Massachusetts Water Resources Authority
Annual Report 2006

Waterworks Revival
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With its start-up in July 2005, the John J. Carroll Water Treatment Plant has taken its place among the great water facilities that have served the metropolitan waterworks system for over 100 years.

With a peak capacity of 405 million gallons per day, the Carroll Plant is one of the largest facilities in the country using ozone to disinfect drinking water. The plant’s performance over the first year of operation has been excellent. The plant has proven reliable and improvements to water quality have been dramatic. Using ozone means using less chlorine, thereby reducing the amount of potentially harmful chlorine by-products. It also makes the water taste better.

The state-of-the-art facility is the last major construction project in the MWRA’s ten-year program to modernize the water system that serves 2.3 million people in eastern and central Massachusetts.

And as distribution and treatment have been improved, water consumption has gone down. The success of our water conservation efforts has allowed for the addition of new communities to the water system with no negative impacts to the source reservoirs or watersheds. Over the course of the year, MWRA welcomed Dedham, Westwood and Reading as members of the water system, bringing the number of communities served to 50.

On the wastewater side, the approval of a comprehensive agreement on MWRA’s long-term plan to reduce combined sewer overflows (CSOs) to Boston Harbor and its tributaries was a landmark event.

In his comments on the new agreement, Federal District Court Judge Richard G. Stearns described the clean-up of Boston Harbor “one of the most successful modern public works projects ever undertaken.” The continued success of the secondary treatment facilities at Deer Island have already improved the health of the Harbor and brought people back to Boston’s waterfront. When the CSO program is completed, residents will enjoy some of the cleanest urban beaches in the nation.

MWRA has also continued to make progress on capital construction projects around the service area over the past year and has established aggressive maintenance programs to make sure the new facilities we are building never fall back into a cycle of disrepair. Our successes have been made possible by the dedicated and professional men and women who work at MWRA and by the strong leadership of our Board of Directors.

As we continue to make progress in meeting our mission, we must also continue to be responsible to our ratepayers. Working together, MWRA, its Advisory Board and local officials launched a successful effort over the past year to have the Commonwealth’s rate relief fund reinstated at $25 million for FY2007. While we still have a long way to go to keep water and sewer rates affordable, we will only get there by working together.

Sincerely,

Frederick A. Laskey
Executive Director
Water Quality

In FY2006, MWRA successfully completed the last milestone on the Wachusett Reservoir Consent Order. Source waters at the Quabbin and Wachusett Reservoirs continue to be well protected. In addition, the start-up of the new ozone water treatment plant has further improved water quality.

Disinfection by-products have declined by over 80% since the start-up of the Carroll Water Treatment Plant. In addition, at least 100% of the required 3-log (99.9%) disinfection of Giardia was achieved on every day of the year.

For FY2006, MWRA met the Lead and Copper Rule system-wide. The results of two rounds of sampling were below the Lead Action Level of 15 parts per billion. In June, the 2005 Annual Report on Water Quality was mailed to every household in the water service area, including separate inserts from each community. Only nine contaminants of the over 120 tested were detected, and all were below EPA’s allowable limits.
New Water Communities

In FY2006, three communities joined the MWRA waterworks system. Dedham, Westwood and Reading all received approval from the Board of Directors for admission bringing the number of communities served to 50. Driven by the success of the MWRA’s water conservation efforts, daily demand has continued to drop, allowing for the addition of these three communities with no negative impacts on the watersheds.

June 2006 marked the 100th anniversary of the Wachusett Reservoir. At the time it was constructed, the 65-billion-gallon reservoir was the largest man-made water supply in the world. It still serves the system today.

Chicopee Valley Aqueduct Pipeline Redundancy

In October 2006, a contract was awarded for the construction of the Chicopee Valley Aqueduct Pipeline Redundancy project. This project will provide needed redundancy for their communities under all emergency and maintenance scenarios.

East/West Spot Pond Supply Mains

The rehabilitation of the East/West Spot Pond Supply Mains involves the replacement and rehabilitation of segments of the two long supply mains extending north from Chestnut Hill to Spot Pond to improve the quality and reliability of the water supply that reaches the Low Service communities, and ensure redundancy of the supply to Boston. As of June 2006, the work was 60% complete.
SEWER SYSTEM

CSO Program
On April 27, 2006, Federal District Court Judge Richard G. Stearns allowed the joint motion and approved a long-term Combined Sewer Overflow plan for Boston Harbor and its tributaries. For the first time in the 20-year history of the CSO program, MWRA has certainty in the component parts of the plan. The 15-year plan includes specific projects for the Harbor, the Charles River, the Alewife and Mystic Rivers, East Boston and North Dorchester and includes five, three-year variances, as well as a three-year assessment at the end of construction. The settlement struck a responsible balance between increased environmental cleanup and responsible levels of spending.

- In October 2005, MWRA awarded the Construction Management Services contract for the North Dorchester Bay CSO project. The Storage Tunnel project was advertised in April and the construction contract was awarded in July 2006.
- Construction of the Pleasure Bay Storm Drain Improvement project began in September 2005 and was completed in May 2006.
- Construction of the Union Park Detention/Treatment Facility continued and the project was 90% complete as of June 2006.

