

**MWRA ADVISORY BOARD MEETING
APRIL 24, 2003
WILMINGTON TOWN HALL
121 GLEN ROAD, WILMINGTON, MA**

MINUTES APPROVED AT THE JUNE 19, 2003 MEETING

Twenty-three members were present: John Sanchez, ARLINGTON; E. A. Maguire, ASHLAND; Charles Barry, BROOKLINE; Gene Capuano, EVERETT; J. R. Greene, GUBERNATORIAL APPOINTEE; Ralph Pecora, LEXINGTON; Bruce Kenerson, LYNNFIELD; Ed Bates, MAPC; Dana Snow, MARBLEHEAD; Doran Crouse, MARLBOROUGH; Katherine Haynes Dunphy, MILTON; Peter Smyrnios, PEABODY; Jay Fink, QUINCY; Ted McIntire, READING; Rod Granese, REVERE; Silvio Baruzzi, SWAMPSCOTT; Richard Stinson, WAKEFIELD; Don McCabe, Jr., WALTHAM; Walter Woods, WELLESLEY; Earl Forman, WESTON; Al Renzi, WESTWOOD; Michael Woods, WILMINGTON; Fred Russell, WOBURN.

Also present: Andrew Pappastergion and Joseph Foti, MWRA BOARD OF DIRECTORS; Theresa DiBenedictis, ARLINGTON; Ginger Esty, FRAMINGHAM; Joseph Duggan, WELLESLEY; Mike Caira and Rob Antico, WILMINGTON; Hon. John Curran, WOBURN; Michael Nicoloro, SEA Consultants; Matt Boger and Philip Jasset, UCANE; Carolyn Fiore, Robert Kovacs, Carl Erickson, Ron Joseph and Pamela Heidell, MWRA STAFF; Joe Favaloro, Ryan Ferrara, Cornelia Potter, Nathalie Dailida and Mary Ann McClellan, MWRA ADVISORY BOARD STAFF.

A. WELCOME

Chairman Katherine Haynes Dunphy called the meeting to order at 11:35 a.m.

B. APPROVAL OF THE MINUTES FROM MARCH 20, 2003

A Motion was made **TO APPROVE THE MINUTES FROM THE MARCH 20, 2003 ADVISORY BOARD MEETING**. It was seconded and passed by unanimous vote.

C. REPORT OF THE EXECUTIVE DIRECTOR

The Authority's Public Hearing on the proposed FY04 Capital Budget will be held on May 29th at Boston City Hall at 7:00 p.m.

D. PRESENTATION: ISSUES/STRATEGIES TO REDUCE SULFIDE LEVELS IN THE FRAMINGHAM EXTENSION SEWER AND DOWNSTREAM INTERCEPTORS IN AN EFFORT TO CONTROL ODOR AND CORROSION PROBLEMS – Carolyn Fiore, Manager, TRAC and Robert Kovacs, Sr. Program Manager, Engineering & Construction

Robert Kovacs, Senior Program Manager for Engineering and Construction, stated that a number of years ago a Natick resident mowing the grass in his backyard turned to see a large

hole in the yard. There was an MWRA Framingham Extension Sewer (FES) under the property that collapsed. Four such collapses have occurred between 1977 and 1993 on the FES.

At the same time, the MWRA was planning to expand the capacity of the FES that serves Framingham and part of Natick. The Framingham Extension Relief Sewer (FERS) was constructed and went into service in 1998. It consists of a new pump station at the Framingham/Natick line (known as the Arthur Street Pump Station [ASPS]), force main and gravity sewer. When the FERS was activated, significant odors developed in South Natick and the Elm Bank area of Dover.

MWRA regularly inspects its sewers with television cameras, but because of the odor problem, it undertook a special program of investigating downstream sewers, doing physical inspections of both the West Roxbury Tunnel and the Wellesley Extension Replacement Sewer in 1999 and 2000. Throughout the system, downstream of Framingham, Ashland and Natick, was severe deterioration in some locations and deterioration in all locations of the unlined sewers. In several sections, there was concern about further collapses.

Sulfate is a normal component of municipal and industrial discharges. In a gravity sewer, a slime layer or bio-film develops in the lower wetted area. In that area, the bacteria eats away the oxygen from the sulfate and converts it to sulfides. The sulfides in the wastewater, through turbulence and normal interaction with the air space above them, are turned into hydrogen sulfide, which will attack metal. In combination with oxygen, hydrogen sulfide produces sulfuric acid that eats away the concrete. The hydrogen sulfide is the source of the odors. The sulfuric acid is the source of the corrosion.

