

I. Schedule Six.

A status report for the scheduled activities for the month of June 1998 on the Court's Schedule Six, certified by Douglas B. MacDonald, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Not Completed.

1. Complete Construction of Fox Point and Commercial Point Facility Upgrades.

As expected, the Authority was unable to comply with the milestone for completing construction of the upgrades to the Fox Point and Commercial Point combined sewer overflow ("CSO") facilities. As previously reported, the Authority was unable to commence construction of the upgrades on schedule in October 1997.¹ Developments in the course of design of upgrades to these and similar facilities caused the Authority to file a Notice of Project Change with the Executive Office of Environmental Affairs ("EOEA") on August 15, 1997. In November 1997, the Secretary of EOEA issued a certificate on the Notice of Project Change, requiring the Authority to prepare a Supplemental Environmental Impact Report ("SEIR") on numerous issues prior to the commencement of construction. The Authority expects to file the SEIR in September 1998.

Based on these events, the Authority has been negotiating with the Environmental Protection Agency ("EPA") and other parties to this matter for some time regarding new dates to propose to the Court for the completion of the SEIR and for the commencement and completion of construction of the upgrades. The Authority is awaiting final approval from certain parties of a Joint Motion to Amend Schedule Six which includes these changes, and it

¹ See Compliance and Progress Report for November 17, 1997, pp. 8-11.

hopes to be in position to submit the motion to the Court shortly.

The Authority is continuing various activities and investigations needed to support the SEIR, including conducting the wet weather water quality sampling program. This program is designed to confirm the need for dechlorination facilities and to address siting issues.² The Authority's crews have collected samples during activations of both the Fox Point and Commercial Point facilities (as well as Somerville Marginal and Prison Point). Because the opportunities to collect substantial data have been limited to date, the Authority will continue the sampling program through the Summer to provide as much data as possible to support the recommendations in the SEIR.³

B. Progress Report.

1. Fiscal Matters.

(a) Budget and Rates for Fiscal Year 1999.

On June 24, 1998, the Board of Directors approved a final Fiscal Year ("FY") 1999-2001 Capital Improvement Plan in the amount of \$1.5 billion. The Board also approved a final FY 1999 Current Expense Budget ("CEB") of \$405.3 million, composed of \$178.4 million for direct expenses, \$34 million for indirect expenses and \$192.9 million for capital financing. The capital

² See Compliance and Progress Reports for August 15, 1997 (p. 20), September 15, 1997, (pp. 19-21), and October 15, 1997 (pp. 10-12) for previous reports on the field studies.

³ While the occurrence of wet weather events has increased over 1997 levels, the ability to collect CSO data has been limited because upgrades to the Deer Island Treatment Plan, and other transport improvements, now in place, have significantly reduced the frequency, volume and duration of CSO activations. However, the data collected to date for Prison Point has been sufficient to confirm the feasibility of the current recommendation for providing dechlorination on-site at that location. Design of the Prison Point upgrade is proceeding based on that conclusion.

financing amount is net of \$44 million in anticipated Commonwealth Debt Service Assistance. Revenue to support the CEB includes \$345.5 million in rate revenue, \$51.8 million in investment income and other non-rate revenues and \$8 million from the Authority's rate stabilization fund. The relatively small \$9.9 million increase in the FY 1999 CEB over FY 1998 reflects a \$15.3 million increase in capital finance costs, offset by a \$1.1 million decrease in direct expenses and a \$4.3 million decrease in indirect expenses. The decrease in direct expenses reflects the Authority's continued efforts to increase operating efficiency and to monitor costs closely as new facilities are brought into service. This approved budget also reflects the availability of \$2.6 million in reserves to supplement Deer Island Treatment Plant operating costs during the fiscal year, should these costs be higher than budgeted.

The FY 1999 combined 2.5 percent rate revenue increase reflects a 2.8 percent water rate increase and a 2.4 percent sewer rate increase. As usual, increases in charges to the Authority's individual member communities vary significantly from the system-wide averages, especially on the wastewater side, where changes in relative wastewater flows among communities were often a much more significant factor than the Authority's rate increase. In FY 1999, ten of the 43 sewer communities will face rate increases of more than five percent, and 18 communities will have sewer charge decreases.

Based on the final FY 1999 CEB, staff provided the Board of Directors with an updated estimate of future rate increases. Projected combined increases are anticipated to be seven percent for six of the next seven years because of continued spending to support the capital program and in particular improvements to the water system.