Braintree-Weymouth Relief Facilities
The Braintree-Weymouth Relief Facilities Project will expand and improve the network of sewer pump stations, interceptors and siphons that serves Braintree, Hingham, Holbrook, Randolph, Weymouth and parts of Quincy. The project, being constructed under an Administrative Consent Order, will transform the way that wastewater generated by six South Shore communities is conveyed to sewer treatment and processing facilities. Five of the six construction contracts are complete. The last construction contract, the Braintree-Weymouth Replacement Pump Station, was 26% complete as of June 2006.

Cummingsville Replacement Sewer
The Cummingsville Replacement Sewer will provide additional capacity to ensure adequate and reliable wastewater collection from communities upstream of Winchester and reduce overflows. The project was completed in May 2006.
Upper Neponset Valley Replacement Sewer

The Upper Neponset Valley Replacement Sewer will increase the hydraulic capacity in the 100-year old Upper Neponset Valley Sewer and eliminate surcharging and overflows in a one-year storm. As of June 2006, 22% of the replacement sewer has been installed.

Deer Island Treatment Plant Performance

September 2006 marked the fifth full year of operation under the new NPDES Permit and the Deer Island Treatment Plant and outfall tunnel continue to perform as designed. Overall monitoring has found that the treatment plant discharges have not had any adverse impacts on the ecology in the area of the outfall tunnel. In fact, long-term results indicate an abundance and diversity of marine near the outfall.

ISO New England “Demand Response Achievement Award” - Deer Island Energy Program

National Association of Clean Water Agencies

“National Environmental Achievement Award” - Deer Island Energy Cost Recovery Program

National Association of Clean Water Agencies

“Silver Award” - Deer Island NPDES Compliance

American Consulting Engineering Council “Platinum Award” - Braintree-Weymouth Fore River Siphons Project

Construction Management Association of America, New England Chapter “Project of the Year-Public Project” - Norumbega Covered Storage Facility

New England Water Works Association “Utility of the Year Award” - John J. Carroll Water Treatment Plant Improvements to Public Health

Academy of Environmental Engineering “Grand Prize” - Evaluation of Ozone and Ultra Violet Light Disinfection

American Consulting Engineering Council “Grand Prize” - Evaluation of Ozone and Ultra Violet Light Disinfection

Association of Government Accountants “Boston Chapter Service Award” - MWRA Internal Audit Department
Financing

In March 2006, MWRA sold a total of $486,320,000 in new money and refunding bonds at an all-in cost of funds of 4.61%. As part of the transaction, the MWRA took advantage of a strong municipal market and historically low interest rates to refund a portion of its high coupon debt. This component of the transaction generated a total of $5.43 million in present value savings.

All three credit agencies affirmed MWRA’s ratings in connection with the sale. The current ratings are: Fitch Ratings “AA,” Standard and Poor’s “AA,” and Moody’s Investors Service “Aa2.” Moody’s also upgraded the subordinate debt rating to “Aa3” from “A1.” All three firms rated MWRA’s outlook as Stable.

Debt Service Assistance

MWRA’s debt service burden (the share of its budget that is devoted to principal and interest payments on its bonds) accounted for 57% of the budget in FY2006. Debt service will continue to rise - to nearly 62% by the end of the ten-year planning horizon in FY2016.

In FY2006, the Commonwealth’s budget included funding of $12.5 million for state-wide Debt Service Assistance. MWRA’s share was $9.6 million.

MWRA and its Advisory Board worked hard over the course of FY2006 to alert key legislators to the importance of Debt Service Assistance to MWRA ratepayers. For FY2007, the Commonwealth is providing $25 million for this state-wide program. MWRA’s share is $18.75 million.

FY2006 Budget

MWRA has continued to focus on aggressively managing its operating expenses to ensure continuing public support for infrastructure investments. When adjusted for inflation, MWRA’s direct operating costs for FY2006 were lower than actual expenses in FY2000.
Continued Cost Saving Measures

MWRA continues to look for ways to increase efficiencies and reduce costs.

Staffing levels have decreased nearly 30% since FY1997. The agency is now at a staffing level appropriate to its transition from an agency originally structured to both build and operate major capital investments to one that is primarily focused on operations, maintenance, and system reinvestment.

The cost of energy, utilities and chemicals combined contribute nearly $40 million to MWRA’s budget. The massive Deer Island Wastewater Treatment Plant accounts for most of this cost, so aggressive management at this facility is critical. Components of the Deer Island strategy include:

- MWRA competitively purchases electricity
- To reduce purchased power, the plant self-generates up to 25% of its electricity
- MWRA participates in two programs that raise revenues from energy generation
- Digester gas is recycled for heating in lieu of diesel fuel.
OTHER AGENCY MANAGEMENT

Master Planning
During FY2006, MWRA continued development of a Master Plan for the rehabilitation, replacement, and additional construction of its infrastructure. Because the majority of court-mandated projects are complete, the Master Plan is intended to assess agency-wide needs, identify and prioritize projects to address the needs, and establish timeframes for rehabilitation and replacement of existing facilities and infrastructure and construction of new projects as needed.