MWRA conducted a study in the Framingham, Ashland and Natick areas and identified three contributing factors: the municipal sewer system, the MWRA sewer system and industrial discharges. In the downstream communities there is one significant sulfate discharger, located in Ashland, and several significant BOD dischargers in Framingham, Natick and Needham. Industrial users are significant contributors to the problem as well.

Hydrogen sulfide, which smells like rotten eggs, can be smelled in a concentration as low as .5 parts per million (PPM). Levels in excess of 20 PPM are not safe from a chronic exposure standpoint; above 100 PPM can cause significant health problems with an instantaneous exposure. The ASPS has recorded levels in excess of 1,000 PPM in MWRA's sewer downstream where the force main discharges into sewers and interceptors.

MWRA does not expect to eliminate odors and odor complaints, but anticipates that reductions in hydrogen sulfide levels will be able to reduce and minimize them. MWRA needs to protect its infrastructure and avoid corrosion problems and collapses.

Staff has developed a program with three goals: to reduce the industrial discharges of BOD and sulfate, to limit the municipal discharges of sulfide and to protect the MWRA infrastructure. MWRA has installed 13 permanent hydrogen sulfide meters in downstream interceptors from the ASPS all the way down to the Mattapan section of Boston. This provides a tool to understand what the hydrogen sulfide levels are and to help determine, if changes are made, the impacts to the hydrogen sulfide levels. Continuous data is sent to MWRA.

The Authority has addressed the problem on a short-term basis by adding chemicals. A new interim chemical feed facility was constructed at the Arthur Street Pump Station, going into service in 2000, for the addition of dry chemicals. The existing station already had the capability of adding liquid chemicals. The problem with adding chemicals is that the effect is not long term. It has an immediate benefit in the downstream sewer, but doesn't extend all the way down to the interceptors. Implementation of additional chemical feed facilities in various locations downstream is a solution that MWRA is currently investigating.

Downstream in the West Roxbury Tunnel there were several sections that were in dangerous condition so MWRA undertook a fast track project to repair the Tunnel.

Further rehabilitation of the FES and FERS are currently in design. A key element is the installation of three bio-filters along the FES to take off the gases containing the high levels of hydrogen sulfide to treat and discharge them. The Wellesley Extension Sewer needs rehabilitation as well. A pipe installed in 1990 is displaying severe corrosion and will be relined. The bottom line – MWRA expects costs for the overall program to be \$146 million.

Carolyn Fiore, Manager of Toxic Reduction and Control (TRAC), stated that TRAC is the regulatory arm of MWRA that regulates the municipalities and the industries that discharge to the MWRA sewer system. In terms of the industrial users, the study indicated that there were users in the sewer system in that particular area that had high levels of BOD and one particular user that had a high level of sulfate. Staff determined that the best way to control those facilities would be limits on these two parameters.

Six industries met the threshold requirements for high levels of BOD and sulfate. One BOD discharger moved out of the area and the other four have negotiated compliance schedules with the Authority and incorporated them into their discharge permits.

Municipal permits for Ashland, Framingham and Natick require sulfide limits and additional sampling. The Needham and Wellesley permits will be amended to require additional sampling; when the new permits for Needham and Wellesley are issued next year to require compliance, sulfide limits will be established for them. The sulfide limit that is in the permit is 0.3 milligrams per liter. The sampling is at selected locations and is required from April through November, except for the month of October. The parameters that must be sampled for are sulfide, sulfate, BOD and temperature. These requirements are enforced through the municipal permit.

After the limits were inserted into the Framingham, Natick and Ashland permits, the sampling showed that there were continued violations, which had been expected. MWRA's response was to issue a notice of violation and to negotiate compliance schedules with the communities.

The municipalities have responded in a variety of ways: chemical addition in some of the upstream locations and trying to reduce the number of pump stations over time. All three municipalities are trying to minimize the BOD input that is not controlled by the MWRA's pretreatment program. MWRA does not regulate restaurants or cafeterias, whose grease traps, if not cleaned and maintained, can result in a lot of BOD going through the sewer.

There are 13 meters along the FES from which data is read everyday. The Authority will continue to monitor the municipalities and industries to ensure that they are in compliance with

the limits and have programs in place to address the violations. MWRA is undertaking a system analysis because there have been odor complaints and corrosion issues in other parts of the system, which will be prioritized, and sampling will be done to determine the sources.