(b) Borrowing from State Revolving Fund.

The Authority recently completed a \$125 million borrowing through the

Massachusetts Water Pollution Abatement Trust (the "Trust"), also known as the State Wastewater Revolving Fund. This 20-year loan has an interest cost of 4.91 percent, the Authority's lowest interest cost to date on Trust debt. Subsidies from the Trust will amount to approximately half of the annual debt service on this loan, which will be used to support a variety of sewer system improvements.

(c) Federal Funding.

The United States House of Representatives Appropriations Committee included \$23 million for the Boston Harbor Project in the FY 1999 appropriations bill. The bill is expected to go before the full House of Representatives shortly.

2. Harbor Management.

(a) Mid-Year Update on Progress of Construction.

The Authority submits as Exhibit "B" its Mid-Year Progress Report (the "Report") on the overall progress of construction for the Boston Harbor Project. The Report reviews the progress of construction projects over the last six months, emphasizing the priority items noted in the 1997 Annual Progress Report submitted on January 30, 1998. With regard to most items, the Report summarizes information also covered in the monthly reports.

(b) Transfer of South System Flows.

As reported last week, the Authority initiated the transfer of South System flows through the Nut Island Headworks to the Deer Island Treatment Plant on July 8, 1998. To date, the Nut Island Headworks and all other systems involved in transferring the flows appear to be operating well.

In the South System Pump Station, the Authority is continuing work to correct the problems with harmonic distortion and the transformers, so that all

eight pumps will be available for operation.⁴ With respect to the harmonic distortion, the project design engineer has completed a review of the distortion data and is ready to begin designing new harmonic filters. Modifications are likely to be made in the harmonic filter banks at both the North Main and South System Pump Station. The Authority expects the design and fabrication of the filters to take as long as 14 weeks.

With respect to the transformers, four temporary transformers are on order (replacements for two that failed and two spares), and delivery is expected in August. The two replacements will be installed as quickly as possible thereafter. The Authority expects to select a model for permanent replacement of all eight transformers this week. Once the model is selected, the Project Design Engineer will complete the final design, and procurement will proceed.

As previously reported, the Authority expects to keep the Nut Island Treatment Plant on stand-by for a sufficient period of time so that demolition will not proceed until it is confident that the Nut Island Headworks and South System Pump Station are operating reliably. However, in preparation for demolition, the Authority has turned one of the Nut Island digesters over to the contractor for cleaning, which is the first step before demolition. Activities to dewater the digester and remove digested sludge and other materials are underway.

(c) Thermal Plant.

In the Thermal Plant, the contractor completed the 30-day functional testing of the distributed control system earlier this month. The thermal system was then shut down for cleaning and final checkout of systems. The

⁴ Currently, six of the eight pumps are available for use. With flows averaging about 120 million gallons per day, typically only two pumps have been in use simultaneously during the past week.

Authority expects the contractor to turn over the Thermal Plant (without the digester gas system) to Deer Island Treatment Plant staff today. Modifications to the digester gas system are in progress.

(d) Construction of Effluent Outfall Tunnel.

The contractor for the Effluent Outfall Tunnel has completed contact grouting in the tunnel invert to within 350 feet of the Deer Island shaft. Progress has been slow, due to large open spaces between the tunnel wall and liner. Full circle grouting is within 750 feet of the shaft. Work on first pass clean-up and repairs to the tunnel arch has been suspended since May 18, because the grouting operation was not sufficiently ahead of the cleaning and repair crew. To date, first pass clean-up and repair is completed to within 0.87 miles of the shaft, and the final clean-up, repair and removal of utilities from the tunnel is completed to within 4.6 miles of the shaft.

3. Annual Deer Island Staffing Report.

The Authority submits as Exhibit "C" its annual Deer Island Staffing Report. The report focuses on staffing changes over the past year.

4. Engineering Services for Deer Island Treatment Plant.

On June 24, 1998, the Board of Directors approved a one-year contract with Metcalf & Eddy, Inc. to provide as-needed engineering consulting services for the Deer Island Treatment Plant. Over the next few years, the Deer Island Treatment Plant expects to require engineering resources for planning, design and construction of a variety of start-up modifications and plant optimization measures. With this contract, Metcalf & Eddy will be able to respond promptly to any issues that may arise, as well as provide a plant-wide engineering

overview.⁵

5. Residuals Program.

(a) Pelletizing Plant Operations.