Emergency Preparedness
During FY2006, a great deal of focus was placed on planning for specific emergencies, in light of Hurricanes Katrina and Rita, and the emerging threat of an avian flu pandemic.
An Office of Emergency Preparedness reporting directly to the Executive Director was created to provide a more streamlined organizational structure with the ability to act quickly and decisively across departments in the event of an emergency.

Real Property
In September 2006, a new lease agreement was reached for the Charlestown Navy Yard Headquarters. A number of staff were relocated to the MWRA’s Deer Island and Chelsea facilities, reducing space needs by one and a half floors in the Navy Yard, which resulted in savings for FY2006 of $499,397, and an annual savings going forward of $1.3 million.
Efforts continued throughout the year to dispose of as much surplus property as possible.

Affirmative Action
For FY2006 minority workforce representation was 18.4% for minorities, or .8% above the 2006 calendar year goal of 17.6%. Female representation at the end of FY2006 was 23.1%, on target with goal of 23.1%.

Community Financial Assistance Programs
During FY2006, 20 sewer communities participated in the Infiltration/Inflow Financial Assistance Grant/Loan Program, utilizing $18 million to fund 28 projects. Also, 14 water communities participated in the Local Pipeline Assistance Loan Program, utilizing $17 million to fund 17 projects.

5-Year Progress Report
The MWRA’s fourth “5-Year Progress Report” was completed and distributed to the Governor and the Legislature in December 2005.

MWRA EMPLOYEES raised over $21,000 for the Red Cross Disaster Relief Fund to aid the victims of Hurricane Katrina.
31-50 Years of Service
Romeo Rovinelli
Joseph Monestere
William Magnell
Lawrence Minincleri
Anthony Errichetti
Thomas Harrow
Joseph Del Greco
George Morano
Robert Gorham
Guy Foss
David Dibona
Paul Kelley
Brian Littlefield
Lettie Genovitch
Brian Cashman
Paul Teneriello
Philip Carbone
Richard Barbarisi
Edward Carpman
Kenneth Witkowski
Glenn Merlini
James Waterman
John Powers
Robert Moses
J. James Burns
John Balfour
James Padova
Peter Gogan
Charles Olsen

26-30 Years of Service
Paul Polito
Albert Parker
Dennis Linehan
William Sheehan
Richard Staples
Charles Ronayne
Salvatore Pinto
John McDonough
Alan Hanscombe
John Farino
Richard Krumpus
James McMahon
Marcis Kempe
Viviane Edward
Peter Green
Thomas Fulkerson
Thomas Rosado
Nancy Aftosmes
Robert Johnson
Vincent Thompson
Flora Sanders
Lafleur Etienne
James Collins
Joseph Jamilowski
John Vetere
John Riccio
Frank Cascarano
Gregory Alessandro
Gino Rizzo
James Andon
William Young
William Lane
Michael DelPrete
David Rota
Kenneth Perry
William Graham
Carol Swirbalus
George Riley
Stephen Dwyer
William Slattery

21-25 Years of Service
James MacPherson
Edward Luongo
Joseph Bussone
Richard Burns
Robert Holthaus
Richard Tobin
Scott Tamagna
Deborah Palmer
Steve Rocke
James Mele
Carmine Sorrentino
Gary Garrity
Mark Forti
Thomas Derosier
Corrine Barrett
Rocco Giovannelli
Richard Cipriano
David Hale
James King
Randolph Lahey
William Mueller
Michael Ferro
Alfred Renrick
Timothy Barry
Robert McGee
James Polk
Eric Renda
M. Altaf Bhatti
David Codair
Michael Walsh
Nancy McSweeney
Lisa Jenkins
Daniel Cushing
Sean McGillicuddy
Edward Arcese
Patrick Barrett
David Harnett
Richard Desmond
William Lewey
William Burns
Christine Lane
Paul Addvinola
Robert DeChellis
Julian Rainey
James Carey
Gordon Yu
Terry Bickford
Russell Smith
William Austin
Michelle Potts
John Shdeed
David Lombard
Mark Sullivan
William Coughlin
Gerald Kelly
Paul Flaherty
Lee Jensen
Ronald Maxwell
Andrea Murphy
Stephen Abner
William Smith
Dennis Capraro
Keith Portell
Joseph O'Donnell
Edward Gallagher
Funmei Chang
Joseph McCarty
Robert Billotte
George Gors
Patrick Moynihan
Matthew Condon
Vivienne Wright
Brian Callely
Kevin Feeley
John Norton
Daniel Leary
Frank Kay
Walter Schultz
Richard Trubiano
Kevin O'Brien
David Ciano
Richard Mandell
Grace Bigornia-Vitale
Timothy D'Ortona

20 Years of Service
Edward Regan
Francis Coleman
Bryan Garrity
Anthony Balzano
Raymond Brown
Michael Ralph
Bonnie Hale
Cornelius Spiliane
Donald Smokler
Russell Armstrong
Paul Duffin
James Szczur
William Abbott
James Hession
Michael McCarthy
David Graveline
William Meloni
John Yeaton
Patricia Kelley
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