Philip Jasset asked if air or flow were added to the areas that have increased spikes, would that reduce the hydrogen sulfide level? Mr. Kovacs stated that in the cases with the high hydrogen sulfide levels, there have been a lot of odor complaints. The first action is to find ways to stop the odors. Operators seal the manholes in those areas, but that doesn't take care of the problem, it concentrates it. The long-term solution is to take out what is generating the sulfides upstream. The bio-filter that MWRA is proposing will treat the air so that it doesn't cause odor problems and take that concentrated air out of the sewer.

Don McCabe asked what the significance is in not doing sampling during the month of October and the winter months. Ms. Fiore stated that there was a decision made on the amount of sampling that municipalities had to do and October was randomly picked for no sampling. The winter months don't need sampling because hydrogen sulfide and the activity of the slime layer are temperature dependent. The limits only apply for the months of April through November.

Al Renzi asked why the towns are required to meet limits earlier than the businesses. When the BOD levels for businesses are lowered, will their rate be lowered? Mr. Kovacs stated that there was never an attempt to go one ahead of the other, but because of negotiations and other issues, different schedules were followed. Ms. Fiore stated that it took longer to determine the appropriate limits for the industries. The same analysis will go on for the data, but presumably the industries will get their levels down to acceptable levels to MWRA. The actual BOD limit being imposed on the industries is 2,000 milligrams per liter.

Rod Granese asked if fines are assessed to those that are in non-compliance and are those fees put back into the general fund or a revolving account that offsets the cost of these infrastructure repairs? Ms. Fiore stated that the funds would go back to the general fund; however, MWRA has not issued any penalties for these particular problems to date. As long as efforts are being made to solve the problem, a penalty would not be assessed until the entity failed to comply at the end of its compliance schedule. If there are violations after the compliance date, then MWRA will go through its normal process of escalating enforcements – a notice, an enforcement order and then, if they fail to meet the limit, a penalty.

Mr. Granese suggested that perhaps MWRA should be more aggressive with the industries in offsetting the costs because it is simply being passed on again to the ratepayers. Ms. Fiore noted that TRAC does charge fees to all of the industries for permitting and monitoring charges to recover the cost of the pretreatment program, but the cost of the infrastructure has not been figured into those charges.

Walter Woods asked if there are problems in the Wellesley area and what is the status if there are problems? Ms. Fiore stated that MWRA has been sampling a couple of locations in Wellesley that show higher than expected levels of sulfide in the wastewater. That is why MWRA is putting limits on Wellesley. The source is still unknown at this time.

A member observed that MWRA's annual blue book that looks at infiltration by community has a distinct inverse correlation when looking at gallons by day per inch mile of I/I. The communities

in the south system that have the lowest infiltration have the highest sulfides. When MWRA gets a handle on I/I, will it then find out that it has a hydrogen sulfide problem? Ms. Fiore stated that it is true that the more flow in the sewer, the less odor issues that develop. The success of the pretreatment program over the last several years has decreased the amount of metals; the metals held back the generation of hydrogen sulfide, allowing more air space.

E. COMMITTEE REPORTS

Executive Committee – Katherine Haynes Dunphy

❖ ACTION ITEM: WILMINGTON'S REQUEST FOR A SIX-MONTH EMERGENCY WATER CONNECTION THROUGH WOBURN

Michael Nicoloro of SEA Consultants stated that the Town of Wilmington discovered a chemical plume in a well field that is jeopardizing its water supply. In August 2001, the problem initiated an emergency connection through MWRA Policy OP.05. In October 2002, a nitrite issue associated with the plume was discovered. Two months ago high levels of NDMA were detected in some Wilmington wells. On March 27th, Wilmington requested an extension of its October emergency declaration from DEP. On April 14th the Town conveyed a formal request to MWRA Executive Director, Fred Laskey. The Town has received the support of the Executive Committee and is scheduled for the May 14th Board of Directors meeting.

Five of nine wells have been compromised. Wilmington's water use is 3 million gallons per day (MGD) on average, with a peak usage of 4 MGD; therefore, the Town needs to make up 0 to 2 MGD through a variety of sources. Wilmington has gone to North Reading, Woburn and Burlington for help to make up this shortfall. North Reading and Burlington are not likely candidates during the peak months of June, July and August when more water will be needed. Wilmington is seeking up to 1 MGD from the City of Woburn.

The Town is following a water conservation plan in accordance with MWRA Policy OP.05 and is also involved in a Comprehensive Water Resource Management Plan for the long range.

Mayor Curran of Woburn expressed concern regarding the inter-city agreement between the City of Woburn and the Town of Wilmington. Is there recognition for the impact that this is going to have on Woburn's municipal facility: What are the impacts on Woburn's and Reading's systems? There have been verbal relays from Wilmington, but nothing in writing. Mr. Nicoloro stated that SEA has worked with Wilmington in reviewing the hydraulic system and there would be virtually no impact to Woburn. Mayor Curran asked for that documentation, which Mr. Nicoloro agreed to provide.