Last month, the Authority reported the failure of an exhaust fan at the pelletizing plant at the Fore River Staging Area, taking Dryer Train No. 4 out of service. The Authority has completed repairs to the air pollution control system and put Dryer Train No. 4 back in service.

(b) Pelletizing Plant Expansion.

During the past month, the contractor for the pelletizing plant expansion completed its review of the protocol for testing of the programming system which monitors and controls the new centrifuges and dryer trains. The contractor now is preparing for the interlock testing of the two new dryer trains. It also is continuing to install the permanent grating around the dryer trains.

6. Combined Sewer Overflow Control.

(a) Proposed Variance for Charles River CSO Discharges.

On June 24, 1998, the Department of Environmental Protection (“DEP”) published notice in the Environmental Monitor of its proposal to issue a 24-month Variance for CSO discharge to the Lower Charles River, including proposed Variance conditions.⁶ In the Variance, DEP states that it has not identified a means to eliminate CSO discharges to the Charles River and that it

⁵ This contract facilitates the transition of responsibilities from the Lead Design Engineer to Deer Island Treatment Plant staff.

⁶ The Variance is a short-term modification to existing state water quality standards which would authorize continued CSO discharges while the Authority and others conduct further studies to determine the potential for additional water quality improvement. See 314 C.M.R. 4.00, et seq.

anticipates eventually designating the segment “Class B (CSO)” (just as DEP has designated the majority of other receiving water areas where CSOs will continue to exist).

The Variance includes a number of conditions intended to obtain information about water quality in the Lower Charles. The Authority is in agreement with DEP regarding some of the draft variance conditions, which are reasonably related to determining whether the Authority’s proposed level of CSO control, as outlined in the Final CSO Facilities Plan/Environmental Impact Report (“Final FP/EIR”), is appropriate. However, the Authority has serious concerns with a number of proposed conditions which appear to go beyond what is necessary for determining the appropriate level of CSO control for the Charles River. Most notably, the Authority questions the basis for conditions in the Variance which would require the Authority to perform an extensive stormwater sampling program.⁷ As DEP recognizes in the draft Variance, the responsibility for stormwater remediation is not the Authority’s, but that of the municipalities or other stormwater dischargers. The Authority objects strongly, therefore, to components of the proposed program that appear intended for identification and remediation of stormwater and other non-CSO sources and do not appear necessary for determining appropriate CSO controls. It is the Authority’s position that the proposed extensive sampling program is not necessary and would place on the Authority a significant obligation (approximately \$400,000) that does not belong to the Authority, but to other non-CSO sources of pollution.

The Authority has expressed both its substantive and procedural

⁷ At the time the Variance was issued for public comment, DEP and EPA had not yet developed the specific requirements of this sampling program. It was not until July 10 (five days before comments were due) that DEP issued a draft scope of this sampling program.

concerns about the draft Variance in comments submitted to DEP during the public comment period ending today. The Authority hopes that there will be an opportunity to address these concerns with DEP and reach a satisfactory resolution before DEP formally issues its water quality determination for the Charles River by the end of this month.

(b) CAM 005 and BOS 017 Hydraulic Relief Projects.

On July 15, 1998, the Authority submitted its Final Preliminary Design Report to EPA and DEP for hydraulic relief projects at CAM 005 and BOS 017. The Final FP/EIR recommended constructing new sewers to relieve hydraulic restrictions and minimize CSO discharges at outfalls CAM 005, which discharges to the Charles River in Cambridge, and BOS 017, which discharges to the Mystic River in Charlestown.⁸ The report presents design recommendations based on more intensive engineering evaluations conducted during preliminary design, including efforts to optimize the level of CSO control at each location.

At CAM 005, a short section of 54-inch pipe will be constructed to relieve an existing 24-inch connection between the Cambridge combined sewer system and the Authority's North Charles Relief Sewer, as recommended in the Final FP/EIR. The preliminary design efforts not only confirmed a conclusion in the Final FP/EIR that relief of a longer, downstream section of the Authority's sewer would not provide additional CSO control, as some reviewers had suggested, but also determined that such relief would increase the potential for

⁸ The Authority commenced design of these projects in August 1997. See Compliance and Progress Report for August 15, 1997, pp. 11-13. The design contract also includes a project to remove a localized restriction on a downstream reach of the Charlestown Branch Sewer, which should improve hydraulic conditions in the Charlestown Branch Sewer and lower CSO discharges at outfall BOS 019, as well as overflows from Charlestown to the Prison Point CSO treatment facility.

downstream flooding and possibly increase CSO discharges at downstream outfall locations. In addition, the existing overflow weir at CAM 005 will be relocated and raised by one foot. Design efforts optimized both the proposed configuration and the elevation of the new weir. This recommended plan at CAM 005 will reduce CSO discharges to two activations during the typical year, with a total annual CSO volume of 0.78 million gallons.

