage Asset Risks at the Lowest Lifecycle Cost ("Construction and Commissioning")



Why does the AM Program cost so much?

- Transforming DC Water culture and practices
- Involving 23 individual departments and 1,260 employees
- Assessing risk for \$5 billion of infrastructure assets
- Optimizing day-to-day work practices and business processes
- Informing and enhancing DC Water's CIP planning implementation and capital budgeting process



Why does DC Water need to do this now?

- Enables Blue Horizon 2020 Strategic Goal #8
- Optimize investments to mitigate future rate increases
- Improves asset reliability and performance
- Manages lifecycle cost
- Applies uniform Authority-wide approach to capital investment decisions



Was it always envisioned to be a multi-phase program?

- Yes. Approved FY 2012-2021 CIP budget and subsequent CIP budgets show Asset Management as a 5-year program
- The RFQ referenced a 3-phase program
- Consultant's proposal was based on a 3-phase program over a 5-year
- Fact sheets reference the phases

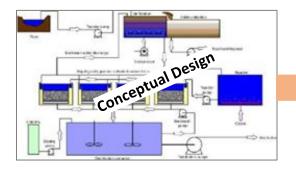


- Phase 1: Creating the framework for World-Class Asset Management at DC Water
- Phase 2: Builds the tools and applies the processes
- Phase 3: Fully integrated Enterprise way of managing assets

PHASE 1: 2014 - 2015	PHASE 2: 2015 - 2017	PHASE 3: 2017 – 2018
Managing Our Tasks	Managing Our Risks	Managing Our Investments
CREATE FRAMEWORK FOR WORLD CLASS ASSET MANAGEMENT	FOCUS RESOURCES ON ASSET LIFECYCLE AND HIGH RISK	OPTIMALLY MANAGE ASSET RISK AT LOWEST LIFECYCLE COST



Typical Capital Project

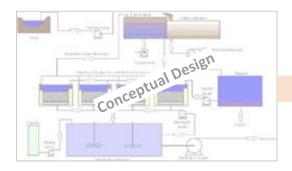








Typical Capital Project







DC Water's Asset Management Project

PHASE 1

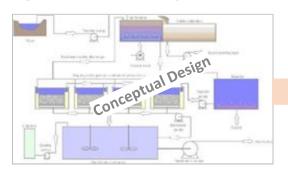


Created the framework for World-Class Asset Management at DC Water ("Conceptual Design")

Defined Asset Management for DC Water
Developed Risk Framework
Developed and tested tools and methodologies
Created staff awareness and understanding



Typical Capital Project





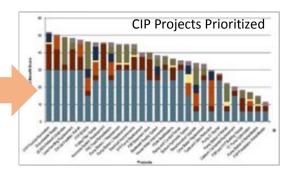


DC Water's Asset Management Project

PHASE 1



PHASE 2



Focus resources on Asset Lifecycle and High Risks ("Final Design")

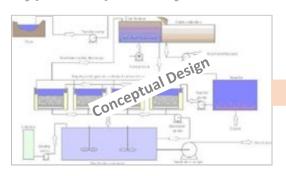
Developing and implementing the tools and methodologies throughout the Authority

- Applying AM practices across all assets
- Focusing asset risk and managing the full lifecycle cost



Reference Attachments 9, 10 and 11

Typical Capital Project





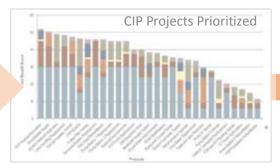


DC Water's Asset Management Project

PHASE 1



PHASE 2



PHASE 3



Managing asset lifecycles with an integrated enterprise-wide approach



Reference Attachments 9, 10 and 11

Full Implementation of AM by DC Water staff and program managers 11

What were the tangible deliverables, outcomes and benefits for Phase 1 of the AM program?

Outcomes

Benefits

Developed Risk Framework



To uniformly determined criticality of assets and identify assets of highest risk at sewer pump stations

Optimized Preventive Maintenance activities



Documented savings of 5,392 maintenance hours per year



What were the tangible deliverables, outcomes and benefits for Phase 1 of the AM program?