Mr. Favaloro suggested amending the Motion to include a municipal agreement between Woburn and Wilmington before this item could be voted before the Board of Directors. Mayor Curran stated that the amendment of the motion would be acceptable and also asked if Woburn or the MWRA would bill Wilmington. If there is peak usage in the summer and it disrupts Woburn's system, those problems need to be recognized. Mr. Favaloro stated that billing would be through Woburn. Additionally, as part of the agreement, a component of cost associated with impacts on the Woburn system could be recovered and retail issues can be addressed.

A Motion was made **TO ALLOW THE TOWN OF WILMINGTON (WILMINGTON) TO ACTIVATE A CONNECTION TO THE MWRA WATERWORKS SYSTEM, VIA THE CITY OF WOBURN (WOBURN), FOR A SIX-MONTH PERIOD WITH A START DATE TO BE**

DETERMINED. THE CONNECTION IS SUBJECT TO THE DEVELOPMENT OF AN INTER-MUNICIPAL AGREEMENT BETWEEN WILMINGTON AND WOBURN THAT ADDRESSES ISSUES OF ASSESSMENT AND CHARGES PRIOR TO CONSIDERATION BY THE MWRA BOARD OF DIRECTORS. ADVISORY BOARD APPROVAL IS CONTINGENT UPON RECEIPT OF A LETTER FROM WOBURN INDICATING ITS SUPPORT OF THE INTER-MUNICIPAL AGREEMENT WITH WILMINGTON. AVERAGE DAILY DEMAND SHALL NOT EXCEED 1 MILLION GALLONS PER DAY. WILMINGTON WILL ABIDE BY THE RULES STIPULATED UNDER MWRA EMERGENCY WATER SUPPLY WITHDRAWALS (POLICY #OP.05), INCLUDING PAYMENT OF A 10% SURCHARGE OF THE MWRA'S PREVAILING RATE. IF THE PROPONENT WERE TO SEEK WATER FOR A SECOND WATER WITHDRAWAL PERIOD, MWRA SHALL ALSO ASSESS AN ASSET VALUE CONTRIBUTION CHARGE. RULES GOVERNING PREMIUM CHARGES AND ASSET VALUE CONTRIBUTION ARE INVOKED WHEN WATER IS TRANSFERRED FROM THE MWRA TO THE APPLICANT COMMUNITY. It was seconded and passed by unanimous vote.

❖ LEGISLATIVE UPDATE

Nathalie Dailida stated that the good news is that the House restored \$5 million for debt service assistance, whereas the Governor's budget had completely eliminated the line item. MWRA's share would be in the \$4 million range. The strategy was to get the line item salvaged.

Ms. Dailida stated that the Governor's budget did not have a lot of detail on the MDC Division of Watershed Management (DWM), but the House merged the DWM into the Department of Conservation and Agriculture and included funding of \$9+ million, subtracting \$500,000 for Clinton. The House also repealed the Watershed Management Fund, which is how MWRA tracks some of the funding for the DWM.

The wastewater SRF was significantly funded at \$51 million and existing drinking water projects also were level funded or increased. The Safe Drinking Water Act (SDWA) compliance was decreased slightly by the Governor, but not significantly.

There seems to be a movement toward repealing privatization laws. The House is doing a pilot program with the Pacheco Law, repealing it relative to the University of Massachusetts and the Executive Office of Transportation and Construction.

There was some confusing language that needs to be clarified on the revenues that the DWM generates. In the same paragraph, the budget says that the money reverts to the general fund and further down it says that it goes to the MWRA.

Senator Therese Murray's Bill No. 718 will be heard on April 30th. The Advisory Board does not concur with all the language in this bill; however, this bill does offer a transfer of DWM to the MWRA. The Advisory Board's Senate Bill No. 1259 won't be heard until October 16th.

Mr. Favaloro stated that the Advisory Board has sent a letter to the Senate President, Speaker of the House and both Chairmen of Ways and Means, as well as emails to the Legislative Caucus, outlining reasons why the DWM needs to be moved to MWRA. In FY99, the budget was \$10.6 million; the budget for FY04 is \$8.7 million. It is a major concern whether there are adequate resources for the DWM to do its job. If not, MWRA may need a quarter of a billion dollars to build a filtration plant.