At BOS 017, the design recommendation is to construct 130 feet of 36-inch conduit to convey flows from local Boston Water and Sewer Commission combined sewers directly to the Authority's Cambridge Branch Sewer and away from the BOS 017 overflow regulator. Optimization studies resulted in a recommendation to increase the relief pipe size from the 30-inch diameter recommended in the Final FP/EIR. This change is expected to further reduce CSO volume. In addition, the size and configuration of a weir between the new pipe and the BOS 017 regulator system was further evaluated and optimized. The project will reduce CSO discharges at BOS 017 to two activations in a typical year, with a total annual overflow volume of less than 0.23 million gallons.

Construction for these projects is scheduled to commence no later than August 1999 and to be completed no later than August 2000.

7. Infiltration and Inflow.

On June 24, 1998, as part of the new Capital Improvement Program ("CIP"), the Board of Directors approved an additional \$37 million for Phase 3 of the Authority's Infiltration/Inflow ("I/I") Local Financial Assistance Program.⁹ In addition, with respect to the new funds, the Board approved the

⁹ See May 15, 1998 Compliance and Progress Report, pp. 13, 14 for the most recent report on this program.

change of grant/loan proportions from 25 percent grant and 75 percent interest-free loan to a 45 percent grant and a 55 percent interest-free loan. These changes were based on a recommendation made by the Authority's Advisory Board. The \$37 million will be allocated among the 43 local sewer communities, based upon their respective shares of the Authority's wholesale sewer charges for FY 1999.

The Authority now has allocated a total of \$100.5 million and distributed over \$43 million in financial assistance to help fund local I/I reduction projects within community-owned collection systems. More than \$20 million of unused funds from the earlier program remain designated for those communities to which they were originally allocated. A table, attached as Exhibit "D," lists the new funding allocation and total remaining funds by community.

8. Toxic Reduction and Control Program.

(a) Molybdenum Reduction Program.

The Authority has reported on several occasions its efforts to reduce levels of molybdenum in its waste stream, because of seasonal tendencies for levels of molybdenum in the Authority's biosolids fertilizer product to exceed state limits for unrestricted use.¹⁰ A sampling program conducted during the 1993 air conditioning season indicated that corrosion inhibitors used in cooling towers were a major source of molybdenum. Thereafter, the Authority established a voluntary molybdenum reduction program as an alternative to regulating cooling towers. In 1995, the Authority began working with suppliers of cooling tower chemicals, encouraging them to work with their customers to develop and implement corrosion control programs using chemicals that did

¹⁰ See, for example, Compliance and Progress Reports for April 14, 1995, pp. 18-22, October 16, 1995, pp. 12-14, and December 16, 1996, pp. 13-15.

not contain molybdenum.

Today, at a meeting of the Board of Directors, the Authority recognized the substantial contribution made by nine suppliers of cooling tower chemicals toward lowering molybdenum levels. These suppliers successfully switched more than 75 percent of their customers to corrosion control chemicals containing little or no molybdenum. The participation of these suppliers in the Authority's voluntary program allowed the Authority to reduce molybdenum levels in its biosolids pellets without the need to develop regulations and issue permits. Since the advent of the program, the Authority has seen a steady decrease in molybdenum levels in both plant influent and biosolids.

On the other hand, the Authority notes that data collected since the start up of secondary treatment indicates that the amount of molybdenum removed from the wastewater and incorporated into the biosolids may be increasing. Another season of data is needed to assess the full impact of secondary treatment on the levels of molybdenum in the Authority's fertilizer.

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CERTIFICATE OF SERVICE

I, John M. Stevens, attorney for the Massachusetts Water Resources Authority, do hereby certify that I have caused this document to be served by hand or mail to all counsel of record.

John M. Stevens (BBO No. 480140)

Dated: July 15, 1998