Outcomes

Benefits

Continued to add and update assets and asset data in Maximo

Analyze cause of equipment failure and automatically generate work orders

Continued to refine work order management practices



1,000+ assets being more efficiently managed through automatically generated preventive maintenance work orders



Phase 1 - Key Deliverables that support Phases 2 and 3

- Asset Management Policy
- Level of Service categories and targets
- Risk Management Framework
- Enhanced Business Processes
- Revised Preventive Maintenance (PM) job plans based on optimization process



What are the key deliverables, outcomes and benefits for Phase 2 of the AM Program?

Key Deliverables

- List of critical and high risk assets
- Risk mitigation identification and selection process
- Business case evaluation criteria and process
- Criteria and process for prioritizing CIP projects uniformly across the Authority
- Key performance indicators (KPIs) and performance measures for Enterprise and Functional levels



What are the key deliverables, outcomes and benefits for Phase 2 of the AM Program?

Outcomes

Assess the risk of infrastructure failure across the Authority

Identify critical assets using standardized risk framework

Benefits

- Focus human and financial resources
- Increase asset reliability
- Consistently deliver established levels of service to customers
- Improve investment decisions
- Determine the most effective levels of maintenance



What are the key deliverables, outcomes and benefits for Phase 2 of the AM Program?

Outcomes

Business case evaluation criteria and process

Prioritize CIP projects across the Authority using a uniform and consistent process

Track performance of assets using KPIs and other performance measures

Benefits



Decision making based on cost and benefit of project alternatives



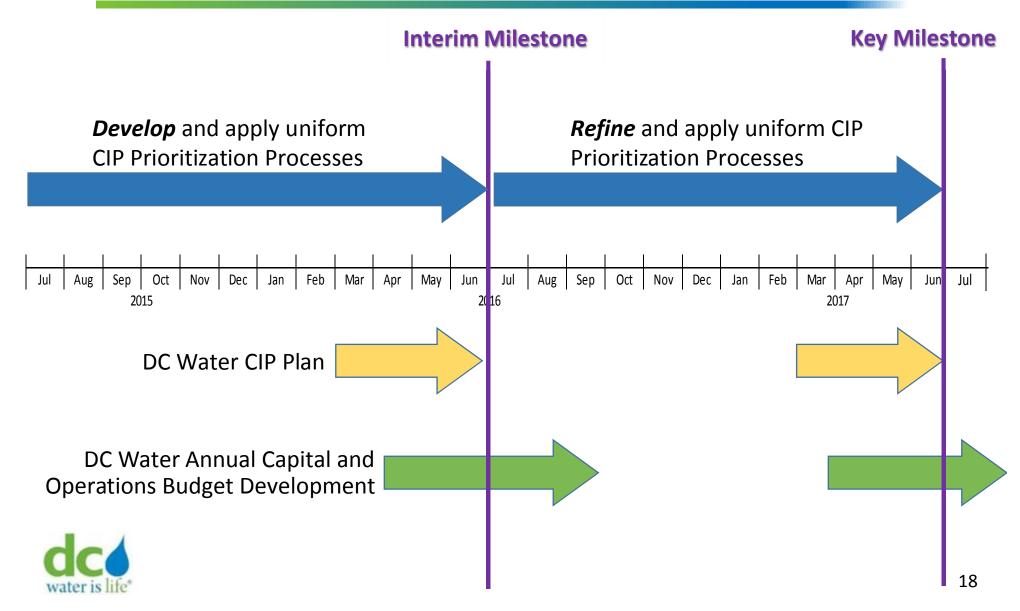
Optimized infrastructure investments



Fact based decision making

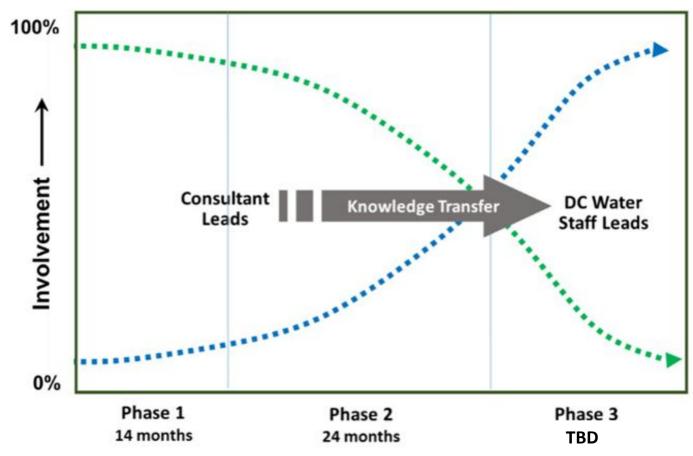


Phase 2's intersection with DC Water's CIP planning and budgeting processes enables funding an Authority-wide, prioritized and uniform CIP