❖ **PROCESS TO ELECT ADVISORY BOARD REPRESENTATIVE TO THE MWRA BOARD OF DIRECTORS**

Ms. Dunphy noted that Andrew Pappastergion, who has served for the Advisory Board over the past six years on the MWRA Board of Directors, cannot be at the May Advisory Board meeting and requested an opportunity to speak to the Advisory Board members.

Mr. Pappastergion stated that he has served on the Advisory Board since the beginning (1984) as Brookline's representative, serving as Vice Chairman of Operations for a short time and as Chairman for five years between 1992 and 1997 and since that time as a Board member.

Mr. Pappastergion announced his intention to seek a third three-year term on the Board. In looking back over the last 18 years at all of the accomplishments, all in all MWRA has gotten the job done, dealing with hundreds of issues. The Advisory Board has earned respect throughout New England and could be the model for the whole country on what an Advisory Board ought to do. Mr. Pappastergion stated that he is "energized" about the prospect of spending another three years on the Board of Directors if elected and that he will strive to do his best to represent the Advisory Board.

Mr. Favaloro noted that two mailings have gone out over the last two weeks noting the election process and seeking interested parties that want to be considered. The deadline is May 5th to send a letter of intent and resume. On May 9th, the Executive Committee, serving as the Nominating Committee, will interview candidate(s) and provide a recommendation for the Advisory Board meeting. A quorum of 33 voting members is required.

Finance Committee – Albert Renzi, Jr.

❖ **FY04 CEB REVIEW**

Cornelia Potter stated that staff is in the midst of the Current Expense Budget (CEB) review, meeting with Authority staff over the last four to five weeks on virtually every aspect of the Authority's budget.

The Authority staff noted that 60% of the CEB is related to capital finance, so considerable attention was focused on the Authority's proposal for debt service expense in the year ahead, including future opportunities for restructuring and refinancing and non-rate revenue. The loss of debt service assistance, the shrinking of other sources of non-rate revenue, such as investment income as the Authority uses up its rate stabilization funds faster and faces a lower interest rate environment, contribute to a challenging budget. The proposed budget for next year's investment income is half of what it was just three years ago.

The draft will be mailed to the Executive Committee a week from tomorrow for its consideration at the May 9th meeting.

❖ **STATUS: FY04-06 CIP**

The CIP Review Committee met on April 16th at the Boston Water and Sewer Commission. Discussion centered on the capital budget cap and the Advisory Board staff's disagreement with Authority staff in regard to the interpretation of the cap. The Authority staff's definition is that the ten-year cap is reset each year, that unspent funds for the current year carry forward and the addition of a new tenth year funded at \$100 million plus inflation. The cap is set for each of the

first three years of the ten-year period and as long as total spending is within the ten-year cap, the budget is considered to be within the cap.

The Advisory Board has a stricter interpretation that when the cap was first agreed to, the ten-year limit on spending was \$2.3 billion for the specific period of FY01 to FY10. For each subsequent year \$100 million plus inflation will be added but these amounts may not be rolled back into the period FY10 or earlier. Under this interpretation the Authority would have to reschedule \$285 million in planned spending that it has added to the period before FY10. Put another way the final capital budget three years ago when the cap was first agreed to has grown from \$2.22 billion to \$2.6 billion for the period of FY01-10, which represents an increase of more than \$270 million.

The Advisory Board believes that holding to the cap is a way to ensure that the capital budget remains a sustainable and predictable program and that master planning is the means to evaluate which projects should be modified or rescheduled to stay within the cap.

The consensus of the group was to confirm the original cap for the period of FY01 to FY10 of \$2.3 billion. Since spending in the first three years totaled just over \$1 billion, that leaves \$1.278 billion for the remaining seven years of the original decade. It also means that \$285 million of proposed spending in the draft CIP will need to be addressed.

The Authority staff acknowledges that the final CIP this year will not be in complete compliance with the cap. Staff will continue to work to reach the full reduction over the coming year with the expectation that the following year the capital program will come in within the cap. The Advisory Board has submitted this definition to the Authority staff and await further discussion.

The Authority will hold a hearing on the proposed Capital Improvement Program, including the cap discussion, at its next Board of Directors meeting on May 14th.

Operations Committee – Jay Fink

❖ **UPDATE: UPCOMING MEETING TOPICS**

Ryan Ferrara stated that the next Operations Committee meeting is scheduled for May 6th at Newton City Hall. Topics for discussion include an overview of staff's review of the proposed FY04 CEB, as well as a discussion regarding Wilmington's long term water and sewer needs.

F. ADJOURNMENT

A MOTION WAS MADE TO ADJOURN THE MEETING AT 1:05 P.M. It was seconded and passed by unanimous vote.

Respectfully submitted,

Edward Sullivan, Secretary