Phase 3 – Full Implementation of AM by DC Water staff and program managers

Organizational Transformation – Multi-phase progression





Questions?

Asset Management

TIVE

DC Water will manage its infrastructure assets in a strategic and Authority-wide manner through an integrated business approach and cross-functional collaboration that relies on well-devised processes, knowledgeable staff, sufficient resources, and communications with stakeholders to deliver established levels of service.



PRE-2014

PHASE 1: 2014 - 2015 Managing Our Tasks PHASE 2: 2015 - 2017
Managing Our Risks

PHASE 3: 2017 - 2018
Managing Our Investments

Managing Our Data
BUILD FOUNDATION
FOR ASSET
MANAGEMENT

CREATE FRAMEWORK FOR WORLD CLASS

FOCUS RESOURCES ON ASSET LIFECYCLE AND HIGH RISK

OPTIMALLY MANAGE ASSET RISK AT LOWEST LIFECYCLE COST

Pre-Phase 1 Outcomes:

- AN IDEA. Became acquainted with AM concepts, including leading practices for the entire asset lifecycle.
- A VISION. Developed an AM vision and initial scope of work for DC Water.
- A DIRECTION. Identified opportunities for improvement, based on leading AM practices.
- A STARTING POINT. Recognized the need for continuing to improve Maximo functionality and data capture.

Phase 1 Outcomes:

- AWARENESS: Increased internal stakeholder awareness of AM and its benefits through faceto-face briefings, workshops, electronic media, and training.
- STRUCTURE: Created a framework for adopting world-class AM practices aligned with ISO 55000, the international standard for AM, and focused on the strategic goals and critical success factors of DC Water's strategic plan, Blue Horizon 2020.
- COLLABORATION: Increased information sharing, knowledge transfer, and use of consistent business processes with the approval of an AM Policy, creation of an Authority-wide risk framework and uniform asset naming.
- ACTION: Added/updated over 20,000 assets in Maximo, reduced open work orders by 64% and emergency work orders by 57%, reduced PM activities for filtration process and a water pump station by 5,392 hours per year.

Phase 2 Goals:

- ENGAGEMENT: People across DC Water will use Asset Management practices in their day-to-day work.
- ACCURATE INFORMATION: We will have greater access to accurate and in-depth asset information.
- INSIGHT: We will understand where asset failure poses the greatest risk.
- FORESIGHT: We will better predict and prevent asset failure.
- FOCUS: We will streamline business processes to optimize customer value.
- CLEAR PRIORITIES: We will have an integrated enterprise process for identifying and prioritizing capital projects.
- EVIDENCE-BASED DECISIONS: We will use our experience, observations and data to make wise choices.
- MANAGED PERFORMANCE: We will be able to track and manage asset-related performance.

Phase 3 Goals:

- WISE INVESTMENTS. We will make informed and defensible capital and O&M investment decisions.
- MANAGED RISK. We will confidently and adeptly manage risk of asset failure.
- RELIABLE ASSETS. Our assets will function reliably throughout their life.
- EFFECTIVE O&M. We will efficiently operate and proactively maintain all assets.
- STRONG REPUTATION. We will be recognized for our dependable operations and service value.
- ORGANIZATIONAL COHESION. We will work easily across functions to optimize asset life and satisfy customers.

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DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY BOARD OF DIRECTORS CONTRACTOR FACT SHEET

ACTION REQUESTED

ENGINEERING SERVICES SUPPLEMENTAL AGREEMENT:

Asset Management Program (Joint Use)

Approval to execute a Supplemental Agreement for architectural and engineering services contract not-to-exceed \$10,200,000.

CONTRACTOR/SUB/VENDOR INFORMATION			
PRIME:	SUBS:		PARTICIPATION:
CH2M Engineers, PC 901 New York Ave, NW	EMA, Inc. St. Paul, MN		18.0%
Suite 4000 East Washington, DC 20001	Sheladia Associates, Inc. Rockville, MD	MBE	10.3%
	EBA Engineering, Inc. Baltimore, MD	MBE	10.0%
	ADC Management Solutions Washington, DC	s MBE	4.6%
	Peer Consultants, PC Washington, DC	MBE	3.1%
	Passaro Engineering Mount Airy, MD	WBE	4.0%

DESCRIPTION AND PURPOSE

Original Contract Value, Not to Exceed:	\$ 5,400,000.0	0
Value of this Supplemental Agreement:	\$10,200,000.0	0
Cumulative SA Value, including this SA:	\$10,200,000.0	0
Current Contract Value, Not-To-Exceed, including this SA::	\$15,600,000.0	0
Original Contract Time	439 Days	(1 Year, 3 Months)
Time Extension, this SA:	744 Days	
Total SA Time Extension:	744 Days	(2 Years, 0.5 Months)
Contract Start Date:	04-04-2014	
Contract Completion Date:	06-30-2017	

Purpose of the Contract:

To provide support services for an enterprise-wide asset management program

Original Contract Scope:

 Services to be provided include Asset Management Program Development and Guidance, Technology and Data Management, Asset Lifecycle Management, and Investment Plan Delivery. It is anticipated that full program delivery will occur over a 5-year period.

Current Supplemental Agreement Scope:

The Supplemental Agreement constitutes the second phase of the Asset Management Program
plan and provides services to validate/modify current asset management framework, systems, and
structure. Support services for ongoing asset management initiatives will be provided, as well as
implementation of new asset management initiatives across the enterprise including integration of
mobile solutions and GIS requirements.

Future Supplemental Agreement Scope:

Total Estimated Dollar Amount

Future Supplemental Agreements(s) are anticipated, subject to satisfactory review of the consultant's performance.

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Contract Type:	Cost plus Fixed Fee	Award Based On:	Highest Ranking Score
Commodity:	Engineering Design Services	Contract Number:	DCFA #456-WSA
Contractor Market:	Open Market	ðx.	

BUDGET INFORMATION

Funding:	Capital	Department:	Engine	eering and Technical Services
Service Area:	Water, Sewer, and Wastewater Treatment	Department H	lead:	Liliana Maldonado
Project:	LP, LR, and LQ			80

ESTIMATED USER SHARE INFORMATION

For Wastewater Only			
User	Share %	Dollar Amount	
District of Columbia	41.22%	\$ 2,250,612.00	
Washington Suburban Sanitary Commission	45.84%	\$ 2,502,864.00	
Fairfax County	8.38%	\$ 457,548.00	
Loudoun County & Potomac Interceptor	4.56%	\$ 248,976.00	

100.00%

For Water and Sewer Only

User	Share %	Dollar Amount
District of Columbia	100.00%	\$ 4,740,000.00
Washington Suburban Sanitary Commission	0.00%	\$ 0.00
Fairfax County	0.00%	\$ 0.00
Loudoun County & Potomac Interceptor	0.00%	\$ 0.00
Total Estimated Dollar Amount	100.00%	\$ 4,740,000.00

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User	Share %	Dollar Amount
District of Columbia	68.54%	\$6,990,612.00
Washington Suburban Sanitary Commission	24.54%	\$2,502,864.00
Fairfax County	4.49%	\$457,548.00
Loudoun County & Potomac Interceptor	2.44%	\$248,976.00
Total Estimated Dollar Amount	100.00%	\$10,200,000.00

^{*} Under the terms of the IMA, the capital costs associated with each joint use facility are to be split among the users in proportion to the peak flow each user is allocated. It is not possible, at this time, to allocate costs by individual facility. It is anticipated that as projects are developed for work associated with specific facilities and costs are developed, the individual users will be notified and billed accordingly.

Gail Alexander-Reeves

Director of Budget

Leonard Benson Chief Engineer

Date

\$ 5,460,000.00

Dan Bae

Director of Procurement

George S. Hawkins General Manager